

Smart, Innovative and Energetic: The Case for Active Transportation in the Rochester - Genesee - Finger Lakes Region, New York

Executive Summary: *Greater Rochester can be one of the top 10 biking / walking cities in the US.*

Our region's innovative, intelligent, well-educated and active population makes daily use of Rochester's enviable parks, bike paths, walking-running trails and roads. These include the Erie Canalway, Lehigh Valley, Genesee Riverway, and Genesee Valley Greenway multiuse trails as well as outstanding rural road cycling in the Finger Lakes Region. A growing contingent of enthusiastic cycling clubs, advocacy groups and bike commuters are transforming the Greater Rochester Region and the Finger Lakes Community into a healthy-minded, robust active transportation community. The stage is set for an active transportation revolution.



We've already tilled fertile soil!

- Rochester is already #11 out of 50 largest metro areas in the US in per capita spending on bike-pedestrian facilities.¹
- We are the 6th-safest large metropolitan area in the nation for pedestrians and the 4th-highest in federal spending per person on pedestrian safety.²
- We are already #18 in the nation in bicycling to work, among metropolitan areas with populations over 1 million, despite a cold climate and a relatively modest investment in bicycle facilities to date.³
- Our rate of bicycling to work has more than doubled between 2000 and 2008.⁴
- We are among the top 50 cycling-friendly cities in the US, as rated by *Bicycling Magazine* in 2010.
- We have the highest per capita patent rate in the US.⁵
- We place 5th for overall innovation in the US⁶ and 10th smartest, based on education levels per capita⁷.
- Our 6 colleges and universities within the metropolitan area are all within biking distance of each other and have 60,000 college students, including the major academic medical center in the region. The Rochester Institute of Technology Center for Student Innovation has a course on Active Transportation, the University of Rochester teaches courses on sustainable systems, and the two institutions are joined by a car-free greenway that could become a major transitway to the City.

We've got Seed Money ...

- The City of Rochester has committed \$80,000 to develop a 5-year Bicycle Master Plan currently being facilitated by a nationally recognized bicycle planning consultancy. The City of Canandaigua and Town of Penfield are developing and implementing bicycle master plans. Other towns in the region including Brighton plan to follow suit.

- A fully funded \$261,000 Rochester Bicycle Enhancement Program for the City of Rochester will construct and test on-street bike lane configurations prior to large-scale implementation. Design is scheduled for 2011, and construction in 2012.
- The 2011-2014 Transportation Improvement Program (TIP) for the region includes more than \$16 million total funds recommended for active transportation projects (including the bicycle enhancement program mentioned above). This represents more than 2.3% of the total for all projects in the TIP.

We're poised for growth...

Additional investments in active transportation systems will pay long term dividends by enhancing the region's social and economic vitality. The Genesee – Finger Lakes Region needs the \$50 million regional funding envisioned in this Case Statement to fully develop what has been an excellent start in promoting active transportation.

The \$50 million investment to improve and develop our active transportation system will benefit a broad cross-section of residents and visitors. Safety, health, economic, and societal benefits will improve quality of life for children walking and bicycling to school, seniors and people with disabilities accessing needed services, people with limited incomes who walk, bicycle, and ride the bus to access employment opportunities, and others who will utilize active transportation for non-utilitarian and recreational purposes. The potential economic benefits to Greater Rochester of the \$50 million investment over the first 15 years are considerable. For example, if our region were to reduce the average daily driving mileage by just 1 mile per day, the estimated saving would range from \$88 million (counting crude oil savings only) to \$876 million (counting cost of driving at \$0.40/mile including, car, gas, parking, road maintenance etc.) for an annual return on investment of 13% and 136% respectively for 15 years.

Our public health community realizes that walking and bicycling are critical to attacking Rochester's alarming obesity rate of 31%, (8% greater than the New York State average).⁸

Our educated and skilled population is committed to improving sustainability and improving quality of life. Far from resting on past accomplishments, our region plans to expand its infrastructure and offer new healthier, safer, more economical transportation alternatives. This shift is being facilitated by regional leaders and planners, public health experts, and bicycling, active transportation, and accessibility advocates in the Greater Rochester Region. The City of Bicycle Master Plan process is paying off in growth of active transportation, but with \$50 million regional funding we can make it a way of life.



Notes

¹ August 2009 Report “The Regional Response to Federal Funding for Bicycle and Pedestrian Projects Executive Summary” published by UC Davis Sustainable Transportation Center

² November 2009 Report “Dangerous by Design” published by Transportation for America and the Surface Transportation Policy Partnership

^{3, 4} 2008 American Community Survey (U.S. Census)

^{5, 6} Greater Rochester Enterprise, at <http://www.rochesterbiz.com/Business/Regional/Facts.aspx>

⁷ Democrat and Chronicle 10/26/10. From Source: The Daily Beast Per Capita Online News Survey of largest 55 Metropolitan Areas

⁸ Expanded BRFSS, New York State Department of Health

1. About the Region

Located in western-central New York State, the nearly 4,700 square-mile Genesee-Finger Lakes Region stretches south from the shores of Lake Ontario to the low rolling hills of the Appalachian Highlands. Many striking natural features and scenic vistas lie within the nine-county region including the western Finger Lakes, the Genesee River, and Letchworth State Park, commonly known as the "Grand Canyon of the East".

Founded in 1803 and incorporated in 1834, Rochester is New York State's third largest city (2000 population: 219,773) and the seat of Monroe County (population 734,000). It is the internationally recognized corporate and cultural center of the region that includes the counties of Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates. The region is home to approximately 1.2 million residents and nearly 30,000 businesses with over one-half million employees. The city hosts 6 colleges and universities within the metropolitan area, with over 60 thousand college students attending 12 colleges within the region. The "optics and imaging capital of the world", Rochester is home-base to companies like Bausch and Lomb, Kodak and Xerox, and over 100 innovative optics businesses. Rochester has the highest per capita patent rate in the United States and is 5th for overall innovation, reflecting its highly educated, skilled workforce.¹

2. Transportation system needs

a. Need for transportation alternatives

i. Are transportation options limited?

Conditions for bicyclists and pedestrians in the Genesee-Finger Lakes Region have improved substantially in recent years. Completed projects include numerous multi-use trails, sidewalks, and the provision of bike racks on local and regional transit system buses.

Nevertheless, safe transportation options for bicyclists and pedestrians remain limited. A recent field survey conducted by the Genesee Transportation Council (GTC) shows that only 20 percent (203 miles) of the major roads in the greater Rochester area have complete sidewalks.²

Similarly, a Rochester Bicycling Club (RBC) field assessment of the suitability of area roadways for cycling showed that over one-third (732 miles) were rated either only "fair" or "poor", including many roads under high travel demand.³ And a recent survey commissioned by the City to provide data and guidance for the development of the Rochester Bicycle Master Plan found that the average level of service was 3.7 on a scoring system from 1-5 with 1 being best.⁴ This is slightly better than the average score for US cities (3.9) but the "D+" score leaves room for improvement.

Gaps in the sidewalk network and poor cycling conditions along many roadways limit transportation options, especially for the young, the elderly, people with disabilities, and people without access to a private automobile.

ii. Is there an over-reliance on single occupant vehicle use?

According to The Federal Highway Administration (FHWA), in the year 2000, 81.8 percent of daily journeys to work in the Rochester Metropolitan Statistical Area were via single occupancy vehicle.⁵ This is nearly identical to the rate for Buffalo, the only other upstate area included within the report). Since 1960, as populations and employment have moved toward the suburbs, the trend for Rochester, like most metropolitan areas in the United States, has been an increase in single occupant vehicle use, and a decrease in carpooling. Rochester could reverse this trend by synergistically increasing transit use and improving infrastructure for biking and walking.

b. Opportunities to strengthen other modes, especially transit, with better bicycle and pedestrian connections (e.g., bus, rail, ferry, etc.) and to build the network

Every Regional Transit Service (RTS) bus serving the Rochester area (Monroe County) has a bike rack, and every new transit bus ordered by the Rochester Genesee Regional Transportation Authority (RGRTA) for its six rural systems is equipped with a bike rack. Improving the bicycle network will therefore make it safer and more convenient for bicyclists to connect with the bus system and increase overall bus ridership by increasing the drawing area for cyclists.

Since most public transit riders walk to bus stops, improvements to pedestrian facilities will similarly encourage increased use of the transit system, especially by disabled people who may currently be deterred by non-accessible sidewalks. In some cases, this may allow the use of fixed routes instead of more expensive demand-responsive services provided for some individuals.



c. Mobility needs of those who cannot or choose not to drive. (One third of all Americans (100 million) including children, the elderly, disabled and poor do not drive.)

i. Children (school commute benefits)

The 2000 US census counted 127,000 school-age children (5-17 years old) in the Rochester area. Sixteen and seventeen years olds drive automobiles under some circumstances. Most children depend on walking and biking, parents, or other adults for transportation. Improving bicycle and pedestrian facilities (especially near schools) will make it safer and more convenient for children to walk and bicycle to school, reversing the alarming national and local trends of obesity and physical inactivity that threaten child health.

- The Federal Highway Administration's (FHWA) 1972 *Nationwide Personal Transportation Study* reported that 49 percent of elementary school children nationwide walked or bicycled to school in 1969; by 2001, fewer than 15 percent did so. This decline, and the increase in children being dropped off by private automobile, contributes to unintended and undesired consequences, including traffic safety concerns near school sites, traffic congestion, air pollution, in addition to childhood obesity. One-third of American children and adolescents—nearly 25 million young people—are overweight or obese. Over the past four decades, the obesity rate for children ages more than tripled for adolescents ages 12 to 19 (from 5% to 17%) and jumped almost fivefold for younger children aged 6 to 11 (from 4% to 19%). The data thus indicates this is an accelerating problem⁶
- Regional health experts recognize that active transportation can help address this crisis: Monroe County Public Health Department and the University Of Rochester Department Of Community Health have partnered with The Rochester Cycling Alliance to promote active transportation strategies. (See Public Health section 5b).

Federal, state and local governments, school districts and regional organizations such as the Genesee Transportation Council (GTC) support Safe Routes to School (SRTS) programs that promote students walking and riding to schools rather than riding the bus or being driven by parents. These programs are supported by federal, state, and local governments, school districts, and regional organizations, and are popular in the region: in 2008 New York State received 14 SRTS proposals requesting \$3.17 million in SRTS funding, in the Greater Rochester Area. Only six could be funded with the \$1.7 million available to the region.⁷

In 2009, GTC published the Safe Routes to School Guidebook for the Genesee-Finger Lakes Region (Guidebook) describing the elements included in SRTS programs, opportunities and barriers affecting the ability of children to safely walk and bicycle to school in the Genesee-Finger Lakes Region, and the process that schools and stakeholders can follow to implement an effective SRTS Program.

GTC also funded the development of five SRTS Site Assessments to provide specific recommendations for engineering, operational, and program activities to each of five schools including planning-level cost estimates and suggested priorities for program implementation. These Site Assessments were conducted by nationally recognized SRTS experts, served as case studies in the development of the Guidebook, and provided start-up models for other schools in the region.⁸

One of the essential components of the SRTS program and the assessments is the provision of "complete streets" including sidewalks and bicycling accommodations in the areas adjacent to schools. Improved bicycle and pedestrian facilities will thus enhance a safe, healthy choice and foster independent mobility for children, especially those who would walk or bicycle to school.



ii. Senior population

According to the US Census, 13.3 percent (95,736) of the population of the Rochester area were aged 65 years or older in 2006. The elderly comprise an increasing proportion of the population, and as individuals age, they increasingly rely on modes of transportation other than driving. Safe and accessible sidewalks are a health-enhancing alternative to the private automobile, and they increase access to public transportation. Accessible pedestrian facilities are particularly important where seniors wish to "age in place," in urban and suburban areas, adjacent to retirement communities, and in other senior population centers.

iii. People with disabilities

According to the US Census, 119,598 persons with a disability lived in the Greater Rochester area in 2000. Curb cuts and other accommodations can help many people with disabilities travel as pedestrians, use bicycles/tricycles, or wheelchairs and use public transportation. Since people with disabilities reside and travel throughout the community, all new facilities should be constructed to meet accessibility standards, and retrofits should be made to existing facilities as funds are available.

iv. Households without motor vehicles, including equity implications for those who cannot afford to own one

The 2001 National Household Travel Survey (NHTS) found that 7.19 percent of 291,642 households in the Rochester area or did not own a vehicle or have one available on a regular basis. Non-ownership is more common in lower income households. For example, the most recent data available indicate that 21 percent of Rochester area households had an annual income below \$25,000 and comprised 57 percent of zero vehicle households.

People with lower incomes are more likely to ride buses, bike, or walk to work. In the year 2000, 7.8 percent of all people with incomes below poverty level rode the bus to work compared to only 1.8 percent for the general population. The comparison for biking/walking (combined) shows that 10.5 percent of all people with incomes below poverty level biked or walked to work, compared to 3.0 percent for the general population [US Census Transportation Planning Package (CTPP) Table 1-036, Bureau of Transportation Statistics, 2000].

Trips to work comprise 17 percent of the total trips made each day, but it is reasonable to generalize further that individuals with lower incomes are more likely to rely on public transit, walking, and

bicycling for *all* their travel needs. As a result of their greater dependence on public transit, walking, and bicycling, individuals with lower incomes would greatly benefit from opportunities for active transportation to get to work, school, social activities, and day to day destinations in the region.

3. Active transportation track record and assets

a. Current bicycle, pedestrian and transit mode shares

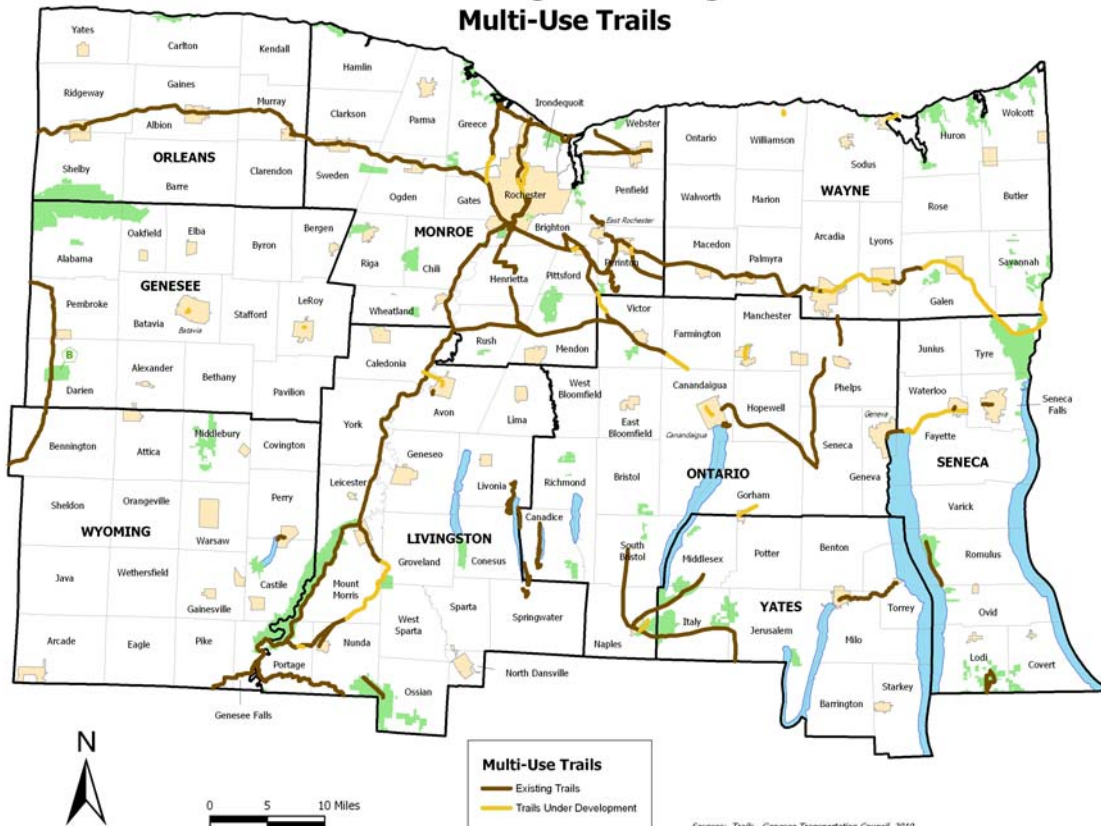
In the Rochester urban area, the rates for walking (3.12 %), bicycling (0.54 %), and public transportation (3.12 %) to get to work are higher than national averages. In 2008, Rochester ranked 18th in biking to work based among over 50 cities with metropolitan area populations over 1 million [U.S. Census American Community Survey (ACS)].⁹ A comparison of Rochester area Census data for 2000 vs. ACS data from 2008 suggests that bicycling as a means of transportation to work increased substantially (from 0.23% to 0.54%).¹⁰ While some of the increase may reflect changes to sampling methodologies, this is an encouraging trend for those who promote active transportation.

Rochester ranked 11th in per capita spending on regional bicycle-pedestrian projects among the 50 largest metropolitan areas in the US .¹¹ It is probably no coincidence then, that, Rochester ranks as the sixth-safest large metropolitan area in the nation for pedestrians and the fourth-highest in federal spending per person on pedestrian safety according to a November, 2009 report “Dangerous by Design” published by Transportation for America and the Surface Transportation Policy Partnership.

However, the rates for walking and using public transportation to get to work in Rochester (and in the nation) unfortunately declined between the years 1990 and 2000. This decline can and must be offset as active transportation alternatives are developed.

Even in light of the national decline in walking between 1990 and 2000, some cities have increased the use of active modes of transportation by investing in supportive infrastructure and programs. In Minneapolis, 0.8 percent of workers walk, 2.4 percent ride bicycles, and 12.5 percent use public transportation to get to work (American Community Survey, 2005). Minneapolis is one of four Pilot Communities that received \$25 million over 4 years (2006-2010) as a part of the SAFETEA – LU’s Non motorized Transport Pilot Plan (NTPP) to promote bicycling and walking. The plan has paid off. From 2007 to 2008 there was a 29% increase in bicyclists and 6% increase in pedestrians¹². Between 2006 and 2008 bicycling increased 68%. Over 10% of Minneapolis citizens now either walk (6.1%) or bike (4.3%) to work compared to only 3.3% nationally (for biking and walking combined).¹³ These data suggest that even in cities with harsh winter climates, people respond enthusiastically if these options are available.

Genesee-Finger Lakes Region Multi-Use Trails



b. Past accomplishments (active transportation system and programs)

The Genesee-Finger Lakes Region has a long history of developing active transportation systems and programs. Since 1993, more than 340 miles of existing trails in the region, including 141 miles of multi-use trails have been completed and/or rehabilitated. In the past 15 years, \$23.6 million in federal funds have been invested in the regional trail system, and more than \$12.8 million in federal funds have been designated for the development of facilities supporting active transportation in the region including additional multi-use trails.

In the same timeframe, the New York State Department of Transportation (NYSDOT) Region 4 invested more than \$6 million (all funding sources included) in the region (\$2 million in Monroe County), while the City of Rochester and Monroe County invested \$2.5 million and \$1.2 million, respectively, to install and improve sidewalks and curb ramps within their jurisdictions.

NYSDOT-Region 4 reports that many locally administered Federal-aid projects have or will include bicycle and pedestrian accommodations. Between 2007 and 2008, for example, these include plans for: the improvement of 28 miles of existing sidewalks; the installation of 9.5 miles of new sidewalks; improvements to 40 miles of existing on-street bicycle facilities; the installation of 6.5 miles of new on-street bicycle facilities; improvements to 280 existing roadway crossings, and the installation of 85 new roadway crossings. Improvements to active transportation are currently being implemented by the City of Rochester's Inner Loop/Sidewalk ADA-Accessible Ramps project (\$550,000 federal funds) and the Rochester Bicycle Enhancement Program (\$261,000 federal funds).

The City of Rochester Bicycle Enhancement Program is included in the regional TIP, with design scheduled for 2011 and construction in 2012. This project will serve as a demonstration of on-street bicycle facility treatments in the city. A number of on-street locations will be chosen as testing grounds for bicycle lane marking options to be identified in the design phase. The results, along with the City's Bicycle Master Plan currently under development will guide City investment in bicycle

facilities and services for the foreseeable future. Rochester's Mayor (lieutenant governor-elect) Robert Duffy is strongly supportive of this initiative.

c. Awards or recognition, e.g., League of American Bicyclists' Bicycle Friendly Communities

The Genesee-Finger Lakes Region is recognized for its trail system that complements the natural features that grace the region. The City of Rochester's Genesee Riverway Trail was designated as a National Recreational trail in 2006, received Parks & Trails New York's (PTNY) Outside the Box award in 2007, and received a National Award from the American Public Works Association in 2008. Public-private partnerships such as the Passport to Family Wellness Program (between the Wegmans regional supermarket chain, and the Town of Penfield) earned the Corporate Partnership Award from PTNY in 2007 as an exemplary model of active transportation promotion.



The Erie Canalway National Heritage Corridor Preservation and Management Plan recently won the American Planning Association's Daniel Burnham Award for creating of numerous partnerships across political boundaries. The plan recognizes the national importance of the Erie Canal and its associated Canalway Trail. In 2008, the Rochester Bicycling Club applied to the League of American Bicyclists for the City of Rochester and Monroe County to be recognized as Bicycle Friendly Communities. In 2010 Rochester was rated one of the top 50 bike friendly cities of all US cities with populations over 100,000 in *Bicycling Magazine*.

These awards demonstrate that residents care about protecting our regional assets and promoting active living through transportation. GTC has also hosted numerous workshops and training sessions and provides technical support to its member agencies to promote active transportation. In 2002 GTC was selected by the National Center for Bicycling & Walking as a first-round winner to implement the shared-cost Walkable Community Workshops Project. GTC was one of only nine MPOs nationwide to receive this honor, and in September 2002, hosted a full-day Walkable Communities Workshop, attended by nearly 100 people, as well as a two-hour evening session for those unable to attend the daytime workshop.

d. Data collection (e.g., return on investment in past accomplishments)

Parks & Trails New York and the New York State Canal Corporation recently released the [Canalway Trail User Count 2007 Report](#), which used a nationally accepted methodology developed at Indiana University to estimate that 100,000 to 200,000 annual visitors used the Canalway Trail at several locations near Rochester. According to that report, 49 percent of trail users were bicyclists, 38 percent walkers, 8 percent joggers, 3 percent persons with baby carriages, and 2 percent in-line skaters. Thus, investments in trail construction can benefit large numbers of users in the region and serve as a principal link within the regional bicycle and pedestrian network.

e. Existing bike/pedestrian master plans (goals, key features, use best practices)

The Genesee Transportation Council is implementing several plans to support development of bicycle and pedestrian transportation system in the region. The *Regional Trails Initiative* (RTI) is intended to "create and maintain a safe, accessible, and highly functional regional trail system that is fully integrated with the existing transportation system and constitutes a nationally recognized distinguishing feature of this region." The RTI was developed in 2002-2004 via extensive public participation (more than 30 public meetings and workshops), and the documents include prioritized lists of trails for further development, provide guidance to local communities interested in advancing the regional trails and bicycle network, and set the stage for completing project-specific feasibility

studies prior to each trail's consideration for funding. The RTI Phase I includes 252 Miles of trails (estimated construction cost \$96 million) and Phase II includes 516 miles of trails (estimated construction cost \$90.5 million). The RTI also includes guidance for development of the regional on-street bicycle network.

The GTC's Priority Trails Advancement (PTA) program provides funding for feasibility studies to advance the RTI. To date, eighteen trail feasibility studies have been completed or are underway, at a total cost of approximately \$390,000. These studies provide conceptual level planning and design (including construction cost estimates) and can be used by proponents seeking construction funding through the Transportation Enhancements Program, the Congestion Mitigation and Air Quality Program, and non-federal fund sources.

The GTC is currently updating its Regional Trails Initiative, which will further strengthen Rochester's reputation as being a bicycle- and pedestrian-friendly city. GTC is also updating its *Long Range Transportation Plan* (LRTP) 2035 which will include bicycle, pedestrian, and safety components and will establish the framework for guiding federally-funded transportation planning and investment decision making in the region that supports and facilitates active transportation.

The active transportation improvements envisioned for the Genesee-Finger Lakes Region and discussed within this Case Statement will be consistent with the LRTP 2035. It will also be informed by the *On-Street Bicycle Facilities Opportunities Review* and the *Pedestrian Facilities Inventory* recently completed by GTC staff, as well as the Rochester Cycling Club's Roadway Rating for the Rochester Area utilized for the GTC-developed *2009 Edition of the Greater Rochester Area Cycling Map*.

The Rochester Bicycle Master Plan will examine best practices in bicycle infrastructure and services, assess their feasibility for local application, identify appropriate locations for bicycle facilities, and recommend bicycle-supportive policies. The Plan will complement the City of Rochester Bicycle Enhancement TIP project by providing conceptual design and inventory work with respect to on-street bicycle lanes. However, the Plan will also consider additional bicycling infrastructure and services such as shared lane markings (sharrows), bicycle boulevards, bicycle parking, commuter facilities (e.g., showers, lockers, etc.), bicycle sharing, and more. The City of Rochester and Monroe County recently received an "honorable mention" from the League of American Bicyclists' Bicycle Friendly Communities Program; the City has a goal of achieving full Bicycle Friendly Community status. The Rochester Bicycle Master Plan will provide the City with a framework for meeting this goal.

f. Project readiness and importance

The plans referenced above include prioritized lists for project programming and development. As such, active transportation projects are ready to be advanced at the request of local sponsors subject to available funding.

g. Planning and implementing capabilities (lead agency)

The Genesee Transportation Council, as the Metropolitan Planning Organization for the Genesee-Finger Lakes Region, has adopted the *2011-2014 Transportation Improvement Program* (TIP),¹⁴ as the project selection document for federally funded surface transportation projects within the Rochester Transportation Management Area. GTC has selection criteria for bicycle and pedestrian projects to be included in the TIP. GTC, along with its member agencies representing the region, has developed the information base, procedures, and the staff expertise needed to plan and program the active transportation infrastructure the region needs.

h. Rail corridors or other right-of-ways that could be converted to trails

The Regional Rights-of-Way Preservation Action Plan (GTC, February 2005) identifies key existing and potential right-of-way preservation opportunities in the nine-county Genesee-Finger Lakes Region for future transportation options, as well as coordinated, achievable, and cost-effective preservation/acquisition strategies to secure these opportunities. The plan provides a comprehensive

recreational and active transportation conduit in the two-state region. These regional corridors, reinforced by mid-level trails such as the Auburn Trail and the Lehigh Valley Trail, constitute the backbone of the regional trail system.

iv. Revenue streams that could match or further leverage federal funds

Most of the projects discussed above utilize considerable local matching funds (typically 20 percent or more) to leverage federal investments in active transportation. It is anticipated that additional non-federal funds would be available to match additional federal monies.

5. Plan benefits

a. Transportation (mode shift; mobility; traffic safety—analyze bike/ped crash data)

Improving the active transportation network within the Genesee-Finger Lakes region will improve user safety while increasing mobility for individuals who cannot or do not drive. It will reduce single occupancy trips within the region, although the degree to which that will occur is difficult to project using existing information and methodologies.

The most recent statistics available for Monroe County indicate that in 2008 there were 338 motor vehicle/pedestrian crashes involving 331 pedestrian injuries, and 254 motor vehicle/bicycle crashes involving 248 bicyclist injuries.¹⁵ Improving bicycle and pedestrian safety is particularly important because injuries involving motor vehicles and pedestrians or bicyclists tend to be more severe than those involving only motor vehicles. For example, in Monroe County in 2008, pedestrian/motor vehicle crashes account for 2.3 percent of the total crashes but 18.8 percent of the fatalities, and bicyclists are also more likely than motorists to be injured or killed if involved in a crash. The societal cost of traffic injuries and fatalities is considerable. Based on estimates developed by the Federal Highway Administration, the six pedestrians killed in Monroe County crashes in 2008 would represent a societal cost of \$34.8 million. The 331 injuries reported that year, using National Safety Council average costs for non-fatal injuries, represent a societal cost (using 2005 dollars) of \$17.5 million. These costs represent a single year of fatalities and injuries. The value of averting those events would thus exceed \$50 million.

Physical improvements such as the provision of bike lanes and sidewalks can reduce the frequency of crashes from 36 percent up to 89 percent (typical values depending on the circumstances and type of crash). The safety consequences as well as the societal economic payoffs are thus potentially substantial.

As discussed previously, many individuals within the Genesee-Finger Lakes Region are limited in their transportation options due to age, disability, or income. Safe transportation options for bicyclists and pedestrians will become even more important as populations age, disabilities increase, and gasoline costs rise.

b. Public health (need for daily exercise opportunities, obesity trends, special needs of children and seniors)

The improvement of active transportation infrastructure within the region will also help to improve public health throughout the nine-county region.

Obesity is a major public health problem in Monroe County. Fifteen percent (15%) of children aged 2-18 years old are obese, and



another 15% are overweight.¹⁶ Thirty-one percent (31%) of Monroe County adults are obese and another 32% are overweight.¹⁷ Since 2000, the rate of adult obesity has increased significantly. The rate of adult obesity in Monroe County is significantly higher (8%) than the rate for the entire state (23%).

Excess weight is a known risk factor for cardiovascular disease and diabetes. Cardiovascular diseases are the leading cause of death in Monroe County. Thirty-two percent of adults have high blood pressure and ten percent have diabetes.¹⁷ The rate of diabetes doubled between 2000 and 2006.

The Monroe County Department of Public Health facilitates a community health improvement initiative called HEALTH ACTION. Based on input collected through a series of forums, “Increasing Physical Activity” and “Improving Nutrition” were selected as HEALTH ACTION priority goals for both children and adults. Two coalitions are working to identify and implement policy and environmental changes to promote physical activity and nutrition. The Monroe County Department of Public Health along with the University of Rochester Center for Community Health convened the Adult Physical Activity and Nutrition Task Force in June of 2009. The Greater Rochester Health Foundation funds the Healthy Eating and Active Living Through policy and practice Initiatives for Kids (Healthy Kids). Members of these multi-stakeholder groups received a New York State Health Department Grant in the fall of 2010 to improve land use policies, including roadway design standards, and zoning regulations to increase physical activity. The Monroe County Health Department and Center for Community Health are also working closely with the Rochester Cycling Alliance to promote bicycling and active transportation. This includes a participation in a grand strategy of holding informational/organizational meetings at University of Rochester Medical Center, a training program for county planners, and participation in a regional bicycling and active transportation symposium currently being planned with the support of the Genesee Transportation Council.

c. Environmental (air quality, climate—has *our* community committed to take climate action? e.g., the U.S. Conference of Mayors Climate Protection Center, the C40 Cities of the Clinton Climate Initiative, or Sierra Club’s Cool Cities Campaign)

Active transportation indirectly mitigates global warming and air pollution (carbon, fine particulate matter, and ozone). Many of our region’s trails follow natural waterways, and trail development is a recommended means of creating riparian buffers against pesticide pollution and erosion. Active transportation also literally puts people in closer touch with environmental issues, increasing their interest and motivation in environmental stewardship. Environmental benefits are consistent with the regions stress on quality of life and Rochester’s inclusion on the Sierra Club’s Cool City Campaign list.

d. Economic development (e.g., revitalization, property values, equity, return on investment)

Investments in active transportation infrastructure promote economic revitalization by improving mobility, improving health, and improving safety all significant factors of quality of life, attracting tourism and making the region more attractive to employers and businesses. People who can travel more readily can more fully participate in community living and in the regional economy. Improved health (e.g., reduced obesity) reduces health care costs for individuals and for society at large and frees up financial resources that can be used to improve other quality of life components. The Outdoor Industry Foundation notes that in the Mid Atlantic States of New York, New Jersey and Pennsylvania, bicycle-related activities contribute \$4.8 billion to the region economy and 44,000 jobs to the region (2006). This includes \$3.1 billion in bicycling trip-related expenditures and \$623 million in annual state and federal tax revenues.

Two analysis scenarios were conducted to evaluate the cost savings and annual return on investment (ROI) for the \$50 million investment in the active transportation system envisioned in this Case

Statement. Both estimates assumed that Rochesterians, who drive 23.6 miles/day (US average 24.3 miles/day), would drive 1 less mile/day, and that only half of the one million metro Rochesterians drive (a conservative assumption). (Bike friendly Portland, Oregon's population drives 4 miles less per day – 20.3 miles/day and saves \$1.1 billion annually¹⁹ under scenario B) What would be our annual return on investment over 15 years?

Scenario A evaluates crude oil savings based on 2005 EIA (US Government Energy Information Administration) estimates, and assuming a mean gas price of \$2.71/gallon²⁰ (September., 2010 national average) and an average fuel mileage is 20 MPG²¹. After the initial 5 year period of capital improvement, mean annual savings would be \$8.4 million/year from year six to fifteen, with an annual return on investment of 13.1% (\$101 million total over 15 years) This does not consider savings in road costs, parking, auto insurance and improved health . (Attachment A)

Scenario B assumes an additional \$0.40/mile cost of driving which includes the costs of the car, gas, insurance, road maintenance, etc^{19,22}., Now the estimated annual return is \$70 million/year by year 6 and yields annual ROI of 146% (total savings of \$876 million over 15 years.. (For details, see attachment B). This estimate is conservative given AAA estimates the “cost of driving” is \$0.73 per mile for 2010,²²

e. Community (e.g., connections, quality of life)

Our regional trail network has become an important part of the community fabric. Parks and historic sites have been developed directly on and along the Erie Canalway Trail in Palmyra, Fairport, Pittsford, Brighton, Rochester, Greece, Spencerport, and Brockport. Other communities have developed connections to the trail network, e.g., trail that links Holley's village center with its canal side marina. Housing and commercial developments have also been stimulated by the trail system, most notably in Fairport, Rochester, and Pittsford.

In the region's urban core, the City of Rochester has planned 13 neighborhood connectors to the Genesee Riverway Trail. Several of these connectors are now complete, while others are in various stages of planning and development, including four in the 2011-2014 TIP. In Rochester, "El Camino" a new urban trail also included in the 2014 TIP, will traverse the region's most densely populated and poorest community. This trail will be fully linked to the surrounding community through enhanced entry points and will both facilitate daily physical activities and give residents access to recreation, housing, and historic sites.

f. Potential to further emergency preparedness

Improvements to active transportation systems would further emergency preparedness by providing alternate travel routes and modes in the event of natural disaster or national security emergencies. (Our region is geologically stable and rarely affected by large-scale emergency events such as hurricanes and widespread flooding so this is a relatively unlikely scenario.)

g. Potential to serve as a model for other communities

The overall implementation will be customized to regional needs and opportunities. However, our process will serve as a model for other regions, as the RTI and the PTA program already do for areas that may be considering the implementation of regional trail systems.

h. Other synergies (e.g., federal projects or lands)

The Genesee-Finger Lakes Region forms the heart of the Erie Canalway National Heritage Corridor which stretches 524 miles across the full expanse of upstate New York. The regional active transportation network will improve access to the Canalway Trail and support the economic and social vitality of the communities along the corridor.

6. Contextual factors encouraging success

a. Weather

Rochester's weather is sometimes cited as an impediment to active transportation development. However Minneapolis, an even colder city, has demonstrated that cold weather cities can have an outstanding active transportation system. This year Minneapolis was named America's most bike friendly city with a bike commuter rate of 4.2 % and an astounding 28% of all trips being non-motorized. Despite similar (but milder) challenges with cold and snow, Rochester is also a river town adjacent to many lakes, with tremendous opportunity for active transportation for both functional and recreational purposes.

The Genesee-Finger Lakes Region lies in the humid continental climate zone and has four distinct seasons. Winters are colder and snowy and are challenging for bicyclists and for pedestrians in those areas where there are no bike lanes, trails and sidewalks, or where there is inadequate snow removal. Rochester's mean January temperature is 24° F and we have more snow, 94 inches/year, than other large cities. Our strategy is to follow best practices of other Northern snowy cities whose bicycling and pedestrian programs have thrived and grown including Minneapolis - St Paul (mean January temperature 15° F) or Madison, Wisconsin (25° F). Spring, summer and fall feature fine weather for walking and bicycling, with summer temperatures in the low to mid 80s and seldom too warm to walk or ride in comfort.

b. Bikeable and walkable geography

The geography of the region is flat to gently rolling, with greater relief toward the south and along some of the river valleys. One important advantage is that the City of Rochester is relatively flat and abuts no significant lakes except the shores of Lake Ontario. Hills and water features seldom impede bicycling. In fact, the Genesee River and the Lake Ontario Shoreline trails and parks are attractive amenities for bicyclists and pedestrians.



Rochester's outlying rural roads are outstanding and provide some of the best rural road cycling in the country with a variety of terrain including flatlands, rolling hills with spectacular views and challenging long steep hills for more robust riders. These are mostly quiet, well maintained rural roads, some of which course through the rapidly growing wine country of the Finger Lakes which promotes synergistic tourism and recreation.

c. Local and regional connections

Rochester's relatively flat terrain is conducive to active transportation. The city provides excellent access to the terrific recreational cycling of surrounding rural roads. The Greater Rochester Region has the added advantages of the beauty of Lake Ontario, and the spectacular vistas of the Finger Lakes and Letchworth State Park, the Grand Canyon of the East. Although The Genesee Valley Greenway partially links Rochester to these areas, the connections are incomplete. On a number of critical routes, even limited extensions would make them excellent transportation corridors. These trails and routes transect critical employment centers including the University of Rochester and the Rochester Institute of Technology. For example, the Genesee Riverway Trail currently links the University of Rochester (with over 19,000 students and employees) to downtown Rochester. With relatively modest improvements this trail, via the Lehigh Valley North Branch, could link to the Rochester Institute of Technology campus (with over 10,000 students) providing students and employees at both campus sites convenient active transportation to downtown Rochester, North - South and the Erie Canal Trail, East - West.

A 230-mile multi-use trail, the Triple Divides Trail extending from Rochester at Lake Ontario south to Williamsport, Pennsylvania, is currently under discussion and largely complete in the Genesee-Finger Lakes region. This trail would serve as a regional long distance active transportation corridor and an outstanding recreational trail for hikers, bikers, kayakers and canoeists.

c. Density

The Genesee-Finger Lakes Region has a variety of development types and population densities, including densely settled villages and the urbanized areas of the cities of Rochester, Batavia, Canandaigua, and Geneva. Each of these communities provides opportunities for developing the active transportation network. The transportation planning and programming process in the region accounts for these different characteristics in order to more effectively serve the walking and bicycling needs of the residents and visitors to the region.

d. Land use planning (e.g., mixed uses)

Many areas within the region including the cities listed above and most of its villages have land use patterns that include mixed uses. Many of the suburban communities have recognized the benefits of mixed uses and are working towards increasing densities.

e. Existing bicycle or pedestrian culture

The Genesee-Finger Lakes Region has a bicycle culture represented by the experienced leadership of the Rochester Bicycling Club which offers over 300 different mapped rides, and a young, dynamic bike advocacy group, the Rochester Cycling Alliance. The Greater Rochester Off-road Cyclists (GROC) is a robust, more than 600 member off road bike organization with a strong history of dynamic off road bicycle park and trail development. Pedestrian recreationally- and environmentally- based groups such as the Adirondack Mountain Club and the regional chapter of the Sierra Club provides strong leadership for walkers and hikers. The City of Rochester, as well as the other three cities in the region and many of its villages, also have a strong pedestrian culture and existing land use patterns that support walking (i.e., density and mixed uses) with active travel habits that have developed over the course of time.



Conclusions:

The Genesee- Finger Lake Region and Greater Rochester are primed for sustained growth in bicycling and other kinds of active transportation. The region is fertile soil for an active transportation revolution.

Our region's natural beauty and topography are ideal for bicycling and walking. Its flat urban terrain and network of multiuse bike / pedestrian trails provide a promising backbone for a network of bike lanes identified by the Rochester Bicycling Master Plan and the aspirational Greater Rochester Active Transportation System. Its innovative, highly educated and innovation-minded population is rapidly recognizing the multiple benefits of having a strong active transportation system. The region's well organized university and county public health community recognizes the dire economic and health

consequences of the obesity epidemic and the critical role that active transportation can play in addressing this problem. These factors are combining to mobilize the region to embrace active transportation as a potent tool to make the community safer, healthier, and more economically viable while improving the quality of life.

With the regional investments and Rochester Bicycle Master Plan, the seeds are planted.

The region has already made considerable investment and progress in making the region pedestrian and bicycle friendly. It is primed for the next level of commitment to active transportation. This document supports the attached budget for improvements to existing local and regional infrastructure to support active transportation in the Genesee-Finger Lakes Region of New York. These improvements will enhance quality of life and the everyday experience for both residents and visitors as they utilize the sidewalks, trails, bike lanes, and other transportation alternatives to single passenger automobile transportation. The costs will be justified by less motorized traffic wear and tear on roads, less pollution, more safety, better health and by reducing the amount spent on gasoline and automobiles, keeping area dollars in the region.

Now let's make it grow.

The \$50 million identified in the attached Preliminary Budget would dramatically accelerate the growth of active transportation in this region. Conservative estimates of reducing our driving less than 1 mile a day would result in \$88 million in crude oil savings and \$876 million in cost of driving reductions with an associated annual return on investment between 13% and 146% respectively over the next 15 years. When primed with a \$25 million 4 year grant, cold snowy Minneapolis increased its walking counts 6% and bicycling 29% from 2007 to 2008 and increased its cycling rate a remarkable 68% from 2006-2008. Like Minneapolis, Rochester is a smart, innovative community that poised for transformation with wise investment. Our goal is to become one of the top 10 bicycling and pedestrian communities in the United States. We're walking and pedaling our way there.



Notes:

- ¹ <http://www.rochesterbiz.com/business/regional/facts.aspx>
- ² http://www.gtcmpto.org/Docs/PlansStudies/PedFacilitiesInventory_ExecutiveSummary.pdf
- ³ http://www.gtcmpto.org/Bike_Map/BikeMapInfo.htm
- ⁴ <http://www.cityofrochester.gov/bikeplan/>
- ⁵ <http://www.fhwa.dot.gov/ctpp/jtw/> (Journey to Work Trends, 2003)
- ⁶ <http://www.cdc.gov/HealthyYouth/obesity/>
- ⁷ <https://www.nysdot.gov/portal/page/portal/news/press-releases/2008/2008-09-103>
- ⁸ <http://www.gtcmpto.org/Resources/Topics/SRTS.htm>
- ⁹ U.S. Census Bureau, 2006-2008 American Community Survey
- ¹⁰ U.S. Census Bureau, Census 2000 Summary File 3, Table P30
- ¹¹ http://pubs.its.ucdavis.edu/publication_detail.php?id=1304
- ¹² www.fhwa.dot.gov/environment/bikeped/ntpp/countx_minn.htm
- ¹³ http://www.bikewalktwincities.org/sites/default/files/BWTC2009Count_Report_FINAL_1.pdf
- ¹⁴ <http://www.gtcmpto.org/Docs/TIP.htm>
- ¹⁵ <http://www.safeny.com/08data/datapack08.htm>
- ¹⁶ “Epidemiology Study of the Prevalence and Distribution of Obesity Among Monroe County Children and Adolescents”, Departments of Pediatrics and Community and Preventive Medicine, University of Rochester Medical Center, with a Grant Supported by the Greater Rochester Health Foundation, 2006.
- ¹⁷ New York State Expanded Behavioral Risk Factor Surveillance System, New York State Health Department, July 2008 - June 2009
- ¹⁸ Monroe County Adult Health Survey, 2006; <http://www.monroecounty.gov/health-healthdata.php>
- ¹⁹ <http://www.impresiconsulting.com/node/42>
- ²⁰ US Energy Information Administration <http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp>
- ²¹ The average combined MPG for all US cars and light trucks on the road today is 19.8 MPG. (Source: 2005 Highway Statistics from the U.S. Department of Transportation, Federal Highway Administration)
- ²² <http://www.aaaexchange.com/Assets/Files/201048935480.Driving%20Costs%202010.pdf>

Budget

**Improvements to Local and Regional Infrastructure
to Support Active Transportation
Genesee-Finger Lakes Region, New York**

Preliminary Budget

Sidewalks and Pedestrian Facilities ¹	\$20,000,000
Multi-Use Trails ²	22,500,000
On-Street Bicycle Facilities ³	5,000,000
Bicycle Parking ⁴	500,000
Feasibility Analysis ⁵	1,000,000
Planning Assistance ⁶	1,000,000
	<hr/> <hr/> \$50,000,000

Basis for budget:

1. Approximately 519 miles of federal-aid roadways in the Rochester Transportation Management Area (TMA) lack sidewalks. Sidewalk development costs vary depending on a number of considerations, but \$50.00 per linear foot can be regarded as a rough guide. The proposal would construct sidewalks and install pedestrian safety facilities along the most critical 60 to 75 miles of the roadways prioritized consistent with regional goals included in the Long Range Transportation Plan and following the analysis undertaken per item 5.
2. There are approximately 538 miles of near- and mid-term trail recommendations included in the Regional Trails Initiative - Phase I and Phase II prepared by the GTC for the Genesee-Finger Lakes Region in 2002-2004 that have not been constructed or funded for construction. The total estimated cost for all these trails to be constructed was estimated to be approximately \$114 million in 2002-2004. The proposal would construct approximately 20% of these facilities following their feasibility analysis and concept-level planning and design per item 5.
3. The Rochester Bicycling Club estimated in 2006-2007 that approximately 35% (732 miles) of the federal-aid roadways in the Rochester area were rated "fair" or "poor" for bicycling. The funds identified would be used to design and build on-street bicycle facilities within the Rochester area along and near the roadways determined to be in the highest need for improvement consistent with regional goals included in the Long Range Transportation Plan and following the feasibility analysis to be completed per item 5.
4. Bicycle Parking facilities could include bicycle racks, bicycle lockers, and a bicycle station for downtown Rochester with satellite facilities considered for large employers (i.e., universities, hospitals, business parks) prioritized consistent with local and regional needs and evaluated per item 5.
5. The amount shown will be used for feasibility analysis, and to prepare concept level plans and designs for the facilities to be constructed within the region, building on the conceptual prioritization consistent with regional and local priorities. Following each project's feasibility analysis and its approval, scoping and preliminary engineering, detailed design, right-of-way acquisition, construction, and construction inspection would be funded under the applicable program category (i.e., budget items 1-4).
6. Funds would be provided to local counties, cities, towns, and villages for the purpose of preparing elements within respective comprehensive plans that support active transportation.

Analysis Summary Scenario A

The analysis on this tab counts "savings" as dollars not spent on the imported portion of a gallon of gas.

Note that I've conservatively assumed a 15-year horizon while the benefits would presumably be longer-lived

Note that I assume that the benefits are phased in 1/5 per year for the first few years as grant money is invested.

Key Input Statistics		Grant Cash Flow Analysis - Monetary Savings Only							
		Year	Investment	Daily VMT Saved	Annual Miles Saved	Annual Gallons Saved	\$ Saved per gallon	Annual \$ Saved	
1,000,000	Rochester metro population	1	\$(10,000,000)	0.00	0	0	\$ 0.93	\$ -	\$
50.00%	Rochester % daily travelers	2	\$(10,000,000)	0.20	36,500,000	1,825,000	\$ 0.93	\$ 1,689,963	\$
500,000	Rochester daily travelers	3	\$(10,000,000)	0.40	73,000,000	3,650,000	\$ 0.93	\$ 3,379,926	\$
23.6	Rochester Daily Vehicle Miles Traveled (VMT)	4	\$(10,000,000)	0.60	109,500,000	5,475,000	\$ 0.93	\$ 5,069,888	\$
22.6	Target Daily VMT	5	\$(10,000,000)	0.80	146,000,000	7,300,000	\$ 0.93	\$ 6,759,851	\$
1.00	Daily VMT Saved	6	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
20	Average Miles per gallon (from Cortwright, 2007)	7	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
\$ 2.71	Assumed \$ Price per gallon (my guess)	8	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
67%	% of each gallon spent on crude oil (per 2010 EIA estimate)	9	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
51%	% of gasoline that is imported (per 2009 EIA estimate)	10	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
365	Assumed Days Per year	11	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
		12	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
		13	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
		14	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
		15	\$ -	1.00	182,500,000	9,125,000	\$ 0.93	\$ 8,449,814	\$
								\$ 101,397,767	
* Per EIA 2010 Estimates - Cost Breakdown for Gallon of Gas:								Internal Rate of Return	
67% Crude Oil									
15% Federal & State Taxes									
7% Refining Costs									
11% Distribution and Marketing									

EIA Estimates for September 2010 were 67% of each gallon was spent on the cost of crude oil, and US average cost of gas was \$2.71/gallon

<http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp>

US Energy Information Administration (EIA)

Analysis Summary Scenario B

The analysis on this tab uses Joe Cortwright's assumption that each mile saved is "worth" \$0.40 (from his 2007 paper and presentation).
 Note that I've conservatively assumed a 15-year horizon while the benefits would presumably be longer-lived
 Note that I assume that the benefits are phased in 1/5 per year for the first few years as grant money is invested.

Key Input Statistics		Grant Cash Flow Analysis - Monetary Savings Only					
		Year	Investment	Daily VMT Saved	Annual VMT Saved	Annual \$ Saved	Su Cas
1,000,000	Rochester metro population	1	\$ (10,000,000)	0.00	0	\$ -	\$ (1
50.00%	Rochester % daily travelers	2	\$ (10,000,000)	0.20	36,500,000	\$ 14,600,000	\$
500,000	Rochester daily travelers	3	\$ (10,000,000)	0.40	73,000,000	\$ 29,200,000	\$ 1
23.6	Rochester Daily Vehicle Miles Traveled (VMT)	4	\$ (10,000,000)	0.60	109,500,000	\$ 43,800,000	\$ 3
22.6	Target Daily VMT	5	\$ (10,000,000)	0.80	146,000,000	\$ 58,400,000	\$ 4
1.00	Daily VMT Saved	6	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
\$ 0.40	Savings per mile (from Cortwright, 2007)	7	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
365	Assumed Days Per year	8	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		9	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		10	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		11	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		12	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		13	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		14	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
		15	\$ -	1.00	182,500,000	\$ 73,000,000	\$ 7
						\$ 876,000,000	
						Internal Rate of Return	

Analysis similar to 2007 Presentation by Portland Economist Joe Cortright to CEOs for Cities, Impresaconsulting.com

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