

2009

The Gaylord Business Corridor

TIGER Discretionary Grant Application

The success of the US economy is dependent on the efficiency, flexibility, security and safety of its transportation infrastructure. This involves the merger of transportation modalities, just-in-time manufacturing and information technologies to move goods, services and information between businesses and customers. As part of the US economy, the Gaylord Business Corridor (GBC) will expand and extend the local infrastructure and create logistic mechanisms to increase transportation efficiencies through the development of partnerships within the community, political alliances, support new business arrangements and leverage regional economic development.



United States Department of Transportation
Office of the Secretary of Transportation
Grant Application

1. PROJECT TITLE: Gaylord I-75 Business Corridor				
2. RESPONSE TO A SPECIFIC REQUEST FOR APPLICATIONS OR PROGRAM ANNOUNCEMENT <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES DOCKET NO: OST-2009-0115 TITLE: TIGER Discretionary Grants				
3. APPLICANT ORGANIZATION (Joint)				
Name: City of Gaylord Address: 305 East Main Street Gaylord, Michigan 49735		Name: Otsego County Road Commission Address: P.O. Box 537 Gaylord, Michigan 49734		
4. ADMINISTRATIVE OFFICIAL TO BE NOTIFIED IF AWARD IS MADE				
4a. NAME (Last, First, Middle): Duff, Joseph, P		4b. Position Title: City Manager		
4c. GOVERNMENTAL AGENCY, ORGANIZATION OR EQUIVALENT City of Gaylord 305 East Main Street Gaylord, Michigan 49735				
4d. TELEPHONE , FAX (Area Code, Number and Extension) AND E-MAIL Tel: (989) 732-4060 Fax: (989) 732-8266 E-mail: duffj@cityofgaylord.org				
4e. RESEARCH/GRANT WRITING AND GENERAL GRANT ACCOUNTABILITY/OVERSIGHT Karyn M. Warsow, MS, MPH Research Scientist/Compliance Auditor DrPH Student, Johns Hopkins Bloomberg School of Public Health Health Policy Management and Leadership Tel: (773) 330-4633 E-mail: warsowreverence@yahoo.com				
5. TYPE OF PROJECT PROPOSED: <input checked="" type="checkbox"/> Highway <input type="checkbox"/> Transit <input type="checkbox"/> Rail <input type="checkbox"/> Port <input type="checkbox"/> Other				
6. PROJECT LOCATION				
STATE Michigan	CITY Gaylord	COUNTY Otsego	CONGRESSIONAL DISTRICT 1	URBAN OR RURAL AREA Rural (Economically Depressed)
7. COSTS REQUESTED FOR PROPOSED PROJECT		7a. DIRECT COSTS 37,863,374	7b. TOTAL COSTS \$39,756,542	
8. ENTITY IDENTIFICATION NUMBER: DUNS NO.				
8a. City of Gaylord (Recipient) 06-0183399		8b. Otsego County Road Commission (First-Tier Sub-Awardee) 18-6444584		
9. CENTRAL CONTRACTOR REGISTRATION				
9a. City of Gaylord (Recipient) 5MAW5		9b. Otsego County Road Commission (First-Tier Sub-Awardee) 16208121		

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APPENDIX A: Research and Traffic Safety Program (Web-Link):

[http://www.otsego.org/gbcp/Management%20&%20Evaluation/Research%20%20Safety%20Program%20\(Appendix%20A\).pdf](http://www.otsego.org/gbcp/Management%20&%20Evaluation/Research%20%20Safety%20Program%20(Appendix%20A).pdf)

APPENDIX B: Program Evaluation (Web-Link):

[http://www.otsego.org/gbcp/Management%20&%20Evaluation/Program%20Evaluation%20\(Appendix%20B\).pdf](http://www.otsego.org/gbcp/Management%20&%20Evaluation/Program%20Evaluation%20(Appendix%20B).pdf)

**Accessing ALL web-links in this document require the reader to press the 'control' key and left click using the mouse. General GBC Website: <http://www.otsego.org/gbcp/index.htm>*

1.0 SPECIFIC AIMS

The success of the US economy is dependent on the efficiency, flexibility, security and safety of its transportation infrastructure. This involves the merger of transportation modalities, just-in-time manufacturing and information technologies to move goods, services and information between businesses and customers. As part of the US economy, the Gaylord Business Corridor (GBC) will expand and extend the local infrastructure and create logistic mechanisms to increase transportation efficiencies through the development of partnerships within the community, political alliances, support new business arrangements and leverage regional economic development. The essential goal of the proposed GBC will be to complete the transportation infrastructure in the City of Gaylord to improve safety, long-term efficiencies, and environmental and economic sustainability in an effort to enhance the overall quality of life for residents in Otsego County. This program is envisioned as a guideline for rural communities.

1. Reduce the congestion problem in the GBC by 25% in an effort 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. Decrease the incidents of motor vehicle crash and pedestrian injury by 20% through improved safety awareness and the development of a Green Corridor in the central business district, South Otsego Avenue and the West M-32 trunk-line.

Stated percentages are baseline target estimates of projected impact

2.0 BACKGROUND AND SIGNIFICANCE

Situated at the 45th 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., In addition, it is part of the Forest, which is home to herd east of the County has a significant year round residents), population of 23,808 in the fastest growing Michigan as evidenced by population over last 10 Much of this growth is a migration of the aging and



and golf and downhill skiing). Pigeon River Country State the largest free-roaming elk Mississippi River. Otsego seasonal population (not however, with a recorded 2008, it is ranked as one of counties in the state of a 30% and 56% growth in and 20 years respectively. result of urban to rural 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 (<http://www.otsegocountymi.gov/>).

According to the U.S. 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. These features coupled with a location on the I-75 north-south international trade corridor and the M-32 east-west regional trunk-line has led to the development of manufacturing, transportation, wholesale, and distribution industries within the community. Based on this information, the efficiency of the transportation infrastructure in Otsego County is vital to connecting a regional populace within a 50 mile radius to jobs, health care, shopping, schools, local businesses, public services and family, but also for contributing to economic growth and development by connecting businesses to customers, goods to markets, and tourists to destinations.

The current transportation system in Otsego County provides many benefits to residents and businesses including passenger and freight mobility, intermodal connectivity and economic development. Public transportation choices are often limited or unavailable in rural communities. However, in Otsego County the local bus system provides transit services to the elderly, disabled and persons of lower income. 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. The established rail service will be critical to the redevelopment of the vacant Georgia Pacific plant as prospective biomass energy companies evaluate the community. The Otsego County Airport provides general aviation service to corporate and recreational planes with commercial service currently in the planning stage. In addition, bicycling and walking are becoming increasingly important modes of transportation as residents are using alternative methods to get to and from work, school and for recreation.

Population growth, variability and severity of climatic conditions in the region and an unanticipated increase in commercial traffic volume have contributed to the accelerated deterioration of roads in Otsego County. 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. To compound the problem, commercial truck traffic at the I-75 and M-32 interchange has increased from an CAADT of 965 in 2005 to 1,932 in 2007. This heavy freight volume along with tourism and long range travel volumes has increased demand for new and/or upgraded roads in the GBC, while causing early deterioration of interconnected alternative roads not structurally engineered to support this type and volume of traffic.

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 trunk-line is of great concern due to an increase in emitted pollutants, 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. This increase in MVC is multi-factorial and can be attributed to an increase in congestion, decreased roadway capacity, 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 trunk-line.

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 GBC will result in network effects within the entire system. This will be evident through an improvement in access to customers for businesses, reduced transportation costs and travel times, reductions in the negative environmental impacts of congestion and improved safety. Through relatively modest improvements we can have it all; a balancing of trade while preserving the flavor of the local community each without negating the other.

3.0 PROJECT DESIGN

It's ALL about building roads...or is it? Who developed the first transportation network? Who built the cars? Who drives the cars? Why? Your answers will be enough evidence to prove that roads were built by man to serve the needs of man. Therefore, a proposed transportation infrastructure project should take into account the multifaceted nature of man in an attempt to solve the current problems that have been created by man. One can view transportation through the modification of a widely accepted medical model in an attempt to provide an understanding of interrelated factors adversely affecting communities. The Biopsychosocial Model is an integrated approach involving biological, psychological and social factors in determining health and behavior. This is an ideal model that lends itself directly to transportation by demonstrating the interconnecting factors on human health and behavior (**Figure 2**). Although the titles of each circle are different between the models, the concept and overall result is the same. For example, biology in the medical model is described as the structure and function of the system, likewise engineering in the transportation model can be described as the structure, function and ultimate performance of a particular road segment. It is the combination of factors within the transportation model that impact the overall health of man.

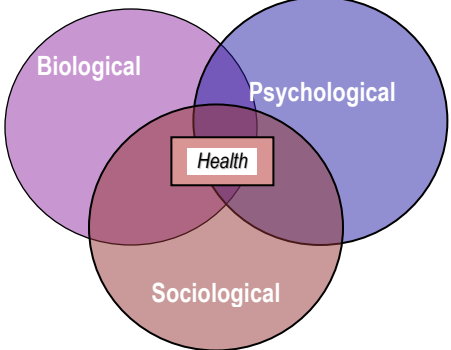
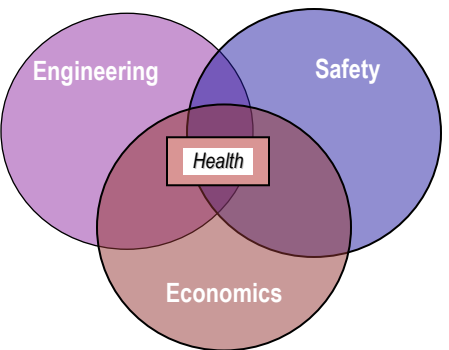
BioPsychoSocial Model of Health & Illness	BioPsychoSocial Model of Transportation
<p>Environment</p> 	<p>Environment</p> 
<p>Environment Biological: Structure and Function Psychological: Behavioral Choices Sociological: Social Support and Economic Sustainability</p>	<p>Environment Engineering: Structure and Function Safety: Behavioral Choices Economics: Social Support and Economic Sustainability</p>

Figure 2 *A concept of the Biopsychosocial Transportation Model will be submitted for publication Fall 2009

In crossing disciplines, transportation has also adopted several economic models of benefit-cost analysis to evaluate the efficacy of a particular project. Therefore, it is not unrealistic to incorporate the concepts borrowed from the medical field in an attempt to provide a holistic approach to the field of transportation. This has already occurred, but possibility not on a perceived level. For instance, a decrease in motor vehicle crashes (MVC) is used as a key economic variable. It is estimated that decreasing the incidents of MVC contributes to approximately one third of the cost saving of a transportation project. Taking this a step further in terms of applying a medical and/or public health model of prevention, MVC are the 5th leading cause of death in the U.S. at 4.2% not far behind heart disease (29%), cancer (23%), cerebrovascular disease (6.8%) and chronic lower respiratory disease (5%). The interesting part is that a majority of these disease states along with MVC are preventable. Therefore, building and/or improving a road will not solve transportation problems alone. A solution will require a coordinated multidisciplinary approach.

4.0 CONSTRUCTION: 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 big box development.

4.1 Context Sensitive Solution (CSS)

Part of making the GBC project a reality is the application of Context Sensitive Solutions (CSS). This concept is the basis of decision-making and engineering design in the GBC to ensure that community input, land use, safety and mobility taken into account while planning improvements in the transportation infrastructure. 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 a safety and media outreach program and a construction reallocation plan to be funded by local monies "freed up" as a result of this grant application to support road projects in outlying townships. An integral component of the GBC project will include outreach and media activities in an attempt to provide full disclosure to the public during all stages of construction, operations and maintenance.

4.2 Design-Build

The decision has been made not to adopt the design-build concept as proposed by MDOT. The design-build construction delivery system, in contrast to design-bid-build, contracts the design and construction aspects of a project to a single entity. This system is used to minimize project risk and reduce the delivery schedule by overlapping the design and construction phases of a project. There are no firms of this nature in the Northern Lower Michigan region. Therefore, if the design-build concept were to be considered as an option, it would be necessary to locate a firm in the Detroit metropolitan area or outside the state of Michigan; thus negating the purpose of the TIGER grant to promote local job development.

4.3 Contracting

4.3.1 Contractor Incentives

Construction contracts will be developed to include contractor initiated savings and an early completion incentive structure. The goal 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.

4.3.2 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.

4.3.3 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.

4.3.4 Project Groupings

In order to expedite construction and provide a competitive environment for the contractors, the individual project segments will be grouped into four 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 on time.

4.4 **GBC Construction Projects**

The GBC project is composed of several individual road segments that will be interconnected to relieve congestion and improve mobility on the M-32 east-west trunk-line. Detailed information on each facility of the project can be accessed through the web-links provided at the beginning of each section (*access link: control, left click*).

- Map of GBC project:
<http://www.otsego.org/gbcp/Maps/Gaylord%20Business%20Corridor%20Project%20Location%20Map.pdf>
- GBC PACER Road Conditions:
<http://www.otsego.org/gbcp/Maps/PASER%20Road%20Condition%20Rating%20Map.pdf>
- GBC Traffic Count Map:
<http://www.otsego.org/gbcp/Maps/Gaylord%20Business%20Corridor%20Traffic%20Counts.pdf>

The GBC support infrastructure roadway segments have been logically grouped to demonstrate the overall impact of the project; not included in these cost estimates is a total ROW amounting to **\$3,676,540**.

4.4.1 I-75 Crossing Support Facilities

The I-75 Crossing 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 south crossing at McCoy Road and the proposed new north crossing at VanTyle.

Project Segment Map:

<http://www.otsego.org/gbcp/Maps/Van%20Tyle-Milbocker-McCoy%20Concept%20Plans.pdf>

Engineering Cost Estimate:

<http://www.otsego.org/gbcp/Budgets/Van%20Tyle-Milbocker-McCoy%20Segment%20Costs.pdf>

Environmental Assessment: Correspondence verifying these reviews will be posted to the web site upon receipt. It is anticipated that a finding of "No Significant Impact" will be issued by the end of November 2009.

<http://www.otsego.org/gbcp/Maps/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Total Cost: \$6,650,022

Traffic passing through small rural towns is often slowed by congestion, traffic control devices and poor roadway design. The alternative route of the I-75 Crossing 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 improving safety by redirecting traffic off of the east-west M-32 trunk-line that passes through the central business district with a mix of pedestrians, cyclists, and motor vehicles. Empiric evidence suggests that alternative routes are successful in separating local traffic from the traffic of a heavily traveled transportation corridor. The 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 in the future related to a decrease in motor vehicle crashes (MVC) and fatalities. The overall effects on the number of MVC 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 trunk-line and the alternate route³. 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 networks³. 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 road³.

4.4.2 Edelweiss-Pine Ridge Shopping Connector

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.

Project Segment Map:

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

Engineering Cost Estimate:

<http://www.otsego.org/gbcp/Budgets/McVannel-Edelweiss-Mankowski-Dickerson%20Segment%20Costs.pdf>

Environmental Assessment: Correspondence verifying these reviews will be posted to the web site upon receipt. It is anticipated that a finding of "No Significant Impact" will be issued by the end of November 2009.

<http://www.otsego.org/gbcp/Maps/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Total Cost: \$3,060,045

The interconnection of these road segments, in conjunction with Access Management will provide an alternative route to residents and visitors accessing the 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.

4.4.3 North Crossing Overpass

The North Crossing Overpass will connect Van Tyle Road located west of I-75 to South Wisconsin Avenue east of I-75 on the outskirts of the central business district. This segment, contingent upon the VanTyle improvement will connect with the McVannel extension and allow traffic to flow to and from the Edelweiss-Pine Ridge Shopping Connector entering at West M-32.

Project Segment Map:

<http://www.otsego.org/gbcp/Maps/Van%20Tyle-South%20Wisconsin%20Overpass%20Concept%20Plan.pdf>

Engineering Cost Estimate: http://www.otsego.org/gbcp/Budgets/VanTyle_Wis_Overpass_Cost_Estimate.pdf

Environmental Assessment: Correspondence verifying these reviews will be posted to the web site upon receipt. It is anticipated that a finding of "No Significant Impact" will be issued by the end of November 2009.

<http://www.otsego.org/gbcp/Maps/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Total Cost: \$5,274,212

A secondary impact to the heavy congestion on the east-west M-32 trunk-line is the volume of daily local traffic. The proposed overpass will be critical to law enforcement and emergency medical service vehicles to gain access to areas west of town, thus avoiding the I-75/M-32 interchange during peak hours of congestion resulting in decreased response times. This overpass will provide direct access to the airport, the industrial park and big box stores consequently promoting long-term economic sustainability.

4.4.4 Green Corridor and Commercial-Retail District Re-Development

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

Project Segment Map:

<http://www.otsego.org/gbcp/Maps/South%20Otsego%20and%20Downtown%20Streetscape%20Concept%20Plans.pdf>

<http://www.otsego.org/gbcp/Maps/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Engineering Cost Estimate:

<http://www.otsego.org/gbcp/Budgets/South%20Otsego-Downtown-West%20M-32%20Streetscapes.pdf>

Environmental Assessment: Correspondence verifying these reviews will be posted to the web site upon receipt. It is anticipated that a finding of “No Significant Impact” will be issued by the end of November 2009.

<http://www.otsego.org/gbcp/Maps/West%20M-32%20Streetscape%20Concept%20Plan.pdf>

Total Cost: \$11,671,795

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. With the downtown stabilized and home to a growing number of niche businesses, the City has been able to increase resident access to stores, services and amenities throughout the community by constructing pedestrian pathways that link the downtown, commercial and industrial areas, schools, parks, and recreational facilities to residential neighborhoods.

The intention is to create a Green Street right-of-way that, through a variety of design and operational treatments, 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. Traffic calming is a combination of physical measures and a supportive environment that reduces the negative effects of motor vehicle use on individuals and the community. This is accomplished by changing the design and role of streets to serve a broad range of transportation, social and environmental objectives. 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
- Achieve an overall improvement in the environment
- Reduce speeds of motor vehicles where incompatible with adjacent land use
- Reduce 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

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 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 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.

4.5 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 fewer entrance points (Access Management) for 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.

4.5.1 Access Management

The industry standard for best practice is the *Access Management Manual*, which provides a more specific definition of access management: "Access management is the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway."⁴ Access Management will begin at the I-75 interchange proceed along the West M-32 trunk-line. 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 intersection congestion and delays to through traffic 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 project. **Total Cost: \$263,925**

4.5.2 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."⁵ 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.⁵ The following systems will be implemented:

- 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/gbcp/Budgets/Traffic%20Adaptive%20Control%20System%20Costs.pdf>

Total Cost: \$1,776,167

4.6 Rural Needs Assessment

So what happens if the GBC is left in its current state? 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.

- 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 possibly lasting for 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.

5.0 RESEARCH AND SAFETY PROGRAM

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." Therefore, to ensure the efficacy of the GBC

research, outreach and safety education will be a fundamental component of the project (**Appendix A**).

[http://www.otsego.org/gbcp/Management%20&%20Evaluation/Research%20%20Safety%20Program%20\(Appendix%20A\).pdf](http://www.otsego.org/gbcp/Management%20&%20Evaluation/Research%20%20Safety%20Program%20(Appendix%20A).pdf)

Motor vehicle crash (MVC) cost is the most important motivation for many transportation infrastructure projects. 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 depends on past MVC rates for the area, frequency, number of individuals involved, and the overall morbidity and mortality. These reductions can be converted to an annual and long-term benefit measured in dollars.

An assessment of MVC projected savings for the GBC will require an examination of the historical MVC rates for the area and the specific roadway type where the crashes occurred. At the time of this application, only a preliminary analysis has been conducted and is presented to provide an overview of the magnitude of the problem regarding MVC in Otsego County. Data will be collected yearly following study start up and one year post completion of the GBC construction to allow enough time to pass so as to achieve a state of normal traffic flow. These data will be used for outreach activities and fit to the Cal-B/C Benefit Cost Analysis Business Corridor Model, which has been supplied by the California Department of Transportation (CDOT), to determine the annual and 20 year projected impact of the GBC.

5.1 Preliminary Data Analysis

County level data were abstracted from the Michigan Crash Reporting System and entered in an Excel spreadsheet. Basic descriptive statistical analysis was used to determine the baseline status of MVC incidents and driver characteristics in Otsego County. Upon visual inspection of **Figure 3**, one can see a plateau effect of MVC occurrence on the individual roadway network from 2004 through 2008. This plateau signifies an epidemic curve of continuous exposure over time by the lack of a defined peak, thus demonstrating an unrecognized public health problem in the community.

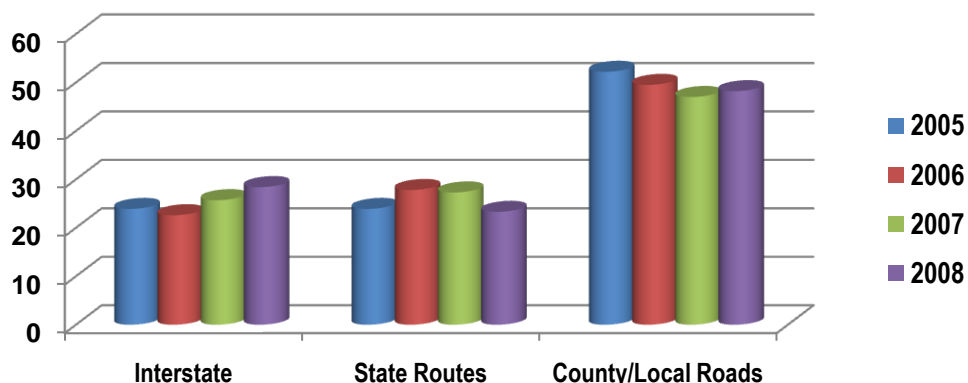


Figure 3

Further break down of the 2008 county level data depicts the distribution of MVC within the specific townships (**Figure 4**). The transportation infrastructure of the GBC includes roadway segments along M-32 (a state route) and local roads in the City of Gaylord, Bagley and

Livingston townships. As one can see, 53% of all MVC occur in these specific areas of the county. An important point to note is that there is not a Trauma Level I hospital in Northern Lower Michigan. This factor contributes to the unexpectedly high morbidity and mortality rate, due to the inability to provide timely specialized trauma services to the severely injured; thus exacerbating the incidents of MVC within the community.

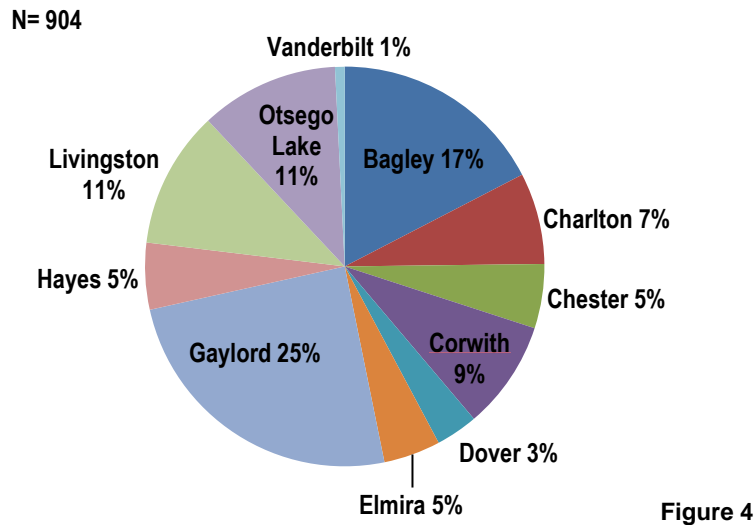


Figure 4

In identifying the population at risk of being involved in a MVC, it is important to provide an accurate demographic profile. In Otsego County, males represent the largest percentage of individuals involved in MVC as compared to females at 60% and 37% respectively (Figure 5). This distribution follows the national trend and may be attributed to a higher degree of risk taking behavior by males.

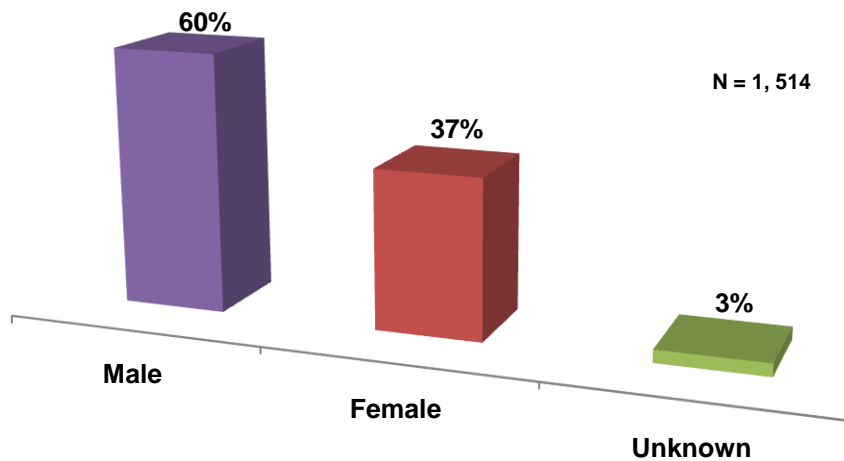


Figure 5

Young drivers (16-24 years) continue to be overrepresented in fatal and life-altering injury crashes nationally. However, in Otsego County young drivers represent only 23% MVC while

persons 25-54 years make up 50% of persons involved in MVC (**Figure 6**). It can be inferred that the children and the parents are in need of a traffic safety and educational intervention.

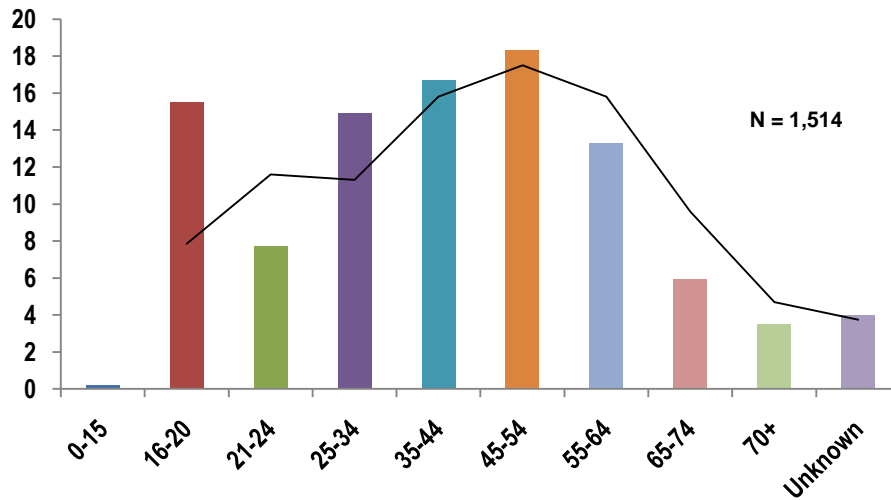


Figure 6

Motor vehicle crashes related to age and alcohol consumption in Otsego County during 2008 were a factor in 3.5% (32/904) of all MVC (**Figure 7**). A total of 69% (22/32) of alcohol-related crashes involved persons less than 45 years of age. The most disturbing is that Otsego County is currently ranked 4th in the state of Michigan, out of 83 counties, in alcohol related fatalities.

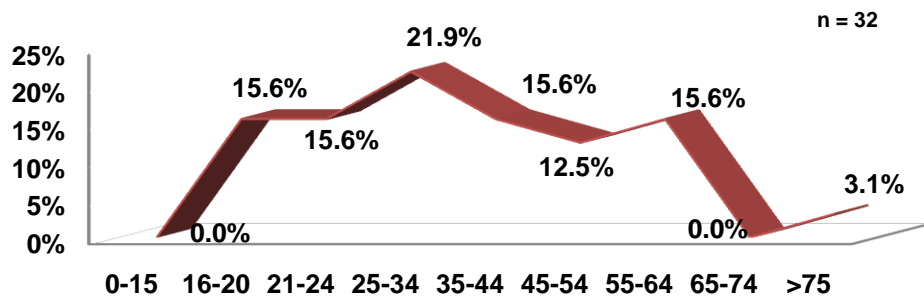


Figure 7

Motor vehicle crashes impose significant economic and social burdens through injury and loss of life, as well as property damage. Comparable and up-to-date cost data on MVC are essential to providing a common measure for evaluating cost and benefits of a proposed transportation project. The monetary and quality of life comprehensive value estimate (based on Michigan 2004 cost estimates) of the 904 documented MVC in 2008 demonstrates an overall incurred cost of \$37,825,747. This total is representative of; 7 fatalities (\$29,235,101 at a cost of \$4,176,443 each), 158 minor injuries (\$6,429,810 at a cost of \$40,695 each) and 739 in property damage only (2,160,836 at a cost of \$2,924). Although this is a rough estimate due to the availability of a limited data set, it is ironic that the annual cost in MVC is only slightly less than the entire cost of the entire GBC transportation infrastructure project.

These preliminary data provide only a snapshot of the MVC and driver characteristics, but clearly expose an unrecognized public health problem in the community. Therefore, we will integrate a coordinated community education and outreach program to investigate the etiology of MVC and the traffic safety culture related to knowledge, attitudes, behaviors and experience of residents in Otsego County. The objective of this program will be to decrease the number and severity of MVC in conjunction with the proposed construction projects.

5.1.1 Data Sources

5.1.1.1 *Michigan Crash Reporting System*

Data for the 24 counties of Northern Michigan and Otsego county level data pertaining to motor vehicle crashes 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, number and type of MVC, morbidity and mortality, property damage, contributing factors, roadway classification, vehicle miles traveled and various quality of life measures.

5.1.1.2 *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.

5.1.1.3 *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.

5.1.1.4 *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 Model. The study will assess the impacts of the system improvements for evaluation against pre-project

goals and determine what additional improvements may be necessary to address any problems or needed improvements to accommodate future use.

5.2 Survey Research

The first phase of the GBC Traffic Safety Program will include a public survey to estimate the extent of the problem in the population. Refer to the following web-link to access the survey:

<http://www.otsego.org/gbcp/Management%20&%20Evaluation/Traffic%20Safety%20Survey.pdf> Survey research is a valuable tool to assess trends in the general population. The survey will be administered using a combination of methods including telephone, postal service mailings and electronic media to gather data on the level of public awareness regarding traffic safety within the community. 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. In addition, a web-link will be provided on the Otsego County website for individuals interested in completing an on-line survey.

5.3 Community Outreach: Education and Safety Awareness

The second phase of the GBC Traffic Safety Program will include community outreach. 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. The community will be encouraged to submit their thoughts, concerns and opinions of the GBC project to the staff. In addition, presentations with a question and answer session will be scheduled at the 9 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 developed by and purchased from the Channing Bete Company will be provided to the public free of charge.

5.4 Safety and Advocacy

The City of Gaylord and Otsego County have continuously been involved in policy initiatives to protect the health and safety of the community. Motor vehicle crash data from the 24 counties of Northern Lower Michigan were disaggregated and statistically analyzed from the Michigan Crash Reporting dataset (83 counties). The results of this analysis demonstrated an unrecognized public health problem of increased morbidity and mortality in the region, which conflicts with the state-wide claim that MVC are decreasing. A presentation is available outlining these results: <http://www.otsego.org/gbcp/Outreach/One%20Size%20Does%20Not%20Fit%20All.pdf> In conjunction, we have supported several House Bills and advocated for a change in state law regarding speed limits on unmarked rural roads.

[http://www.otsego.org/gbcp/Outreach/House%20Bill%205143%20Comments%20\(Final\).pdf](http://www.otsego.org/gbcp/Outreach/House%20Bill%205143%20Comments%20(Final).pdf)

6.0 ECONOMIC DEVELOPMENT

Economic development refers to a sustainable increase in living standards. It implies an increase per capita income, improved education and health as well as environmental protection. The term is also associated with expanding local opportunities for shopping, social activities, and other “quality of life” indicators. In recent years, economic development has been applied to transportation projects that reduce business costs, increase labor productivity, increase access to markets and promote an area’s sustainability. There are three main long-term impacts that define the effect of transportation infrastructure projects on a community:

- Transportation System User Impacts include the monetary and nonmonetary factors that affect the value of travel time, expense and safety for businesses and travelers.
- Economic Development Impacts define the level of economic activity in a geographic area. They include variations in the number and type of jobs, wages and business output, resulting from monetary effects of transportation on income and costs for households and businesses.
- Environmental Impacts include air and noise pollution, visual disfigurement of the landscape and other quality of life factors. These impacts are intangible or non-monetary, though they can be valued in monetary terms. Contingent valuation and willingness-to-pay analyses are often combined with travel cost models to arrive at the net environmental impact.

6.1 Economic Modeling

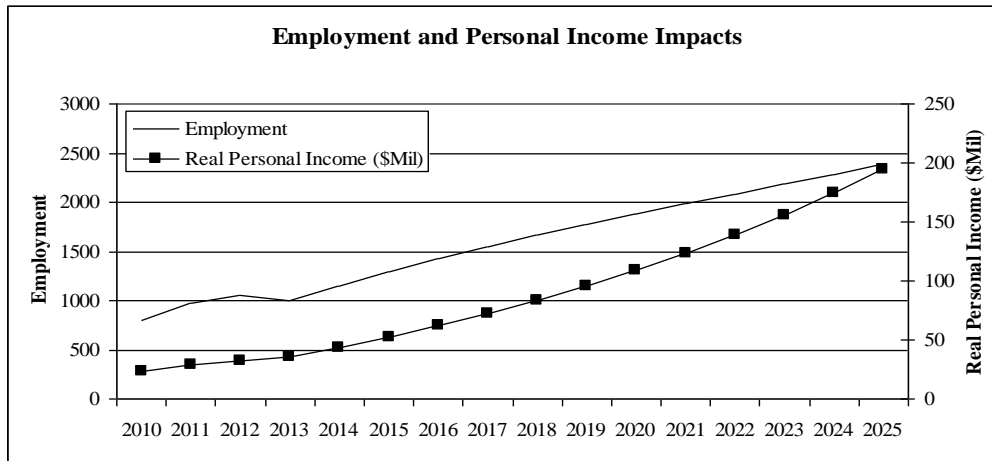
The Regional Economic Model Inc–Policy Insight (REMI-PI) and the California Life-Cycle Benefit/Cost Business Corridor Model will be used in combination to assess the economic, safety, efficiency and environmental impacts of the GBC transportation infrastructure project.

6.1.1 Regional Economic Model Inc–Policy Insight (REMI-PI)

It is important, from a practical standpoint, to evaluate the regional economic development of transportation projects with the understanding that exact impacts can vary based on the type of project and its location. Based on the REMI analysis, the GBC will generate significant economic impact across the region through a combination of channels:

- 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.
- Streetscapes and pathways, along with added development, will positively impact property values; generating additional transactions by local government.
- Initial construction expenditures of approximately \$40 million will generate short-term impacts during the construction phase.
- Greater access will facilitate more 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 initial two years of the project, while the impact of jobs will continue indefinitely. The results 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.



6.1.2 Cal-B/C Business Corridor Model

As previously mentioned, the California Life-Cycle Benefit/Cost Analysis Model (Cal-B/C), specifically the Business Corridor Model released in February 2009 will be used to evaluate the capacity expansion of the GBC project one year post completion as it relates to livability and sustainability <http://www.otsego.org/gbcp/Management%20&%20Evaluation/Cal-BC%20v40%20Corridor.xls>. The model is used to calculate life-cycle costs, net present values, benefit/cost ratios, internal rates of return, payback periods, and annual, life-cycle benefits, assessing intelligent transportation system (ITS) investments and operational improvements. The Cal-B/C economic impact analysis assesses the cost over the time length of the project, in addition to computing life-cycle costs of travel time, vehicle operating cost, MVC (as previously described) and emissions. Benefits of the project are calculated over a 20 year life-cycle, beginning at the time the project is completed and open for public use. Benefits are calculated on an annual basis and summed over a 20 year period.

6.1.2.1 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.

6.1.2.2 Environmental Pollutants

Emissions from vehicles generate much of the global and local environmental costs. These include carbon monoxide, nitrogen and sulfur oxides, volatile organic compounds, and particulate matter. Air pollutant emissions are 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 in the current economy translate into direct out-of-pocket savings for motorist resulting in more income spent on alternative living expenses within the community.

6.2 Economic Development Impact

The economic development benefits of the completed GBC were calculated to assess the nature of the sectors benefiting from the project in terms of their importance to the local economy by number, type and wage rate over the medium (5 years) and long-term (10 years).

Simple base-industry analysis demonstrates that in Otsego County there are a higher proportion of retail jobs in this sector than the nation as a whole.¹ Per capita retail sales data ranks Otsego County as number two in the State of Michigan in this category. These two characteristics, number of jobs and state ranking are evidence of central location of Otsego County in Northern Lower Michigan at a major trade junction of the I-75 north-south trade corridor and the M-32 east-west trunk-line. This market center location serves the local and annual visitor populations that flow to and through the area. Although the retail sector is traditionally a low wage earning sector, generating more part-time positions, it is never-the-less a critical economic sustainability of Otsego County and the region. The big-box and chain stores contribute to the in-migration of people who fill managerial and technical positions leading to a broad array of goods and services provided to the community. The price competitive nature of this type of the retail industry provides an opportunity for low and moderate income households within the region to achieve a higher quality of life.

There are other base industry sectors within Otsego County that contribute to the economic sustainability of the community through the processing and creation of goods and services sold outside the local economy; including forestry, logging, heavy construction, oil and gas, manufacturing, wholesale trade, transportation and warehousing. These sectors, while only employing 20% of the workforce, generated 30% of the total annual wages in 2008. In contrast, retail provided 26% of the jobs and only 21% of the wages.²

Geographic Information Systems (GIS) mapping, vacant sites and building inventory data were used to determine the development of land parcels and vacant building space in areas impacted by the GBC infrastructure improvements. This information was used to calculate the impact of enhanced and/or induced development activity within the GBC.³ Estimates of projected job creation were provided by the Northeast Michigan state employment services agency. Evidence of long-term economic benefits include:

6.2.1 Direct Access Improvements

Based on an inventory of available and ready to develop industrial properties, including vacant land sites and buildings, an analysis of the historical absorption rate in the GBC project area and average development size (acreage, building square feet and employment), the complete

¹ Montgomery Consulting, Base Industry Analysis based on County Business Pattern data. 2009

² Department of Energy, Labor and Economic Growth, Labor Market Information, 2008 Annual Average ES-202 Data

³ Otsego County Economic Alliance, Assessment of the Four Development Areas in the Gaylord Business Corridor, August 16, 2009.

build out of this inventory would yield at least 3,035 base industry jobs (manufacturing, wholesale, transportation, and oil and gas service), transportation infrastructure improvements to truck and commercial vehicle access in the industrial area will assist in promoting the marketability of newly developed vacant property sites in the Gaylord Industrial Park. In addition, these improvements will make the vacant Georgia-Pacific manufacturing facility more attractive to potential buyers. It is anticipated that approximately 9% of jobs created in the industrial area to be managerial and supervisory, while 6% technical and 85% general staff.

6.2.2 M-32 Vacant Land Development

Providing road infrastructure through vacant, land-locked developable parcels that are adjacent to existing big box and chain retail stores will allow for additional development opportunities to occur in areas close to the central business district, but not directly fronting M-32. 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 and retail-related jobs with approximately 8% of jobs managerial and supervisory, 1% technical and 91% general staff.

6.2.3 South Otsego Avenue Commercial Corridor

Creating a more attractive and accessible commercial corridor, coupled with moving the high volume long distance traffic off of M-32 onto alternate routes will increase the marketability of the area and lead to redevelopment of properties along South Otsego Avenue. Based on an inventory of vacant property and existing retail space along this two mile segment will facilitate the complete build out of this inventory and yield approximately 1,378 retail and related jobs of which 8% managerial and supervisory, 1% technical and 91% general staff.

6.2.4 Central Business District

Improving the viability of the downtown central business district, no matter how small, is essential for maintaining the viability of the surrounding economy. Creating a more attractive, pedestrian oriented downtown in the City of Gaylord 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 within the downtown area, the completed occupancy would yield at least 57 retail jobs. Many, if not all, will be owner operated sole proprietorship-type retail and service businesses.

6.3 Direct and Indirect Job Creation

The net effect of the directly induced development to the four development areas as a result of the GBC improvement project is highlighted in **Table 1**.

Development Area	Year 5		Year 10	
	Jobs	Wages	Jobs	Wages
Industrial Area	583	\$3,906,691	1,167	\$16,775,789
West M-32 Area	637	\$2,009,169	1,146	\$7,760,785
South Otsego Area	492	\$1,551,823	991	\$6,711,115
Downtown	57	\$179,784	57	\$226,053
Total	1,769	\$7,647,467	3,361	\$31,473,742

Table 1 Direct Project Induced Job Creation

The above analysis assumes a 25% induced direct effect on both the industrial and West M-32 development areas. The downtown and South Otsego Avenue are assumed to receive an induced effect equivalent to the current absorption rate found in the West M-32 area (7 acres per year). Wages are calculated based on average 2008 sector wages annualized and adjusted for inflation using the Consumer Price Index for historic 5 and 10 year periods (13.6% & 29.2% respectively).

The “spin-off” effect based on the spending by the direct effect induced jobs and wages is highlighted in **Table 2**. Spin-off wage data is based on Department of Energy, Labor and Economic Growth, Labor Market Information 2008 ES-202 data for Northeast and Northwest Lower Michigan. The spin-off effect is based on a calculated multiplier⁴ of 1.03 and uses the 2008 annual average for all industries in Otsego County adjusted for inflation.

Development Area	Year 5		Year 10	
	Jobs	Wages	Jobs	Wages
Industrial Area	601	\$2,400,738	1,202	\$10,309,050
West M-32 Area	656	\$2,621,606	1,180	\$10,126,433
South Otsego Area	507	\$2,024,851	1,021	\$8,756,802
Downtown	59	\$234,586	59	\$503,671
Total	1,823	\$7,281,781	3,462	\$29,695,956

Table 2 Spin-Off Job Creation

Another benefit created by the GBC project induced development will be the spill-over of job creation and associated wage income. This effect will also increase the local tax base use to support local government and public services. Applying the current per square foot valuation based on recently constructed big box retail and industrial projects, the taxable value projected estimate as compared to the current tax rate is used to estimate the potential real property taxes paid. Valuation at 5 years and 10 years is based on 2008 per square foot value and adjusted for inflation based on the CPI for 5 and 10 year historical periods (**Table 3**). Due to the variability and rapid depreciation of personal property, the tax impact of personal property was not evaluated. The Downtown was not evaluated due a limited number of areas impacted and 100% of leased spaces.

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	-	-	-	-
Total	\$46,129,815	\$2,593,053	\$100,895,356	\$5,671,540

Table 3 Tax Base Impact

⁴ Montgomery Consulting, 2009 Michigan Multipliers.

6.4 Job Creation and Economic Stimulation

Direct job creation and total wages generated are based on a review of payroll records for 5 recent road and streetscape projects in Otsego County totaling \$4.25 million in costs. Based on a review of the project cost and wage rate, ratios were used to extrapolate the impact of the estimated \$29.4 million in construction related costs of the GBC project. The GBC project is estimated to employ between 1,942 direct construction workers and result in over \$4.4 million in direct construction payroll over the proposed two year building period. Using a state-wide indirect “spin-off” job creation multiplier of 0.86 due to the dispersed nature of the payroll and supplier impact of heavy construction companies, it is estimated that the GBC project would create and/or retain an estimated 1,670 additional jobs. It is anticipated that most work will be done by companies located within a 90 mile radius of Otsego County. Based on this observation and taking into account an average weekly wage of \$591.50, it is likely that \$51,365,860 in “spin-off” wage income would be available to the region.

Construction companies in the central Northern Michigan region that will benefit from the GBC project include, but are not limited to; 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 the heavy construction work required to complete the GBC transportation network. In addition, the 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 materials suppliers. The Gaylord branches of C2AE and Wade-Trim, both professional engineering consultants, will undertake the design and construction engineering work. The project will also engage several other consultants to undertake the installation of a Traffic Adaptive Control System, and research activities involved in post project traffic evaluation studies, safety education and outreach and data collection required to assess the long-term impacts of the project.

- The project will to the extent practicable and limited by the demographics provide opportunities for small businesses and disadvantaged business enterprises by encouraging contractors to subcontract with such firms.
- The Otsego County Economic Alliance (OCEA) will assist all new development locating within the project areas and works 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.
- As part of the contractual agreement, all potential contractors will be subject to a formal background verification process to determine federal debarment by name and company prior to the award of a bid.
- All contract documents will contain Executive Order 112246 and the Section 3 Claus requiring adherence to federal equal opportunity provisions and rules. In addition, both the City of Gaylord and the Otsego County Road Commission (OCRC) have in place EEO policies.

- The 24 month unemployment rate for the 21 of the 24 counties that make up Northern Lower Michigan will benefit from the short-term construction jobs. The current unemployment average is 10.79% as compared to the National average of 5.88%.⁵ The per capita income is \$27,407, representing 74% of the national average currently at \$36,794; qualifying the entire central Northern Michigan Region as a distressed area.
- The GBC project will procure its construction contracts through competitive bidding. Due to the rural geographic location of the project and the high cost of transporting construction materials, (sand, gravel, concrete and asphalt), most materials will be subcontracted and/or purchased directly from local or regional suppliers. It is anticipated that a second concrete plant (Elmer's Crane and Dozer) will be relocating to the area prior to commencement of the GBC project.

7.0 STRATEGIC MANAGEMENT AND PROGRAM EVALUATION

7.1 Program Management

Project management activities will involve activities such as the feasibility, definition, project planning, implementation, evaluation and support/maintenance. Measurement tools will be used to quantify the implementation and efficacy of planned activities in meeting the stated objectives are met within budget and as scheduled.

7.1.1 Organizational Structure

The following web-link provides access to the GBC organizational chart depicting the interconnection of project parties:

<http://www.otsego.org/gbcp/Management%20&%20Evaluation/GBC%20Organizational%20Chart.pdf>

Additional information is provided to demonstrate the efficacy of working meetings that have taken place prior to the TIGER grant application submission:

- Application Overview Presentation
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/It's%20ALL%20About%20Building%20Roads.pdf>
- Media Presentation:
[http://www.otsego.org/gbcp/Management%20&%20Evaluation/Media%20Impact%20\(8%2026%2009\).pdf](http://www.otsego.org/gbcp/Management%20&%20Evaluation/Media%20Impact%20(8%2026%2009).pdf)

7.1.2 Management Tools

- Performance/Project Management:
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/Performance%20Management%20Plan.xls>
- Balanced Score Card evaluates metrics of the project to determine efficacy during the course of the project to keep stakeholders informed and ensure that the budgetary expenditures are in line with the proposed goals and objectives.
http://www.otsego.org/gbcp/Management%20&%20Evaluation/Balanced_Scorecard_Templates.xls
- This tool was developed to keep track of logistical parameters of the GBC project.
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/TIGER%20Logistics.xlsx>

7.1.3 Staffing

The GBC will hire a team dedicated to the success of the program; complete job descriptions and where applicable resumes are available at the corresponding web-link(s).

⁵ Michigan Department of Labor and Economic Growth, Labor Market Information, 24 month average as of May 2009

- *Project Manager (Construction)*
[http://www.otsego.org/gbcp/Management%20&%20Evaluation/Project%20Manager%20\(Construction\).pdf](http://www.otsego.org/gbcp/Management%20&%20Evaluation/Project%20Manager%20(Construction).pdf)
- *Administrative Assistant (Construction)*
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/GBC%20Administrative%20Assistant.pdf>
- *Research Director*
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/GBC%20Research%20Director.pdf>
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/Warsow%20CV%202009.pdf>
- *Education/Media Specialist*
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/Ed.Media%20Outreach%20Specialist%20Job%20Desc.pdf>
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/Felt%20Resume.pdf>
- *Clinical Data Specialist*
<http://www.otsego.org/gbcp/Management%20&%20Evaluation/GBC%20Data%20Specialist%20Job%20Desc.pdf>

7.2 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 complete Program Evaluation Plan is available in **Appendix B**.

[http://www.otsego.org/gbcp/Management%20&%20Evaluation/Program%20Evaluation%20\(Appendix%20B\).pdf](http://www.otsego.org/gbcp/Management%20&%20Evaluation/Program%20Evaluation%20(Appendix%20B).pdf)

8.0 PROJECT PARTIES

- City of Gaylord: Applicant <http://www.otsego.org/gov/city/citygov.htm>
- Otsego County Road Commission: Co-Applicant
<http://www.otsego-countymi.gov/road-commission-113/>
- Otsego County Economic Alliance: Administrative Oversight (Construction)
<http://www.gaylord-otsego.com/>
- Gaylord Transportation Task Force will serve as the governing board for the GBC project. It is a joint partnership among several parties within the community who have an interest in facilitating the development an efficient and sustainable transportation infrastructure in the City of Gaylord and within Otsego County. This group is made up of representatives from the City of Gaylord, Otsego County Road Commission, Otsego County, Otsego County Economic Alliance, the townships of Bagley, Livingston and Hayes, Northeast Michigan Counsel of Governments, Michigan Department of Transportation-North Region and the Otsego County Economic Alliance.

9.0 GRANT FUNDING

We are requesting 100% of funding for the GBC. Due to the economic downturn in the State of Michigan, local budgets have been cut and governmental agencies have had to forgo needed projects and/or additional staffing while some positions have been eliminated. As a result, it was not possible to secure financial commitments from the individual project partners. GBC Budget: <http://www.otsego.org/gbcp/Budgets/Tiger%20Budget.xlsx>

10.0 INNOVATION

Innovation is a key component throughout the GBC project. We have made a concerted effort to engage the community and ensure their participation in the process. The following innovative techniques have been previously mentioned within the body of this application:

- Integrated Multidisciplinary Approach to Transportation
- Context Sensitive Solution
- Reallocation Plan
- Contracting Attorney
- Construction Incentive Program
- Documented Engineering QA/QC
- Project Groupings
- Access Management
- System-Wide Advanced Traffic Control System
- Research and a Traffic Safety Program
- Media Specialist and Community Disclosure
- Integrative Fiscal and Strategic Management
- Program Evaluation
- Cal-B/C Business Corridor Model and REMI-PI
- Dedicated Construction Project Manager
- Peer-Reviewed Publications (i.e., Rural Guideline to Competitive Grant Application and the Transportation Biopsychosocial Model and GBC Results)

11.0 PROJECT SCHEDULE

Based on a January 1, 2010 award date, the project schedule indicates that approximately 46% of the project work will be designed, bid and ready for construction by May 1, 2010 with an anticipated completion date of November 15, 2010. Approximately 6% of the project work will be designed, bid by July 1, 2010 for completion by July 31, 2011. The balance of the project (47%) will be designed and property acquisition completed by December 2010 with construction beginning by May 1, 2011 and completed by November 15, 2011. These time lines are consistent with experience of both the City and OCRC on similar projects completed within the past 5 years, factor in Northern Michigan's shorter construction season and required sequencing of several project segments. A graphical representation of the construction time-line can be reviewed through the following web link:

[http://www.otsego.org/gbcp/Budgets/GBC%20Project%20Schedules%20\(construction\).pdf](http://www.otsego.org/gbcp/Budgets/GBC%20Project%20Schedules%20(construction).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 a most of the local divisions of government, state representatives, township boards and several public and private agencies. To view copies of these documents, please click on the following web link:

The enthusiasm we have encountered during the initial outreach activities demonstrates the not only the buy-in by the community, but a community that cares about long-term sustainability.

- Initial Outreach Presentation: [http://www.otsego.org/gbcp/Outreach/TIGER%20Grant%20Overview%20\(Older%20PP%20Version\).pdf](http://www.otsego.org/gbcp/Outreach/TIGER%20Grant%20Overview%20(Older%20PP%20Version).pdf)
- Federal Letters of Support: <http://www.otsego.org/gbcp/Outreach/federal.pdf>
- State Resolutions: <http://www.otsego.org/gbcp/Outreach/state.pdf>
- Applicant Resolutions: <http://www.otsego.org/gbcp/Outreach/city%20ocrc.pdf>
- Local Government Resolutions: <http://www.otsego.org/gbcp/Outreach/local%20governments.pdf>
- Local and Regional Agencies and Organizations Letters of Support and Resolutions: <http://www.otsego.org/gbcp/Outreach/local%20organizations%20and%20agencies.pdf>

13.0 PARTNERSHIPS: STATE AND LOCAL PLANNING

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
- Otsego: One County One Vision – A Report from the Community (2004): <http://www.otsego.org/gbcp/Reports%20&%20Studies/Otsego%20County%20-%20One%20County%20One%20Vision%20Report.pdf>
- Project Pedestrian (2005): <http://www.otsego.org/gbcp/Reports%20&%20Studies/Project%20Pedestrian%20Report.pdf>
- NEMCOG Comprehensive Economic Development Strategy 2008-2009: <http://www.nemcog.org/ceds/08-09%20Ceds%20Chapters/5%20Action%20Plan.pdf>

14.0 FINANCIAL AND TECHNICAL FEASIBILITY

We anticipate a minimum start up time since a majority of the components are already available within the existing governmental system. The team has extensive experience in transportation, research 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 project and the feasibility of our proposal. We anticipate that the time and resources requested are realistic for successful completion of the Gaylord Business Corridor.

Section 1511 Certification: <http://www.otsego.org/gbcp/Certifications/Section%201511%20Certifications.pdf>

Additional Certifications: <http://www.otsego.org/gbcp/Certifications/Additional%20Certifications.pdf>

15.0 REFERENCES

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“The author gratefully acknowledges the assistance of Nerie Rose Agacer, Economic Analysis Branch, Division of Transportation Planning, California Department of Transportation for providing the test template of the Cal-B/C Business Corridor Model. The time and patience Ms. Agacer took to educate the GBC team. In addition her exhaustive effort to fit a limited dataset to the model for analysis has made a substantial contribution to the development of the GBC TIGER application. A special thanks to Stephen Mayer, PhD, PE, Assistant Professor-College of Business Administration, Director-Technology Transfer Clinic, Niagara University for his generous contribution as Peer-Reviewer.”