

2010

# The Gaylord Business Corridor

TIGER II Grant Application



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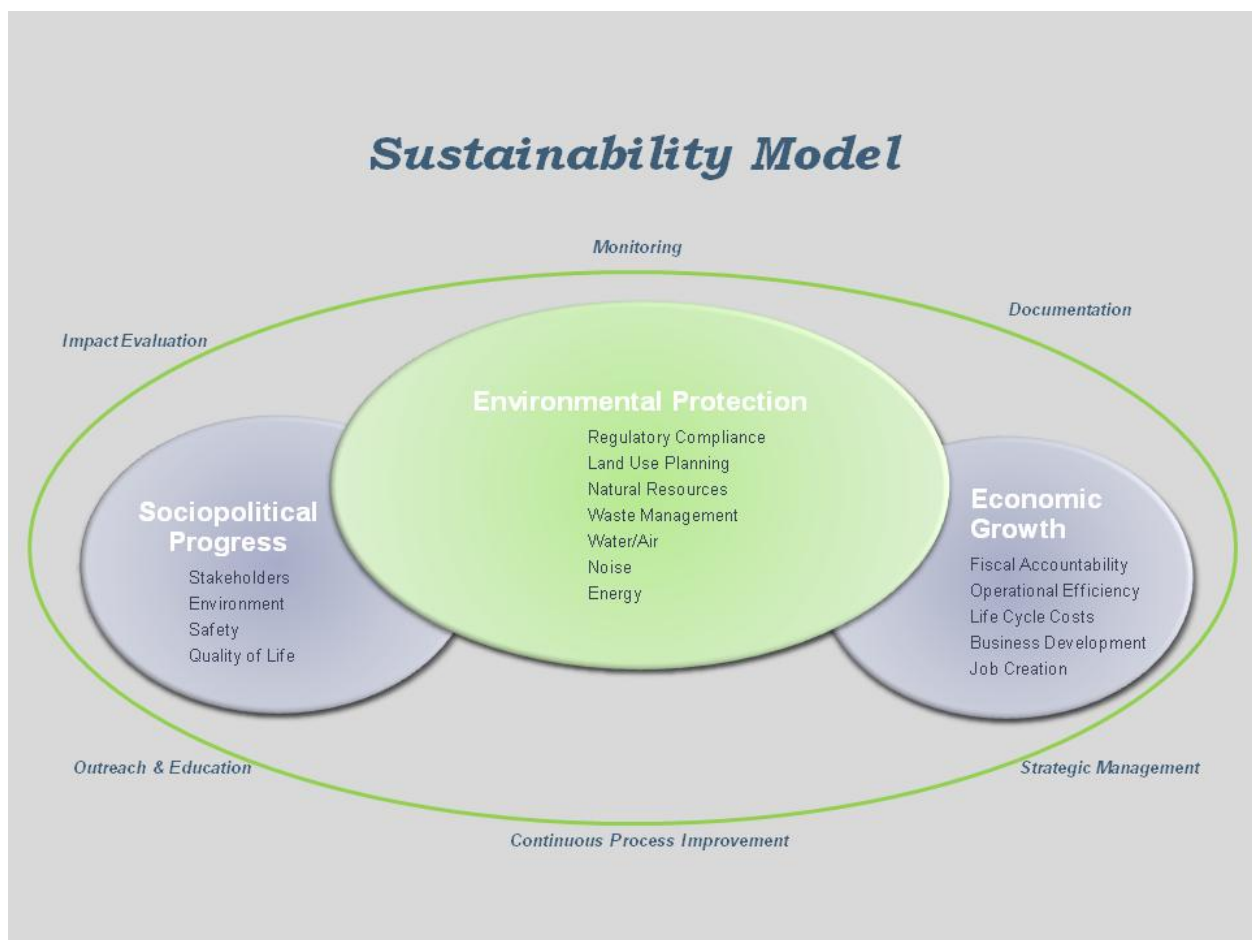
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## Executive Summary

The concept of sustainability has become a rhetorical catch phrase, while its overall meaning has been lost through the business of branding. "The earth's capacity to yield products for human consumption, to absorb or sequester human wastes (especially novel compounds), and to yield ecosystem services are all limited."<sup>1</sup> We need to be proactive and adopt an effective and efficient strategy, which serves to re-orient the concept of sustainability. This pursuit can best be understood as a social trajectory, a choice of paths.<sup>1</sup> Therefore, the Gaylord Business Corridor (GBC) project will be based on a process approach to sustainability. As demonstrated in Figure 1, there is an inequity between the main components of sustainability (inner 3 circles), however the primary obligation is to protect and preserve the environment through sound business practices and appropriate resource allocation. The processes driving sustainability (outer circle) are the factors that ensure its long-term success.



**Figure 1** (Created by Karyn M. Warsow, MS, MPH, DrPH Candidate, Johns Hopkins Bloomberg School of Public Health, Department of Policy Management and Leadership)

It is not possible to have a sustainable transportation infrastructure project unless it is integrated within an existing network and elicits a cultural shift in perception. This will require a re-engineering of transportation policy toward a system of accountability based on mechanisms of performance management. Therefore, the underlying premise of the Gaylord Business Corridor

(GBC) project is long-term sustainability measured through improvements in psychosocial progress, environmental protection and economic growth, which will be achieved through the following quantifiable objectives:

1. Reduce the congestion problem in the GBC by 25% to increase the east-west mobility at the I-75/M-32 interchange through the development of a newly constructed alternative infrastructure network.
2. Implementation of an advanced technology-based signal wide light and timing system to facilitate 20% greater efficiency in traffic flow and improve safety throughout the GBC.
3. Improve the existing GBC transportation infrastructure to facilitate a 20% increase in economic redevelopment of the central business district, South Otsego Avenue, West M-32 and the Gaylord industrial areas.
4. Improve the safety and quality of life in the community with the development of a Green Corridor through the central business district, South Otsego Avenue and the West M-32 trunk-line.
5. Decrease the number of traffic-related incidents by 20% through the development and implementation of the Michigan Research and Rural Traffic Safety Program.

*\*Please note that baseline calculations will be determined pursuant to the applicable traffic studies in the event an award is made to the City of Gaylord by the USDOT TIGER II Team.*

## 1.0 Introduction

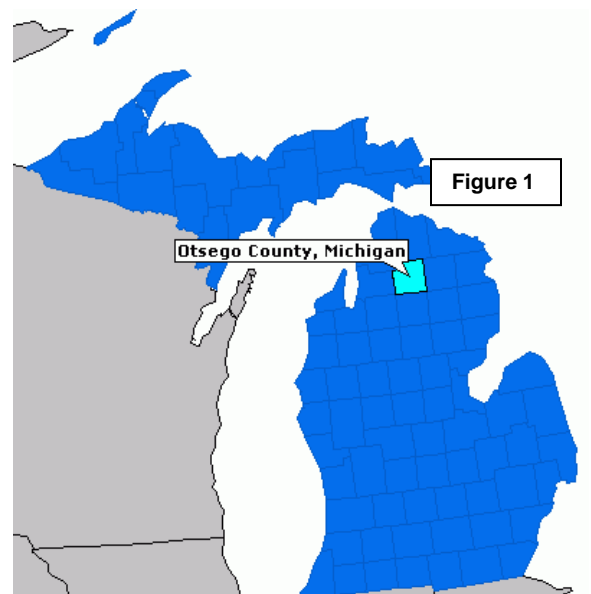
The City of Gaylord and Otsego County finds itself at the intersection of international trade and expanding regional economic growth. This creates both a challenge and a unique opportunity for the community. Building and constructing new roads, widening and improving existing roads through the development of the Gaylord Business Corridor (GBC) project will result in network effects within the entire system. It is anticipated that the GBC project will improve access to customers for businesses, reduced transportation costs and travel times, reduce the negative environmental impacts of congestion. In conjunction with the construction projects, the GBC project includes the creation of the Michigan Research and Rural Traffic Safety Program (MRRTSP) aimed at improving safety and quality of life within the community. A summary explanation of the modification made to the 2009 TIGER application in preparation for the 2010 TIGER II resubmission is available in **Appendix A**

[http://www.otsego.org/gbc/GBC%20Modifications%20\(USDOT\).pdf](http://www.otsego.org/gbc/GBC%20Modifications%20(USDOT).pdf)

## 2.0 Background and Significance

Situated at the 45<sup>th</sup> parallel and centrally located in Northern Lower Michigan, Otsego County, home of the Gaylord Alpine Village with its Bavarian style motif, is a popular recreational and tourist destination (i.e., golf and downhill skiing). Otsego County is also part of the Pigeon River Country State Forest, which is home to the largest free-roaming elk herd east of the Mississippi River. The region has a large seasonal population (not year-round residents) due to its rural geography. However, with a recorded population of 23,412 in 2009, it is ranked as one of the fastest growing counties in the state of Michigan with a 30% and 56% growth in population over last 10 and 20 years respectively. Much of this growth is a result of urban to rural migration of the aging and more affluent population retiring to the area, growth in the number of businesses and people choosing a lifestyle alternative, growth in health-related services, a growing demand for business support services and most importantly, growth in tourism and recreation.

According to the United States Department of Transportation (USDOT), Otsego County is classified as *developed rural*, meaning that it is supported by a mix economy composed of industrial and service based firms within the city limits and agricultural and natural resource (i.e., timber, natural gas and oil) based firms in the outlying rural localities.<sup>2</sup> These features coupled with a location on the I-75 north-south international trade corridor and the M-32 east-west state trunk-line intersection at the City of Gaylord has led to the development of manufacturing, wholesale and distribution industries within the community. The efficiency of the local transportation infrastructure is vital to connecting a populace within a 50 mile radius to such quality of life indicators as jobs, health care, shopping, schools, family, public services, businesses to customers, goods to markets, and tourists to destinations.



## 2.1 Community-Based Multi-Modal Transportation Services

In most rural communities, public transportation choices are often limited or unavailable. It is well documented that alternative transportation options, safer places to walk and bicycle all have positive health benefits due to increased physical activity, decreased fatalities and injuries and decreased pollution, thus improving overall quality of life.<sup>3</sup> The multi-modal transportation system in Otsego County and the City of Gaylord is working to provide for the transportation needs of local residents and businesses including a walkable community, passenger and freight mobility, intermodal connectivity and economic development.

### 2.1.1 *Otsego County Bus System*

The Otsego County Bus System (OCBS) provides safe, reliable and affordable transportation to all residents of Otsego County. The main patrons of the OCBS include senior citizens, people with special needs, students and persons of lower income. All busses have wheel chair lift capability and provide curb to curb service throughout the County. In 2008, the OCBS transported 110,000 passengers. The OCBS System works in close coordination with the Otsego County Commission on Aging (OCCOA) and assists in the Meals-On-Wheels delivery program of approximately 50,000 meals to home bound and needy residents of Otsego County annually. In addition, the OCBS provides transportation on a daily basis to over 25 local and state agencies. The efficiency and safety of this system is dependent on the flow of traffic throughout the GBC and the outlying rural areas of the county.

### 2.1.2 *Gaylord Regional Airport*

Located one mile southwest of the city, the Gaylord Regional Airport (GRA) provides general aviation service to corporate and recreational planes with commercial service currently in the planning stage. The potential for more enplanement is based solely on the surrounding interconnectivity of the land surface infrastructure. The GBC project will improve access to the airport and allow for future expansion. The GRA is owned and operated by Otsego County and licensed by the Michigan Aeronautics Commission as a General Utility Airport. It is listed as a tier one airport in all categories of the Michigan Airport System Plan.

### 2.1.3 *Railroad*

The restructuring of the Michigan rail industry has resulted in the abandonment of many branch lines throughout Northern Michigan making the region dependent on the movement of goods by freight. Nevertheless, Otsego County has worked to retain and increase the rail infrastructure thus providing service to existing companies such as A&L, a steel recycling operation; Northern Energy, a petroleum/lubricant supplier; and other companies dependent on large quantity shipments such as industrial sands and solvents needed to keep gas and oil wells open. Recently, the Michigan DOT invested \$2 million in new rail infrastructure in the Gaylord Industrial Park. The GBC project would complement these rail infrastructure improvements in the area to facilitate economic revitalization in the area.

### 2.1.4 *Pedestrian Mobility*

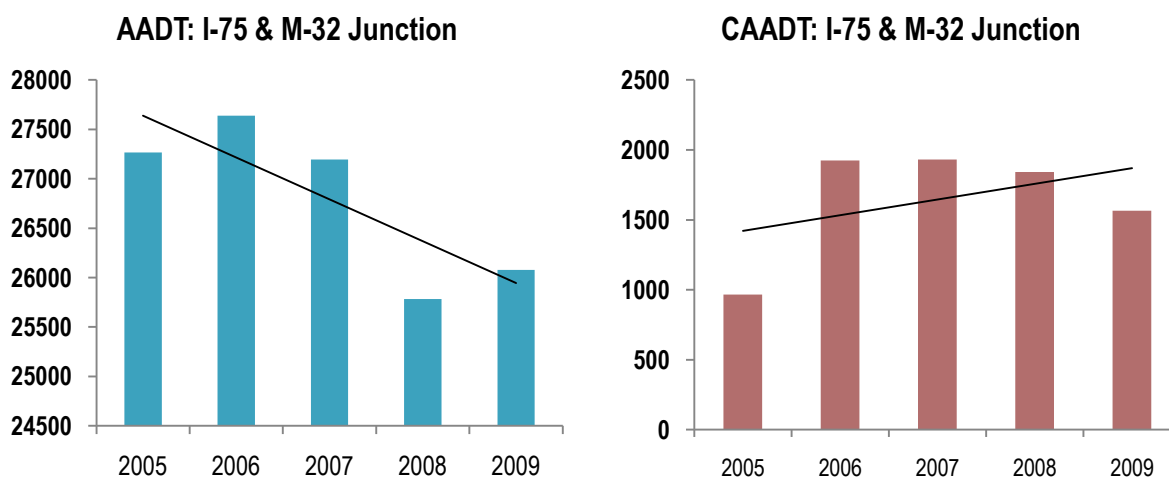
Bicycling and walking are becoming increasingly important modes of transportation as alternative methods to get to and from work, school and for recreation. Unlike the urban areas,



rural communities do not have extensive sidewalks or designated bicycling paths; thus residents may avoid such forms of transportation. Pursuant to the US DOT policy and in an effort to meet the needs and expectations of the local population, the GBC will advocate for the development of safe and convenient walking and bicycling facilities as part of the GBC project. The goal will be to encourage physical activity and pedestrian safety, but also to increase access to jobs, shopping and other services, thus improving the overall health and quality of life in the community.

## 2.2 Commercial and Passenger Traffic Volume

Commercial truck traffic at the I-75/M-32 interchange has increased from a CAADT of 965 in 2005 to 1,932 in 2007 with a slight decline in 2009 to 1565, signifying the economic decline within the community. The overall trend demonstrates the increasing problem of heavy freight volume at this vital interchange (Figure 2) within the community placing a greater capacity demand for new and/or upgraded roads within the GBC, while causing early deterioration of interconnected alternative roads not structurally engineered to support this type and volume of traffic.



## 2.3 Environmental Impact and Safety

Local community planning has made a concerted effort to preserve and protect the natural, historic, scenic, and cultural environment of Otsego County. However, there have been several environmental challenges that have resulted as a byproduct of growing travel demand and increased sprawl. The congestion on the M-32 trunkline within the city limits is of great concern due to an increase in emitted pollutants as a result of stop and go traffic, but also from a safety perspective. In 2005, there were 133 motor vehicle crashes (MVC) on this specific road segment; by 2007 the number of MVC had increased to 183. Based on data from 2008 to 2009 there has been an overall increase in MVC within the GBC by 4%. This increase in MVC is multi-factorial and can be attributed to an increase in congestion, decreased roadway capacity during peak travel periods, driver behavior and a lack of law enforcement due to state and local budget cuts. Pedestrian safety is also an issue in the City of Gaylord with a main street that

was developed on and along the east-west M-32 trunkline requiring a legal speed limit of 30 mph, but with an unofficial operating speed at 40-45mph.

#### 2.4 State of Good Repair

Population growth, variability and severity of climatic conditions in the region and an unanticipated increase in commercial traffic, tourism and long range travel volumes have contributed to the accelerated deterioration of roads in Otsego County and the City of Gaylord. This problem has necessitated the use of local transportation funds for maintenance projects or to place temporary repairs on existing roadways, leaving little for high-cost expansion and capacity projects. An Otsego County Road Commission employee in the process of seal-coating a particular road segment described the temporary fix routine comparable to, “putting a Band-Aide on a shotgun wound.” The combination of a limited financial base from which to levy taxes due to a state in economic crisis and a system that distributes state transportation funds based on population (a majority of funds are allocated to support high population density urban projects) leaves Otsego County and other rural communities with no other option than to forgo needed transportation capacity improvements.

### 3.0 Rural Needs Assessment

A SYNCHRO evaluation was conducted in 2004 to determine the future conditions of peak hour traffic operations on the east-west M-32 trunk-line without road improvements. The results are summarized below:

- By 2025, serious peak hour traffic congestion will exist along Main Street at all major intersections; along Otsego Avenue at numerous intersections, especially near its I-75 interchange; and at numerous other intersections across the road network including along Dickerson Road, Johnson Road, and Krys Road. This congestion occurs at intersections which have at least one turning movement that is at Level of Service (LOS) E or F during the peak hour. The basic causes of this situation in the future are the same as those that presently exist. The duration of these problems would likely last longer than existing problems with congestion stretching over several hours at a time.
- Problems will gradually worsen between now and 2025 with some additional peak hour congestion occurring by 2015 and the rest by 2025. There is one minor exception to this conclusion; at one specific location (on M-32 near the I-75 interchange), the predicted peak hour LOS for the low growth scenario actually improves from 2015 to 2025. This is due to the fact that congestion predicted for 2025 at adjacent intersections does not allow traffic to reach the road segment in question. Because traffic cannot reach this location in large numbers, the LOS predicted in the SYNCHRO model actually improves.
- Crashes are expected to increase, especially along Main Street and South Otsego Avenue near the I-75 interchange.

### 4.0 Administrative: Gaylord Business Corridor (GBC)

The Gaylord Business Corridor will encompass several segments of roadway, thus facilitating the completion of the transportation infrastructure within the city limits. The proposed project is designed to correct the unanticipated impact of the I-75 north-south bi-national trade corridor construction that had occurred during the early 1960's west of the City of Gaylord. When I-75

was constructed, it eliminated two east-west roads in a three mile area. These omitted roadways had previously served to connect the City positioned on the east side of the I-75 interstate to rural areas on the west. Rapid population growth and economic development eventually spread west from the City. The result has been a constricting of traffic to and from the City confined to the M-32 east-west trunk-line with traffic back-ups of over two miles on peak summer weekends and constant congestion during the week.

Lead by community leaders, studies of the I-75/M-32 congestion were conducted in 2004 to evaluate land use and economic development in an attempt to facilitate the coordination of future land use decisions along West M-32 and the I-75 Business Loop. The GBC will reestablish the two east-west roads that were eliminated during the construction of I-75 in the 1960's and improve the road segments that currently support the re-established east-west crossing; an area of extensive big-box development.

#### 4.1 Context Sensitive Solution (CSS)

The application of Context Sensitive Solution (CSS) principles is the basis of program decision-making and engineering design to ensure that community input, land use, safety and mobility are taken into account during the all phases of the GBC project. Prior to submission of this application, outreach presentations were conducted to describe the TIGER grant opportunity and the proposed GBC project. Emphasis was placed on collaboration and partnerships between residents, businesses and local organizations. Feedback was obtained and used to address public concerns. As a result, the GBC project will include several innovative techniques related to the development of safety and media outreach activities in an effort to provide full disclosure to the public during construction, operations and maintenance; a Road Safety Audit before and during construction to evaluate facility use by a diverse road user mix and the development of a construction reallocation plan by the Otsego County Road Commission to support road projects in outlying townships to be funded by local monies "freed up" in the event that a TIGER II award is received by the City of Gaylord.

#### 4.2 Value Engineering

Construction contracts will be developed to include contractor initiated savings and an early completion incentive structure. The goal of this incentive/disincentive model is to facilitate financial and time savings. The early completion incentive would be calculated similar to the standard liquidated damage amounts, but paying the contractor a dollar amount per day for every day in advance of the scheduled completion date.

#### 4.3 Legal Counsel

The most common constraint identified on public infrastructure projects is contractor initiated claims for 'extras' that are beyond what would be considered normal in a construction project. These claims can result in delays, unforeseen costs due to litigation or claim settlements that push the project over budget. To preempt this from happening, the City of Gaylord and Otsego County Road Commission, through their administrative contract, will retain legal counsel to provide a thorough review of all contract documents prior to accepting a bid and provide immediate guidance and response related to claims that go beyond what is expected for a project. The goal will be to make a contractor aware prior to execution of the contract that such

claims will be aggressively challenged. These performance warranties are incorporated into the contracting to ensure a sound result with increase life expectancy of the project.

#### 4.4 Engineering QA/QC

Engineering contracts will require review for documented verification of Quality Assurance and Quality Control on all plans and specifications. This will reduce the opportunity for a construction contractor to seek loopholes in the plans as a basis for additional claims. It will also shift a level of responsibility and liability to the engineer to ensure that the plans are tightly developed and protected against legal claims. All work will be closely monitored for compliance with industry standards.

#### 4.5 Wade Trim Engineering

Wade Trim will be hired as the General Engineering Contractor (GEC) for the GBC project. It will be imperative to maintain consistency and implement tight project management controls to ensure the success of the GBC project. Wade Trim offers access to professional engineers specializing in transportation, municipal engineering, water resources, and construction engineering disciplines as well as planning, land development and landscape architecture services. Wade Trim's Transportation market segment will keep the GBC traffic flowing by integrating local issues into the overall solutions to deliver context-sensitive designs, including boulevard and highway designs, traffic signal design, traffic and safety operations studies, comprehensive transportation planning, and coordination between municipal agencies, utility owners, and the public. Wade Trim will also provide surveying, design and construction engineering services to the GBC on intersection safety studies.

Wade Trim has strong working relationships with the Michigan Department of Transportation (MDOT) and the Federal Highway Administration (FHWA):

- **Federal Highway Administration (FHWA)**

Wade Trim is directly involved with the FHWA standards and guidelines that impact local projects such as implementation of ADA requirements for non-motorized facilities, work zone safety and mobility policies, and context-sensitive solution. Wade Trim continues to work with the FHWA on emerging technologies to improve safety and traffic operations.

- **Michigan Department of Transportation (MDOT)**

Wade Trim has been working with MDOT since 1988; pre-qualifications date back to when MDOT first implemented the process in 1995. The Wade Trim team knows how to move projects through MDOT's Local Agency Program (LAP) approval process and how to perform construction engineering tasks that meet MDOT standards. Wade Trim has designed numerous projects directly for MDOT and for various communities for bid through the Local Agency Program (LAP) process. The Wade Trim approach utilizes a number of steps to achieve the goals of the community while meeting the MDOT requirements. Administration and inspection of the GBC project will follow MDOT requirements for payment of the contract and contract close-out. We regularly use Field Manager, SAPW, and MERL for transportation projects. Wade Trim has experience with the Rural and Urban Programs, Local Agency Bridge Program, and Transportation Enhancement Programs.

#### 4.6 Program Management Plan (PMP)

Wade Trim will be the General Engineering Contractor (GEC) of the GBC project to ensure consistency, effective communication and regulatory compliance. In the event an award is made, a Project Management Plan (PMP) will be written and submitted to the US DOT as part of the first quarterly report. The PMP will clearly define the roles, responsibilities, control processes and activities by and between the City of Gaylord and the US DOT. The PMP will ensure that the GBC is:

- On time (pursuant to the project schedule)
- Within budget
- Meets and/or exceeds all US DOT quality standards
- Conducted in a safe manner for workers and the public
- Creates minimal impact to the environment, traffic, and the surrounding/adjacent residents, businesses, and public spaces/facilities

The PMP will include a process evaluation method that will consider ongoing data collection and information used to modify the GBC project in an effort to improve efficiencies and productivity. All modifications will be appropriately documented and archived.

#### 4.7 Acquisition Management Plan

The Acquisition Management Plan (AMP) will include a three phase approach: 1) preliminary analysis necessary to complete the grant application; 2) conduct of the acquisition phase including retention of contractors and sub-contractors and actual acquisition of the property, and 3) a conclusion phase including certification of transfers and final payments to condemnees and contractors. A concluding report will be developed for the project manager and the condemnation authority. The complete AMP can be viewed at:

[http://www.otsego.org/gbc/administration/AMP%20\(ROW%20TIGER\).pdf](http://www.otsego.org/gbc/administration/AMP%20(ROW%20TIGER).pdf)

### **5.0 GBC Multidisciplinary Team**

The GBC project is composed of a dedicated multidisciplinary team considered experts in their respective fields. The GBC Team culture will be based on two-way communication and a culture of shared leadership. Below is a professional summary for each GBC Team member with a corresponding link to their current resume. Job descriptions are available for the GBC research staff and construction project manager as indicated by the following GBC TIGER II web-link: [http://www.otsego.org/gbc/core\\_staffing/core\\_staffing.htm](http://www.otsego.org/gbc/core_staffing/core_staffing.htm).

#### **Principal: Otsego County Road Commission**

Tom Deans, PE has over 20 years of experience as a Professional Engineer. Throughout his career, Mr. Deans has been responsible for the management, design and construction of roadway projects, surveying and legal descriptions and release of rights-of-way. As a Director of the Otsego County Road Commission, Mr. Deans has served as an effective liaison communicating with the FHWA, MDOT, local governmental entities and the public regarding transportation infrastructure projects affecting Otsego County. Mr. Deans will be the Principal on the GBC project responsibility for the oversight of all design, engineering, construction and

regulatory compliance of the General Engineering Contractor (GEC).

[http://www.otsego.org/gbc/core\\_staffing/resumes/Engineer%20OCRC%20\(Deans%20Resume%202010\).pdf](http://www.otsego.org/gbc/core_staffing/resumes/Engineer%20OCRC%20(Deans%20Resume%202010).pdf)

### **General Contracting Engineer (GEC)**

Paul Repasky, PE, has over 18 years of experience as a Design Engineer and Project Manager with Wade Trim. He has been involved with all phases of engineering projects from schematic design, design development, preparation of technical specifications, contract documents, bidding, construction administration and start-up. Mr. Repasky has experience with various civil engineering projects and has served as the project manager on several municipal infrastructure projects including water supply, distribution and computer modeling, waste water collection, pumping and treatment, storm water control, retention and sewer design, streetscapes, recreational trails and parks. In addition, he has provided direct supervision for surveying, inspection and materials testing. Mr. Repasky also has experience as a road and bridge designer and as a construction engineer for numerous county road commissions and has worked directly for the Michigan Department of Transportation (MDOT).

[http://www.otsego.org/gbc/core\\_staffing/resumes/Paul%20Repasky%20\(Resume%202010\).pdf](http://www.otsego.org/gbc/core_staffing/resumes/Paul%20Repasky%20(Resume%202010).pdf)

### **Environmental Review**

Lisa Fought has over 14 years of experience as the primary author for State and National Environmental Policy Act (SEPA/NEPA) documents including environmental assessments, reviews, reports and checklists and managed the development of supporting documentation including Section 4(f) analyses, Section 106 compliance for major public works projects. Her responsibilities on the GBC project will include facilitating the process for impact analyses and identifying mitigation measures, reviewing technical discipline reports and preparing the modified draft and final EIS documents of the GBC project.

[http://www.otsego.org/gbc/core\\_staffing/resumes/Lisa%20Fought%20\(Resume%202010\).pdf](http://www.otsego.org/gbc/core_staffing/resumes/Lisa%20Fought%20(Resume%202010).pdf)

### **Acquisition Management Plan Administrator**

Kenneth Arndt has over 30 years of experience in property appraisal and right-of-way acquisition. Mr. Arndt has developed and will be responsible for the implementation of the Acquisition Management Plan that will be used to inform project stakeholders about how the acquisitions will be planned, executed, and managed throughout the life of the GBC project. This will include, but not be limited to the actual acquisition, contracting, fiscal, legal and appraisal personnel, policy and regulatory, necessary to comply with FAR, and any other requirements related to the specific acquisition(s) identified. In addition, Mr. Arndt's right-of-way acquisition expertise, interpretation of existing data to determine the area of additional right-of-way required for each of GBC facilities, as well as the associated residential and business relocations.

### **Acquisition and Contracting Attorney**

Michael Edwards has 13 years of experience practicing law and in acquiring real property for government entities under the Uniform Act and administering private consultant right-of-way acquisition, relocation suit/condemnation contracts. Mr. Edwards will work in collaboration with Mr. Arndt to ensure the success of the Acquisition Management Plan. He will function as the

project manager responsible for interviewing, contracting and all legal activities associated with right-of-way acquisition for the GBC project.

[http://www.otsego.org/gbc/core\\_staffing/resumes/CURRICULUM%20VITAE%20of%20MICHAEL%20T.pdf](http://www.otsego.org/gbc/core_staffing/resumes/CURRICULUM%20VITAE%20of%20MICHAEL%20T.pdf)

### **Fiscal Management**

Matthew Rooyakkar, CPA, is the managing member and co-founder of Rooyakkar & Sitz, PLLC in Gaylord, Michigan. He has 12 of experience in public accounting with expertise in services related to assurance, accounting and taxation. He has significant experience serving clients in the construction, gas and oil, manufacturing and hospitality industries. Mr. Rooyakkar will be responsible for fiscal accountability of the GBC project pursuant to the applicable Code of Federal (CFR) regulations and preparation of the annual fiscal report.

[http://www.otsego.org/gbc/core\\_staffing/resumes/Resume%20-%20Matthew%20Rooyakker.pdf](http://www.otsego.org/gbc/core_staffing/resumes/Resume%20-%20Matthew%20Rooyakker.pdf)

### **Economic and Traffic Modeling**

Steven Miller, PhD specializes in applied economic methods for forecasting and impact analysis. He has produced numerous impact assessments of Wichita, Kansas area businesses seeking state and local sponsored incentives, produced papers on aviation demand across competing regional airports, and papers on alternative estimation methods of systems modeling. Dr. Miller is an expert in building mathematical models for and producing national, state and local economic forecasts, impact assessment of industry and policy, state and local incentives for economic development, spatial estimation models, Bayesian vector auto-regression models for forecasting, and impact assessment of recreation destination. Dr. Miller will be responsible for the quantitative modeling techniques implemented to fit the data gathered to evaluate the impacts of the GBC project one year post-construction and a projected 20 year life cycle.

[http://www.otsego.org/gbc/core\\_staffing/resumes/Steve%20Miller%20CV%202010.pdf](http://www.otsego.org/gbc/core_staffing/resumes/Steve%20Miller%20CV%202010.pdf)

### **Grant Oversight and Regulatory Compliance**

Karyn M. Warsow is a doctoral candidate at the Johns Hopkins Bloomberg School of Public Health in the department of Health Policy Management and Leadership. Funding of the GBC TIGER grant will potentially serve as her doctoral dissertation. Ms. Warsow has over 25 years of experience in conducting federally funded research according to applicable regulatory guidelines with expertise in grant writing and main authorship, program development, strategic management, monitoring and evaluation (impact analysis) and regulatory compliance. Ms. Warsow will function as the Research Director for the proposed Michigan Research and Rural Traffic Safety Program, which she has developed, in addition to administrative oversight of all GBC TIGER grant activities.

[http://www.otsego.org/gbc/core\\_staffing/resumes/Transportation%20CV%20\(Warsow\).pdf](http://www.otsego.org/gbc/core_staffing/resumes/Transportation%20CV%20(Warsow).pdf)

### **Media and Educational Outreach Specialist**

Robert O. Felt, Jr. has over 20 years of experience implementing various communications strategies and methodologies. Mr. Felt is an award-winning creative consultant that has received high marks for his writing abilities, effective community and media relations, and, creative campaigns as recognized by AASHTO's sub-committee on Public Affairs via the National Transportation Public Affairs Workshop skills awards. He will handle all TIGER II external communication components of the grant, advising and training partner agency

personnel and connecting with local, regional, and statewide media outlets, and the general public. Mr. Felt currently works as a safety outreach/communications specialist for the Michigan Department of Transportation's (MDOT) Executive Division in the Office of Communications. [http://www.otsego.org/gbc/core\\_staffing/resumes/Bob%20Felt%20Resume%202010.pdf](http://www.otsego.org/gbc/core_staffing/resumes/Bob%20Felt%20Resume%202010.pdf)

### **Data and Regulatory Specialist**

A Data and Regulatory Specialist will be hired through a local and regional search for the most qualified candidate. The incumbent(s) will report directly to the Grant Administrator/Research Director and will be responsible for conducting survey interviews, data input, maintenance and archiving of research and construction related regulatory documents.

Job Description: [http://www.otsego.org/gbc/job\\_descriptions/GBC%20Data%20Specialist%20Job%20Desc.pdf](http://www.otsego.org/gbc/job_descriptions/GBC%20Data%20Specialist%20Job%20Desc.pdf)

## **6.0 PART I: GBC Construction Projects**

The GBC project is composed of several individual road segments that will be interconnected to relieve congestion, improve mobility and safety on the M-32 east-west state trunkline. In order to expedite construction and provide a competitive environment for the contractors, the individual project segments will be grouped into three bid packages. The contract size, type and location of each group will maximize the potential for receiving the most cost-effective and competitive bid. This approach will provide a contractor with a sufficient level of work to mobilize a crew in the community for the entire construction season and ensure that the work will be completed in a timely fashion. Detailed information on each facility of the project can be accessed through the web-links provided with of each section.

Map of GBC Project:

<http://www.otsego.org/gbc/Maps/Gaylord%20Business%20Corridor%20Project%20Location%20Map.pdf>

GBC PASER Road Conditions:

[http://www.otsego.org/gbc/project\\_source\\_documents/Road%20Condition%20PASER%20Report.pdf](http://www.otsego.org/gbc/project_source_documents/Road%20Condition%20PASER%20Report.pdf)

GBC Traffic Count Map:

<http://www.otsego.org/gbc/Maps/Gaylord%20Business%20Corridor%20Traffic%20Counts.pdf>

### **6.1 Edelweiss-Pine Ridge Shopping Connector**

The interconnection of extension road segments within the GBC will provide an alternative route to residents and visitors accessing the extensive big-box retail shopping areas located along West M-32, thereby decreasing congestion and improving transportation efficiencies and safety. The Edelweiss-Pine Ridge Shopping Connector will also leverage the area for new and existing business development opportunities that had not previously been considered due to vacant and poor land use.

*The Edelweiss-Pine Ridge Shopping Connector includes segments composed of the McVannel Road extension, the Mankowski service road extension, the Edelweiss Service Drive from Dickerson to the McVannel extension and Dickerson Road from VanTyle to Milbocker.*

Concept Plans and Mapping:

<http://www.otsego.org/gbc/projects/McVannel-Edelweiss-Mankowski-Dickerson%20Concept%20Plans.pdf>

Color Photography:



[http://www.otsego.org/gbc/environmental\\_review/Photos%20McVannel%20Mankowski%20Dickerson.pdf](http://www.otsego.org/gbc/environmental_review/Photos%20McVannel%20Mankowski%20Dickerson.pdf)

Engineering Cost Estimate: [http://www.otsego.org/gbc/projects/cost\\_estimates/McVannel-Edelweiss-Mankowski-Dickerson%20Segment%20Costs\[1\].pdf](http://www.otsego.org/gbc/projects/cost_estimates/McVannel-Edelweiss-Mankowski-Dickerson%20Segment%20Costs[1].pdf)

Environmental Review (No Significant Impact): [http://www.otsego.org/gbc/environmental\\_review.htm](http://www.otsego.org/gbc/environmental_review.htm)

**Total Cost (includes a 20% contingency): \$ \$3,060,045**

## 6.2 GBC Support Facilities

Traffic passing through small rural towns is often slowed by congestion, traffic control devices and poor roadway design. The alternative route of the GBC Support Facilities will allow traffic to split off and pass along the fringe of the Gaylord city limits to circumvent portions of the developed community and then tie back into the south segment of South Otsego Avenue. This improvement will allow for speed limits of at least 50 mph thereby reducing fuel and energy consumption; decreasing travel times, environmental noise and air pollutant emissions and improve safety by redirecting traffic off the east-west M-32 trunkline that passes through the central business district with a mix of pedestrians, bicyclists, and motor vehicles. Empiric evidence suggests that alternative routes are successful in separating local traffic from the traffic of a heavily traveled transportation corridor.<sup>4</sup> Improvements of these segments will enhance access to industrial and commercial areas and facilitate business redevelopment of the downtown area. It is anticipated that additional benefits will be realized as a decrease in motor vehicle crashes (MVC) within the city limits; thus reducing societal costs in injuries, property damage and death. The overall affect may vary and depend on the number of MVC (i.e., higher number of MVC on the main road through town results in a larger decrease in the number of MVC after the alternate route is built), the proportion of traffic transferred to the alternate route, and the design of junctions between the M-32 trunkline and the alternate route.<sup>3</sup> Results of a study conducted in Iowa indicate that the construction of highway alternate routes appear to be associated with an increase in traffic safety by reducing the number of crashes both on the old and new alternative road networks<sup>3</sup>. The crash *frequencies* on average were reduced 50% on the old road and 62% on the new alternative route. The crash *rates* on average were reduced 33% on the old road and 59% on the new road.<sup>3</sup>

*The GBC Support Facilities are composed of segments; Milbocker Road, VanTyle-Dickerson to South Townline Road, McCoy-Krys Road to the East M-32 trunk-line.* Improvements to these segments are designed to support the new I-75 south crossing at McCoy Road.

### Concept Plans and Mapping:

- Van Tyle: <http://www.otsego.org/gbc/projects/Van%20Tyle%20Concept%20Plan.pdf>
- Milbocker: <http://www.otsego.org/gbc/projects/Milbocker%20Road%20Concept%20Plan.pdf>
- McCoy: <http://www.otsego.org/gbc/projects/McCoy%20Road%20Concept%20Plan.pdf>

### Color Photographs:

[http://www.otsego.org/gbc/environmental\\_review/Photos%20Van%20Tyle%20Milbocker%20McCoy.pdf](http://www.otsego.org/gbc/environmental_review/Photos%20Van%20Tyle%20Milbocker%20McCoy.pdf)

### Engineering Cost Estimate:

[http://www.otsego.org/gbc/projects/cost\\_estimates/Milbocker%20McCoy%20VanTyle%20Roads2010.pdf](http://www.otsego.org/gbc/projects/cost_estimates/Milbocker%20McCoy%20VanTyle%20Roads2010.pdf)

Environmental Review (No Significant Impact): [http://www.otsego.org/gbc/environmental\\_review.htm](http://www.otsego.org/gbc/environmental_review.htm)

**Total Cost (includes a 20% contingency): \$6,650,022**

### 6.3 Green Corridor and Commercial-Retail District Re-Development:

Many rural towns and villages grew up around a main street, which in most cases, was part of the through highway providing access to communities, businesses, public buildings, and institutions, as well as many homes. Since World War II, vehicle traffic has increased and now dominates the main streets. As a result, a single-function main street has emerged with street design and driver behavior creating a barrier between traffic and the community. The West M-32 business district has developed over the last 15 years through a series of 425 agreements with adjacent townships to accommodate the location of big-box and chain retail stores, restaurant and other services. At the time development began, the City of Gaylord had focused its limited resources on improving the infrastructure of the downtown in order to avoid economic decline in the face of the increased retail competition on West M-32.

Creating a Green Street right-of-way through a variety of design and operational treatments in the GBC will give priority to pedestrian circulation and open space over other transportation uses. The treatments will include sidewalk widening, landscaping, traffic calming, and other pedestrian-oriented features. The GBC project will incorporate raised curbs, landscaped medians, the Michigan Left (left U turn through a median), walkways, and entrance features to towns. The aim of these techniques is to:

- Improve driver behavior to be more considerate of other road users
- Increase the level of respect for non-motorized road users
- Create a feeling of safety
- Improve safety and convenience for road users, including residents, motorists, bicyclists, pedestrians, transit riders, and people with disabilities
- Reduce the number and/or severity of MVC
- Reduce noise and air pollution
- Provide space for non-traffic activities (e.g., shopping, rest, and play)
- Enhance street appearance and reduce the number of traffic signs
- Reduce speeds of motor vehicles where incompatible with adjacent land use
- Reduce the need for police enforcement
- Reduce short-cut motor vehicle traffic
- Mitigate the impact of vehicular traffic on residential neighborhoods
- Promote and support the use of transportation alternatives
- Achieve an overall improvement of the community's quality of life

The Center for Disease Control and Prevention has recently provided recommendations to improve health through transportation policy by expanding public transportation, promoting active transportation (i.e., biking and walking) and encouraging community designs that protect residents from traffic pollution and reduce pedestrian injury and death.<sup>4</sup> In keeping with this recommendation, pathway improvement along South Otsego Avenue and West M-32 will be designed to create pedestrian, bicycle and visitor access to enhance livability and preserve the visual and scenic quality of the area by removing the jagged interface of poorly sited commercial and retail development. These pathways will be vital to low and moderate income residents

(54.6%) without vehicular transportation living in the census tract adjacent to the city limits by increasing safety, improving access to shopping and job opportunities. The construction of the South Otsego Avenue, central business district, and the West M-32 Green Corridor will enable the City of Gaylord to re-establish a sense of community around the main street compromised by high traffic volumes that place non-motorists and pedestrians at risk. Over the long-term, the Green Corridor will improve the quality of life through an integrated accessible economic and social framework within the community.

*The Green Corridor and Commercial-Retail District Re-Development will incorporate the road segments of South Otsego Avenue, the central business district situated along M-32 and West:*

Concept Plans:

- South Otsego Avenue and Downtown: <http://www.otsego.org/gbc/projects/South%20Otsego%20and%20Downtown%20Streetscape%20Concept%20Plans.pdf>
- West M-32: <http://www.otsego.org/gbc/projects/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Project Segment Map:

- South Otsego <http://www.otsego.org/gbc/Maps/South%20Otsego-Downtown-West%20M32%20Streetscape%20Concept%20Plans.pdf>
- Downtown <http://www.otsego.org/gbc/Maps/South%20Otsego%20and%20Downtown%20Streetscape%20Concept%20Plans.pdf>
- West M-32 <http://www.otsego.org/gbc/Maps/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Color Photography:

- South Otsego: [http://www.otsego.org/gbc/environmental\\_review/Photos%20South%20Otsego.pdf](http://www.otsego.org/gbc/environmental_review/Photos%20South%20Otsego.pdf)
- Downtown: [http://www.otsego.org/gbc/environmental\\_review/Photos%20Downtown.pdf](http://www.otsego.org/gbc/environmental_review/Photos%20Downtown.pdf)
- West M-32: [http://www.otsego.org/gbc/environmental\\_review/Photos%20W%20M32%20Streetscape.pdf](http://www.otsego.org/gbc/environmental_review/Photos%20W%20M32%20Streetscape.pdf)

Engineering Cost Estimate: [http://www.otsego.org/gbc/projects/cost\\_estimates/South%20Otsego-Downtown-West%20M-32%20Streetscapes\[1\].pdf](http://www.otsego.org/gbc/projects/cost_estimates/South%20Otsego-Downtown-West%20M-32%20Streetscapes[1].pdf)

Environmental Review (No Significant Impact): [http://www.otsego.org/gbc/environmental\\_review.htm](http://www.otsego.org/gbc/environmental_review.htm)

**Total Cost (includes a 20% contingency): \$11,671,795**

#### 6.4 Innovation and Technology

The GBC project will be coordinated through the installation of a traffic adaptive signal control system to improve traffic mobility and safety. This technology, in conjunction with Michigan left turn lanes preventing cross traffic turns and the traffic calming of the Green Corridor is anticipated to reduce MVC, improve motorist decision-making and decrease fuel consumption and vehicle emissions.

##### 6.4.1 *Access Management*

The industry standard for best practice is the *Access Management Manual*, which is the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway.<sup>5</sup> Access Management will begin at the I-75/M-32 interchange and proceed along the West M-32 trunkline. It will be based on specific engineering standards and geometric design aimed at enhancing capacity, operation

and safety to motorists and pedestrians entering adjacent businesses and properties. It is anticipated that the current congestion and delays caused by left or right turns into driveways, rear-end or angle crashes involving vehicles entering or leaving driveways will be reduced following implementation and completion of the GBC project.

#### 6.4.2 *Advanced Signal Timing Coordination System*

“The basic function of most main roadways is to move traffic safely and efficiently with minimal delay. The main source of delay and congestion are traffic signals. Drivers may have difficulty making permissive turning maneuvers at signalized intersections (e.g., permissive left turns, right turn on red after stop) due limited gaps in through traffic. Left-turning vehicles waiting to turn can block through traffic, even if a left-turn lane is provided. This can lead to rear-end crashes between turning and through vehicles. Collisions may also occur when left-turning drivers become impatient and accept a gap that is smaller than needed to complete a safe maneuver. Such collisions could be minimized if longer gaps were made available.”<sup>6</sup> One method of providing longer gaps and decreasing the number of stops is to coordinate adjacent traffic signals to promote platooning and/or grouping of vehicles at intersections. Coordinated signals within 0.8 km (0.5 mi) of each other on a major route or in a network, can improve driver expectancy of changes in the right-of-way.<sup>6</sup> The following systems will be implemented as part of the GBC project:

- ACTRA/SCOOT: This system was evaluated against the standard passive adaptive and the ACSLITE Closed Loop System. Due to the large seasonal fluctuations in traffic volume, adverse weather conditions and the expected continuation of business and population growth, it is likely that the GBC will exceed the current 16 signalized intersections. The ACTRA/SCOOT has the ability to add signals as needed.
- The Sensys™ Wireless Vehicle Detection System uses pavement-mounted magnetic sensors to detect the presence and movement of vehicles. The magneto-resistive sensors are wireless, transmitting their detection data in real-time through a low-power radio technology to a nearby Sensys access point. The data is then relayed to one or more local or remote traffic management controllers and/or systems.

Cost Estimate:

[http://www.otsego.org/gbc/projects/cost\\_estimates/Gaylord%20Signal%20System%20Ltr.%2008-16-2010.pdf](http://www.otsego.org/gbc/projects/cost_estimates/Gaylord%20Signal%20System%20Ltr.%2008-16-2010.pdf)

**Total Cost: \$1,840,870**

## 7.0 **GBC Construction Schedules**

The following GBC project construction schedules are based on the experience of Wade Trim Engineering and the Otsego County Road Commission. The schedules account for multiple roadway segments, impact to the environment, traffic, and the surrounding/adjacent residents, businesses, and public spaces/facilities and the shorter construction season in Northern Lower Michigan. <http://www.otsego.org/gbc/projects/Project%20Schedule.xls>

## 8.0 **PART II: Michigan Research and Rural Traffic Safety Program (MRRTSP)**

The Highway Safety Act of 1966, as Amended by SAFETEA-LU Technical Corrections Act of 2008, allocates federal funding to individual states for the development and implementation of a

uniform highway safety program to reduce traffic-related crashes, deaths, injuries and property damage. However the allocation of funding for such interventions is concentrated in areas with the highest number of fatalities. In most instances this tends to be in urban areas of high population density leaving rural communities without the resources and/or benefits of a formal state-lead safety program. Therefore, an important component of the GBC TIGER II application will include proposed funding for the start up of the Michigan Research and Rural Traffic Safety Program (MRRTSP). A summary of the proposed program is available in **Appendix B**: [http://www.otsego.org/gbc/safety/Research%20&%20Safety%20Program%20\(Appendix%20B\).pdf](http://www.otsego.org/gbc/safety/Research%20&%20Safety%20Program%20(Appendix%20B).pdf). This community-based initiative will focus on transportation research, outreach and safety education activities, policy development and public partnerships. The Otsego County pilot project is endorsed by the Office of Highway Safety and Planning (OHSP), Division of the Michigan State Police, the Michigan Traffic Safety Committee of Northern Lower Michigan, and the previous Director, Mary Sheehan, PhD, and Co-Director, Vic Siskind, PhD, of the Center for Accident Research and Road Safety (CARRS) in Queensland, Australia. Based on the impact evaluation results of the MRRTSP, the administrators will actively pursue future grant applications, public-private partnerships, donations, and academic and professional collaborations to ensure the long-term sustainability and expansion of the program to neighboring rural communities.

#### 8.1 Preliminary Data Analysis: Pilot Site

According to the Transportation Research Board, “Transportation practitioners, researchers, public officials, and other professionals need credible, high-quality information and research results to address the transportation challenges of the 21st century....these activities lay the foundation for innovative transportation solutions.” As a component of the Michigan Research and Rural Traffic Safety Program (MRRTSP), the GBC staff will conduct a coordinated epidemiological investigation to identify the etiology and driver characteristics associated with MVC in Otsego County. A preliminary assessment of MVC incidents in Otsego County were performed using data from the Michigan Crash Reporting System and entered in an Excel spreadsheet. Basic descriptive statistical analyses were used to determine historical and baseline status of MVC incidents. Upon visual inspection of Figure 3, one can see a plateau effect of MVC on the individual facilities from 2005 through 2009. This plateau signifies an epidemic curve of continuous exposure over time due to a lack of a defined peak, thus demonstrating an unrecognized public health problem in the community. The problem is exacerbated on the unregulated rural roadways and within the city limits.

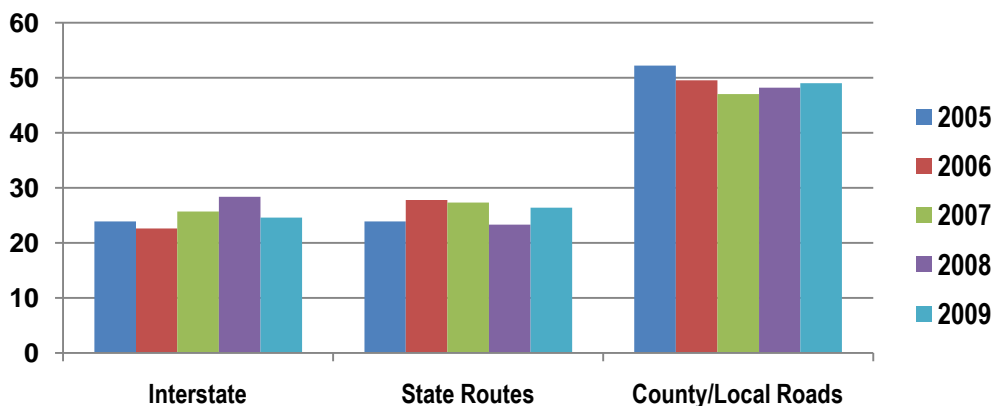
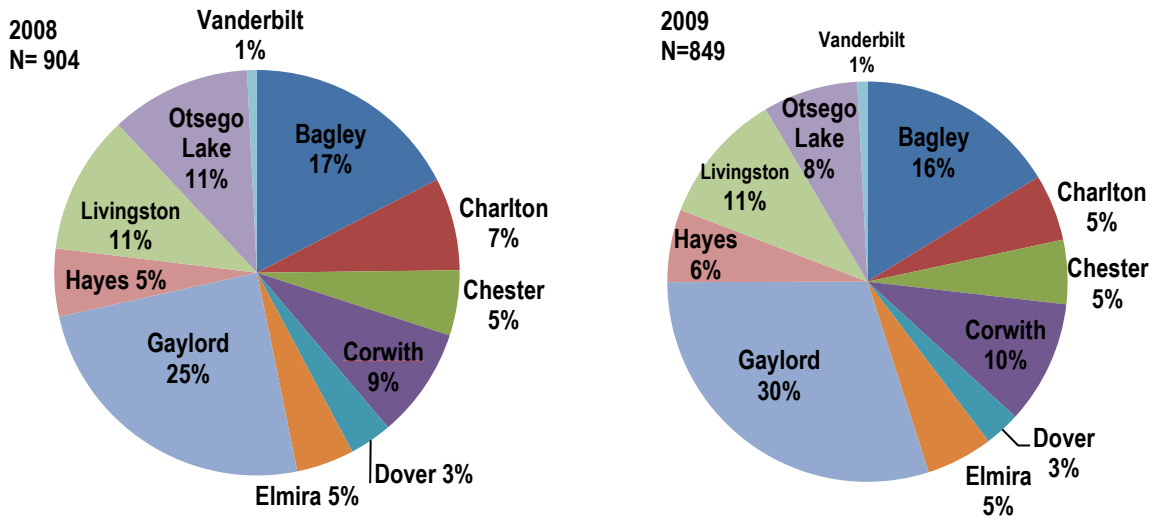


Figure 3

Further break down of the 2008 and 2009 county level data depicts the distribution of MVC within the specific townships (Figure 4). The transportation infrastructure of the GBC includes roadway segments along the M-32 east-west state trunkline and local roads within the City of Gaylord, Bagley and Livingston townships. In comparing the graphics, one can see that 53% of MVC that had occurred in these specific areas during 2008 increased to 57% during 2009. It is the road segments within the City of Gaylord, having the greatest congestion that is the source of the increase.



These data represent the escalating problem of safety within the GBC and within rural Otsego County in general. An important point to note is that there are no Trauma Level I hospitals in all of Northern Lower Michigan (24 counties) that can provide timely specialized trauma services to the severely injured thus exacerbating the morbidity and mortality of MVC within the entire region.

In terms of the economic and social burdens through injury and loss of life, as well as property damage imposed by MVC, comparable and up-to-date cost data are used to provide a measure for evaluating cost and benefits of the proposed GBC project. The monetary comprehensive value of the 849 MVC that occurred in Otsego County during 2009 amount to an overall societal cost of **\$29,411,660** (based on Michigan 2004 cost estimates and inflation through 2010). This total breaks down to: 4 fatalities (\$19,280,088 at a cost of \$4,820,022 each), 167 minor injuries (\$7,843,322 at a cost of \$46,966 each), and 678 property-damage only (2,288,250 at a cost of \$3,375). These MVC costs for 2009 are higher than the entire cost-estimate of the GBC transportation infrastructure project (Parts I & II).

## 8.2 Data Sources

### 8.2.1 *Michigan Crash Reporting System*

Data for the 24 counties of Northern Michigan and Otsego county level data pertaining to MVC will be abstracted on an annual basis from the Michigan Crash Reporting System maintained by the Michigan State Police. These data will be entered into an Excel spreadsheet for analysis.

Data queried and abstracted, may include but not be limited to; gender, age, alcohol use, distracted driving characteristics, number and type of MVC, morbidity and mortality, property damage, contributing factors, roadway classification, vehicle miles traveled and various quality of life measures.

#### 8.2.2 *NEMCOG: Township Level*

In collaboration with the Northeast Michigan Council of Governments (NEMCOG), annual searches will be conducted to collect township level data utilizing the RoadSoft database. RoadSoft is a graphically designed, integrated roadway management system developed for Michigan's local agency engineers and managers to use in the analysis and reporting of roadway inventory, safety, and conditional data. RoadSoft uses the Michigan Accident Location Index (MALI) as a reference base. This reporting system is part of the Michigan Crash Reporting System of motor vehicle crashes by county. These data may include but not be limited to; age, gender, alcohol use, number and type of MVC, morbidity and mortality, contributing factors, MVC per road segment, date of MVC, day, time, weather conditions. At the time of this application all baseline traffic counts have been completed on the GBC segments. In addition, a 4 year history of MVC by frequency, type and location have been collected. However, there was not adequate time to analyze this information for inclusion in the preliminary results.

#### 8.2.3 *Road Segment Evaluations*

Traffic volume counts with classification, traffic volume and speed, date, day and time, pavement surface conditions have been collected prior to submission of this grant application. In the event that the applicant receives the proposed award, an additional set of traffic counts will be conducted to determine the overall impact of the completed GBC. These data will also be used in the overall statistical analysis.

#### 8.2.4 *Regional and Local Traffic Study*

One year post construction, a regional and local traffic study will be conducted to evaluate the GBC road network and provide data to complete the Business Corridor Cal-B/C, REMI-PI and USDOT models. The study will assess the impact of system-wide improvements for evaluation against pre-project goals and determine what additional improvements may be necessary to address any problems or expansions needed to accommodate future use.

### 8.3 Survey Research

The Michigan Research and Rural Traffic Safety Program will include a public survey to estimate the extent of the traffic safety problem perceived in the population. This baseline information will be vital to determining trends in the population related to attitude, knowledge, skill and behaviors causally linked to MVC in Otsego County. The intended survey was originally developed by the Center for Accident Research and Road Safety (CARRS) in Queensland, Australia. Permission rights have been provided by CARRS for use of the survey as part of the current GBC project. A copy of the original CARRS survey is available at: <http://www.otsego.org/gbc/safety/CARRS%20Traffic%20Safety%20Questionnaire.doc>. The GBC staff will modify the CARRS survey to ensure it is applicable to the needs of the project based on content, culture and education. The original CARRS survey can be viewed at the following link:

The modified CARRS survey will be administered using a combination of methods including telephone, postal service mailings and electronic media. Telephone surveys will be the primary method of data collection based on an overall consensus in the scientific literature that telephone surveys administered by a trained interviewer tend to produce a better response rate and are more cost-effective. Since there is a potential to bias against households without land-line telephones, unlisted numbers or non-responders, surveys will also be mailed to households that cannot be contacted by telephone along with a web-link on the Otsego County website.

#### 8.4 Community Outreach: Education and Safety Awareness

The Michigan Traffic Safety Program will include community outreach. The key to a successful outreach plan is to begin early. The GBC staff will establish early contact with stakeholders, develop the public relations plan specific to the audience, and respond immediately to problems and questions. In the interest of full disclosure, quarterly construction and progress reports will be published in the local newspapers and read or presented by the Education/Media Specialist on the local radio station. These media releases will also incorporate a relevant traffic safety message developed around the results of the county and township MVC data and survey results. In addition, presentations with a question and answer session will be scheduled at the nine publically held township board meetings, educational institutions, churches and at an annual town hall meeting. Information obtained from these venues will be used to monitor and evaluate the efficacy of the GBC Traffic Safety program. Educational materials will be purchased from the Channing Bete Company and the OHSP to be provided to the public free of charge. Outreach activities will include, but not be limited to:

- **Focus Groups** – Members of the community will be encouraged to become part of a focus group and/or submit their thoughts, concerns and opinions regarding the GBC project and traffic safety issues to the staff. Active listening and careful recording of comments will demonstrate to the focus group participants that their input is important and their desired project preferences will be taken into consideration.
- **Publicity** – The GBC staff will work to modify public attitudes and raise traffic safety awareness through radio and quarterly construction and safety reports. We will prepare scripts and graphics and develop key messages to our various audiences. The GBC staff will work closely with local media to build trust, confidence and credibility.
- **Presentation Materials** – PowerPoint presentations will be used as a visual communication tool with easy to understand graphically rich information that is culturally and educationally appropriate for the intended audience.
- **Web-based Systems** – The GBC staff will develop content and design for a website that will be linked to the City of Gaylord and Otsego County homepage. The website address will be included in collateral materials to encourage community residents and visitors to learn more about the GBC projects and traffic safety initiatives.
- **News Releases** – News releases will be used as an opportunity to frame the GBC project in a positive, proactive manner. Well-written press releases will be used to stimulate media coverage to inform and involve the public. Draft press releases will be submitted to the Gaylord City Council for approval prior to distribution. **Collateral Materials** – Project ads,



newsletters, brochures, fact sheets, and FAQs will be developed to get the project message of sustainability across to communicate with residents, businesses, and policymakers.

## **9.0 Preliminary Economic Development Impacts of the GBC**

Economic development refers to a sustainable increase in living standards. It implies an increase in per capita income, improved access to education and health care as well as clean environmental amenities. The term is also associated with expanding local opportunities for shopping, social activities, and other “quality of life” indicators. Economic development impacts are tied to transportation projects by reducing business costs, increasing labor productivity and access to markets, and promoting regional sustainability.

### **9.1 Cal-B/C Business Corridor Model**

The California Life-Cycle Benefit/Cost Analysis Model (Cal-B/C), specifically the Business Corridor Model will be used to evaluate the impact of the GBC project 1 post-construction and over a 20 year life cycle as it relates to the impact of economic, safety, efficiency, environment, livability and sustainability. The model is available on the GBC TIGER II website at: [http://www.otsego.org/gbc/evaluation\\_and\\_sustainability/Cal-BC%20v40%20Corridor.xls](http://www.otsego.org/gbc/evaluation_and_sustainability/Cal-BC%20v40%20Corridor.xls) The model will be used to calculate life-cycle costs, net present values, benefit/cost ratios, internal rates of return, payback periods, annual life-cycle benefits, as well as an assessment of intelligent transportation system (ITS) investments and operational improvements. The model considers the impact of MVC, vehicle operating cost, and vehicle emissions.

#### **9.1.1 *Motor Vehicle Crash Costs***

On average, transportation projects derive approximately one-third of their total benefits from the savings incurred due to a reduction in the number and severity of MVC. The savings attained from this reduction is dependent upon on past MVC rates for the area, frequency, number of individuals involved, and the overall morbidity and mortality.

#### **9.1.2 *Vehicle Operating Costs***

Vehicle operating costs (VOC) are variable and dependent on several interconnecting factors such as vehicle-type, speed, gradient, curvature, and road surface; user expenditures of fuel, tires, maintenance and repair and vehicle depreciation. It is anticipated that the GBC investment will result in greater mobility and reduced travel times for drivers, passengers, and freight.

#### **9.1.3 *Environmental Pollutants***

Emissions from vehicles generate much of the global and local environmental costs. Air pollutant emissions such as carbon monoxide, nitrogen and sulfur oxides, volatile organic compounds, and particulate matter will be estimated based on travel volumes and a per-mile emissions rate. Vehicles traveling at a steady speed are more fuel-efficient and hence energy-efficient than vehicles traveling in stop-and-go traffic. Fuel savings translate into direct out-of-pocket savings for motorist resulting in more income spent on alternative living expenses.

### **9.2 Regional Economic Model Inc–Policy Insight (REMI-PI)**

The REMI-PI model will be used to analyze the impact of the USDOT investment as it relates to economic growth and cost savings to households and businesses resulting from the GBC

project. This model will take the Cal-B/C Business Corridor Model output and infrastructure investment as inputs. Direct effects of the REMI-PI have been determined and suggest:

- Existing traffic counts suggests approximately 8,000 one-way commutes per day will be shortened by an average of 1.2 miles.
- Congestion affects approximately 4,015 commuters a day, extolling approximately 133 hours per week in which drivers are held in traffic.
- Commercial traffic commute times will be reduced through greater access and avoidance of congestion (alternative route).
- Streetscapes and pathways, along with added development, will positively impact property values and associated public revenues; generating additional transactions by local government.
- Initial construction expenditures of approximately \$25 million will generate short-term impacts during the construction phase.
- Greater access within the community will increase regional commutes and attract consumers to shopping in the retail sector.

Direct impacts are modeled as reductions in production costs, additional governmental expenditures through higher property tax revenues, construction and enhanced retail activity arising from street improvement projects. Construction impacts will accrue over the two-year project period, while the impact of added jobs and economic activity arising from structural changes in the region’s business environment and household expenditures will continue indefinitely. Preliminary impact assessments using the REMI-PI model for the multi-county region indicate that after taking multiplier effects into consideration, approximately 1,300 permanent jobs will be generated by year 5, 1,900 by year 10 and 2,400 by year 15. These jobs are expected to generate \$52 million in annual personal income by year 5, \$109 million at year 10, and \$194 million at year 20, valued at 2010 prices, as shown in the accompanying graph.

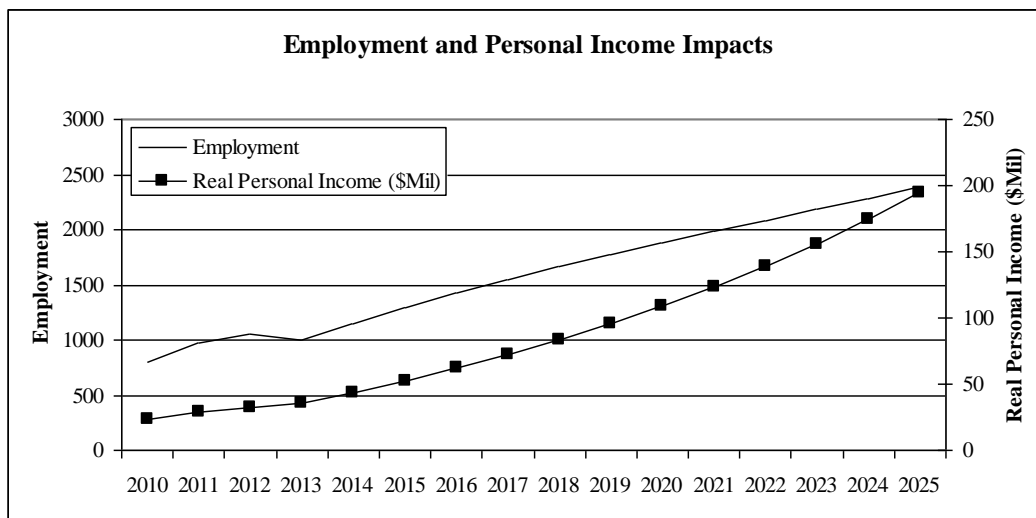


Figure Preliminary long-term structural economic impact of GBC

### 9.3 Direct Job and Economic Activity Creation

The economic benefits of the completed GBC were calculated to assess the nature of the sectors in terms of their importance to the local economy. Estimates of direct commercial job creation are provided by the Northeast Michigan State Employment Services Agency. Simple location quotient analysis demonstrates that retail employment comprises the highest percentage of jobs in Otsego County defining it as one of Michigan's top counties in retail sales per capita and a regional commercial center. Though retail trade is traditionally a low-wage sector generating relatively more part-time positions, this sector is critical to the economic viability of Otsego County and the region, as a conduit to other economic activity including tourism, professional services and basic, or export-oriented, production.

- **Central Business District** - Improving the viability of the central business district is essential for maintaining the viability of the surrounding economy. Creating a pedestrian oriented downtown *area* will enhance the marketability of vacant retail spaces by increasing the volume of retail traffic. Based on an inventory of existing first floor retail space, a complete occupancy would yield a *minimum of 57* retail jobs. Many are expected to be owner operated *and* sole proprietorship-type retail businesses.
- **South Otsego Avenue Commercial Corridor** - Creating a commercial corridor will provide an alternate route around the central business district will increase the marketability of the area and lead to *redevelopment* of properties south of downtown. Based on an inventory of vacant property and existing retail space along this two mile segment will facilitate the complete build-out and yield *approximately 1,378* retail jobs.
- **M-32 Vacant Land Development** - Infrastructure improvements through vacant, land-locked parcels that are adjacent to the existing big-box and chain retail stores will allow for additional development *opportunities* in areas close to the central business district, but not directly fronting the M-32 trunk-line. Based on an inventory of vacant property and existing retail space one mile west of *the I-75/M-32* interchange, the build-out of this inventory would yield a minimum of 1,146 retail jobs.
- **Access Improvements** - An inventory of *available* and ready-to-develop industrial properties including vacant land sites, buildings, average development size (acreage, building square feet, and *employment*) and an analysis of the historical absorption rate in the GBC project area were conducted. Based on this information, it is estimated that approximately 3,035 base industry jobs would be created *in the* areas of manufacturing, wholesale, gas and oil services, *and* transportation. These sectors make up the core of regional employment and are the primary source of household income. In addition, infrastructure improvements to truck and commercial vehicle access will promote the marketability of newly developed vacant property sites within the Gaylord Industrial Park.

Efficient transportation networks also reduce household expenditures that translate into greater local household expenditures for goods and services. Household expenses from vehicle operating costs and motor vehicle crash costs are expected to decline with the completion of the GBC. The Cal-B/C Business Corridor model estimates of cost savings will be added to household income in the REMI-PI model to assess direct changes in household expenditures. The portion of expenditures that will remain in the local economy is determined using regional

purchase coefficients specified by the REMI-PI model as direct effects of household cost savings.

#### 9.4 Tax Base Impact

Indirect job creation will improve the local property tax base used to support local government and public services. Applying the current per square-foot valuation of constructed big-box retail and industrial projects, the current tax rate was used to estimate the potential real property taxes paid at 5 and 10 years post-construction (Table 1). Due to the variability and rapid depreciation of personal property, the personal property tax impact was not evaluated. While property values and associated property taxes of the central business district area will benefit, there exist no preliminary estimate of how existing property values will be impacted by the GBC project. Hence, property tax impacts are limited to big-box retail response to the GBC project.

Development Area	Year 5		Year 10	
	Taxable Value	Taxes	Taxable Value	Taxes
Industrial Area	\$12,831,830	\$721,304	\$29,212,928	\$1,642,120
West M-32 Area	\$18,787,260	\$1,056,071	\$38,440,834	\$2,160,840
South Otsego Area	\$14,510,725	\$815,678	\$33,241,594	\$1,868,580
Downtown	-	-	-	-
<b>Total</b>	<b>\$46,129,815</b>	<b>\$2,593,053</b>	<b>\$100,895,356</b>	<b>\$5,671,540</b>

Table 1 Tax Base Impact (Valuation at 5 years and 10 years based on 2008 per square foot value and adjusted for inflation)

#### 9.5 Impact of GBC Construction

Based on previous transportation infrastructure cost and wage rates, the GBC is estimated to employ between 1,942 direct construction workers, resulting in over \$4.4 million in direct payroll over the proposed two-year building period. Utilizing a statewide indirect “spin-off” job creation multiplier of 0.86 attributable to the dispersed nature of payroll and supplier impact, it is estimated that 1,670 additional jobs will be created. Based on this observation and taking into account an average 40-hour week earnings of \$591.50; approximately \$51,365,860 of income would be generated in the region. For example, construction companies in Lower Northern Michigan that will benefit from the GBC project include M&M Excavating, Inc., Gaylord; J&N Construction, Gaylord, D.J. McQuestion & Sons, Inc., LeRoy; Cordes Excavating, Inc., Hillman; Elmer’s Crane and Dozer, Traverse City; Rieth-Riley Construction Company, Petoskey; and Payne & Dolan, Gaylord. These firms have the requisite capacity and experience to complete heavy construction work. In addition, the GBC project will support local and regional concrete and asphalt plants, gravel-mining operations, trucking firms, heavy equipment repair facilities, and other local and regional highway construction material suppliers.

#### 9.6 Supporting Economic Growth

- The Otsego County Economic Alliance (OCEA) will assist all new development locating within the project areas and work closely with the local state employment services agency, as well as Michigan Rehabilitation Services, the state agency responsible for assisting

employers to hire the physically challenged workers. All potential employers are made aware of and encouraged to use the services of these two agencies in their hiring process.

- Potential contractors will be subject to a formal background verification process to determine federal debarment by name and company prior to a bid award.
- Contract documents will contain Executive Order 112246 and Section 3 Claus requiring adherence to federal equal opportunity provisions and rules. Both the City of Gaylord and Otsego County Road Commission (OCRC) have EEO policies in place.
- The unemployment rate for Northern Lower Michigan (24 counties) is 13.6 percent as compared to the National average of 9.7 percent,<sup>1</sup> with a per capita income of \$27,407, representing 74% of the national average at \$36,794; thus defining the region as economically distressed.
- The GBC will procure its construction contracts through a competitive bidding process with most materials such as sand, gravel, concrete and asphalt purchased directly from local suppliers.

## **10.0 Strategic Management and Program Evaluation**

### **10.1 Organizational Structure**

The following web-link provides access to the GBC organizational chart which graphically depicts the integrated nature of the project parties:

<http://www.otsego.org/gbc/administration/GBC%20Organizational%20Chart%20Revised.pdf>

### **10.2 External Advisory Board**

External Advisory Board will function as a resource to provide valuable insight into the assessment, evaluation and continued development of the GBC project. Board members will function as mentors to the GBC Team involved with the individual program components and will be asked to provide recommendations based on the results of the preliminary and final impact evaluations. The Board is composed of the following transportation professionals:

#### **Kenneth Glasser**

Kenneth (Ken) Glasser is a lifetime resident of Northern Michigan. He was born in Gaylord in 1958, graduated from Gaylord High School in 1976, and received a BA in Business from Central Michigan University in 1980. Mr. Glasser is a third generation owner of a family business, which began in Gaylord in 1935. He worked for thirty years in insurance and financial services; spent fifteen years as a property and casualty underwriter, and was involved for ten years in property management. He has served 4 years as Chair of Otsego County Commissioners; 10 years Otsego County Board of Commissioners; 4 years Otsego County Planning Commission; 8 years as a Board Member of Northeast Michigan Consortium; and 4 years Board Member of North East Michigan Service Agency. Mr. Glasser recently ran as a candidate for the 105th District Republican House.

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<sup>1</sup> Based on May 2010 estimates of the Labor Force Statistics from the Current Population Survey provided by the Bureau of Labor Statistics collected on 7/20/2010.

### **Stephen Mayer, PhD, PE**

Dr. Mayer is a registered Professional Engineer in New York, Maryland, and Virginia. He has worked in the transportation and infrastructure industry for over 33 years, including 17 years of experience with funding, design, construction, and operating toll-financed projects, as well as installing and operating intelligent transportation system technologies. Over the last five years, Dr. Mayer has served as a Market Development Manager with the Parsons Corporation, leading the Parsons' initiatives in Public-Private Partnerships (PPP) of toll-financed transportation infrastructure. His expertise includes technical project management, operational oversight, regulatory compliance, change facilitation, organizational leadership, profit and loss management, quality control, strategic planning, and marketing. In addition, Dr. Mayer consults with a wide array of public and private organizations regarding the utilization of PPPs to solve funding shortfalls and address urban transportation congestion and traffic management issues. He works with strategic partners to arrange funding and provide technological, design-build, and organizational solutions for both new transportation infrastructure and upgrades of existing transportation facilities. [http://www.otsego.org/gbc/advisory\\_board/RESUME%20MAYER%20BIE.pdf](http://www.otsego.org/gbc/advisory_board/RESUME%20MAYER%20BIE.pdf)

### **Mary Sheehan, PhD**

Dr. Mary Sheehan is the Founding Director of the Centre for Accident Research and Road Safety–Queensland (CARRS-Q) in Australia. This is a major institute with extensive international networks in the road safety and injury prevention fields. She is an invited international member of the Alcohol, Drugs and Traffic Safety Committee of TRB and is President Elect of the International Council on Alcohol, Drugs and Traffic Safety (ICADTS). Dr. Sheehan has specialized in rural and remote traffic crashes and has over 20 years experience working with relevant health, transport, police and associated insurance and government agencies to reduce the economic, medical and social costs of road crashes in rural and remote regions. She recently lead the largest research program undertaken on this issue examining the behavioral and associated contributors to rural road crashes funded by a “whole of government” consortium committed to implementing change recommendations. Dr. Sheehan's work is directly relevant to the initiatives proposed for the Michigan Research and Rural Traffic Safety Program component of GBC TIGER II.

[http://www.otsego.org/gbc/advisory\\_board/Mary%20Sheehan%20\(Resume%202010\).pdf](http://www.otsego.org/gbc/advisory_board/Mary%20Sheehan%20(Resume%202010).pdf)

### **Vic Siskind, PhD**

Dr. Vic Siskind has 40 years of experience in population health, epidemiology, statistical analysis, and, for the last 13 years, in road safety research. Dr. Siskind joined the Center for Accident Research and Rural Safety- Queensland, Australia (CARRS-Q) in February 1997 as Chief investigator, with Professor Mary Sheehan, on a 5 year long project in road safety in rural and remote regions of Australia. Previously Dr. Siskind was a lecturer at University College London, Research Statistician at the Drug Epidemiology Unit, Boston University Medical Centre and a Visiting Lecturer at the University of Copenhagen. Dr. Siskind was involved with the evaluation of the 'PASS' and 'Under the Limit' programs and on the Speeding Recidivism Project. He is also a co-investigator on the IPCA School-Based Injury Prevention Project (SPIY).

[http://www.otsego.org/gbc/advisory\\_board/Victor%20Siskind%20\(Resume%202010\).pdf](http://www.otsego.org/gbc/advisory_board/Victor%20Siskind%20(Resume%202010).pdf)

### **William Ward, Jr., MBA**

Professor William Ward is a former senior healthcare executive with more than 20 years of experience in health care finance and operations. Prior to joining the faculty at the Johns Hopkins Bloomberg School of Public Health, he served for a 12 years at the Johns Hopkins Bayview Medical Center as the Chief Operating Officer. Since leaving Bayview in 1994, Professor Ward has provided a wide variety of consultative services to clients throughout New England and the Mid-Atlantic States. He has worked on projects overseas in Asia, Latin America, and the Middle East. The author of two textbooks and numerous articles, Professor Ward has lectured widely on a variety of healthcare financial and operational subjects. In addition to the Bloomberg School of Public Health, for 20 years he taught financial management at the University of Maryland, School of Nursing and continues to serve as a guest lecturer. Professional affiliations include the Healthcare Financial Management Association, the American College of Healthcare Executives, and the Maryland Association of Health Care Executives. [http://www.otsego.org/gbc/advisory\\_board/Ward%20CV%202009S.pdf](http://www.otsego.org/gbc/advisory_board/Ward%20CV%202009S.pdf)

#### **10.3 Process and Outcome Evaluation**

Through strategic management and a continuous evaluation process, problems will be identified and resolved early. The project staff will work closely with local government, federal granting and regulatory organizations to ensure the completion of ongoing program reports and where appropriate, make any necessary changes to ensure that the long-term objectives of the project are being met. A preliminary Program Evaluation Plan is available in **Appendix C** at [http://www.otsego.org/gbc/evaluation\\_and\\_sustainability/Program%20Evaluation%20\(Appendix%20C\).pdf](http://www.otsego.org/gbc/evaluation_and_sustainability/Program%20Evaluation%20(Appendix%20C).pdf). This document will be replaced by a formal Project Management Plan (PMP) in the event that an award is made by the USDOT in support of the GBC project.

#### **10.4 Performance Management**

As part of the strategic management approach, the Balanced Score Card will be used to evaluate the metrics of the GBC project. This performance tool will evaluate the effectiveness of the project over time, keep stakeholders informed and ensure that the budgetary expenditures are in line with the proposed goals and objectives. In addition, a Project Management Tool will be used to ensure that the GBC project is on schedule and identify any outstanding issues that may threaten the success of the project before there is an actual problem. [http://www.otsego.org/gbc/administration/Copy%20of%20Project\\_Management.xls](http://www.otsego.org/gbc/administration/Copy%20of%20Project_Management.xls)

### **11.0 Partnerships: State and Local**

The GBC is a result of long-term planning efforts by local leaders and community constituents. Below are the web-links identifying the transportation reports and studies that have been developed and reflect support of the GBC project:

- M-32 and Old 27/I-75 Business Loop Corridor Study (2000): <http://nemcog.org/Pages/M32CorridorStudy.htm>
- I-75 Crossing Study (2004): [http://www.nemcog.org/I-75\\_CrossoverStudy.htm](http://www.nemcog.org/I-75_CrossoverStudy.htm)
- Otsego: One County One Vision – A Report from the Community (2004): [http://www.otsego.org/gbc/project\\_source\\_documents/Otsego%20County%20-%20One%20County%20One%20Vision%20Report.pdf](http://www.otsego.org/gbc/project_source_documents/Otsego%20County%20-%20One%20County%20One%20Vision%20Report.pdf)

- Project Pedestrian (2005):  
[http://www.otsego.org/gbc/project\\_source\\_documents/Project%20Pedestrian%20Report.pdf](http://www.otsego.org/gbc/project_source_documents/Project%20Pedestrian%20Report.pdf)
- NEMCOG Comprehensive Economic Development Strategy 2008-2009:  
<http://www.nemcog.org/ceds/08-09%20Ceds%20Chapters/5%20Action%20Plan.pdf>

## 12.0 Legislative Approvals

The GBC is all about community partnerships and full disclosure of all project activities. As a result we have obtained a resolutions and Letters of support from the local divisions of government, state representatives, township boards and several public and private agencies.

- Federal Letters of Support: <http://www.otsego.org/gbc/outreach/federal.pdf>
- State Resolutions: <http://www.otsego.org/gbc/outreach/state.pdf>
- Applicant Resolutions: <http://www.otsego.org/gbc/outreach/city%20ocrc.pdf>
- Local Government Resolutions: <http://www.otsego.org/gbc/outreach/local%20governments.pdf>
- Office of Highway Safety and Planning (OHSP), Division of the Michigan State Police  
[http://www.otsego.org/gbc/outreach/OHSP%20Letter%20\(GBC%20TIGER\).pdf](http://www.otsego.org/gbc/outreach/OHSP%20Letter%20(GBC%20TIGER).pdf)
- AAA/OHSP Traffic Safety Committee of Northern Lower Michigan  
<http://www.otsego.org/gbc/outreach/Northern%20Michigan%20Traffic%20Safety%20Committee%20Letter.PDF>
- Local and Regional Agencies and Organizations Letters of Support and Resolutions:  
<http://www.otsego.org/gbc/outreach/local%20organizations%20and%20agencies.pdf>
  - Otsego County Commission on Aging
  - Otsego County Bus System
  - Otsego Memorial Hospital
  - Otsego County Emergency Response
  - Otsego County Fire and Rescue
  - Otsego County Sherriff Department
  - City of Gaylord Police Department

## 13.0 Grant Funding

We are requesting **100%** of **\$26,143,617** in funding as an economically depressed rural project site. Due to the economic downturn in the State of Michigan, local budgets have been cut and governmental agencies have had to forgo needed transportation infrastructure projects and/or additional staffing while some positions have been eliminated. As a result, it is not possible to secure financial commitments from the individual project partners. TIGER II Budget:  
<http://www.otsego.org/gbc/administration/Tiger%20II%20Budget.xlsx>

## 14.0 Financial and Technical Feasibility

The GBC project is composed of two very important and integrated parts. Part I includes the actual construction projects and the management strategies that will be implemented to ensure the success of the project. Part II is the inception of the MRRTSP that will serve to increase traffic safety awareness and provide outreach and educational activities. Part II will also supply valuable rural data needed to accurately define the public health problem of rural MVC. Both of the individual parts depend on the multifaceted processes that make up the concept of sustainability.

The City of Gaylord anticipates a minimum start up time due to the extensive experience of the GBC Team in transportation, research, strategic and financial management. The facilities, equipment and organizational support are outstanding. The intellectual interaction within the



multidisciplinary group is well established. In summary, we are confident of the plausibility of the GBC project and the feasibility of our proposal. The time and resources requested are realistic for the successful completion of the GBC project.

It has been a pleasure to have had the opportunity to submit the GBC project proposal to the USDOT TIGER II Team for consideration.

## 15.0 References

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13. National Transportation Research Library On-Line (March 24, 2009). Retrieved: <http://www.itrd.org/default.asp?contentID=1>
14. Michigan State Police (June 2008). Retrieved From: [http://www.mi.gov/msp/0,1607,7-123-1593\\_3504-17157--,00.html](http://www.mi.gov/msp/0,1607,7-123-1593_3504-17157--,00.html)
  - a. Michigan Traffic Crash Reporting System a service of the Michigan Department of State Police
  - b. University of Michigan Transport Research Institute (UMTRI), which maintains active surveillance and continual data reporting.

## 16.0 Appendices

**Appendix A: TIGER I Modification Summary**

[http://www.otsego.org/gbc/GBC%20Modifications%20\(USDOT\).pdf](http://www.otsego.org/gbc/GBC%20Modifications%20(USDOT).pdf)

**Appendix B: Michigan Research and Rural Traffic Safety Program**

[http://www.otsego.org/gbc/safety/Research%20&%20Safety%20Program%20\(Appendix%20B\).pdf](http://www.otsego.org/gbc/safety/Research%20&%20Safety%20Program%20(Appendix%20B).pdf)

**Appendix C: Preliminary Program Evaluation**

[http://www.otsego.org/gbc/evaluation\\_and\\_sustainability/Program%20Evaluation%20\(Appendix%20C\).pdf](http://www.otsego.org/gbc/evaluation_and_sustainability/Program%20Evaluation%20(Appendix%20C).pdf)