9.0 Existing Roads in Livernois-Junction Area

The Livernois-Junction Yard is bordered by Livernois Avenue on the east, Wyoming Avenue on the west, Dix Highway on the south, and John Kronk Street on the north. Two north-south streets cross the yard at grade: Lonyo Avenue and Central Avenue. Further north is Michigan Avenue which intersects all four north-south streets. Michigan Avenue (US-12) is a major east west arterial from downtown Detroit to the west.

I-94 passes north of the site. There is an eastbound exit ramp to Wyoming Avenue near the yard. There is full access to I-94 from Wyoming Avenue via Michigan Avenue near the intersection of these two streets. There is also a full-access I-94 interchange at Livernois Avenue. This interchange is somewhat restricted in terms of capacity to and from westbound I-94 due to sharp curves in the on/off ramps.

9.1.1 Central Avenue

Existing Conditions. Central Avenue goes under the Livernois-Junction Yard leads on the south, and it is at grade with the mainlines on the north. Immediately north of the mainline is the intersection with John Kronk Street. South of the yard there are small commercial parcels and near the Central Avenue/Dix Avenue intersection there is an active fire station in a historic building. North of John Kronk Street there are several warehousing/truck terminal businesses on the west, and commercial and salvage businesses on the east. In general, the east side of Central Avenue is primarily residential, while the west side is predominantly commercial.

Proposed Underpass. Under the Preferred Alternative, Central Avenue will be lowered up to 12 feet below the existing grade. The tracks on the south will be lowered and the tracks on the north will be raised to create a roughly constant elevation for the yard over the top of Central Avenue. The approximate limits of the underpass structure can be seen below. Retaining walls are proposed both on the north and south ends of the structure to minimize property acquisition and maximize the terminal area.

The Central Avenue underpass is essential to developing the intermodal terminal facilities of the DIFT. In order for an intermodal facility to be efficient, roadways cannot run through the middle of them. Grade separating Central Avenue and the railroad operations maintains Central Avenue as a north - south roadway but eliminates the railroad/roadway conflict.

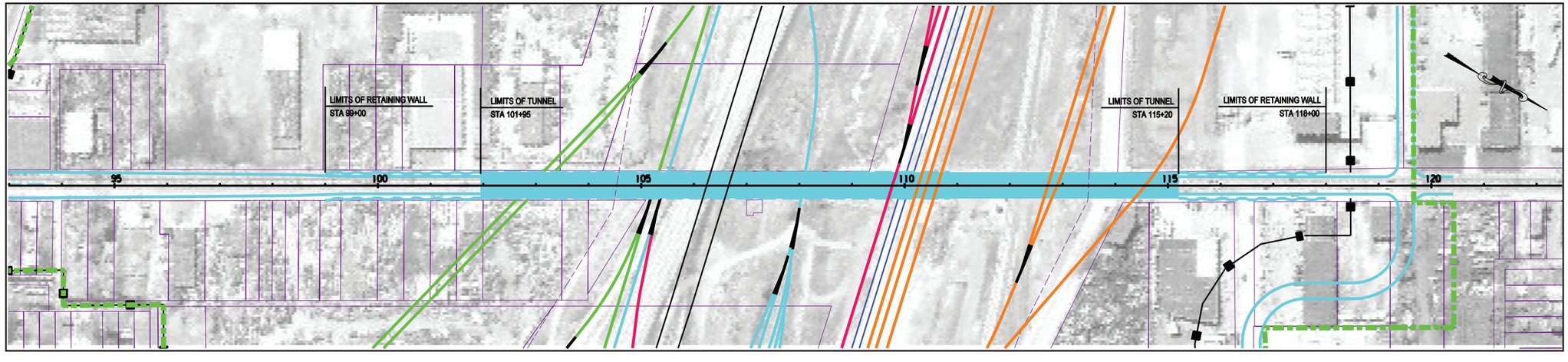

Exhibit 9.1
Proposed Central Avenue Underpass

9.0 Road Improvements "Outside the Terminal Fence"

9.1.2 Lonyo Avenue

Presently, both Central Avenue and Lonyo Avenue pass through Livernois-Junction Yard at grade. Both roadways run north - south and connect from John Kronk Street to Dix Avenue. As previously discussed, Central Avenue will be grade separated. Lonyo Avenue is proposed to be closed on either side of the rail yard limits.

The existing Lonyo Avenue will end in a "T" intersection with the new perimeter road on the north and a cul-de-sac south of the rail yard. The cul-de-sac on the south will maintain roadway access to the businesses located on Lonyo Avenue north of Dix Avenue to the rail yard. The roadway traffic that currently utilizes Lonyo Avenue will be routed to Central Avenue via the new perimeter road.

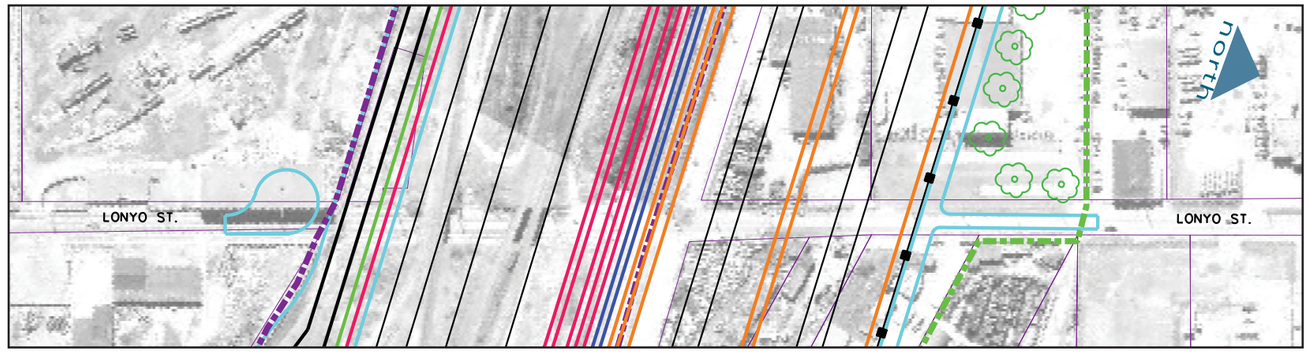

Exhibit 9.2
Proposed Lonyo Street

9.1.3 Dix/Central Intersection

With the closure of Lonyo Avenue, Central Avenue will be the only north - south crossing within the yard limits between Livernois Avenue and Wyoming Avenue. The intersection of Dix Avenue and Central Avenue is at a 45 degree angle which makes southbound-to-westbound turns difficult. With the Preferred Alternative, construction of a right-turn lane is proposed. To do so, the parcel in the northwest quadrant of the intersection would be acquired. The proposed right-turn lane will align with the driveway of the fire station, allowing emergency vehicles heading west on Dix Avenue the improved right-turn lane which will improve response times.

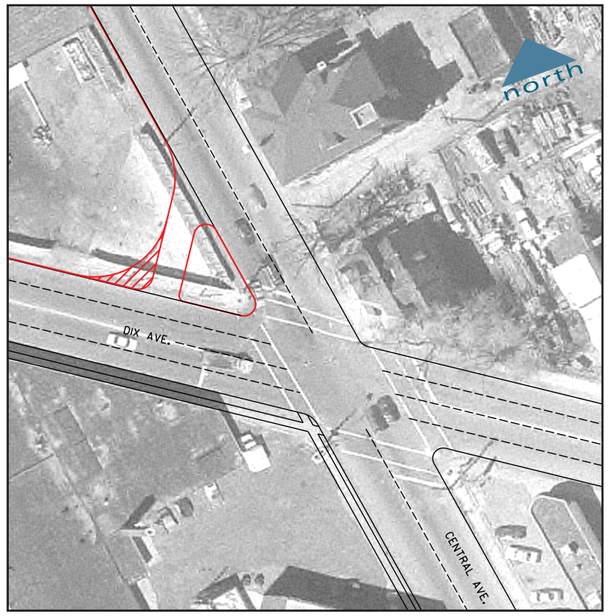

Exhibit 9.3
Proposed Dix/Central Intersection

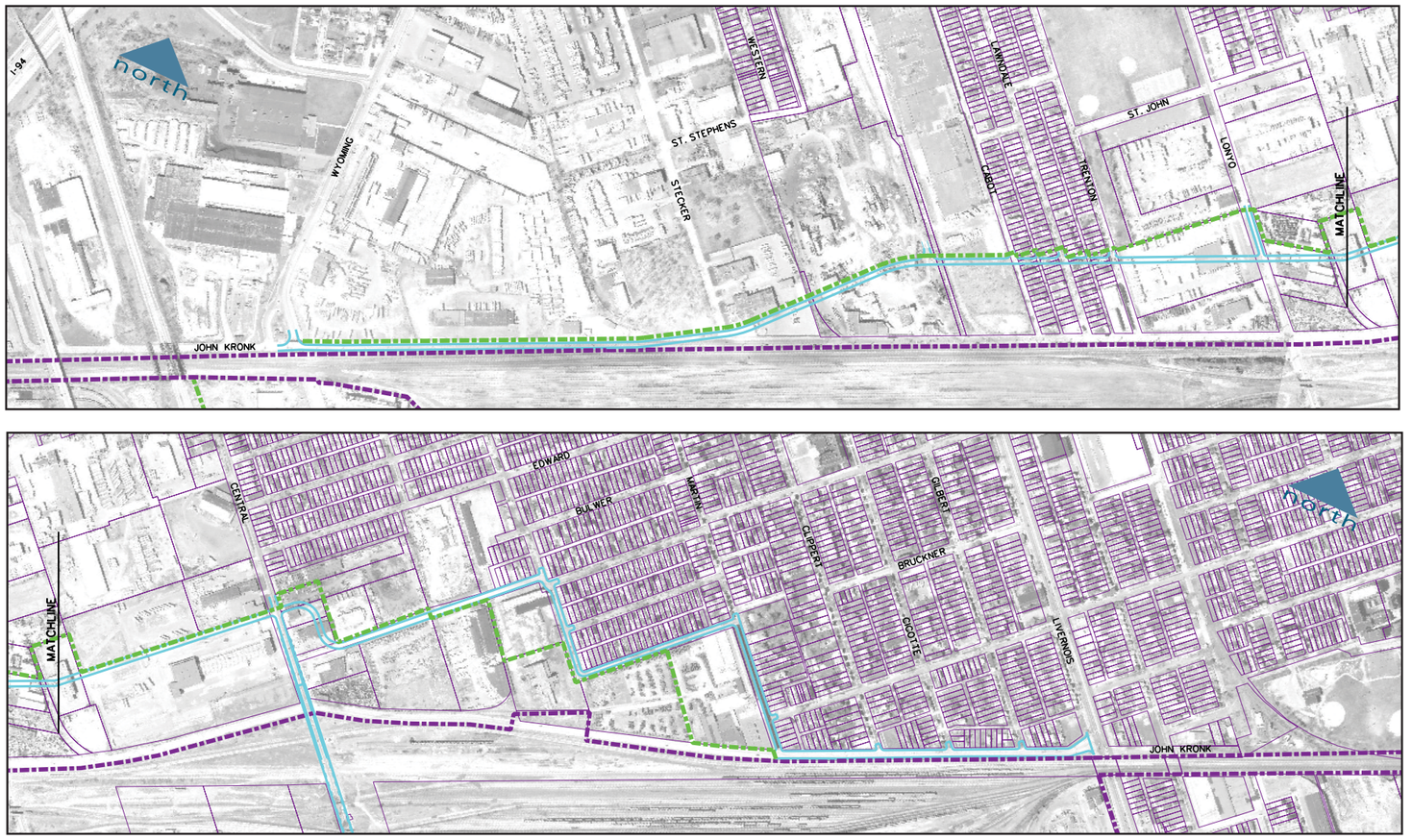

Exhibit 9.4
Proposed North Perimeter Road

9.1.4 North Perimeter Road

Currently John Kronk Street runs east - west from Livernois Avenue to Wyoming Avenue. It borders the north edge of the Livernois-Junction Yard. There are several industries, truck terminals, and salvage yards located along John Kronk Street. Central Avenue and Lonyo Avenue cross John Kronk Street at grade and continue south crossing over the Conrail mainlines at grade. Wyoming Avenue passes under John Kronk Street and is joined by a connecting roadway in the northwest quadrant.

John Kronk Street, as it now exists, will be eliminated to accommodate expanding the existing rail yard north for the CP intermodal facility. In order to preserve the east - west roadway connection that John Kronk Street currently serves, a new perimeter roadway is proposed to be built on the north side of the expanded Livernois-Junction Yard.

The new perimeter road will begin at Wyoming Avenue and follow the existing John Kronk Street alignment until Stecker Street. From Stecker Street, the new perimeter road will follow the northern boundary of the CP intermodal facility until east of Central Avenue to Martin Street where it will be back on existing roadway alignment of John Kronk Street.

The new perimeter roadway is intended for local traffic. The existing truck traffic currently using John Kronk Street as a way to move between Wyoming Avenue and Livernois Avenue and, eventually, into the existing Livernois-Junction Yard, would use I-94 and its interchanges at Livernois to gain access to the terminal on the east, and Wyoming Avenue/Michigan Avenue to gain terminal access on the west. With that in mind, the perimeter road has been laid out with many tight curves to discourage truck traffic from utilizing it.

9.0 Road Improvements "Outside the Terminal Fence"

9.1.5 Wyoming Avenue

The existing Wyoming Avenue is four lanes wide and is grade separated from the Conrail mainlines via an underpass. That structure has a center pier separating the northbound and southbound lanes. Due to the roadway's deteriorated condition, it effectively operates as only a two-lane road through the underpass.

With the Preferred Alternative, Wyoming Avenue will be unaffected. A new railroad bridge over Wyoming Avenue will be required to accommodate the lead tracks for the CP terminal. In addition, the NS Triple Crown and CSX intermodal facilities will have access to the facilities off Wyoming Avenue. Intersection improvements including traffic signals may be required at Mercier Street. The perimeter road will tie into Wyoming Avenue north of the CP terminal. It will also require traffic signals.

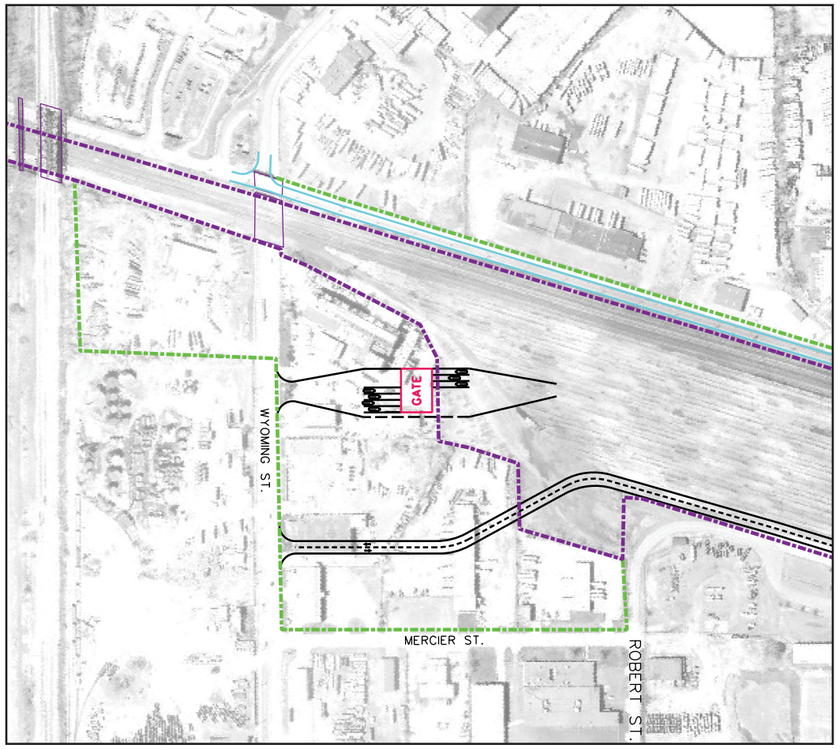

Exhibit 9.5
Proposed Wyoming Street

9.1.6 *Livernois Avenue*

Livernois Avenue is a major north - south arterial on the east edge of the Livernois-Junction Yard. It is six lanes wide, with a painted center left-turn lane. There is a gate into the existing intermodal facility opposite Federal Street.

There are two improvements proposed to Livernois Avenue with the Preferred Alternative. The first is at the I-94 /Livernois Avenue interchange.

The current I-94/Livernois Avenue interchange's on/off ramps from westbound I-94 are extremely difficult for truck traffic to maneuver (illustrated on Exhibit 9.6). The proposed alternative calls for construction of new ramps to create a diamond interchange. This will facilitate more efficient movement of truck traffic, particularly those trucks using the Livernois-Junction Yard.

In addition to the I-94/Livernois Avenue interchange, modifications are also proposed to the existing entrance to the NS intermodal facility. To discourage truck traffic to and from the I-75/Livernois-Dragoon interchange, the entrance to the NS intermodal facility is proposed to be a right in – right out only (Exhibit 9.7). The goal here is to force truck traffic to I-94 rather than south through the residential neighborhoods. This is reinforced by the changes incorporated into the Detroit River International Crossing Study. It calls for eliminating the I-75/Livernois-Dragoon interchange as it exists today.

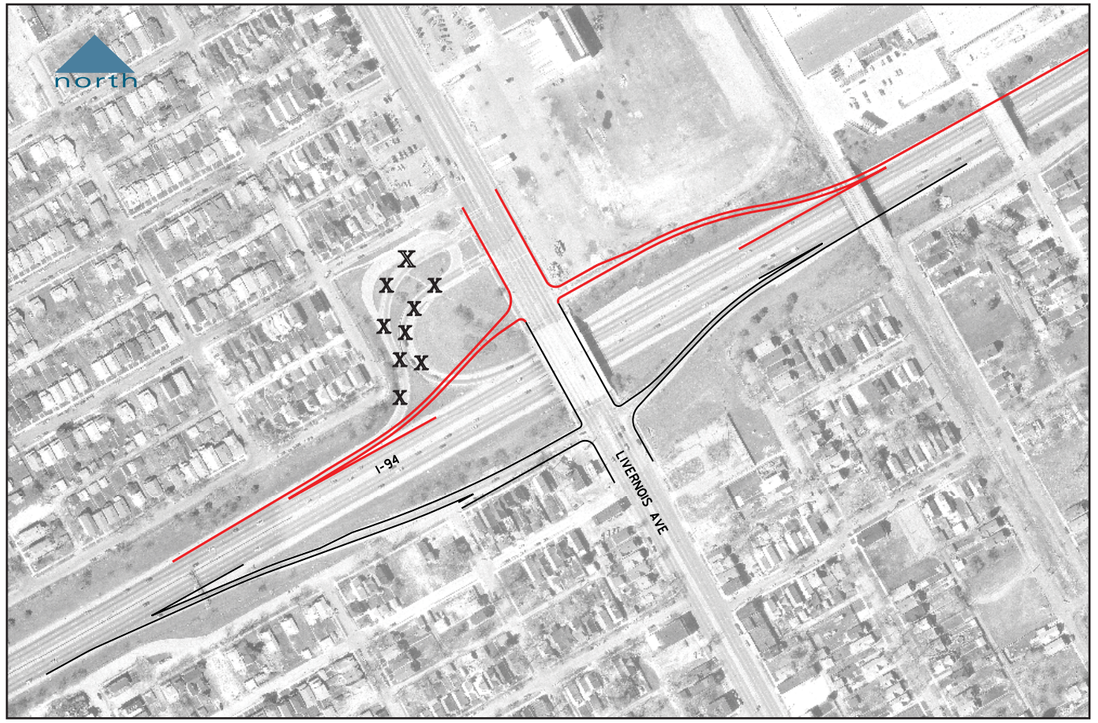

Exhibit 9.6
Proposed I-94/Livernois Interchange

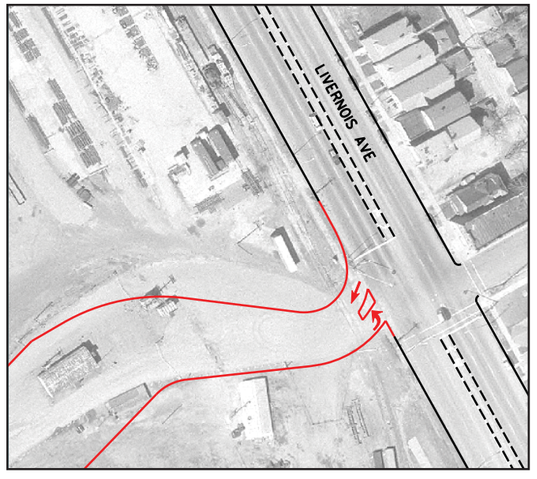

Exhibit 9.7
Proposed Livernois Avenue

10.0 Construction Staging

10.1 Rail Improvements "Inside the Terminal Fence"

Construction of the proposed facilities will be staged such that they minimize the disruption to the existing rail service. A summary is provided here.

Illustrated above is the anticipated construction staging for Livernois-Junction Yard. Currently the portion of Livernois-Junction Yard, used as the Conrail West Departure Yard, is vacant. This is the entire area west of Central Avenue and the proposed location of the NS Triple Crown facility. It is anticipated that the NS Triple Crown facility would be the first terminal to be constructed because the majority of this facility can be constructed within the existing Livernois-Junction Yard footprint and with little impact on the existing rail operations.

In order to construct the remaining terminals, it will be necessary for the Central Avenue underpass to be completed. It is anticipated that the underpass will be constructed in three segments – north of existing Conrail mainline tracks; between Conrail mainline tracks and southernmost yard track; and, south of the existing southernmost yard track. It is anticipated that the segment between the Conrail mainline tracks and the southernmost yard track would be constructed first because it is located entirely within the existing Livernois-Junction Yard footprint. While construction on this segment proceeds, the properties along Central Avenue necessary for the underpass structure would be acquired and the construction of the Dix/Central Avenue intersection will be completed. Once the middle segment is completed, it is anticipated that the south segment will be completed next, followed by the north segment.

Following completion of the Central Avenue underpass, work on the remaining intermodal terminals can begin. It is anticipated that the NS intermodal terminal will be constructed next. This work is located entirely within the existing footprint of the Livernois-Junction Yard and, more specifically, the existing NS intermodal terminal. Construction activities will need to be coordinated with the NS to minimize the construction impacts to their existing intermodal operations.

Once construction of the NS intermodal facility is completed, construction of the CSX intermodal facility can begin. Similar to the NS intermodal facility, construction activities will need to be coordinated with the CSX to minimize the impacts of the construction activities to the existing terminal operations.

Due to the amount of property required north of the existing Conrail mainlines for both the CP intermodal terminal and the North perimeter Road these are expected to be the last facilities to be constructed. Once the property is acquired, construction of the two facilities can be completed with very little impact to the existing rail operations.

10.2 Rail Improvements "Outside the Terminal Fence"

The proposed improvements to the interlockings need to be constructed in coordination with the building of the proposed intermodal terminals at Livernois-Junction Yard, in order for each of the rail carriers' intermodal trains to get to their respective terminal. For example, NS Triple Crown trains will require improvements to be made at the Oakwood Junction, Schaefer and New Rotunda interlockings in order to move their trains to and from the facility. The overall priority of the interlocking improvements are:

- Oakwood Junction
- Schaefer
- New Rotunda
- Delray
- West Detroit
- Waterman and Dix
- CN Coolidge and YD
- Vinewood
- Beaubien
- Milwaukee Junction
- CP Mill
- Trenton

It is likely that, due to the size of some of the proposed improvements, and the need to keep existing train operations in service during construction, some of the proposed improvements will take more than one year (Delray, West Detroit, Beaubien and Milwaukee Junction). It is anticipated that construction will overlap and more than one will be under construction at one time.

10.3 Road Improvements "Inside the Terminal Fence"

The priority of the road improvements is as follows:

- Central Avenue
- Dix/Central Intersection
- Lonyo Avenue
- North Perimeter Road
- I-94/Livernois Avenue Interchange

MICHIGAN DEPARTMENT OF TRANSPORTATION

PRELIMINARY COST ESTIMATE

COST SUMMARY

ESTIMATE	2008 COST
RAIL IMPROVEMENTS “INSIDE THE TERMINAL FENCE”	$222,209,238
RAIL IMPROVEMENTS “OUTSIDE THE TERMINAL FENCE”	$88,526,790
ROAD IMPROVEMENTS “OUTSIDE THE TERMINAL FENCE”	$84,067,825
PROJECT TOTAL	**$394,803,853**

MICHIGAN DEPARTMENT OF TRANSPORTATION

PRELIMINARY COST ESTIMATE

PREFERRED ALTERNATIVE

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
CP TERMINAL					
	TERMINAL LIGHTING	18	EA.	$35,000	$630,000
	GATE & INTERNAL ROADWAY LIGHTING	8	EA.	$10,000	$80,000
	SECURITY FENCING	17,450	L.F.	$28	$488,600
	BUILDING (OFFICE MAINTANCE, ECT.)	1	EA.	$215,000	$215,000
	GATE TECHNOLOGY	1	EA.	$500,000	$500,000
	SILT FENCE (DELIVERED, INSTALLED & MAINTAINED)	17,450	L.F.	$2	$34,900
	#10 TURNOUT	10	EA.	$110,000	$1,100,000
	#15 TURNOUT	2	EA.	$130,000	$260,000
	#20 TURNOUT	0	EA.	$160,000	$0
	TRACK	44,100	T.F.	$200	$8,820,000
				SUBTOTAL CP TERMINAL =	**$32,698,500**
CSX TERMINAL					
	TERMINAL GRADING	397,533	C.Y.	$10	$3,975,330
	TERMINAL PAVING	397,533	S.Y.	$40	$15,901,320
	TERMINAL LIGHTING	16	EA.	$35,000	$560,000
	GATE & INTERNAL ROADWAY LIGHTING	22	EA.	$10,000	$220,000
	SECURITY FENCING	28,350	L.F.	$28	$793,800
	BUILDING (OFFICE MAINTANCE, ECT.)	1	EA.	$215,000	$215,000
	GATE TECHNOLOGY	1	EA.	$500,000	$500,000
	SILT FENCE (DELIVERED, INSTALLED & MAINTAINED)	28,350	L.F.	$2	$56,700
	#10 TURNOUT	12	EA.	$110,000	$1,320,000
	#15 TURNOUT	6	EA.	$130,000	$780,000
	#20 TURNOUT	0	EA.	$160,000	$0
	TRACK	29,445	T.F.	$200	$5,889,000
				SUBTOTAL CSX TERMINAL =	**$30,211,150**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
NS TRIPLE CROWN TERMINAL					
	TERMINAL GRADING	433,400	C.Y.	$10	$4,334,000
	TERMINAL PAVING	433,400	S.Y.	$40	$17,336,000
	TERMINAL LIGHTING	18	EA.	$35,000	$630,000
	GATE & INTERNAL ROADWAY LIGHTING	5	EA.	$10,000	$50,000
	SECURITY FENCING	20,335	L.F.	$28	$569,380
	BUILDING (OFFICE MAINTANCE, ECT.)	1	EA.	$215,000	$215,000
	GATE TECHNOLOGY	1	EA.	$500,000	$500,000
	SILT FENCE (DELIVERED, INSTALLED & MAINTAINED)	20,335	L.F.	$2	$40,670
	#10 TURNOUT	10	EA.	$110,000	$1,100,000
	#15 TURNOUT	0	EA.	$130,000	$0
	#20 TURNOUT	0	EA.	$160,000	$0
	TRACK	30,475	T.F.	$200	$6,095,000
		SUBTOTAL NS TRIPLE CROWN TERMINAL =			**$30,870,050**
NS INTERMODAL TERMINAL					
	TERMINAL GRADING	500,925	C.Y.	$10	$5,009,250
	TERMINAL PAVING	500,925	S.Y.	$40	$20,037,000
	TERMINAL LIGHTING	18	EA.	$35,000	$630,000
	GATE & INTERNAL ROADWAY LIGHTING	5	EA.	$10,000	$50,000
	SECURITY FENCING	23,470	L.F.	$28	$657,160
	BUILDING (OFFICE MAINTANCE, ECT.)	1	EA.	$215,000	$215,000
	GATE TECHNOLOGY	1	EA.	$500,000	$500,000
	SILT FENCE (DELIVERED, INSTALLED & MAINTAINED)	23,470	L.F.	$2	$46,940
	#10 TURNOUT	10	EA.	$110,000	$1,100,000
	#15 TURNOUT	0	EA.	$130,000	$0
	#20 TURNOUT	0	EA.	$160,000	$0
	TRACK	25,650	T.F.	$200	$5,130,000
		SUBTOTAL NS INTERMODAL TERMINAL =			**$33,375,350**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
CONRAIL					
	TERMINAL PAVING	0	S.Y.	$40	$0
	TERMINAL LIGHTING	0	EA.	$35,000	$0
	GATE & INTERNAL ROADWAY LIGHTING	0	EA.	$10,000	$0
	SECURITY FENCING	0	L.F.	$28	$0
	BUILDING (OFFICE MAINTANCE, ECT.)	0	EA.	$215,000	$0
	GATE TECHNOLOGY	0	EA.	$500,000	$0
	SILT FENCE (DELIVERED, INSTALLED & MAINTAINED)	0	L.F.	$2	$0
	#10 TURNOUT	30	EA.	$110,000	$3,300,000
	#15 TURNOUT	0	EA.	$130,000	$0
	#20 TURNOUT	0	EA.	$160,000	$0
	TRACK	17,960	T.F.	$200	$3,592,000
				SUBTOTAL CONRAIL =	**$7,291,100**
				SUBTOTAL TERMINALS =	**$134,446,150**
CIVIL WORKS INSIDE TERMINAL					
	DRAINAGE (ENTIRE FOOTPRINT)	70,800	L.F.	$125	$8,850,000
	ROADWAY BRIDGE (OVER NS TRACK OUT BY WYOMING)	6,000	S.F.	$200	$1,200,000
	NS RAILROAD BRIDGE (OVER WYOMING)	0	T.F.	$9,000	$0
	NS RAILROAD BRIDGE (OVER INTERNAL TRUCK ROAD)	0	T.F.	$9,000	$0
	BARRIER WALL (16' HIGH)	265,200	S.F.	$33	$8,751,600
				SUBTOTAL CIVIL WORKS INSIDE TERMINAL =	**$18,801,600**
				TOTAL TERMINALS =	**$153,247,750**
SPECIFIC ALLOWANCES					
	Mobilization	1	L.S.	5%	$7,662,388
	Construction Engineering	1	L.S.	8%	$12,259,820
				SUBTOTAL SPECIFIC ALLOWANCES =	**$19,922,208**
NON-SPECIFIC ALLOWANCES					
	12% DESIGN	1	L.S.	12%	$18,389,730
				SUBTOTAL NON-SPECIFIC ALLOWANCES =	**$18,389,730**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
				SUBTOTAL ALLOWANCES =	$38,311,938
CONSTRUCTION COST					**$191,559,688**
NON-SPECIFIC CONTINGENCIES					
	20% CONTINGENCY	1	L.S.	20%	$30,649,550
				SUBTOTAL NON-SPECIFIC CONTINGENCIES =	$30,649,550
RAIL IMPROVEMENTS "INSIDE THE TERMINAL FENCE" PROJECT COST					**$222,209,238**

MICHIGAN DEPARTMENT OF TRANSPORTATION

PRELIMINARY COST ESTIMATE

PREFERRED ALTERNATIVE

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
BEAUBIEN					
	TRACK	3,515	T.F.	$200	$703,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	0	EA.	$110,000	$0
	#15 TURNOUT	1	EA.	$130,000	$130,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,210,000	$1,210,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL BEAUBIEN =	**$2,043,000**
COOLIDGE / YD					
	TRACK	610	T.F.	$200	$122,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	0	EA.	$110,000	$0
	#15 TURNOUT	5	EA.	$130,000	$650,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,650,000	$1,650,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL COOLIDGE / YD =	**$2,422,000**
DELRAY					
	TRACK	11,165	T.F.	$200	$2,233,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	23	EA.	$110,000	$2,530,000
	#15 TURNOUT	11	EA.	$130,000	$1,430,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$4,840,000	$4,840,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL DELRAY =	**$11,033,000**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
MILL					
	TRACK	550	T.F.	$200	$110,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	0	EA.	$110,000	$0
	#15 TURNOUT	2	EA.	$130,000	$260,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,320,000	$1,320,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL MILL =	**$1,690,000**
MILWAUKEE JCT.					
	TRACK	19,050	T.F.	$200	$3,810,000
	DIAMOND	0	EA.	$225,000	$0
	#8 TURNOUT	3	EA.	$90,000	$270,000
	#10 TURNOUT	9	EA.	$110,000	$990,000
	#12 TURNOUT	2	EA.	$120,000	$240,000
	#15 TURNOUT	7	EA.	$130,000	$910,000
	#20 TURNOUT	2	EA.	$160,000	$320,000
	SIGNALING	1	L.S.	$3,630,000	$3,630,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL MILWAUKEE JCT. =	**$10,170,000**
OAKWOOD JCT.					
	TRACK	725	T.F.	$200	$145,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	0	EA.	$110,000	$0
	#15 TURNOUT	8	EA.	$130,000	$1,040,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,980,000	$1,980,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL OAKWOOD JCT. =	**$3,165,000**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
SCHAEFER					
	TRACK	4,270	T.F.	$200	$854,000
	DIAMOND	0	EA.	$225,000	$0
	#8 TURNOUT	1	EA.	$90,000	$90,000
	#10 TURNOUT	2	EA.	$110,000	$220,000
	#15 TURNOUT	2	EA.	$130,000	$260,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,650,000	$1,650,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL SCHAEFER =	**$3,074,000**
FN / TRENTON					
	TRACK	5,165	T.F.	$200	$1,033,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	0	EA.	$110,000	$0
	#15 TURNOUT	13	EA.	$130,000	$1,690,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$2,530,000	$2,530,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL FN / TRENTON =	**$5,253,000**
VINEWOOD					
	TRACK	5,610	T.F.	$200	$1,122,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	0	EA.	$110,000	$0
	#15 TURNOUT	6	EA.	$130,000	$780,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,760,000	$1,760,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL VINEWOOD =	**$3,662,000**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
DIX / WATERMAN					
	TRACK	2,350	T.F.	$200	$470,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	5	EA.	$110,000	$550,000
	#15 TURNOUT	0	EA.	$130,000	$0
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$1,650,000	$1,650,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL DIX / WATERMAN =	**$2,670,000**
WEST DETROIT					
	TRACK	4,760	T.F.	$200	$952,000
	DIAMOND	1	EA.	$225,000	$225,000
	#10 TURNOUT	3	EA.	$110,000	$330,000
	#15 TURNOUT	10	EA.	$130,000	$1,300,000
	#20 TURNOUT	3	EA.	$160,000	$480,000
	SIGNALING	1	L.S.	$2,860,000	$2,860,000
	RAILROAD STRUCTURES	70	T.F.	$9,000	$630,000
				SUBTOTAL WEST DETROIT =	**$6,777,000**
NEW ROTUNDA					
	TRACK	2,195	T.F.	$200	$439,000
	DIAMOND	0	EA.	$225,000	$0
	#10 TURNOUT	4	EA.	$110,000	$440,000
	#15 TURNOUT	5	EA.	$130,000	$650,000
	#20 TURNOUT	0	EA.	$160,000	$0
	SIGNALING	1	L.S.	$2,090,000	$2,090,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL NEW ROTUNDA =	**$3,619,000**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
TRACK FROM DELRAY TO DIX					
	TRACK	8,760	T.F.	$200	$1,752,000
	RAILROAD STRUCTURES	0	T.F.	$9,000	$0
				SUBTOTAL TRACK DELRAY TO DIX =	**$1,752,000**
TRACK FROM OAKWOOD JCT. TO SCHAEFER					
	TRACK	16,760	T.F.	$200	$3,352,000
	#8 TURNOUT	1	EA.	$90,000	$90,000
	#10 TURNOUT	15	EA.	$130,000	$1,950,000
	GAS MAIN RELOCATION	7,250	L.F.	$200	$1,450,000
	RETAINING WALL (ASSUMED 5' HIGH FOR FULL LENGTH OF GAS MAIN RELOCATION)	36,250	S.F.	$55	$1,993,750
	RAILROAD STRUCTURES	100	T.F.	$9,000	$900,000
				SUBTOTAL TRACK OAKWOOD JCT. TO SCHAEFER =	**$9,735,750**
				SUBTOTAL PROPOSED RAILROAD EXTERNAL IMPROVEMENTS (BASE COST) =	**$67,065,750**
SPECIFIC ALLOWANCES					
.	MOBILIZATION & CONSTRUCTION ENGINEERING INCLUDED IN UNIT PRICES				
				SUBTOTAL SPECIFIC ALLOWANCES =	**$0**
NON-SPECIFIC ALLOWANCES					
	12% DESIGN ENGINEERING	1	L.S.		$8,047,890
				SUBTOTAL NON-SPECIFIC ALLOWANCES =	**$8,047,890**
				SUBTOTAL ALLOWANCES =	**$8,047,890**
CONSTRUCTION COST					**$75,113,640**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
SPECIFIC CONTINGENCIES				**SUBTOTAL SPECIFIC CONTINGENCIES =**	**$0**
NON-SPECIFIC CONTINGENCIES					
	20% CONTINGENCY	1	L.S.		$13,413,150
				SUBTOTAL NON-SPECIFIC CONTINGENCIES =	**$13,413,150**
				SUBTOTAL CONTINGENCIES =	**$13,413,150**
RAIL IMPROVEMENTS "OUTSIDE THE TERMINAL FENCE" PROJECT COST					**$88,526,790**

MICHIGAN DEPARTMENT OF TRANSPORTATION

PRELIMINARY COST ESTIMATE

PREFERRED ALTERNATIVE

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
CIVIL WORKS OUTSIDE TERMINAL					
	CENTRAL AVENUE	1	L.S.	$2,700,000	$2,700,000
	DIX/CENTRAL IMPROVEMENTS	1	L.S.	$230,000	$230,000
	LONYO CUL DE SAC	1	L.S.	$115,000	$115,000
	I-94/LIVERNOIS INTERCHANGE	1	L.S.	$6,111,681	$6,111,681
	CENTRAL UNDERPASS RETAINING WALLS	1	L.S.	$2,500,000	$2,500,000
	CENTRAL UNDERPASS CONC BOX BEAM TUNNEL	1	L.S.	$36,750,000	$36,750,000
	PERIMETER ROAD	1	L.S.	$5,000,000	$5,000,000
	TRAFFIC SIGNALS (GATE INTERSECTIONS)	4	L.S.	$200,000	$800,000
				SUBTOTAL CIVIL WORKS OUTSIDE TERMINAL =	**$54,206,681**
SPECIFIC ALLOWANCES					
	WATERMAIN RELOCATION - CENTRAL AVENUE	1	L.S.	$300,000	$300,000
	UTILITY RELOCATION - CENTRAL AVENUE	1	L.S.	$250,000	$250,000
	DIX/CENTRAL SIGNALS	1	L.S.	$100,000	$100,000
	PERIMETER ROAD SIGNAL	1	L.S.	$50,000	$50,000
	PERIMETER ROAD SOUND WALL	0	L.S.	$0	$0
	PERIMETER ROAD SILT FENCE	1	L.S.	$54,800	$54,800
	MAINTAINING TRAFFIC	1	L.S.	$50,000	$50,000
	MOBILIZATION	1	L.S.	5%	$2,710,334
	CONSTRUCTION ENGINEERING	1	L.S.	8%	$4,336,534
				SUBTOTAL SPECIFIC ALLOWANCES =	**$7,851,669**

LOCATION	ITEM	QUANTITY	UNIT	2008 UNIT COST	2008 AMOUNT
NON-SPECIFIC ALLOWANCES					
	CENTRAL, LONYO & DIX ROADWAY	1	L.S.	$446,397	$446,397
	PERIMETER ROADWAY	1	L.S.	$733,000	$733,000
				SUBTOTAL NON-SPECIFIC ALLOWANCES =	**$1,179,397**
				SUBTOTAL =	**$63,237,747**
SPECIFIC CONTINGENCIES					
	CENTRAL, LONYO & DIX ENVIRONMENTAL CLEANUP	1	L.S.	$225,000	$225,000
	PERIMETER ENVIRONMENTAL CLEANUP	1	L.S.	$225,000	$225,000
				SUBTOTAL SPECIFIC CONTINGENCIES =	**$450,000**
CONSTRUCTION COST				**SUBTOTAL =**	**$63,687,747**
NON-SPECIFIC CONTINGENCIES					
	12% DESIGN	1	L.S.	12%	$7,642,530
	20% CONTINGENCY	1	L.S.	20%	$12,737,549
				SUBTOTAL NON-SPECIFIC CONTINGENCIES =	**$20,380,079**
ROAD IMPROVEMENTS "OUTSIDE THE TERMINAL FENCE" PROJECT COST					**$84,067,825**

Glossary

Chassis - A rubber-tired trailer under-frame on which a container is mounted for street or highway transport.

Circus Ramp - Stationary or portable end loading/unloading ramp which requires a truck tractor to drive a trailer onto or off of rail flatcars.

COFC (container on flat car) - The movement of a container on a railroad flat car. This movement is made without the container being mounted on a chassis.

Container - A receptacle that resembles a truck trailer without wheels (chassis) that is lifted onto flat cars. Containers are designed for all modes of intermodal transport. Most containers are 20, 45, 48 or 53 feet in length.

Controlled Point (CP) - A location designated by number where signals and/or switches of a traffic control system are controlled by a control operator/dispatchers.
'

Crane - A large machine that straddles the railroad track for the purpose of loading and unloading containers and trailers to and from railcars.

Crossover - A track connection between two adjacent tracks.

Double-Stack - The movement of containers on articulated rail cars which enable the one container to be stacked on another container for better ride quality and car utilization.

Double Track - Two main tracks, traffic may be a specified direction each one or can be bidirectional.

Drayage - The movement of a container or trailer to or from the railroad intermodal terminal to or from the customer's facility for loading or unloading.

Gate - A point at an intermodal terminal where a clerk checks in and out all containers and trailers.

Gatehouse - A structure at the gate where a clerk inspects and clears the entrance and exit of all containers and trailers.

Interlocking - An arrangement of signal appliances so interconnected that their movements must succeed each other in proper sequence. It may be operated manually or automatically.

Intermodal - Transport of freight by two or more modes of transportation. Examples are: ship-rail, rail-truck usually in container or trailers.

Intermodal Terminal - A railroad facility designed for the loading and unloading of containers and trailers to and from flat cars for movement on the railroad and subsequent movement on the street or highway.

Lading - That which constitutes a load. The freight in or on a railcar, container or trailer.

Lift - The process of moving a container or trailer to or from a rail car.

Manifest - Train made up of mixed railcars (box cars, tank cars, piggyback cars, etc.).

Packer - A moveable piece of heavy machinery used to lift rail containers or trailers on/off railroad flatcars at an intermodal facility. Also known as a piggybacker.

Piggyback - Transportation of a highway trailer on a railroad flat car.

Power Turn - A move where one or more locomotives are turned on a wye.

RoadRailer - RoadRailer trailers are transported to the origin or destination terminals by highway. In-between service from terminal to terminal to terminal is accomplished by RoadRailer trailers being attached to rail wheels and being moved as a train.

Stack Car - An intermodal flat car specifically designed to carry one container on top of another for better utilization and economics. Also referred to as a well car because the cars are depressed in the center to allow clearance of the double stacked containers when moving under low-lying structures.

Trackage Rights - The purchase, for a fee, of the right for one railroad to run on tracks owned by another.

TOFC (Trailer on flat car) - a road trailer or container mounted on a chassis that is transported on a rail car. Also know as a piggyback.

Trailer - A rectangular shaped box with permanent wheels attached for the transport of a goods on rail, highway or a combination of both.

Train - An engine or more than one engine coupled, with or without cars, displaying a marker and authorized to operate on a main track.

Wye - A track shaped like the letter "Y", but with a connector between the two arms of the "Y."

Yard - A system of tracks, other tan main tracks and sidings, used for making up trains, storing of cars and for other purposes.

AUGUST
2008

Preferred Alternative Report

Detroit Intermodal Freight Terminal (DIFT)
Wayne and Oakland Counties

MDOT
Michigan Department of Transportation

Prepared by
Michigan Department of Transportation

In Cooperation with
U.S. Department of Transportation
Federal Highway Administration