TRAVERSE CITY AREA TRANSPORTATION AND LAND USE STUDY (TC-TALUS)

Final

Vision 2035

Approved by the TC-TALUS Board of Directors on September 24, 2014

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Vision 2035

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The Grand Traverse Bay region is blessed with natural beauty, abundant water resources, vibrant communities and a talented and motivated population living, working and playing in a beautiful area.

The natural beauty, abundant lakes and streams, and vibrant communities present challenges to mobility in the region. These include:

- most east/west traffic is constrained by just five blocks between Grand Traverse Bay and the north end of Boardman Lake,
- motorists west of Silver Lake must travel to Chum's Corners to the south or Silver Lake/South Airport Roads to the north,
- vibrant neighborhoods south of downtown Traverse City handle traffic in the grid system but there is concern about increasing traffic, particularly on Cass and Union Streets, the primary streets in the area, and
- Grand Traverse Commons to the west and the Nature Education Reserve to the south are significant natural areas and as such there is concern of increasing traffic through these areas.

A map view of the region visually showing these four challenges follows this Executive Summary.

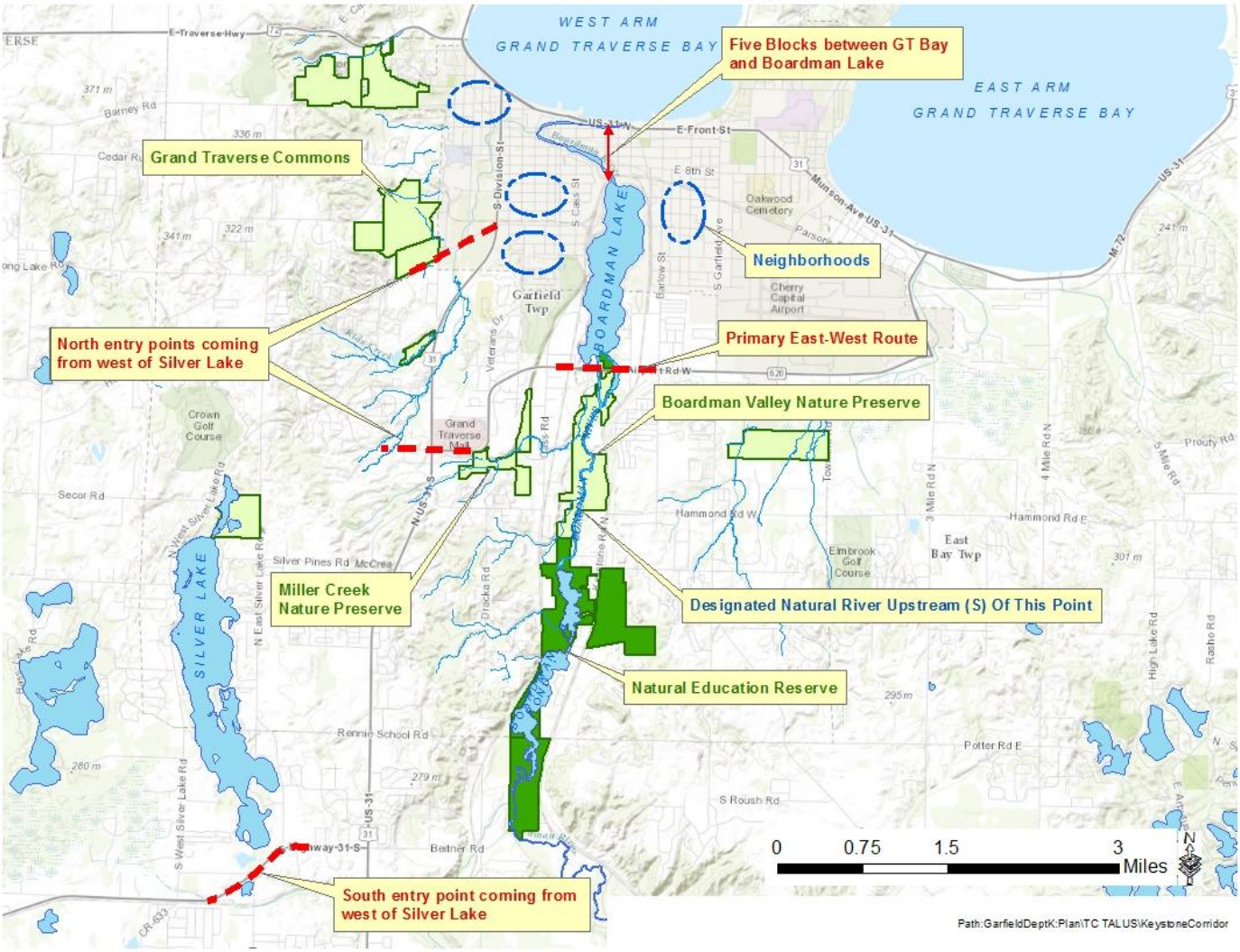
Housing and weather are other challenges. The lowest cost housing is generally located further from the primary center of commerce and employment in Traverse City. This increases traffic volumes and costs for lower income workers which represent the largest percentage of the workforce. Northern Michigan winters provide wonderful opportunities for recreation and tourism however they present challenges for both street design and maintenance as well as limiting non-motorized transportation for many users.

The document includes short and long term projects which can be accommodated financially within the expected revenues over the life of the plan, which is a requirement of the Federal SAFETEA-TU legislation.

The transportation needs of the Grand Traverse Bay region, however, far exceed the anticipated revenues available under present legislation. Citizens within the Grand Traverse region have consistently expressed the need for transportation choices. Additional funding for non-motorized transportation infrastructure, including on-street facilities, trails and transit, should be sought to help meet these needs. Incremental Federal and State special appropriations, grants and additional local funding have to be pursued to fund key projects essential for the growing region. The key projects modeled using the Travel Demand Model are:

- South Airport Road extension between Three Mile Road, Four Mile Road and Five Mile Road.
- Hammond-Hartman connection with and without connection to Cass Road and continuation to Silver Lake Road.
- South Airport Road controlled access reconfiguration between Garfield and Cass Roads, including a new bridge over the Boardman River.
- Beitner/Keystone Road widening from Chum's Corners to Hammond Road, including a long bridge over the railroad tracks, a creek and the Boardman River.
- Eighth Street Road diet (4 to 3 lanes) between Boardman Avenue and Woodmere Avenue.
- Garfield Road diet (4 to 3 lanes) between Boon Street and Eighth Street.

Other transportation projects examined during the Grand Vision process can be found in the Grand Vision Task 5.1 report located at: http://www.nwm.org/userfiles/filemanager/1133/



Map #1 – Transportation Challenges provided by Brian VanDenBrand – Garfield Charter Township

TC – TALUS Board of Directors

Sponsoring Agency	Representative
Traverse City	Jim Carruthers
Garfield Twp.	Chuck Korn
Elmwood Twp.	Jack Kelly
Acme Twp.	Jay Zollinger
East Bay Twp.	Glen Lile
Long Lake Twp.	Leslie Sickterman
Peninsula Twp.	Penny Rosi
G.T. County	Herb Lemcool
Leelanau Road Comm.	Lee Bowen
G.T. Road Comm.	Jim Cook
MDOT-Planning	John Lanum
MDOT-TCTSC	Rise Rasch
Cherry Capital Airport	Dan Sal
Chamber of Commerce	Tonya Wildfong
G.T. County Planning	Jeff Cockfield
BATA	Tom Menzel
TART	Julie Clark
TCAPS	Paul Soma
NMC	Vicki Cook
Grand Traverse Band	Open
Citizen-at-large	John Nelson
Citizen-at-large	Craig Wells

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Chapter 1: Introduction

The Vision 2035 document is the first prepared by TC TALUS under the current federal legislation.

SAFETEA-LU was enacted in 2005 and is the federal legislation that outlines the requirements for the transportation planning process including the designation of Metropolitan Planning Organizations (MPO) to oversee the process in metropolitan areas. MPOs are required to prepare a Long Range Transportation Plan that must include at least a 20 year time horizon, data on projected transportation demands, short and long term strategies, including capital investments and operations and management strategies to address current and future transportation demands, environmental consideration, financial considerations, and safety, among other components.

A Transportation Improvement Program (TIP), which details specific transportation project investments in the upcoming four years, must also be included in the VISION 2035 and must comply with provisions of the Moving Ahead for Progress in the 21st Century (MAP-21). Funding surface transportation programs at over $105 billion for fiscal years (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 not only provides transportation funds, but also provides the policy and programmatic framework for investments to guide the growth and development of the country's transportation infrastructure.

The TC-TALUS inaugural Long Range Transportation Plan is largely based on the extensive community planning effort under the Grand Vision. The Grand Vision originated after the proposed Hartman-Hammond Bridge concept was tabled, following a public debate about the proposal. The funds designated for the project were re-appropriated by U.S. Congress to be used for a long-term planning process. Over three years, 15,000 citizens got involved and voiced their opinions through surveys and a series of public workshops. This input, with unparalleled collaboration between government, non-profits and the private sector, shaped The Grand Vision. A major component of the Grand Vision was, and continues to be, transportation.

Overview of the Planning Process:

The early public involvement efforts were linked to the extensive public participation conducted during the Grand Vision study process.

The goals and objectives of the Vision 2035 are detailed in Appendix B and are centered around the following themes:

- Land use and environmental Impacts
- Efficiency
- Mobility
- Accessibility
- Safety

- Comprehensive planning
- Economic and financial considerations

Throughout the planning process recommended elements and strategies were identified to assist in implementing the goals and objectives. Individual chapters of the VISION 2035 present the elements and strategies for each specific mode of transportation.

An extensive travel demand modeling process was completed as part of the development of the Vision 2035. The first step in the process is the development of socio-economic data for a current year (2007) as well as a forecasted future year (2035). Information on dwelling units, population and employment was collected. These data served as input to the travel demand model. The purpose of the modeling process is to predict where demand for travel is likely to occur in the future based on the socio-economic forecasts. The model also allows us to measure the impact of proposed roadway projects. More discussion on the travel demand model can be found in Chapter 7.

A complete list of both short term (Transportation Improvement Program - TIP) and long term projects can be found in later in the document. Due to the uncertainty of transportation funding, an "illustrative list" of project is also presented. These projects have been deemed worthy of further study and/or implementation, however, revenue for these projects is not projected to be available at this time. Should unforeseen sources of funding become available, the TC-TALUS Board of Directors intends to elevate projects as necessary from the "illustrative" list to the "recommended" list.

A financial analysis was conducted to ensure that there is a reasonable expectation that funding will be available for to complete the projects in the Vision 2035. Sufficient revenues were identified to cover the expected costs of the projects contained in the Vision 2035 as well as to maintain and operate the existing system, thereby fulfilling the federal requirement that the Vision 2035 be fiscally constrained. However, it should be noted that needs for the transportation system greatly outweigh the revenue to address them.

The Vision 2035 uses growth projections as a basis for the analysis of future transportation issues. The Vision 2035 is intended to compliment local Master Plans by detailing potential results of local Master Plan implementation.

SAFETEA-LU Objectives

SAFETEA-LU requires transportation plans which involve all levels of government and all surface transportation modes. The intent of SAFETEA-LU is to improve transportation and provide for consideration of projects and strategies that shall:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
2. Increase the safety of the transportation system for motorized and non-motorized users

3. Increase the security of the transportation system for motorized and non-motorized users
4. Increase accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system

TC-TALUS

Traverse City Area Transportation and Land Use Study (TC-TALUS) was established in 1990 in response to a recommendation from the Michigan Department of Transportation to prepare as a Metropolitan Planning Organization under the Federal Highway Act of 1962. The Federal Highway Act requires urbanized areas to have a continuing and comprehensive transportation planning process to become eligible for planning and construction funds from the Federal Highway Administration (FWHA) and capital and operating assistance from the Urban Mass Transit Administration (UMTA).

The purpose of TC-TALUS is to provide continuing, comprehensive, and coordinated transportation planning to the Grand Traverse area. The result of the process will be a safe, effective, and efficient transportation system that provides for the area's sensitive environment and rapid growth rate. TC-TALUS will respect land use and zoning in its decisions, but has no authority, which remains with the local governmental units.

TC-TALUS is organized as a voluntary association by Memorandums of Understanding between the TC-TALUS Board of Directors and each local governmental unit. TC-TALUS structure consists of two committees: Policy Committee (or Board of Directors); and Technical Committee.

The Study Area includes the communities in the Grand Traverse Bay area, including the City of Traverse City, the Townships of Acme, Peninsula, Long Lake, Blair, Green Lake and Whitewater and the Charter Townships of Garfield and East Bay in Grand Traverse County, and the Charter Township of Elmwood in Leelanau County.

The Policy Committee/Board of Directors has final local approval and authority on all major transportation decisions, policies, and programs of TC-TALUS, including approval of this Long Range Transportation Plan. The Technical Committee is made up of planners/engineers from the member units of government as well as police, fire, emergency services, school district, soil conservation, drain commission, Cherry Capital Airport, Bay Area Transportation Authority (BATA) and MDOT representatives. The Technical Committee advises the Board of Directors and staff on technical methods, procedures, and standards that are used in the development of transportation plans, proposals, and programs.

TC-TALUS is staffed by the Northwest Michigan Council of Governments, through a contract arrangement. TC-TALUS Staff is responsible to the Board of Directors to coordinate study activities, conduct technical studies, provide advice, recommendations, and support to the Committees, as well as manage the study program.

Chapter 2: Long Range Transportation Planning Process

The process to develop and adopt the Long-Range Transportation Plan is outlined in the MAP-21 legislation and guidance from the Federal Highway Administration and the Michigan Department of Transportation.

The Act requires that a Long Range Transportation Plan (LRTP) be developed and updated every four to five years for the area covering a planning horizon of at least 20 years that fosters (1) mobility and access for people and goods; (2) efficient system performance and preservation, and (3) improved quality of life.

TC TALUS is not an officially designated Metropolitan Planning Organization the requirements of MAP-21 due not strictly apply, however, the development of the Vision 2035 document is a worthwhile exercise to prepare the area for MPO requirements in the future. In particular, the development of the Vision 2035 with local units of government, the state DOT, public transportation providers, and any other affected or interested parties including the public.

Public Involvement

The LRTP must be developed in coordination with the public in order to advance solutions to transportation needs. TCTALUS must provide citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the plan. TC TALUS must hold any public meetings at convenient and accessible locations and times; employ visualization techniques to describe the plan; and make public information available in electronically accessible format and means, as appropriate to provide reasonable opportunity for consideration of public information during development. Consultation with the state DOT and local units of government responsible for land-use management, natural resources, environmental protection, conservation, and historic preservation during plan development is also important. These consultations will assist in comparing the plan to local land-use plans, state conservation plans or maps, locations of endangered species, and inventories of natural or historic resources.

Financial

The LRTP must **be fiscally constrained**, meaning only funds that are *reasonably expected* to be *available* for the recommended projects. The Plan must present a multi-year intermodal program of projects and activities for the area based on realistic assumptions about future revenues, rather than simply including a

"wish-list" of projects that cannot be realistically completed with available revenues. To satisfy the financial constraint requirements, a financial plan must be included that: 1) demonstrates how the adopted LRTP can be implemented; 2) indicates resources from public and private sources that are reasonably expected to be available to carry out the plan; and 3) recommends any additional funding strategies for needed projects and programs. The financial plan may include, for illustrative purposes, additional projects that would be included in the adopted plan if reasonable additional resources beyond those identified in the financial plan become available.

Projects for Inclusion in the Plan

The LRTP must identify transportation facilities (including major roadways, transit, multi modal and intermodal facilities, non-motorized transportation facilities, and intermodal connectors) that should function as an integrated transportation system, giving emphasis to those facilities that serve important national and regional transportation functions.

Performance Measures, Targets, and System Reporting: The LRTP must include performance measures to track progress towards attainment of critical outcomes.

Transportation Improvement Program (TIP) Short Range Plan

A 4-year list of projects (short-range plan) must be included in LRTP. The TIP Short Range Plan is based on the LRTP and designed to serve the area's goals and objectives, spending down the yearly Federal allocations in accordance with Federal regulations, and operating and managing the transportation system in an efficiently, financially constrained manner.

Chapter 3: Goals and Objectives

The first step in any planning effort is the development of goals & objectives. Goals and objectives provide direction for the planning effort and provide measures against which effectiveness and success of the plans can be determined. Some objectives may compete or be in conflict, which is to be expected, since goals & objectives are broad in nature and designed to deal with many issues. Policy decision-makers have the responsibility to weigh the trade-offs between the goals & objectives when evaluating the plans and programs developed to address the needs of the community. TC-TALUS by itself cannot implement projects or improvements to directly satisfy the stated goals & objectives; however, TC-TALUS provides a forum for coordinated decisions to be made cooperatively in the best interests of the Traverse City Area.

In developing goals & objectives for the Vision 2035 document, several existing plans and policy statements were considered as input, including, Michigan Department of Transportation goals for the MI Transportation Plan, State of Michigan Strategic Highway Safety Plan for 2009-2012, Michigan Climate Action Plan, and FHWA's MAP-21 rules and regulations as well as plans from other Metropolitan Planning Organizations and the Grand Vision. The goals and objectives approved by the TC-TALUS Board of Directors are:

LAND USE AND ENVIRONMENTAL IMPACTS - The transportation system shall enhance the positive aspects of our region including natural resources, water quality, scenic beauty and access to natural areas and minimize disruption of existing and anticipated land uses in the TC-TALUS area, as well as maintain and improve the quality of the environment.

- The transportation system shall minimize interference with existing neighborhoods and minimize negative effects on commercial and industrial facilities.
- The impacts of the transportation system shall not be disproportionately adverse on minority or low-income populations.
- The impacts of the transportation system on open spaces and prime agricultural lands shall be minimized.
- The impacts of the transportation system on air pollutant emissions shall be minimized.
- The impacts of the transportation system on water quality, including storm water quality, shall be minimized.
- The transportation system shall minimize the energy resources consumed for transportation.

EFFICIENCY- The transportation system shall be configured and utilized in the most efficient manner possible.

- Transportation projects that reduce distance and time spent traveling shall be promoted.
- The existing transportation infrastructure system shall be preserved and maintained.
- The transportation system shall encourage the multiple use of transportation right-of-ways by different modes.
- Expansion of the transportation system, to accommodate the TC-TALUS area's growth, shall be regionally coordinated. The expenditure of transportation funds shall prioritize improvements to mainstreets, cities/village centers and other developed areas over improvements in rural areas.

MOBILITY- The transportation system shall ensure basic mobility to all persons and goods and allow them to arrive at their destination in a timely manner.

- Special consideration shall be given to the development of transportation services that provide opportunities for persons who currently have limited mobility.
- Transit and non-motorized alternatives shall be considered with street and highway improvements. The transportation infrastructure serving pedestrians and bicyclists shall be expanded particularly in urbanized areas.
- The transportation system shall provide continuous service and needed capacity across large portions of the region.
- Public transportation services that connect regionally and in the cities shall be expanded.

ACCESSIBILITY - The transportation system shall be available to all persons.

- The transportation system shall be designed to provide access to employment, education, medical/essential services, shopping, and recreational opportunities for those who do not own cars or have other transportation barriers.
- The transportation system shall provide appropriate access to and from major land uses.

SAFETY- The transportation system shall be safe and secure for all its users.

- The transportation system shall minimize traffic crashes and the severity of casualties from crashes.
- The transportation system shall minimize rail/auto/transit conflicts.
- The transportation system shall minimize motorized/non-motorized conflicts.
- TC-TALUS recognizes the fact that prudent driver behavior and compliance with traffic safety laws are a necessary component of a safe transportation system, encourages the promotion of driver safety and other safety education programs.

COMPREHENSIVE PLANNING -Transportation planning and the system it designs shall be comprehensive and coordinated with other planning efforts including the Grand Vision areas of Housing, Energy, Food/Farming, Natural Resources and Growth/Investment Areas.

- The TC-TALUS LRP shall be coordinated with and complement TC-TALUS members' master/land use and other plans.
- The TC-TALUS LRP shall be coordinated with the State Long Range Transportation Plan *(MI Transportation Plan)* as well as other Michigan Department of Transportation plans.
- The TC-TALUS LRP shall consider the eight factors contained in the Safe Accountable Flexible Efficient Transportation Equity Act- A Legacy for Users (SAFETEA-LU)

ECONOMIC AND FINANCIAL CONSIDERATIONS - Planning efforts must recognize funding availability when designing the system, ensure the best allocation of those resources, and promote the development of a system that is an economic asset to the region. The Plan must support the Grand Vision stated goal to increase the viability of the Cities and Villages in the area.

- The transportation system shall encourage employment retention and attract new employment to the TC-TALUS area.
- The transportation system shall support increased employment in the areas Cities and Villages.
- Transportation improvements shall be cost-effective and maximize long term benefits.
- Transportation system investments from federal and state sources shall be actively pursued.

Transportation system investments from the private sector and private/public partnerships shall be encouraged.

Chapter 4: Public Participation Process

The Grand Traverse Region has a long history of public participation in key critical public decisions, including infrastructure.

There are two primary public participation processes that form the basis of this Long Range Transportation Plan: Grand Vision and Framework for the Future.

The Grand Vision: The Grand Vision was one of the most ambitious public participation processes in the nation, which originated after the proposed Hartman-Hammond Bridge concept was tabled, following a public debate about the proposal.

The Grand Vision was an ambitious, citizen-led vision for the future of land use, transportation, economic development and environmental stewardship across six counties in northwest Lower Michigan. More than 15,000 citizens got involved, and voiced their opinions about this vision. Twelve thousand citizens voted for what they wanted for the future for their communities. Of those voters, nearly 75% asked that growth occur in existing developed areas.

Over three years a series of public workshops, unparalleled collaboration between government, non-profits and the private sector, shaped The Grand Vision. The "vision" is now being implemented, as six counties, six issue area networks and a CORE team that all work to incorporate The Grand Vision principles into plans, developments, investments, and practices.

Today The Grand Vision is being realized across the region. Governmental bodies are collaborating, business leaders are seeing the benefits of a focused vision for the future, community members are reaping the rewards, projects are completed and others underway, and several diverse interests are coming together within issue networks that include Food & Farming, Energy, Growth & Investment, Housing, Natural Resources and Transportation.

Framework for the Future: Another key public participation process is Framework for the Future, a regional initiative funded through the HUD Sustainable Communities Program. As part of the *Framework for Our Future* project, the Northwest Michigan Council of Governments hosted a series of Input Expos in April 2013, in Antrim, Benzie, Grand Traverse, Kalkaska, Leelanau, and Wexford Counties. The Expos were held in an open house format, and featured information, presentations, and resources, along with a variety of opportunities for the public to share ideas and comments on important community issues and the *Framework* project.

Input Expo resources and input materials are included in the Appendix, and are also available online at www.nwm.org/framework. A summary of written comments received at the events, organized by topic, is included in this report. Responses to the *Housing* and *Visual Preference* surveys are detailed in survey-specific reports, available online at www.nwm.org/framework.

NWMCOG prepared A Citizen's Guide to Transportation Planning in Northwest Lower Michigan to provide help explain the complex transportation planning process and transportation issues in the region.

In addition, the NWMCOG recently created an interactive webpage that highlights programmed public infrastructure improvement projects which can be found here, Transportation Improvement Maps. Currently projects highlighted in the individual county maps are those that were approved through the Rural Task Force process. In the future, this map will also display MDOT projects; Local, including safety improvement projects; and municipal Capital Improvement projects. The public is encouraged to suggest a public infrastructure improvement project in the box provided in the bottom left corner of the webpage. Suggestions will be sent to NWMCOG staff and then forwarded on to the appropriate agency.

Chapter 5: Community Description/Socio Economic Projections

Community Transportation and Land Use

There are ten communities that comprise the TC-TALUS planning area: The City of Traverse City, Charter Townships of Garfield and East Bay, Acme, Blair, Green Lake, Long Lake, Peninsula and Whitewater Townships in Grand Traverse County, and Elmwood Township in Leelanau County.

An integral component of transportation planning on a regional basis is the statutory land use plans of each participating community, and their implementation through municipal zoning. County planning offices offer resources for and coordination between local units of governments and prepare County Master Plans, which are umbrella policy documents designed to provide a future vision at the county level. The Northwest Michigan Council of Governments (NWMCOG) is a regional planning resource agency that supports and guides planning activity at the local level through a collection of material and studies.

Information on the location of each municipality, major transportation corridors, and goal statements from policy documents is provided below. Centers of population and patterns of commercial development patterns within the municipality are also identified. Access management tools are noted when they are found in local zoning ordinances.

In many ways, there is a regional cohesiveness between the local units of government. There are many common themes expressed through the goals, policies and objectives of planning documents. Residents of the Grand Traverse region recognize the unique beauty of the area and the value of the area's natural resources to the region's quality of life, recreational opportunities and tourism industry. Repeatedly, local plans express an interest in planned development practices that protect the rural feel and agricultural practices in the region and protect the area's natural resources and scenic views from roadways. Planned development goals also include designs that make sense on the land, encourage pedestrian connections, offer a range of options in price and visibly blend in with the landscape. Most communities recognize Traverse City as the regional center and oppose sprawl as a development pattern in the region. Implementation strategies vary from one community to the next.

The following table was adapted from information compiled by the Grand Traverse County Planning Department through the process of preparing the new Grand Traverse County Master Plan. The table identified those key areas included in the respective Master Plans of the local governmental units in Grand Traverse County in the TC TALUS area. A review of the Elmwood Township Master Plan was conducted as part of Vision 2035:

Policy Area	Acme	Blair	East Bay	Elmwood	Garfield	Green Lake	Long Lake	Peninsula	Traverse City	Whitewater
Protection of Natural Resources	■	■	■	■	■	■	■	■	■	■
Agricultural and Rural Protection	■	■	■	■	■	■	■	■		■
High Density/Town Center/Village Center	■	■	■	■	■		■		■	
Transportation, Public Facilities, Services	■	■	■	■		■	■	■	■	■
Interjurisdictional/Regional Cooperation	■		■	■		■	■	■		■
Proactively Guide Growth/Development	■	■	■	■	■	■	■		■	■
Planned Corridors	■					■		■	■	■
Promote Recreational Opportunities		■	■	■		■	■	■	■	■
Diverse Housing Types		■	■	■			■		■	■
Economic Development		■	■			■	■	■	■	■
Historic Preservation		■			■	■	■	■	■	■

Table #1 Adapted from Grand Traverse County Master Plan, 2014

A major difference between communities as expressed in the policy documents is the local policy position on a regional east-west connector road. Some communities support additional infrastructure as a way of improving safety and efficiency for traffic moving through a growing region. Other communities hold that a high-volume, high-speed road moving traffic through the region will erode the region's unique, high-quality life and generate sprawl type development. Another major difference between local units of government is the type and pattern of development allowed along major transportation corridors.

City of Traverse City

Located in the heart of the Study Area, Traverse City is positioned on the north side of Grand Traverse County with waterfront along the Grand Traverse Bay and a developed urban core within the City limits. The 2010 U.S. Census reported a population in the City of 14,674. The population in Traverse City is expected to remain constant or drop slightly while significant population growth is expected in the rest of the Study Area. Traverse City has a significant number of jobs and the daytime population is estimated at 18,260.

The transportation policy approach looks at a variety of tools for improving traffic circulation in the City. Public transit, pedestrian & bike friendly design, signal timing, access management and flexible work days are all considered part of the solution. A new north-south road is planned along the west side of the Boardman River using an existing railroad right-of-way. Congestion in east-west traffic patterns is acknowledged but new or widened roads are not supported, however, efforts to increase the capacity of the east-west major streets by eliminating unnecessary driveways, adjusting signal timing and roundabouts have some support.

As part of the transportation policy, the Master Plan also supports the construction of parking structures in the regional center area with liner buildings at the street level and attractive within the surrounding development. The Plan supports the development guidelines of the New Designs for Growth Development Guidebook, Corridors Master Plan, the small-town atmosphere of the City, the bayfront as an open-space resource, the downtown as a regional destination and a sustainable economy.

The zoning ordinance supports concepts expressed in the Master Plan. Zoning regulations recognize established residential lot sizes, emphasize redevelopment of areas within the city limits and provide for neighborhood and community center retail areas in proximity to each residential area. The regional center zoning districts allowing for a mix of commercial and residential uses are located in the first three blocks south of Grandview Parkway, in a thirteen block area. With the exception of the "Morgan Farm" area in the northwest corner of the City, all new development will be infill development or redevelopment, mostly occurring along five major commercial corridors within the City.

The Open Space District (OS) is an urban green area district applied along the waterfront and to existing parks and recreation facilities. Small amounts of open space may also be gained through planned site design on individual parcels. The City of Traverse City also owns the Brown Bridge Quiet Area, a natural area of just over 1,300 acres that is located 11 miles south of the city limits.

The City of Traverse City is also developing an active transportation plan which will conform to NACTO standards.

Acme Township

Just around the Bay to the east from Traverse City, Acme Township is north of East Bay Township and on the east coast of the East Arm of Grand Traverse Bay. Acme Township is rich in natural resources and agricultural production. Acme Township also contains the intersection of two regional transportation corridors. M-72 runs east and west across the township and US-31 runs north and south along the Grand Traverse Bay shoreline. Land use patterns can be described in relation to the transportation system. North of M-72, the township remains agricultural with an abundance of orchards and other farming operations. In the southwest corner and along Grand Traverse Bay, land use is single-family residential. The 1,400 acre Grand Traverse Resort is located at M-72 and US-31. Other commercial developments exist in that area, many in strip patterns along the main roads. The 2010 U.S. Census population was 4,375.

A vision for the township has been established through the development of a master plan in 2013 and a Shoreline Placemaking plan in 2013. The vision includes protection of natural and scenic qualities of the community including water resources and agricultural influences. Agriculture-based tourism is supported by residents as an economic growth strategy. Lower density rural residential land uses in conservation development patterns are envisioned on more environmentally sensitive lands, while a higher density urban residential designation "contemplates small lots in order to absorb population growth and check sprawling development."

The vision also includes the development of an integrated, walkable, mixed-use, high density Town Center that is fully connected to recently acquired public shoreline properties along the East Bay, the TART (Traverse Area Recreation and Transportation) trail system, and the Grand Traverse Resort and Spa. Acme Village and the Grand Traverse Town Center are two large, mixed-use development projects currently underway along M-72 which will anchor the planned mixed use district and contribute to a more dense and compact development form by adding a vertical dimension. The Acme Shores Placemaking Plan provides a detailed physical plan for this area, including park amenities, traffic calming measures, non-motorized connections, and low impact storm-water treatment. Public water supply infrastructure is supported for growth. The New Designs for Growth Guidebook, the Grand Vision, and the Grand Traverse County Master Plan are supported by reference.

The current zoning ordinance has provisions for the transfer of development rights, open space development, mixed use planned development and another innovative option called planned agricultural units. New cluster options are being considered to replace existing provisions in the ordinance. Active steps have been taken to preserve farmland outside of these development areas. A large part of the township is zoned A-1 Agricultural, and a millage for farmland preservation supports a local purchase of development rights program. The environmental and aesthetic value of the water resources in the township are recognized and protected in special zoning language entitled Supplementary Waterfront, Lake, Stream, Flood Plain and Wetland Regulations. In order to achieve the seamless connection between public and private properties envisioned throughout the Town Center, a Form Based Code is proposed for the area surrounding the US-31/M-72 intersection.

Blair Township

Blair Township is located south of Garfield Township, between Green Lake and East Bay Townships. M-37 runs through the township in a north-south direction and US-31 runs west from M-37 to the township line. The northwest quarter of Blair Township contains a majority of the residential development, including the Village of Blackwood which is also known as Grawn near the west township line. The northeast quarter is zoned for residential neighborhood development but small lot residential development is patchy at this time. The Commercial/Manufacturing zone is located along both sides of M-37 and US-31 almost without exception and the intersection of these two roads is the unincorporated village of Chums Corners. Access management provisions apply to both routes. The southern mile of Blair Township is zoned Agricultural. The middle of the east side is zoned Recreation-Conservation over the Pere Marquette State Forest which covers 3,900 acres of the township.

In planning for the future, Blair Township strives to proactively guide growth. The addition and/or extension of sewer and water infrastructure and more dense urban development patterns are anticipated. The Master Land Use Plan contains a projected need for 1,719 new homes in the township by 2020.

The current Residential Neighborhood Zoning District is established as a tool to allow “smart growth” development and embraces the concepts put forward in the *New Designs for Growth* guidebook. The anticipated development density is four to ten units per acres. The district has no minimum lot size or width to allow for creative design and allows a variety of housing types, office, restaurant and small retail to be

incorporated into developments. Single and two-family uses can be approved administratively by the Zoning Administrator. Pedestrian connections are required. The purpose statement for the zone reads, "*The focus of this district is to promote healthy family living by creating developments that are walkable, affordable, and desirable."* Much of the new residential development in Blair Township has occurred as single family homes in platted subdivisions. One land use goal in the community is to provide for diverse housing types.

The Master Land Use Plan calls for an emphasis on Grawn as a unique location (a hamlet) and the creation of a "sense of place" for Chums Corners as a commercial and industrial center. There is recognition that strip development has occurred along M-37 and US-31 yet there is a desire to preserve scenic view corridors and to make both major corridors appealing to drivers and businesses. Also, the Master Land Use Plan identifies the need to respect agricultural lands and features, to celebrate the Boardman Valley and existing natural resources, to preserve the rural characteristics of the township and to encourage new parks and trails.

East Bay Township

East Bay Charter Township is located adjacent and southeast of Traverse City with a short stretch of shoreline on the East Bay. US-31 passes through along the East Bay Shoreline and the township is otherwise served with a network of county roads. Hammond Road runs east-west through the township and Three Mile Road runs north-south from US-31 to Garfield. Additionally, Supply Road is recognized as a road which could become the preferred route from US-131 to Traverse City if improvements being considered by MDOT are made. The northwest section of East Bay Charter Township is urbanized with residential subdivisions, moderate and high density residential areas, a "village center" away from the waterfront, regional business on the waterfront and two industrial areas. The Township is home to 15,000 acres of the Pere Marquette State Forest. The Township is impacted by two stream corridors: the Boardman River and Mitchell Creek. There is also a lake district in the eastern and southern portion of the township.

The Master Land Use Plan was adopted in 1999 and updated in 2009. The document's introduction states, *"This Plan was developed in response to the incessant pace of development in the Township."* It emphasizes the need to look long-term at the impacts of current development. It notes that a connection between Hartman and Hammond Roads is "highly probable" in the next twenty years and anticipates a significant increase in traffic as well. It looks to land use planning and zoning tools to mitigate the affect of the changes that come with growth. With regard to land use patterns, the Comprehensive Plan describes a Natural Area Preservation with a desire to preserve 20 acres of land for every acre developed. It also proposes the development of a "village center" at the intersection of Hammond Road and Three Mile Road with a mix of higher density residential and neighborhood commercial services at a pedestrian scale.

The zoning ordinance was adopted in 2003 and has been revised as recently as July 2014. In the zoning ordinance, single family residential development is permitted in seven different zoning districts in addition to the Mobile Home and "East Bay Corners" Districts. The Lakes Area District, much of the Boardman River District and the Agricultural District all list a 40,000 square foot minimum lot size (just under 1 acre). The Natural Area District requires a five (5) acre minimum lot size and in the Boardman River district, the minimum are for parcels within 400 feet of the river is $2^{1/2}$ acres. Cluster development tools are available.

Each district has special setback requirements from water features. An overlay district for Mitchell Creek and Baker Creek add requirements for a managed buffer strip.

Garfield Township

Garfield Township is located adjacent and southwest of Traverse City. The township limits do not have frontage on East Bay. Garfield Township is bisected by US 31 as it goes south out of Traverse City. It is also split by the Boardman Lake and River in a north-south direction. M-72 runs east-west on the north limit of the township and South Airport Road is a local east-west arterial that travels over the Boardman River. Residential development patterns in Garfield Township have extended outward around the Traverse City limits and around Silver Lake in the township's southwest corner. Commercial development follows the US-31 corridor, Keystone Avenue and the section of South Airport Road closest to Traverse City.

Within the developed areas of the township, there are pockets that remain undeveloped or have the potential to be redeveloped as larger planned developments. These areas are identified on the Future Land Use Map as "planned development." The plan further describes the types of uses that are expected to be included within each block. Amendments are being considered for the zoning ordinance to make it consistent with this approach to future development. Some of this approach is already in place through the "Planned Shopping" areas in the current zoning ordinance.

Outside of commercial areas, a band of agricultural land still exists in a ring around the outside of the township except for the Silver Lake development. Conversion of much of the agricultural land to residential is anticipated on the Future Land Use Map at a density of 2 units per acre. With regard to transportation, the Master Land Use Plan includes a Thoroughfare Plan which includes both existing and proposed arterial and collector streets. The Hartman Road-Hammond Road connection is shown on the Thoroughfare Plan as a proposed road. In the text, the following comments are included: "Planners in Garfield Township have in the past pursued, and continue to pursue, the goal of better East-West mobility. The linkage of Hammond Road with Hartman Road across the Boardman River has been one possible solution to this goal. In another section, it reads: Garfield Township looks forward to implementing solutions to the East-West mobility goal that are products of the GT LUTS process. It is a specific objective and policy of this plan to limit local traffic access onto major thoroughfares within the Township as identified in the TC-TALUS Transportation Plan. The creation of new lots fronting directly on such roads is considered inappropriate and unacceptable." The Zoning Ordinance does not include overarching access management regulations but there are some provisions within other regulatory sections. Much of the existing development along major arterials is built in a strip pattern with multiple access points.

Garfield Township is host to several water resources including the Boardman River, the south end of Boardman Lake and Silver Lake. The zoning ordinance includes some environmental protection requirements of the shoreline with setbacks and elevation requirements. There are also references to regulations, permits and approvals which may be required from the MDNR through the Natural River Act.

Green Lake Township

Green Lake Township is located in the southwest corner of the Study Area and is home to the Village of Interlochen, Interlochen State Park and the Interlochen Arts Academy. US-31 runs east-west through the township and M-137 runs south from US-31 to the southern limit of the State Park through the Village of Interlochen.

Interlochen Center for the Arts (Interlochen) is an international force in the arts world located on a 1,200 acre campus between Green Lake and Duck Lake. Founded in 1928, Interlochen now boasts an alumni base of 85,000 worldwide. Annually, Interlochen attracts 2,500 students to its summer arts camp programs and 500 students to its fine arts boarding high school during the academic year. Programs are offered in creative writing, dance, motion picture arts, music, theatre and visual arts. There are 600 arts presentations offered each year by students, faculty and guest artists. Students come from all 50 states and 40 other countries. Interlochen also offers year-round arts programs for lifelong learners.

Next to the Center for the Arts to the south is Interlochen State Park. Visitors to Interlochen State Park enjoy fishing and swimming in Green Lake and Duck Lake. The park was established as Michigan's first state park by the Michigan Legislature in 1917. The 200-acre public park was created to preserve the virgin pine stand for the people of Michigan. The park has 430 modern campsites and 60 rustic sites.

Residential sprawl has been limited in Green Lake Township due to the attractive nature of the lakes where residential development is concentrated (Cedar Hedge Lake, Duck Lake, Green Lake, Long Lake and Bass Lake). Additionally, residential development exists in the village and on the west side of the Township between US-31, the Village and the two big lakes (Green and Duck). Because the lakefront parcels are essentially “built out”, the rate of growth in the Township is expected to decline through 2020. However, total housing stock is expected to grow by 1,641 units to accommodate growth in year-round residents, due to the expectation that the seasonal vacancy rate will decline by one-half and that the average household size will decrease. A stated strategy of the Master Land Use Plan is to maintain the primarily single-family character of the Township. Design and location strategies incorporate concepts of “smart growth.” Open space and Planned Unit Development options were included in the 2006 zoning ordinance.

Other than residential uses, frontage parcels along US-31 are predominantly zoned Commercial (C) with some Office (O) and Industrial (M) parcels as well. The Master Land Use Plan notes that development along the US-31 corridor can be described as sprawl development because it has been allowed to extend along the highway rather than being concentrated at key locations. It calls for limiting driveway access to US-31 and coordinating future developments to help minimize the negative impacts of the highway strip development. Currently, access is not limited to US-31 but a provision for “Shared Frontage Roads” applies to parcels fronting on US-31.

The balance of the township is large lot forested and natural areas with minimum lot sizes of five acres (R-5) or ten acres (C-10). The State of Michigan owns approximately 2,401 acres of land in the Township which is managed as part of the Pere Marquette State Forest, the Interlochen State Park, and public boat access

sites. The Shore-to-Shore Trail traverses the township as well. Nearly 70 % of the Township's total area is described as "vacant" and is consumed by public land lying fallow or by water bodies.

Green Lake Township zoning regulations require a special setback from the water as a buffer tool to protect its natural resources. Each lake is surrounded by residential uses. The conservation zone away from the lakefront discourages any use which would alter the natural conditions of the land and limits residential density with large lot requirements.

Peninsula Township

Peninsula Township is, as its name suggests, a peninsula going north from Traverse City into the Grand Traverse Bay. Its physical features make it a valuable and unique agricultural resource as the top producer of tart cherries in the nation. Its shoreline, natural beauty and proximity to Traverse City make it desirable for residential development. Recognizing this conflict, Peninsula Township residents formally adopted the Purchase of Development Rights (PDR) program in 1994 by voting in a tax millage to support the program. The program pays landowners to keep their land in agricultural production or as open space. The PDR program was further supported by grants from the State of Michigan, the USDA (United States Department of Agriculture), the Michigan Department of Transportation, and the American Farmland Trust. By the end of 2001, the PDR program and other programs had preserved 4,000 acres of agricultural land. Township residents approved another millage increase in 2002 that generated additional monies and will added 3000 to 4000 acres to the coverage area.

State Route M-37 is the main transportation route in Peninsula Township and is designated as a Scenic Heritage Route. More information on the M-37 Heritage Route can be found on the M-37 Heritage Route website: http://www.oldmissionscenicroute.org/.

Approximately 70% of the peninsula is zoned A-1 Agricultural with a five-acre minimum lot size. Otherwise there are 35 acres zoned commercial on the map and no industrial zoning district. Limited areas zoned for three classes of residential development line the east and west shoreline and cluster in the south end of the township adjacent to Traverse City. Planned Unit Developments are encouraged in each residential zone and the agricultural zone and are the only tool for multi-family residential development.

The Master Land Use Plan aims to steer residential and commercial activities to concentrated nodes in and near the existing centers of Mapleton and Bowers Harbor with a village atmosphere. The Plan states clearly: "*Peninsula Township believes that concentrated commercial areas are more desirable than sprawl*." Agriculture and suburban residential uses including home occupations are recognized as the primary economic base of Peninsula Township which is helpful in maintaining the township's rural ambiance. Businesses serve the needs of the township rather than the region. The Plan is also clear in the community's position to: "*Maintain existing commercially zoned districts without creating new ones"* and equally clear in stating: "*Rezoning of land for commercial uses should not be considered*."

As development occurs along the shoreline, natural features are protected to some extent by special provisions in the zoning ordinance. These rules include filling and grading, removal of shore cover and flood

plain controls. There is no site plan review requirement but the limit on development, separation buffers and open space requirements serve as a type of environmental protection. Other implementation tools including the Capital Improvements Plan (water, sewer, roads) and PDR activities combine with zoning regulations to accomplish the unique goals of Peninsula Township.

Whitewater Township

On the eastern edge of the Study Area, Whitewater Township is adjacent to Acme Township and the north half of East Bay Township. M-72 runs through the middle in an east-west direction and Williamsburg Road and Elk Lake Road intersect in a north-south direction. The unincorporated village of Williamsburg is located at the intersection of the two. Whitewater Township does not have "frontage" on the Grand Traverse Bay but the northeast border of the township is formed by Lake Skegemog and Elk Lake.

Whitewater Township uses several tools to steer development along M-72. The west half of the M-72 corridor is regulated by a corridor overlay district and is primarily reserved for commercial development. Township Ordinance #23, Arterial Road Access Management Regulations, is another access management tool. The Master Plan recommends that the portions of M-72 not zoned commercial (east of Cook Road) have a special scenic overlay district created to protect the road's scenic character.

Whitewater Township also developed its own Road Plan in August of 2004 which notes the link between roads and adjacent land use. It advocates that a necessary part of preserving the Township's rural environment is to preserve the rural character of the roads. The purpose of the Road Plan is "*to promote guidelines and design standards that will provide a safe, efficient, and aesthetically pleasing road system that complements the Master Plan, preserves rural character, and serves the needs of residents of Whitewater Township*." The document includes policy statements on a variety of topics including road design, changes to road classification, coordination with the County Road Commission, M-72 access management and design and signage.

While the development pressure on M-72 was expected, the current plans states that the residential "sprawl" development pressure is arriving but was not anticipated in earlier plans. Recognizing this pattern, Whitewater Township states its opposition to random residential sprawl in the Master Plan. Instead, the Plan proposes that the historic Village of Williamsburg develop as a compact community center with a mixed land use pattern. The Township previously enacted a zoning amendment in 1998 that rezoned the historic village of Williamsburg from industrial to a new mixed-use Village District. Many tenants of "smart growth" are evident in the community's zoning language and vision for the area. At the same time, the 1999 Master Plan calls for measures to preserve the rural character and natural features elsewhere in the township. Implementation tools include open space and cluster design language for rural residential development and overlay zones for the protection of scenic and environmental resources. A revised zoning ordinance has been prepared to move these goals forward and is currently being considered by the Township Planning commission.

Another event that was identified as "not anticipated in 1990 Master Plan" was the opening of the Turtle Creek Casino near Williamsburg off of M-72. The Casino is operated by the Grand Traverse Band of Ottawa

and Chippewa Indians and is exempt from local regulatory control. Whitewater Township clearly recognizes the need to work cooperatively with the appropriate Tribe in land use planning efforts around the Casino.

The Master Plan contains several clearly worded statements relating to transportation. One reads in part: "*Whitewater Township should oppose transportation investments by the State or County that generate sprawl development. The improvement of M-72 as a major arterial…has already had a major impact, especially in spawning commercial development. It has also made Traverse City more accessible…which will gradually encourage residential development in these areas...While Whitewater Township has no direct control over M-72, it should go on record in opposition to any more public investments that make M-72 an even greater high-speed thoroughfare. Whitewater should do the same with respect to other public roads in the Township which come under the jurisdiction of the Board of County Road Commissioners."*

It states later in the document: "*The Township should go on record, whenever appropriate, in support of this Master Plan's recommendations on infrastructure built by other entities. This means that the Township should oppose actions that would increase sprawl, such as traffic generating improvements to M-72, improvements to County roads that change their rural character, the construction of new schools, and the extension of water and sewer trunk lines into rural areas*."

The Plan has a positive vision for rail transportation. It reads in part: "*The Township should support restoration of passenger service on the railroad line to Williamsburg. The presence of an active rail line that terminates in Williamsburg represents an opportunity that could, in the long term, benefit the proposed village center…While this option may seem far-fetched at present, it may be more plausible as the region becomes more heavily developed and traffic in and out of Traverse City becomes more and more congested. A train station in Williamsburg would be highly conducive to its development as a pedestrian-oriented village."*

Long Lake Township

Long Lake Township is located west of Garfield Township and north of Green Lake Township. M-72 runs along the north border of the township, actually forming the north line of the eastern two thirds of the township before jogging further north. Cedar Run Road runs east-west through the township a mile south of M-72. North Long Lake Road runs east-west through the east half of the township. Both roads continue east into Traverse City. There are no other major transportation routes through Long Lake Township.

As the name suggests, Long Lake is the central feature of the township. Long Lake covers approximately four square miles and is surrounded by lake residential development on all sides. Three other smaller lakes also permit residential development around the perimeter. There is a one mile stretch of General Business (C-2) parcels with frontage on M-72. The other parcels along M-72 are zoned Agricultural. These account for approximately three miles of frontage. Several miles of North Long Lake Road on the east side of the township are zoned for high density residential housing. The southwest section of the township contains a block of Conservation Recreation parcels and the northwest contains a block of AG Agricultural parcels. There are very limited areas for commercial uses and none zoned for industrial use.

Waterfront development is a significant feature in Long Lake Township. Minimum lot widths are regulated on the water as well as on the road, there are setback requirements from the water and there are buffer requirements in place for development along the water. The Conservation Recreation areas are forested natural areas where very low impact development is permitted. The commercial development standards include groundwater protection measures.

Elmwood Township

Elmwood Township is located in the southeastern corner of Leelanau County. It is just north of the City of Traverse City and is part of the TC-TALUS study area. It is bordered on the east by West Grand Traverse Bay and to the south by Grand Traverse County. Oftentimes called the Gateway to Leelanau County, Elmwood Township is the primary gateway or funnel (M-22) through which the overwhelming majority of motor vehicles enters and exits Leelanau County.

Five primary land use and population areas are located within Elmwood Township. The commercial and light industrial business district of Greilickville runs along M-22 from the city of Traverse City border north to Cherry Bend Road; numerous subdivisions are located on the west side of M-22 between Cherry Bend Road and Lakeview Hills Road; relatively dense, single family residential developments are located along the southern edge of Cherry Bend Road; and the Timberlee Resort residential area, which was originally developed as a ski resort, includes slightly more than 200 residential properties. The rest of the Township (approximately 70%) is essentially rural, and Cedar Lake and the southernmost portion of Lake Leelanau lie within the Township's borders.

Key Elmwood Township-owned governmental and recreational facilities include Greilickville Harbor Park, which boasts beach access, two pavilions, four universally-accessible public restrooms, and incredible vistas of West Grand Traverse Bay; Elmwood Township Marina, which hosts two hundred slips and buoys for lease and/or rent and provides the best boat launching facilities within the Grand Traverse Region; Cherry Bend Community Park, which includes tennis, pickleball, baseball, basketball, playground, and public restroom facilities; the former Brewery Creek Center site condominium property that was purchased by the Township in 2012 for short-term park and marina overflow parking directly across M-22 from Greilickville Harbor Park and the Elmwood Township Marina; and Elmwood Township's government and fire department facilities on East Lincoln Road (off Cherry Bend Road).

The city of Traverse City and the Charter Township of Garfield provide the primary retail centers servicing the needs of Township residents and businesses. Most of the Township's commercial and light-industrial development parcels are situated along and adjacent to the M-22 Greilickville Commercial Corridor; much of the commercial and high-density population centers of the Township are serviced by public water and/or public sewer; the 2010 national census estimated the Townships' population at 4,503; and the Charter Township of Elmwood's website address is www.leelanau.cc/elmwoodtwp.asp.

Since January 2010, thirteen meetings of the Greilickville Commercial Corridor Task Force have been held to explore ways to improve transportation and safety issues on M-22. Elmwood Township, MDOT, the Leelanau County Road Commission, TC-TALUS, members of the general public, and M-22 public and private property

owners/tenants have all been welcome to participate since the Task Force's inception. The next meeting is expected to occur in Fall 2014.

In August 2013, the Elmwood Township Planning Commission adopted the Greilickville Commercial Corridor Sub-Area Master Plan. This elegant, twelve page Corridor Sub-Area Master Plan with seven illustrations contained therein is intended to help guide future growth within the Greilickville Commercial Corridor over the next twenty years, and more than three hundred copies of same are currently in circulation. Major recommendations include developing a comprehensive waterfront parking strategy; increasing/improving public access and TART trail linkages for pedestrians and bicyclists to West Grand Traverse Bay; establishing community public spaces and a mix and density of retail and residential land uses; consolidating existing zoning districts to allow for more flexible and expanded re-use development opportunities; establishing a sense of place (Placemaking); and expanding community character via streetscape, safety, and corridor-wide traffic improvements. The 2007 Grand Vision regional planning process identified the Greilickville Commercial Corridor as a corridor of regional significance, and several marinas, restaurants, prominent businesses, the Discovery Center Great Lakes complex, and the former TCL&P coal dock (the only deepwater port within the Grand Traverse Region) are all located along this beautiful one-mile stretch of M-22.

Additionally, In late 2013 a Community Perception Survey was completed with the cooperation of the Northwest Michigan Council of Governments to ascertain resident and business opinions on the Township's current state of affairs, and to help identify key future Township priorities. Survey results will be used to help shape an upcoming revision to the Elmwood Township Master Plan, and copies of same are available at the Township administrative offices and can also be viewed on the Township's website.

Lastly, in late 2014 or early 2015, a comprehensive Traffic Study of the entire Greilickville Commercial Corridor and surrounding arterials will be conducted by an MDOT-approved consulting firm using funding jointly provided by Elmwood Township and Rotary Charities of Traverse City. Several important traffic and public safety issues will be examined during this comprehensive Traffic Study, including whether or not Grandview Road can possibly be re-routed through the Township's majority-owned Brewery Creek Center property to possibly warrant a future signalized intersection at M-22 and E. Brewery Creek Lane; whether or not a left-turn signal from M-22 onto Cherry Bend Road is justifiable and feasible at this time; and how public safety and access to West Grand Traverse Bay across M-22 might possibly be improved in the future.

Transportation & Housing

In Northwest Michigan, including the TC-TALUS area, scattered development patterns and limited transit options leave some residents dependent on private vehicular transportation. Data from the Housing + Transportation Affordability Index indicate that the combined costs of housing and transportation for an average household in Northwest Michigan consume 58% of its income. For lower and moderate income households the economic burden is even heavier. New benchmarks for affordability suggest that households should pay no more than 45% of their total income on combined housing and transportation costs.

Therefore, the location of "affordable" housing in rural areas contributes to auto dependence which increases traffic on area roadways.

Socio-Economic Projections

The region has experience significant growth over the past 20 years, with a 26.7 percent increase in population from the 1990 to 2010 census. Continued growth anticipated throughout the Long Range Transportation Plan time horizon – 2039.

The population of each local governmental unit for the last four census counts and projections in 2020 and 2030 are provided in the following table, along with the 2010 Median Age and percentage of population under 18 and over 65 years of age.

Population by Census, Population Projections, and Age Distribution
Local Governmental Units in TC - TALUS

	Count				Projections		% Inc	2010 Median Age	2010 % of Pop Under 18 Yrs	2010 % of Pop Over 65 Yrs
	1980	1990	2000	2010	2020	2030	2010 -2030			
POPULATION & AGE										
Acme Twp	2,909	3,447	4,332	4,375	4,929	5,280	20.69%	46.6	21.8	18.7
East Bay Charter Twp	6,212	8,307	9,919	10,663	12,799	14,599	36.91%	41.1	23.1	11.9
Elmwood Twp	3,004	3,427	4,264	4,503	5,223	5,807	28.96%	48.7	22.6	22.3
Garfield Charter Twp	8,747	10,516	13,840	16,256	21,861	27,641	70.04%	43.0	20.1	20.4
Long Lake Twp	3,823	5,977	7,648	8,662	11,066	13,375	54.41%	41.4	25.1	11.0
Peninsula Twp	3,833	4,340	5,265	5,433	6,416	7,126	31.16%	53.4	18.8	25.9
Traverse City	15,516	15,116	14,532	14,674	15,519	16,050	9.38%	40.8	18.2	16.7
Total	44,044	51,130	59,800	64,566	77,813	89,878	39.20%			

Table #2 – Study area population

The Grand Vision effort created several sets of demographic data and forecasts a 2007 base scenario and a 2035 trend scenario. Another significant influence on the transportation is significant seasonal variation in population, as well as a significant visitor population.

The Northwest Michigan Council of Governments, through the support of the Michigan Coastal Management Program, commissioned the Northwest Michigan Seasonal Population Model, conducted by APB Associates, Inc. and the Planning & Zoning Center, Inc. in 1996. The purpose of the project was to provide reliable seasonal population data to assist with local and regional planning efforts in land use, infrastructure, solid waste management, environmental, parks and recreation, and economic development planning. The model calculated that the seasonal population increased the permanent population by a high of 22% in July and a low of 3% in February. The table below highlights the potential impact in the TC TALUS area:

TC TALUS	Population	64,566	(2010)
Month	Seasonal Percentage Increase	Additional Population	Effective Population
January	5.00%	3,228	67,794
February	3.00%	1,937	66,503
March	7.00%	4,520	69,086
April	7.00%	4,520	69,086
May	10.00%	6,457	71,023
June	17.00%	10,976	75,542
July	22.00%	14,205	78,771
August	21.00%	13,559	78,125
September	12.00%	7,748	72,314
October	10.00%	6,457	71,023
November	7.00%	4,520	69,086
December	6.00%	3,874	68,440

Table #3 Seasonal Population

A recent survey conducted by the Anderson Group commissioned by Traverse City Tourism calculated that over 3.3 million visitor trips were made to the Traverse City area. The National Cherry Festival in early July attracts over 500,000 people over an eight day period, the Traverse City Film Festival in late July attracts around 120,000 people over a five day period, and numerous other festivals and events attract a large number of local attendees and visitors alike.

Combining a 22% increase in seasonal population in July, with 3.3 million visitor trips with a large percentage in the summer months puts a significant strain on the ability of the transportation system to meet mobility needs and challenges capacity planning for major infrastructure investments.

The region is not only growing—it's changing. The population overall is getting older as the "baby boom" generation reaches retirement age. The labor pool is shrinking. Household sizes continue to shrink. With changes in technology, people can work anywhere in the world from home. As a result, the demand for housing types and transportation choices is changing.

The Travel Demand Model developed under the Grand Vision has a seasonal component. Specifically, 2,754 housing units are added to represent an annual average of occupied seasonal housing units. Other visitors are represented through special generators for zones containing hotels and campgrounds based on annual average occupancy rates. Those additional housing units are not added to the totals shown in Table 1.

The Demographic Summary Table below represents the raw total numbers for each input. The following four figures illustrate demographic information as it was provided through the Grand Vision process. By adding the retail, service, and other employment for 2007 and 2035, the total employment for 2007 equals 68,108 and for 2035 is 81,626.

Demographic Summary

	2007	2035	Percent Increase
Households	31,074	40,528	30%
Retail Employment	10,263	12,771	24%
Service Employment	32,905	36,668	11%
Other Employment	24,940	25,773	3%
Total Employment	68,108	75,212	10%

Table #4 Demographic Summary

Chapter 6: Travel Forecasting Model

In order to evaluate existing travel patterns and to anticipate future travel conditions for the Grand Traverse region, the TC-TALUS travel demand model (TDM) was updated to analyze current and projected demographic data. This TDM projects future travel patterns based on projected future land use and also anticipated transportation improvements.

For this study, the base year 2000 regional TDM from the Michigan Department of Transportation (MDOT) was refined and calibrated based upon new traffic count and origin-destination data. Meanwhile, the model network, person to vehicle trip conversion factors, and population and employment projections for the forecast year 2025 TDM that were developed by MDOT were obtained and adjusted based upon the refinements that have been made to the 2000 model using the methodology described below.

A majority of the tasks completed as part of the model update revolved around new Origin & Destination data collected in 2007 and the latest MI Travel Counts data. The TDM was developed and calibrated based on MDOT standards. As noted above, there are a large number of seasonal homes and hotel visitors and the traffic varies considerably throughout the year. In order to capture the travel of non-permanent residents in the area, average occupancy rates for seasonal housing and population in overnight accommodations was included in trip generation. Traffic counts also were converted to Annual Average Daily Traffic (AADTs), representing the traffic generated on an average day in the TC-TALUS area. The model is run using MDOT's Urban Model Interface Add-in in TransCAD.

Several areas of the model were refined. The major inputs for the model included:

- **Road Network Data –** The model did not include significant additions to the road network;
- **Land Use Data (Demographics)** – Projected increases were calculated for housing, population, and employment by retail, service, and other sectors;
- **Origin – Destination Data** – An origin-destination study was conducted, capturing three trip types relating to the study area: external-external, internal-external, external-internal.

- **Trip Generation** -- MI Travel Counts data was used to establish new trip production rates. The trip production rates for all TAZs were updated using trip production rates from the small urban sample area from MI Travel Counts.
- **Friction Factors --** Friction factors are used to calibrate the average trip lengths in a TDM. Specifically, friction factors limit the average trip length and are used to help calibrate average trip lengths. For the Grand Traverse region, average trip lengths were established using the MI Travel Counts data for each of the three trip purposes in the TDM. Once the average trip length was established for the Grand Traverse region, an interactive process of fine tuning the friction factors was used until each of the three trip purposes, Home Based Work (HBW), Home Based Other (HBO), and Non Home Based (NHB) were considered calibrated.
- **Auto Occupancy Rates** -- The MI Travel Counts data was also used to estimate auto occupancy rates within the Grand Traverse region.
- **Model Validation Process** -- After the refinement of the above inputs it was necessary to recalibrate the TDM to a 2007 base year. The validation/calibration process involves comparing model generated link volumes with traffic counts at a specific location.

Additional information on the methodology for the Grand Vision Traffic Demand Model can be found in the following Grand Vision report: Task 3.4 Travel Demand Methodology Report.

Chapter 7: Roads and Highways

Existing System

The TC-TALUS area is served by all customary transportation services. Roads, streets and highways are the predominant means of transport. Local Transit and Intercity bus service, Commercial and General aviation service as well as rail freight service and non-motorized services all exist in the area. Highway access from outside the area is provided by a number of routes. Interstate Route 75 (I-75) although not located in the area serves as a primary link to southeast Michigan. US routes 31 and 131 carry traffic to and from southwestern Michigan. US-131 is the closest freeway facility ending just south of the Grand Traverse / Wexford County line. M-72 and M-37 also provide access to the TC-TALUS area, and M-22 carries traffic to and from the Leelanau Peninsula.

Locally, east-west routes carry the greatest volumes of traffic. Major east-west routes include Grand View Parkway (US-31, M-72, M-37), Eighth Street/Fourteenth Street and South Airport Road. Major north-south routes include M-22, Division Street (US-31, M-37), Cass Road/Street, Woodmere Street/ Barlow Street, Garfield Road, Center Road (M-37) and Three Mile Road.

All of the roads mentioned above are very near or above their design capacity, particularly during the busy summer months. Additionally, many of the roadways were developed with uncontrolled access which is inefficient and also can cause safety concerns. Generally speaking, traffic crashes on these corridors are predominately rear-end crashes and involve turning movements.

There are three primary measures of the effectiveness of the existing roadway system: Traffic Crash Analysis; Road Capacity Analysis; and Asset Management

Traffic Crash Analysis: The Grand Vision included a detailed crash analysis to identify key points where accidents may indicate road and intersections that need improvement to increase safety. The methodology utilizes Roadsoft version 7.1.0.0 and the associated crash data for the 10 years from 2000 to 2009 for eleven defined corridors of significance. The filtered data resulted in 431 total intersections with at least one crash reported over the 10-year period. The data was examined using Roadsoft in three distinct ways: crashes attributable to curved segments of roadways, intersection weighting and ranking by year, and key intersection crash diagrams. Each of the methodologies and the results are discussed in the sections below. This analysis is intended to provide a regional overview of specific areas that are experiencing safety related issues. The results from this methodology may differ from other safety analyses performed by local road agencies due to the data set utilized and the specific methodology applied to the data.

Curve segment rankings

Using Roadsoft's curve analysis tool, the top crash concentration curve segments in the region were ranked in terms of number of "K" and "A" accidents attributable to roadway geometry. A "K" crash involves a fatality while an "A" crash involves serious injury. For the curve analysis, Roadsoft assigns all accidents along curved segments of roadway, regardless of the degree of curvature of the roadway alignment. The top five curves in terms of crashes are:

1. US-31N from the Traverse City limits to 5 Mile Rd.
2. US-31N from Traverse City State Park entrance to 4 Mile Rd.
3. US-31N from Avenue E to Traverse City State Park entrance
4. West Silver Lake Rd. from Allen Dr. to Secor Rd.
5. North Long Lake Rd. between Timbers Trail and Harty Hill

The first three curves listed are on the segment of US-31 (Corridor 1) along the East Arm of the Grand Traverse Bay. The alignment along these segments of roadway, although curved, is a series of very high radius curves with no sight-distance issues noted. The results of the analysis should be viewed with this in mind, as it is unlikely that mitigation in the form of roadway realignment would result in a safety improvement.

Intersection ranking by year

Using the Roadsoft safety analysis module, the top 5 percent of all intersections on the 11 corridors of significance were identified. The resulting intersection list was first generated for all 10 years of crash data from 2000 to 2009. To recognize that safety improvements have been made over the last 10 years, the same top 5 percent intersection ranking was performed for nine years of data (2001 to 2009), eight years of data (2002-2009), and so on through the three years of data from 2007 to 2009. By identifying and ranking the intersections year-by-year, changes in the intersections' relative ranking can be identified and correlated with safety improvements made during the course of the last decade.

This analysis method resulted in a list of 40 intersections that have been in the top 5 percent of all corridor intersections at some point in the last 10 years. These intersections are listed below in order of their average 10-year ranking in the top 5 percent. Intersections that should be considered for possible safety improvements are at the top of the list.

Intersection	Ave Rank	Intersection	Ave Rank
Hammond & Garfield Rd	2.00	Garfield Rd & Potter	4.00
US-31 & Morgan Run Dr	4.25	S S Long Lake Rd / M-137 & US-31	8.38
S West Silver Lake Rd & US-31 (Grawn)	8.63	Hammond Rd & 3 Mile Rd	8.75
M-37 & Blair Townhall Rd	14.63	W 11th & S Division St (US-31/M-37)	14.88
Park Dr & W South Airport Rd	15.75	E 8th St & Cass St	16.88
Woodmere Ave & E 8th St & Tart Trail	18.00	South Airport Rd & Garfield Rd	18.63
Silver Lake Rd & Franke Rd	18.88	E Potter Rd & 3 Mile Rd	19.25
N Division St (US-31, M-37) & Randolph St	1.63	S Division St (US-31, M-37) & 6th St	21.88
US-31S & S East Silver Lake Rd	25.50	US-31N & 4 Mile Rd	30.13
US-31S & Gonder Rd	31.13	W S Airport Rd & Division (US-31, M-37)	31.13
S Division St (US-31, M-37) & W 14th St (Silver Lake Road)	38.88	US-31S & Blair Valley Rd	43.75
Green Hill Ct & Silver Lake Rd*	47.00	E Front St (US-31/M-37/M-72) & Garfield	47.75
Zimmerman Rd & Silver Lake Rd*	48.13	Manor Wood Dr & M-37	51.38
E 8th St & Munson Ave (US-31/M-37/M-72)	52.13	US-31S & Sawyer Rd / Curtis Rd	53.38
Black Bark Ln & S Garfield Rd	53.75	M-37 & Nimrod Rd	55.13
S Garfield Rd & E River Rd	56.63	Eastward Dr & W South Airport Rd	58.25
E Traverse Rd (M-72) & S Morgan Hill Rd	60.63	Hartman Rd & US-31, M-37	75.13
S Garfield Rd & Voice Rd	80.88	US-31, M-72 & 3 Mile Rd	93.75
M-37 & Vance Rd	123.88	US-31S & East Duck Lake Rd	128.75

** Green Hill Ct. and Zimmerman Rd intersect Silver Lake Rd within 100 feet of each other.*

Table #5 Intersection Traffic Crashes

The Grand Vision also included an analysis of the total crashes at key intersections. At each Key Intersection, the radius of crashes searched is dependent on the intersection volume and geometry. Intersection searches were started with the search radius set to 0.03 miles and the number of crashes was noted. The search radius for each intersection was then increased in 0.02-mile increments until the total crashes found increased by 10 crashes or less (one crash per year, on average). The maximum search radius used is 0.19 miles, or approximately 1,000 feet from the center of the intersection.

The top key intersections in terms of total crashes are:

1. S. Airport Rd. and US-31 871
2. S. Airport Rd. and Garfield Rd. 584
3. E. Front (US-31, M-37, M-72) and Garfield Rd. 457
4. S. Airport Rd. and Barlow St. 452
5. S. Airport Rd. and Cass Rd. 444

In terms of pedestrian and bicyclist safety concerns, the following intersections have been identified by TART as having important safety concerns:

- 14th Street and Division
- Grandview Parkway (M-22) and Division Street
- Grandview Parkway (M-22) and M-72
- 7th Street and Division Street
- 11th Street and Division Street

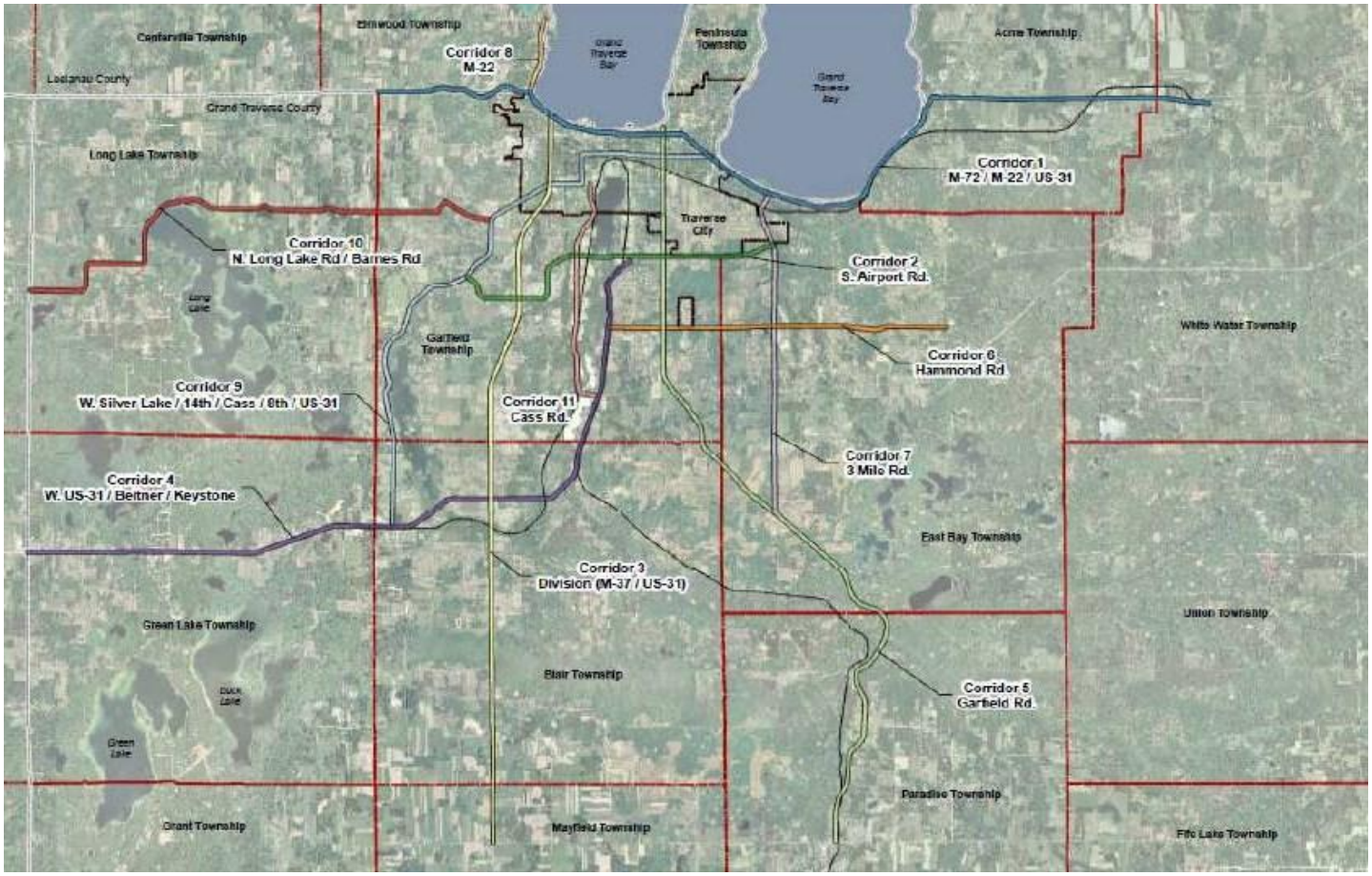
Level of Service

The second benchmark for effective road infrastructure is Level of Service. Level of Service is a classification method that categorizes the ratio of volume of traffic to the capacity of the road to handle traffic volume. The following is a description of the Levels of Service and the volume to capacity ratios:

Level of Service	Definition	Volume to Capacity Ratios
A	Conditions of free flow; speed is controlled by driver's desires, speed limits or physical roadway conditions	0.0 to 0.34
B	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles	0.35 to 0.50
C	Conditions of stable flow; speeds and maneuverability more closely restricted; occasional backups behind left-turning vehicles at intersections	0.51 to 0.74
D	Conditions approach unstable flow; tolerable speeds can be maintained but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low; some motorists at intersections, especially motorists making left turns, may wait through one or more signal changes	0.75 to 0.89
E	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited	0.90 to 0.99
F	Forced flow conditions; stoppages for long periods; low operating speeds	Greater than 1.00

Table #6 Level of Service

The Grand Vision conducted a detailed analysis of key corridors, measuring the directional capacity compared to the results of the Travel Demand Model (TDM). The table below identifies those segments that reach a Level of Service of "D," "E" or "F" in the 2035 TDM. Segments highlighted in green are those segments for which physical improvements are both feasible and in alignment with the regional Vision. These are segments of roadway that can be physically widened and are outside of the areas identified as higher density, walkable downtowns or cities in the regional Vision. Capacity improvements on these segments will help them more efficiently serve as longer distance connectors between the higher density nodes identified in the regional Vision.



Map #2 – Grand Vision Corridors

The other segments are located within the higher density downtown or city areas in the regional Vision and/or segments of roadway that already have two through lanes of traffic in each direction. To remain in alignment with the established regional Vision, capacity issues on these segments will be addressed with policy directives and multi-modal improvements rather than direct physical through lane type capacity improvements. The policy directives are identified in each corridor section.

Street Name	From	To	2007 ADT	TDM Growth Rate	2036 ADT	2035 Directional Design Hour Volume	Directional Capacity	Volume to Capacity Ratio	Level of Service
Trunkline									
Corridor 1									
M-72	Front	Garfield	31,964	17.02%	37,404	1,913	2,425	79.00%	D
M-72	3 Mile	4 Mile	38,324	17.82%	45,152	2,477	2,425	102.00%	F
M-72	4 Mile	US - 31 (Acme)	30,479	17.82%	35,909	1,870	2,415	77.00%	D
M-72	4 Miles E of US 31	Lautner Rd	15,571	9.77%	17,092	858	1,100	78.00%	D
Corridor 3									
M-37	Vance Rd	US-31	14,306	40.48%	20,098	1,084	1,100	99.00%	E
M-37	S. Airport	TC City Limits	30,951	23.99%	38,375	2,034	2,229	91.00%	E
Corridor 4									
US-31	M-137	W. Silver Lake	15,029	10.98%	16,680	884	1,100	80.00%	D
US-31	W. Silver Lake Rd	M-37	19,368	13.07%	21,889	1,161	1,100	106.00%	F
Corridor 8 West Bay Shore (M-22)	M-72	Cherry Bend	19,447	41.33%	27,485	1,304	1,100	119.00%	F
Local Roads									
Corridor 2									
S. Airport	W. Silver Lake Rd	US-31	12,009	18.66%	14,249	795	802	99.00%	F
S. Airport	US-31	Garfield	35,955	74.90%	38,648	2,157	2,099	103.00%	F
Corridor 6									
Garfield	Carver	US-31	26,886	20.00%	32,263	1,800	1,105	163.00%	F
Corridor 8									
Hammond	Keystone	LaFrainier	0	New Link	21,845	1,219	1,604	76.00%	D
Hammond	LaFranier	Garfield	11,805	206.38%	36,168	2,018	1,604	126.00%	F
Hammond	Garfield	3 Mile	18,266	36.23%	24,883	1,388	1,604	87.00%	D
Hammond	3 Mile	4 Mile	15,009	47.47%	22,134	1,235	1,583	78.00%	D
Corridor9									
14th St	S. Division	S. Cass	19,106	40.42.%	26,828	1,497	1,166	128.00%	F
8th St	Barlow	Garfield	14,019	22.26%	17,140	956	926	103.00%	F

Table #7 Grand Vision Corridor detail

Asset Management

While there are selected locations where road improvements are actively considered, a critical component of road and highway infrastructure is the on-going maintenance of the existing road surface. The Northwest Michigan Council of Governments has partnered with MDOT and the Road Commissions under a program entitled Asset Management, which is a process for collecting surface condition data about the existing road network and managing pavement conditions based on strategic goals outlined by the MDOT and local road agencies. The process includes inventory, scenario evaluation, and action that results in selecting the best method for identifying, prioritizing, and implementing road construction projects. Ultimately, asset management is a planning tool that is used by transportation agencies to make the most efficient use of public resources for the purposes of improving road infrastructure in a community.

Each year, NWMCOG works with MDOT, road commissions, and municipalities to survey the condition of all arterial and collector roads in the region that are eligible for federal aid dollars. Data collection by the NWMOCOG GIS Analyst is coordinated with a County Road Commission employee and a representative from a local MDOT office. Each three-person team classified, evaluated and rated road conditions, utilizing the Pavement Surface Evaluation and Rating (PASER) system. PASER is a subjective, visual rating process that assigns a value to a road segment based on its condition at the time of the rating. After driving the full length of a road segment, the participants determine by consensus the value to be entered into the Laptop Data Collector based on the current road surface condition. Data is collected in the daylight and when the conditions are dry. Data collection begins in the spring and is finished by late summer. Based on that data, maps and comparative tables are generated by county. In 2013, NWMCOG staff coordinated the rating of over 2,700 miles of federal-aid-eligible roads in Northwest Michigan.

Asset Management provides the primary input into annual maintenance plans for the road commissions, cities that manage roads under Act 51, and MDOT. Assess Management Reports for years 2006 – 2013 are available at the NWMCOG Transportation Asset Management webpage. *(http://www.nwm.org/planning/transportation/asset-management/)*

The results for Grand Traverse County showed that 40% of Grand Traverse County's roads were rated 5-7 (Fair), a decrease from the previous year's 47%. The County's percentage of roads rated 1-4 (Poor), 36%, was slightly higher than the regional median percentage of 35%. Twenty-four percent of the County's roads were rated 8-10 (Good), up slightly from last year.

Complete Streets

The Act 51 agencies, the City of Traverse City, Grand Traverse County Road Commission and the Leelanau County Road Commission have undergone extensive efforts to provide multi-modal options on the existing roadways.

Residents and visitors to Northwest Lower Michigan want choices in how they connect to places, goods and people. This has been consistently expressed through public input and increasingly through personal action; nowhere more clearly than in the Grand Vision, where 90 percent of respondents identified a more walkable, connected community as a priority. This commitment and interest was recently reconfirmed in a follow-up survey from the Grand Vision.

A Complete Streets approach to transportation planning, design, construction, and maintenance is an important tool to move forward with the vision of a regional multi-modal transportation system. A Complete Streets approach recognizes and provides for a transportation network that serves more choices and more connections for the community. It considers that the entire right of way, from property line to property line, is assessed on street projects in order to provide the best accommodations for people on foot (including people using wheelchairs), on bike, taking transit, or driving in motor vehicles. Using this approach, road networks are designed, constructed and maintained to be safe, comfortable and inviting for individuals of all ages and abilities.

Complete Streets is also an opportunity to simultaneously address another guiding principle of the Grand Vision, which is to *protect and preserve water, forests, natural and scenic areas*. In some regions, Complete Streets is integrated into a Living Streets Plan that achieves goals of accessibility and equity, while serving community sustainability goals. All of which are valuable tools to achieve a stronger economic environment.

Local agencies that have adopted a Complete Streets resolutions:

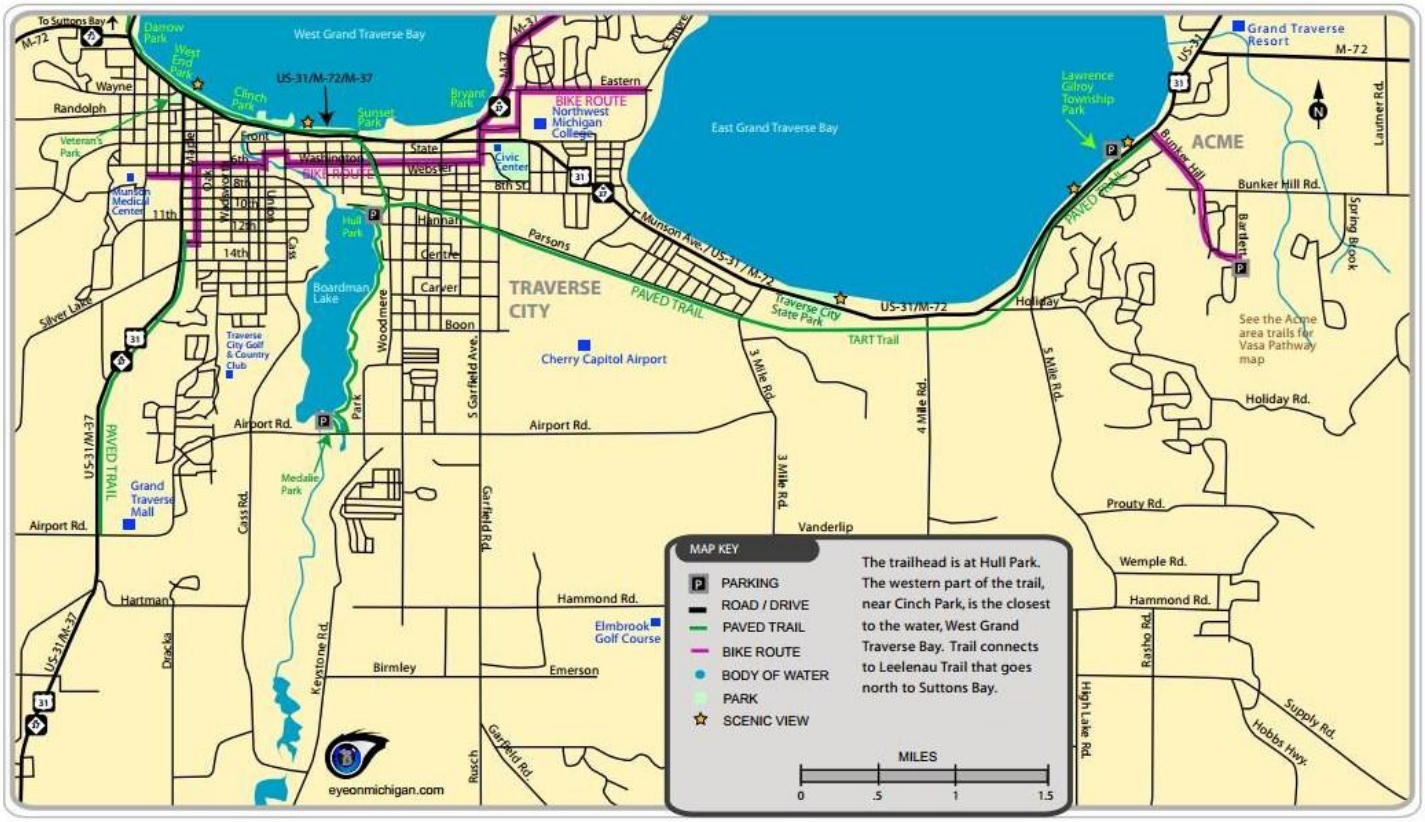
a. Acme Township
b. City of Traverse City
c. Kingsley
d. Garfield Township
e. TC-TALUS
f. Grand Traverse County Road Commission

The following is a brief description of those efforts:

City of Traverse City

Many communities have worked closely with advocacy groups and road agencies to provide multi-modal options on the existing roadways. Perhaps one of the most extensive efforts in the region to promote multi-modal roadways is in the City of Traverse City. Since the 1980's, the City has been working to identify bike routes throughout the City that is now manifest in *TART in Town*. *(http://traversetrails.org/trail/tart-in-town-cross-town-route/)* The TART in Town includes several point-to-point bike routes in downtown Traverse City.

- Cross-Town Route is an east-west bike route that currently goes from TC Central High the Commons and Munson Medical Center.
- Rose Street Route is a north-south connector on the east side.
- Elmwood Street Route is a north-south connector on the west side.



Map #3 Traverse City Trail map

A landmark project for multi-modal design was Woodmere Avenue from Eighth Street to Park Drive. The project included reducing the size of the road from four lanes to two lanes, with landscaped medians and bike lanes and developed with cooperation between the City and Garfield Township across jurisdictional line to ensure consistent design. The project serves as a model for other projects, including re-design of Eighth Street east of Garfield Avenue, and the proposed designs for other key corridor sections in the City. In addition, the design of the South Campus Entrance to the Grand Traverse Commons was the result of an extensive public input process included non-motorized links to the Historic Barns Park and the main campus and was constructed in 2012.

The City has also been working on a number of projects to enhance multi-modal design, including working with MDOT and approving a ballot initiative to provide land for expanded design option for Division Street and conducting a Traverse City Corridor Study:

(*http://www.traversecitymi.gov/downloads/traverse_city_corridors_master_planadopted_lq.pdf*) designed to improve the appearance, function and vitality of the City's key commercial corridors, including East and West Front, Eighth, and Fourteenth Streets and Garfield Avenue.

Grand Traverse County

The Road Commission worked with the Grand Traverse Band of Ottawa and Chippewa Indians and Bureau of Indian Affairs funding which paved the shoulders on North Lautner and North Bates Roads., as well as Holiday road in Acme and East Bay Township. The Road Commission completed the repaving of River Road

in 2007 which includes six miles of paved shoulders and worked on Karlin Road between M-37 and Nesson City Road.

Leelanau County

The Road Commission reported that they have paved shoulders on many roads; recently the shoulder width was increased to four feet to conform to AASHTO (American Association of State Highway Transportation Officials) guidelines. CR 633 between the Village of Suttons Bay and Traverse City was constructed with four foot shoulders. Road Commission staff members are working with the line painting contractors to ensure the as constructed four foot shoulders are not narrowed by inaccurate edge line painting.

Forecasted Demands

The TDM provides traffic volumes along roadways for 2007 and for 2035. By comparing modeled volumes from the approved 2007 validation run to the 2035 village scenario model run, growth rates were calculated from 2007 to 2035. This calculation (hereinafter *traffic growth rates*) and the regional growth pattern makes some roadways likely candidates for upgrades within the NFC classification system over time. Note that the higher classification level is a reflection of the increasing importance of the link as a transportation route in the region but is not associated with any specific design recommendation. A chart showing this calculation based on the TDM is provided below:

Selected Road Segment Travel Demand Model (TDM) Volume Forecast

Model ID	Street Name	Location	2007 ADT	2007 Modeled Volume	2007 Model to Count Ratio	2035 TDM Volume	Growth Rate
1441873	West Bay Shore (M-22)	Between M-72 and Cherrybend	24,287	22,643	0.9323	32,002	41.33%
1443576	West Bay Shore (M-22)	N. of Cherrybend	13,060	13,344	1.0217	17,227	29.10%
1422585	Keystone	Between Birmley and Hammond	4,701	5,281	1.1234	16,864	219.33%
	New Hammond	Keystone to LaFranier				21,845	
1424860	Hammond	LaFranier to Garfield	11,805	8,971	0.7599	27,485	206.38%
1471565	Hammond	E. of Garfield	18,266	22,947	1.2563	31,260	36.23%
1477127	Hammond	E. of 3 Mile	15,009	22,590	1.5051	33,314	47.47%
1488660	Hammond	4 Mile to 5 Mile	10,387	19,538	1.8810	29,806	52.55%
1429708	S. Airport	LaFranier to Garfied	35,955	37,917	1.0546	38,855	2.47%
1472295	S. Airport	Cherry Capital Airport Entrance	12,724	16,234	1.2759	18,402	13.35%
1474997	S. Airport	At 3 Mile	12,890	15,338	1.1899	17,327	12.97%
1477102	3 Mile	N. of Hammond	8,077	8,012	0.9920	8,733	9.00%
1478020	3 Mile	N. of S. Airport	18,910	23,649	1.2506	26,029	10.06%
1453809	Garfield	N. of 3 Mile	7,538	7,188	0.9536	9,722	35.25%
1424125	Garfield	S. of Birmley	5,559	7,712	1.3873	10,443	35.41%
1424866	Garfield	Between Birmley and Hammond	16,129	21,214	1.3153	19,534	-7.92%
1431091	Garfield	S. of Airport	11,850	10,349	0.8733	14,202	37.23%
1431661	Garfield	N. of Airport	20,011	23,301	1.1644	29,636	27.19%
1433547	Garfield	Near Baldwin	21,283	23,301	1.0948	27,475	17.91%
1434080	Garfield	S. of Hannah	26,886	23,965	0.8914	26,557	10.82%

Source: Grand Vision Travel Demand Methodology Report (Task 3.4)

Table #8 Road segment traffic projections

The question of east-west mobility in the region was a topic of conversation before and during the Grand Vision. The second route identified here is a series of roadway links that provide an east-west path across the south side of Traverse City: Beitner Road to Keystone Road to Hammond Road to 3 Mile Road. The route could be extended to 4 Mile using the same rationale. This path connects two principal arterials both west to east and east to west. Using these road corridors, US31 (Benzie Highway) on the west is connected to US-31/M-72 (Grandview Parkway) on the east. M-72 provides a route east and connects to the US-127 freeway. US-31 (Benzie Highway) turns south in Benzie County and provides a connection to the US-31 freeway beginning in Ludington.

The extension of Hammond Road to Keystone Road has created a new link in the street network grid. The new connection in the grid street network provides more options for circulation in the urban core including east-west travel movement. The increase in travel path options allows more cars to choose between an east-west route on Hammond Road or on S. Airport Road. Keystone Road between Birmley and Hammond shows a traffic growth rate of 219.33%. Traffic growth rates on Hammond Road show an increase of 36.23%, 47.47% and 52.55% along the roadway segments between Garfield and 5 Mile. Traffic growth rates on S. Airport Road from LaFranier to 3 Mile also increased but at a much lower rate: 2.47%, 13.35% and 12.97% by roadway segment.

The increase in traffic growth rates on Hammond Road indicates that it will become a more heavily travelled road over time. The two east-west routes may be sharing the traffic. Some of these trips are local trips and some of them are through trips on each corridor. When the regional Vision is applied to these options, however, the identification of an east-west through route for vehicular traffic further from the core city center is beneficial.

While the S. Airport Road corridor will carry some through traffic, the regional vision describes it as a multi-modal, urban corridor with nodes of dense development at major intersections. It calls for design changes to be made over time within the roadway and to the adjacent land use to encourage pedestrian, bicycle and transit use. The roadways that make up this east-west corridor—Beitner Road to Keystone Road to Hammond Road to 3 Mile Road—are currently classified as minor arterials. Over time, it may be appropriate to reclassify them as principal arterials.

The M-22 route from the intersection of US-31 and M-37 north along the east coastline of Leelanau County is one corridor that may be reclassified from a minor arterial to a principal arterial over time. The traffic growth rates between M-72 and Cherry Bend Road show an increase of 41.33%. The traffic growth rates from Cherry Bend Road north to Bingham Road show a projected increase of 29.10%. Also, this road connects several village developments shown in the regional Vision including the population node at Greilickville as well as the villages of Suttons Bay and Northport. Based on both the projected traffic growth rates and the regional land use vision, it may be appropriate to reclassify this road to the principal arterial category in the future.

This observation comes with an additional note. This route is a beautiful, scenic route along the West Bay with changing topography. The future designation of this route as a principal arterial will make it eligible for

more funding but does not equate to a plan to widen the road. The concepts of road classification and road design need to remain separated.

Future Road System

The Grand Vision outlined a prioritization process to identify projects to fill gaps described in Transportation Gap Analysis. The resultant proposed project list represent a major shift from the "Trend" or business as usual approach to transportation project selection. Although there are gap areas identified in the urban core area of the TC-TALUS model area, there are no road widening projects proposed in those areas. The Grand Vision sets the stage for a different approach to congestion management in the core urban area. In the densest urban areas around the region, capacity issues are handled through land development policies, mode shift incentives and travel demand strategies, as well as in some cases, areas where safety and capacity improvements are needed.

Overall prioritization process: The safety and capacity transportation gaps identified in the *Transportation Gap Analysis and Refined Corridor / Intersection Analysis* Report have been placed into one of 4 categories: Access Management, Safety Improvements, Road Diets, and Capacity Improvements. Each project was then compared to the others with respect to impact timeframe, safety, impact on mobility, and project cost and summarized in the *Recommended Transportation Strategies* table at the end of this section. Each of the transportation gaps is discussed below, including a discussion of why the project has been placed on the list at its current priority.

Access management plans: The best method for preserving as much roadway capacity as possible is to streamline operations with an access management plan. A detailed access management plan for the corridor will, over time, reduce the number of driveways on the roadway and provide additional inter-parcel connections to reduce conflicting turning movements along the corridor. For segments of corridors that will experience near- or overcapacity conditions as detailed in the *Transportation Gap Analysis and Refined Corridor / Intersection Analysis Report (Task 3.6 / 4.2)*, but are situated in locations within the study area where widening is impractical or not in alignment with the regional vision, it is important to implement an access management plan. The access management plan should be implemented as soon as possible because the results of access management efforts are incremental in nature and take years or even decades to fully develop. The need to start the access management plan soon to experience maximum benefits makes it a high priority.

Intersection safety improvements: The prevalence of rear-end type accidents at intersections can be effectively mitigated by providing larger and more visible advance warning signs. This project type can easily be implemented because of its low cost and lack of right-of-way acquisition. Intersections that would benefit from this type of safety improvement are:

- S. Airport Road / Division Street (US-31, M-37)
- S. Airport Road / Garfield Avenue
- S. Airport Road / Cass Street
- S. Airport Road / Barlow Street (LaFranier Road)

Another intersection safety mitigation technique is to add channelizing lanes to provide turning traffic an opportunity leave the through traffic lanes when slowing / stopping to make a turning maneuver. Intersections that are near capacity and do not have appropriate right turn and/or left turn lanes, tend to have conflicts between through traffic and turning traffic in the same direction of travel resulting in a prevalence of rear-end type accidents. The Garfield Road / Front Street (US-31) intersection will benefit from the addition of right-turn lanes on Front Street. This project would require significant right-of way acquisition in the form of a total take, and therefore will take longer to implement, placing it at lower priority level than the other intersection safety improvements that can be implemented sooner. Details of this project and its right of way impacts are in the *Transportation Gap Analysis and Refined Corridor Intersection Analysis Report (Task 3.6 / 4.2)* report.

Curve safety improvements: Accidents on curved roadway segments with high crash concentrations can be mitigated by installing centerline and shoulder rumble strips, as discussed in the *Transportation Gap Analysis and Refined Corridor / Intersection Analysis Report (Task 3.6 / 4.2)* report. These relatively low cost mitigation techniques can be implemented without acquiring new right-of-way. There are two sections of roadway that will benefit from this type of safety improvement: W. Silver Lake Road from Allen Drive to Secor Road and N. Long Lake Road from Timbers Trail to Hardy Road.

Road diet: Certain segments of roadway currently have excess capacity and are projected to retain this excess through the entire time horizon of the analysis. One such segment is Garfield Road from Hammond Road to S. Airport Road. This 5 lane section is projected to operate at level of service A-B through 2035. If the roadway section were reduced to one through lane in each direction with a center left-turn lane, it would function at level of service C-D through 2035, still above the acceptable level of service D threshold.

Reducing the number of lanes on this segment would provide room for a streetscape and multi-modal facilities within the road right-of-way without causing future capacity concerns. This segment of roadway is a candidate for a road diet because it is currently a 5-lane section and can easily function as a 3 lane section for the duration of the study. This segment of roadway also has adjacent land-use patterns that can benefit from additional multi-modal facilities. Also, aesthetic improvements to this segment of roadway can be implemented to provide a visually pleasing gateway corridor to the core urban center of the region. The signalized intersections at either end of this segment will need to be coordinated to provide for optimum north-south traffic movement.

Capacity improvements: For segments of roadway that are: 1) going to function as key connections between population centers in the regional development plan, and 2) projected to be over-capacity during the time horizon of the study, the addition of through lanes is warranted. These capacity improvement projects represent major transportation investments. They are identified on the prioritized list as lower priorities because the capacity issues will not occur for another 10 to 20 years. However, since they are large investments, they are on the list so road agencies can plan for funding for the projects.

Signal Optimization: Signal Optimization projects seek to keep the signal timing programs current with traffic patterns and make the most efficient use of the traffic signal. These projects require detailed traffic

counts and turning movement studies to be completed and used by qualified traffic operations engineers to develop and implement revised traffic signal timing.

Multi-Modal Transportation: The transportation system is about the mobility of people and goods around the region. Efficiency and safety are primary considerations. But the transportation system has many ripple effects in the community. There are environmental impacts of the transportation system as personal vehicles are powered by fossil fuels and cause carbon emissions. The transportation system is also associated with a sedentary lifestyle that impacts public health.

In order to provide an opportunity for all citizens to fully participate in society, the transportation system must provide options for mobility, not just for those who are able and can afford a private automobile. Transportation choices also contribute to livable communities by creating places people like to be and lifestyle choices. System demand management may be used to address this range of other transportation related goals as well.

Recommended Elements and Strategies

The following are recommended elements and strategies for the road system in the TC-TALUS area: The strategies are listed in the four functional categories identified under the Framework for the Future process: 1) Data, Education & Outreach; 2) Planning & Policy; 3) Financing & Incentives; and 4) Development & Implementation.

Objective: *Maintain and Improve Existing Road System*

Data, Education & Outreach

- Develop communication plan to share information regarding costs and investment process for road network
- Explore options to reduce VMT through Traffic Demand Management principles, including rideshare, carpools, non-motorized options
- Develop and deliver education materials on the interrelationships between transportation modes and land use
- Map housing needs with transportation networks to identify opportunities for a balanced mix of housing opportunities
- Conduct analysis on how various land use strategies affect vehicle miles of travel, mode sharing, economic viability and environmental impact
- Create an alternative fuel vehicle and infrastructure toolkit for local governments and transportation agencies
- Support public education programs on individual transportation behavior and impact on costs and the environment.
- Consider Transit system needs in planning future road improvements.

Planning & Policy

- Develop land use policy for access management along commercial corridors
- Integrate the Capital Improvement Project planning process among transportation agencies and local governments
- Develop broad based Regional Transportation Demand Management program with adoption from transportation agencies and local governments
- Support the implementation of mitigation measures for environmental impacts identified in the project-level of analysis of transportation funds.

Financing & Incentives

- Work to assure adequate funding for infrastructure maintenance
- Establish investment strategies based on broader transportation management principles (Complete streets, targeted redevelopment areas, interconnection).
- Support financial incentives to adequately recognize the unique needs of rural areas and provide appropriate incentives toward rural land use and transportation practices that benefit the region and local areas.
- Advocate for greater flexibility in the use of state and federal formula funds toward system maintenance purposes.
- Develop funding for a local government incentive program for multi-modal transportation alternatives and land use initiatives
- Support incentives for alternative fuel infrastructure and vehicle investments.
- Connect DDA and Brownfield funding (in core communities) with local transportation infrastructure improvements
- Examine all transportation funding for roads, transit, non-motorized, freight, air, water to determine opportunities to collaborate and combine revenues to more effectively meet transportation demands.

Development & Implementation

- Identify traffic safety concerns and resolve in a timely manner
- Monitor road surface conditions via PASER to manage improvements
- Institute traffic calming measures on cross town high speed routes
- Consider public private partnerships and competitive service contracts or maintenance
- Assist local agencies to develop effective pavement management systems that can assist in the evaluation, analysis, and prioritization of maintenance and rehabilitation needs on local streets.
- Provide technical guidance to local agencies and invest regional funds to build complete streets projects through designated and planned community activity centers, to ensure bicycles, pedestrians, and transit can share the road safely and compatibly with autos.
- Help coordinate multi-agency packages of projects for federal and state discretionary programs and grants, where a regional strategy improves success.
- Cooperate on new initiatives that more fully integrate transportation planning efforts with economic development issues and opportunities in urban and rural areas.
- Focus federal funds on specific projects that must be subject to federal requirements, so that other projects can be funded from other sources that don't require costly or lengthy federal requirements.

Chapter 8: Transit

Mobility is vital to regional economic activity and personal well-being. Transportation connects people to jobs, education, health care, and community. Alternative transportation options such as public transit provide access to all types of riders—commuters, seniors, the disabled, visitors, and students—and allows residents and tourists to contribute economically to the region. The services provided by public transit agencies spur economic activity, lessen traffic congestion and emissions, and add value to our quality of life.

Existing Transit System

The Bay Area Transportation Authority (BATA) provides transit service to Grand Traverse and Leelanau Counties. BATA opened its Transit Center on Hall Street in downtown Traverse City during the summer of 2006 that serves as the hub for transit service in the Traverse City area. From this central location, BATA coordinates fixed routes service around Traverse City and has recently added a new express route to move people quickly around the core area. The Transit Center is an attractive facility, designed as a Leadership in Energy and Environmental Design (LEED) certified building, with amenities including comfortable waiting areas and wireless internet inside and covered bus bays outdoors.

BATA provides a variety of bus services throughout Grand Traverse and Leelanau Counties. Services are focused on feeding passengers into and throughout downtown Traverse City, and providing door-to-door dial-a-ride (DAR) services. There are eight distinct categories of service –

- **Fixed route service**: Traditional urban pulse network, operating along fixed routes and schedules throughout Traverse City proper. It is composed of five local routes and one express route. Most routes feature 30 minute headways
- **Village Loop**: Fixed-route, commuter-like service for residents of outlying towns and villages in Grand Traverse and Leelanau Counties. Currently, BATA operates three Village Connectors (Northport, Empire, and Fife Lake)
- **County**: Also known as “Zone Routes” or “County dial-a-ride.” County Ride is a zone-based dial-a-ride service where 13 buses pick up and drop off passengers within 13 different geographic zones. Zone boundaries radiate from Traverse City outward into the outer reaches of Grand Traverse and Leelanau Counties forming somewhat pie-shaped sectors
- **City Ride**: BATA’s DAR serving Traverse City proper
- **Suttons Bay / East Traverse**: Flex routes that connect schools and residential areas in and around the Village of Suttons Bay in Leelanau County and eastern Grand Traverse County by following a preset fixed route that can deviate or “flex” within ¾ mile to meet passengers closer to their point of origin or deliver them to their destination

- **Community Mental Health**: A special service that BATA provides under contract for the special needs population with mental disabilities to and from adult foster care centers. Features a typical DAR structure; however in order to ensure a safe and secure mode of transport for passengers, only pre-approved qualifying individuals can use it

All of these services are provided by a fleet of 74 vehicles. The six Suttons Bay Flex Routes do not have ADA-lifts at the time of this publication. Note that the total number of vehicles continually changes as new buses are delivered. However, though some existing buses may be retired, BATA may also evaluate the possibility of instead retaining them for additional service requirements.

Click to view: Village Loops | Traverse City Loops | Village & City Links

Multi Modal Transportation

Northwest Michigan Ride Share Connection
Northern Michigan Ride connects commuters for ride sharing to work, activities, and more throughout the Northwest Michigan region. Aligned with The Grand Vision, NMRide.net is an easy way to reduce traffic, save energy, and make friends who value this smart commute option.

BATA
The Bay Area Transportation Authority (BATA) has made significant changes to shift from an on-demand to a fixed routes service, providing viable transportation options for an increasing percentage of the region's population. Bike racks were installed on most BATA buses to provide the opportunity for riders to bike to BATA stops and have transportation at their local destination.

BATA's Bike-n-Ride program, allowing cyclists to pedal paved trails one way and ride the bus back in Grand Traverse and Leelanau Counties, is in its second season this summer – and it's growing. Due to its popularity and demand for more service, a new Loop route has been added as well as additional weeks of service.

Last summer, BATA introduced the seasonal bike transportation program, servicing the Traverse City-Suttons Bay Loop route (Route 10) and TART's Leelanau Trail. Bike-n-Ride is one of very few such programs in the U.S. and serviced 477 bicycles in its first two months of service, July and August of 2013.

Due to the success of the inaugural year, BATA has added a second Bike-n-Ride route, Traverse City-Glen Arbor/Empire Village Loop (Route 11). This allows for riders to bike the newly paved Sleeping Bear Heritage Trail between Glen Arbor and Empire and ride the bus to any other stop along the route.

In addition, the schedule expands into June as well as servicing the city of Northport, as follows:
• Traverse City-Suttons Bay/Northport Loop: June 16-August 31
• Traverse City-Glen Arbor/Empire Loop: June 30-August 31

Forecasted Demands and Issues

The Traverse City region, which enjoys public transportation service provided by the Bay Area Transportation Authority (BATA) in Grand Traverse and Leelanau Counties, is a thriving area with a diverse economy that is largely driven by agriculture and tourism. The transit agency faces the challenges of serving permanent residents throughout a region that, with the exception of downtown Traverse City, is low in density and large in area, requiring long bus routes to connect the activity centers. Other significant challenges are:

- Serving high volumes of seasonal tourists who come to the region to enjoy its natural resources and outdoor activities, as well as its festivals and its wineries
- Relieving congestion on the roadway system that is stressed in high season
- Contributing to improved environmental quality by operating a high-quality system that encourages people to leave their cars at home and ride transit, and
- Enhancing BATA's financial wherewithal by increasing revenues and controlling operating costs

DEMOGRAPHICS

The population in the local governmental units that comprise TC TALUS grew by almost 8% over the last ten years; however, the population in Traverse City, the community with the highest density, only grew by 1% over the last ten years.

Nearly one-quarter of the region's population is comprised of students of all ages, with just 0.7% of the population using public transportation. However, in Traverse City, where the service level is higher, 2.1% of the population uses public transportation.

RIDERSHIP DATA AND TRENDS

Annual ridership for all BATA services for the year starting October 1, 2012 and ending in September 30, 2013 was 584,439 rides. Fixed-route services in Traverse City make up the bulk of BATA's riders, but County Ride also represents sizeable number of passengers.

REVENUE AND COST OF SERVICES

BATA has consistently operated with a balanced budget for the past few years, with total revenues exceeding expenses by a margin of more than 3%. The retirement of debt has been a key factor in allowing such a healthy margin of cash flow.

The bulk of revenues in 2013 came from state formula funds (40.7%), 31.9% from local appropriations (obtained via a local property tax levy), and federal contracts (14.2%). While revenue from the farebox accounted for only 11.9% of the total, it continues to rise and is already at 15.2% for 2014 YTD.

BATA's local appropriation exists as a millage levy, renewed by referendum every five years. The current rate, 0.35 mills, has been extended through 2017 after a large margin of voters approved the extension in a November 2011 referendum. In comparison, Benzie, a more rural county, levies a higher rate—0.6 mills.

Non-transportation revenue results only in minimal further revenue enhancements. BATA receives most of its federal funding through the 5311 grant program which provides operating assistance to smaller and rural areas. An additional increment comes from the federal Job Access Reverse Commute program (JARC), designed to help smaller communities and public transportation operators who transport low-income employees to their employment locations.

Additionally, BATA has achieved a 40% increase in passenger fares and a 28% increase in total system-generated revenues from 2009 to 2010. BATA's farebox recovery ratio, estimated at 13.5% for 2011, is a key area for focus in this study, with the objective of developing strategies and programs to increase both ridership and revenues, while minimizing operating expenses.

As stated throughout this report, a shift from dial-a-ride to fixed-routes and/or flex routes could be the most effective means of doing this. Contract fees, such as those with local health facilities are an important source of additional revenue. Like all other transit agencies and most businesses in the US, labor and fringe benefits compose the bulk of BATA's expenses.

Future Transit System

BATA's Transit Service and Coordination Study resulted in a series of recommended operations improvements affecting fixed route service, the Village Connectors and County Ride, and provides for new seasonal services that target new markets. Key features of the proposed operating changes are:

- Improving the efficiency of the fixed route system by making the route configurations more direct and spacing the stops more evenly
- Adding a new fixed route that serves the Cass / La Frainier corridor
- Adding a Munson Circulator that will provide exclusive service on the hospital campus
- Implementing two express shuttles that connect the various campuses of Northwest Michigan College. These services would be supported by a new student pass program
- Reconfiguring the County Ride system to feed the Village Connectors
- Increasing frequency on the Village Connectors so that buses will operate on hourly schedules throughout the day
- Add two new Village Connectors, one to Interlochen and one—called "Resort Row" to Turtle Creek Casino
- Changing the Village Connectors to flex routes, permitting them to deviate within ¾ mile of the main route to serve passenger needs
- Expanded Special Service Routes and/or Partnerships such as:
    - The Bike-n-Ride, operating in both Grand Traverse and Leelanau County providing bicycle riders the option of one way rides between the downtown transfer center and Leelanau County Trail destinations.
    - The Ski-n-Ride, operating in Grand Traverse County providing skiers the transit option to local Ski Hills.

- Cherry Festival and Film Festival Free Shuttles, free of charge shuttle service operating during the Festivals.
- Expanded regular service to provide service to Interlochen Arts Academy events and Beach Bums games.

Additionally, the study addresses a number of near-term and longer-term policy recommendations in the following areas:

- Business and intergovernmental partnerships that encourage transit use and interconnection of regional systems. Longer-term initiatives for these partnerships would include initiating vanpool programs and developing park and ride facilities
- Zoning and land use practices that facilitate access to transit and encourage sustainable development
- Improved information and public awareness through signage, website enhancements and coordination with tourism-oriented organizations
- BATA has developed a Customer Service Training program that has been adopted by the Michigan Public Transportation Association (MPTA). The program is intended to significantly improve public transit customer service by building better relations between departments, providing consistent level of service, develop and use a common vocabulary, improve relationship and conflict management, establishing customer service standards and other methods.

As well as continued growth in the following areas:

- Business and intergovernmental partnerships that encourage transit use and interconnection of regional systems. Longer-term initiatives for these partnerships would include initiating vanpool programs and developing park and ride facilities
- Zoning and land use practices that facilitate access to transit and encourage sustainable development
- Improved information and public awareness through signage, technology updates such as website enhancements, social media as well as coordination with tourism-oriented organizations

Multi-Modal Transportation: The transportation system is about the mobility of people and goods around the region. Efficiency and safety are primary considerations. In order to provide an opportunity for all citizens to fully participate in society, the transportation system must provide options for mobility, not just for those who are able and can afford a private automobile. Transportation choices also contribute to livable communities by creating places people like to be and lifestyle choices. System demand management may be used to address this range of other transportation related goals as well.

Recommended Elements and Strategies

The following are recommended elements and strategies for the transit system in the TC-TALUS area: The strategies are listed in the four functional categories identified under the Framework for the Future process: 1) Data, Education & Outreach; 2) Planning & Policy; 3) Financing & Incentives; and 4) Development & Implementation.

Objective: *Increase public transportation services between regions and cities*

Data, Education & Outreach

- Track Public Transit Vehicle Miles (Indicator)
- Develop and provide educational services for cyclists, pedestrians and drivers.
- Increase public perception of the value, benefits, and use of transit, rideshare, and vanpool services, through enhanced websites, advertising, special events outreach, and broad based educational programming.
- Provide education on values of public transit system needs
- Encourage employers to provide bus passes to employees
- Broaden and update rideshare databases, offer incentives for alternative modes or teleworking, offer specialty services such as vanpooling, carsharing, or subscription bus service where feasible, expand promotional campaigns, and reach out to the public with personalized alternative trip planning and instant ridematching.
- Encourage employers to provide transportation and vanpool programs
- Coordinate Rideshare Vanpool programs

Planning & Policy

- Improve transit services and options for disabled, low-income, and youth passengers to ensure safe and accessible vehicles and facilities, transit stops, and access routes.
- Support development proposals that encourage the use of transit and ensure that access to BATA stops on key corridors is encouraged when proposals are considered.
- Coordinate outlying transit services
- Assist with mapping and coordination among local governments, transportation agencies, and health and human service agencies for connection between transportation options and services.
- Organize a Transportation Management Association comprised of transportation agencies, local governments, business representatives, advocates to coordinate programs, services, and outreach

Financing & Incentives

- Continue to support local funding mechanisms to support transit.
- Consider incentive programs for transit improvements
- Support the adoption of development fees for multi-modal infrastructure improvements.
- Seek to pool funds and programs wherever reasonable and feasible, to increase flexibility in the use of funds and delivery of projects.
- Consider coordinated approach to bonding for transportation improvement with assured and secured long term financing to repay bonds.

Development & Implementation

- Support Non-Emergency Medical Transportation (NEMT) and improve transit and supplemental transportation services for medical appointments.
- Implement Regional Transit Network to coordinate transit across system boundaries

- Improve transit access through safe sidewalks, designated bike routes and direction signage, accessibility, on-board bike racks, shelters, improved transfer points, bike storage, and park and ride facilities.
- Develop Intelligent Transportation System to provide better traveler information for trip planning, reliable schedules, coordination between operators, complimentary services.
- Develop a regional guaranteed ride home program.
- Expand service hours for transit
- Expand shuttle services during festivals and peak visitor times.
- Increase rural transportation mobility by supporting greater coordination of rural transportation services and develop implementation strategies for successful and cost-effective programs, including volunteer driving programs and expanded rural vanpools.
- Provide technical guidance to local agencies and invest regional funds to build complete streets projects through designated and planned community activity centers, to ensure bicycles, pedestrians, and transit can share the road safely and compatibly with autos.
- Help coordinate multi-agency packages of projects for federal and state discretionary programs and grants, where a regional strategy improves success.
- Cooperate on new initiatives that more fully integrate transportation planning efforts with economic development issues and opportunities in urban and rural areas.
- Focus federal funds on specific projects that must be subject to federal requirements, so that other projects can be funded from other sources that doesn't require costly or lengthy federal requirements.

Chapter 9: Non-Motorized Transportation

Existing Non-Motorized System

The TC TALUS area has a long and extensive history of collaboration to develop non-motorized transportation opportunities for the region. There are over 70 miles of trails, pathways, and bike lines in the TC TALUS area, all developed with public private partnerships

The following trails were developed in partnership with Grand Traverse County, City of Traverse City, the Grand Traverse County Road Commission, MDOT, MDNR, local citizen advocates, and TART Trails in various stages and phases. The trails and trail organizations have been brought together under the umbrella of Traverse Area Recreation and Transportation (TART) Trails, Inc., a non-profit organization that provides management and development services. The TART organization sponsors Smart Commute Week and the Tour de Tart each year to promote use of the trails.

TART Trail

The TART Trail was developed in phases by MDOT, the Grand Traverse County Road Commission and the City of Traverse City, with the cooperation and support of Grand Traverse County and TART. The 10.5-mile

long TART Trail is a paved urban transportation and recreation corridor with an eastern end point at M-72/Bates Rd in Acme Township and a western end point at Carter Rd in Traverse City, where it links with the Leelanau Trail that offers accessibility to the Bay, Traverse City, marinas, and museums.

Leelanau Trail

The Leelanau Trail was founded by the Leelanau Trails Association, a non-profit trail advocacy group. Stretching over 17 miles through a former railroad corridor, the Leelanau Trail connects Traverse City and Suttons Bay. The trail is owned and operated by TART Trails, a non-profit trail advocacy group. Trail development was largely done through private fundraising with significant support in recent trail construction from MDOT, the MDNR Trust Fund and the Village of Suttons Bay. The route winds through rolling hills, lush forests, picturesque orchards, peaceful meadows, and an aquatic medley of streams, lakes and ponds.

Boardman Lake Trail

The Boardman Lake Trail was developed in cooperation with Grand Traverse County, Garfield Township, the City of Traverse City, and MDNR through a Natural Resources Trust Fund Grant. The trail extends two miles along the eastern shore of Boardman Lake and 0.75 mile including a pedestrian bridge across the north end. The trail is composed of asphalt, crushed limestone and boardwalk. The trail is connected to the TART Trail, Traverse Area Sailing Center, Traverse Area District Library, and the Old Towne Neighborhood. The trail is planned to connect to the Grand Traverse Nature Education along the Boardman River south of South Airport Road. Plans call for the trail to extend around the western side of Boardman Lake.

VASA Pathway

The VASA Pathway was developed by Grand Traverse County under a MNRTF Grant, in cooperation with VASA, the organization that ran the VASA Cross Country Ski Race. The VASA Pathway features a series of loops and trails: 3 K, 5 K, 11K, and 25K through the Pere Marquette State Forest enjoyed by cross-country skiers, mountain bikers, walkers, snowshoers and nature lover. The VASA is managed under agreement with TART Trails, Michigan Department of Natural Resources and Grand Traverse County.

Buffalo Ridge Trail

The Buffalo Ridge Trail is a proposed 4.5-mile trail that connects the west and southwest areas of Traverse City. Buffalo Ridge Trail Phase I is a half-mile trail connecting the Commons to West Middle School. The trail runs parallel to Silver Lake Rd and Franke Rd and provides access to the Commons, TBA-ISD, the Historic Barns Park and Botanical Garden of Northwest Michigan. Phase I currently ends on Franke Rd where it then connects with the trail at West Middle School. Phase II of Buffalo Ridge Trail is currently under design. The nearly one mile trail will connect West Middle School to the new YMCA off Silver Lake Rd. Funding for Phase II was secured through the Oleson Foundation, DNR Trust Fund and Garfield Township. Planning took place during summer 2013. Garfield Township is moving forward with construction and engineering for Phase II which will be a scenic trail connecting West Middle School to the new YMCA and Kids Creek Park. Phase III will ultimately connect to Silver Lake Recreation Area. The trail is planned to connect to Silver Lake Recreation Area.

Boardman River Trail

The Boardman River Trail Committee, composed of various partners, formed in 2010 to explore feasibility of developing a 24-mile trail that follows the Boardman River Valley from Traverse City to the North Country Trail (NCT). Most of the proposed trail is in forested area on existing dirt paths and two-tracks. From the NCT users can continue on to connect with the Vasa Pathway and head back to South Airport Road via the TART Trail, resulting in a 46-mile loop.

The Boardman River Trail (BRT) will be developed in three sections; the first extending from the NCT to Mayfield, the second from Mayfield to Beitner Road and the final section from Beitner Road to the existing Boardman Lake Trail in Traverse. As of November 2013, Section I is complete, providing 7 miles of newly constructed single-track trail connecting Mayfield Pond Park to the North Country Trail. Signage and way-finding will be completed this summer.

Trails users will enjoy lakes, rivers, boardwalks, bridges, scenic vistas, forest and wildlife. The BRT will also serve as a connecting trail for people to safely walk or bike to the soccer fields, the YMCA, the Nature Education Reserve, Kingsley and the NCT. The trail will be ideal for backpacking, bike camping, trail running, cross-country skiing, snowshoeing, bird watching, photography and wildlife study.

Three Mile Trail

The first phase of the Three Mile Trail opened in 2006. The 2-mile long trail goes along Three Mile Road from the State Park beach on US 31 to South Airport Road. The trail was built as part of the Three Mile Road widening project. TART worked with the Grand Traverse County Road Commission on the project.

TART and the Road Commission are currently working on Phase Two. This phase will extend the trail from South Airport Road to Hammond Road. TART plans to work with the schools in the Hammond Road vicinity on Phase Two funding and on developing trails to connect the school campuses to the Three Mile Trail.

Mall Trail

The nearly 2-mile long Mall Trail parallels US-31 from 14th St to South Airport Rd near the Grand Traverse Mall. The Mall Trail connects downtown Traverse City residents with many commercial businesses and restaurants.

The Grand Traverse County Road Commission built the Mall Trail in 1997 with the financial assistance of the Charter Township of Garfield, City of Traverse City and the County Board of Commissioners. The Mall Trail within the city limits is owned by the City of Traverse City, outside the city limits it is owned by the Grand Traverse County Road Commission. TART Trails works with the City and County on trail projects.

The TART organization sponsors Smart Commute Week and the Tour de Tart each year to promote use of the trails.

Programs

TART Trails does extensive outreach to trail users (both residents and seasonal visitors) about the trail system. TART Trails publishes and distributes thousands of trail maps each year to MDOT visitor

centers, the Convention and Visitors Bureau, area businesses, and trail-side kiosks. TART Trails promote events on the trails so that people are exposed to the fantastic trail system. Through social media, TART's website and print materials reach thousands of residents and visitors each year.

TART Trails has over 120 trained Ambassadors and over 300 volunteers dedicated to keeping the trail system in its best condition. TART Trails' maintenance program essentially functions like an Adopt-A-Trail program. Trail Ambassadors help clean, clear and inspect the trails on a daily basis.

TART Trails plays an important role in cultivating and encouraging community support of a system of non-motorized facilities, connecting visitors and residents to trail network where they can enjoy the multitude of benefits trails provide. TART is also leading an education and outreach effort on Complete Streets in the region. TART Trails regularly reaches out to community groups to talk about the benefits of a walkable/bikeable community and the role trails play in the economic, social and environmental health of the region. TART helps facilitate community discussions on trail design and development issues and works closely with our local government agencies and businesses to help design and construct the best possible non-motorized network.

Nature Education Reserve Trails

The Grand Traverse Natural Education Reserve was set aside as a "natural environmental classroom for area youth", all visitors are welcome to enjoy the nearly 7 miles of improved trails that wind along the Boardman River and includes over 1200 feet of boardwalks, bridges, canoe portage sites, boat launch and picnic area for such activities as hiking, photography, canoeing, nature study, bird watching, and other forms of quiet recreation.

Non-Motorized Mapping Initiative

This initiative is a statewide project created and funded by Michigan Department of Transportation (MDOT) to inventory and map non-motorized recreational trails. In 2005, 13 counties from the western side of MDOT's North Region were asked to provide recreational data either by attending data collection meetings or by providing digital data. NWMCOG staff inventoried the recreational data, digitized the collected data, and used the data to create a mapping project.

The following PDFs are available for viewing online. For hard copy maps, contact NWMCOG Regional Planning at 231.929.5000.

Northern Counties (*http://old.nwm.org/downloads/nwm_front_2008_rgb_lowres.pdf)* (Emmet, Charlevoix, Antrim, Kalkaska, Grand Traverse, Leelanau, Benzie)
Southern Counties (*http://old.nwm.org/downloads/nwm_back_2008_rgb_lowres.pdf)* (Manistee, Wexford, Missaukee, Mason, Lake, Osceola)

Future Non-Motorized System

The Northwest Michigan Regional Non-Motorized Strategy (2009) (http://michigan.gov/documents/mdot/MDOT_NW_MI_Regional_Nonmotorized_Strategy_258100_7.pdf) outlined the following recommendations:

Grand Traverse County Priority Routes

1. Create a trail from the TART Trail north to Elk Rapids
2. Complete a trail on the West Side of Boardman Lake to connect the completely around the lake and to the TART Trails
3. Work on creating a trail from Cadillac to Traverse City via Kingsley
4. Create a trail as a Lake Ann connector to west side of Traverse City and then to the TART Trails
5. Work on a connection to the Betsie Valley Trail through Interlochen to Traverse City (TART Trails)

Leelanau County Priority Routes

1. Work on and complete the Leelanau Scenic Heritage Route Trailway project from the Leelanau / Benzie County line to CR 651 with the assistance of the Leelanau Scenic Heritage Route Committee
2. Create a connector trail from Traverse City to the Village of Empire (TART Trails)
3. Create a trail along M-204 and M-22 from Suttons Bay (TART Trails) to Leland
4. Continue the Leelanau Trail (TART Trails) from Suttons Bay to Lighthouse through Northport
5. Complete Sleeping Bear Heritage Trail

Future Non-Motorized Transportation Strategies

The future non-motorized transportation plans and projects for the thirteen county region were gathered from the Michigan Department of Transportation Service Centers, county road commissions, and groups and organizations which listed and described what actions are being taken to increase non-motorized transportation opportunities.

On-Road Bike Facilities

On-road bike facilities are an important part of the transportation network. On-street facilities provide transportation options, calm traffic, expand economic opportunities, improve health safety and the environment and enhance the trail network.

The Northwest Michigan Regional Non-Motorized Plan recommended that governmental and non-governmental entities consider the following in the development of on-road bike facilities:

- Consider implementation of 4 to 3 lane conversions with the addition of bike lanes on roads with Annual Daily Traffic (ADT) counts less than 20,000. Roads with ADT less than 18,000 should receive greater consideration (can reduce traffic speeds).
- Consider reducing lane widths or widen roads to free up space to add bike lanes (can reduce traffic speeds).
- Include bike parking in parks, trail heads, retail/commercial locations, etc.

- Construct paved shoulders along high priority corridors and areas where sight distances may create safety problems (non-perpendicular rail road crossings, vertical and horizontal curves).
- Use shared lane marking on wide curb lanes 14 feet wide or wider.
- Enhance warning and/or directional signage
- Include non-motorized facilities in reconstruction of bridges and overpasses to reduce pinch points.
- Evaluate each road/trail crossing as potential access points.

Pedestrian Facilities

The Plan recommended that governmental and non-governmental entities consider the following in the development of pedestrian facilities:

- Intersection improvements and design
  - Make Americans with Disabilities Act compliant
  - Reduced curb radii
  - Curb extensions
  - Crossing islands and medians
  - Channelized right turn slip lanes
  - Crosswalks
  - Pedestrian signals
- Roundabouts
- Mid-block crossings
- Require sidewalks as part of new road projects in urban areas, and as part of all new development.

Traverse Area Recreation and Transportation (TART) Trails has updated their strategic plan and refined its work list for the next 3-5 years. TART Trails will continue to support efforts to provide a quality non-motorized transportation network for the region and advocate for a complete streets approach to road design, construction and improvements that encourages consideration of non-motorized transportation options.

Anticipated Work Plan Items for 2015-2018

A. Assist Garfield Township with completion of Buffalo Ridge Trail Phase II connecting West Middle School to the YMCA on Silver Lake Road (expected completion 2015). Begin work on Phase III of Buffalo Ridge Trail to South Airport Road
B. Complete the TART Trail between Bunker Hill and Lautner Road and provide trail connections to Acme Shoreline
C. Assist City of Traverse City, Garfield Township and Grand Traverse County with completion of the West Boardman Lake Trail to South Airport Road. The City of Traverse City will construct Boardman Lake between Oryana and 14th Street in October 2014.
D. Construct Boardman River Trail
E. Complete master plan for trail between Traverse City and Charlevoix, which will include trail development priorities and project implementation
F. Work with partners to complete Sleeping Bear Heritage Trail to Good Harbor and Empire
G. Work with partners to sign U.S. Bicycle Route 35 within Grand Traverse and Leelanau counties

H. Work with City of Traverse City to implement the Traverse City Active Transportation Plan

Multi-Modal Transportation: The transportation system is about the mobility of people and goods around the region. Efficiency and safety are primary considerations. In order to provide an opportunity for all citizens to fully participate in society, the transportation system must provide options for mobility, not just for those who are able and can afford a private automobile. Transportation choices also contribute to livable communities by creating places people like to be and lifestyle choices. System demand management may be used to address this range of other transportation related goals as well.

Recommended Elements and Strategies

The following are recommended elements and strategies for the non-motorized transportation system in the TC-TALUS area: The strategies are listed in the four functional categories identified under the Framework for the Future process: 1) Data, Education & Outreach; 2) Planning & Policy; 3) Financing & Incentives; and 4) Development & Implementation.

Objective: ***Expand pedestrian and non-motorized infrastructure***

Data, Education & Outreach

- Develop and share Safe Routes for all; including GPS applications
- Work with agencies and organizations to implement and data collection and monitoring system to measure and better understand non-motorized transportation use
- Support and leverage public efforts that emphasizes use and safety of the non-motorized transportation network

Planning & Policy

- Develop Complete Street package for local governments to adopt
- Continue to identify safe bicycle and pedestrian routes that improve connectivity and access to residential areas, schools, employment centers, shopping, and transit.
- Develop and support land use policies that make infill or high density development more attractive or financially feasible and provide a connected network of streets, bikeways, and walkways
- Encourage developments that provide safe and efficient pedestrian and bicycle access, access to transit stops and maintenance of these facilities.
- Update regional non-motorized plan
- Investigate means to require non-motorized infrastructure development as part of zoning requirements
- Investigate alternative funding sources for non-motorized transportation

Financing & Incentives

- Resolve challenges between transportation and recreation funding sources for bicycle trails

Development & Implementation

- Implement Complete Streets
- Connect non-motorized and transit options with recreation and tourism assets.
- Provide bike racks on all buses
- Improve crosswalks and intersection crossings
- Support local agencies in developing multi-year maintenance and rehabilitation programs that enable early identification of cost-effective enhancements to improve pedestrian and bicycle access and safety.
- Provide technical guidance to local agencies and invest regional funds to build complete streets projects through designated and planned community activity centers, to ensure bicycles, pedestrians, and transit can share the road safely and compatibly with autos.
- Help coordinate multi-agency packages of projects for federal and state discretionary programs and grants, where a regional strategy improves success.
- Cooperate on new initiatives that more fully integrate transportation planning efforts with economic development issues and opportunities in urban and rural areas.
- Focus federal funds on specific projects that must be subject to federal requirements, so that other projects can be funded from other sources that doesn't require costly or lengthy federal requirements.
- Consider addition of on-street bicycle facilities when any street resurfacing project is identified

Chapter 10: Freight/Air/Rail/Water Transportation

Freight/Air/Rail/Water transportation includes transportation systems that move freight and commercial packages and passengers through the transportation system. It is an essential component of the region's economic activity and strength. It operates on a larger scale than personal vehicle travel and can sometimes conflict with other transportation mobility issues.

Existing Freight/Air/Rail/Water System

Freight: The large majority of products from producers to retailers for purchase by consumers are delivered by trucks through the existing road network. Truck traffic typically represents between 5% - 8% of the total annual traffic volumes, depending upon the road (from Grand Vision Task 4.3 report). This percentage calculation reflects the presence of semi-truck traffic on the road system. They may be associated with a freight service operation in the region or they may be carrying supplies directly to commercial or industrial business operations. In some cases, cargo from semi-trucks is transferred to smaller trucks for final local delivery. In other cases, deliveries are made during off-peak hours. There are, nonetheless, times when semi-trucks are travelling in urban areas during peak traffic hours. Major travel routes for truck traffic need roads designed to accommodate semi-truck traffic movement including turning movements and passing lanes. At times, these design features can seem contrary to pedestrian and bicycle multi-modal goals. That is at the crux of multi-modal planning—planning for all modes of transportation.

Rail: The Great Lakes Central (GLC) railroad provides freight rail service to the Traverse City area on track owned by the State of Michigan. The tracks were purchased by the state in the late 1970s and early 1980s to preserve rail service in the area.

In the 1870s and 1880s, rail lines become active in northwest Lower Michigan carrying lumber and agricultural products out of the region and bringing tourists in from Michigan and neighboring states. Rail use began to decline after World War II and continued to decline as the automobile industry and the highway system grew. More recently, only a few businesses reported using the railroad for freight shipments out of Grand Traverse County. A 1995 survey of shippers in the Grand Traverse area found six rail users in the region. Of the six, three utilized rail for lumber transport, and two shippers moved machinery and scrap metal by rail. The existing tracks are in poor repair which further discourage their use.

A report entitled Preserving Options: Maintaining Rail Corridors in Northwest Michigan was prepared by the Northwest Michigan Council of Governments for the Transportation Committee of the Traverse City Area Chamber of Commerce in October 2002. The report was written with the expectation that the State of Michigan would offer the Grand Traverse area rail system and right of way for sale in the near future. The document reviews historical and current rail use in Northwest Michigan, explains the State's practice of divestiture and considers the benefits of maintaining the railway intact, including transportation, efficient freight movement, economic development, and tourism, as well as the negative impacts in each of these areas if lost. There is recognition that the current economic value of the rail combined with its purchase price could deter a commercial purchase.

The "Preserving Options" report described rail use as *minimal and non-existent* (p 2). Nonetheless, the "Preserving Options" report found: "The preservation of rail service and rail right-of-way enhances regional opportunities for transportation, economic development and recreation" (p 3). At the same time, the report describes the long-term economic viability of the rail lines north of Wexford County as "questionable" (p 8). The report explores benefits to freight movement; addressing future transportation needs; potential economic benefits to production and manufacturing; and tourism and recreation. If these corridors are lost, the report notes that they would be difficult if not impossible to restore. However, the State of Michigan is currently divesting itself of railroads and the associated right of ways supported by the provisions of Public Act 235 of 1998.

As a result, there is some consideration of other tools through which the rail line can be maintained intact. The paper strongly recommends that the Northern Michigan Rail System and right-of-way be protected and maintained in its entirety and that the community be prepared to make sure it happens. There have been informal assessments of the opportunities for transload facilities, which would off load containers between rail and freight trucks, but no such facility currently exists in the ten county region.

If the region is intent on preserving rail lines, communities need to come together to make the position clear and explore resources to overcome the financial obstacles.

A rail map for the State of Michigan is available at http://www.michigan.gov/documents/MDOT_Official_Rail_130897_7.pdf showing the rail lines in the ten-county region and the State of Michigan as short line railroads which are also called Class III railroads. Current freight traffic includes fruit and other perishables, scrap metal, and lumber. MDOT has developed a Michigan State Rail Plan (http://www.michigan.gov/documents/mdot/MDOT_MI_SRP_public_review_draft_2011-05-23_600dpi_353776_7.pdf) to establish state policy involving freight and passenger rail transportation, including commuter rail operations. The Plan includes priorities and strategies to enhance or preserve rail service that benefits the public, and will serve as the basis for future federal and state rail investments in Michigan. MDOT has also contracted for a Northern Michigan Freight Rail study, which is currently ongoing and should be complete in the fall of 2014.

In the Grand Traverse region, Grand Vision working groups have also started to investigate opportunities for expanded rail service in the region.

Water: With an abundance of water in the region, commercial freight movement by ship is a part of the region's history, although not currently active. The Marathon Oil Traverse City Terminal, which served as a primary distribution center for refined petroleum, received deliveries about once a week by ship, then reducing to once every 10 days, and in 2008, ended delivery by ship: the Terminal closed in 2013. Coal was delivered by ship at the Traverse City Light and Power coal dock in Elmwood Township for fueling the Bayside Power Plant. The Plant was removed in 2005.

Traverse City is home to the Great Lakes Maritime Academy, Michigan's state maritime academy, where students are trained as deck and engineering offices for the commercial shipping industry. Elsewhere in the six-county region, Point Betsie in Benzie County marks the entrance to the Manitou Passage which was once a vital shipping channel. Point Betsie is no longer used by large commercial vessels, but the lighthouse remains a functional US Coast Guard navigational aid and historic landmark.

Air: Air service is an important link in our transportation network. It provides an efficient route to and from Traverse City for residents and visitors alike. The Cherry Capital Airport is located in the City of Traverse City on South Airport Road east of Garfield Road. The airport provides for general aviation services along Airport Access Road which include: aircraft charter services; aircraft repair services; aircraft fueling; air cargo services; and commercial delivery services. Air freight service is provided at the Cherry Capital Airport. In addition to being the only commercial service airport in the six-county region, Cherry Capital Airport is a Port of Commerce for shipping. Commercial parcel carriers United Parcel Service (UPS) and Federal Express (FedEx) both fly out of the airport multiple times each day. A private carrier service also flies on weekdays from the airport. The current airport Master Plan includes future plans to add a cargo facility. The State of Michigan Aeronautics freight division maintains statistical data about the freight movement through the Cherry Capital Airport.

As an important link in the National Plan of Integrated Airport Systems, the Cherry Capital Airport is significant to the national air transportation system. Cherry Capital Airport is also an important part or the local economy and provides and economic impact of over $200 million dollars. Cherry Capital Airport is

linked to our local transportation network through roadway infrastructure serving all other modes of transportation. The airport connects to local transit service with a convenient access point located at the west end of the main airline terminal. The airport contributes to the active transportation goals of the community by establishing pedestrian and bike lanes at the main airline terminal campus. As development continues the Northwestern Regional Airport Commission supports the community's desire to modernize the active transportation network through sidewalks, bike lanes, high visibility crosswalks, and trails.

Future Freight/Air/Rail/Water System

Transportation and land use planning should consider locations for freight terminals and businesses with freight service. Locations served by rail, air service, sea ports and major roads are ideal. Space may need to be preserved through land use planning to minimize future conflicts and to allow for future expansion and additional economic development. Planning efforts should also consider the impact on those roads carrying semi-truck traffic. Specialized models can predict the impact of freight on proposed developments and future road conditions.

Multi-modal transportation includes transportation systems that move freight and commercial packages through the transportation system. This set of considerations is focused on moving goods rather than people. It is an essential component of the region's economic activity and strength. It operates on a larger scale than personal vehicle travel and can sometimes conflict with other transportation mobility issues. The value of freight movements throughout Michigan totaled over $520 billion in 2009. Michigan Commodity movements modal split by tonnage include 67% of goods are transported via truck, 19% via rail, 14% via water, and 1% via air in the 2012 report.
http://www.michigan.gov/documents/mdot/MDOT_FreightWhitePaperFinal_9_2012_414531_7.pdf?20140417104122

Transportation and land use planning should consider locations for freight terminals and businesses with freight service. Locations served by rail, air service, sea ports and major roads are ideal. Space may need to be preserved through land use planning to minimize future conflicts and to allow for future expansion and additional economic development. Planning efforts should also consider the impact on those roads carrying semi-truck traffic. Specialized models can predict the impact of freight on proposed developments and future road conditions.

MDOT developed a Michigan State Rail Plan in 2011 to guide the development of the rail system and rail services in Michigan. The State Rail Plan identifies current and future needs of the system and considers and defines public policies that will encourage and enable ongoing investments to the system to support future needs. This Plan meets the state rail planning requirements included in the federal Passenger Rail Investment and Improvement Act of 2008 (Public Law 110-432) (PRIIA) and will help assure that Michigan is positioned to obtain federal funding for rail projects. The MDOT website with additional information and background is here.

The State Rail Plan includes the following section on the North Region (6.2.2.):

> The northern portion of the Lower Peninsula of Michigan is also largely undeveloped and sparsely populated. The region includes extensive lake shores on both Lake Michigan and Lake Huron; consequently tourism is a major driver for local community economies within this region. The North Region is served by four rail lines which extend to Manistee, Traverse City, Petoskey, Gaylord and Alpena from the southern part of the state. All of these are operated by short-line railroads, and two of these lines are state-owned (the line terminating at Traverse City and Petoskey and operated by the Great Lakes Central (GLC), and the line operated by the Lake State Railroad (LS) that terminates in Gaylord). Although all of these lines have relatively low volumes of freight traffic, they are critical components of the economy of the region. No direct passenger rail service is currently provided within the North Region. However, MDOT does subsidize intercity passenger bus service to provide connections from Traverse City, Cadillac and Big Rapids to Grand Rapids, where users can access passenger rail.

Implementation of passenger rail service to Traverse City and/or Petoskey was consistently identified as a top priority through the State Rail Plan public outreach effort. Supporters argue that regular passenger rail service would provide a substantial benefit to the region by providing transportation alternatives for visitors and residents alike. This plan recommends that MDOT initiate a feasibility study of passenger rail service to this region of Michigan that considers potential routes to both Detroit and Chicago. The design, construction and implementation of this service are included in the Better and Best investment packages, depending on the outcome of the feasibility study and the availability of funding. Other transportation studies include the Michigan Land Use Institute's study "*Getting Back on Track: Uncovering the Potential for Trains in Travvrse City*".
http://www.mlui.org/userfiles/filemanager/3253/

MDOT has made substantial investments into the state-owned lines operated in this region by GLC and LS. The plan recommends continued investments in the other two railroads in the region, the LS line to Alpena and the Marquette Rail (MQT) line to Manistee and Ludington. North Region projects in the recommended Good investment package include the repair of bridges, track rehabilitation and grade crossing improvements. MiRLAP and FEDP are particularly important for the North Region to make strategic investments to help preserve and expand the rail network in the region in order to encourage the expansion of businesses and industries.

The Grand Traverse Band of Ottawa and Chippewa Indians is currently exploring a ferry/water taxi service across Grand Traverse Bay to connect the Leelanau Sands casino facilities in Peshawbestown, Leelanau County with the Turtle Creek Casino in Acme, Grand Traverse County and provide more convenient transportation for tribal members to access tribal services and resources.

Airport transportation is an ever changing landscape. The National Academy of Science published Special Report 263 – Future Flight: A review of the Small Aircraft Transportation System.

http://onlinepubs.trb.org/onlinepubs/sr/sr263.pdf

Recommended Elements and Strategies

The following are recommended elements and strategies for the rail, air and water transportation system in the TC-TALUS area: The strategies are listed in the four functional categories identified under the Framework for the Future process: 1) Data, Education & Outreach; 2) Planning & Policy; 3) Financing & Incentives; and 4) Development & Implementation.

Objective: ***Increase use of rail, air, and water travel and freight***

Data, Education & Outreach

- Work with Airport managers and airlines to track annual air passengers
- Develop regional freight forecasting tools, including a periodically updated commodity flow survey that includes consumer and agricultural goods, economic models, industry input.

Planning & Policy

- Work with the Cherry Capital Airport and local governments to promote applicable MDOT-Aeronautics and Federal Aviation Administration land use planning guidelines and regulations around airports that minimizes public safety hazards and support airport operations
- Study the needs for suppliers, distributors and other businesses for freight, including agriculture with linkages to transportation networks.
- Incorporate transportation assessments in land use review of proposed commercial and industrial businesses that involve significant amounts of traffic.
- Identify and review regulatory and institutional barriers that hamper efficient truck travel, identify adequate truck routes, and seek solutions to accommodate truck access and traffic.

Financing & Incentives

- Seek and support financing for multi-modal (rail-truck) freight facility.
- Develop public - private partnerships for rail, freight, air and water transportation facilities.
- Explore options for establishing a region-wide program to fund roadway improvements and reconstruction and mitigate community impacts on designated arterial truck routes.

Development & Implementation

- Support waterway trail system and land/water infrastructure
- Develop port facilities to accommodate cruise ships

Chapter 11: Financing

The Vision 2035 is intended to outline the overall approach to transportation planning for the TC TALUS region to forecast transportation needs of the area and methods to meet that need. However, the Vision 2035 and the attendant Project List is required to be financially constrained by federal MAP-21 legislation. Using methodology cooperatively developed with MDOT and the Michigan Transportation Planning Association (MTPA), revenues are forecasted for the duration of the plan from federal, state, and local sources.

Rural Task Force

The Rural Task Force (RTF) Program provides federal and State of Michigan funding to rural counties with a population under 400,000. The funds must be spent in their geographic areas and both road and transit capital projects are eligible. The TC-TALUS area is included in The Northwest Michigan Regional Rural Transportation Committee No. 10-C (RTF 10-C) which encompasses Benzie, Grand Traverse and Leelanau Counties. The voting members of RTF 10-C are:

> Benzie County Road Commission, Grand Traverse County Road Commission, Leelanau County Road Commission, a designated representative from the incorporated villages in Benzie County; a designated representative from the incorporated villages in Grand Traverse County, a designated representative from the incorporated villages in Leelanau County, the Grand Traverse Band of Ottawa and Chippewa Indians, Benzie Transportation Authority, BATA of Leelanau County, BATA of Grand Traverse County and Michigan Department of Transportation.

The RTF10-C received the following amounts in 2014 (all amounts estimated pending final allocation):

- $1,199,909 in Federal Surface Transportation Program (STP) Rural for improving the federal aid system.
- $260,510 in State of Michigan Transportation Economic Development Fund (TEDF) Category D for building an all-season network.

Project selection is made by the members of the RTF at meetings that are open to the public.

Small Urban Program

In addition to the RTF, Federal Funds are available to small urban under a similar process. The Small Urban Program provides federal Surface Transportation Program (STP) funding to areas with an urbanized population of 5,000 to 49,999. Road and transit capital projects are eligible for STP funds.

The TC-TALUS area is included in Traverse City Small Urban Committee which encompasses the urban portions of Grand Traverse and Leelanau Counties. The voting members of Traverse City Small Urban Committee are:

City of Traverse City, Grand Traverse County Road Commission, Leelanau County Road Commission and BATA.

The Traverse City Small Urban Program receives approximately $375,000 for Federal STP funds annually (amount estimated pending final distribution):

Chapter 12: Project lists

Due to their conceptual nature, the cost estimates provided are preliminary and subject to change. For the purposes of the Vision 2035, the following projects were tested using the Travel Demand Model developed for the Vision 2035 and are the projects from which the final recommended projects will be selected.

- Extension of South Airport Road from Three Mile Road to Four Mile Road and Five Mile Road as a two lane facility, planning level cost estimate for the extension to Five Mile Road: base year (2016) $18,006,700, and year of expenditure (2025), $25,087,000.
- Hartman-Hammond connection project with continuation and connection to Silver Lake Road with and without connection to Cass Road, as a four lane road. The planning level cost estimate for the base year (2016) is $98,218,940 and the year of expenditure (2025), $141,130,000
- South Airport Road reconfiguration to a controlled access facility between Garfield Road and Cass Road (including a new bridge over the Boardman River). The planning level cost estimate for the base year (2016) is $54,807,840 and the year of expenditure (2025), $76,649,000
- Beitner / Keystone Road widening from Chum's Corners to Hammond Road to four lanes, including a long bridge over railroad tracks a creek and the Boardman River. The planning level cost estimate for the base year (2016) is $110,838,544 and the year of expenditure (2025), $162,942,000
- Eighth Street Road diet (4 to 3 lanes) between Boardman Avenue and Woodmere Avenue.
- Garfield Road diet (4 to 3 lanes) between Boon Street and Eighth Street.

Although not tested on the Travel Demand Model, the Michigan Department of Transportation has begun a Planning and Environmental Linkages (PEL) program study on Division Street in Traverse City. The purpose of the PEL study is to:

a) To develop a purpose and need
b) Engage the community, the resource agencies, and stakeholders.
c) Develop project alternatives that will have the least impact to the historic, environmental, and residential areas.

The recommended projects should also include implementation of the preferred alternative that is arrived at through the PEL study.

Other transportation projects were evaluated during the Grand Vision process. The Transportation Gap Analysis and Refined Corridor/Intersection Analysis Report (Tasks 3.6 and 4.2) report details the analysis of eleven corridors of significance including:

- M-72 from Bugai Road to Williamsburg Road
- South Airport Road from West Silver Lake Road to Three Mile Road
- M-37 from Grandview Parkway to M-113
- US-31, Beitner, Keystone Roads from Grand Traverse County Line to South Airport Road
- Garfield Road from US-31, M-72 to M-113
- Hammond Road form Keystone Road to 4 Mile Road
- 3 Mile Road from Hammond Road to US-31, M-72
- M-22 from M-72 to Cherry Bend Road
- West Silver Lake Road, 14th Street, Cass Street, 8th Street from US-31 to US-31,M-72
- North Long Lake Road, Barnes Road from the Grand Traverse County Line to West Silver Lake Road
- Cass Road from Keystone Road to 14th Street

Non Motorized key projects include:

- Boardman Lake Trail from 14th Street to South Airport Road
- Boardman Lake Trail underpass at South Airport Road
- Buffalo Ridge Trail from Silver Lake Road to South Airport Road
- TART Trail Extension in Acme, Bunker Hill Road to Lautner Road
- Three Mile Road Trail from South Airport Road to Hammond Road

TC-TALUS Volume to Capacity Comparison

Corridor						2035 Project Run VC Ratios								
						S. Airport	S. Airport	Hart--Hamm	Hart-Hamm	Hart-Hamm	Eighth	Garfield	Beitner	S. Airport
ADT*	Name	From	To	2007 VC	2035 VC	3 to 4 mile	3 to 5 mile	US-31 to Keystone with no connection to Cass	US-31 to Keystone w/connection to Cass	US-31 to Silver Lake rd	4 to 2 lane road diet Boardman to Woodmere	4 to 2 lane road diet Boon to Eighth	widen to 4 lanes 31 to Hammond	Boulevard Garfield to Cass
30,200	Grandview	Hall	Union	1.07	1.37	1.38	1.38	1.27	1.27	1.29	1.35	1.37	1.24	1.37
23,499	South Airport	US-31	Garfield	1.15	1.58	1.61	1.62	1.45	1.44	1.38	1.64	1.57	1.46	1.61
14,464	Beitner	US-31	River	1.16	1.74	1.72	1.70	1.60	1.61	1.62	1.76	1.74	0.80	1.72
23,269	8th	Lake	Woodmere	0.90	1.19	1.20	1.21	1.06	1.06	1.06	1.35	1.20	1.26	1.19
6,720	Cass	South Airport	Keystone	0.51	1.14	1.16	1.17	0.35	0.39	0.63	1.16	1.14	1.10	1.14
15,630	Front	Division	Union	0.99	1.30	1.30	1.31	1.22	1.22	1.23	1.25	1.30	1.41	1.30
24,181	Division	Front	14th	0.97	1.08	1.09	1.09	1.07	1.07	1.07	1.08	1.10	1.07	1.09
22,339	Division	Grandview	Front	0.76	0.89	0.90	0.89	0.83	0.83	0.82	0.85	0.90	0.86	0.89
11,406	Keystone	Cass	River	1.24	1.38	1.46	1.51	1.15	1.17	1.17	1.40	1.37	0.79	1.36
11,850	Garfield	South Airport	Hammond	0.31	0.37	0.38	0.40	0.54	0.54	0.60	0.42	0.35	0.75	0.40
15,009	Hammond	3 Mile	4 Mile	0.80	1.25	1.03	1.09	1.30	1.30	1.30	1.24	1.24	0.64	1.26
20,552	3 Mile	US-31	South Airport	1.15	0.83	0.56	0.58	0.82	0.82	0.82	0.82	0.83	1.49	1.21
12,143	West Bay Shore	Cherry Bend	M-72	1.08	1.47	1.47	1.47	1.48	1.47	1.48	1.47	1.47	0.85	1.48
15,380	Silver Lake	Barnes	Division	0.54	0.80	0.81	0.81	0.77	0.77	0.75	0.78	0.81	1.46	0.80
19,106	14th	Division	Cass	1.21	1.66	1.67	1.67	1.54	1.54	1.56	1.65	1.65	1.10	1.66
10,176	Cass	Grandview	8th	0.75	0.96	0.95	0.95	0.89	0.88	0.92	0.92	0.97	0.63	0.97
12,778	Cass	14th	South Airport	0.91	1.14	1.14	1.14	1.11	1.12	1.13	1.16	1.19	0.85	1.15
10,631	Birmley	Keystone	Garfield	0.57	0.48	0.48	0.46	0.60	0.61	0.59	0.48	0.48	0.24	0.47
3,679	Hartman	US-31	Cass	0.14	0.30	0.30	0.30	0.42	0.42	0.42	0.32	0.30	0.68	0.30
5,808	Hastings	Parsons	Garfield	0.19	0.35	0.35	0.35	0.35	0.35	0.35	0.36	1.03	0.35	0.35
8,269	La Franier	South Airport	Hammond	0.52	0.44	0.44	0.44	0.34	0.32	0.41	0.29	0.44	0.09	0.46
10,657	Veterans	South Airport	14th	0.80	2.12	2.13	2.08	1.88	1.91	2.28	2.26	2.34	0.55	2.20
8,577	Union	8th	14th	0.61	0.86	0.86	0.87	0.81	0.81	0.79	0.81	0.88	1.10	0.86
10,994	Union	Grandview	8th	0.82	1.31	1.28	1.32	1.22	1.22	1.31	1.41	1.46	1.34	1.36
0	South Airport	3 Mile	4 Mile/ 5 Mile	0.00	0.00	1.12	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Hammond	Cass	Keystone	0.00	0.00	0.00	0.00	0.97	0.95	1.00	0.00	0.00	0.00	0.00

New Roads East-West Roads Lowered V/C ratio (better) Raised V/C ratio (worse)

* Average Daily Traffic volumes listed are not actual traffic counts

Prepared for TC-TALUS Technical Committee
by M.Skeels with data provided by J. Osborne, MDOT
For Discussion Purposes Only
April 8, 2014

Table #9 Volume to Capacity Comparisons

Chapter 13: Transportation Improvement Plan – Project List

The Transportation Improvement Program (TIP) is a 4 year list of short range projects designed to serve the area's goals and objectives spending down the yearly Federal and State allocations in accordance with Federal guidelines.

Public involvement for the TIP projects is accomplished at the respective agency level, or in the case of Federal Aid projects, at the Rural and/or Small Urban Task Force meetings. The Federal aid projects listed in the TIP are included in the State Transportation Improvement Program (STIP) annually.

YEAR	COUNTY	AGENCY	ROAD/PROJECT	LIMITS	TYPE OF WORK	COST
2014	GRAND TRAVERSE	MDOT-Traverse City TSC	US-31,M-37 Division St.	Fourteenth St. to Grandview	Planning and Environmental Linkages	Not Available
2014	GRAND TRAVERSE	Grand Traverse County CRC	West Front	Elmwood to W.C.L.	Resurface	$468,500 Fed/State
2014	GRAND TRAVERSE	Grand Traverse County CRC	South Airport	Veterans Dr to RR tracks east of Cass	Resurface	$487,500 Fed/State
2014	GRAND TRAVERSE	Grand Traverse County CRC	W Long Lake Rd	N Tottenham to Lakewood	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	S Long Lake Rd	M-137 to end of 2008 project	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	S Long Lake Rd	S o Mud Lake Rd	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	S Airport Rd	Silver Lake to US-31	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	Zimmerman Rd	N Long Lake to Silver Lake	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	Hoch Rd	Keystone to Rusch	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	Hobbs Hwy	Scout Camp to N Spider Lake	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	Supply Rd	Kalkaska CL to High Lake	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	Fife Lake Rd	US-131 to Supply	Millage Project	Local
2014	GRAND TRAVERSE	Grand Traverse County CRC	Cass Rd	Traverse CL to Sybrandt	Millage Project	Local
2015	GRAND TRAVERSE	Grand Traverse County CRC	S Garfield Rd	Church Road to Hobbs Highway	Resurface	$28,000 Fed/Local
2015	GRAND TRAVERSE	Grand Traverse County CRC	South Airport	Park to LaFranier	Resurface	$468,750 Fed/State
2015	GRAND TRAVERSE	MDOT-Traverse City TSC	US-31	Three Mile Rd to Holiday Hills Rd	Restoration & Rehabilitation	Not available
2016	GRAND TRAVERSE	City of Traverse City	West Front	Elmwood to Maple	Resurface	$468,750 Fed/State
2017	GRAND TRAVERSE	BATA	Shelters & Pads	Areawide	Facility Improvements	$30,000 Fed
2017	GRAND TRAVERSE	Grand Traverse County CRC	Cedar Run Rd	Stricker Rd to Barney Rd	Reconstruct	$650,000 Fed/State/Local
2017	LEELANAU	Leelanau County CRC	CR 614	Bugai Rd to Perrins Landing	Resurface	$464,000 Fed/State/Local
2017	GRAND TRAVESE	MDOT – Traverse City TSC	US-31 over Boardman River	Bridge overlay	Overlay-deep	Not available

Table #10 Transportation Improvement Program list

APPENDICIES

Appendix A – Previous Planning Efforts

Previous Transportation Planning

TC-TALUS and transportation agencies throughout the region have conducted a number of assessments and investigations and developed a series of plans to foster effective transportation planning in the region. The efforts for specific modes of transportation are described more detail in the respective chapters and listed below:

Roads

- **TC-TALUS Origin and Destination Study, 1991**
- **Environmental Framework Study for a Boardman River Bridge Crossing, May 1992**
- **Smart Roads Plan, Coalition for Sensible Growth, 2002**
- **M-72 Corridor Study, 2001**
- **West M-72 Corridor Study**
- **M-72 Access Management Plan**
- **Transportation Gap Analysis and Refined Corridor/Intersection Analysis Report (Tasks 3.6 and 4.2)**

Transit

- **Public Transportation Coordination Study for Grand Traverse and Leelanau Counties**
- **(Corradino Group in association with Wade-Trim, March 1998)**
- **Expanding Transportation Choices in the Grand Traverse Region, Connecting Villages and Towns with Public Transit, Michigan Land Use Institute, October 2009**
- State of Mobility Management – Grand Traverse, Smart Growth America
- Bay Area Transportation Study – Transit Service and Coordination, Vlecides Schroeder Associates November 2011

Non-Motorized Transportation

- Grand Traverse County Master Trail Plan, 1990
- Northwest Michigan Regional Non-Motorized Strategy
- **Kingsley Paradise Community Pathway Plan 2009**
- Non-Motorized Mapping Initiative

Freight/Air/Rail/Water Transportation

- **Preserving Options: Maintaining Rail Corridors in Northwest Michigan, NWMCOG October 2002**

- **Cherry Capital Airport Master Plan, August 2005, revised January 2006**
- **Cherry Capital Airport Environmental Assessment, August 2011**

Multi-Modal

- **Traverse City Transportation and Land Use Study (Transit Oriented Design Study), September 1993**
- **TC-TALUS Long Range Transportation Land Use Plan, July 1995**
- **LEAM Study, 2004**
- **M-22 Scenic Heritage Route Plan**
- **Leelanau Scenic Heritage Route Management Plan Update, 2006**
- **Traverse City Corridor Master Plan, October 2013**
- **Bayshore Corridor Strategy**, Grand Traverse County Planning Department
- M-37 Scenic Heritage Route Management Plan

As noted, the Grand Vision is a comprehensive analysis of land use and transportation, as well as housing, energy, natural resources, and food and farming. The Grand Vision Transportation Reports are available at the NWMCOG's website and information on continued efforts of the Transportation Network is available at the Grand Vision – Transportation Network website.

TC-TALUS has conducted three efforts to reach out to the community to seek input on transportation opportunities.

TC-TALUS Area Resident Survey, December 1997

In December of 1997, an area resident survey was conducted and summarized by the Research Services Center for Business and Industry located at Northwestern Michigan College. The objective of the survey was to determine the views and preferences of area residents on transportation and land use issues. The survey was conducted by phone and included questions about satisfaction with land development, transportation, and traffic in the TC-TALUS region. Respondents preferred to see more land preserved for outdoor recreation and agriculture. Additionally, respondents preferred to live in a rural or suburban area rather than a city. Vehicular transportation was identified as the most important mode of transportation. Respondents also responded to questions regarding traffic on specific roads and intersections. In general, respondents disagreed that the property tax should be increased to reduce traffic in residential areas, while they agreed that state and federal taxes should be the primary method of funding road maintenance and improvement.

TC-TALUS Public Involvement Plan, 2001

In 2001, Terry J. Paquet, PE and Cathy Sommerfield, PhD from the Michigan Technical Education Center at Northwest Michigan College prepared a report for TC-TALUS. The plan recommended a system and procedures for public involvement as a standard part of TC-TALUS transportation planning activities. The

goal of the public involvement plan (PIP) was to provide a method of obtaining meaningful public input to generate better discussions on land use and transportation issues.

The PIP divided the process into three phases--assessment, awareness building, and plan implementation. During Phase I, Assessment, the scope of the PIP was to determine current public awareness, knowledge, and interest levels, to develop an assessment plan that sought input, implemented a survey, and analyzed public input. Phase II, Awareness Building, focused upon publicizing Phase I survey results and information on transportation and land use issues. Proposed awareness building methods included open forums, a citizen's guide, local press coverage, school programs, a video, a hot line, website, and/or chat room about transportation issues. Phase III, Plan

Implementation, sought to obtain public input for long range transportation planning and provide a process for obtaining input on a continuous basis. Recommended implementation methods included targeted focus groups or open meetings, workshops and conferences, briefings to for profit and not for profit groups, websites, a transportation fair, and a transportation library in the TC-TALUS office or local library.

TC-TALUS Public Involvement Plan Survey, 2002

Prepared by Research Services at Northwestern Michigan College, a public involvement plan survey was conducted to assess the level of interest within the region in providing input on transportation and land use issues. The survey, which was conducted by phone, found that the majority of respondents (85.9%) had not provided input on transportation issues in the past, while 29.4% of respondents had. Although past input on issues was minimal, 76.8% of respondents were interested in providing input on area transportation or land use issues. The primary reasons for interest were concerns with quality of life, unhappiness with current growth and development, and concerns about traffic. Respondents preferred to provide input through questionnaires, online or newspaper surveys, or through evening public meetings. Additionally, respondents wanted to improve the amount of information they received about issues and be provided information in greater detail and with more than one perspective.

TC-TALUS Long Range Transportation Land Use Plan, July 1995

In July of 1995, TC-TALUS published a long range plan prepared by Matt Skeels of TC-TALUS in cooperation with MDOT staff. The purpose of this document was to analyze existing and future transportation and land use systems through forecasting and traffic models. The goals of the plan were to build community consensus about regional transportation and land use issues, advocate inter-modal transportation networks, promote future land use and transportation development to reduce demand on the road system, encourage the best use of existing transportation networks and preserve environmental, agricultural, and open space assets. Land use patterns were modeled, including sprawl, village center development, and an urban growth boundary around Traverse City. It was recommended that growth be concentrated around Traverse City but that villages and townships also encourage village center development patterns to reduce sprawl. Various road alternatives were also considered, including do-nothing, low cost improvements, and new road construction. Recommendations included increasing

capacity and safety of state trunklines, studying the location for a beltway/bypass, and increasing the capacity of specific local roads.

Moreover, the plan recommended providing a fixed route bus service in the region, implementing bicycle path plans, and developing non-motorized paths to connect village centers to the urban core.

TC-TALUS Origin and Destination Study, 1991

The official title of the document reads *Single Station Cordon Origin and Destination Survey for the Traverse City Area Transportation and Land Use Study, Factual Data Report, August, 1991*.

The purpose of the study was to collect current data on traffic movement interchanging with and passing through the TC-TALUS area. The study was requested because the Origin and Destination (O&D) data being used by MDOT in the travel demand model was not current and did not match the TC-TALUS boundary. The study was conducted during five days in August 1991 with four stations set up from 6 a.m. to 8 p.m. Traffic counts on the road were taken and some motorists were surveyed as they went through the stations. Information was gathered on vehicle types, reason for travel and number of passengers. The data was collected and expanded to create O&D projections for the TC-TALUS boundary area. In all, 38,356 trips were recorded.

Environmental Framework Study for a Boardman River Bridge Crossing May 1992

The Cass Road Bridge was classified as being critically deficient by the Michigan Critical Bridge Committee in 1988 and slated for replacement based on funding availability. The Cass Road Bridge was one of just two east-west crossings of the Boardman River Valley and east-west traffic routes had topped the list of needed transportation improvements for decades. The bridge was owned by the Grand Traverse County Road Commission who was considering the construction of a new bridge. Part of the consideration of the bridge replacement was to determine feasible relocation sites for the existing Cass Road Bridge in the Boardman River Valley. The TC-TALUS and Michigan Department of Transportation (MDOT) hired JJR, Inc. to prepare an environmental framework study in the Boardman River Valley as an initial step in the relocation process. The Study Area included the river valley and upland plateaus between Cass Road and Keystone Road and from 500 feet south of the Boardman Dam and 500 feet north of a line connecting Hartman Road and Hammond Road. The purpose of the environmental framework study was to define the most relevant issues influencing a bridge crossing location and to identify where more detailed investigations would be required for inclusion in an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). The report includes an evaluation of four design and route alternatives as well as preliminary analyses of environmental factors such as historic sites, air quality impacts and wetland impacts. The report is designed to allow the reader to understand the environmental impacts of each alternative design and select a preferred route. In the end, the study did not provide a definite preferred route but rather noted strengths and weaknesses of each proposal and pointed to the two options that score best numerically with regard to potential environmental impacts.

Hartman/Hammond Connector

After the Roads Improvement Project bond issue failed, the Grand Traverse County Road Commission (GTCRC) continued to schedule annual road improvements as funding permitted on an annual basis. The project list continued to include the Hartman-Hammond Road connector.

The bridge project advanced through several stages of planning and permitting, until 2003 when opposition to the project in the area grew through grass roots activities. The Coalition for Sensible Growth, in cooperation with the Michigan Land Use Institute, criticized the Hartman/Hammond Bridge project and bypass proposal by the Grand Traverse County Road Commission as a $30 million plan that would "intensify sprawl, waste money, undermine existing businesses and neighborhoods and harm the environment." The group proposed an alternative solution, the Smart Roads Plan, which including a new design to South Airport Road, a renovation to the Cass Road Bridge, the creation of a Keystone-Beitner Parkway in conjunction with and expansion of non-motorized and public transportation options and land use planning tools.

At the end of 2003, the GTCRC withdrew an application from the Michigan Department of Environmental Quality (MDEQ) for an Environmental Impact Statement (EIS) related to the bridge construction and requested guidance for the approval of the project permit. In their response, the MDEQ stated that the Environmental Impact Statement submitted with the application was "seriously flawed" and that the review process needed to show there are no "feasible and prudent" alternatives to the construction proposal. The MDEQ suggested that these had not been adequately addressed since the "Smart Road" alternative was not fully evaluated. In August of 2004, the GTCRC passed a motion to pause the permit process for the Hartman-Hammond bridge project.

The Grand Vision Task 4.1 report recommended the National Functional Classification (NFC) map which shows a proposed future bridge linking Hartman Road and Hammond Road as a future minor arterial should be considered for removal. The Grand Vision policy describes the community's vision for regional growth over the next fifty years and is based on public feedback received during an extensive public involvement process. It reads:

> *Most new roads are built in village and city centers to complete connections in the existing grid networks. Transportation tools to address capacity issues still include new roads and additional lanes, but have expanded to include transit, non-motorized, operational, traffic calming, and context sensitive solutions. This combination of solutions is making the best use of existing right-of-way and shrinking construction budgets while also considering aesthetics and community mobility needs*.

US Route 31/ Michigan Route 72/ Michigan Route 37 Regional Corridor Study, Traverse City, Michigan, September, 1996.

The Corridor Analysis Report was prepared by Vanasse Hangen Brustlin, Inc. in association with Gourdie/Fraser & Associates and Planning Resources, Inc. for the Michigan Department of

Transportation. The report is dated September 1996 and was conducted specifically to determine if the construction of a new US-31 arterial roadway would help to meet the long-term transportation needs in the Traverse City area.

The report begins by noting that according to MDOT's projections, the existing highway system will be unable to meet the needs of the region in the future. This report follows a study done in 1995 by TC-TALUS to identify possible solutions to the region's transportation needs. The report documents and explains the process that was undertaken and the results of each exercise. Seven possible corridor areas were identified and then five were studied in more detail. Consideration was given to traffic patterns and engineering requirements; environmental constraints and regulatory issues associated with their protection; and land use patterns and impacts of a new road on the area. There was an extensive public participation component to the study as well which included newsletters, comment forms, media releases and open houses. At the end of the study, there is a recommendation to MDOT that three corridor alternatives be advanced into the next stage of the planning, right of way preservation and design process. One option of the three was identified as best meeting the project purpose of diverting traffic from existing trunklines, improved system continuity and regional accessibility.

M-72 Corridor Study, 2001

The M-72 Corridor Study was prepared by R. Clark Associates, Inc. for TC-TALUS in October 2001 with funding from four townships, Grand Traverse County, the Grand Traverse Band of Ottawa and Chippewa Indians and a matching grant from Rotary Charities. The plan area is the M-72 Corridor from Kalkaska Village to Acme Township at the intersection of US-31. The plan was prompted by an understanding that this portion of M-72 serves as the gateway to the Grand Traverse region for visitors and adds to the quality of life for residents. Choices made in infrastructure and the location and style of new building developments can threaten its scenic beauty. The study inventories existing conditions along the corridor in terms of natural features and land use patterns. The document identifies scenic viewsheds and performs a build-out analysis based on existing zoning regulation. It also uses a computer program to alter existing views from the road to create virtual "before and after" scenarios.

The study recommends that the following areas be considered with regard to their ability to impact the road: incorporation of alternate modes of transportation (pedestrian crossings, bike lanes), placement of utilities, signage, access management, landscape requirements, scenic view easements, PDR & TDR programs, ridge protection overlay zones, and telecommunication towers. Additional steps are recommended including an amendment to local zoning regulations, cooperative efforts between local units of government and, dialogue with the business community and MDOT.

West M-72 Corridor Study

The West M-72 Corridor Study obtained for this summary is a two-page set of maps that included graphic design and detailed notations. The maps are dated 6/24/02 and are titled "Concept Diagram." The drawings were prepared by Victor Nelhiebel Land Architecture and New Designs for Growth and included Solon and Elmwood Townships in Leelanau County and Long Lake and Garfield Townships in Grand

Traverse Counties. M-72 runs on the county line in much of the Study Area. The maps are coded to show existing land use, primary areas for conservation, best sites for development, and areas with the highest priority for the purchase of development rights. A comprehensive set of roadway and non-motorized transportation improvements are presented which include preservation of sensitive natural features and viewsheds, mixed use planned developments, village centers and new road and trail connections.

M-72 Access Management Plan

An M-72 Access Management Plan was prepared for the Michigan Department of Transportation by Progressive AE in June, 2001. The document addressed the M-72 corridor between I-75 and M-31 which includes the Village of Kalkaska. Initial sections of the document include an inventory of existing conditions, including a text description of each municipality in the Study Area and a map which indicates zoning and future land use patterns. The Access Management Plan itself is a combination of best-practices in general and specific recommendations for improvements to be made when possible. Both are expressed through a combination of text description and mapping. The M-72 Access Management Plan recognizes that the effectiveness of the plan depends on cooperation between the local units of government and MDOT. To this end, the Plan contains two specific tools for implementation—a Model Overlay to be adopted into local zoning ordinances and a Letter of Understanding between the local units of government and MDOT agreeing to reference and use the M-72 Access Management Plan when making decisions which impact the corridor.

Greilickville Commercial Corridor Sub-Area Plan

The Greilickville Commercial Corridor Sub Area Master Plan is a first step in creating a new future for Elmwood Township's proposed commercial Waterfront District. While much work remains to be done, the area possesses a tremendous amount of potential for economic growth, community development, and environmental stewardship.

The Michigan Transportation Plan

Moving Michigan Forward—2005-2030 is the overarching Michigan Department of Transportation (MDOT) policy document and also the state long range transportation plan. The Plan contains an overview of the trends and challenges facing Michigan today with references to many other more technical documents, and sets forth goals and strategies for managing the transportation network and related financial decisions. Overall, the current policy is to identify and focus on the corridors of highest significance at the state, regional and local levels. A listing of State and regional corridors are identified in the document, including the transportation crossings between the U.S. and Canada. The M-72 Corridor through Traverse City is identified as a corridor of significance at the statewide level as an "activity center" which is defined as a place, from the perspective of the State of Michigan, where population, employment, tourism, transportation, and other economically important activities are concentrated.

MDOT State Transportation Improvement Plan 2014 - 2017

The State Transportation Improvement Plan (STIP) is a compilation of all transportation projects that will be authorized for funding in fiscal years 2014 – 2017. The STIP document lists only projects outside of the

Metropolitan Area Boundaries. Some portion of the document contains information about how the STIP is developed and much of the balance of the Plan is in spreadsheet format listing counties and projects. In the TC – TALUS area, the STIP includes Reconstruction of US-31 from Three Mile Road to Holiday Hills Road at an estimated cost of $9,311,000 (underway in June 2014).

Traverse City Corridor Master Plan, October 2013

The Traverse City Corridors Master Plan is designed to improve the appearance, function, and vitality of the City's key commercial corridors. The Corridors Master Plan focus on restoring economic vitality by identifying opportunities for housing, commercial activity, and improvements to public infrastructure, including both vehicular and pedestrian networks. An overarching goal of the project is to facilitate progress toward becoming a city of healthy and sustainable neighborhoods.

Bayshore Corridor Strategy, Grand Traverse County Planning Department

The Bayshore Corridor Strategy is a collaborative planning effort for the ten-mile long Grand Traverse Bay shore corridor (US-31, M-72, M-37, M-22) linking the communities of Acme, East Bay, Traverse City and Elmwood. This process will join planning commissions together along with others to develop an overarching vision for the entire corridor, a critical part of the region's landscape and transportation system.

Complete Streets

One of the most significant trends in providing transportation choice is the Complete Streets movement. Complete Streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, bicycle to work and allow buses to run on time.

Benefits of Complete Streets include:

- Improved safety
- Encouraging walking & bicycling for health
- The ability to lower transportation costs for families
- Fostering strong communities

There is no singular design prescription for Complete Streets; each one is unique & responds to its community context. A complete street may include sidewalks, bike lanes (or wide paved shoulders); special bus lanes, comfortable & accessible public transportation stops; and/or frequent & safe crossing opportunities which involves median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, & more.

Public Act 135 of 2010 requires the development of a complete streets policy to promote safe and efficient travel for all legal users of the transportation network under the jurisdiction of the Michigan Department of Transportation (MDOT). Public Act 135 defines complete streets as "…roadways planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people and goods whether by car, truck, transit, assistive device, foot, or bicycle."

The Grand Vision has formed a Complete Street Coalition, an assembly of transportation agencies and advocates working to share information and support consideration of Complete Streets in transportation design.

TC-TALUS has passed a Complete Streets Resolution, declaring its support and consideration of Complete Streets principles in future long-range planning documents and projects. Complete Street Resolutions have been passed by Acme Township, Garfield Township, Kingsley Village, and Traverse City.

Public Transportation Coordination Study for Grand Traverse and Leelanau Counties (Corradino Group in association with Wade-Trim, March 1998)

The Bay Area Transportation Authority, BATA, was established in 1985 through the merger of Leelanau County Transit and Traverse City Dial-a-Ride. In September 1997, BATA initiated a strategic planning study to plan for future transportation service in the Traverse City region. The MDOT and the Traverse City Area Chamber of Commerce supported the study. The plan included rider and non-rider surveys, a description of the current service and identified priority areas for bus service including Munson Hospital and Northwest Michigan College. Ideas for coordination and efficiency were considered for both facilities and service. The plan recommended establishing a fixed route service and creating a transit center, both of which have been accomplished in the nine years since the study was published.

Traverse City Transportation and Land Use Study (Transit Oriented Design Study), September 1993

This document was prepared for TC-TALUS by HOH Associates, a land planning and urban design consulting firm. The purpose of the document was to provide an initial framework within the Study Area that would address regional growth management issues. The primary considerations of the document included strengthening existing communities, establishing environmentally sensitive open space networks, and considering transit oriented development issues. The report recommended concentrating development where communities are established to reduce consumption of undeveloped areas and avoid strip development. HOH Associates made several recommendations that included projecting possible build-out scenarios for a proposed urban service district, developing an approach for establishing zoning districts, and identifying an urban service district. Moreover, the report recommended considering the fragmentation of open space, the infringement of sprawl on the rural landscape, and the pressure on environmentally sensitive areas by urbanized areas. HOH Associates wanted to consider all forms of transportation in order to provide local and regional solutions and evaluate mass transit ideas in more detail. The proposed plan included three features – the village center, the transportation hub, and the outer parkway. HOH Associates recommended a system of village centers around which higher density development would be concentrated, a transportation hub that would bring the Boardman River Valley into prominence, and a limited access, scenic parkway as a bypass around Traverse City that would potentially reduce traffic in town by 20%.

Bata Survey (KRIOS Consulting, 2009)

The 2009 BATA community survey, provide valuable insight into what changes would be welcome for both current passengers and non-users of the BATA system. The majority of respondents in this survey were non-users over the age of 50 (with 40% of total respondents over the age of 60). The major themes identified include: Clearer information on BATA services posted at each bus stop more frequent service and service on weekends more attractive vehicles continued support of the special needs community.

Regarding characteristics that would encourage more patronage of the BATA system, respondents ranked highest: increased frequency, more information at stops, and more fixed routes in the system.
Additionally, the majority of those surveyed indicated they would be willing to walk 2-6 blocks (one quarter to one half mile) to access a BATA service; this is an important consideration VSA will use for re-working any route alignments. Lastly, recommendations beyond those covered by the main themes listed above focused on re-working route alignments along roads with the heaviest traffic volume, as well as implementing fixed seasonal routes to serve major community and tourist events.

Expanding Transportation Choices in the Grand Traverse Region, Connecting Villages and Towns with Public Transit, Michigan Land Use Institute, October 2009

Effective public transportation connecting towns and cities is a vital part of a growth strategy for future prosperity in the Grand Traverse Region. The Grand Vision process highlighted the public's support for increased investments in public transportation. Currently the public transit services provided in the region target riders with no other transportation options. Commuters are the largest potential market for increasing bus ridership, and evidence suggests commuters will only use fixed route bus service that offers a fast, efficient, reliable transportation choice. This report examines how commuters use existing fixed routes in the region and offers insight into how to effectively increase and improve public transit services.

State of Mobility Management – Grand Traverse, Smart Growth America

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.

Bay Area Transportation Study – Transit Service and Coordination, November 2011

The report summarizes the analysis, findings, and recommendations of the Bay Area Transportation Authority's (BATA) Transit Service and Coordination Study, conducted by Vlecides-Schroeder Associates, Inc (VSA) during a one-year period. The report includes a brief overview of both BATA and non-BATA public transportation services in the six-county Traverse Bay area; reviews previous studies; and identified community goals and objectives that guided project undertakings, based on agency and stakeholder meetings. The report includes analysis of proposed changes to existing services as well as discussion of new services, as well as covers proposed policies, business practices, and other general recommendations that BATA may consider. An implementation guide for phasing in project recommendations is also provided. The report serves as much of the basis for the background and recommendations in this TC TALUS Long Range Transportation Plan.

Grand Traverse County Master Trail Plan

In 1990, Grand Traverse County, the City of Traverse City, and Garfield Township joined together to prepare a Master Trail Plan for Grand Traverse County, with the support of the Michigan Coastal Management Program and prepared by O'Boyle, Cowell, Blalock & Associates (OCBA). The Master Plan provided the roadmap for future TART Trail, Boardman Lake Trail, and Boardman River Trail.

Northwest Michigan Regional Non-Motorized Strategy

The Northwest Michigan Council of Governments has developed a regional non-motorized transportation plan and investment strategy for the 13 counties in northwest, lower Michigan. The counties include: Emmet, Charlevoix, Antrim, Kalkaska, Grand Traverse, Leelanau, Benzie, Manistee, Wexford, Missaukee, Osceola, Lake, and Mason (NWMCOG's ten counties plus three).

The Michigan Department of Transportation commissioned the plan and uses it to prioritize the funding of projects. The guiding vision of this project is to connect existing trails, offering residents and visitors more opportunities for non-motorized transportation, and to enjoy more of the region's natural resources.

The project has gathered information on existing and future trails from each county, township, city and village parks and recreation commission, planning commission and staff, and board members. Subregional meetings have taken place with trail organizations, groups, and stakeholders to review the proposed trail maps for their input. The compiled maps have been presented to the public at subregional trail summits for input and prioritization.

Preserving Options: Maintaining Rail Corridors in Northwest Michigan

This report was prepared by the Northwest Michigan Council of Governments for the Transportation Committee of the Traverse City Area Chamber of Commerce in October 2002. The report was written with

the expectation that the State of Michigan would offer the Grand Traverse area rail system and right of way for sale in the near future. The document reviews historical and current rail use in Northwest Michigan, explains the State's practice of divestiture and considers the benefits of maintaining the railway intact, including transportation, efficient freight movement, economic development, and tourism, as well as the negative impacts in each of these areas if lost. There is a recognition that the current economic value of the rail combined with its purchase price could deter a commercial purchase.

As a result, there is some consideration of other tools through which the rail line can be maintained intact. The paper strongly recommends that the Northern Michigan Rail System and right-of-way be protected and maintained in its entirety and that the community be prepared to make sure it happens.

Cherry Capital Master Plan, August 2005, Revised January 2006

The Cherry Capital Airport completed a Master Plan to evaluate the airport's capabilities and role, to forecast future aviation demand, and to plan for the timely development of new or expanded facilities that may be required to meet that demand. The overall goal of the plan is to provide systematic guidelines for the airport's maintenance, development, and operation. The plan recommended the following:

- Continuing development near the new airline terminal complex on the south side of the airfield with the construction of a new airport rescue and firefighting facility and snow removal equipment storage facility.
- Development of a new consolidated air freight handling area in the southwest quadrant of the airport, to be accessed from Garfield Avenue.
- Provision for new conventional general aviation storage hangars in several areas on the north side of the airfield. A portion of these will be developed in a new area vacated by the old airline terminal, general aviation terminal, control tower, and fire station/snow removal equipment facility, all of which will need to be removed.
- A new airport traffic control tower, to be located on the north side of the airfield, northeast of the current location.
- Extension of the primary east-west runway (10-28) to 7,000 feet.
- Provision for expansion of aircraft parking areas, removal of unnecessary pavements, expansion of the terminal boarding areas and automobile parking, and new airport equipment for snow removal and maintenance.

Cherry Capital Airport Environmental Assessment, August 2011

The required environmental review document to examine the potential impacts of the expansion of the main east-west runway (10-28) to 7,000 feet. One considerable impact to the expansion would be the bending of Garfield Avenue around the expansion to accommodate the necessary safety zones at the end of the runway.

Appendix B – Consultation

The Grand Vision Transportation Network is a primary focal point for discussion of transportation needs and opportunities in the Grand Traverse Region, which includes the TC-TALUS study area. The Transportation Network seeks to ensure that transportation projects are designed to maintain and improve the existing road system, increase public transportation services between cities and villages in the region, and expand infrastructure serving pedestrians and bicyclists both in and out of town.

Grand Vision Partners

Below are organizations who have partnered with the Grand Vision.

AAANM
AARP Michigan's "Complete Streets for Michigan"
Acme Planning
Antrim Conservation District
Antrim County
BARC
Bardenhagen Farms
BATA
Benzie Bus
Black Star Farms
Blue Water Transportation
By the Bay Transportation
C&H Maintenance Service, Inc
Century 21 McCoy Real Estate
Cherries R Us
Cherry Capital Cab
Cherry Growers
Cherryland Electric
City of TC
Cobin Design
Conservation Law
Conservation Resource Alliance
Consumers Energy
Crystal Mountain
DEQ
Disability Network/Northern Michigan
DNR Fisheries
DNRE Water
DTE Energy
Elk Rapids Chamber of Commerce
Elk Rapids DDA
Engaged Citizen
ERCOL Conservation
Fifth Third Bank
Food For Thought, Inc
Goodwill
Grand Traverse Area Habitat for
Kalkaska Commissioner
Kalkaska Conservation District
Kalkaska Public Transit
Krios Consulting
Leelanau County
Leelanau County Chamber of Commerce
Leelanau Conservation District
LIAA
MDOT
Members Credit Union
Michigan Energy Alternatives Project
Michigan Rural Network NWM CAA
MLUI
MSHDA
MSU Extension
My Wheels are Turning.com
National Coatings, Inc.
New Designs for Growth
NLCMH
NMC
NMCAA-NW MI
NMEAC
North Sky Nonprofit Network
Northwestern Bank
NRAC (Cherry Capital Airport)
NWMCOG
Office of Senator Carl Levin
Oryana
Otwell Mawby
Paradigm
Renewable Energy Services
Rotary
Rural Development
Sara Lee Bakery
Sea Grant TC
SEEDS
Smiley Energy Services

Humanity
Grand Traverse County Planning
Grand Traverse Trucking, Inc
Great Lakes Childrens Museum
Great Lakes Water Studies Institute
Griswold Consulting
GT County
GTA Community Living Management Corporation
GTA Continuum of Care
GTB NRD
GTC Road Commission
GTCD
GTCPC
GTRLC
Homestretch Housing
Huntington
Inland Seas Education
IOMNI-llc
ISLAND
JD Stratton Electric Inc
TAAR
TART Trails, Inc
TC Area Chamber of Commerce
TC Engineer
TC Housing Commission
TC Planning Commission
TC TALUS
TCAPS
TCLP
The Skibowski Co.
Three West Development, LLC
Traverse City DDA
USDA
USDA NRCS
USDA Rural Development
Vertio.net
Watershed
Whitewater TWP/First Place Bank

Appendix C - Financial Plan / Forecasts

Financial Plan - Background

The revised planning regulations, which implement the MAP-21 legislation, provide guidelines for the continuing requirement that all long range transportation plans be financially constrained documents. The MAP-21 legislation continues, and adds to, the requirements of its predecessors, SAFETEA-LU, ISTEA and TEA-21, relative to the requirements for a planning process that is realistic in terms of the financial resources available to carry out the plan. The current regulations regarding establishing a financial plan are as follows:

(i) For purposes of transportation systems operations and maintenance, the financial plan shall contain system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways (as defined by 23 U.S. C. IOI(a)(5)) and public transportation (as defined by title 49 U.S.C. Chapter 53).

(ii) For the purpose of developing the Transportation Plan, the MPO, public transportation operator(s), and State shall cooperatively develop estimates of funds that will be available to support Transportation Plan implementation as required under Sec. 450.314(a). All necessary financial resources from public and private sources that are reasonably expected to be made available to carry out the transportation plan shall be identified.

(iii) The financial plan shall include recommendations on any additional financing strategies to fund projects and programs included in the Transportation Plan. In the case of new funding sources, strategies for ensuring their availability shall be identified.

(iv) In developing the financial plan, the MPO shall take into account all projects and strategies proposed for funding under title 23 U.S. C., title 49 U.S.C. Chapter 53, or with other Federal funds; State assistance; local sources; and private participation. Starting December 11, 2007, revenue and cost estimates that support the Transportation Plan must use an inflation rate(s) to reflect "year of expenditure dollars" based on reasonable financial principles and information developed cooperatively by the MPO, State(s), and public transportation operator(s).

(v) For the outer-years of the Transportation Plan (i.e., beyond the first l0 years), the financial plan may reflect aggregate cost ranges/cost bands as long as the future

funding source(s) is reasonably expected to be available to support the projected cost ranges/cost bands.

(vi) For nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required to ensure the implementation of TCMs in the applicable SIP.

(vii) For illustrative purposes, the financial plan may (but is not required to) include additional projects that would be included in the adopted transportation plan if additional resources beyond those identified in the financial plan were to become available.

(viii) In cases that the FHWA and the FTA find a Transportation Plan to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (i.e., by legislative or administrative actions), the FHWA and the FTA will not withdraw the original determination of fiscal constraint; however, in such cases the FHWA and the FTA will not act on an updated or amended Transportation Plan that does not reflect the changed revenue situation.

TC-TALUS's development of this financial plan chapter is based on the outlined requirements from the regulations. Since this 2035 Transportation Plan is being developed and adopted after December 11, 2007, the revenue and expenditure projections have to be presented in cost adjusted/inflated dollars, termed "year-of-expenditure" dollars. Past practice, historic data, and already committed funds are the major factors considered in establishing future funding estimates.

Since the majority of the funding for transportation improvements comes from federal and state dollars, actions at both these levels will impact the actual future funding available for projects at the local level. The future of both of these funding sources for the life of the 2035 Plan cannot be predicted with much level of certainty at this time. Therefore, lacking any definitive information to the contrary, future estimates are based on a continuation of the historic experience with these sources.

History of Transportation Financing: The development and maintenance of the transportation system has been, and still is, primarily financed by user fees. However, local funding, both public and private has become an increasing contributor to transportation improvements in recent years. At the state level, user fees include a per gallon tax on gasoline and diesel fuel and a per vehicle registration fee based on vehicle value. The state gas tax is currently $0.19 per gallon. However, as vehicles become more fuel efficient, and alternative fuel use increases, the revenue generated from this tax diminishes significantly. Gasoline and diesel fuels are also taxed $0.184 per gallon at the federal level. Some revenue for transportation at the state level is also generated from the sales tax on vehicle related consumer purchases.

Sources of Transportation Funding: Collection and distribution of gasoline and diesel fuel taxes in Michigan is regulated under State Act 51 of 1951 (commonly referred to a "Act 51"). Michigan's fuel tax is collected at the refinery and deposited into the Michigan Transportation Fund (MTF). Federal taxes are placed into the Federal Highway Trust Fund, with the exception of one cent of the tax, which is dedicated to the clean-up of underground fuel storage tanks. Most of the tax revenues, at the federal and state levels, are earmarked to fund highway, mass transit, safety, and non-motorized improvements. The state's MTF dollars are distributed to MDOT; the county road commissions; the cities and villages; and the Comprehensive Transportation Fund (CTF). The CTF was established to fund public transit improvements. In addition to the funding from the MTF, the CTF has received funding from the state's general fund in the past.

Most states have vehicle registration fees that are earmarked for transportation improvements as well. In Michigan, the registration fees for automobiles and trucks are also deposited in the MTF. There is no federal passenger vehicle registration fee. At present, there is not a local option for assessing these types of fees.

County and city MTF allocations have generally accounted for over half of locally available transportation revenues. Cities and villages may provide additional funding for transportation improvements. Typical sources for such funds include a community's general fund; property tax millage; general obligation bonds; contributions from other units of government; tax increment financing; and special assessments. Revenue can also result from accumulated interest on MTF funding that has been distributed to the local road agencies.

County road commissions receive funding from their member townships for improvements to non-primary roads as road commissions are not allowed to pay for more than 50% of such improvements. Some counties generate revenue by entering into maintenance agreements with MDOT to complete work on state trunkline facilities. Revenue is also sometimes generated from developers who will pay for the construction of access drives, roads, or other necessary improvements serving new developments. Both Leelanau and Grand Traverse Counties currently have a property tax millage in place, both of which must also be renewed periodically.

MAP-21 continues to provide the majority of Federal-aid highway funds to the states through core programs. However, the core highway programs have been reduced from seven to five, as follows:

- **National Highway Performance Program [New core program] –** This section consolidates existing programs (the Interstate Maintenance, National Highway System, and Highway Bridge programs) to create a single new program which will provide increased flexibility while guiding state and local investments to maintain and improve the conditions and performance of the National Highway System (NHS). This program will eliminate the barriers between existing programs that limit states' flexibility to address the most vital needs for highways and bridges and holds states accountable for improving outcomes and using tax dollars efficiently.

- **Transportation Mobility Program [New core program] –** This program replaces the current Surface Transportation Program, but retains the same structure, goals, and flexibility to allow states and metropolitan areas to invest in the projects that fit their unique needs and priorities. It also gives a broad eligibility of surface transportation projects that can be constructed. Activities that previously received dedicated funding in SAFETEA-LU, but are being consolidated under MAP-21, will be retained as eligible activities under the Transportation Mobility Program.

- **National Freight Network Program–** Our nation's economic health depends on a transportation system that provides for reliable and timely goods movements.

  Unfortunately, the condition and capacity of the highway system has failed to keep up with the growth in freight movement, and is hampering the ability of businesses to efficiently transport goods due to congestion.

  MAP-21 addresses the need to improve goods movement by consolidating existing programs into a new focused freight program that provides funds to the states by formula for projects to improve regional and national freight movements on highways, including freight intermodal connectors.

- **Highway Safety Improvement Program [Existing core program]** – MAP-21 builds on the successful Highway Safety Improvement Program (HSIP). MAP-21 substantially increases the amount of funding for this program because of the strong results it has achieved in reducing fatalities. Under HSIP states must develop and implement a safety plan that identifies highway safety programs and a strategy to address them.

- **Transportation Infrastructure Finance and Innovation Program (TIFIA) –** The TIFIA program provides direct loans, loan guarantees, and lines of credit to surface transportation projects at favorable terms. TIFIA will leverage private and other non-federal investment in transportation improvements.

Included in the "America Fast Forward" title of MAP-21, will be provisions that build upon the success of the TIFIA program. MAP-21 modifies the TIFIA program by increasing funding for the program to $1 billion per year; by increasing the maximum share of project costs from 33 percent to 49 percent; by allowing TIFIA to be used to support a related set of projects; and by setting aside funding for projects in rural areas at more favorable terms.

The Federal Transit Administration has separate programs to provide capital, and operating funding, for public transportation as well as other specific programs such as: New Freedom, Job Access Reverse Commute (JARC), and funding to support smaller providers of social service transportation.

Financial Plan – Potential Revenue Source

Federal Funding

Interstate Maintenance
National Highway System (NHS)
Surface Transportation Program (STP)
Transportation Enhancement Funds Bridge
Replacement and Rehabilitation
Congestion Mitigation & Air Quality (CMAQ)
Safety
High Risk Rural Roads
Rail-Highway Crossings
Safe Routes to School
Scenic Byways
Recreational Trails
Border Infrastructure
Federal Transit Administration Operating
&Capital Programs
New Freedom Program
Job Access Reverse Commute Program
Bureau of Indian Affairs
Other federal

State Funding

Motor Vehicle Tax (Act 51) Distribution
Comprehensive Transportation Fund
Distribution Transportation Economic
Development Funds (TEDF) Other state

Local Funding

General Fund Contributions (cities)
Township Contributions
Street Improvement Assessments
Road Improvement
Bonds Tax Increment
Financing Special
Assessment Districts
Dedicated Millage
Service Contracts
Fare Box Revenues
Private Industry Contributions
Foundation Contributions
In-kind Contributions
Other local

Revenue Forecast Development

Local Road Revenue: Local revenue projections were made utilizing the experience of the three local road agencies for the period of 2009 to 2011 as the base. The Act 51 reports submitted to the state by the agencies provided revenue and expenditure data for making future projections. The Act 51 reports break down revenues and expenditures between the major/primary road system and the minor/local road system. TC-TALUS deals with funding for projects on the federal - aid eligible system, which mirrors almost completely the major/primary road system. Because the TC-TALUS study area is located in portions of two counties, it was necessary to estimate the amount of revenue applied by each respective Road Commission in that portion of the TC-TALUS study area.

For the purpose of this Financial Plan, the calculation of revenue dedicated to the TC-TALUS Study area is as follows. The amount of routine maintenance expenses dedicated to TC-TALUS area Townships was divided by the total county routine maintenance expense to arrive at a percentage of total county routine maintenance expense dedicated to the TC-TALUS area. For Grand Traverse County the routine maintenance expense for TC-TALUS area was 71% of the total revenue. In Leelanau County, the TC-TALUS area Township (Elmwood) accounts for 9% of the total Leelanau County Road Commission

revenue. The City of Traverse City, being entirely within the TC-TALUS area has 100% of total revenue expended within the TC-TALUS area.

Both Grand Traverse County and Leelanau County have dedicated road millages as of 2014. For the purposes of this plan, those millages are not anticipated to be renewed after their current expiration dates. That portion of the Grand Traverse County road millage that is collected within the City of Traverse City is dedicated to the City's use.

State Road Revenue

Information not available at this time.

Federal Road Revenue

In addition to the revenue sources listed above, Federal Surface Transportation Program (STP) revenue is available for County Primary Road and City Major Street improvements as well as Transit Capital improvements from either the Rural Task Force (RTF) 10-C or Traverse City Small Urban area funds. The RTF 10-C administers theses funds for the rural portions of the Benzie, Grand Traverse, and Leelanau Counties. Because only a portion of the TC-TALUS area is eligible for RTF funds, the total RTF funding for both Grand Traverse and Leelanau Counties was reduced by the percent of eligible road miles in the TC-TALUS area. 68% of Grand Traverse County's primary road mileage occurs within the TC-TALUS area and 9% of Leelanau County's primary road mileage occurs within the TC-TALUS area.

The Traverse City Small Urban committee administers the Small Urban funds for the Traverse City Urban Area. The Traverse City Small Urban area is effectively 100% within the TC-TALUS area. A small portion of the Urban Area extends north of Elmwood Township and out of the TC-TALUS area, however, no qualifying County Primary roads are included in the area.

Local Transit Revenue

The Bay Area Transportation Authority (BATA) revenue data was analyzed for the FY 2011 and 2012 fiscal years, average total revenue for that period was $6,485,183, of that $3,215,213 was Federal and State funding and $3,269,970 was local funding including millage and farebox revenues.

Revenue Projections: To project current revenues to the plan year of 2035, the following method developed by the Michigan Department of Transportation Statewide Systems Management Section were used:

Federal Surface Transportation Program (STP) - 2012 and 2013 actual revenue amounts were used. Revenue estimates were available for 2014, then increased 4.89% each year thereafter until 2035 to reach a total for the overall time period of 2012-2035.

MI Transportation Fund (MTF) - average revenue increasing 2% per year until 2013, and then increasing 4.04% each year thereafter until 2035 to reach a total for the overall time period of 2012-2035.

State Economic Development Categories - starting with a combined average, then carrying forward at the same level for 2012 to 2035 will yield a total in the category.

Local Funding - starting with a combined average, and carrying forward at the same level for 2012 to 2035 (due to restricted local budgets) will yield a total in this category. A general annual inflation rate of 1.5% is applied to millage revenue.

Bureau of Indian Affairs (BIA) - starting with a combined average, then carrying forward at the same level for 2012 to 2035 will yield a total in the category.

Road Revenue Projections

Grand Traverse County Portion of TC-TALUS area ($,000's)

Year	MTF	Rural Federal STP	Urban Federal STP	State EDF	Local	BIA
2012	4,888	336	187	50	65	258
2013	4,986	346	187	50	66	258
2014	5,187	356	187	50	2,621	258
2015	5,397	373	187	50	2,660	258
2016	5,615	392	187	50	2,700	258
2017	5,842	411	187	50	70	258
2018	6,078	431	187	50	71	258
2019	6,323	452	187	50	72	258
2020	6,579	474	187	50	73	258
2021	6,844	497	187	50	74	258
2022	7,121	522	187	50	75	258
2023	7,409	547	187	50	77	258
2024	7,708	574	187	50	78	258
2025	8,019	602	187	50	79	258
2026	8,343	631	187	50	80	258
2027	8,680	662	187	50	81	258
2028	9,031	695	187	50	82	258
2029	9,396	729	187	50	84	258
2030	9,775	764	187	50	85	258
2031	10,170	802	187	50	86	258
2032	10,581	841	187	50	88	258
2033	11,009	882	187	50	89	258
2034	11,454	925	187	50	90	258
2035	11,916	970	187	50	92	258
2012-35 Total	**188,351**	**14,213**	**4,488**	**1,200**	**9,639**	**6,192**

Leelanau County portion of TC-TALUS area ($,000's)

Year	MTF	Rural Federal STP	State EDF	Local	BIA
2012	216	30	6	125	31
2013	220	30	6	128	31
2014	229	31	6	130	31
2015	238	33	6	26	31
2016	248	34	6	27	31
2017	258	36	6	27	31
2018	269	38	6	28	31
2019	279	39	6	28	31
2020	291	41	6	29	31
2021	302	43	6	29	31
2022	315	45	6	30	31
2023	327	48	6	30	31
2024	341	50	6	31	31
2025	354	52	6	32	31
2026	369	55	6	32	31
2027	384	58	6	33	31
2028	399	60	6	34	31
2029	415	63	6	34	31
2030	432	67	6	35	31
2031	449	70	6	36	31
2032	468	73	6	36	31
2033	486	77	6	37	31
2034	506	81	6	38	31
2035	527	84	6	39	31
2012-35 Total	**8,323**	**1,238**	**144**	**1,053**	**744**

City of Traverse City TC-TALUS area ($,000's)

Year	MTF	Rural Federal STP	Urban Federal STP	Local	BIA
2012	1,081	33	187	1,076	0
2013	1,103	34	187	1,076	0
2014	1,147	35	187	1,826	0
2015	1,194	37	187	1,853	0
2016	1,242	39	187	1,881	0
2017	1,292	40	187	1,159	0
2018	1,344	42	187	1,176	0
2019	1,398	44	187	1,194	0
2020	1,455	47	187	1,212	0
2021	1,514	49	187	1,230	0
2022	1,575	51	187	1,249	0
2023	1,638	54	187	1,267	0
2024	1,705	56	187	1,286	0
2025	1,773	59	187	1,306	0
2026	1,845	62	187	1,325	0
2027	1,920	65	187	1,345	0
2028	1,997	68	187	1,365	0
2029	2,078	72	187	1,386	0
2030	2,162	75	187	1,407	0
2031	2,249	79	187	1,428	0
2032	2,340	83	187	1,449	0
2033	2,435	87	187	1,471	0
2034	2,533	91	187	1,493	0
2035	2,635	95	187	1,515	0
2012-35 Total	**41,654**	**1,398**	**4,488**	**32,975**	**0**

Note: The Traverse City Small Urban Area receives $375,000 of STP funds annually; all urban area transportation agencies may receive these funds to undertake eligible projects including the Grand Traverse, Leelanau County Road Commissions, the City of Traverse City, and BATA. For the purposes of this projection, the annual amount will be split equally between the Grand Traverse County Road Commission and City of Traverse City. Some of these funds will also go to the Leelanau County Road Commission and BATA over the course of this projection; however, it is difficult to determine an accurate division of the funds to provide an accurate forecast.

Local Transit (BATA) Revenue projection

Year	Federal & State Revenue	Local	BIA
2012	3,473	3,147	0
2013	3,542	3,194	0
2014	3,686	3,242	0
2015	3,834	3,291	0
2016	3,989	3,340	0
2017	4,151	3,390	0
2018	4,318	3,441	0
2019	4,493	3,493	0
2020	4,674	3,545	0
2021	4,863	3,598	0
2022	5,060	3,652	0
2023	5,264	3,707	0
2024	5,477	3,763	0
2025	5,698	3,819	0
2026	5,928	3,876	0
2027	6,168	3,934	0
2028	6,417	3,993	0
2029	6,676	4,053	0
2030	6,946	4,114	0
2031	7,226	4,176	0
2032	7,518	4,239	0
2033	7,822	4,302	0
2034	8,138	4,367	0
2035	8,467	4,432	0
2012-35 Total	**133,826**	**90,110**	**0**

Note: The amounts listed under the Local and BIA funding columns are both highly variable. A conservative inflationary increase of 1.5% annually is applied only to local millage funds.

Therefore, it is estimated that the local agencies as a group, will have revenues available for transportation investments for major streets/primary roads averaging the following from each of these categories:

TC-TALUS area ($,000'S)

		MTF	Rural STP	Urban STP	EDF	Local	BIA	Total	Percent spent on routine maintenance	Remaining total
Grand Traverse	2012-35 Total	188,351	14,213	4,488	1,200	9,639	6,192	224,083	0.81	42,576
Leelanau	2012-35 Total	8,323	1,238	0	144	1,053	744	11,502	0.72	3,221
Traverse City	2012-35 Total	41,654	1,398	4,488	0	32,975	0	80,515	0.72	22,544
	Grand Total	238,328	16,849	8,976	1,344	43,667	6,936	316,100		68,341

Once again, it should be noted that revenues and expenditures for local streets/secondary roads are not included in the calculations shown in the remainder of this chapter. The calculation of the cumulative total revenues by the above categories over the life of the 2035 Plan is shown above:

Federal and State Revenues (for state system)

Not available at this time.

Operations and Maintenance

The continued effective operation and maintenance of the existing transportation system is a priority and goal of the TC-TALUS process. Therefore, estimated costs for these aspects of the transportation system over the life of the 2035 Plan are taken into consideration and are applied against the total anticipated revenues before any improvements to the system are considered.

The Act 51 reporting data from the local agencies included detail on expenditures as well as revenues. Based on an average of the last three years of expenditures for the three local road agencies, the total cost to operate and maintain the existing major street/primary road system (non-heavy maintenance, routine maintenance, traffic services, winter maintenance, and administrative services) in the TC-TALUS area. This includes the assumption that 81% of the County Road Commission's total expenditures for operations and maintenance are in the TC-TALUS area (this is the same % assumed for inclusion of revenues). TC-TALUS covers an area which includes eight townships in Grand Traverse County and one township in Leelanau County as well as the City of Traverse City. However, the more intense development in the TC-TALUS area requires a significant portion of the road commission's budget. For the life of the Plan this figure has been expanded by 3% per year (the average CPI was used since many of the components of this category of expense are more tied to personnel costs than to construction materials

per se, and therefore the category is not inflated at the higher construction cost index used to develop the project list). Based on this inflation rate the total cost for operations and maintenance, of the major street/primary road system in the TC-TALUS area by the local agencies over the 2012 to 2035 time period in the 2035 Transportation Plan, is expected to be approximately $251,714,000.

MDOT has yet to provide figures regarding its anticipated costs for operations and maintenance (O+M) of the state system within the TC-TALUS area over the time period of the Plan.

NOTE: MDOT has not provided any revenue estimates for MTF dollars or other categories of funding that would support operations and maintenance expenditures by its TSC.

SUMMARY (Not complete – waiting for MDOT information)

Summaries of estimated available revenues and estimated expenditures over the life of the 2035 Plan are shown in the following Tables -7 and -8:

Table -7 - Summary of Available Revenues for the TC-TALUS 2035 Transportation Plan

Projected Capital Revenues	Total $(,000)
Transportation Funds for Construction of Local Roads	68,341
Federal and State Funding for State Controlled Roadways in TC-TALUS area	n/a
Federal/State/Local Transit Funding (operating and capital)	133,826
State and Local Funding for Construction and Operations/Maintenance of Local Roads	316,100
TOTAL	518,267

Financial Constraint

The total expenditures identified in the TC-TALUS 2035 Transportation Plan are within the total federal, state, and local revenues estimated for the 2035 Transportation Plan. As shown in Table 9 below, there is projected to be adequate revenue available for capital expenditures as well as for operations and maintenance expenditures for the transportation system. Therefore, the TC-TALUS 2035 Transportation Plan is financially constrained.

Table -9 – Demonstration of Financial Constraint for the *2035 Transportation Plan* of TC-TALUS (,000)'s

Total federal, state, and local revenues estimated to be available for road related construction, transit capital/operating and road related operations and maintenance of the major street/primary road system and state roadway system within the TC-TALUS area	518,267
Expenditures for Operations/Maintenance of Local & State Roads	316,100
Expenditures for Local Road Improvement Projects	25,087
Expenditures for Transit Improvement Projects	690
Expenditures for State Improvement Projects	n/a
REMAINING BALANCE	176,390

Appendix D - Environmental Justice

Environmental Justice Analysis

The roadway and transit projects in the TIP must meet the principles of Executive Order 12898 relating to environmental justice (EJ). Specifically, the TIP must identify and address disproportionately high and adverse human health or environmental effects of its programs and policies on minority and low-income populations.

The methodology undertaken to analyze that the principles are being met entailed mapping areas of low-income and minority population concentrations, overlaying the TIP's proposed projects and visually analyzing the potential impacts. The maps on the following pages are the result of this multi-step process.

Step 1 – Delineation of Minority Areas

Information provided by USDOT Order on Environmental Justice (Order 5610.2) found at the Environmental Justice page on FHWA's website was instrumental in selection of the groups to analyze. According to this directive, the groups to be considered when conducting an Environmental Justice analysis must include:

Black	American Indian
Hispanic	Native Hawaiian
Asian	Low-Income

Utilizing 2010 Census data, thematic maps of the above noted groups were created. These are included on the following pages. A visual inspection helped identify those areas with significant presence of the target groups. Please note that the visual analysis was conducted at scales other than those shown on the maps resulting, in some cases, to additional areas being added.

Step 2– Delineation of Low Income Areas

Low income as defined by the Census Bureau is, "...a person whose household income … is at or below the U.S. Department of Health Services poverty guidelines." Utilizing recent census data, a thematic map showing families below the poverty line was created. Recognizing, however, that this would not indicate individuals below poverty (presumed to be a significant cohort on a variable like poverty), a dot density map of individuals below poverty was overlaid on the families in poverty map. Again, a visual inspection of this map at various scales resulted in identification of those areas that had a significant presence of low income families and individuals.

Step 3 – Analysis of Impacts on Minority Areas

With the minority areas now delineated, an analysis of the impacts can be completed. Analysis of potential impacts centers on three major areas of concern:

1. Disproportionately high and adverse human health and environmental impacts to minority areas
2. Minimizing/blocking access of minority areas to the transportation system
3. Neglect of the transportation system in minority areas or otherwise reduce or delay the receipt of benefits to those areas

Disproportionately high and adverse human health and environmental impacts to minority areas

Of the 20 projects contained in the TIP, 13 are in the minority areas. Residential areas in the minority areas will have minimal, if any, impact in terms of noise, right-of-way takings, or pollution. Environmental impacts on all projects will be mitigated according to federal and state laws. Therefore, it has been determined that there are no disproportionately high and adverse human health impacts.

Minimizing/blocking access of minority areas to the transportation system

Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the TIP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects.

Therefore, it has been determined that there is no blockage of access to the transportation system or loss of mobility as a result of implementing the TIP projects.

Neglect of the transportation system in minority areas

The TC-TALUS area is approximately 307 square miles. As noted earlier, there are 13 projects contained in the minority areas. These projects represent 65% of all proposed TIP projects. Therefore, there are more projects per square mile in the minority areas than in the TC-TALUS as a whole.

Access to public transit by residents in the minority areas was also analyzed. The BATA service area covers the minority areas in their entirety. None of the projects contained in the TIP restrict access of residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction or delay in the receipt of transportation benefits by those residing in the minority area.

Step 4 – Analysis of Impacts on Low Income Areas

The low income areas were also delineated and an analysis of the impacts was completed. Again, the analysis of potential impacts centers on three major areas of concern:

1. Disproportionately high and adverse human health and environmental impacts to low income areas
2. Minimizing/blocking access of low income areas to the transportation system
3. Neglect of the transportation system in low income areas or otherwise reduce or delay the receipt of benefits to those areas

Disproportionately high and adverse human health and environmental impacts to low income areas

Of the 20 projects contained in the TIP, 6 are in the low income areas. Residential areas in the low income areas will have minimal, if any, impact in terms of noise, right-of-way takings, or pollution. Environmental impacts on all projects will be mitigated according to federal and state laws. Therefore, it has been determined that there are no disproportionately high and adverse human health impacts.

Minimizing/blocking access of low income areas to the transportation system Minimizing access can be characterized as the permanent closing of streets or interchanges in order to accomplish the projects contained in the TIP. While temporary closures will be necessary as part of the construction process for many projects, no permanent closures are intended as a result of implementing the proposed projects. Therefore, it has been determined that there is no blockage of access to the transportation system or loss of mobility as a result of implementing the TIP projects.

Neglect of the transportation system in low income areas
The TC-TALUS area is approximately 307 square miles. The low income areas mapped are approximately 19 square miles or 6.2 % of the entire area.. As noted earlier, there are 6 projects contained in the low income areas. These projects represent 30% of all proposed projects. Therefore, there are more projects per square mile in the low income areas than in the TC-TALUS area as a whole.

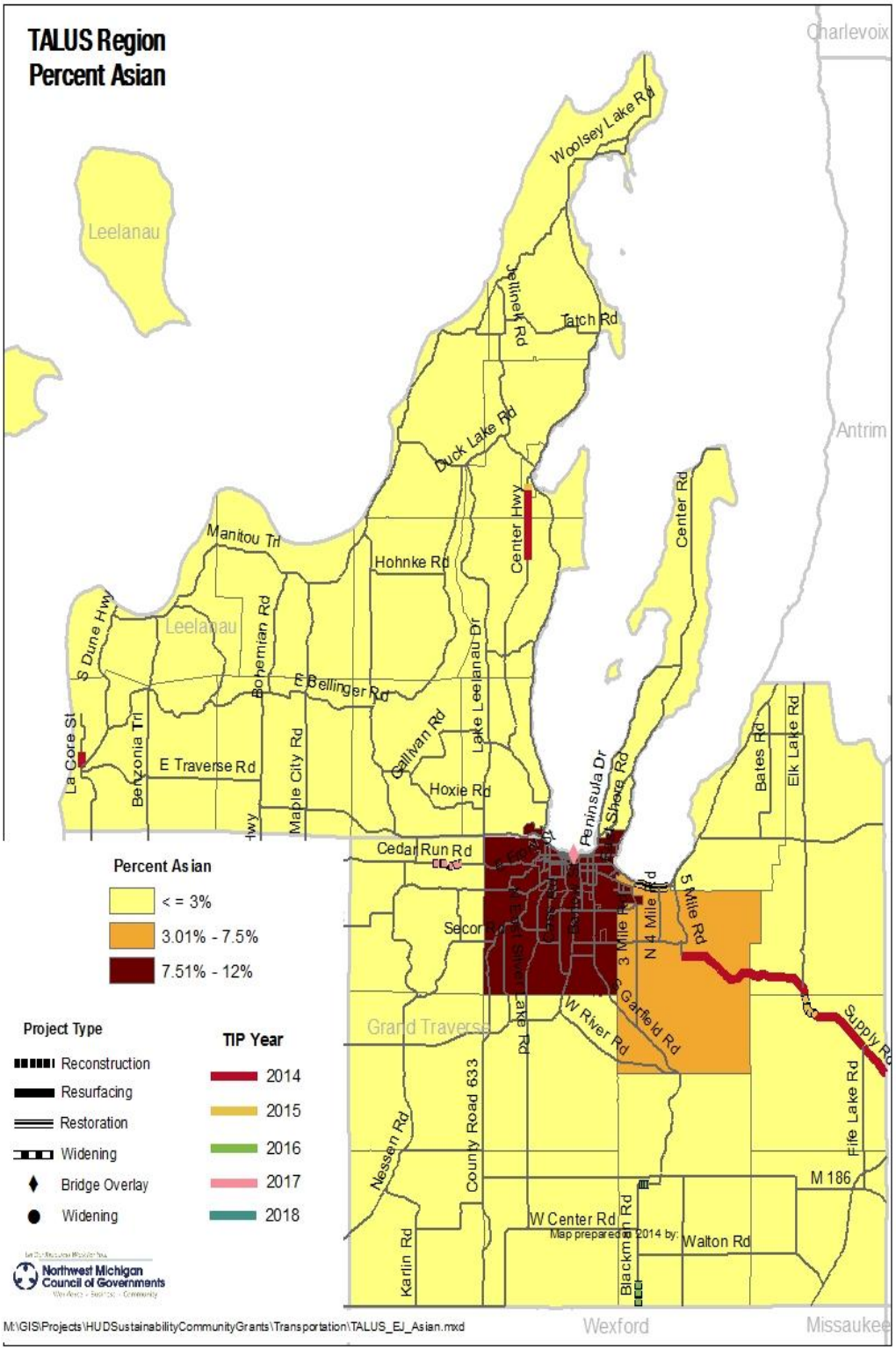
Access to public transit by residents in the low income areas was also analyzed. The BATA service area covers all low income areas in their entirety. None of the projects contained in the TIP restrict access of residents to public transit services (fixed route or demand response). Thus, it has been determined that there is no neglect, reduction or delay in the receipt of transportation benefits by those residing in the minority area.

Conclusion

The analyses of the impacts on residents in minority areas and low income areas as a result of implementing the projects contained in this TIP led to the following findings:

- No disproportionately high and adverse human health impacts
- No blockage/minimization of access to the transportation system or loss of mobility
- No neglect, reduction or delay in the receipt of transportation benefits
- No restriction of access to public transit services

These findings demonstrate that implementing the projects contained in this VISION 2035 and TIP do not result in violations of Executive Order 12898 and the principles of environmental justice. Also, to supplement the analyses done here, the participation process for the TIP makes a concerted effort to reach out to traditionally disadvantaged populations (including minority and low income populations) to ascertain the potential effects/impacts of the proposed projects.


TALUS Region
Percent Asian
Charlevoix
Antrim
Leelanau
Grand Traverse
Wexford
Missaukee
Woolsey Lake Rd
Jellinek Rd
Tatch Rd
Duck Lake Rd
Center Hwy
Center Rd
Manitou Trl
Hohnke Rd
S Dune Hwy
Bohemian Rd
E Bellinger Rd
Lake Leelanau Dr
La Core St
Benzonia Trl
E Traverse Rd
Maple City Rd
Gallivan Rd
Hoxie Rd
Peninsula Dr
Shore Rd
Bates Rd
Elk Lake Rd
Cedar Run Rd
5 Mile Rd
3 Mile Rd
N 4 Mile
Garfield Rd
W River Rd
Supply Rd
Fife Lake Rd
Lake Rd
Nessen Rd
County Road 633
M 186
W Center Rd
Blackman Rd
Walton Rd
Karlin Rd
Percent Asian
< = 3%
3.01% - 7.5%
7.51% - 12%
Project Type
Reconstruction
Resurfacing
Restoration
Widening
Bridge Overlay
Widening
TIP Year
2014
2015
2016
2017
2018
Map prepared in 2014 by:
Northwest Michigan Council of Governments
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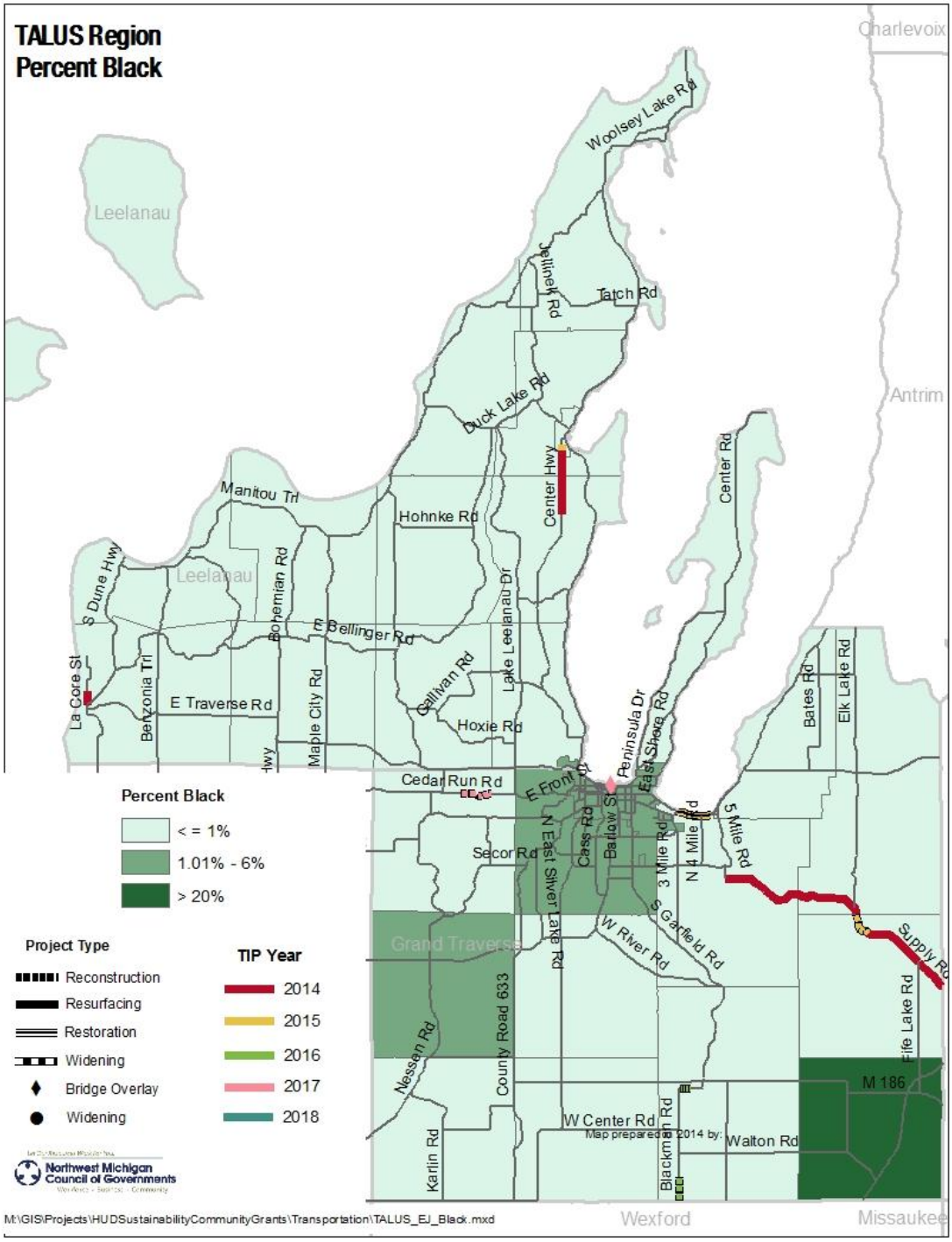
TALUS Region
Percent Black
Charlevoix
Antrim
Leelanau
Grand Traverse
Wexford
Missaukee
Woolsey Lake Rd
Jellinek Rd
Tatch Rd
Duck Lake Rd
Center Hwy
Center Rd
Manitou Trl
Hohnke Rd
S Dune Hwy
Bohemian Rd
E Bellinger Rd
Lake Leelanau Dr
La Core St
Benzonia Trl
E Traverse Rd
Maple City Rd
Gallivan Rd
Hoxie Rd
Peninsula Dr
East Shore Rd
Bates Rd
Elk Lake Rd
Cedar Run Rd
E Front St
Barlow St
Cass Rd
N East Silver Lake Rd
Secor Rd
3 Mile Rd
N 4 Mile Rd
5 Mile Rd
S Garfield Rd
W River Rd
Supply Rd
Nessen Rd
County Road 633
Karlin Rd
W Center Rd
Blackman Rd
Walton Rd
Fife Lake Rd
M 186
Percent Black
< = 1%
1.01% - 6%
> 20%
Project Type
Reconstruction
Resurfacing
Restoration
Widening
Bridge Overlay
Widening
TIP Year
2014
2015
2016
2017
2018
Map prepared in 2014 by:
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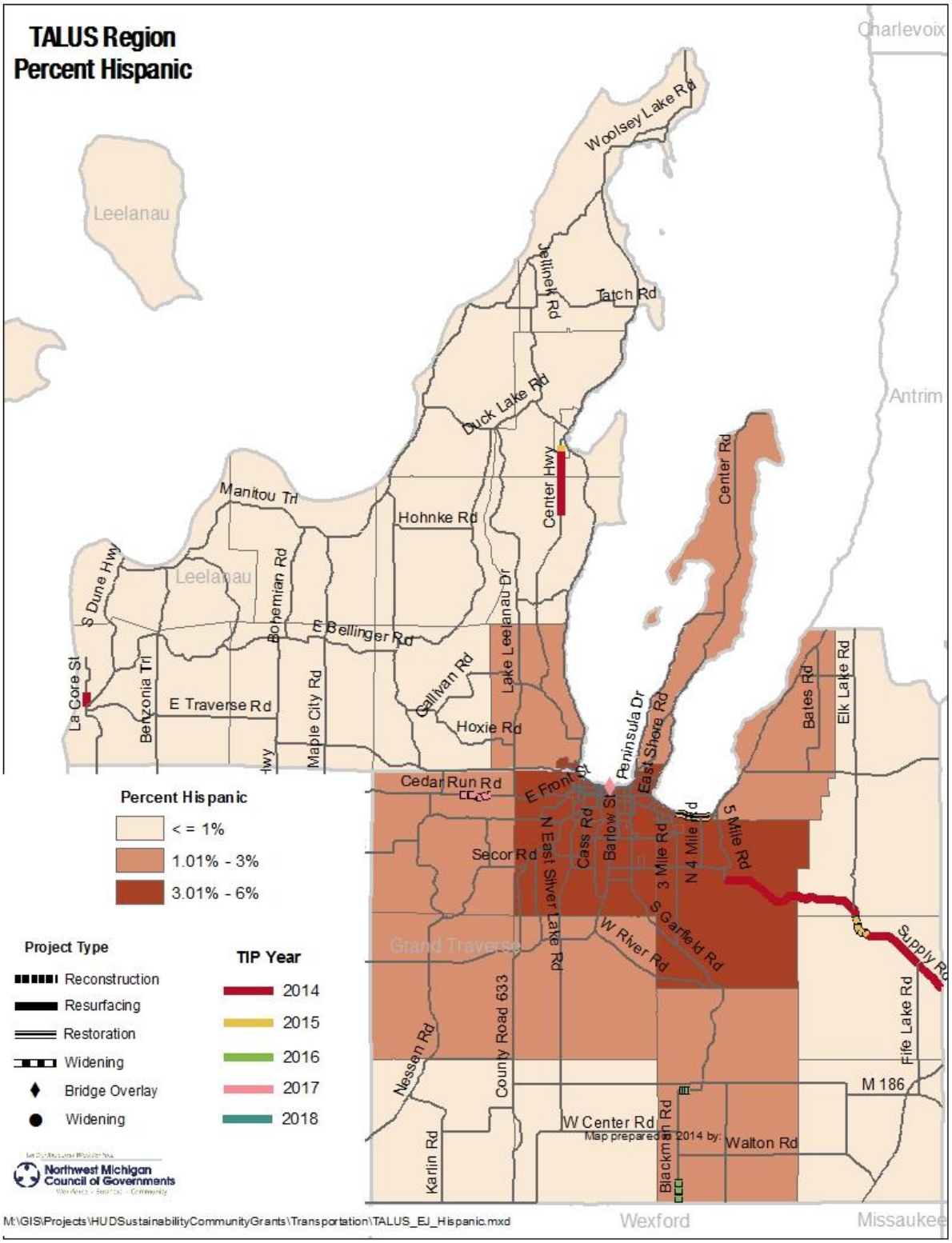
TALUS Region
Percent Hispanic
Charlevoix
Antrim
Leelanau
Grand Traverse
Wexford
Missaukee
Woolsey Lake Rd
Jellinek Rd
Tatch Rd
Duck Lake Rd
Center Hwy
Center Rd
Manitou Trl
Hohnke Rd
S Dune Hwy
Bohemian Rd
E Bellinger Rd
Lake Leelanau Dr
La Core St
Benzonia Trl
E Traverse Rd
Maple City Rd
Sullivan Rd
Hoxie Rd
Peninsula Dr
East Shore Rd
Bates Rd
Elk Lake Rd
Cedar Run Rd
E Front St
Barlow St
Cass Rd
N East Silver Lake Rd
Secor Rd
3 Mile Rd
N 4 Mile Rd
5 Mile Rd
S Garfield Rd
W River Rd
Supply Rd
Fife Lake Rd
Nessen Rd
County Road 633
M 186
W Center Rd
Blackman Rd
Walton Rd
Karlin Rd
Percent Hispanic
< = 1%
1.01% - 3%
3.01% - 6%
Project Type
Reconstruction
Resurfacing
Restoration
Widening
Bridge Overlay
Widening
TIP Year
2014
2015
2016
2017
2018
Map prepared in 2014 by:
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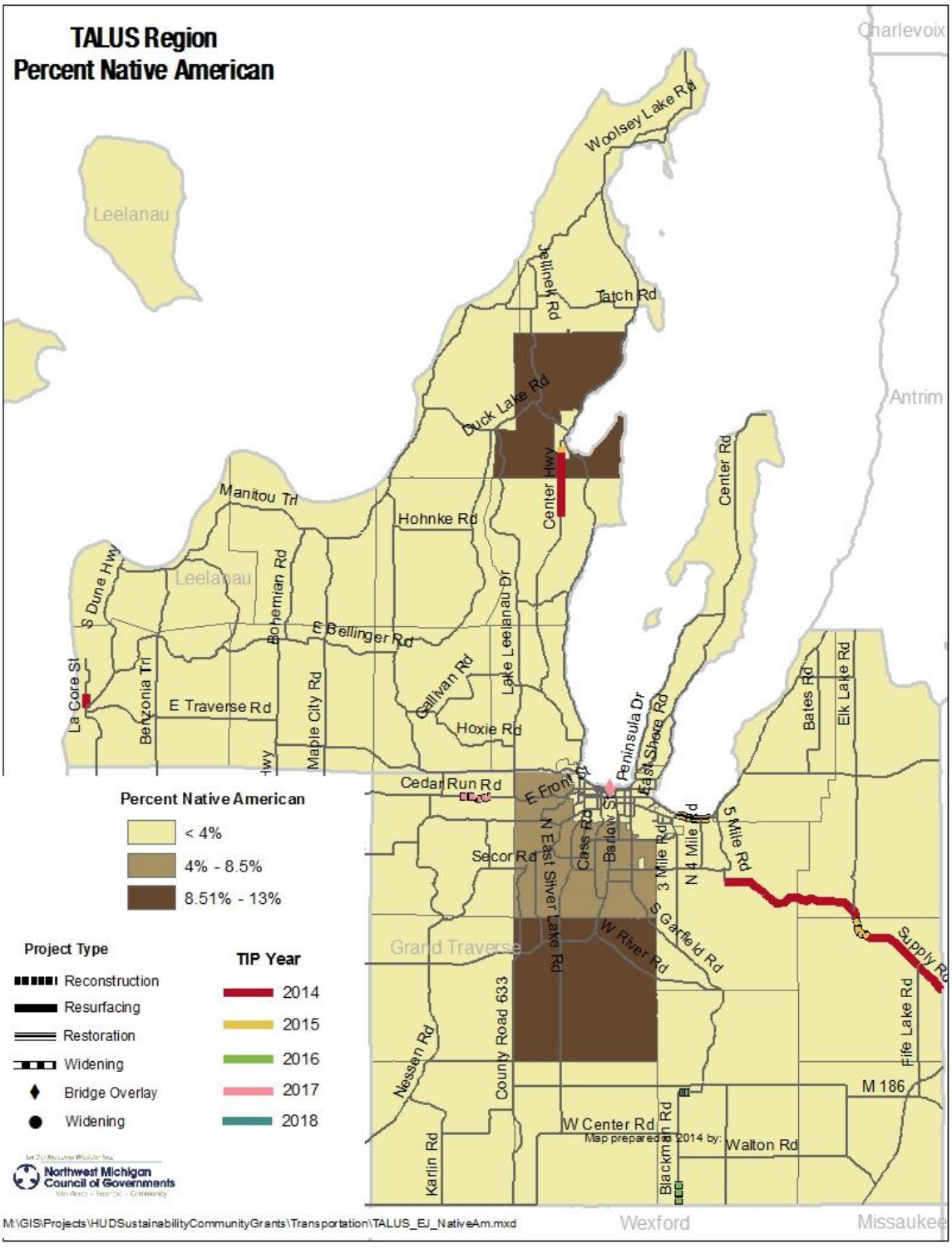
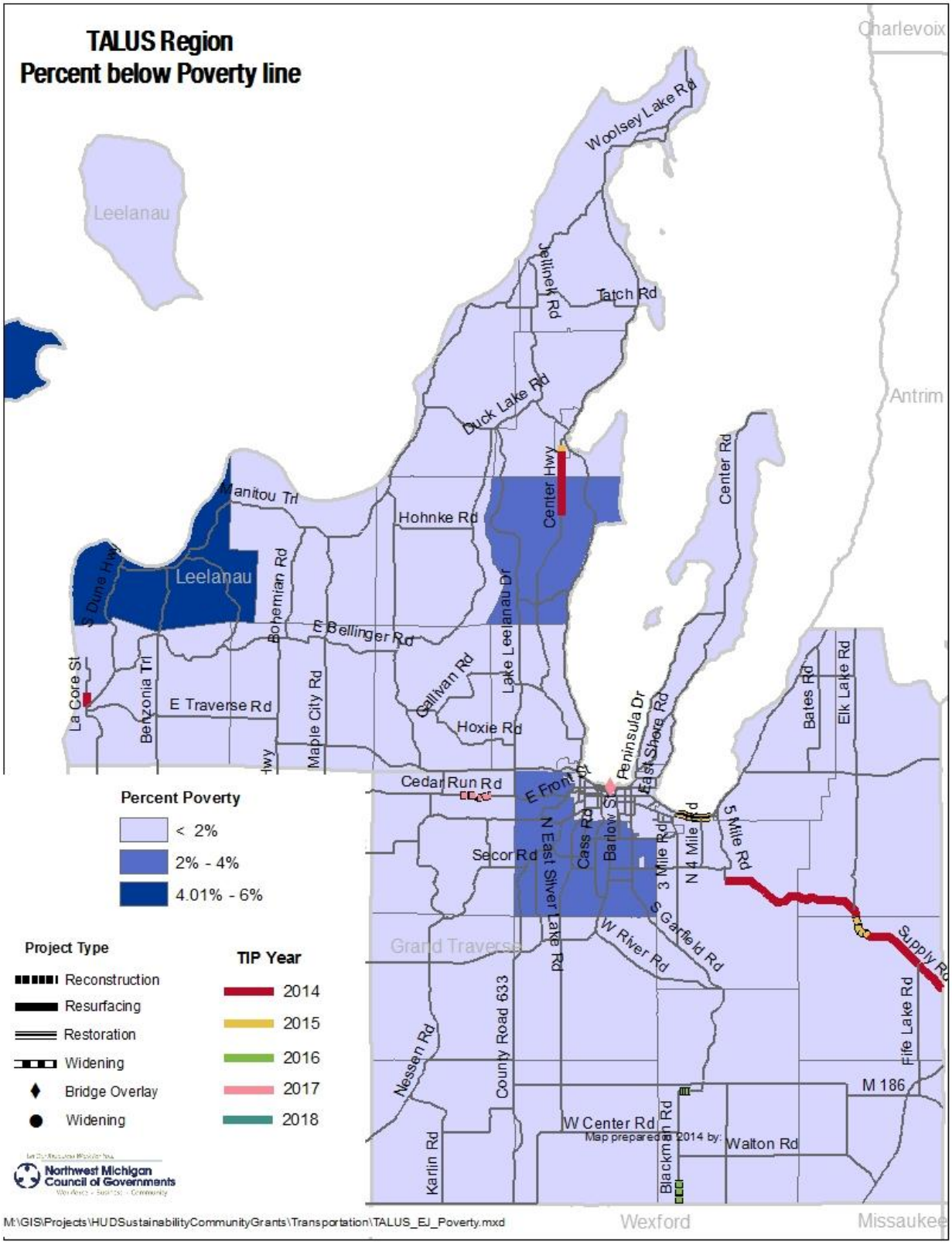

TALUS Region
Percent Native American
Charlevoix
Antrim
Leelanau
Grand Traverse
Wexford
Missaukee
Woolsey Lake Rd
Jellinek Rd
Tatch Rd
Duck Lake Rd
M-72
Center Rd
Manitou Trl
Hohnke Rd
S Dune Hwy
Bohemian Rd
E Bellinger Rd
Lake Leelanau Dr
La Core St
Benzonia Trl
E Traverse Rd
Maple City Rd
Gallivan Rd
Hoxie Rd
Peninsula Dr
East Shore Rd
Bates Rd
Elk Lake Rd
Cedar Run Rd
E Front St
S Cass Rd
Barlow St
N 4 Mile Rd
3 Mile Rd
5 Mile Rd
Secor Rd
N East Silver Lake Rd
S Garfield Rd
W River Rd
Supply Rd
Fife Lake Rd
Nessen Rd
County Road 633
M 186
W Center Rd
Walton Rd
Blackman Rd
Karlin Rd
Percent Native American
< 4%
4% - 8.5%
8.51% - 13%
Project Type
Reconstruction
Resurfacing
Restoration
Widening
Bridge Overlay
Widening
TIP Year
2014
2015
2016
2017
2018
Map prepared in 2014 by:
Northwest Michigan Council of Governments
M:\GIS\Projects\HUDSustainabilityCommunityGrants\Transportation\TALUS_EJ_NativeAm.mxd


TALUS Region
Percent below Poverty line
Charlevoix
Antrim
Leelanau
Grand Traverse
Wexford
Missaukee
Woolsey Lake Rd
Jellinek Rd
Tatch Rd
Duck Lake Rd
Center Hwy
Center Rd
Manitou Trl
Hohnke Rd
S Dune Hwy
Bohemian Rd
E Bellinger Rd
La Core St
Benzonia Trl
E Traverse Rd
Maple City Rd
Gallivan Rd
Lake Leelanau Dr
Hoxie Rd
Peninsula Dr
East Shore Rd
Bates Rd
Elk Lake Rd
Cedar Run Rd
E Front St
Cass Rd
Barlow St
N East Silver Lake Rd
3 Mile Rd
N 4 Mile Rd
5 Mile Rd
Secor Rd
S Garfield Rd
W River Rd
Supply Rd
Fife Lake Rd
County Road 633
Nessen Rd
Karlin Rd
Blackman Rd
W Center Rd
M 186
Walton Rd
Percent Poverty
< 2%
2% - 4%
4.01% - 6%
Project Type
Reconstruction
Resurfacing
Restoration
Widening
Bridge Overlay
Widening
TIP Year
2014
2015
2016
2017
2018
Map prepared in 2014 by:
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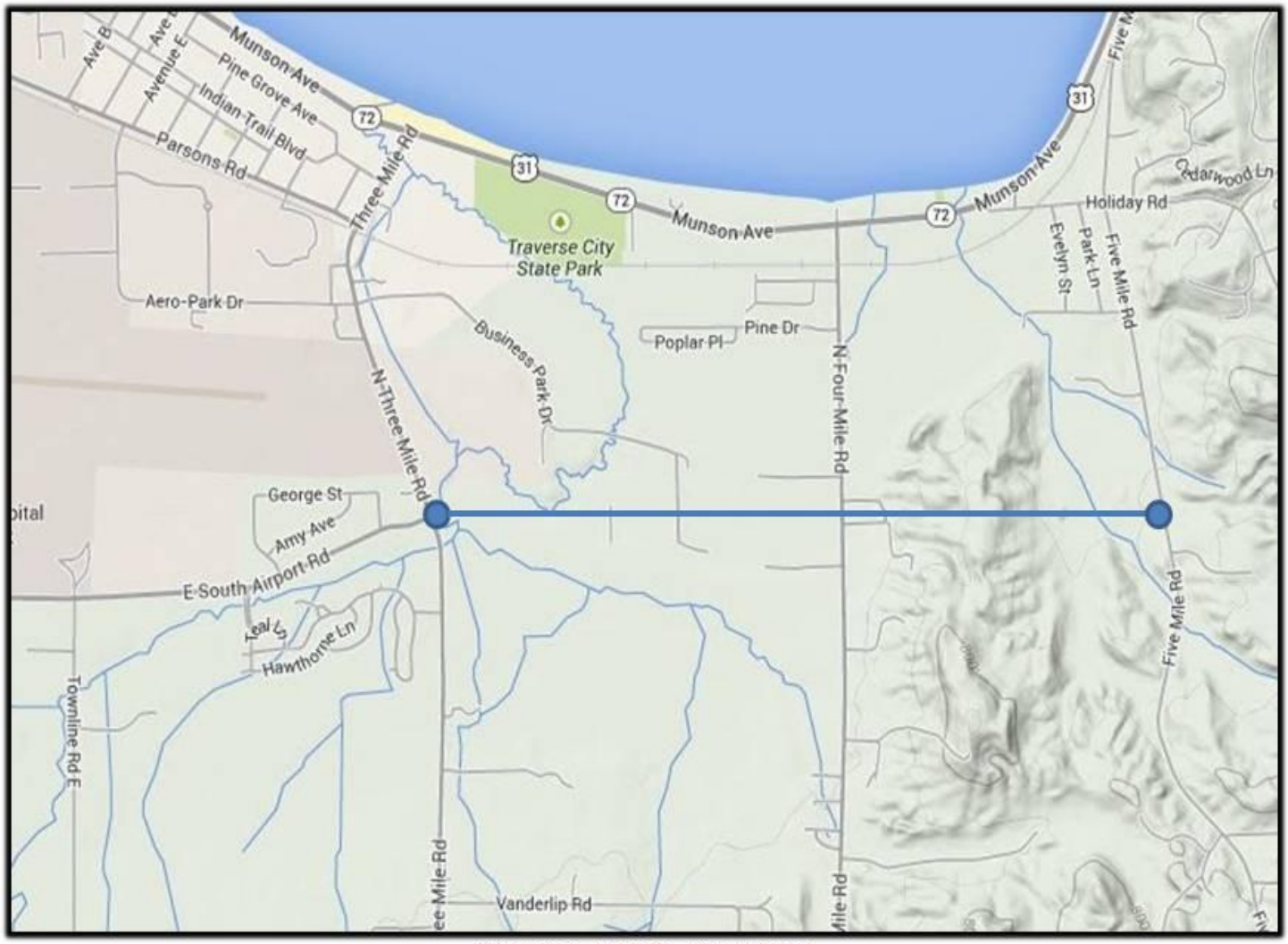
M:\GIS\Projects\HUDSustainabilityCommunityGrants\Transportation\TALUS_EJ_Poverty.mxd

Appendix E – Travel Demand Modeling location maps

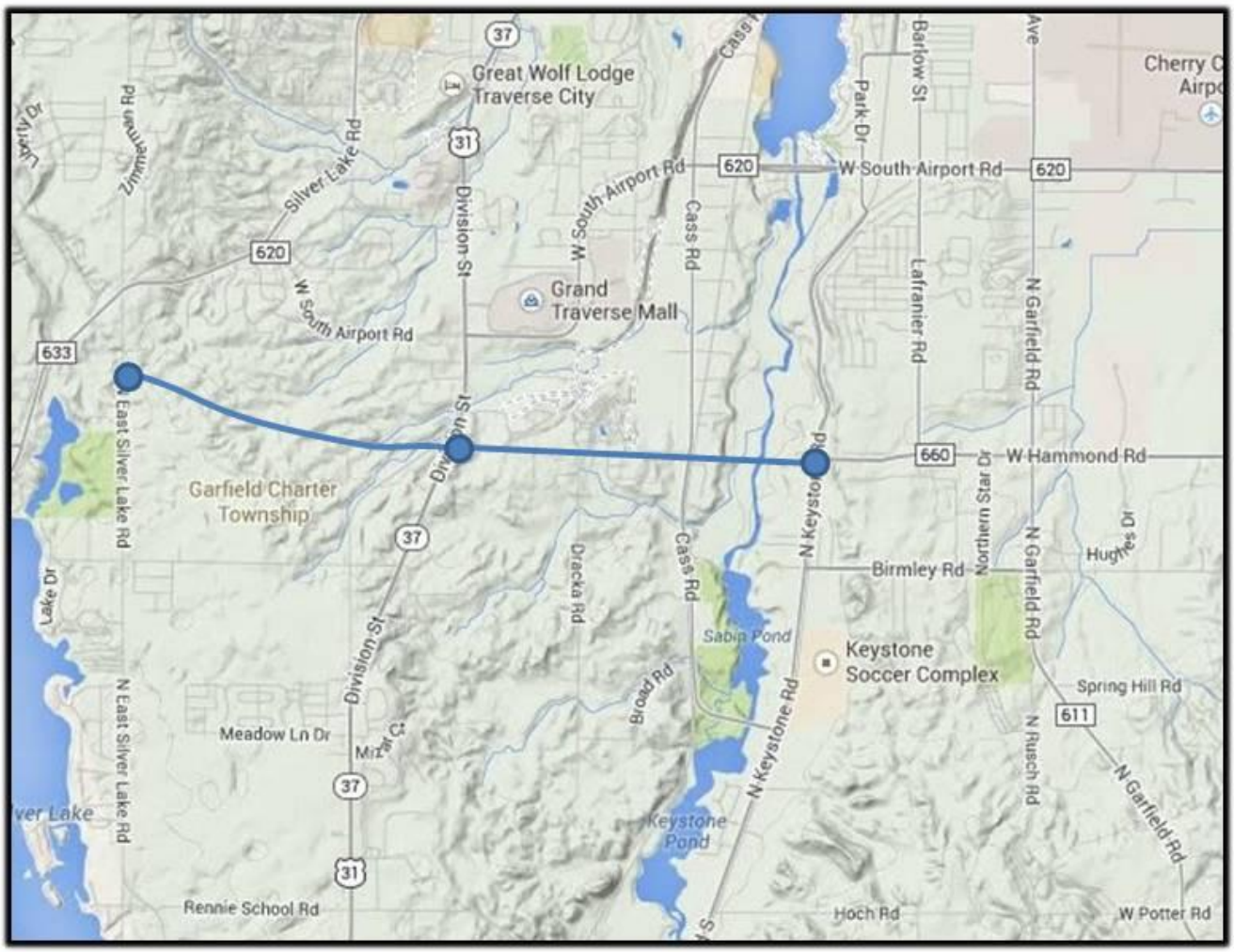


Extension of South Airport Road between Three Mile Road and Five Mile Road

N

Traverse City, MI

All routes are approximate



Hartman-Hammond Road
connection / bridge with extension
To Silver Lake Road

N

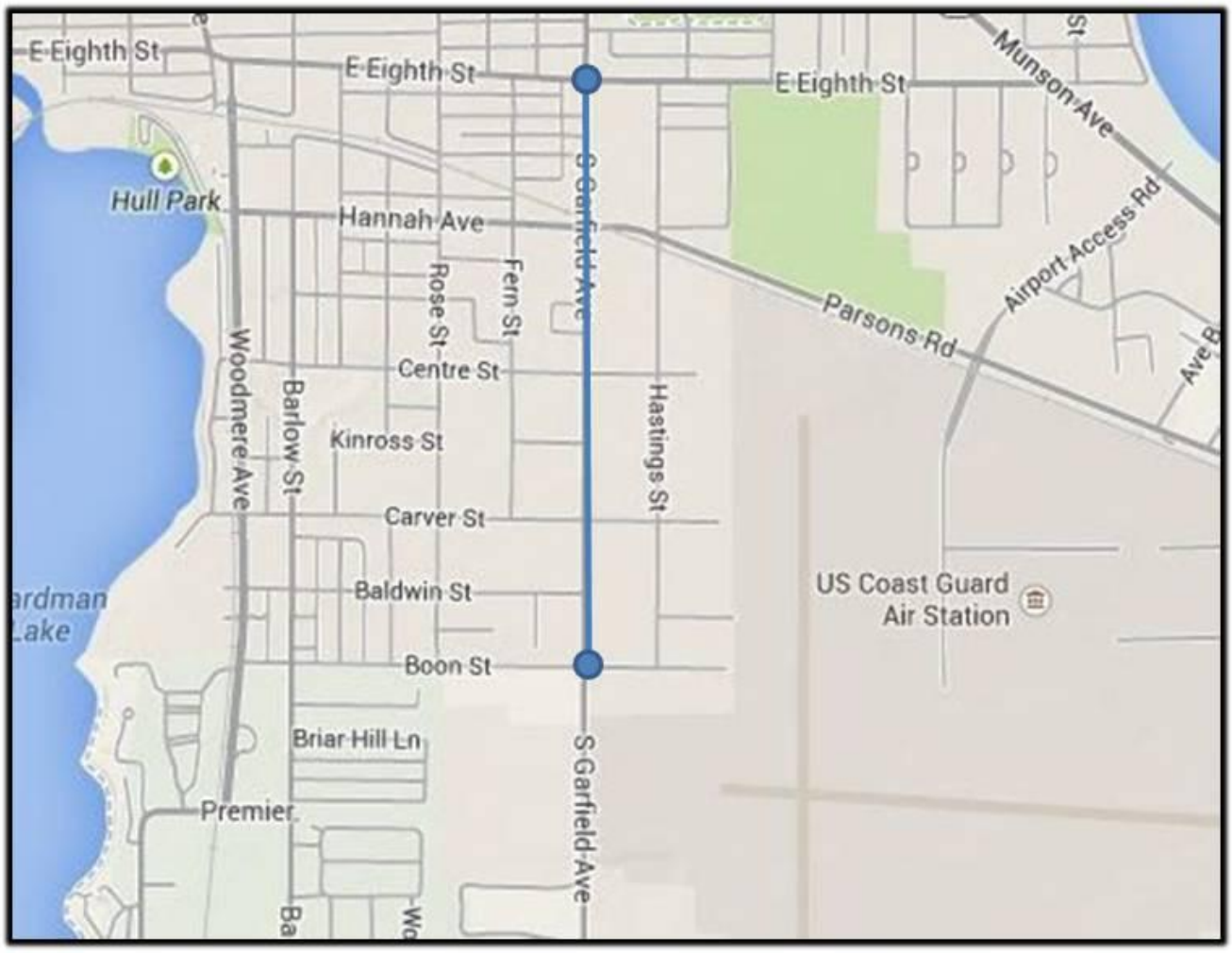
Traverse City, MI

All routes are approximate

Eighth Street Road diet
(4 lanes to 2 lanes + turn lane) between
Boardman Avenue and Woodmere Avenue

Traverse City, MI

All routes are approximate

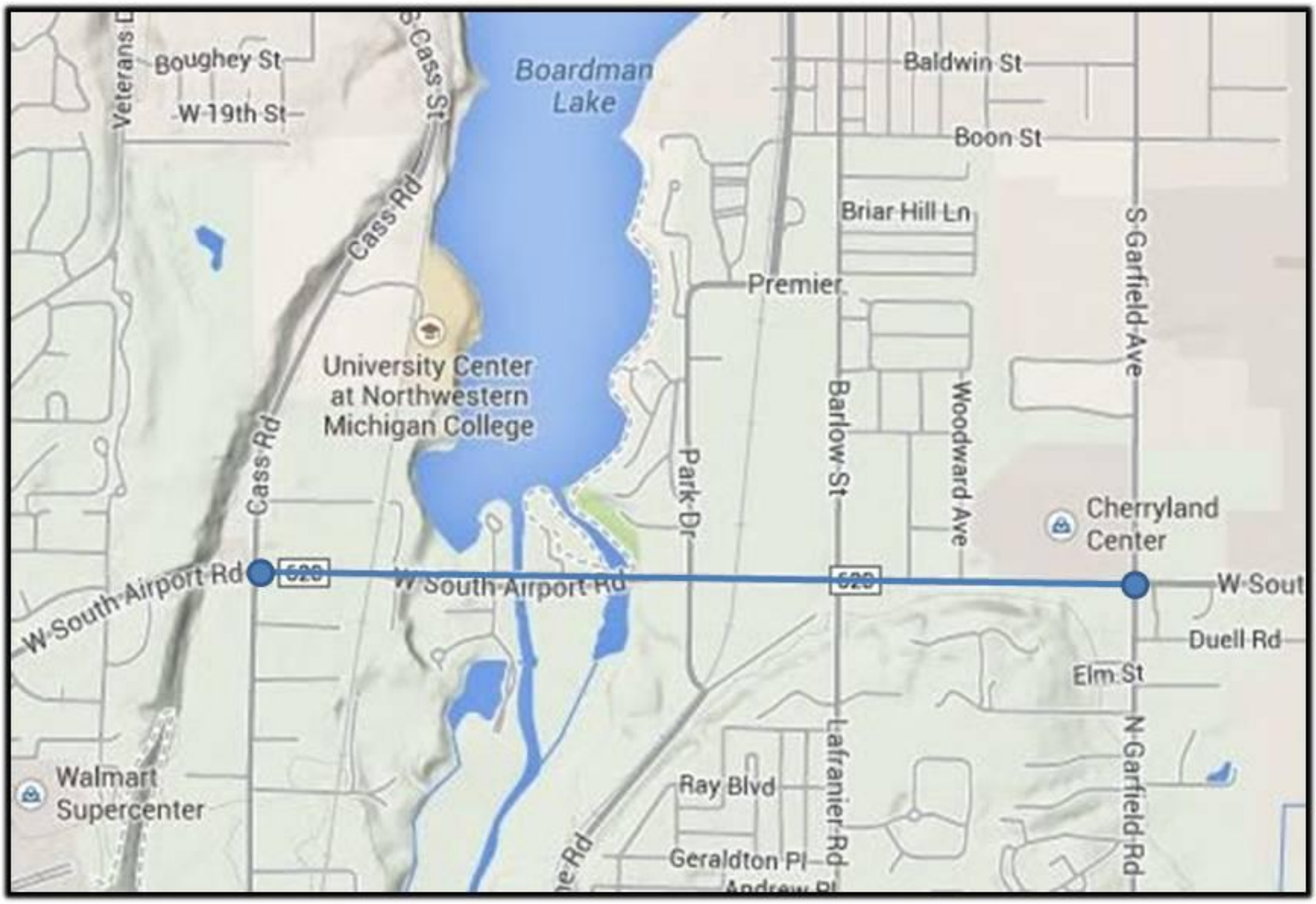


Garfield Road diet
(4 lanes to 2 lanes + turn lane) between
Eighth Street and Boon Street

N

Traverse City, MI

All routes are approximate



South Airport re-engineering
Between Garfield Road and Cass Road

N

Traverse City, MI

All routes are approximate

Beitner Road widening to
4 lanes from US-31 (Chums Corners)
To Hammond Road

N

Traverse City, MI

All routes are approximate

Appendix F – Comments on the draft TC-TALUS Vision 2035

Comment #1

Bike paths, bike paths, BATA, bike paths.
Thanks for asking,
-Mike Trahey

Comment #2

Traverse City can sieze the opportunity to take a leadership role in promoting quality recreation,improved air quality, and in demonstrating that trails improve the quality of life, and enhance tourism and the local economy.
-Ned Smith

Comment #3

There is a very strong need for the cross town parkway that has been put off for many years. This would dramatically improve all traffic flows in the area but has not been done for political reasons. This would stop much of the traffic that comes to the bay but is not stopping in Traverse City. Do the right thing and get this in your plan!!!!!
-William Eddington

Comment #4

Dumber than a post
-Rich Buchheim

Comment #5

I must confess...I only scanned your long report...my apologies if I overlooked anything related to the following comments:
1) I commute by bicycle and encounter many traffic signals triggered by the presence of a vehicle. While this may improve motorized traffic flow, especially if traffic volume is sporadic, I must either get off the road and push a button intended for pedestrians or ignore the light to ride my bike through the intersection.
2) I did see this addressed and want to reinforce the importance of making public transportation available to senior citizens who can no longer safely drive their own vehicles. It is important for BATA to go to the places seniors need/want to go.
3) My husband and I have just one car. In the summer we bicycle commute and in the winter we ride BATA--but only when it is convenient. If I must choose between arriving at my destination an hour early (due to BATA schedule) or drive my car, I drive my car. BATA must be at least as convenient as driving to increase ridership.
4) Glad to see regional plans to improve public and non-motorized transportation. This connectedness will benefit both the commuter and visitors to the area.
5) During the Traverse City Film Festival and Friday Night Live, I have enjoyed the walkability of the closed E Front. With some creativity, perhaps those closed blocks could be a permanent feature of downtown TC.
6) Finally, I am happy to see the reference to Complete Streets. Many times this proves to be lip service only. I encourage all entities involved in the writing of this report to follow through. We have plenty of roads. Build more and they (motorized vehicles) will come...and hurt what makes this region so special in the long run.
-Carol Danly

Comment #6

Please focus on the principles of the Grand Vision. This means placing very high priority on repairing and improving existing roads before initiating any capital improvement projects. The Hammond-Hartmann bridge idea is far too expensive and continues to be a bad idea for our region.

- Greg Reisig

Comment #7

I believe your Draft Long Range Transportation Plan needs significant changes. Emphasis needs to be placed on reducing traffic rather than building new and wider roads. Grand Traverse County can't afford to maintain the roads it has, so why would it consider a destructive project like extending Hammond Road over the Boardman River. The one such project that may be worthwhile is upgrading Keystone and Beitner Roads. Curb-cuts on S. Airport Road should be reduced.

- Fred Cepela

Comment #8

Link to document:
https://docs.google.com/document/d/1EvT4gMLnqpGO6rLIGdbCsUx5yhyfUqJNuHGxvovCJz8/edit

Link to aux comments on goals: https://docs.google.com/document/d/1MkhuiTMIf23RRx_-tiKpM15iRFm9O_CJjFBHWEJYRJo/edit

What's in the document:

It is important that programs have measurable results so that (a) the program execution is not subject to the problems of interpretation, and (b) the effectiveness of the program can be judged and improved. Terms such as “quality of life” need to be narrowed down to measurable specifics in the next level of planning. Environmental impacts need to be specified. Etc. Another reason for having a short list of goals is that it’s hard to manage a program that has too many things to keep track of.

We need a short list of measurable results that map to the goals and define success for the program.

And… data. We need the ability to measure what’s really happening so that we can judge whether we’re actually succeeding and a number of these measurements can and must be accomplished in real time by sensors out in the world. They’re not that expensive and our area is not that large.

We need to significantly increase our ability to measure traffic and transit conditions.

Given that we elevate “quality of life” to one of the top goals, I suggest that we focus on decreasing the amount of transportation used and increase the effectiveness of transportation.

In particular:
there is a significant labor force that commutes into Traverse City for work;
there is part of the population who can’t afford cars;
single passenger transportation is highly inefficient, produces the most pollution;
professional drivers produce fewer accidents than amateurs.

A: with respect to the labor force commuting to Traverse City, I assert that this is a failure in economic development, and should not be compensated for or subsidized by the transportation

system. I'm deeply sympathetic to the real economic problems of modern life in general, and this area in particular… please don't confuse my assertion with a lack of concern for the very real problems of people living in the surrounding areas who can't find meaningful or sustaining work nearby.

That said, it is not scalable to fill up the area that is a forty or fifty minute drive from the center of jobs with people, and then create transportation networks that can move them to and from the core every day for work. We don't notice the lack of scalability when it's in its early stages. Our roads were mostly built for commerce and defense. Those uses create a significant subsidy for any individual use. If we make it easy and cheap to drive (or be driven) from far away… we are, effectively, encouraging that as part of the solution space for economic development.

The scalable answer for any of the communities involved is to have people living close to work, extending economic zones throughout the city core and increasing living density as a response to growth. The problem of jobs for people living in Sutton's Bay is an economic development problem for Sutton's Bay. Traverse City's economic development problem is one of moving jobs off of Front Street and into the Union, Cass, and Woodmere neighborhoods; into the Commons, Slabtown, and Warehouse District neighborhoods. And, to create the combination of incentives and deterrents that will bring people living closer to work, including enough affordable housing to support the workforce that can live close to these jobs.

We need to remove subsidies for parking, mass, and individual transportation that create the wrong settlement patterns. For example, if we make reliable, regular bus service to Sutton's Bay (chosen only as an example… there are numerous other examples but it's easier to work with specifics) we will be making it easier and more desirable to live in Sutton's Bay and work in TC. Living in TC is probably not impossible but would require some undesirable sacrifice (smaller home, non-preferred school choice, moving, employers increasing wages, etc.)

The next step in the progression is that the existing busses fill up. There will be no bus riders who deserve the service any less than any others. It will be difficult to turn riders away. More busses will need to be added. The same is true for providing high level of service roads between job centers and outlying areas — in doing so you are subsidizing the option to live far from work.

Basically, you can't subsidize something a little bit and just temporarily… you are only delaying the pain because the subsidy becomes part of the operating conditions. If the roads are built up so that it's a viable choice to live 45 minutes away… people will do so, and they won't have to pay when the system reaches its scaling limits. The costs which should be borne by employers and employees become a shared burden that the taxpayers and transit-users of the area are forced to assume in order to keep their use of the shared resource sane, not threaten tourists with discomfort, etc.

(There is an analogous situation in Silicon Valley with the employer busses. Originally, Google provided high quality bus transport from San Francisco and a few other areas as a way to attract talent from San Francisco to work at Google, which was headquartered in Mountain View, fifty miles to the south. As an unintended consequence, they now (a) made living along the Google bus corridor desirable distorting housing prices, and (b) made it much easier to choose to join Google and move to San Francisco. Other Bay Area employers have matched the service which has caused a significant warping of real estate in San Francisco. It would be very painful to get rid of these bus services.

These employees might have lived in San Francisco even without bus service, worsening road

congestion. Given the problem they were solving, originally, I contend that some majority of them would have sought employment elsewhere. And, there should probably be tolls on the roads or "distance traveled" taxes, besides, to prevent this sort of pattern from developing since the exploitation of the subsidy we make for "free" roads is a burden on everyone. We want structures to induce commerce, not waste.)

We should be avoiding programs that compensate for failures in economic development. Transportation programs need to explicitly avoid indirect subsidies for lifestyle choices.

B: With respect to broader needs, the transportation planning should take into account changes in technology and culture. Transportation is likely to become a utility and that will affect future conditions, using professional or autonomous drivers as a mainstay.

Cars are not what they used to be. For generations cars were the enablers for an increasingly mobile society. They were the iphone of the 20's-70's. Lately, the trend has been reversing itself. Cars have become so expensive and walkable, urban living has risen sufficiently such that young people are choosing, more and more, to do without cars.

I work for Google and have seen the dramatic progress that's been made in things like self-driving cars from a reasonably close distance. Five years ago I was treated to a hair raising race around a slalom course in a self driving car (we were challenged to beat its time driving manually… no one was able to). The cars were regularly zipping up and down the freeways, through Palo Alto, etc. Several years ago my boss was one of the executives being driven to and from work in a self driving car. The technology has been well incubated already. Most major auto manufacturers are developing autonomous vehicle programs, sometimes jointly with research institutions.

Self-driving cars mean that the same amount of transportation can be accomplished with vastly fewer cars, and vastly less capital investment wasted through cars parked in driveways. At the same time, Uber is ubiquitous in metropolitan areas. They, Lyft, and others are driving new efficiencies into chauffeured service. This plan should incorporate ideas around how this region can effectively accommodate these changes in technology.

Autonomous vehicles are vastly easier to plan, since they can work with the same sorts of well-understood network routing and congestion mechanisms used in computer networks. They should be vastly safer than human-operated vehicles. So, there are significant upsides. But, as transportation becomes a utility there is an increased danger that the benefits of plenty can turn to the problems of overabundance. Once the barrier to using transportation is further lowered, the likelihood of road congestion being the limiting factor is further increased. For very long times, chauffeured and human-operated and autonomous vehicles will share the same roadways, and share each other's problems and we need to accommodate the likelihood that the overall landscape is likely to change.

We can treat transportation as a utility, now. If we make a goal of providing a bus service that can be credibly used as an full featured alternative to owning a car, and commit to operating it at scale, we will be providing a dense, efficient model of where transportation is going and we will be much better equipped to meet it where it is likely to end up, rather than using the solutions of the 50's to address problems of the 2020's.

All of this talk of building new roads or expanding existing roads is putting the horse before the cart, mechanism before solution.

The highest goals of the transportation system needs to be “quality of life” plus “facilitation of commerce.” Any goals that involve current transportation mechanism will induce creation of systems that are fragile and which won’t scale or adapt. We need to make a real, serious consideration of how to decrease the need for transportation, how to increase the current options for transportation, and how to anticipate trends that will radically shift our transportation landscape.
-Douglas Orr

Comment #9

General

This is a long report that could benefit from some trimming. However, I do not know if there is a required format with required data components.
The intended audience for this plan is a state agency which is going to understand terminology and the intent of the submission but other people are not going to have this familiarity. Hence, many comments are going to involve requests for clarification.

Specific

1. TC-TALUS is preparing this plan as if it was an MPO even though it does not qualify as one. I recommend you explain in the introduction what the requirements are for being classified as an actual MPO and what the potential benefits are to acting like TC-TALUS is an MPO.
2. Assign numbers and a descriptive heading to each figure and table. Reference them in the text.
3. P. 12, 3rd paragraph of section on Acme Township: The description of development proposals for Acme Twp. is outdated. A massive mall and housing complex is underway on M-72 but it is not mentioned in this draft report.
4. P. 57-58, Recommended Elements and Strategies: No mention is made of actions specific to rail despite considerable discussion on previous pages. Is this an oversight?
5. P. 60, LRTP Project List: The presentation of these proposed projects is inadequate. There should be some justification for their selection and an explanation of how they are related to each other. All four deal with east-west movement of vehicles serving businesses south of Traverse City and providing a route around the congestion of the city. The two Airport Road projects (1, 3) are complementary (an 'inner bypass') but the reconfiguration (3) should come first as the extension to Three and Five Mile Roads will route more traffic to Airport Road. Proposals 2 and 4 are competing alternatives for components of an 'outer bypass' around the city. If there is consensus on an overall strategy for dealing with the growing traffic from five highways coming together in Traverse City, then it should be used to place these proposals in proper context. Otherwise, these projects give the impression of an uncoordinated wish list of large projects that supporters hope to complete during the next 20 years.
Also, the year of expenditure stops at year 2025, which makes sense as it is the median year for a project that will take many years to fund, plan, and complete. However, reviewers may be confused as the LRTP is supposed to be for 20 years, that is, until 2035. A brief explanation would help.
5. P. 61: Is this list the previously described “Illustrative” listing of other projects that are being considered beyond the LRTP and TIP? Please clarify.
6. Appendix D: The percentages of ethic composition for a couple of figures seem unusual. Is Traverse City really 7-12% asian? Is Fife Lake Township really >20% black?
- Peter Albers

Comment #10

1. Within the plan, it would be helpful to outline how this plan relates to local master plans. It may help local planning commissions understand how to use the TC-TALUS LRTP in relation to their own master plans.

2. Recommend adding numbers and/or titles to tables, charts, etc. for easier reference.

3. On page 6, consider an objective stating that the transportation system shall connect land uses, particularly neighborhoods. This may advance the effort to make sure new developments connect with existing developments so that travel options remain available and traffic is not always funneled on to main thoroughfares.

4. On page 22, consider adjusting the population in the table to current population levels based on the percentage of seasonal increases. This may help people understand the actual seasonal population increase in today's numbers. Once the new seasonal population study is completed, then the more current numbers can be put in this section.

5. Just a minor typo - on page 29, 14th Street listed in the table should be 40.42%, not 4042%.

6. On page 42, under the Planning & Policy section, consider adding a line that states site development projects will be designed so as to ensure access to BATA stops on key corridors. When new developments are considered, it should be a part of the regular review process to see if transit is accessible to the site.

7. On page 51, consider expanding the fourth bullet under Planning & Policy to actually require sidewalks as part of private development in areas of higher density and for local units of government to adopt maintenance ordinances for the sidewalks. This community can't become walkable until sidewalks become a regular part of new development.

-John Sych

Comment #11

To: TCTALUS
Re: Future Road plans
From: Ann Rogers
1236 Peninsula Dr
Traverse city Mi 49686

I would like to go on record as opposing any inclusion of a proposed Hartman-Hammond bridge in the master plan for roads.
There are many reasons for this, but the most important 3 are these:

1. It is absolutely contrary to the principles set out in the Grand Vision Plan. This was put together after years of public meetings where a process of consensus produced a written document that should inspire planning in this region. In essence it favored compact towns with protection of the environment and farmland, not suburban sprawl.

2. It would cause destruction of wetlands in an area that is now being greatly changed by the removal of dams on the Boardman River. These are essential for flood control, and other factors for the health of the river.

3. It is cost prohibitive in these times of trying to maintain what we have. Current roads and bridges are in dire need of repair, not the building of more roads that require maintenance.

Ann Rogers
8/19/14

- Ann Rogers (Northern Michigan Environmental Action Council)

Comment #12

Thank you for the opportunity to weigh in on the draft TC-TALUS Long Range Plan.

As we read through the draft report, we were happy to find many ideas and strategies that we believe are important to our region's future. In the goals and objectives section, the report discussed land use and environmental impacts, including minimizing energy resources and reducing impacts on open space and agricultural lands. In addition, there were many good ideas in the recommended elements and strategies section for roads, transit and walking and biking.

We were very disappointed with Chapter 12, Project lists. There were no forward thinking projects but just more of the same, with plans for $281 million in road widening and new roads. This is disappointing because TALUS led the Grand Vision process and the land use and transportation

vision that came out of that process is one we support but not reflected in this document. The recommended projects in this draft plan seem to go back to the 1950's where we provided more and more road capacity to handle every whim and desire of the motoring public.

As our community increases in population, we need to facilitate more trips, but they do not need to be all by car. Instead of supplying more and wider roads, what are we doing to limit the demand side of the equation? Please take this opportunity to be creative leaders in seeking solutions. Car sharing and taxing gasoline may be part of the solution. Work with employers to spread out rush hour trips, and charge the full price of parking. Better transit, more and safer bike routes and pedestrian facilities, and strategically placed housing that reduces trip length. As younger generations continue to not follow their parents into inconvenient suburbs, there will be intense pressure to have more people live in compact communities where trips are short and pleasant.

Please change this document and start moving our region in the right direction. Offer regional transportation projects that move us forward in addressing a future that is living with the challenges of climate change and limited and expensive fuel. Can TC-TALUS lead us efficiently and effectively into this future? It seems that TC-TALUS has the proper mix around the table, but where is the leadership?
-Bob and Laura Otwell

Comment #13

I would like to suggest that future improvements to the Greilickville Commercial Corridor be added to the Key Projects List located at the bottom of the Executive Summary page. Proposed, relatively low-cost but high value improvements might include the following:

1) A signalized intersection at M-22 and East Brewery Creek Lane in way of the Subway shop and across from Greilicville Harbor Park as part of a possible re-routed East Grandview Road project.
2) Possible closure of numerous curb-cuts along the west side of M-22.
3) Reclamation of portions of the dedicated 1 mile middle turning lane to install boulevard sections that could provide safe, at-grade crossing opportunities.
4) Future possible installation of decorative lighting along the corridor's length.
5) Future possible improvements to the M-22/M-72 intersection.

Please recall that the Greilickville Commercial Corridor was identified during the Grand Vision planning process as a Corridor of Regional Significance.
Please also consider the above request as Elmwood Township's public comment during the ongoing public comment period for the TC-TALUS 2035 Long Range Transportation Plan.
-Jack Kelly

Comment #14

Specific Comments:
Regarding the excellent summary spreadsheet, please also include the following pieces of information
--for row segments, include Crash Data with both A & K represented
--for column segments, include installation costs for each
--also maintenance costs for each column segment
--please include brief mention of environmental assessment considerations for each column (or degree of difficulty/hoops to jump)
--please consider making grades of shading to more accurately represent projected changes in VC (small changes shaded lighter than more dramatic changes - some differences are frankly *de minimus* and therefore the color is actually misleading)

Please include projected future maintenance costs related to any new projects and display those numbers directly next to the installation cost.
Be sure to also include projections for insurance claims, erosion, stormwater management, environmental mitigations,

Page 27
What does the "rank number" mean? is high more accidents? how do A & K factor in?

See also GTC Planning Staff Comments

General Comments:
My level of confidence is low regarding the population projection mapping strategy that assumes growth centered around existing villages.
Though this is the community preference, it is not necessarily trending. It would behoove us to also consider different community build-out scenarios and what affect those patterns have on traffic patterns well before coming to a prioritized recommendation for new assfault. To get to the assumed landuse pattern will take a coordinated set of strategies between local gvnts, transportation authorities, developers and more. Make the case for that in this document.

Please make Demand-Management Strategies a Priority
Just as the kilowatt of electricity NOT used is the least expensive kilowatt, the driven miles prevented are less expensive than roads and maintenance. There are a great many people in the community interested in helping TALUS and the community have a constructive dialog about creative strategies. **Get help to engage with them.** Creativity is critical for meeting the needs of the next 50 years as we head into increasingly volatile costs and other changing dynamics such as transportation patterns - e.g. senior populations who can't drive are increasing; millenials have acquired fewer drivers licenses than any previous generation since the auto.
- Sarna Salzman

Comment #15

The Michigan Land Use Institute is pleased to submit the following comments to the TC-TALUS Board regarding the TC-TALUS Long-Range Plan.

The Institute is thankful that the public can provide feedback on the plan; believes transportation demand management should be made a much higher priority; and, is pleased to see that the upgrades to Keystone and Beitner roads remain top priorities.

MLUI commends the TC-TALUS board for its open and transparent public input process regarding the long-range plan. Over the past decade, the board has ensured that transportation planning in this region is transparent, and the extensive public input process through the Grand Vision set a new standard for community engagement. The fact that groups and citizens are encouraged to provide input into this document shows the board's dedication to an open and inclusive process.

MLUI believes that the draft long-range plan fails to incorporate recent polling and data showing increased demand for greater transportation choices in the region.

A 2012 random-sample survey revealed that most Grand Traverse area residents favor increased investments in trails, sidewalks and bus service; would tolerate additional traffic in villages and cities if jobs and amenities were within walking distance of parking; and, would prefer to see existing roads repaired and improved before new and wider roads are built.

Further polling shows increasing demand for transportation choices, especially among young people:

According to a recent survey by Transportation for America and the Rockefeller Foundation, 54 percent of millennials (people aged 18 to 34) would move to another city if they could be less reliant on a car, and 86% of them said they want public transportation.

When asked how the Traverse City area should look in five or ten years, TC Young Professionals said, “All modes of transportation would be accommodated and supported through the transportation network.”

When MLUI surveyed more than 1,500 Traverse City-area employees about their commutes, many said they wanted more transportation options like transit, biking, and walking, but felt that those options aren’t available, and if they are, they aren’t convenient.

National transit ridership is at its highest level since 1956, according to a new report by the American Public Transportation Association.

Per-person driving in Michigan has dropped by nearly 7 percent since 2005.

The TC-TALUS long-range transportation plan, however, fails to prioritize demand management strategies that reflect changes in public sentiment and trends in transportation. The long-range plan should place a higher priority on lower-cost and more effective transportation demand management strategies—like ride sharing, reliable express bus service during busy travel times, and safe bike networks—that carry public support, reflect changing trends, and fill a pent-up demand.

Technology is advancing rapidly, too. Self-driving cars will reshape how Grand Traverse area residents think about the automobile. Planners and automotive executives predict that self-driving cars will increase the demand for sharing cars since vehicles will be able to circulate through neighborhoods and continually pick up and drop of passengers. The need for more reliable bus and bike infrastructure will increase as the percentage of cars ownership and drive rate continues to decline.

Advances in train technology and the Michigan Department of Transportation’s recent emphasis on passenger rail could make travel by streetcar or train on existing railroad tracks another option for Grand Traverse area passengers.

Meanwhile, while the Bay Area Transportation Authority (BATA) has improved its service and perception over the past few years, it’s still not a priority among other transportation agencies and municipalities within the TC-TALUS area. Because it’s not a priority, it becomes a challenge for BATA to provide reliable, on-time bus service on the most heavily traveled routes. Without proper bus turn-outs and safe pedestrian networks around potential stops, BATA often avoids the key streets with the heaviest traffic and is unable to increase ridership among commuters.

If state and local transportation agencies and municipalities made BATA’s proposed route changes a priority, more commuters could take advantage of bus service, reducing traffic on our heaviest streets, reduce parking demand, and increasing transportation choices.

The plan’s executive summary should acknowledge that, though many Grand Traverse area residents are willing and able to get around by car, the demand for transit and a safe bike networks

is growing and that transportation agencies should take proactive steps to meet this demand.

MLUI also suggests that, in its executive summary, TC-TALUS include BATA's proposed route changes in the list of "projects essential for the growing region."

MLUI is pleased that the plan includes a commitment from local transportation agencies to maintain and improve their existing roads—specifically Keystone and Beitner roads in Grand Traverse County.

In the era of tight federal, state, and local transportation budgets, agencies must prioritize their existing roads before adding new ones. In fact, according to the Grand Traverse Road Commission, only 20 percent of the roads in Grand Traverse County are rated as "good"; it will cost $85 million just to get the other 80 percent back to "good" condition.

By upgrading the existing Beitner and Keystone roads from Chum's Corner to Hammond Road, local officials would have a more sensible bypass for cars and trucks traveling around the city.

Why Keystone-Beitner?

Adding an additional two lanes to Beitner Road could take about 10 percent of the traffic off Grandview Parkway, according to MDOT's traffic forecast.

Even if the Grand Traverse County Road Commission eventually adds new capacity somewhere else in the road network—the Hartman-Hammond connector, for example—traffic on Beitner Road is expected to be far above capacity within a few decades, according to MDOT traffic projections. The road commission needs to upgrade Keystone-Beitner, anyway, and we should invest in existing infrastructure first.

Many groups around the Grand Traverse region, including business associations, MLUI, and other environmental groups have all endorsed the Keystone and Beitner roads as a sensible bypass for trucks and commuters.
-James Bruckbauer (Michigan Land Use Institute)

Comment #16

I have reviewed the documents and after contemplating for a few days and driving around town, I realized one thing. There will always be a traffic issue because there is no solution. It mainly has to do with the location of the city. Just like Chicago on a lot smaller scale. The problem stems from the city being on the water and all of the focus is on downtown and bringing people there. We can't have the visitors bureau and others working so hard to bring visitors in and then when they come, complain that the roads can't handle it. We can't try to have everyone drive around (as in a bypass) the city when most of the time, the city is where we are driving to. Even when you drive to Wisconsin, you don't drive around Chicago, you enjoy the views and know it's going to take a little longer (and there may be an accident!). I used to think, if you don't like driving across town then move to the side you are using. Now that I'm in that situation because of a job change, it's not so easy to say that. I am not going to complain about the traffic, it is very congested in the summer, and can be frustrating but, looking at the study, there is not a solution that is worth the costs. There are three ways I can take across town as identified in the report. If I'm heading downtown, I take 31-72-Munson-front. If I am heading towards the mall or Meijer, I may take eighth to 14th or south airport. If I am going to soccer fields, I take Hammond. All the roads we currently have satisfy these needs. Would Hammond be quicker if it connected to Hartman? Maybe, but I would never use it because it leads to nothing. I am not going to drive that far south of town just to get to the other

side and then drive back into where I need to go. My point is the costs and building of that road(Hammond Hartman) seems like it would only benefit a few people, I certainly wouldn't expect this road to be built just so the few thousand people that may live on the east side of town have a way to get across town. I want to drive through town to see the water and beaches, and I know it may take me longer but plan for it and try to not let the traffic bother me. As the city grows and fills in with more office buildings and commercial use, it is only getting worse. If some of the outlying town centers can also develop, maybe some of the local traffic can stay closer to where they live or become walkable. But the tourist traffic will always be here and there is no solution other than more busing, biking, and walking.
-Eric Breithaupt

Comment #17

I skimmed the plan, mostly concentrating on the Traverse CIty portion. I am most in favor of accommodating pedestrians and bicycles better with friendlier streets, many more sidewalks and bike paths, and more places for people instead of cars. I would prefer placing parking structures on the outskirts of the city with transit and pathways leading commuters and visitors to the city center. This would ease traffic inside the city rather than the proposed parking in the center that would drive more traffic into our core. I am also opposed to the idea of the Boardman Lake Road...it seems unnecessary to me at this time without trying other modes of transportation first along that corridor along with satellite parking/transit. The changes in lane configurations from 4 to 3 lanes is a great idea on both 8th and Garfield. I have lived in places where this has been with tremendous success. This type of thinking is exactly what we have been missing for some time and I hope to see it implemented. So basically, enough with the cars - let us bike, walk, and take transit please.
-Bill Clark

Comment #18

Analysis of TC-TALUS Road Scenarios

Questions
How is it that the 2035 VC *doing nothing* is slated to *improve* on 3 Mile from 1.15 to 0.83? Is this an error?

Hammond-Highland Suggestion
If there is concern about the community's acceptance of a Hammond-Highland project, due to its long history of debate, I suggest we rename this project. Various names could be suggested. Perhaps US-31-to-Keystone Shortcut. Of course, this won't solve the issue completely, but perhaps would assist.

Modeling Note
We have been told that TC-TALUS "cannot" model something like "Beitner+31-Keystone", because that would be over budget. This is very unfortunate. Based on the modeling so far, 31-Keystone is superior in almost every way to the South Airport extension. (The only two corridors for which S Airport is meaningfully better than 31-Keystone are already solved with the Beitner project.)

Thus, with the limited data available, it is a very good guess that the right answer for the County is to do Beitner and to save all the rest of the budget to do 31-Keystone as soon as possible. If someone can find a way to model this combo, whether on personal time or whatever, the answer would be very beneficial to our planning.

Analysis of Road Projects

Solve Today's Problems
Perhaps we should concentrate on fixing the corridors that are already the worst.

Top 5 Worst Corridors Today	Today	2035	2035 Projection S. Airport	31-to-Key	Beitner
South Airport	1.2	1.6	1.6	1.4-1.5	1.5
Beitner	1.2	1.7	1.7	1.6	0.8
Keystone	1.2	1.4	1.5	1.2	0.8
3 Mile	1.2	0.8	0.6	0.8	1.5
14th	1.2	1.7	1.7	1.5	1.1

- The South Airport project only meaningfully addresses one of these corridors (3 Mile). And this corridor is already slated to improve to 0.8 without this project (see above question). Conclusion: This project does not have a meaningful impact on the corridors that are the worst today.
- The 31-to-Keystone (Hart-Hamm) project only meaningfully addresses one of these corridors (3 Mile). And this corridor is already slated to improve to 0.8 without this project (see above question). Conclusion: This project does not have a meaningful impact on the corridors that are the worst today.
- The Beitner project meaningfully addresses three of these corridors (S Airport, Keystone, and 14th). Conclusion: This project has the biggest impact on corridors that are already the worst.

Minimize Future Problems

A second way to determine the best option is to improve the corridor that minimizes the future problems.

Worst Future Ratios

2035 Projection S. Airport	31-to-Key	Beitner
2.1	1.9-2.3	1.5
1.7	1.6	1.5
1.7	1.5-1.6	1.5
1.6	1.5	1.4
1.5	1.4-1.5	1.3
1.5	1.3	1.3

- Overall, the South Airport scenario results in the most congested future. It has 4 corridors over 1.5, and one as high as 2.1. Conclusion: This would not be the top choice project.
- Overall, the 31-to-Keystone (Hart-Hamm) scenario results in the second most congested future. It has 2-3 corridors over 1.5 (depending on which version of this scenario is chosen), and one as high as 1.9 or 2.1 (depending on which version is chosen). Conclusion: This would not be the top choice project.
- Overall, the Beitner scenario results in the least congested future. It has no corridors over 1.5. Conclusion: This would be the top choice project.

Recommendations

1) The Beitner project should be selected for multiple reasons. It has the biggest impact on the corridors that are already the worst. It also results in the least congested future overall. It fits within the budget. And it doesn't happen to be the Hartman-Hammond project, with its community sentiment baggage.
2) Find a way to model "Beitner+31-Keystone". Confirm that best option with leftover budget is to save to do the 31-Keystone as soon as possible. If can't find any way around red tape to model

until it is "within the budget", based on the limited data available (see page 1), decide to save this leftover budget and re-make this plan as soon as 31-Keystone would be within budget. Of course, modeling will be re-done at that time to confirm decision.

- Re-making this 20-year plan in about 6 years may add enough funds into the budget to implement 31-to-Keystone.

3) If recommendation #2 is not followed and secondary projects are considered to use up the leftover budget, the model should re-run any secondary projects in conjunction with Beitner.
   - It only makes sense to consider a secondary project if the combo of the two projects is a meaningful improvement from the solo Beitner project. If needed, to get through the government red tape, make the combo a single separate scenario (e.g. "Beitner + South Airport" or "Beitner + Bypass").
   - Rather than saving the leftover budget until the entire 31-to-Keystone project can be implemented, a portion of 31-to-Keystone could be built that stays within the budget. Model a Beitner combo with various partial 31-to-Keystone scenarios (e.g. the Silver Lake to US-31 section only).
     - Various parts of 31-to-Keystone might be able to avoid the emotional baggage of "Hartman-Hammond".
   - A Beitner combo with S Airport may be a decent combo because the S Airport project positively impacts the 3 Mile Corridor (which just so happens to be the corridor with the max ratio under the Beitner-Only scenario (1.5)). However, I do not recommend this versus using the money on 31-to-Keystone, because 31-to-Keystone also addresses this corridor and is a better project on almost every corridor.
     - Note: If a decision is made to do S Airport anyway, the chart does not show any reason to spend the extra money to extend S Airport to 5 Mile (versus just to 4 Mile). No corridors show any meaningful ratio improvement. Remodel in combo with Beitner to confirm.

-Cori Nielson

Comment #19

Page 52 in the report (59 overall)

On the page "Freight/Air/Rail/Water transportation includes transportation systems that move freight and commercial packages and passengers through the transportation system. It is an essential component of the region's economic activity and strength. It operates on a larger scale than personal vehicle travel and can sometimes conflict with other transportation mobility issues."

ADD

The value of freight movements throughout Michigan totaled over $520 billion in 2009. Michigan commodity movements modal split by tonnage include 67% of goods are transported via Truck, 19% via Rail, 14% via Water, and 1% via Air in a 2012 report.

http://www.michigan.gov/documents/mdot/MDOT_FreightWhitePaperFinal_9_2012_414531_7.pdf?20140417104122

Page 56 in the report (63 overall)

From the page "Implementation of passenger rail service to Traverse City and/or Petoskey was consistently identified as a top priority through the State Rail Plan public outreach effort. Supporters argue

that regular passenger rail service would provide a substantial benefit to the region by providing transportation alternatives for visitors and residents alike. This plan recommends that MDOT initiate a feasibility study of passenger rail service to this region of Michigan that considers potential routes to both Detroit and Chicago. The design, construction and implementation of this service are included in the Better and Best investment packages, depending on the outcome of the feasibility study and the availability of funding." ADD Other transportation studies include the Michigan Land Institute study *Getting Back on Track: Uncovering the Potential for Trains in Traverse City* available at http://www.mlui.org/userfiles/filemanager/3253/

From the same page
"The Grand Traverse Band of Ottawa and Chippewa Indians is currently exploring a ferry/water taxi service across Grand Traverse Bay to connect the Leelanau Sands casino facilities in Peshawbestown, Leelanau County with the Turtle Creek Casino in Acme, Grand Traverse County and provide more convenient transportation for tribal members to access tribal services and resources."
ADD (new paragraph)
Airport transportation is an ever changing landscape. The National Academy of Science published Special Report 263 – Future Flight: A review of the Small Aircraft Transportation Systems available at http://onlinepubs.trb.org/onlinepubs/sr/sr263.pdf.
-Tonya Wildfong

Comment #20
Comments:

Executive Summary
There is a paragraph at the end that reads, "The transportation needs of the Grand Traverse Bay region, however, far exceed the anticipated revenues available under present legislation. Incremental Federal and State special appropriations, grants and additional local funding have to be pursued to fund key projects essential for the growing region. These key projects are:…"
I read that as Road Commission/TALUS should be actively seeking funding for the key projects listed. If that is the case, I would like to be sure the non-motorized projects that have been prioritized are added to this list. Obviously they weren't modeled, but they have been identified as "key" projects. Those would be:
Boardman Lake Trail, 14th Street to South Airport Road
Boardman Lake Trail underpass at South Airport Road
Buffalo Ridge Trail, Silver Lake Rd to South Airport Road
TART Trail Extension in Acme, Bunker Hill Road to Lautner Road
Three Mile Road Trail, South Airport to Hammond Road

Intersections, page 27
Intersections present significant safety issues for pedestrians and cyclists as well. It would be good to note that there are several intersections identified as important safety concerns for non-motorized users. Those intersections include
14th Street and Division Street
Grandview Parkway (M-22) and Division Street
Grandview Parkway (M-22) and M-72
7th Street and Division Street
11th and Division Street

Page 30 – Is the TDM growth rate listed for Corridor 9, 14th Street incorrect? Is it 4,042%?

Page 31, Complete Streets

Consider adding introduction and definition of Complete Streets and how many local jurisdictions have adopted a Complete Streets Resolution
Text to consider for Complete Streets Definition/Introduction

> Residents and visitors to Northwest Lower Michigan want choices in how they connect to places, goods and people. This has been consistently expressed through public input and increasingly through personal action; nowhere more clearly than in the Grand Vision, where 90 percent of respondents identified a more walkable, connected community as a priority. This commitment and interest was recently reconfirmed in a follow-up survey from the Grand Vision.
> A Complete Streets approach to transportation planning, design, construction, and maintenance is an important tool to move forward with the vision of a regional multi-modal transportation system. A Complete Streets approach recognizes and provides for a transportation network that serves more choices and more connections for the community. It considers that the entire right of way, from property line to property line, is assessed on street projects in order to provide the best accommodations for people on foot (including people using wheelchairs), on bike, taking transit, or driving in motor vehicles. Using this approach, road networks are designed, constructed and maintained to be safe, comfortable and inviting for individuals of all ages and abilities.
> Complete Streets is also an opportunity to simultaneously address another guiding principle of the Grand Vision, which is to *protect and preserve water, forests, natural and scenic areas*. In some regions, Complete Streets is integrated into a Living Streets Plan that achieves goals of accessibility and equity, while serving community sustainability goals. All of which are valuable tools to achieve a stronger economic environment.
>
> Local agencies that have adopted a Complete Streets resolutions:
>
> a. Acme Township
> b. City of Traverse City
> c. Kingsley
> d. Garfield Township
> e. TC-TALUS
> f. Grand Traverse County Road Commission

Feel free to include the Complete Streets report TART and LIAA compiled as an appendix

Intersections, page 35
There has been significant work done on round-abouts in the region. Perhaps including a section with Future Road System would be appropriate.

Recommended Elements and Strategies, p 37
Objective: Maintain and Improve Existing Road System
Add transit to second bullet of Data, Education & Outreach
Last bullet – maybe it's not "create" a public education program. There are several in existence including Smart Commute Week (that TALUS was a long-time sponsor of) and Local Motion. Consider changing the wording to "support public education programs…"

Existing Non-Motorized System, p 46
In the paragraph starting with "The following trails were developed in partnership with…" please add the City of Traverse City to the list
Leelanau Trail
Please edit text to: The Leelanau Trail was founded by the Leelanau Trails Association, a non-profit trail advocacy group. Stretching over 17 miles through a former railroad corridor, the Leelanau Trail connects Traverse City and Suttons Bay. The trail is owned and operated by TART Trails, a non-profit trail advocacy

group. Trail development was largely done through private fundraising with significant support in recent trail construction from MDOT, the MDNR Trust Fund and the Village of Suttons Bay. The route winds through rolling hills, lush forests, picturesque orchards, peaceful meadows, and an aquatic medley of streams, lakes and ponds.

Boardman Lake Trail
Please edit text to read: The Boardman Lake Trail was developed in cooperation with Grand Traverse County, Garfield Township, the City of Traverse City, and MDNR through a Natural Resources Trust Fund Grant. The trail extends two miles along the eastern shore of Boardman Lake and 0.75 mile including a pedestrian bridge across the north end. The trail is composed of asphalt, crushed limestone and boardwalk. The trail is connected to the TART Trail, Traverse Area Sailing Center, Traverse Area District Library, and the Old Towne Neighborhood. The trail is planned to connect to the Grand Traverse Nature Education along the Boardman River south of South Airport Road. Plans call for the trail to extend around the western side of Boardman Lake.

Buffalo Ridge Trail
Please add TART Trails to the sentence of "Funding for Phase II was secured through the Oleson Foundation, TART Trails, DNR Trust Fund and Garfield Township." Please change the last sentence of the trail to "The trail is planned to connect to Silver Lake Recreation Area."

Boardman River Trail
Please replace Traverse with at South Airport Road in the third sentence of the 2nd paragraph.

Mall Trail
Please edit text to read: The nearly 2-mile long Mall Trail parallels US 31/37 from 14th Street to South Airport Road near the Grand Traverse Mall. The Mall Trail connects downtown Traverse City residents with many commercial businesses and restaurants.
The Grand Traverse County Road Commission built the Mall Trail in 1997 with the financial assistance of the Charter Township of Garfield, City of Traverse City and the County Board of Commissioners, The Mall Trail within the city limits is managed by the City of Traverse City; outside the city limits is managed by the Grand Traverse County Road Commission and Garfield Township.

Please move the last sentence under the Mall Trail "The TART organization sponsors.." to its own sub-heading Programs

TART Trails does extensive outreach to trail users (both residents and seasonal visitors) about the trail system. TART Trails publishes and distributes thousands of trail maps each year to MDOT visitor centers, the Convention and Visitors Bureau, area businesses, and trail-side kiosks. TART Trails promote events on the trails so that people are exposed to the fantastic trail system. Through social media, TART's website and print materials reach thousands of residents and visitors each year.
TART Trails has over 120 trained Ambassadors and over 300 volunteers dedicated to keeping the trail system in its best condition. TART Trails' maintenance program essentially functions like an Adopt-A-Trail program. Trail Ambassadors help clean, clear and inspect the trails on a daily basis.
TART Trails plays an important role in cultivating and encouraging community support of a system of non-motorized facilities, connecting visitors and residents to trail network where they can enjoy the multitude of benefits trails provide. TART is also leading an education and outreach effort on Complete Streets in the region. TART Trails regularly reaches out to community groups to talk about the benefits of a walkable/bikeable community and the role trails play in the economic, social and environmental health of the region. TART helps facilitate community discussions on trail design and development issues and works closely with our local government agencies and businesses to help design and construct the best possible non-motorized network.

Please Delete US 31 Bike Path – it's the same thing as the Mall Trail.
Future Non-Motorized System, p 49
Leelanau County Priority Routes
Add: Complete Sleeping Bear Heritage Trail
On-Road Bike Facilities
Please consider changing text to : On-road bike facilities are an important part of the transportation network. On-street facilities provide transportation options, calm traffic, expand economic opportunities, improve health safety and the environment and enhance the trail network.
Pedestrian Facilities, p 50
Please delete "..the following projects were identified as priorities for trail development." From the last paragraph.
Anticipated Work Plan Items for 2015-2018
Please add:
G. Work with City of Traverse City to implement the Traverse City Active Transportation Plan

Recommended Elements and Strategies, p 52
Please consider editing the text to read, Objective: Expand non-motorized infrastructure
Data, Education and Outreach
Consider rewording second bullet to read, "Work with agencies and organizations to implement and data collection and monitoring system to measure and better understand non-motorized transportation use
Consider adding bullet:
"Support and leverage public efforts that emphasizes use and safety of the non-motorized transportation network"

Planning and Policy
Consider adding bullets:
"Update regional non-motorized plan"
"Investigate means to require non-motorized infrastructure development as part of zoning requirements"
"Investigate alternative funding sources for non-motorized transportation"

Development and Implementation
Consider adding bullet:
"Consider addition of on-street bicycle facilities when any street resurfacing project is identified"

Transportation Improvement Plan – Project List
Please Add Non-motorized projects identified in Garfield Township, Traverse City and Acme Township
What about LaFranier, Lautner, Bunker Hill and 8th Street Bridge and West Front with the City?
-Julie Clark (TART)