Complete Streets Technical Report



GCMPC
GENESEE COUNTY METROPOLITAN PLANNING COMMISSION

Genesee County
2040 Long Range Transportation Plan
GeneSEE the Future: Mobility 2040

GENESEE COUNTY METROPOLITAN ALLIANCE

Genesee County Complete Streets Technical Report

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Appendix A

List of all Genesee County 4-to-3 Lane Conversions

Genesee County Complete Streets Technical Report

A national movement is taking shape in communities across the country to **complete the streets**.

The movement can be summed up in a simple statement:

Streets are for people not just automobiles.

"The streets of our cities and towns ought to be for everyone, whether young or old, motorist or bicyclist, walker or wheelchair user, bus rider or shopkeeper**.** But too many of our streets are designed only for speeding cars, or worse, creeping traffic jams. They're unsafe for people on foot or bike — and unpleasant for everybody."

–National Complete Streets Coalition

States, cities and towns are asking their planners, engineers and designers to build road networks that welcome all citizens. The Genesee County Metropolitan Alliance wants to create a transportation network that is safe, accessible and efficient for all the citizens of Genesee County.

Bike Lane on University Avenue, Flint

The Complete Streets vision statement for Genesee County:

"Transportation improvements in Genesee County are planned, designed and constructed to encourage walking, bicycling, and transit use while promoting safety for all users."

Complete Streets Background

By definition, Complete Streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street.

Complete Streets is a way of looking at the public right-of-ways in the community as not just a place for cars to travel but a place for people to travel. A Complete Street is a safe, comfortable and convenient street for travel via automobile, foot, bicycle, and transit. There is not one particular best practice for Complete Streets, since every community will have its own unique needs. Complete Streets is a way of considering all the possible users of a street and

accommodating them in the best way possible. Remember, every trip you take in an automobile begins and ends with walking.

Some design elements of a complete street may include:

- Sidewalks
- Bike lanes
- Non-motorized paths
- ADA Accessible crosswalks and ramps
- ADA Accessible bus stops and shelters
- Dedicated Bus Lanes
- Pedestrian crossings at signalized intersections
- Bridges with non-motorized access
- On-street parking
- Road Diets

Photo courtesy of smartgrowthamerica.org

Things you may find on a Complete Street:

- People of all ages and abilities walking or bicycling
- Outside dining areas
- Busy downtown pedestrian areas
- Transit-Oriented Design

Complete Streets work well with other types of transportation projects including:

- Traffic Safety Improvement Projects
- Safe Routes to School Initiatives
- Regional Trails and Greenway Systems
- Downtown Development Projects
- Corridor Improvement Projects
- Streetscape Projects
- Transit Projects

Benefits of Complete Streets

The complete streets movement is growing in popularity because projects have potential benefits for all users of a street. In contrast, other projects such as a road widening might have benefits for motorists, but that often comes with negative impacts on non-motorized transportation. Complete Streets projects can have positive impacts for everyone:

Pedestrians and Bicyclists

- Improved safety and comfort due to signalized pedestrian crossings, wider sidewalks.
- Better accessibility for pedestrians means people have better ability to lead a healthy lifestyle and walk or bike more places.
- Bike Lanes can allow bicyclists to safely share the road with other vehicles
- Children are given a safer way to walk or bike to school, helping them stay physically active and gain independence.

Elderly and Mobility Challenged

- Road diets can provide narrower streets that are less intimidating to cross for people who move more slowly.
- Complete streets designs offer wider sidewalks, ramps, and transit stops that are accessible by everyone. Sidewalk bulb-outs, refuge medians, and audible crossing signals for the visually impaired are just a few complete street designs that can make pedestrian crossings easier.
- People with limited mobility will have better access to fixed transit routes, decreasing the need for specialized paratransit services.

Motorists

- Complete streets can have a traffic calming effect which reduces vehicle crashes.
- Complete streets encourage more walking and biking, leading to less traffic and congestion on the road.

Bike Lane on Miller Road, Swartz Creek

Increased Transit Ridership

- Cut-out transit stops allow busses to safely stop without interrupting traffic.
- Shelters give transit riders a safe place to wait.
- Sidewalks and curb ramps connected to them make transit more accessible.
- A network of bike lanes and transit routes creates a harmonious complete streets system.

Economic Benefits

- A balanced transportation system can create economic growth by providing accessible connections between residences, public transportation, offices and retail destinations.
- Better pedestrian facilities allow more people to access businesses, especially people who lack access to transportation.
- Complete streets can raise property values, as people are willing to pay more to live in walkable communities.

Context Sensitive Solutions (CSS)

Context Sensitive Solutions is an approach to transportation projects that involves all community stakeholders in the planning process. Defining the context of a project is important to ensure transportation facilities meet the needs of a community. These needs can vary greatly depending on the character and landscape of the location. Complete Streets projects are a good example of this. A complete street with pedestrian facilities might be very compatible in an urban area where stakeholders would welcome such changes. However, the same project would not be compatible on a rural highway where pedestrian facilities are not needed. Later in this report, CSS is demonstrated in the 4 to 3 Lane Conversion Study where recommendations are made based on different characteristics of each corridor.

Complete Streets Goals, Objectives, and Action Steps

Goal: Complete the Streets in Genesee County

Objective: Inventory the need for Complete Streets

Action Steps: Complete a sidewalk inventory of Genesee County

Action Steps: Include questions about the need for Complete Streets in future transportation surveys

Objective: Approve and follow the Complete Streets Policy for Genesee County

Action Steps: Ensure that all road agencies agree to implement the Complete Streets policy

Objective: Evaluate and select projects that fit complete streets policy

Action Steps: Utilize the Complete Streets Policy for Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) Projects

Objective: Implement road diets suggested in the Road Diet Study

Action Steps: Utilize the Complete Streets Policy for Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) Projects

Goal: Educate local officials and road agencies about Complete Streets

Objective: Provide resources and education about Complete Streets

Action Steps: Continue to keep a database of Complete Streets by gathering information on conversion projects in Genesee County

Action Steps: Follow statewide and national trends in Complete Streets

Action Steps: Provide technical assistance to road agencies when needed about implementing Complete Streets in their communities

Objective: Advocate for Complete Streets when new road projects when possible

Action Steps: Document and publicize success stories about implementation of Complete Streets

Action Steps: Work with other organizations such as Safe and Active Genesee for Everyone (SAGE), the Disability Network, and other organizations to reach out to the community about the need for Complete Streets

Guiding Principles of Complete Streets

Photo courtesy of completestreets.org

Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. In order to complete our streets in Genesee County, changes in the policies and practices of our transportation agencies need to occur. A Complete Streets policy ensures that the entire right of way is routinely designed and operated to enable safe access for all users.

Transportation agencies must ensure that all road projects result in a street that is appropriate to local context and needs as determined by the transportation agency.

Genesee County Complete Streets Policies

Policy 1: Coverage Area

Complete Streets policies shall cover all roads in Genesee County that are part of the Federal Aid Road System.

Policy 2: Design Guidelines

All transportation improvements shall be constructed in accordance with prevailing ADA guidelines and AASHTO and existing MDOT standards.

Policy 3: Planning Documents

All Federal Aid Road Projects in the Genesee County Metropolitan Alliance Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) shall be evaluated according to the guiding principles of Complete Streets.

Road Diet on Vienna Street, Downtown Clio

Policy 4: Maintenance

Maintenance agreements with clearly defined roles and responsibilities shall be established for any non-motorized facilities before the facilities are built.

Policy 5: New Development

Municipalities should consider adopting a Complete Streets policy and that all new development site plans, residential and non-residential, should provide non-motorized facilities:

- Built to ADA guidelines and AASHTO standards
- With adjacent connections to existing or future non-motorized facilities
- Regardless of land use, location or National Functional Classification
- At the minimum, along the road frontage Right-of-Way
- Consultation with local road and transit agencies should occur during the site plan review process

The following exceptions are suggested:

- Residential developments with one dwelling unit per more than five acres
- If the cost of providing non-motorized facilities becomes burdensome to the total infrastructure cost associated with the development
- The provision of non-motorized facilities is environmentally unfeasible due to natural resource constraints
- Segments along or to a facility where pedestrians and bicycles are prohibited (i.e. freeways)

Michigan's Complete Streets Policies

On August 1, 2010, Michigan legislators signed Public Acts 134 and 135 in order to encourage development of Complete Streets as appropriate to the context and cost of a project. Public Act 135 allowed for the creation of a Complete Streets Advisory Council which provides education on the development, implementation, and coordination of Complete Streets policies to government and non-government stakeholders.

Complete Street designs, Kearsley Street, Flint

This new legislation also required the State Transportation Commission to adopt a Complete Streets policy for the Michigan Department of Transportation (MDOT). A statewide policy was adopted and has been used as a model by local municipalities in the creation of their own policies. These new laws do not require all municipalities in the state to develop their own complete streets policies. However, if a local agency proposes a project that falls under the jurisdiction of another agency, those two agencies must consult each other and agree on how to address their complete streets policies prior to project approval.

Local Complete Streets Policies

Many communities within Genesee County have adopted their own resolutions to encourage the use of Complete Streets guidelines in future transportation projects. At the time of this report, the following municipalities have adopted a Complete Streets policy:

- Atlas Township
- Fenton Township
- City of Flint
- Genesee Township

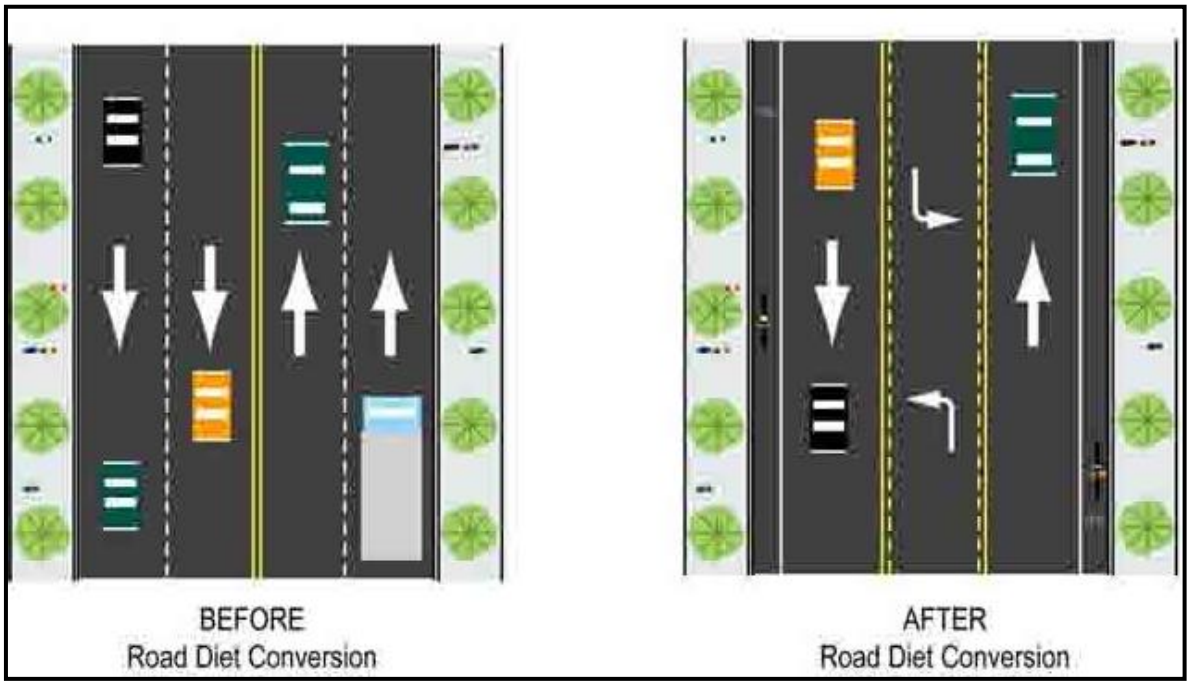
- Grand Blanc Township
- City of Linden
- Mundy Township

According to the National Complete Streets Coalition, complete streets policies should apply to all phases of all projects, using the latest design standards. They should allow for flexibility in balancing user needs, since not all road segments have the same variety of users. Policies should specify any exceptions and require high-level approval of them. Complete streets policies should also include performance standards and specific steps for implementation.

Road Diet Study

Although there are many ways to complete a street, this technical report includes an in-depth look at one low-cost and simple complete street technique that can improve traffic safety, provide room for bike lanes and make it safer for pedestrians and bicyclists to travel, **road diets.** A road diet is a reconfiguration reducing the number of traffic lanes on a roadway to accommodate the introduction of a center-turn lane, on-street parking, bike lanes, a dedicated transit lane or a combination of these street amenities. Road diets can typically be implemented at a low cost, since re-striping of lane markings can be done without having to resurface or reconstruct the roadway.

Example of a Road Diet



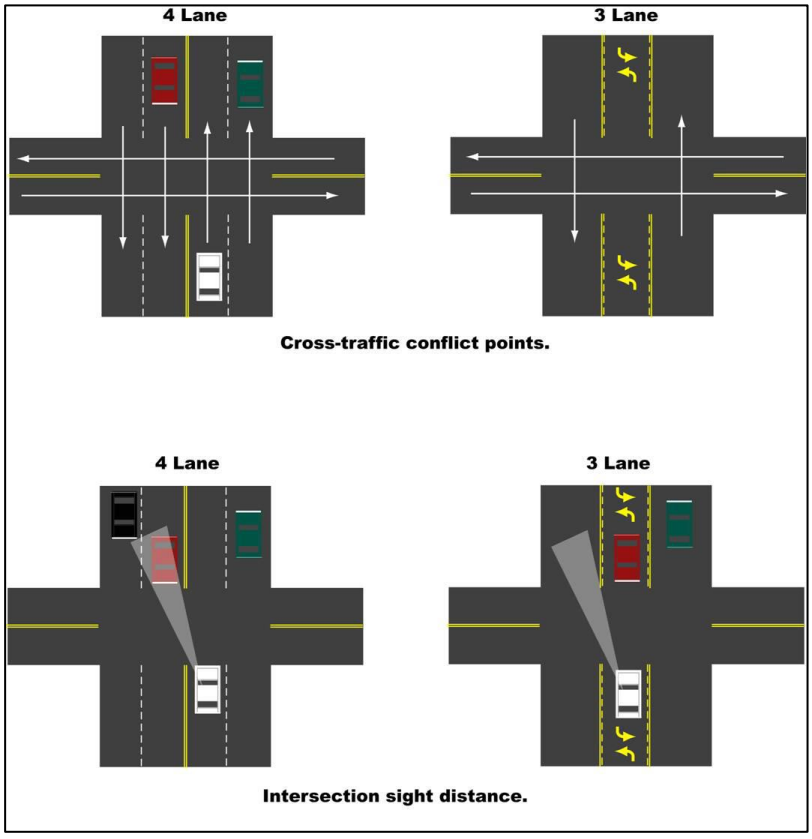
Benefits of a Road Diet

Safety

Road diets involve reducing the number of lanes from four to three (two through-lanes and a center turn lane). This benefits all modes of transportation. It improves safety for motorists because removing the left-turn movements from the through lanes will result in fewer head-on left turn and rear end accidents. At intersections, the benefits of a center turn lane are very evident, separating left-turning vehicles from through traffic. As shown in the Intersection Safety Benefits diagram below, a 3-lane configuration results in less cross-traffic conflict points and improves intersection sight distance.

For pedestrians it makes crossing the street easier. It is simply easier to cross three traffic lanes than four. Pedestrians looking for a safe crossing at an intersection must determine what each car is going to do. A pedestrian knows that a vehicle in the center-turn lane will be turning soon, and in the through lane they will be traveling through or turning right. It is easier for a pedestrian to judge a vehicle's behavior with a 3-lane configuration. The center-turn lane can also act as a refuge for a pedestrian caught out in the middle of a road trying to cross.

Intersection Safety Benefits Example



Traffic Calming

This also produces a traffic calming effect. All of the vehicles move along the street at about the same speed, which eliminates dangerous merge and weave movements that can occur on a 4-lane roadway. Traffic calming measures, especially in residential areas, school zones, and downtown shopping areas can improve safety and comfortability for all users.

Bike Lanes

Removing a lane of travel can also provide room for bike lanes on the outside of the travel lane, a simple way to get bicycle facilities for the community at low cost. As average fuel costs continue to rise, more and more people are using bicycles as a form of transportation. Additional bike lanes will allow even more bicyclists to safely use our road network. In the City of Flint, all students living within 1.5 miles of their school cannot use school bus service. They must walk, bike or get a ride from an adult to school. Additional bike lanes in a community like Flint can greatly help students get to school safely.

Road Diet on Flushing Road, Flint Township

Parking

Some commercial areas are in need of on-street parking. Where feasible, the eliminated travel lane can be used to accommodate on-street parking, such as in downtown shopping districts, and small mixed residential/ commercial corridors, near schools and churches.

Other Road Diet Benefits

- Improves livability of a community and quality of life for residents
- Great for increasing mobility and accessibility for elderly and disabled
- Re-striping and signage is an inexpensive fix for roadway operations
- Great for urban areas
- Option for additional streetscape enhancements
- Improves walkability

Road Diet Pro's	Road Diet Con's
Traffic Calming-Slows traffic, eliminates speeding and merge-and-weave driving. Slower traffic in downtown shopping areas encourages window-shopping and looking at stores.	Slows traffic- all through traffic needs to travel in one lane and therefore is limited by the speed of the slowest driver
Improves safety- fewer accidents because left-turning movements are removed from the through travel lane	May cause difficulty in pulling out into the roadway from a driveway or side-street if traffic volumes are high (above 15,000 vehicles per day) especially during peak travel hours, because of lack of breaks in the travel lane for merging traffic.
Ability to utilize right-of-way for other purposes such as bicycle lanes, parking, or streetscape enhancements	Slight decrease in roadway capacity, due to loss of a travel lane.
Inexpensive roadway design fix, especially when implemented as part of an existing repaving project.	If road diet is on a bus route, bus stops can stop traffic.
Ability to improve lane width to standard 12 ft wide lanes where roads are too narrow and not meeting standards.	Driver Expectations- People used to driving on the road as a 4-lane will have to get used to the 3-lane configuration

When is a road diet appropriate?

- Average Daily Traffic Count (ADT) of under 10,000 is highly likely as feasible. ADT of 10,000 to 20,000 may be feasible depending on other factors. ADT over 20,000 typically is not appropriate for a road diet.
- When narrow lane widths prohibit correct use of 4-lane roadway. 12 ft lane width is standard, less than 12 ft lane width can prohibit cars from passing safely.
- When land use on a corridor produces lots of turning movements such as a block-style street grid, shopping areas along a corridor, school zones, etc.

Road Diet on Fifth Avenue, Flint

- When rates of traffic accidents for head on, head on – left turn, angle, rear end, and rear end – left turn crashes are higher than average for similarly functionally classified roadways.
- When bike lanes are needed in the area.
- When a parallel route exists with a higher capacity (5-lane road)
- When traffic calming is needed
- When on-street parking is needed

Complete Street designs on University Avenue, Flint

A common concern with 4-to-3-lane road diet conversions is whether significant traffic delays will occur as a result. In most cases, traffic calming increases safety with little or no impact on traffic delay. 4-to-3 lane conversions have been implemented successfully in Genesee County on roads with an ADT of up to 20,000. However, a study by the Michigan Department of Transportation (MDOT) suggests that road diet conversions may not be effective when ADT is greater than 10,000. Road corridors need to undergo a detailed operational analysis including turning movements and cross-street traffic before conversion is implemented. Traffic delays can become problematic on roads with especially high peak hour volumes of over 1,000.

Road Diet Transitions

For a road diet to be successfully implemented, it is important to consider the transition between a new 3-lane road segment and segments with different lane configurations. Transitions should be smooth, otherwise new traffic conflicts can occur that didn't exist prior to conversion. Choosing the transition location for road diet projects needs thorough evaluation, avoiding major driveways and intersections. Smaller intersections can be ideal transition locations to reduce lanes. Transitions should occur in areas where the entire transition is visible to drivers without sight distance constraints. Specific guidelines can be found in the Manual on Uniform Traffic Control Devices (MUTCD), where AASHTO recommends certain transition lengths to be used in conversion projects.

An example of a problematic transition can be seen on Saginaw Street in downtown Flint, near the intersection of 4th Street. Saginaw Street was converted from four lanes to three lanes in 2010 as part of a street conversion project in downtown Flint. During this project, several downtown streets were converted from one-way to two-way streets, and many four-lane roads underwent a road diet. Saginaw Street has the highest Average Daily Traffic (ADT) out of all the streets that were converted in 2010, with between 16,000 and 21,000 vehicles per day in 2013. This is at or above the upper limit of what is recommended for a successful road diet.

There were many positive aspects to the Saginaw Street conversion including wider through-lanes for vehicles, bike lanes, a new center turn lane, and a buffer between through-lanes and on-street parking. However, a problem occurs when vehicles travelling northbound in the two through-lanes must merge together into one through-lane. Drivers in the outside through-lane can continue on Saginaw Street, while the left through-lane becomes a turn lane, where drivers must turn left onto 4th Street. At peak times, backups occur as people do not realize they are in a turn lane and attempt to switch lanes to be able to go through the intersection at 4th Street. Signs or pavement markings well in advance of this transition could eliminate some of the confusion.

Saginaw Street, Transition to 3-Lane Configuration

Why did we build 4-lane roads in the first place?

Population in Genesee County in the 1950's through the 1970's was seeing enormous growth. During this time there was a large increase in auto ownership and movement from the City of Flint to the surrounding suburban community. This produced an increased need for adding capacity to the roadways throughout Genesee County (widening projects). Population projections during this time anticipated that this growth would continue into the future. Transportation planning in Genesee County uses a population projection for the next 25 – 30 years as a basis for improvements to the transportation system. We planned for growth by widening roads in some areas, but that growth simply did not come to fruition. After the decline of the automobile industry in Genesee

County, we saw a loss of population and therefore less demand for wide roads. At that time and up until the 1990's the preferred roadway configuration was a 4-lane road, when a 2-lane road needed to be widened. Now, with the additional safety measures taken into consideration, 3-lane and 5-lane roads are the preferred design. The 4-lane road is becoming obsolete.

Analysis of Implemented Genesee County Road Diets

Methodology

There are many roads in Genesee County that have already undergone a road diet. To measure the success of these road diets, traffic crash data was collected for the most recent three-lane conversions using RoadSoft software. Data was analyzed from the years 1996-2013, depending on the availability of data for the converted road segment. Crash data for each available year prior to and after conversion was analyzed, but not data from the year of the conversion. Alcohol and deer-related crashes are removed from the study. Crash data was collected for the entire converted portion of roadway, plus one additional segment on both sides of the project limits. This was done to include any effects a road diet might have had on areas immediately surrounding the converted corridor.

Summary of Findings

Analysis of road diet corridors in Genesee County shows anywhere between a 6% increase and a 68% decrease in all crash types after conversion. The average change before and after conversion for all corridors is a 32.1% reduction in crashes. Of all crash types studied, the most significant reduction in crashes occurred with head on-left turn, rear end-left turn, and side swipe-same side types of crashes. While most crash types and corridors saw a crash reduction, increases in crashes occurred on some segments. In some cases this was because there were a minimal number of crashes to compare year-to-year, such as on Chevrolet Avenue. In other cases, road agencies should conduct further analysis to determine what caused an increase. The success of a road diet is dependent on many roadway factors, and crash reduction can vary. Detailed analysis of each converted corridor can be found on pages 17-21.

Overall Crash Data Analysis of 3-Lane Conversions

Average Crash Reduction Rates After 3-Lane Conversion in Genesee County							
	Crash Type						
Converted Corridor (High ADT):	Head On	Head On-Left Turn	Rear End	Rear End-Left Turn	Side Swipe-Same Side	Side Swipe-Opposite Side	All Non-Alcohol and Non-Deer Related Crashes
1st (1,654)	0.0%	0.0%	16.7%	0.0%	-100.0%	0.0%	-68.5%
2nd (2,523)	0.0%	100.0%	-100.0%	16.7%	-100.0%	0.0%	-43.8%
Chevrolet (N/A)	0.0%	250.0%	16.7%	0.0%	-100.0%	0.0%	6.1%
Davison (8,094)	66.7%	-68.1%	-39.3%	-75.0%	-43.3%	-82.1%	-46.1%
Dupont (8,371)	-24.9%	-89.1%	-66.5%	-75.0%	-76.9%	-25.0%	-66.7%
Elms (13,327)	100.0%	-33.3%	14.3%	100.0%	-33.3%	0.0%	-23.6%
Flushing/5th (13,234)	-28.6%	-74.6%	22.2%	-81.0%	-57.1%	-54.3%	-14.8%
Grand Blanc (14,924)	133.3%	-100.0%	25.0%	-41.7%	-100.0%	100.0%	-15.2%
Grand Traverse (10,737)	133.3%	0.0%	-33.3%	0.0%	-87.7%	250.0%	-49.7%
Kearsley (5,687)	100.0%	16.7%	-6.7%	100.0%	-6.7%	-100.0%	1.4%
ML King (5,364)	25.0%	-63.0%	-33.3%	-100.0%	-73.7%	108.3%	-58.3%
Miller- 2000 (14,650)	23.1%	-40.2%	-7.7%	-38.5%	-1.5%	53.8%	-15.1%
Miller- 2010 (19,446)	-100.0%	-100.0%	63.3%	0.0%	-100.0%	366.7%	-8.7%
Morrish (8,045)	-100.0%	-100.0%	50.0%	-100.0%	-70.0%	0.0%	-52.0%
Pasadena (8,850)	-50.0%	-81.3%	-55.6%	-100.0%	0.0%	-100.0%	-60.2%
Saginaw (20,865)	133.3%	211.1%	33.9%	100.0%	-43.2%	-100.0%	0.2%
University (7,967)	-4.8%	-79.6%	-9.1%	0.0%	-72.5%	-42.9%	-30.3%
Vienna (17,370)	-79.0%	-34.4%	-29.2%	-76.7%	-52.0%	-62.3%	-32.9%
Average Change Before-After:	18.2%	-15.9%	-7.7%	-20.6%	-62.1%	17.3%	-32.1%

Corridor Crash Data Analysis of 3-Lane Conversions

1st Street	S. Grand Traverse Street to Stevens Street, City of Flint*						
Changed to a 3-lane road in 2010							
ADT: High 1,654 (2013) - Low 1,304 (2013)	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change per Year
Head On Crashes	0	7	0.000	0	3	0.000	**0.0%**
Head On -Left Turn Crashes	0	7	0.000	0	3	0.000	**0.0%**
Rear End Crashes	2	7	0.286	1	3	0.333	**16.7%**
Rear End -Left Turn Crashes	0	7	0.000	0	3	0.000	**0.0%**
Side Swipe -Same Side Crashes	3	7	0.429	0	3	0.000	**-100.0%**
Side Swipe -Opposite Side Crashes	0	7	0.000	0	3	0.000	**0.0%**
All Non-alcohol & Non-Deer Related Crashes	37	7	5.286	5	3	1.667	**-68.5%**

2nd Street	Ann Arbor Street to I-475, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: High 2,523 (2013) - Low 1,746 (2013)	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change per Year
Head On Crashes	0	7	0.000	0	3	0.000	**0.0%**
Head On -Left Turn Crashes	0	7	0.000	1	3	0.333	**100.0%**
Rear End Crashes	6	7	0.857	0	3	0.000	**-100.0%**
Rear End -Left Turn Crashes	2	7	0.286	1	3	0.333	**16.7%**
Side Swipe -Same Side Crashes	15	7	2.143	0	3	0.000	**-100.0%**
Side Swipe -Opposite Side Crashes	0	7	0.000	0	3	0.000	**0.0%**
All Non-alcohol & Non-Deer Related Crashes	83	7	11.857	20	3	6.667	**-43.8%**

Chevrolet Avenue	University Avenue to the Flint River, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: N/A	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change per Year
Head On Crashes	0	7	0.000	0	3	0.000	**0.0%**
Head On -Left Turn Crashes	2	7	0.286	3	3	1.000	**250.0%**
Rear End Crashes	6	7	0.857	3	3	1.000	**16.7%**
Rear End -Left Turn Crashes	0	7	0.000	0	3	0.000	**0.0%**
Side Swipe -Same Side Crashes	4	7	0.571	0	3	0.000	**-100.0%**
Side Swipe -Opposite Side Crashes	0	7	0.000	0	3	0.000	**0.0%**
All Non-alcohol & Non-Deer Related Crashes	33	7	4.714	15	3	5.000	**6.1%**

***** Crash data from RoadSoft includes one additional segment on either side of this corridor

Davison Road	Lewis Place to N Dort Highway, City of Flint*						
Changed to a 3-lane Road in 2001							
ADT: 8,094 (2010)	Before Conversion			After Conversion			Percent Change Before-After
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	1	5	0.200	4	12	0.333	**66.7%**
Head On -Left Turn Crashes	30	5	6.000	23	12	1.917	**-68.1%**
Rear End Crashes	83	5	16.600	121	12	10.083	**-39.3%**
Rear End -Left Turn Crashes	5	5	1.000	3	12	0.250	**-75.0%**
Side Swipe -Same Side Crashes	25	5	5.000	34	12	2.833	**-43.3%**
Side Swipe -Opposite Side Crashes	7	5	1.400	3	12	0.250	**-82.1%**
All Non-alcohol & Non-Deer Related Crashes	300	5	60.000	388	12	32.333	**-46.1%**

Dupont Street	Welch Boulevard to W Pasadena Avenue, City of Flint*						
Changed to a 3-lane Road in 2005							
ADT: High 8,371 (2003) -Low 6,672 (2003)	Before Conversion			After Conversion			Percent Change Before-After
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	3	9	0.333	2	8	0.250	**-24.9%**
Head On -Left Turn Crashes	93	9	10.333	9	8	1.125	**-89.1%**
Rear End Crashes	84	9	9.333	25	8	3.125	**-66.5%**
Rear End -Left Turn Crashes	9	9	1.000	2	8	0.250	**-75.0%**
Side Swipe -Same Side Crashes	39	9	4.333	8	8	1.000	**-76.9%**
Side Swipe -Opposite Side Crashes	9	9	1.000	6	8	0.750	**-25.0%**
All Non-alcohol & Non-Deer Related Crashes	510	9	56.667	151	8	18.875	**-66.7%**

Elms Road	Flushing Road to Potter Road, Flushing Township*						
Changed to a 3-lane Road in 2010							
ADT: 13,327 (2013)	Before Conversion			After Conversion			Percent Change per Year
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	1	6	0.167	1	3	0.333	**100.0%**
Head On -Left Turn Crashes	12	6	2.000	4	3	1.333	**-33.3%**
Rear End Crashes	7	6	1.167	4	3	1.333	**14.3%**
Rear End -Left Turn Crashes	2	6	0.333	2	3	0.667	**100.0%**
Side Swipe -Same Side Crashes	3	6	0.500	1	3	0.333	**-33.3%**
Side Swipe -Opposite Side Crashes	2	6	0.333	1	3	0.333	**0.0%**
All Non-alcohol & Non-Deer Related Crashes	55	6	9.167	21	3	7.000	**-23.6%**

Flushing Road / E. 5th Avenue	N Ballenger Highway to M.L. King Avenue, City of Flint*						
Changed to a 3-lane Road in 2006							
ADT: High 13,234 (2004) - Low 11,585 (2004)	Before Conversion			After Conversion			Percent Change Before-After
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	4	4	1.000	5	7	0.714	**-28.6%**
Head On -Left Turn Crashes	18	4	4.500	8	7	1.143	**-74.6%**
Rear End Crashes	72	4	18.000	154	7	22.000	**22.2%**
Rear End -Left Turn Crashes	3	4	0.750	1	7	0.143	**-81.0%**
Side Swipe -Same Side Crashes	24	4	6.000	18	7	2.571	**-57.1%**
Side Swipe -Opposite Side Crashes	5	4	1.250	4	7	0.571	**-54.3%**
All Non-alcohol & Non-Deer Related Crashes	224	4	56.000	334	7	47.714	**-14.8%**

***** Crash data from RoadSoft includes one additional segment on either side of this corridor

Grand Blanc Road	Grand Blanc City Limits to Saginaw Street*						
Changed to a 3-lane Road in 2010							
ADT: 14,924 (2010)	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change per Year
Head On Crashes	1	7	0.143	1	3	0.333	**133.3%**
Head On -Left Turn Crashes	3	7	0.429	0	3	0.000	**-100.0%**
Rear End Crashes	28	7	4.000	15	3	5.000	**25.0%**
Rear End -Left Turn Crashes	4	7	0.571	1	3	0.333	**-41.7%**
Side Swipe -Same Side Crashes	7	7	1.000	0	3	0.000	**-100.0%**
Side Swipe -Opposite Side Crashes	0	7	0.000	1	3	0.333	**100.0%**
All Non-alcohol & Non-Deer Related Crashes	77	7	11.000	28	3	9.333	**-15.2%**

Grand Traverse Street	W. Kearsley Street to I-69, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: High 10,737 (2013) - Low 5,973 (2013)	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change per Year
Head On Crashes	1	7	0.143	1	3	0.333	**133.3%**
Head On -Left Turn Crashes	0	7	0.000	0	3	0.000	**0.0%**
Rear End Crashes	14	7	2.000	4	3	1.333	**-33.3%**
Rear End -Left Turn Crashes	0	7	0.000	0	3	0.000	**0.0%**
Side Swipe -Same Side Crashes	19	7	2.714	1	3	0.333	**-87.7%**
Side Swipe -Opposite Side Crashes	2	7	0.286	3	3	1.000	**250.0%**
All Non-alcohol & Non-Deer Related Crashes	130	7	18.571	28	3	9.333	**-49.7%**

Kearsley Street	Grand Traverse Street to Harrison Street, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: High 5,687 (2010) - Low 3,517 (2013)	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change per Year
Head On Crashes	0	7	0.000	1	3	0.333	**100.0%**
Head On -Left Turn Crashes	2	7	0.286	1	3	0.333	**16.7%**
Rear End Crashes	5	7	0.714	2	3	0.667	**-6.7%**
Rear End -Left Turn Crashes	0	7	0.000	1	3	0.333	**100.0%**
Side Swipe -Same Side Crashes	5	7	0.714	2	3	0.667	**-6.7%**
Side Swipe -Opposite Side Crashes	1	7	0.143	0	3	0.000	**-100.0%**
All Non-alcohol & Non-Deer Related Crashes	46	7	6.571	20	3	6.667	**1.4%**

Martin Luther King Avenue	E 5th Avenue to Welch Boulevard, City of Flint*						
Changed to a 3-lane Road in 2001							
ADT: 5,364 (2007)	Before Conversion			After Conversion			Percent
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	Change Before-After
Head On Crashes	1	5	0.20	3	12	0.250	**25.0%**
Head On -Left Turn Crashes	18	5	3.60	16	12	1.333	**-63.0%**
Rear End Crashes	15	5	3.00	24	12	2.000	**-33.3%**
Rear End -Left Turn Crashes	5	5	1.00	0	12	0.000	**-100.0%**
Side Swipe -Same Side Crashes	19	5	3.80	12	12	1.000	**-73.7%**
Side Swipe -Opposite Side Crashes	1	5	0.20	5	12	0.417	**108.3%**
All Non-alcohol & Non-Deer Related Crashes	123	5	24.60	123	12	10.250	**-58.3%**

***** Crash data from RoadSoft includes one additional segment on either side of this corridor

Miller Road	Elms Road to Seymour Road, City of Swartz Creek*						
Changed to a 3-lane Road in 2000							
ADT: High 14,650 (2009) - Low 10,195 (2013)	Before Conversion			After Conversion			Percent Change Before-After
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	1	4	0.250	4	13	0.308	**23.1%**
Head On -Left Turn Crashes	18	4	4.500	35	13	2.692	**-40.2%**
Rear End Crashes	44	4	11.000	132	13	10.154	**-7.7%**
Rear End -Left Turn Crashes	4	4	1.000	8	13	0.615	**-38.5%**
Side Swipe -Same Side Crashes	10	4	2.500	32	13	2.462	**-1.5%**
Side Swipe -Opposite Side Crashes	1	4	0.250	5	13	0.385	**53.8%**
All Non-alcohol & Non-Deer Related Crashes	167	4	41.750	461	13	35.462	**-15.1%**

Miller Road	Hammerberg Road to Court Street, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: 19,446 (2013)	Before Conversion			After Conversion			Percent Change per Year
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	1	7	0.143	0	3	0.000	**-100.0%**
Head On -Left Turn Crashes	10	7	1.429	0	3	0.000	**-100.0%**
Rear End Crashes	10	7	1.429	7	3	2.333	**63.3%**
Rear End -Left Turn Crashes	0	7	0.000	0	3	0.000	**0.0%**
Side Swipe -Same Side Crashes	3	7	0.429	0	3	0.000	**-100.0%**
Side Swipe -Opposite Side Crashes	1	7	0.143	2	3	0.667	**366.7%**
All Non-alcohol & Non-Deer Related Crashes	46	7	6.571	18	3	6.000	**-8.7%**

Morrish Road	I-69 to Maple Street, City of Swartz Creek*						
Changed to a 3-lane Road in 2009							
ADT: High 8,045 (2009) - Low 4,840 (2009)	Before Conversion			After Conversion			Percent Change per Year
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	1	6	0.167	0	4	0.000	**-100.0%**
Head On -Left Turn Crashes	6	6	1.000	0	4	0.000	**-100.0%**
Rear End Crashes	4	6	0.667	4	4	1.000	**50.0%**
Rear End -Left Turn Crashes	1	6	0.167	0	4	0.000	**-100.0%**
Side Swipe -Same Side Crashes	5	6	0.833	1	4	0.250	**-70.0%**
Side Swipe -Opposite Side Crashes	0	6	0.000	0	4	0.000	**0.0%**
All Non-alcohol & Non-Deer Related Crashes	50	6	8.333	16	4	4.000	**-52.0%**

W. Pasadena Ave	Fleming Road to Martin Luther King Ave, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: High 8,850 (2010) - Low 6,464 (2010)	Before Conversion			After Conversion			Percent Change per Year
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	8	6	1.333	2	3	0.667	**-50.0%**
Head On -Left Turn Crashes	32	6	5.333	3	3	1.000	**-81.3%**
Rear End Crashes	27	6	4.500	6	3	2.000	**-55.6%**
Rear End -Left Turn Crashes	6	6	1.000	0	3	0.000	**-100.0%**
Side Swipe -Same Side Crashes	12	6	2.000	6	3	2.000	**0.0%**
Side Swipe -Opposite Side Crashes	7	6	1.167	0	3	0.000	**-100.0%**
All Non-alcohol & Non-Deer Related Crashes	191	6	31.833	38	3	12.667	**-60.2%**

***** Crash data from RoadSoft includes one additional segment on either side of this corridor

Saginaw Street	4th Street to Flint River, City of Flint*						
Changed to a 3-lane Road in 2010							
ADT: High 20,865 (2013) - Low 16,035 (2013)	Before Conversion			After Conversion			Percent Change per Year
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	1	7	0.143	1	3	0.333	**133.3%**
Head On -Left Turn Crashes	3	7	0.429	4	3	1.333	**211.1%**
Rear End Crashes	61	7	8.714	35	3	11.667	**33.9%**
Rear End -Left Turn Crashes	0	7	0.000	1	3	0.333	**100.0%**
Side Swipe -Same Side Crashes	37	7	5.286	9	3	3.000	**-43.2%**
Side Swipe -Opposite Side Crashes	2	7	0.286	0	3	0.000	**-100.0%**
All Non-alcohol & Non-Deer Related Crashes	184	7	26.286	79	3	26.333	**0.2%**

University Avenue	Nolen Drive to N Saginaw Street, City of Flint*						
Changed to a 3-lane Road in 2006							
ADT: High 7,967 (2011) - Low 3,530 (2013)	Before Conversion			After Conversion			Percent Change Before-After
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	3	10	0.300	2	7	0.286	**-4.8%**
Head On -Left Turn Crashes	21	10	2.100	3	7	0.429	**-79.6%**
Rear End Crashes	33	10	3.300	21	7	3.000	**-9.1%**
Rear End -Left Turn Crashes	4	10	0.400	1	7	0.143	**0.0%**
Side Swipe -Same Side Crashes	26	10	2.600	5	7	0.714	**-72.5%**
Side Swipe -Opposite Side Crashes	5	10	0.500	2	7	0.286	**-42.9%**
All Non-alcohol & Non-Deer Related Crashes	248	10	24.800	121	7	17.286	**-30.3%**

Vienna Road (M-57)	Jennings Road to Saginaw Road, Vienna Township and City of Clio*						
Changed to a 3-lane Road in 2003							
ADT: High 17,370 (2006) - Low 15,008 (2007)	Before Conversion			After Conversion			Percent Change Before-After
Crash Type	Number of Crashes	Years of Data	Crashes Per Year	Number of Crashes	Years of Data	Crashes Per Year	
Head On Crashes	10	7	1.429	3	10	0.300	**-79.0%**
Head On -Left Turn Crashes	32	7	4.571	30	10	3.000	**-34.4%**
Rear End Crashes	182	7	26.000	184	10	18.400	**-29.2%**
Rear End -Left Turn Crashes	9	7	1.286	3	10	0.300	**-76.7%**
Side Swipe -Same Side Crashes	35	7	5.000	24	10	2.400	**-52.0%**
Side Swipe -Opposite Side Crashes	13	7	1.857	7	10	0.700	**-62.3%**
All Non-alcohol & Non-Deer Related Crashes	482	7	68.857	462	10	46.200	**-32.9%**

***** Crash data from RoadSoft includes one additional segment on either side of this corridor

Additional 3-Lane Conversions in Genesee County

The corridors below were converted to a 3-lane road before the study period. Crash data was unavailable for the before-conversion period and therefore a comparison of the crash reductions on these corridors could not be completed. A map of all 4-to-3 lane conversions is located on page 24.

Main Street
From Chestnut Street to Seymour Road in the City of Flushing
Changed to a 3-lane road in 1990
ADT: High 9,517 (2010) – Low 7,417 (2010)

Court Street
From Avon Street to Dort Highway in the City of Flint
Changed to a 3-lane road in 1996
ADT: High 12,537 (2003) – Low 11,492 (2001)

Shiawassee Road
From Owen Road to Leroy Street in the City of Fenton
Changed to a 3-lane road in 1998 (estimated)
ADT: High 14,232 (2012) – Low 13,407 (2012)

M-57 (Vienna Road)
From West City Limits to Seymour Road in the City of Montrose
Changed to a 3-lane road in 2003
ADT: 5,802 (2013)

When doing the corridor crash analysis, only roads which had at least three years of crash data available for the periods before and after conversion were analyzed. The following roads were converted in 2011 or later, so crash data for the period after conversion was insufficient.

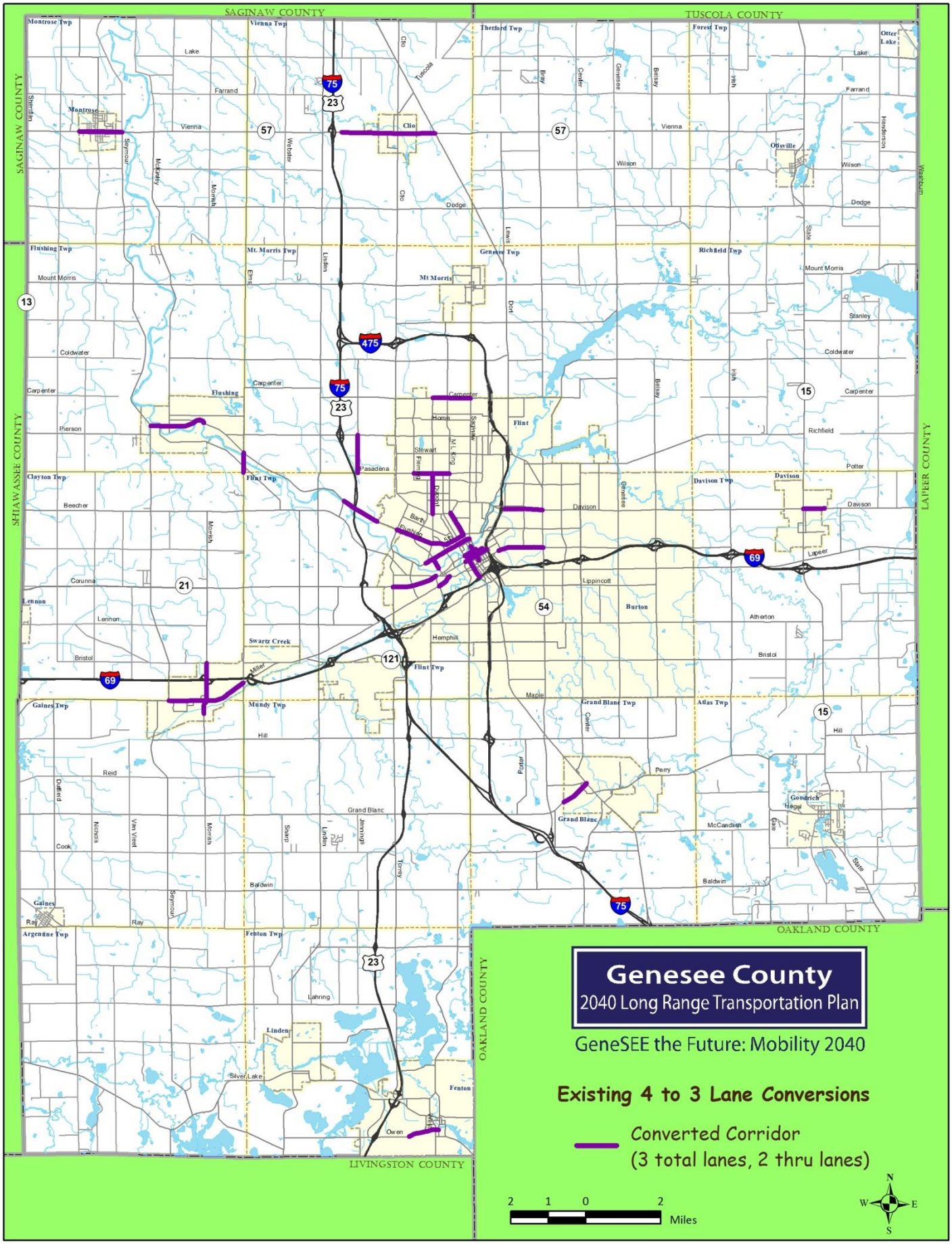
Carpenter Road
From Dupont Street to Saginaw Street in Mt. Morris Township
Changed to a 3-lane road in 2012
ADT: High 12,863 (2013) – Low 7,820 (2013)

Corunna Road (M-21)
From Ballenger Highway to Court Street in the City of Flint
Changed to a 3-lane road in 2011
ADT: High 12,900 (2008) – Low 10,400 (2011)

E. Flint Street
From M-15 to the East City Limits in the City of Davison
Changed to a 3-lane road in 2011
ADT: High 24,007 (2010) – Low 16,295 (2010)

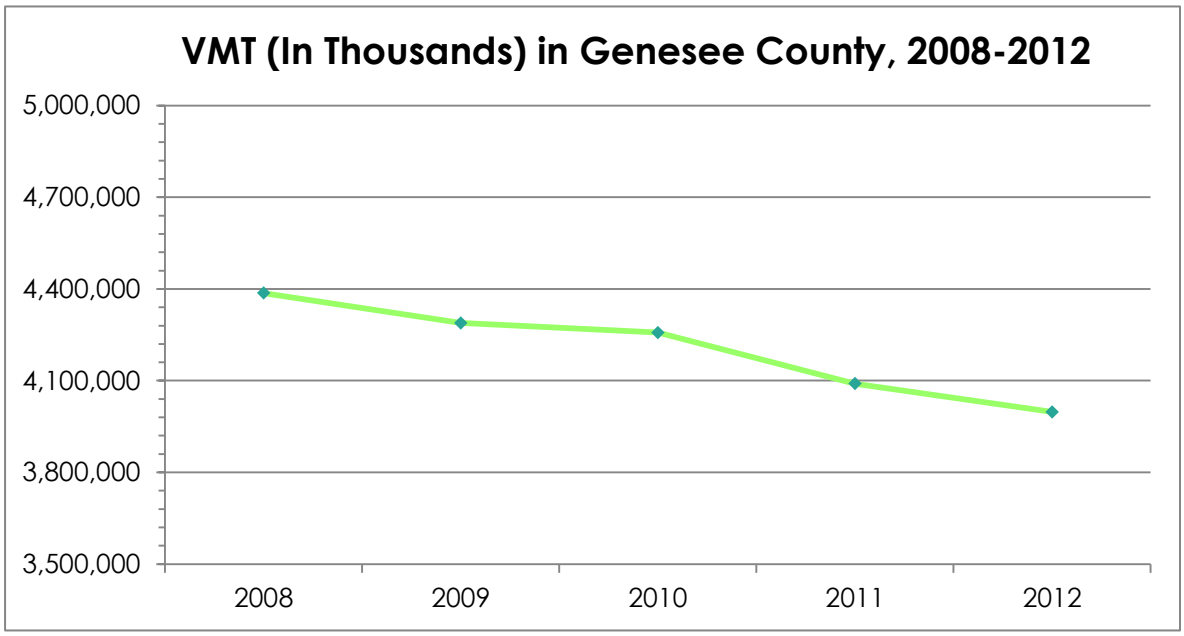
Flushing Road
From Mill Road to Eldorado Drive in Flint Township
Changed to a 3-lane road in 2013
ADT: 8,983 (2013)

Jennings Road
From W. Pierson Road to W. Pasadena Avenue in Mt. Morris Township
Changed to a 3-lane road in 2012
ADT: 6,089 (2013)


SAGINAW COUNTY
TUSCOLA COUNTY
SHIAWASSEE COUNTY
LAPEER COUNTY
OAKLAND COUNTY
LIVINGSTON COUNTY
Genesee County
2040 Long Range Transportation Plan
GeneSEE the Future: Mobility 2040
Existing 4 to 3 Lane Conversions
Converted Corridor
(3 total lanes, 2 thru lanes)
2 1 0 2
Miles
N
W
E
S

Genesee County Trends

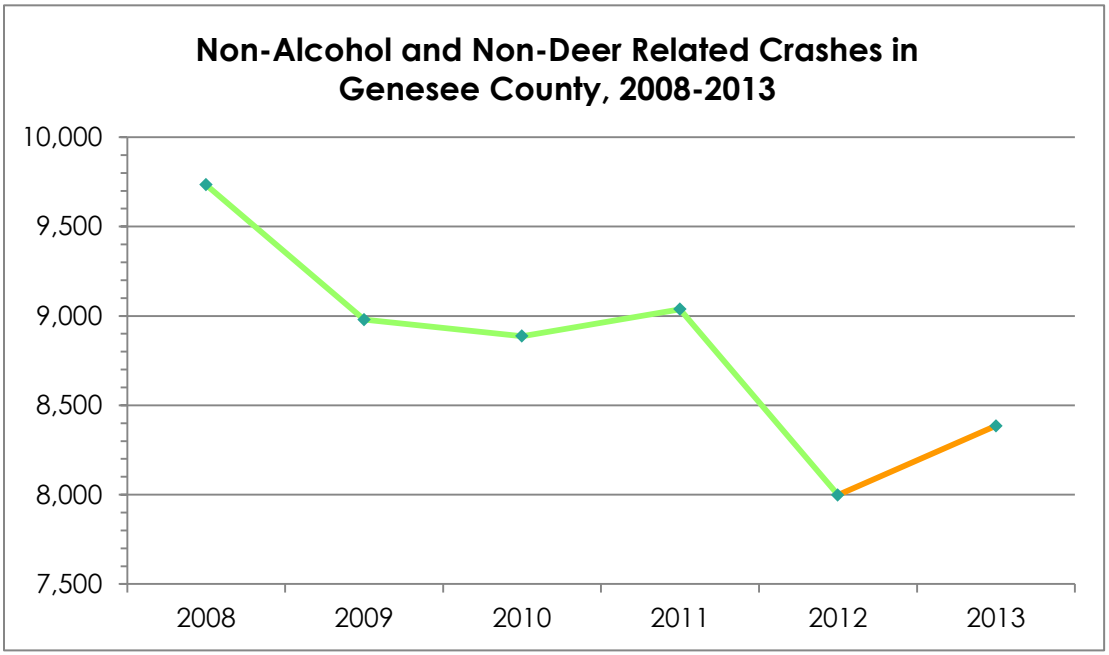
Analysis of road diet corridors with sufficient crash data shows that all road diet projects in Genesee County have resulted in a reduction in crashes. While it is likely that the decrease in crashes is attributed to the safety benefits and traffic calming of road diets, other possible influences should be considered. Less crashes occurring on a converted corridor might also be related to a system-wide reduction in traffic crashes or a reduction in the number of vehicles on the road. Below is a graph of Vehicle Miles Traveled (VMT) in Genesee County which shows that VMT decreased by 8.9% between 2008 and 2012.



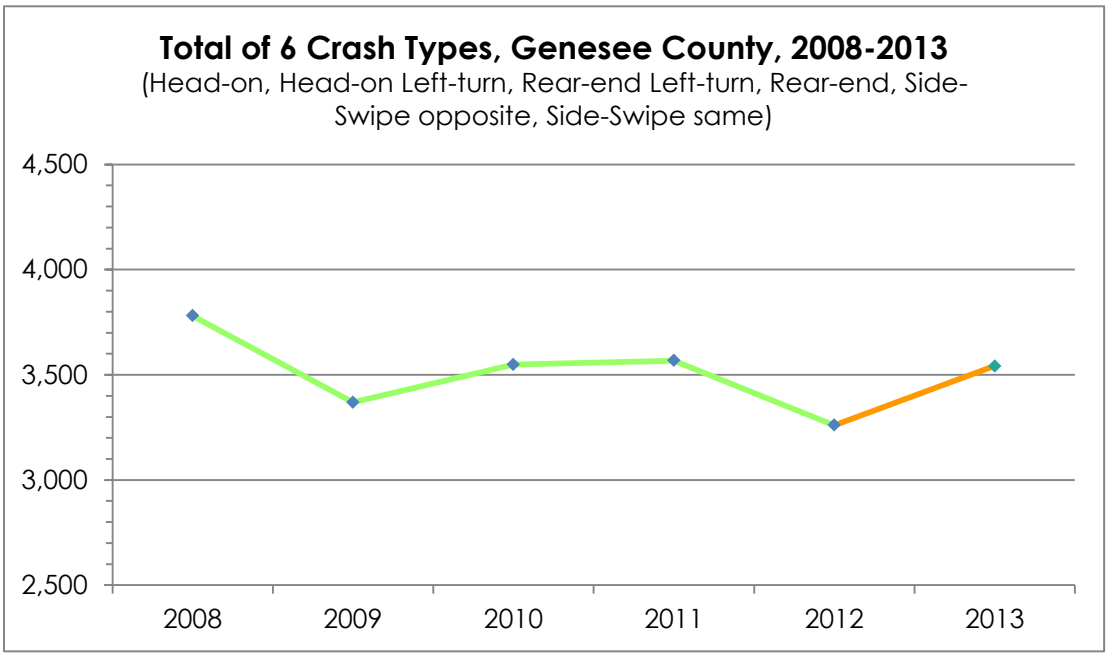
Source: Michigan State Police Office of Highway Safety Planning

The graph below shows the total number of crashes in Genesee County that are not alcohol or deer-related. Data from 2008-2012 shows that the total number of crashes decreased by approximately 17.8% during the five year period. This is a decrease of approximately 3.5% per year. This trend suggests that a reduction in crashes after conversion to 3 lanes may be partially due to a system-wide reduction in crashes.

The second graph below shows a similar trend. Between 2008 and 2012, the six crash types used during the corridor crash data analysis (head-on, head-on left turn, rear-end left-turn, rear-end, side-swipe opposite, and side-swipe same) decreased by approximately 13.8% in Genesee County. Data collected for these six crash types does not include alcohol or deer-related crashes. These graphs also include the number of crashes from 2013, however this was excluded from the percentage change for easier comparison between VMT and crash trends (2013 VMT data was not available).



Source: RoadSoft



Source: RoadSoft

Complete Streets 4 to 3 Lane Conversion Study

Methodology

The 4 to 3 Lane Conversion Study analyzed select 4-lane road segments in Genesee County, in order to assess whether or not they were good candidates

for 3-lane conversions. All 4-lane roads in the Genesee County federal aid road network were identified. 4-lane roads that were congested or in areas anticipated to see future traffic congestion based on current land use trends were removed from the study before further data collection. Field investigation of each corridor was conducted and a database was compiled of relevant road attributes for an assessment of the overall suitability of each corridor for a road diet.

Some of the data collected in order to determine lane conversion suitability includes:

- 2008-2013 crash data
- Lane width
- Speed Limits
- Surface type
- Average Daily Traffic Count (ADT)
- Number of traffic signals
- Land use

Photographs were taken and the road width was measured along each corridor. In places where the road width changed along the corridor, additional measurements were taken. Some segments of road were split after data collection, when the corridor was very long and only partially recommended for a road diet (i.e. Beecher Road). All of the data collected was utilized when making recommendations for each corridor.

A 4-scale rating system was developed for measuring the compatibility of each segment for a road diet.

Road Diet Rating Scale:

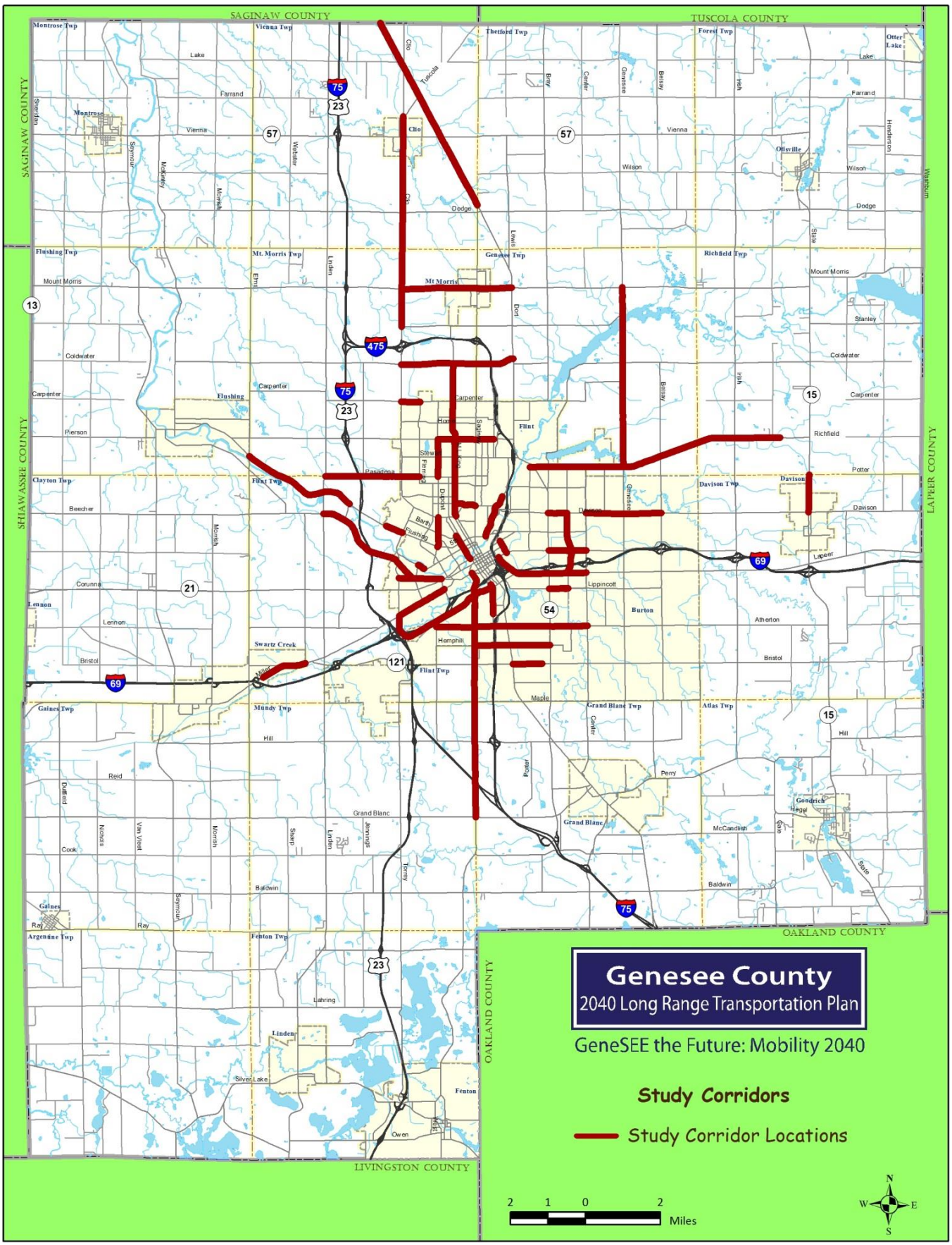
***** Not recommended for a road diet

****** Not recommended unless some other factor on the roadway is adjusted

******* A good candidate for a road diet

******** A very good candidate for a road diet

These recommendations will be shared with the local road agencies in Genesee County. The GCMA staff will work with the local road agencies on strategies for implementing the findings of this study which are at the discretion of the local road agencies for implementation.


SAGINAW COUNTY
TUSCOLA COUNTY
SHIAWASSEE COUNTY
LAPEER COUNTY
OAKLAND COUNTY
LIVINGSTON COUNTY
Genesee County
2040 Long Range Transportation Plan
GeneSEE the Future: Mobility 2040
Study Corridors
Study Corridor Locations
2 1 0 2
Miles
N
W
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S

Complete Streets 4 to 3 Lane Conversion Study

12th Street / S. Ballenger Hwy

From: **Miller Rd**

To: **Grand Traverse St**

Number of Signals: 6

Driveways and Side Streets: Few

Land Use: School, Residential, Industrial

Left Turn Lane: Miller, Van Slyke, Grand Traverse

Speed Limit: 30-45

Width Inside Lane: 11

Width Outside Lane: 12

Total Width: 46

Bus Route: No

High ADT: 11710

Low ADT: 4305

2008-2013 Crash Data

Rear End Crashes: 48

Read End – Left Turn Crashes: 2

Head On – Left Turn Crashes: 28

Side-Swipe Crashes: 27

Total All Crash Types: 223

Crashes per mile per year: 11.26

Recommendations ★ ★ ★

This is a good candidate for a road diet. The corridor has a high crash rate and narrow widths. ADT is low and capacity issues should not be a problem. Around the curve at S. Ballenger Hwy is an area with a lot of crashes, having the lanes reconfigured as a 3-lane with a center-turn lane will provide a buffer between the two directions of traffic and help with limiting head-on collisions and side-swipes. Adding a bike lane will provide a connection to the Grand Traverse Greenway Trail which crosses 12th Street between Fenton and Grand Traverse and a connection to Southwestern Academy.

Complete Streets 4 to 3 Lane Conversion Study

Atherton Road

From: **Van Slyke Rd**

To: **Center Rd**

Number of Signals: 10

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: Van Slyke, Saginaw, Dort, Center

Speed Limit: 35-45

Width Inside Lane: 11

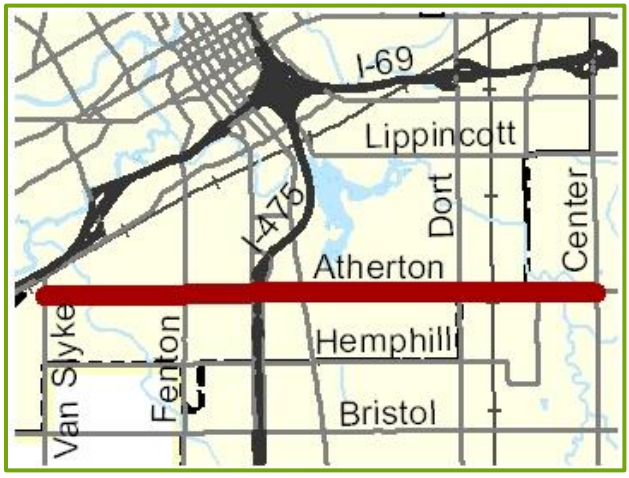
Width Outside Lane: 11

Total Width: 44

Bus Route: Yes

High ADT: 10339

Low ADT: 7440



2008-2013 Crash Data

Rear End Crashes: 91

Read End – Left Turn Crashes: 6

Head On – Left Turn Crashes: 34

Side-Swipe Crashes: 41

Total All Crash Types: 442

Crashes per mile per year: 18.23

Recommendations ★★★★

This is a good candidate for a road diet. Atherton Road has a high crash rate and narrow lane widths. Most parts of this road are residential with many driveways and side streets. Almost all locations along this corridor have seen reduced traffic counts over the past several years. Many segments of Atherton Road have an ADT less than half of what it was ten years ago. This suggests the corridor may no longer require the capacity of a four-lane road.

Complete Streets 4 to 3 Lane Conversion Study

Averill Avenue

From: **Davison Rd**

To: **Lapeer Rd**

Number of Signals: 5

Driveways and Side Streets: Few

Land Use: School, Park, Industrial

Left Turn Lane: Lapeer, Court, Robert T Longway, Davison

Speed Limit: 30-40

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: 4310

Low ADT: 4310

2008-2013 Crash Data

Rear End Crashes: 6

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 4

Side-Swipe Crashes: 5

Total All Crash Types: 46

Crashes per mile per year: 4.67

Recommendations ★ ★ ★

This is a good candidate for a road diet. This is mainly an industrial area, there are not many driveways and traffic volumes are low. One of the major industrial complexes has closed on this street so traffic volumes should continue to go down in the future. The street would work well for a road diet and would be one of the best candidates for a north-south bike lane in the east side of the City of Flint.

Complete Streets 4 to 3 Lane Conversion Study

Beecher Road

From: **Linden Rd**

To: **Ballenger Hwy**

Number of Signals: 6

Driveways and Side Streets: Some

Land Use: Residential, Commerical

Left Turn Lane: Linden, Ballenger

Speed Limit: 45

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 50

Bus Route: Yes

High ADT: 15502

Low ADT: 8661

2008-2013 Crash Data

Rear End Crashes: 39

Read End – Left Turn Crashes: 15

Head On – Left Turn Crashes: 16

Side-Swipe Crashes: 22

Total All Crash Types: 207

Crashes per mile per year: 13.58

Recommendations *

This corridor is not recommended for a road diet. ADT on this corridor is over the recommended limit for a 3-lane conversion. A limiting factor for this road is that the inside lanes are asphalt, and the outside lanes are concrete. When restriping fades over time, the contrasting colors of pavement will show a different driving pattern than the restriping. This can create a difficult situation for drivers, especially at night.

Complete Streets 4 to 3 Lane Conversion Study

Beecher Road

From: **Ballenger Hwy**

To: **Court St**

Number of Signals: 2

Driveways and Side Streets: Many

Land Use: Residential

Left Turn Lane: Ballenger

Speed Limit: 35

Width Inside Lane: 11

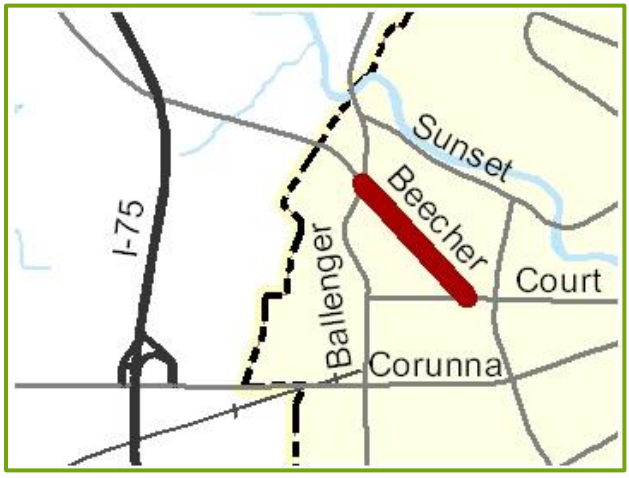
Width Outside Lane: 12

Total Width: 46

Bus Route: Yes

High ADT: 8694

Low ADT: 8694



2008-2013 Crash Data

Rear End Crashes: 6

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 3

Side-Swipe Crashes: 12

Total All Crash Types: 60

Crashes per mile per year: 17.86

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. The corridor has a high number of crashes per mile. Traffic counts are low enough for a road diet to be appropriate. The area is residential with lots of turning movements due to the many side streets and driveways. A 3-lane road configuration would have a traffic calming effect. The addition of a bike lane with the road diet is also recommended.

Complete Streets 4 to 3 Lane Conversion Study

Bristol Road

From: **Saginaw St**

To: **Laurel Ave**

Number of Signals: 2

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: Saginaw

Speed Limit: 35-40

Width Inside Lane: 11

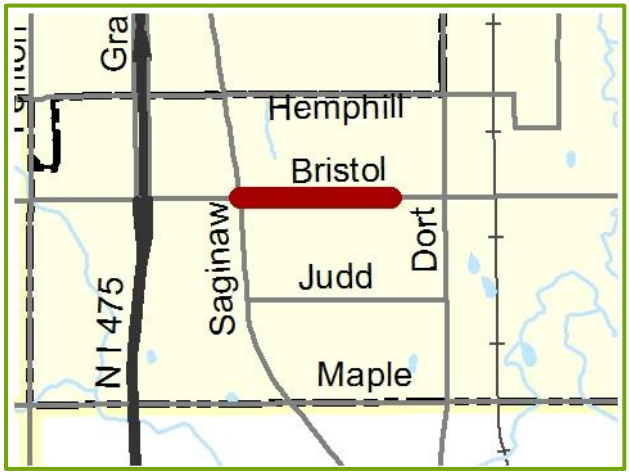
Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: 15269

Low ADT: 11713



2008-2013 Crash Data

Rear End Crashes: 13

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 3

Side-Swipe Crashes: 5

Total All Crash Types: 72

Crashes per mile per year: 18.46

Recommendations * *

The corridor may be good for a road diet in the future. Traffic volumes here have decreased in the past several years. If this trend continues, a road diet might be appropriate. However, Bristol Road becomes five lanes on each side of this segment, which could cause problems as drivers transition between a five-lane and three-lane road. There are existing left turn lanes at Saginaw Street.

Complete Streets 4 to 3 Lane Conversion Study

Carpenter Road

From: **Clio Rd**

To: **Fleming Rd**

Number of Signals: 1

Driveways and Side Streets: Some

Land Use: Residential, Commercial

Left Turn Lane: Clio

Speed Limit: 35

Width Inside Lane: 12

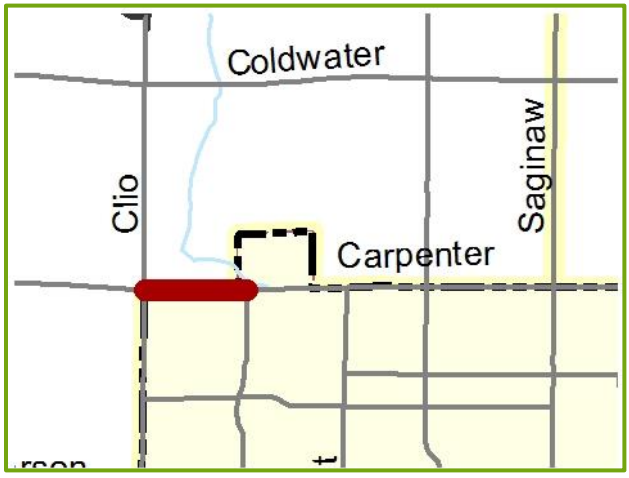
Width Outside Lane: 12

Total Width: 50

Bus Route: Yes

High ADT: 8713

Low ADT: 6752



2008-2013 Crash Data

Rear End Crashes: 5

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 0

Side-Swipe Crashes: 1

Total All Crash Types: 10

Crashes per mile per year: 3.33

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. The traffic count is within the range appropriate for a road diet. Two high schools are located on this corridor, so it would benefit from traffic calming and bike lanes. The section of Carpenter Road between Dupont and Saginaw was recently converted to a three-lane road, and it would be good to convert the rest of the corridor.

Complete Streets 4 to 3 Lane Conversion Study

Clio Road

From: **Tuscola Rd**

To: **Stanley Rd**

Number of Signals: 6

Driveways and Side Streets: Few

Land Use: Commercial, Farm, Residential

Left Turn Lane: Vienna, Smith, Mt. Morris

Speed Limit: 25-45

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 50

Bus Route: No

High ADT: 7937

Low ADT: 4678

2008-2013 Crash Data

Rear End Crashes: 18

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 11

Side-Swipe Crashes: 21

Total All Crash Types: 161

Crashes per mile per year: 4.77

Recommendations * *

This is not a good candidate for a road diet because the inside lane is asphalt and the outside lane is concrete. As pavement markings wear off, it can be difficult for drivers to determine the correct lane markings. All other factors lead to Clio Road being a good candidate for a road diet with a bike lane. The section in the city of Clio would especially benefit from a road diet since walking and biking would be safer in the downtown area.

Complete Streets 4 to 3 Lane Conversion Study

Coldwater Road

From: **Clio Rd**

To: **Dort Hwy**

Number of Signals: 7

Driveways and Side Streets: Some

Land Use: Residential, Commercial

Left Turn Lane: Clio, Saginaw

Speed Limit: 35-45

Width Inside Lane: 12

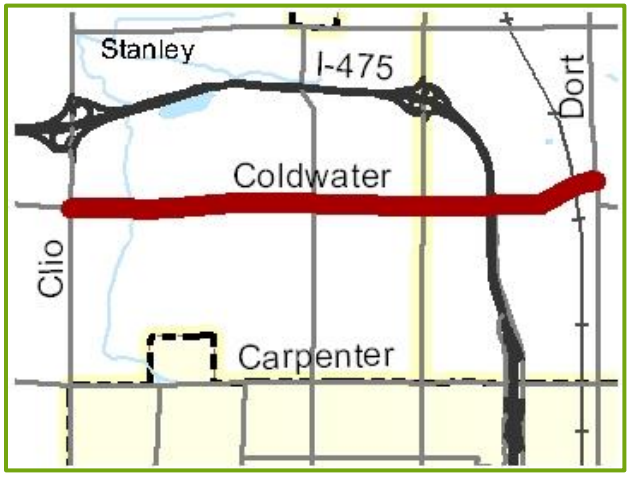
Width Outside Lane: 12

Total Width: 50

Bus Route: Yes

High ADT: 7438

Low ADT: 2858



2008-2013 Crash Data

Rear End Crashes: 18

Read End – Left Turn Crashes: 3

Head On – Left Turn Crashes: 4

Side-Swipe Crashes: 1

Total All Crash Types: 99

Crashes per mile per year: 5.46

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. It has a low traffic volume, a lot of driveways and side streets and is a primarily residential and commercial corridor. Beecher Schools in this area could benefit from the addition of a bike lane for students to get to school.

Complete Streets 4 to 3 Lane Conversion Study

Court Street

From: **Ballenger Hwy**

To: **Corunna Rd**

Number of Signals: 3

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: None

Speed Limit: 35

Width Inside Lane: 9

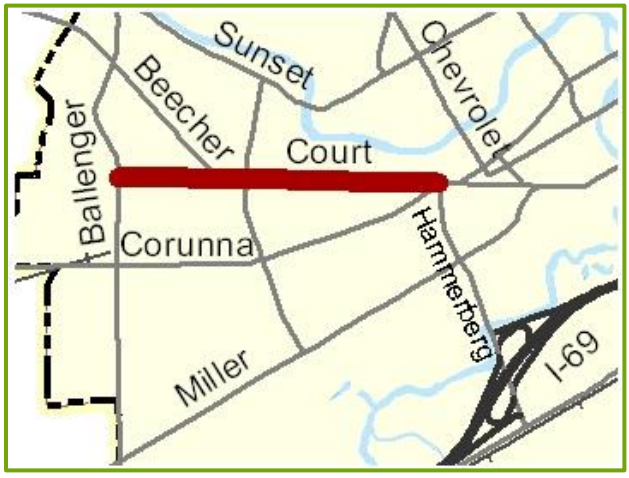
Width Outside Lane: 9

Total Width: 38

Bus Route: Yes

High ADT: 13145

Low ADT: 6277



2008-2013 Crash Data

Rear End Crashes: 24

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 17

Side-Swipe Crashes: 13

Total All Crash Types: 119

Crashes per mile per year: 17.4

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. At 38 feet, the roadway is too narrow to function properly as a 4-lane road. The narrow lane widths make it very difficult for vehicles to pass one another. A bike lane connection to the proposed Genesee Valley Trail and Beecher Road will also help in creating an interconnected bike system for the area.

Complete Streets 4 to 3 Lane Conversion Study

Court Street

From: **Dort Hwy**

To: **Center Rd**

Number of Signals: 3

Driveways and Side Streets: Some

Land Use: Commercial

Left Turn Lane: Dort, Center

Speed Limit: 40

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: Yes

High ADT: 13541

Low ADT: 13541

2008-2013 Crash Data

Rear End Crashes: 33

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 3

Side-Swipe Crashes: 36

Total All Crash Types: 148

Crashes per mile per year: 24.67

Recommendations ★ ★ ★

This is a good candidate for a road diet to add a bicycle lane in this area. After crossing Dort Highway, the residential side streets along Court Street can make a good bicycle connection to the cultural center and the Applewood Trail at Mott Community College. The number of crashes per mile per year are very high along this segment, and a road diet could improve this.

Complete Streets 4 to 3 Lane Conversion Study

Crapo Street

From: **E Court St**

To: **Kearsley St**

Number of Signals: 3

Driveways and Side Streets: Some

Land Use: School, Residential, Cultural Center

Left Turn Lane: Court

Speed Limit: 25

Width Inside Lane: 10

Width Outside Lane: 10

Total Width: 40

Bus Route: No

High ADT: 3674

Low ADT: 3674

2008-2013 Crash Data

Rear End Crashes: 1

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 0

Side-Swipe Crashes: 0

Total All Crash Types: 10

Crashes per mile per year: 4.63

Recommendations ★★★★

This is a good candidate for a road diet. It has a high school and middle school and connections to many of the Flint Cultural Center attractions. A 3-lane configuration on this street would provide dedicated additional parking that is needed in this area. In front of the Flint Public Library the street is striped as a 2-lane road at 38 feet wide. Restriping to a 3-lane in this section continuing all the way to Chavez would add continuity.

Complete Streets 4 to 3 Lane Conversion Study

Davison Road

From: **Dort Hwy**

To: **Averill Ave**

Number of Signals: 2

Driveways and Side Streets: Some

Land Use: Industrial, Commercial

Left Turn Lane: Dort, Averill

Speed Limit: 35

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 50

Bus Route: No

High ADT: 13916

Low ADT: 13916

2008-2013 Crash Data

Rear End Crashes: 14

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 2

Side-Swipe Crashes: 5

Total All Crash Types: 52

Crashes per mile per year: 16.99

Recommendations *

This is not a good candidate for a road diet. It has five lanes at the intersection at Dort and Averill and after Averill becomes a 5-lane road. This is an industrial and commercial corridor with the deconstruction of Delphi Automotive Complex ongoing in this area.

Complete Streets 4 to 3 Lane Conversion Study

Davison Road

From: **Center Rd**

To: **Belsay Rd**

Number of Signals: 4

Driveways and Side Streets: Some

Land Use: Residential, Commercial

Left Turn Lane: Center, Genesee, Belsay

Speed Limit: 45-50

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: Yes

High ADT: 12619

Low ADT: 12619

2008-2013 Crash Data

Rear End Crashes: 44

Read End – Left Turn Crashes: 3

Head On – Left Turn Crashes: 3

Side-Swipe Crashes: 13

Total All Crash Types: 136

Crashes per mile per year: 11.28

Recommendations *

This is not a good candidate for a road diet. It has five lanes on either side of this segment, which might cause more crashes as drivers transition between the five-lane and three-lane segments of roadway. This corridor should be monitored in the future to see if a road diet becomes more appropriate. For-Mar Nature Preserve is located along this segment and might benefit from sidewalks and bike lanes.

Complete Streets 4 to 3 Lane Conversion Study

Dupont Street

From: **Welch St**

To: **Flushing Rd**

Number of Signals: 3

Driveways and Side Streets: Many

Land Use: Residential

Left Turn Lane: Flushing, Welch

Speed Limit: 35

Width Inside Lane: 11

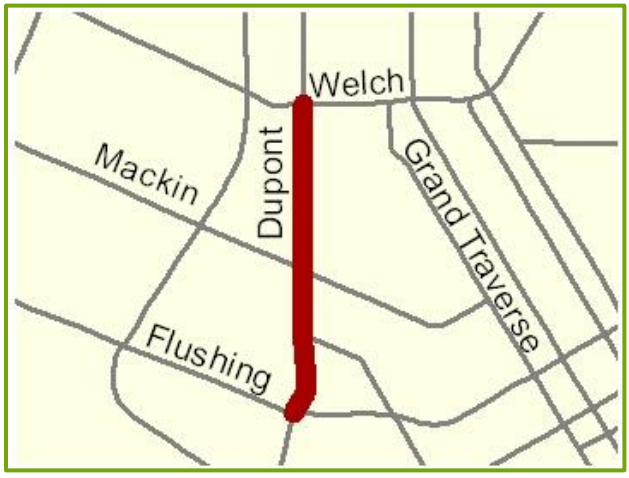
Width Outside Lane: 7

Total Width: 36

Bus Route: Yes

High ADT: 3749

Low ADT: 3749



2008-2013 Crash Data

Rear End Crashes: 9

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 2

Side-Swipe Crashes: 11

Total All Crash Types: 66

Crashes per mile per year: 13.92

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. Dupont from Pasadena to Welch is already a three-lane road, which is working very well for the corridor. The section of roadway that approaches Flushing Road is far too narrow to support a four-lane road. Traffic counts have significantly decreased over the past decade, further indicating that a road diet is needed.

Complete Streets 4 to 3 Lane Conversion Study

Dupont Street

From: **Pasadena Rd**

To: **Pierson Rd**

Number of Signals: 3

Driveways and Side Streets: Many

Land Use: Residential, Park

Left Turn Lane: Pierson, Stewart, Pasadena

Speed Limit: 35

Width Inside Lane: 12

Width Outside Lane: 11

Total Width: 47

Bus Route: Yes

High ADT: Not Available

Low ADT: Not Available

2008-2013 Crash Data

Rear End Crashes: 9

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 5

Side-Swipe Crashes: 7

Total All Crash Types: 73

Crashes per mile per year: 11.93

Recommendations ★ ★ ★

This is a good candidate for a road diet. Dupont from Pasadena to Welch is already a three-lane road and it is working very well for the corridor. The section already marked as a 3-lane has a safer neighborhood feel than the sections that are still four lanes. Entrances to Max Brandon Park are located on this corridor, and a bike lane would improve access to the park. The only issue with conversion of this corridor is the short five-lane section between Stewart Ave and Baltimore Blvd.

Complete Streets 4 to 3 Lane Conversion Study

Fenton Road

From: **Grand Blanc Rd**

To: **Hemphill Rd**

Number of Signals: 5

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: Bristol, Maple, Hill, Grand Blanc

Speed Limit: 35-45

Width Inside Lane: 11

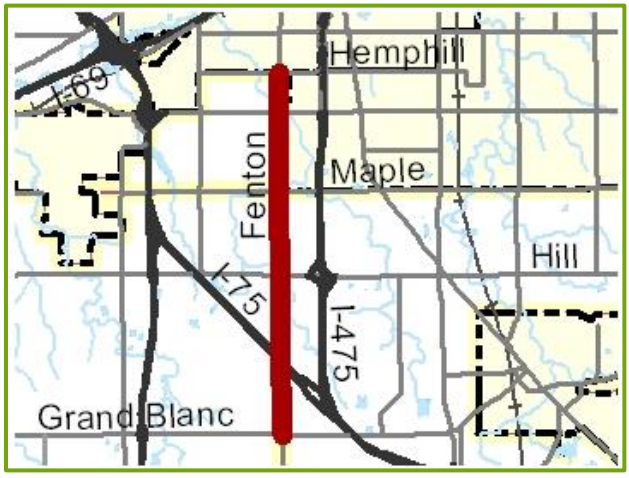
Width Outside Lane: 12

Total Width: 46

Bus Route: Yes

High ADT: 14390

Low ADT: 10217



2008-2013 Crash Data

Rear End Crashes: 85

Read End – Left Turn Crashes: 23

Head On – Left Turn Crashes: 26

Side-Swipe Crashes: 55

Total All Crash Types: 412

Crashes per mile per year: 14.99

Recommendations *

This is not a good candidate for a road diet. Traffic counts are high with lots of through traffic. Left-turn lanes have been added at the major intersections.

Complete Streets 4 to 3 Lane Conversion Study

Fenton Road/Ann Arbor Street

From: **Hemphill Rd**

To: **Court St**

Number of Signals: 6

Driveways and Side Streets: Many

Land Use: Residential, Commercial, College

Left Turn Lane: None

Speed Limit: 35

Width Inside Lane: 10

Width Outside Lane: 11

Total Width: 42

Bus Route: Yes

High ADT: 11577

Low ADT: 5536

2008-2013 Crash Data

Rear End Crashes: 42

Read End – Left Turn Crashes: 4

Head On – Left Turn Crashes: 22

Side-Swipe Crashes: 31

Total All Crash Types: 272

Crashes per mile per year: 22.67

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. It is a narrow road with on-street parking just north of Atherton Road that limits roadway capacity. There are lots of side streets and turning movements. Crash rates along this corridor are very high.

Complete Streets 4 to 3 Lane Conversion Study

Flushing Road

From: **Eldorado Dr**

To: **Ballenger Hwy**

Number of Signals: 1

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: Ballenger

Speed Limit: 35

Width Inside Lane: 12

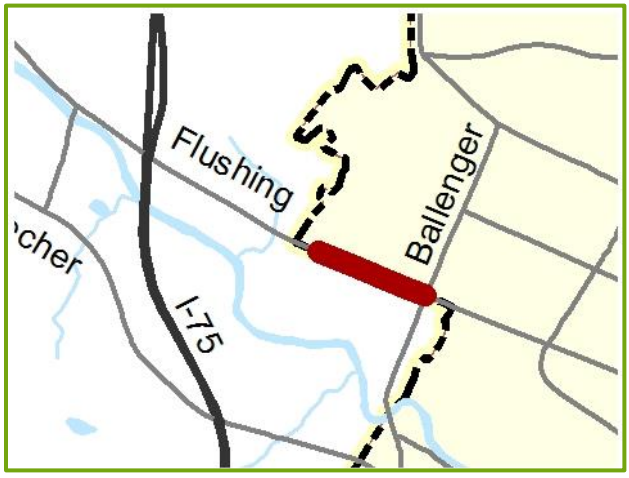
Width Outside Lane: 12

Total Width: 48

Bus Route: Yes

High ADT: 22195

Low ADT: 12036



2008-2013 Crash Data

Rear End Crashes: 16

Read End – Left Turn Crashes: 4

Head On – Left Turn Crashes: 2

Side-Swipe Crashes: 9

Total All Crash Types: 58

Crashes per mile per year: 16.96

Recommendations *

Flushing Road from Linden to Eldorado was recently restriped as a 3-lane road. The new three-lane configuration ends at Eldorado Drive, where it becomes four lanes. This is likely the best configuration for Flushing Road because traffic counts approaching Ballenger Highway are too high for a road diet to work. Another issue with this corridor is the asphalt inner lane with a concrete outside lane creating a problem with visibility.

Complete Streets 4 to 3 Lane Conversion Study

Flushing Road

From: **Elms Rd**

To: **Mill Rd**

Number of Signals: 3

Driveways and Side Streets: Some

Land Use: Residential

Left Turn Lane: Linden

Speed Limit: 45

Width Inside Lane: 12

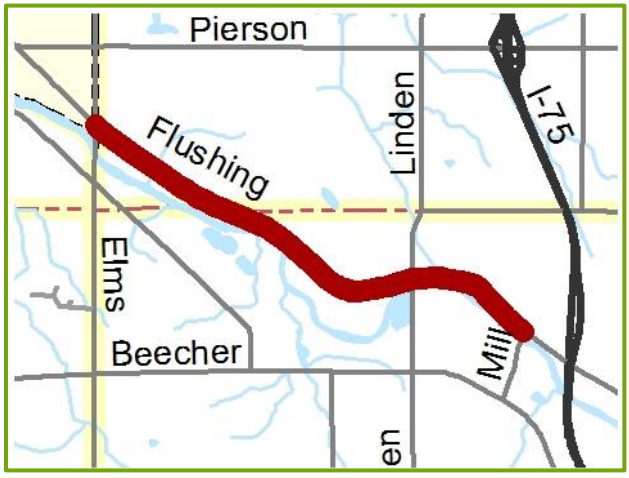
Width Outside Lane: 12

Total Width: 48

Bus Route: No

High ADT: 7462

Low ADT: 4872



2008-2013 Crash Data

Rear End Crashes: 10

Read End – Left Turn Crashes: 2

Head On – Left Turn Crashes: 4

Side-Swipe Crashes: 13

Total All Crash Types: 81

Crashes per mile per year: 4.34

Recommendations * *

This is not a good candidate for a road diet. All other factors would make it a great candidate with the exception of the pavement type. This is an asphalt inner lane with a concrete outside lane. It would only make a good candidate if the pavement were reconstructed to be all the same across the entire roadway. A bike lane is really needed in this area as a connection to the Flint River Trail.

Complete Streets 4 to 3 Lane Conversion Study

Genesee Road

From: **Mt. Morris Rd**

To: **Stanley Rd**

Number of Signals: 2

Driveways and Side Streets: Many

Land Use: Residential, Commercial, School

Left Turn Lane: Mt. Morris

Speed Limit: 35

Width Inside Lane: 12

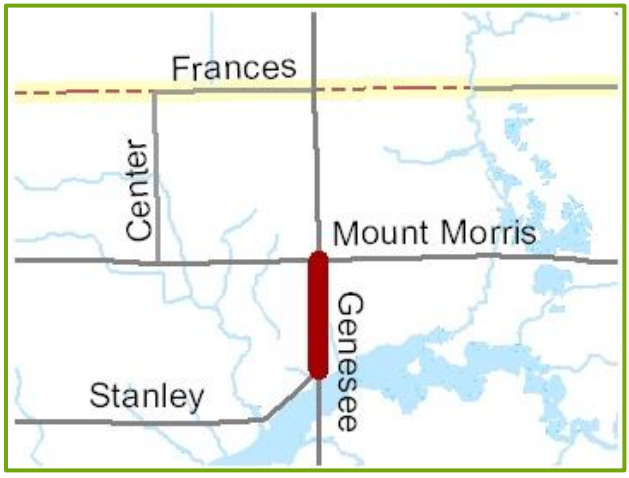
Width Outside Lane: 12

Total Width: 50

Bus Route: No

High ADT: 9158

Low ADT: 7041



2008-2013 Crash Data

Rear End Crashes: 11

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 4

Side-Swipe Crashes: 2

Total All Crash Types: 59

Crashes per mile per year: 9.83

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. As a 3-lane road, travel speeds will be kept at a safer level. The addition of bicycle lanes or additional on-street parking will give the community of Genesee a more small town feel. Bikes lanes would also provide better access to the many recreational areas nearby.

Complete Streets 4 to 3 Lane Conversion Study

Genesee Road

From: **Stanley Rd**

To: **Richfield Rd**

Number of Signals: 5

Driveways and Side Streets: Many

Land Use: Residential, Commercial, School

Left Turn Lane: Richfield

Speed Limit: 45

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 50

Bus Route: No

High ADT: 14698

Low ADT: 8342

2008-2013 Crash Data

Rear End Crashes: 71

Read End – Left Turn Crashes: 9

Head On – Left Turn Crashes: 17

Side-Swipe Crashes: 29

Total All Crash Types: 229

Crashes per mile per year: 10.1

Recommendations * *

This is not a good candidate for a road diet. It has a lot of characteristics of a good candidate; except for the road has asphalt inside lanes and concrete outside lanes. Restriping as a 3-lane road would be possible and should be considered if the roadway was reconstructed to all one surface type. The northern portion of this corridor would be most suitable for a road diet, while traffic counts approaching Richfield Road may be too high for a three-lane configuration to work.

Complete Streets 4 to 3 Lane Conversion Study

Grand Traverse Street

From: **One-Way pairs near I-475**

To: **Church St**

Number of Signals: 2

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: 12th

Speed Limit: 35

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: Not Available

Low ADT: Not Available

2008-2013 Crash Data

Rear End Crashes: 4

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 1

Side-Swipe Crashes: 2

Total All Crash Types: 25

Crashes per mile per year: 5.34

Recommendations ★ ★ ★

This is a good candidate for a road diet. The section of Grand Traverse from I-69 to Kearsley Street underwent a road diet and became a 3-lane, two-way road in 2010. The only issue would be finding a smooth transition where Grand Traverse splits and becomes a one-way just north of 12th Street.

Complete Streets 4 to 3 Lane Conversion Study

Grand Traverse Street

From: **Kearsley St**

To: **8th Ave**

Number of Signals: 4

Driveways and Side Streets: Many

Land Use: Residential, Commercial, Hospital

Left Turn Lane: Kearsley

Speed Limit: 30

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: 10847

Low ADT: 6871

2008-2013 Crash Data

Rear End Crashes: 23

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 10

Side-Swipe Crashes: 14

Total All Crash Types: 116

Crashes per mile per year: 26.85

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. Grand Traverse St between I-69 and Kearsley was reconfigured to a two-way street in 2010 as a three-lane road with some on-street parking. Grand Traverse between Kearsley and 8th Ave should also be reconfigured to a three-lane road. On-street parking is recommended near Hurley Medical Center. A bike lane is recommended for the rest of this corridor to connect this area with the Grand Traverse Greenway and Genesee Valley Trail.

Complete Streets 4 to 3 Lane Conversion Study

Hamilton Avenue

From: **ML King Ave**

To: **Saginaw St**

Number of Signals: 3

Driveways and Side Streets: Some

Land Use: Residential, Schools

Left Turn Lane: Saginaw

Speed Limit: 25-35

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: 8598

Low ADT: 6269

2008-2013 Crash Data

Rear End Crashes: 4

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 4

Side-Swipe Crashes: 4

Total All Crash Types: 37

Crashes per mile per year: 11.21

Recommendations * *

This is a good candidate for a road diet if additional on-street parking is needed in this area for the nearby schools, churches and parks. This is a short section of roadway and a bike lane would not provide much of a connection.

Complete Streets 4 to 3 Lane Conversion Study

Hemphill Road

From: **Fenton Rd**

To: **Dort Hwy**

Number of Signals: 5

Driveways and Side Streets: Some

Land Use: Residential, Commercial, School

Left Turn Lane: Saginaw, Dort

Speed Limit: 35

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 48

Bus Route: No

High ADT: 9894

Low ADT: 5532

2008-2013 Crash Data

Rear End Crashes: 7

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 11

Side-Swipe Crashes: 8

Total All Crash Types: 128

Crashes per mile per year: 10.56

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet with a bike lane. The addition of a center-turn lane at Fenton Road would help in mitigating the many accidents that occur there due to the lack of a dedicated turn lane on all approaches to the intersection. A bike lane would provide a connection to the proposed Grand Traverse Greenway. In comparison to parallel roads such as Bristol and Atherton, Hemphill has lower traffic counts and would be the best candidate for conversion to three lanes.

Complete Streets 4 to 3 Lane Conversion Study

James P Cole Boulevard

From: **Garfield Ave**

To: **E. 5th Ave**

Number of Signals: 3

Driveways and Side Streets: Few/None

Land Use: Industrial, Vacant, Park

Left Turn Lane: Hamilton, 5th

Speed Limit: 35

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: 1196

Low ADT: 1031

2008-2013 Crash Data

Rear End Crashes: 0

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 2

Side-Swipe Crashes: 0

Total All Crash Types: 13

Crashes per mile per year: 1.82

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. It is a narrow roadway with a very low traffic volume. This road once carried higher traffic volumes due to nearby industrial buildings, many of which are now vacant. A bike lane in this area would provide new connections to the Flint River Trail, which runs adjacent to this road.

Complete Streets 4 to 3 Lane Conversion Study

Lapeer

From: **Court St**

To: **Center Rd**

Number of Signals: 6

Driveways and Side Streets: Many

Land Use: Commercial, Industrial

Left Turn Lane: Court, 6th, 7th, 8th, 9th, Belmont, Dort, Averill, Center

Speed Limit: 35

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 48

Bus Route: Yes

High ADT: 9174

Low ADT: 6122

2008-2013 Crash Data

Rear End Crashes: 29

Read End – Left Turn Crashes: 1

Head On – Left Turn Crashes: 10

Side-Swipe Crashes: 21

Total All Crash Types: 176

Crashes per mile per year: 11.69

Recommendations ★ ★ ★

This is a good candidate for a road diet. It has a low traffic volume and many side streets and driveways that would benefit from a center-turn lane. A bike lane is also recommended along this corridor.

Complete Streets 4 to 3 Lane Conversion Study

Lippincott Blvd

From: **Dort Hwy**

To: **Wood Ln**

Number of Signals: 1

Driveways and Side Streets: Some

Land Use: Residential, Commercial

Left Turn Lane:

Speed Limit: 40

Width Inside Lane: 11

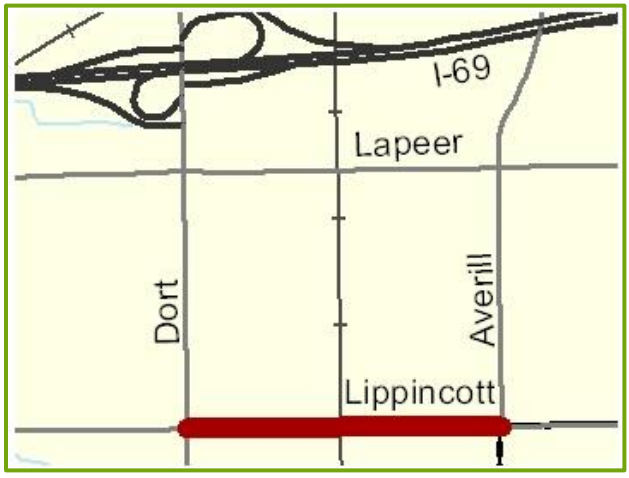
Width Outside Lane: 12

Total Width: 46

Bus Route: Yes

High ADT: Not Available

Low ADT: Not Available



2008-2013 Crash Data

Rear End Crashes: 2

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 2

Side-Swipe Crashes: 4

Total All Crash Types: 19

Crashes per mile per year: 5.76

Recommendations ★ ★ ★

This is a good candidate for a road diet. This is a short four-lane segment where the roadway on either side becomes two lanes. Traffic counts on Lippincott are low enough that a three-lane configuration would work well. A center-turn lane and a bike lane would be beneficial for this roadway.

Complete Streets 4 to 3 Lane Conversion Study

M-15 (N. State Road)

From: **Flint St**

To: **Potter Rd**

Number of Signals: 2

Driveways and Side Streets: Many

Land Use: Commercial

Left Turn Lane: Flint

Speed Limit: 35-55

Width Inside Lane: 12

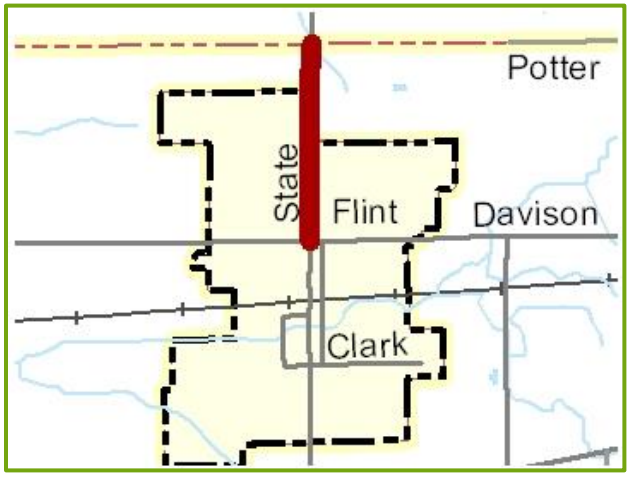
Width Outside Lane: 10

Total Width: 46

Bus Route: No

High ADT: 18240

Low ADT: 14546



2008-2013 Crash Data

Rear End Crashes: 28

Read End – Left Turn Crashes: 4

Head On – Left Turn Crashes: 21

Side-Swipe Crashes: 10

Total All Crash Types: 134

Crashes per mile per year: 16.42

Recommendations ★ ★ ★

This is a good candidate for a road diet. It is a state trunkline and the main arterial through the city of Davison, but north of Flint Street traffic is lower and there are many places where a center-turn lane would help with the large number of turning movements in this area. The three-lane road configuration should extend north to Potter Road, which would involve widening the two-lane section of M-15 north of the Davison city limits.

Complete Streets 4 to 3 Lane Conversion Study

Miller Road

From: **Ballenger Hwy**

To: **Hammerberg Rd**

Number of Signals: 3

Driveways and Side Streets: Many

Land Use: Residential, Schools

Left Turn Lane: Ballenger, Hammerberg

Speed Limit: 35

Width Inside Lane: 11

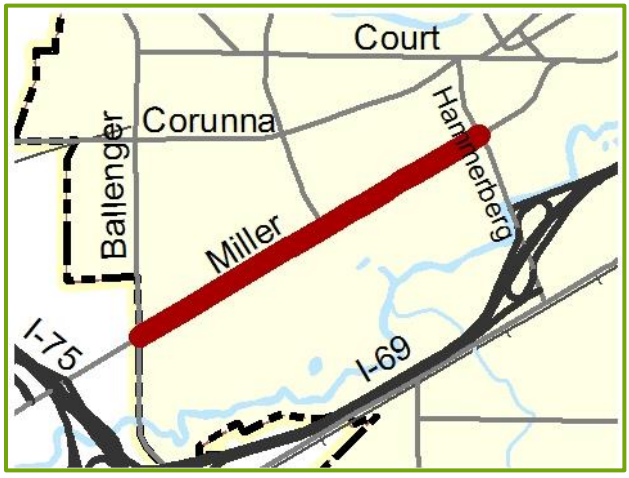
Width Outside Lane: 12

Total Width: 46

Bus Route: Yes

High ADT: 20401

Low ADT: 9901



2008-2013 Crash Data

Rear End Crashes: 22

Read End – Left Turn Crashes: 3

Head On – Left Turn Crashes: 8

Side-Swipe Crashes: 7

Total All Crash Types: 97

Crashes per mile per year: 11.55

Recommendations * *

This is not a good candidate for a road diet, mainly due to the high traffic count.

Complete Streets 4 to 3 Lane Conversion Study

Miller Road

From: **Tallmadge Ct**

To: **Dye Rd**

Number of Signals: 3

Driveways and Side Streets: Some

Land Use: Residential, Commercial, Industrial

Left Turn Lane: Dye

Speed Limit: 50

Width Inside Lane: 12

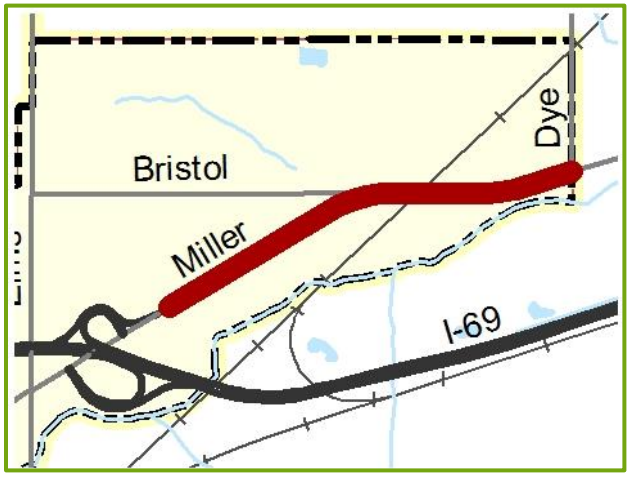
Width Outside Lane: 12

Total Width: 52

Bus Route: No

High ADT: 14695

Low ADT: 14695



2008-2013 Crash Data

Rear End Crashes: 7

Read End – Left Turn Crashes: 2

Head On – Left Turn Crashes: 0

Side-Swipe Crashes: 3

Total All Crash Types: 33

Crashes per mile per year: 4.55

Recommendations ★ ★ ★

This is a good candidate for a road diet. The city of Swartz Creek is interested in extending their existing section of three-lane road out to this section. The city would also like to add sections of sidewalk and extend bike lanes. The speed limit may need to be reduced to accommodate the bicycle traffic in this section. Careful attention should be paid to the intersection at Dye Road to warn vehicles entering this area about the lower speed and lane reduction.

Complete Streets 4 to 3 Lane Conversion Study

M. L. King Avenue / Detroit Street

From: **Welch Blvd**

To: **Coldwater Rd**

Number of Signals: 12

Driveways and Side Streets: Many

Land Use: Residential, Commercial, School

Left Turn Lane: Pierson, Carpenter

Speed Limit: 30-35

Width Inside Lane: 10

Width Outside Lane: 10

Total Width: 43

Bus Route: Yes

High ADT: 10460

Low ADT: 4960

2008-2013 Crash Data

Rear End Crashes: 39

Read End – Left Turn Crashes: 4

Head On – Left Turn Crashes: 23

Side-Swipe Crashes: 27

Total All Crash Types: 288

Crashes per mile per year: 11.71

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. This road has already been converted to three lanes from Welch to 5th Ave. The road is very narrow in some areas, and it would benefit from on-street parking or a bike lane. North of Pierson Road is a dangerous curve where many accidents have occurred; adding a center-turn lane would help buffer oncoming traffic and give a traffic calming effect to the entire corridor.

Complete Streets 4 to 3 Lane Conversion Study

Mt. Morris Road

From: **Clio Rd**

To: **Dort Hwy**

Number of Signals: 6

Driveways and Side Streets: Many

Land Use: Residential, School, Farm

Left Turn Lane: Saginaw, Dort

Speed Limit: 25-45

Width Inside Lane: 11

Width Outside Lane: 11

Total Width: 46

Bus Route: No

High ADT: 7349

Low ADT: 4727

2008-2013 Crash Data

Rear End Crashes: 27

Read End – Left Turn Crashes: 2

Head On – Left Turn Crashes: 8

Side-Swipe Crashes: 15

Total All Crash Types: 146

Crashes per mile per year: 8.28

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. The roadways narrows to one through lane at Saginaw Rd in downtown Mt. Morris, where the inside lane becomes a left-turn lane. The reconfiguration as a three-lane road will calm traffic through the city; two schools are located on Mt. Morris Road that could benefit from an additional bike lane incorporated into the design.

Complete Streets 4 to 3 Lane Conversion Study

Pasadena Avenue

From: **Linden Rd**

To: **Fleming Rd**

Number of Signals: 6

Driveways and Side Streets: Many

Land Use: Residential, Commercial

Left Turn Lane: Linden, Clio

Speed Limit: 35-45

Width Inside Lane: 10

Width Outside Lane: 10

Total Width: 40

Bus Route: Yes

High ADT: 10339

Low ADT: 5834

2008-2013 Crash Data

Rear End Crashes: 19

Read End – Left Turn Crashes: 5

Head On – Left Turn Crashes: 11

Side-Swipe Crashes: 14

Total All Crash Types: 130

Crashes per mile per year: 8.67

Recommendations ★ ★ ★ ★

This is a good candidate for a road diet. This would be a great place for a bike lane through the north part of the city of Flint. Pasadena was recently reconfigured to a three-lane road east of Fleming, so it would be good to restripe the rest of the roadway. Currently, a conflict point exists where the bridge over I-75 narrows to two lanes. This requires the two through-lanes of traffic in each direction to merge together on either side of this bridge. Reduction to three lanes (only one through lane in each direction) would eliminate this conflict.

Complete Streets 4 to 3 Lane Conversion Study

Pierson Road

From: **Dupont St**

To: **Selby St**

Number of Signals: 8

Driveways and Side Streets: Many

Land Use: Residential, Commercial, School

Left Turn Lane: Dupont, ML King, Saginaw, Selby

Speed Limit: 35

Width Inside Lane: 11

Width Outside Lane: 12

Total Width: 37

Bus Route: Yes

High ADT: 12552

Low ADT: 7076

2008-2013 Crash Data

Rear End Crashes: 42

Read End – Left Turn Crashes: 3

Head On – Left Turn Crashes: 4

Side-Swipe Crashes: 10

Total All Crash Types: 125

Crashes per mile per year: 13.98

Recommendations ★ ★ ★

This is a good candidate for a road diet. Traffic counts are low enough for three lanes to work well. There are schools, parks, and residential areas along the corridor that would benefit from bike lanes and traffic calming. The only potential issue here with conversion is that Pierson Road is five lanes on either side of this section.

Complete Streets 4 to 3 Lane Conversion Study

Richfield Road

From: **Franklin Ave**

To: **Victoria Station**

Number of Signals: 9

Driveways and Side Streets: Some

Land Use: Industrial, Commercial, Farm, Residential

Left Turn Lane: Genesee, Irish

Speed Limit: 40-55

Width Inside Lane: 12

Width Outside Lane: 12

Total Width: 50

Bus Route: Yes

High ADT: 13971

Low ADT: 5943

2008-2013 Crash Data

Rear End Crashes: 94

Read End – Left Turn Crashes: 14

Head On – Left Turn Crashes: 31

Side-Swipe Crashes: 56

Total All Crash Types: 410

Crashes per mile per year: 10.03

Recommendations ★★★★

This is a good candidate for a road diet. It has a low traffic count and with re-striping, this road can become a bike lane connection from the Flint River Trail to M-15 just north of Davison and eventually connect into the proposed non-motorized pathway in Davison on M-15. A potential issue with this corridor is the seasonal congestion that occurs near Irish Road and Gale Road due to the Outdoor Adventures Lake Shore Resort. Further study is needed to determine the seasonal impact of the resort on a three-lane road.

Complete Streets 4 to 3 Lane Conversion Study

Saginaw Road

From: **Willard Rd**

To: **Dort Hwy**

Number of Signals: 4

Driveways and Side Streets: Some

Land Use: Residential, Commercial

Left Turn Lane: Vienna

Speed Limit: 45-55

Width Inside Lane: 10

Width Outside Lane: 9

Total Width: 39

Bus Route: No

High ADT: 11401

Low ADT: 5409

2008-2013 Crash Data

Rear End Crashes: 33

Read End – Left Turn Crashes: 6

Head On – Left Turn Crashes: 18

Side-Swipe Crashes: 22

Total All Crash Types: 219

Crashes per mile per year: 6.62

Recommendations *

This is not a good candidate for a road diet. Part of this road is a state trunkline highway with a lot of through traffic. The road is four lanes north of the Genesee County border and five lanes on the south end where Saginaw Rd splits from Dort Hwy. This corridor has a mostly rural character and would not benefit much from bike lanes or on-street parking, with the only exception being the intersection at Vienna Road.

Complete Streets 4 to 3 Lane Conversion Study

Sunset Drive

From: **Bradley Ave**

To: **Flint River**

Number of Signals: 0

Driveways and Side Streets: Few/None

Land Use: University, Golf, Residential

Left Turn Lane: Bradley

Speed Limit: 25

Width Inside Lane: 11

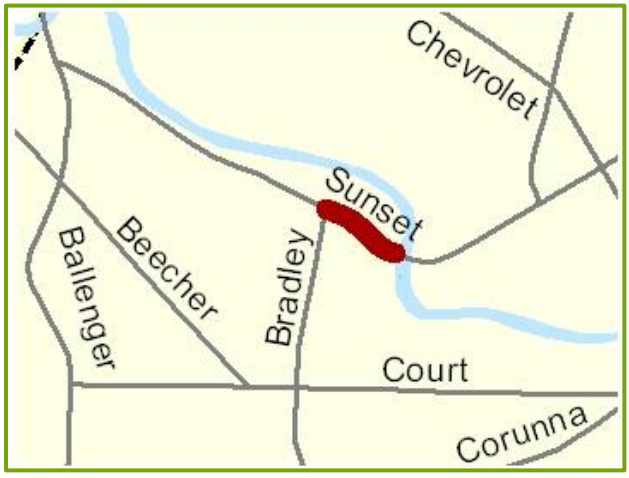
Width Outside Lane: 11

Total Width: 44

Bus Route: No

High ADT: 7967

Low ADT: 6816



2008-2013 Crash Data

Rear End Crashes: 1

Read End – Left Turn Crashes: 0

Head On – Left Turn Crashes: 0

Side-Swipe Crashes: 1

Total All Crash Types: 12

Crashes per mile per year: 7.14

Recommendations ★ ★ ★ ★

This is a small section of road that is connected to a three-lane road to the east and two-lane to the west. This is a great road to be restriped to match the three-lane portion of University Avenue. Restriping would make room for more continuous bike lanes connecting the existing ones on University Ave leading to Kettering University.

Appendix A

List of All Genesee County 4-to-3 Lane Conversions

List of All Genesee County 4-to-3 Lane Conversions

During the process of updating the Genesee County Long Range Transportation Plan, the Genesee County Metropolitan Planning Commission requested information from local units of governments regarding road diets. The following is a list of known road diets that have been implemented to date. Staff will continue to request updates on road diet projects in the future to maintain a database of these projects.

1st Street
S. Grand Traverse Street to Stevens Street
City of Flint
Changed to a 3-lane road in 2010
On-street parking added
Length: 0.46 mi

2nd Street
Ann Arbor Street to I-475
City of Flint
Changed from a One-Way 4-Lane road to a Two-Way 3-Lane in 2010
On-street parking and bike lanes added
Length: 0.65 mi

Carpenter Road
Dupont Street to Saginaw Street
Mt. Morris Township
Changed to a 3-lane road in 2012
Length: 1.00 mi

Chevrolet Avenue
University Avenue to the Flint River
City of Flint
Changed from a 4 and 5-Lane road to a 3-Lane road in 2010
Length: 0.30 mi

Corunna Road (M-21)
Ballenger Highway to Court Street
City of Flint
Changed to a 3-lane road in 2011
Length: 1.21 mi

Court Street
Avon Street to Dort Highway
City of Flint
Changed to a 3-lane road in 1996
Length: 1.20 mi

Davison Road
Lewis Place to N. Dort Highway
City of Flint
Changed to a 3-lane Road in 2001
Length: 1.00 mi

Dupont Street
Welch Boulevard to W. Pasadena Avenue
City of Flint
Changed to a 3-lane road in 2005
Length: 1.12 mi

E. Flint Street
M-15 to the East City Limits
City of Davison
Changed to a 3-lane road in 2011
Bike lanes added
Length: 0.55 mi

Elms Road
Flushing Road to Potter Road
Flushing Township
Changed to a 3-lane road in 2010
Length: 0.52 mi

Flushing Road
Mill Road to Eldorado Drive
Flint Township
Changed to a 3-lane road in 2013
Length: 1.05 mi

Flushing Road / E. 5th Avenue
N. Ballenger Hwy to M.L. King Avenue
City of Flint
Changed to a 3-lane road in 2006
New Sidewalks upgraded to ADA-Compliant
Length: 1.92 mi

Grand Blanc Road
Grand Blanc City Limits to Saginaw Street
City of Grand Blanc
Changed to a 3-lane road in 2010
Bike lanes and on-street parking added
Length: 0.79 mi

Grand Traverse Street
W. Kearsley Street to I-69
City of Flint
Changed from a One-way 4-lane road to a Two-Way 3-Lane in 2010
Bike lanes and on-street parking added
Length: 0.71 mi

Jennings Road
W. Pierson Road to W. Pasadena Avenue
Mt. Morris Township
Changed to a 3-lane road in 2012
Length: 1.01 mi

Kearsley Street
Grand Traverse Street to Harrison Street
City of Flint
Changed to a 3-lane road in 2010
On-street parking and bike lanes added
Length: 0.34 mi

Main Street
Chestnut Street to Seymour Road
City of Flushing
Changed to a 3-lane road in 1990
(Two lanes between Beech St and Boman St)
On-street parking added
Length: 1.50 mi

Martin Luther King Avenue
E. 5th Avenue to Welch Boulevard
City of Flint
Changed to a 3-lane road in 2001
On-street parking added
Length: 0.68 mi

Miller Road
Hammerberg Road to Court Street
City of Flint
Changed to a 3-lane road in 2010
Sidewalks improved, Intersection of Miller Rd & Court St reconfigured
Length: 0.38 mi

Miller Road
Seymour Road to Elms Road in the City of Swartz Creek
Changed to a 3-lane road in 2000
Bike Lanes added
Length: 2.45 mi

Morrish Road
I-69 to Maple Street in the City of Swartz Creek
Changed to a 3-lane road in 2009
Bike lanes added
Length: 0.92 mi

Pasadena Avenue
Fleming Road to M. L. King Avenue in the City of Flint
Changed to a 3-lane road in 2010
Length: 0.95 mi

Saginaw Street
4th Street to the Flint River in the City of Flint
Changed to a 3-lane road in 2010
Bike lanes added, buffer between on-street parking and traffic lanes
Length: 0.48 mi

Shiawassee Road
Owen Road to Leroy Street in the City of Fenton
Changed to a 3-lane road in 1998 (estimated)
Length: 0.84 mi

University Avenue
Nolen Drive to N. Saginaw Street in the City of Flint
Changed to a 3-lane road in 2006
Bike lanes, streetscaping with medians and lighting, benches, and improved sidewalks
Length: 1.46 mi

Vienna Road (M-57)
West City Limits to Seymour Road in the City of Montrose
Changed to a 3-lane road in 2003
On-Street parking added for downtown Montrose
Length: 1.14 mi

Vienna Road (M-57)
Jennings Road to Saginaw Road in Vienna Township and City of Clio
Changed to a 3-lane road in 2003
Wide shoulders for biking and downtown parking added
Length: 1.99 mi

Total Length of all Genesee County Road Diets: 26.62 Linear Miles