

Highway Intersections Exhibiting the Most Severe Safety Needs

Location	Jurisdiction	Potential Remedies	Estimated Costs	Implementation Impediments	Comments	Crash and Injury Data				Human Factors Involvement		
						K/A Crash Pattern	Total Severe Crashes	A Injuries	Fatalities	Alcohol and/or Drugs	NO Seatbelt and/or Helmet Use*	Speed**
Port Sheldon St & 144th Ave	Ottawa County	Install ground flashing red beacons on STOP signs	\$ 4,500	None	We want to evaluate the effectiveness of the flashing beacons before considering any other treatments.	AN-ST	4	5	2	0	1	0
Spring Arbor Rd & Robinson Rd	Jackson County	1) Stripe Robinson Road for three (3) lanes of traffic in each direction with the left turn lanes opposite each other. 2) Install advance traffic signal signs along Spring Arbor Road. 3) Install street light(s) @ the intersection. 4) Restripe Spring Arbor Road from Morrell Street to M – 60 (~ 3 miles in length) to operate as a three (3) lane road rather than a four (4) lane road. 5) Redesign traffic signal to a box span. 6) Reconstruct intersection to add a fifth lane on Spring Arbor Road so left turns will be opposite each other.	1) \$2,500 2) 1,000 3) Unknown. Would need an estimate from Consumers Energy. 4) \$25,000 5) \$70,000 6) \$275,000 without traffic signal improvements, \$345,000 with a new box span traffic signal	6) Severe right-of-way issues on all four (4) corners of the intersection.	2) The J.C.R.C. removed these signs ~ ten (10) years ago after the signs were in place the same amount of time. 4) Delays crossing Spring Arbor Road could upset motorists who may then take unnecessary chances.	AN-ST & HD-LT	4	4	2	1	0	0
Gratiot Ave (M-3) & Mount Elliott St	MDOT	Conduct a left turn signal phasing study, Enforcement	\$ 30,000	Signal may not meet warrants for phasing, Funding and personnel issues for law enforcement	Roadway section recently whitetopped.	None	4	4	2	3	2	0
Gotfredson Rd & Plymouth Rd	Washtenaw County	Install additional "Stop" signs. Install additional "Stop Ahead" signs. Install overhead flashing beacon. Install supplemental plaque below "Stop" sign indicating that the cross street does not stop. All were completed in 2006.	Approx. \$2,500 for work completed in 2006. An additional \$600,000 for potential improvements described within the comments.	None	After a detailed review and observation of a pattern of crashes, the initial remedies were installed in 2006. We are continually monitoring this intersection and with the initial remedies the total injury and frequency of crashes have been reduced. The following is a list of additional improvements we will consider for implementation after further analysis and if the pattern of crashes continue: Increase the size of "Stop" and "Stop Ahead" signs, install reflective strips on sign posts, install additional sign indicating cross street does not stop on the far side of the intersection, install flashing beacon above "Stop" sign, install multi-way stop, if warranted, install traffic signal, if warranted.	AN-ST	4	3	2	2	0	0
W McNichols Rd & Ferguson St	Wayne County	Remove parking on McNichols and restripe with a center left turn lane		Long established businesses have no off street parking	Removing the on street parking would improve sight distance entering McNichols, but the businesses have no off street parking and this would cause many economic hardships.	None	4	2	2	3	0	0

Van Born Rd & Merriman Rd	Wayne County	(1) Install box spans with 4-way left turn phasing -or- (2) Re-time the signals to lengthen the all red phase.	(1)\$90,000 + Service call (2)	Any signal installation work will also require full compliance with ADA standards for all sidewalks and crossings.	Increasing the all red phase will occur immediately. Signal modernization with a 4-way left phase will be examined if funding becomes available.	HD-LT	8	8	1	1	1	0
Telegraph Rd (US-24) & Eureka Rd	MDOT	Traffic Signal Modifications, Enforcement	\$ 50,000	Funding and personnel issues for Enforcement	Crash data in parenthesis includes both intersections of Telegraph Rd (US-24) & Eureka Rd. A permit job by the City of Taylor is under way to install mast arms signals at this location.	AN-ST & RE-ST	5 (8)	7 (10)	1	2	3	0
S Lapeer Rd (M-24) & Pratt Rd	MDOT	Protected Left Turn Signal	\$ 80,000	Head-On Left crash frequency does not meet warrants	Clearance intervals were updated on 3/21/06	HD-LT	5	6	1	0	0	0
Inkster Rd & Michigan Ave (US-12)	MDOT	Traffic Signal Modifications including pedestrian countdowns, Enforcement	\$ 50,000	Funding and personnel issues for Enforcement	This signal is currently in design for modernization in 2008.	AN-ST & PED	5	6	1	1	3	0
Dequindre Rd & E 11 Mile Rd	Macomb County					AN-DR	5	4	1	1	1	0
W 11 Mile Rd & Southfield Rd	Oakland County	Rebuild the signals at this intersection and the intersection at EB 11 Mile Rd to box spans and operate them off one signal controller.	\$ 200,000	None	Approved for FY2008 Federal Safety funding to implement the listed remedies. Please note that an additional low-level signal for southbound 11 Mile was added this past spring to bring more attention to the near side signal phase.	AN-ST	5	4	1	0	2	0
Ford Rd (M-153) & Auto Club Dr	MDOT	1) Relocate crossover, supplemental signage and pavement markings 2) Reevaluate the signal flash schedule	\$ 500,000	1. Potential political concerns from the City on removing a direct crossover to a large office park. 2. none	Pavement markings and signage will be installed this season.	AN-ST & AN-TN	5	4	1	1	1	0
E Davison St & Van Dyke St (M-53)	MDOT	1) Consider removal of on street parking for NB lanes, add advance stop ahead warnings signs for EB Davison 2) Enforcement	\$ 500,000	1).Political concerns for removal of parking 2). Funding and personnel issues for law enforcement	High percentage of disregard of nearby railroad crossing observed.	SS-SM	4	8	1	1	0	0
Highland Rd (M-59) & Bullard Rd	MDOT	2006: Continue median, Enforcement, Speed reduction measures (placement of speed trailers). 2007: Removing the existing median opening and construct a boulevard section.	\$ 24,960	None	2007 project will completed this summer. Bullard Road traffic will utilize the existing turnarounds to the east and west of the intersection. Local agencies have been notified of the improvement.	AN-ST	3	1	4	0	1	0
US 31 & Riley St	MDOT	Continue to monitor this intersection.	N/A	N/A	Flash schedule removed in March 2006. Crashes all prior to that date.	AN-ST	6	10	3	1	3	0

Livernois & Toledo (Bridge 12339)	City of Detroit	1) Install 500 feet long Median S/O Plumer to direct traffic away from the bridge piers. 2) Install four (4) crash attenuators to protect vehicles from hitting the bridge piers and install guard rail along the east side and west side of Livernois. 3) Install missing curbs (200 feet each) along both sides of the bridges Livernois. 4) Install traffic signal at Livernois-Toledo to alleviate visibility issues of vehicles making left turn to SB Livernois from Toledo. 5) Install bridge clearance signs, relocate bus stops (for NB livernois to S/O Toledo and SB Livernois to S/O Toledo) improve drainage condition to alleviate water ponding, improve lighting.	1) \$100,000 2) \$100,000 3) \$70,000 4) \$70,000 5) \$10,000	None		FXOBJ	3	3	3	2	1	1
N Clarendon St & Grand River Ave (M-5)	MDOT	Add mid-block pedestrian crossing with high emphasis markings and place signs directly across from the pedestrian structure crossing the freeway to the west.	\$ 100,000	Goes against MDOT practice of not installing any new mid block unsignalized pedestrian crossings.	*This location is one block from N Martindale and M-5	PED	3	0	3	2	0	1
Beech Daly Rd & Michigan Ave (US-12)	MDOT	Traffic Signal Modifications including pedestrian countdowns, sidewalk, and ramps in all quadrants	\$ 100,000	None	This signal is currently in design for modernization in 2008.	PED & BIKE	3	0	3	2	1	0
136th Ave & 58th St	Allegan County	Add left turn lanes on 58th Street OR Roundabout	\$200,000 for left turn lanes OR \$500,000 for Roundabout	Cost and/or Public Acceptance	Left Turn Lane: In addition to adding the left turn lanes propose upgrading pavement markings and signing and paving shoulders on all approaches. No additional right of way would be required. Roundabout: This project would require additional rightof way. The public may be reluctant to accept this type of project since we do not have any roundabouts in our area.	HD-LT	4	5	1	0	3	0
Leonard St NW & Wilson Ave NW (M-11)	MDOT	Increase sight distance by removing vegetation on NE and NW quads. Modify flash schedule.	\$ 5,000		Intersection currently has traffic signal with headed-up lefts and dedicated rights at all 4 legs. No dedicated left turn phase. Flash schedule was delayed in July 2007 and flash mode now begins at midnight. Currently working with property owners on NE and NW quads to remove trees and trim vegetation located outside of ROW.	AN-ST	4	5	1	2	2	0
N Pinnebog Rd & Pigeon Rd (M-142)	MDOT	Add additional "Cross Road Traffic Does Not Stop" Signs.	\$ 500	None	A flashing beacon, rumble strips, & diamond grade signs have been installed in the past 3 years to help reduce angle crashes at this location. Proposed signs will be installed by 7/1/07.	AN-ST	3	9	2	0	2	0
Silver Lake Rd & Zimmerman Rd	Grand Traverse County	Add Left Turn Phasing, Roundabout, Public Education, Review Flash Schedule	\$100,000 to \$500,000	ROW Acquisition	An AN-ST crash involved an ambulance on an emergency run.	HD-LT	3	4	2	1	0	0
S Westnedge Ave & Ruth St	City of Portage	No infrastructure changes/improvements warranted.	N/A	N/A	Accidents were not the result of improper infrastructure facilities but were the result of driver errors.	None	3	4	2	1	2	1
Elmhurst St & Dexter Ave	City of Detroit	1) Minor modification to newly modernized traffic signal install case signs for EB and WB Elmhurst, count down pedestrian signals 2) Geometric modification to include pedestrian refuge island for North leg of Dexter, bump out for both sides of south leg of Dexter to minimize pedestrian exposure	1) \$20,000.00 2) \$30,000.00	None		None	3	4	2	1	0	1
Michigan St (M-139) & Pipestone Rd	MDOT	Optimization of signal timing.		None	Optimization in progress (as of Aug07). This will reduce crashes as the cause of all crashes was due to driver error (failing to yield/running a red light).	AN-ST	4	4	1	2	0	0

Duffield Rd & Grand Blanc Rd	Genesee County	Double up stop ahead signs; move directional sign on east approach; remove church sign on west approach (has been hit); trim trees and mow cattails	Less than \$1,000	None	We placed cross traffic does not stop on the backs of the double stop signs across the intersection in December, 2005 and crash experience has been low at this rural intersection for the past 2 years. We will continue to monitor the intersection for any changes.	AN-ST	4	4	1	0	2	0
Jupiter Ave NE & W River Dr NE	Kent County	Continue to monitor the intersection.	N/A	N/A	Improvement were made to this intersection in 2006.	HD-LT	4	4	1	0	0	0
Van Dyke St (M-53) & E 7 Mile Rd	MDOT	Construct left center turn lane for both EB and WB 7 Mile 2). Restrict all left turns from 7 Mile 3). Stripe center turn lane for WB 7 Mile and x-hatch EB 7mile	\$ 2,000,000	1). ROW 2). Placement of additional turn restrictions 3). None	2008 Safety Project to construct left turn lanes on Van Dyke. Need ROW to construct left turns in all Quadrants.	None	4	4	1	0	0	0
Hill Rd & Elms Rd	Genesee County	Double up stop ahead signs; improve pavement markings; trim trees; move intersection warning sign on east approach away from tree.	\$ 7,000		Cross traffic does not stop signs were placed on the backs of the double stop signs across the intersection in December, 2005. Some improvement was seen with this treatment.	AN-ST	3	3	2	1	0	0
24 Mile Rd & North Ave	Macomb County					AN-ST	3	3	2	0	1	0
W Coldwater Rd & Nassar St/O'Brien Rd	Genesee County	Tree needs trimming on the SB approach of O'brien Street; close driveway across from O'brien (party store); consider restriping Coldwater Road from 4 lanes to 3 lanes to provide left turn lane for the many residential access points along Coldwater Road	\$ 25,000	Property owner may not want to close driveway		None	3	2	2	1	2	1
W 12 Mile Rd & Coolidge Hwy	Oakland County	No crash pattern found.	N/A	N/A		None	3	2	2	0	0	0
Lahser Rd & W 9 Mile Rd	Oakland County	Signal rebuilt to a box span and 4-way left turn phasing utilizing the yellow flashing arrow was added. New signal was activated 4/25/06.	N/A	N/A	One HD-LT crash involved a fleeing vehicle.	HD-LT	3	2	2	0	2	0
Pleasant Lake Rd & M-52	MDOT	Add additional (M-52 Traffic Does Not Stop) plaques, improve radius on NW quadrant, trim grass in SE quadrant to improve sight distance on EB approach for NB M-52, and relocate stop bar on EB Pleasant Lake approach. Re-evaluate crashes to determine if 2006 improvements reduced severity of crashes.	\$250 grass trimming. New signs - \$625 (Unknown for radius improvement-ROW purchase)	Location of historical church located in NW quadrant; insufficient space for additional radius improvements.	The 2006 project (JN 81719) consisted of HMA widening for a center left turn lane on M-52 and modernization of the flashing beacon-project started June 2006-completed fall 2006. All the signs and pavement marking were also replaced. The radius on the NW quadrant of the intersection was upgraded as much as possible and the majority of the widening in this section was to the east due to the existing "historical" church. The stop bar on Pleasant Lake (EB approach) was relocated approximately 8 feet west on 6/7/07. A TWA has been requested for 5 additional (M-52 Traffic Does Not Stop) plaques, the request for the grass trimming has been submitted.	AN-TN	3	2	2	0	0	0
E 7 Mile Rd & Gratiot Ave (M-3)	MDOT	1). Construct left center turn lane for both EB and WB 7 Mile 2). Stripe center turn lane for WB 7 Mile and x-hatch EB 7mile 3). Left turn phasing signal study 4). Add ped push buttons with countdowns signals 5). Enforcement	\$ 3,000,000	1). ROW 2). None 3). May not meet warrants 4). None 5). Funding and personnel issue for law enforcement	Traffic proceeds EB and WB with no defined lanes.	PED	3	2	2	2	2	1

Hammond Rd W & N Garfield Rd	Grand Traverse County	Add Left Turn Phasing, Public Education, Enforcement of Red Light Running, Review Flash Schedule	\$100,000 to \$500,000	None	FY2008 Safety Grant applied for and received to add Left Turn Phasing	AN-ST & HD-LT	4	3	1	0	2	0
S Cedar St (M-53) & E Borland Ave	MDOT	Access Management to consolidate points of access to M-53 and create a service drive	\$ 750,000	Resistance from Business Owners	Signal Study conducted at Borland Road in late 2006. Did not meet warrants for volume, delay or crash history	AN-TN	4	3	1	0	0	0
11 Mile Rd & Groesbeck Hwy (M-97)	MDOT	Enforcement, Evaluate traffic signal all red clearance interval, Place pavement markings lane skips for dual turns and Remove trees from SW quad of freeway to improve sight distance	\$ 150,000	Funding and personnel issues for Enforcement		AN-ST	4	3	1	0	1	0
8th St & Evergreen Dr (M-37)	MDOT	Provide a headed up center left turn lane.	\$ 400,000	None	Headed Up Left Turn Lane on M-37 is within te existing Five Year Program and is currently scheduled for 2009 construction.	HD-LT	4	3	1	0	0	0
Wyoming & W 8 Mile Rd (M-102)	MDOT	Notify locals of MDOT's Dark Signal Policy, Enforcement		Funding and personnel issues for enforcement	A RE-ST and AN-ST crash occurred while the signal was experiencing a power outage.	PED & BIKE	4	3	1	0	0	0
Dixie Hwy/Genesee Ave & Hess Ave	City of Saginaw	1) Per MDOT Standards, the City of Saginaw on July 7, 2006 modified clearance intervals. The total clearance interval including yellow and red times were kept the same, but we decreased the amount of yellow time and increase all red. 2) Work with Saginaw County Road Commission (SCRC) to provide good progression from their signals to the south on Genesee/Dixie Hwy to ensure that we are not creating potential red light running or rear end accidents that could happen due to lack of progression. 3) Install sidewalks and sidewalk ramps at the southeast, southwest and northwest quadrants of the intersection. Also upgrade signals to include pedestrian signals and modernize signals with pedestrian crosswalks and light eluminating diodes (LED's).	1) Minimal 2) Minimal 3) \$250,000	1) Implemented 2) N/A 3) Lack of funding for this improvement, property acquisition for sidewalks, and increase in delay to signal to accommodate for ped clearance intervals.	3) This will encourage pedestrians to cross at the signalized intersection, not somewhere else within the block. May attempt to apply for safety funds for this.	None	4	3	1	0	1	0
Eureka Rd & Wahrman Rd/Wayne Rd	Wayne County	(1) Education / (2) Enforcement		(1) Users are from large geographical area; (2) Availability of law enforcement	All reported K/A crashes are result of poor driver behavior or medical condition.	None	4	3	1	0	0	0
124th Ave & Cleveland St (M-104)	MDOT	Continue to monitor the intersection.	TBD	N/A	This is a flat area with good sight distance. 124th is a gravel road with extremely low ADT. This intersection is consistant with many others along M-104. No "pattern" identified. Within the Five Year Program, there are improvements for M-104 relating to the US-31 Bypass (M-231). These improvements are expected to include portions of the 124th intersection. Condition will be monitored throughout this timeframe.	None	3	1	2	0	0	0
N Martindale St & Grand River Ave (M-5)	MDOT	Add mid-block pedestrian crossing with high emphasis markings and signs directly across from the pedestrian structure crossing the freeway to the west.	\$ 100,000	Goes against MDOT practice of not installing any new mid block unsignalized pedestrian crossings.	*This location is one block from N Clarendon and M-5	PED	3	1	2	1	0	1
Additional Notes:	*ALL drivers or passengers regardless of injury were reported when not wearing a seatbelt or helmet (motorcycle crashes). Use for remaining											
	**Speed related crashes involve vehicles whose hazardous action was listed at "Speed too fast" or when the description indicated a driver was											