

Final Environmental Impact Statement and Final Section 4(f) Evaluation

Detroit Intermodal Freight Terminal (DIFT) Wayne and Oakland Counties



Prepared by:
Michigan Department of Transportation

In cooperation with:
**U.S. Department of Transportation
Federal Highway Administration**

December 2009

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Detroit Intermodal Freight Terminal (DIFT) Wayne and Oakland Counties, Michigan

FINAL ENVIRONMENTAL IMPACT STATEMENT AND FINAL SECTION 4(f) EVALUATION

Submitted Pursuant to 42 U.S.C. 4332 (2)(c) and 49 U.S.C. 303

**By The
U.S. Department of Transportation
Federal Highway Administration
and
Michigan Department of Transportation**

Dec 1, 2009
Date of Approval

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This Final Environmental Impact Statement and Final Section 4(f) Evaluation describe the social, economic, and natural environmental impacts of proposed improvements at the Livernois-Junction intermodal freight terminal in Wayne County,¹ plus associated road and external rail improvements. This document includes a summary of the planning basis, the project purpose, the alternatives considered, the expected impacts of the project and the process involved in determining the Preferred Alternative. Mitigation measures are also included. Accounting for inflation, the estimated cost of the proposed project is \$650 million at a seventy percent confidence level (see Table 1-1). Approximately 32 residential displacements and 29 business displacements are anticipated. The estimate of direct wetlands effects is 0.01 acres.

Comments on this Final Environmental Impact Statement are due by January 29, 2010. The Michigan Department of Transportation is extending the public availability period to allow additional time for the public to review and comment on the Final Environmental Impact Statement. Comments should be sent to: Mr. Robert Parsons, Public Involvement/Hearing Officer, Michigan Department of Transportation, PO Box 30050, Lansing, Michigan 48909 (e-mail: parsonsb@michigan.gov).

¹ Note alternatives in the Draft Environmental Impact Statement extended into Oakland County. The Preferred Alternative does not.

PREFACE

The National Environmental Policy Act (NEPA) of 1969 requires that the social, economic, and natural environmental impacts of any proposed action of the federal government be analyzed for decision-making and public information purposes. There are three classes of action. Class I Actions are those that may significantly affect the environment and require the preparation of an Environmental Impact Statement (EIS). Class II Actions (categorical exclusions) are those that do not individually or cumulatively have a significant effect on the environment and do not require preparing an EIS or an Environmental Assessment (EA). Class III Actions are those for which the significance of impacts is not clearly established. Class III Actions require preparing an EA to determine the significance of impacts and the appropriate environmental document to be prepared – either an EIS or a Finding of No Significant Impact (FONSI).

This document is a Final Environmental Impact Statement (FEIS) and Final Section 4(f) Evaluation for the proposed improvement of an intermodal freight terminal in Wayne County in Michigan. It presents the Preferred Alternative, and the measures proposed to minimize harm to the project area. The Draft Environmental Impact Statement (DEIS) was approved April 15, 2005, and public hearings were held June 13, 14, 15 and 16, 2005. Though more than three years has passed since the signing of the DEIS, it has been determined that a supplemental DEIS is not required (see the Foreword in this FEIS). This FEIS reflects the comments received during the public hearing process and updated data in all critical areas. This FEIS will be distributed to federal, state and local agencies, private organizations and all members of the public making substantive comments on the DEIS. Following the circulation of this FEIS, it will be forwarded to the Federal Highway Administration (FHWA) with a recommendation that a Record of Decision (ROD) be issued. The ROD will allow the project to move forward into the design phase. The project has been included in the Southeast Michigan Council of Government's (SEMCOG's) cost-feasible *Regional Transportation Plan*. This means that federal, state and local funding has been identified. A Pre-Development Plan Agreement (PDPA) found in Appendix F indicates the level of funding commitments of the involved railroads.

Because of adverse effects on historic resources this document also serves as coordination documentation under Section 106 of the National Historic Preservation Act of 1966, as amended, and as the Final Section 4(f) Evaluation, under Section 4(f) of the Department of Transportation Act of 1966, which protects these resources.

This document was prepared by a consultant working with the Michigan Department of Transportation (MDOT), in cooperation with FHWA and other members of a Technical Team. The Technical Team includes representatives from the following divisions within MDOT: Design, Environmental, Planning, Communications, Intermodal/Multimodal, Real Estate, Traffic and Safety, and the Metro Region. Information was also furnished by other federal and state agencies, local units of government, public interest groups, a Steering Committee comprised of representatives of MDOT, the City of Detroit, railroads, and automakers, and a Local Advisory Council of stakeholders and interested local groups, and individual citizens.

This Final EIS is available for review at the MDOT's Lansing office at 425 West Ottawa Street (third floor), 48909; the Metro Region office at 18101 W. Nine Mile Road, Southfield, MI 48075; the Detroit Transportation Service Center at 1400 Howard Street, Detroit, MI 48216; and, the Oakland Transportation Service Center at 2300 Dixie Highway, Waterford, MI 48238. It is also available at the Ferndale Public Library, 222 E. Nine Mile, Ferndale, MI 48220; the Henry Ford Centennial Library, 16301 Michigan Avenue, Dearborn, MI 48126; the Detroit Public Library, 5201 Woodward Avenue, Detroit, MI 48202; and the Bowen Branch of the Detroit Public Library, 3648 W. Vernor, Detroit, MI 48216. Technical documents referred to in this Environmental Impact Statement are available at the same locations.

A Federal agency may publish a notice in the Federal Register, pursuant to 23 USC Section 139(I), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred, unless such claims are filed within 180 days after the date of publication of the notice, or within a shorter time period as specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

The reader will note bold text in green boxes such as surrounds this paragraph. This highlights changes for the FEIS related to the Preferred Alternative.

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- Economic Impact Analysis Technical Report
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- Indirect and Cumulative Impacts Analysis Technical Report
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- Project Area Contamination Survey
- Traffic Analysis Report

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FOREWORD

This Final Environmental Impact Statement (FEIS) highlights the Preferred Alternative at the end of each section by placing the bold/italic text in a green border.

The Preferred Alternative is a modification of Alternative 4: CSX and NS intermodal rail operations will expand at the Livernois-Junction Yard. The Triple Crown operation of NS might move from Melvindale to the Livernois-Junction Yard. And, CP will move its intermodal operations from the Oak Terminal to the Livernois-Junction Yard. CN has elected not to shift its Moterm operation to the Livernois-Junction Yard and not to expand its terminal. But, it will participate in paying its share of the external-to-terminal rail improvements that are part of the DIFT project. Meanwhile, the CP/Expressway intermodal operation closed permanently in June 2004 and is no longer part of the project.

Because it has been more than three years since the signing of the Draft EIS (May 2005), a re-evaluation of the DEIS was required per 23 CFR 771.129. The purpose of this re-evaluation is to determine whether or not a supplement to the DEIS or a new DEIS is needed. The Michigan Department of Transportation (MDOT) re-evaluated the Detroit Intermodal Freight Terminal (DIFT) DEIS. MDOT has determined that a supplemental DEIS is not warranted as the analysis for the DEIS remains valid for a reduced footprint and the analysis has kept pace with the air quality regulatory changes. The Federal Highway Administration concurs in this conclusion (see Appendix G).

SECTION 1 SUMMARY

1.1 Background

Intermodal freight is a shipping method used to send products from manufacturers to where people buy them. It is called “intermodal” because it employs two “modes,” trucks and trains, using special containers or trailers. Trucks take the product from the origin to a rail yard and trains move the product from city to city. Finally, trucks take the products from a rail yard to their final destination. This is an efficient method of transportation because shippers move their containers from the trucks to the trains and back again without having to repack the products. This method often proves cost competitive, which is why more companies are using it.



Intermodal Containers on the Move

Operations vary, but, generally, within a rail yard a truck will arrive at an entry gate and check in, completing paperwork. Often the paperwork arrives ahead of the truck electronically. Once the truck checks in, it is directed to a parking slot where its container(s) or trailer is deposited. The truck then exits empty or picks up an outgoing load. The container is moved to a waiting train by either a large front-loader-type machine or a crane that straddles the load. Trailers may be loaded similarly or end-loaded. When the train is loaded, it departs on a predetermined schedule.



Intermodal Container Being Loaded to Railcar

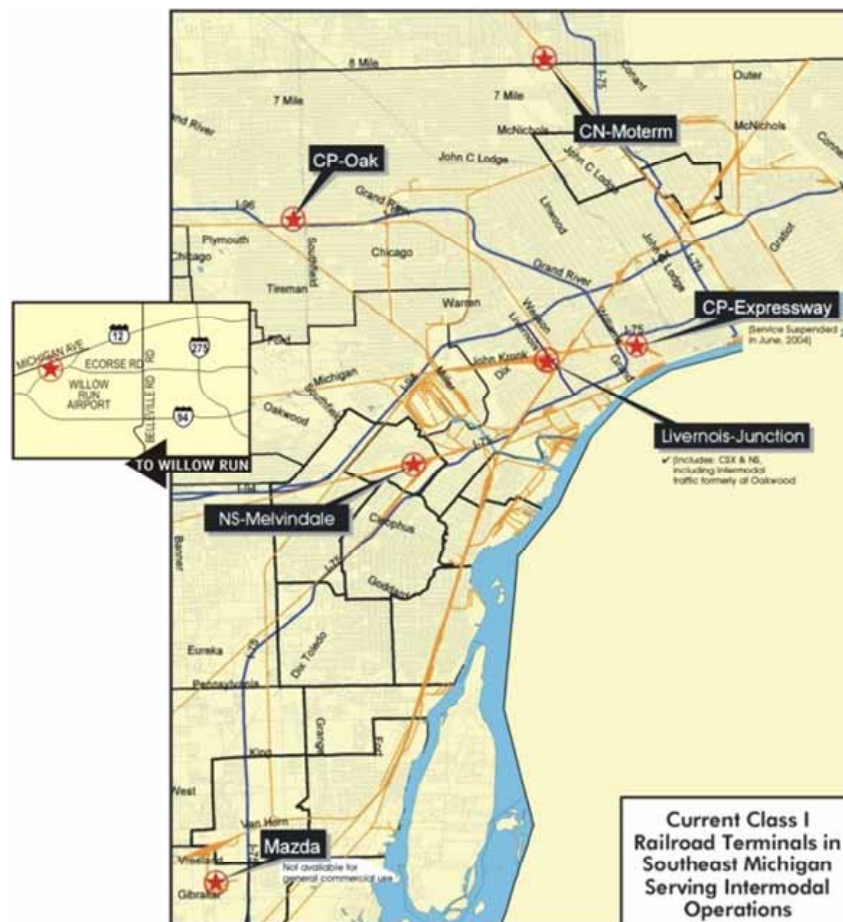
In Southeast Michigan, the transfer of trailers is conducted by Norfolk Southern’s (NS) Triple Crown operation. Today, that is accomplished at the Melvindale and Willow Run terminals. Canadian Pacific (CP) also transferred trailers in its Expressway operation at the terminal behind the Michigan Central Depot, but that operation ended in June 2004. CP handles containers at the Oak terminal. Both NS and CSX transfer containers at the Livernois-Junction Yard. Canadian National Railroad (CN) handles containers at the Moterm terminal in Ferndale, Michigan. (Mazda has an intermodal terminal in Flat Rock in Wayne County serviced by Canadian National Railroad, but it is solely dedicated to Mazda use.)

The purpose of the Detroit Intermodal Freight Terminal (DIFT) project is to support the economic competitiveness of Southeast Michigan and the state by improving freight transportation opportunities and efficiencies for business, industry and the military. The goal is to ensure Southeast Michigan has a regional facility, or facilities, with sufficient capacity and interconnectivity to provide for existing and future intermodal demand, and reduce time, monetary costs and congestion to support the economic competitiveness of Southeast Michigan.

There is a current lack of adequate intermodal capacity in Southeast Michigan (see Section 2.2.1), and the connectivity between intermodal terminals is poor (see Section 2.2.2). Therefore, the DIFT Project proposed enhancement of intermodal operations by the four Class I railroads¹⁴ (Figure 1-1a). As an example of the lack of capacity, the Norfolk Southern Railroad has increased its Triple Crown business to the extent it could be accommodated at the Melvindale terminal. Norfolk Southern has requested financial assistance of the Michigan Department of Transportation (MDOT) so that it can consolidate its intermodal operations at its portion of the Livernois-Junction Yard. But, until the DIFT is concluded, use of federal monies to provide such assistance is not available. So, NS has reopened its Willow Run terminal in Romulus, Michigan, to handle its Triple Crown business growth. Once the Record of Decision (ROD) is signed, and, if appropriate improvements are made on a timely basis, NS will shift its intermodal operations in Michigan to the Livernois-Junction Yard.

This FEIS includes a signed Pre-Development Plan Agreement (Appendix F) that provides a basis for railroad development under the Preferred Alternative.

Figure 1-1a
Current Class I Railroad Intermodal Terminals in Southeast Michigan



¹⁴ A Class I Railroad does at least \$319 million (2007 dollars) of business annually. In Michigan there are four Class I railroads: CSX, Norfolk Southern, Canadian National and Canadian Pacific.

1.2 Practical Alternatives Considered in DEIS

Practical Alternatives were analyzed for this project with extensive public involvement. The alternatives and their impacts were documented in the Draft Environmental Impact Statement (DEIS) and in technical reports listed at the end of the Table of Contents. The general characteristics of the Practical Alternatives are:

Alternative 1 No Action: This alternative assumed the railroads would develop their existing intermodal rail yards in Southeast Michigan without federal and state government funding assistance and oversight.

Alternative 2 Improve/Expand: This alternative proposed improvements would be made to four existing intermodal rail terminals (at Livernois-Junction Yard, CP/Expressway, CP/Oak and CN/Moterm) operated by the four Class I railroads in Southeast Michigan with railroad funding, as well as federal and state governments funding assistance and oversight. This alternative included improvements inside and outside the existing railroad terminal property.

Alternative 3 Consolidate: This alternative proposed the intermodal operations of all four Class 1 railroads be consolidated at the Livernois-Junction Yard area. Railroad funding, plus federal and state governments funding assistance and oversight would be involved in making improvements inside and outside the existing yard. The existing terminals from which intermodal business was to be transferred were to continue to serve other railroad business.

Alternative 4 The Composite Option: This alternative proposed the intermodal operations of three railroads (CSX, Norfolk Southern and Canadian Pacific) be consolidated at the site of the Livernois-Junction Yard in Southwest Detroit, while improving/expanding the existing CN/Moterm terminal, with federal and state funding assistance and oversight for improvements inside and outside the terminals. The railroads would also invest in these improvements. The existing terminals from which intermodal business was to be transferred were to continue to serve other railroad business.

“External-to-terminal” improvements, such as the rail connections at Delray, Milwaukee Junction and Vinewood interlockers (locations where rail lines cross), were part of Alternatives 2, 3 and 4. These were to be accomplished on existing railroad property. Alternative 2, 3 and 4 also included improving the north side of the I-94/Livernois Avenue interchange to facilitate truck movements to the Livernois-Junction Yard and keep them out of the neighborhood to the south.

1.3 Description of the Preferred Alternative

This summary focuses on the characteristics and impacts of the Preferred Alternative. Details on how this alternative compares to the Practical Alternatives are included in the remainder of this FEIS.

The Preferred Alternative (Figure 1-1b) was formulated after reviewing public and agencies’ comments that were received after the public hearing, and in consultation with the railroads. The Preferred Alternative involves consolidating intermodal operations of the CSX, NS, and CP railroads at the Livernois-Junction Yard in Southwest Detroit. The Preferred Alternative shown in Figure 1-1b includes elements from the Practical Alternatives. The difference between the Preferred Alternative and Alternative 4 is that CP’s Expressway operation (trailer loading) at the

Michigan Central Depot has ended and CN has opted not to expand its existing Moterm terminal. The footprint for the Preferred Alternative is smaller than the footprint for Alternative 4, or Alternative 3 (Figure 1-1c).

External-to-terminal rail improvements are included with the Preferred Alternative. CN will still pay its share of external-to-terminal rail improvements that are part of the DIFT project. Such improvements will increase the efficiency of operations. Road improvements will also be made. Both the proposed external-to-terminal rail and road improvements are discussed below.

The DIFT project has independent utility from the Detroit River International Crossing (DRIC). The DIFT is a reasonable expenditure even if no additional transportation improvements are made in the area. The biggest change that could be brought by the DRIC would be closing the Livernois-Dragoon interchange with I-75. This interchange closure would reinforce the DIFT's intention to focus truck traffic on I-94 to Livernois and Wyoming Avenues, which will keep truck traffic out of neighborhoods.

The Gateway Project, which improves access to the Ambassador Bridge, and any new river crossing from Detroit to Canada will have little effect on the DIFT because a very small amount of intermodal truck traffic crosses the Detroit-Windsor Border. This is known from observation and documented by the Federal Highway Administration (FHWA) in 2006 (based on 2002 data), which found that the combination of "truck-rail intermodal" and "other intermodal" represents only one fourth of one percent of the weight (in tons) flowing across the border at Detroit.¹⁵

Discussion of a new rail tunnel in Detroit adjacent to the existing rail tunnel is again underway. It would permit passage of domestic "double stack" containers (stacking containers two high on a rail car) carried by CP across the border. The smaller international sized containers that are handled at the Detroit-Livernois Yard are already double stacked through the existing tunnel, so a new rail tunnel would have a negligible effect on the DIFT.

The proposed project to upgrade the Blue Water Bridge Plaza would have a negligible effect on the Detroit-Windsor area, including the DIFT project, because there will be neither cost, nor travel time savings sufficient to cause long distance diversions.

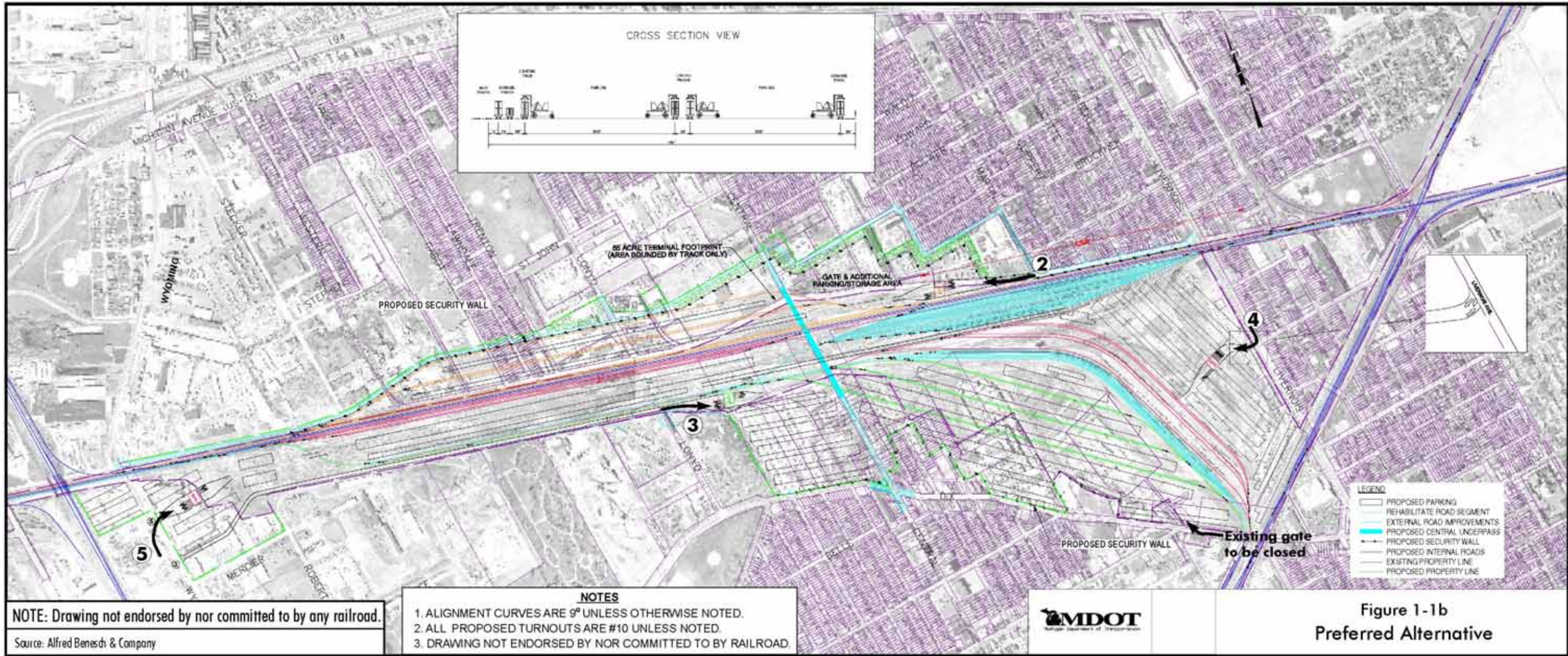
The Preferred Alternative will:

- Expand the NS and CSX intermodal operations at the Livernois-Junction Yard;
- Shift the NS Triple Crown operations from Melvindale and Willow Run in Romulus to the Livernois-Junction Yard; and
- Move the CP Oak intermodal operation to the Livernois-Junction Yard.

Also, all four Class I railroads will participate in an external rail improvement program at the following locations (Preferred Alternative locations shown in yellow in Figure 1-1d):

- | | | |
|------------|----------------------|----------------------------------|
| • Beaubien | • Milwaukee Junction | • Waterman |
| • Coolidge | • Oakwood Junction | • West Detroit |
| • Delray | • Schaefer | • New Rotunda |
| • Dix | • Trenton | • Track from Delray to Dix |
| • Mill | • Vinewood | • Track from Oakwood to Schaefer |

¹⁵ Data from the Freight Analysis Framework (FAF) as presented by FHWA, February 14, 2006, in Lansing. For information on the FAF see http://ops.fjwa.dot.gov/freight/freight_analysis/faf/



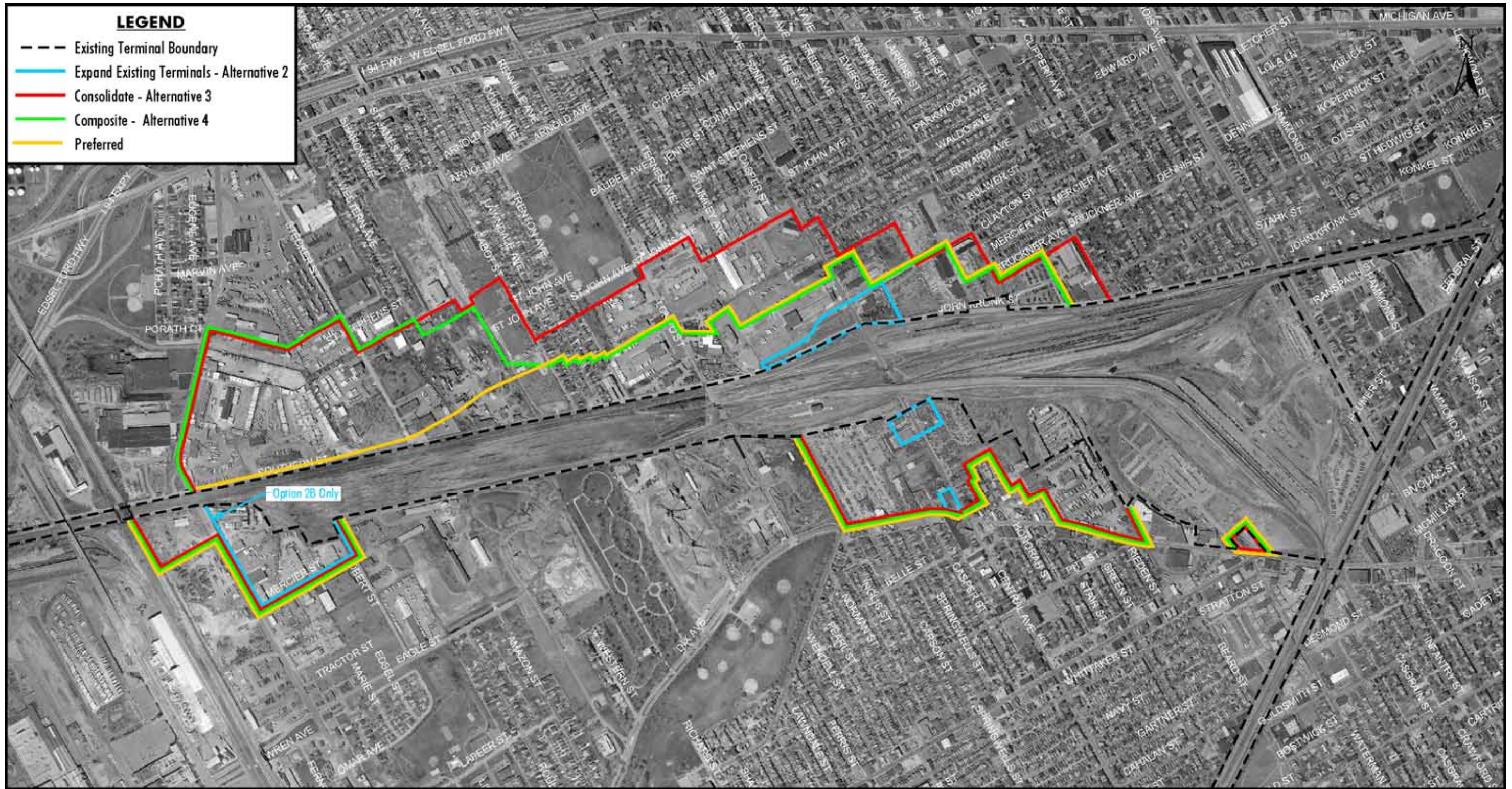
NOTE: Drawing not endorsed by nor committed to by any railroad.
 Source: Alfred Benesh & Company

- NOTES**
1. ALIGNMENT CURVES ARE 9° UNLESS OTHERWISE NOTED.
 2. ALL PROPOSED TURNOUTS ARE #10 UNLESS NOTED.
 3. DRAWING NOT ENDORSED BY NOR COMMITTED TO BY RAILROAD.



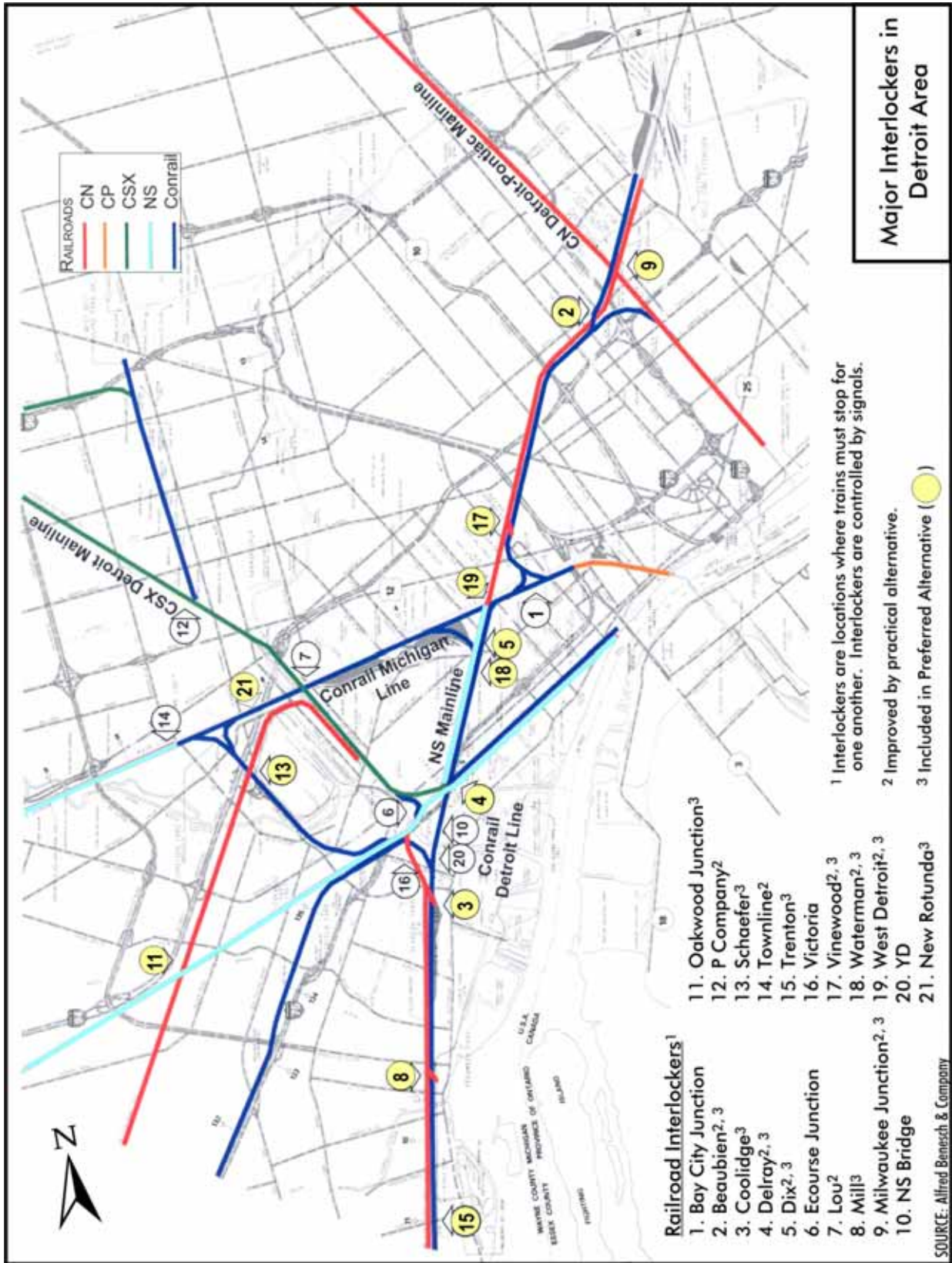
Figure 1-1b
 Preferred Alternative

Figure 1-1c
 Livernois-Junction Yard
 Alternative Footprints



SOURCE: The Corradino Group of Michigan, Inc.
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Figure 1-1d
Major Interlockers in the Detroit Area



Several road improvements will be made to facilitate access to the Livernois-Junction Yard:

- Modifying the I-94/Livernois interchange on its north side so that trucks will use this interchange (one curve is now too tight for efficient use) and Livernois Avenue, rather than other roads that pass through areas that are predominantly residential;
- Closing the Waterman/Dix entrance to the Livernois-Junction Yard and modifying the Livernois entrance so that trucks access the yard from I-94 only;
- Closing Lonyo Avenue and rebuilding Central Avenue under the Livernois-Junction Yard so that railroad operations do not conflict with the movements of cars and trucks that now pass across the yard;
- Providing two new access points to the yard from the west off Wyoming Avenue. The most southerly is approximately 1,000 feet south of the point where the mainline east-west tracks servicing the yard cross Wyoming Avenue. The other is approximately 500 feet south of the mainline track crossing.



Proposed Modification of the I-94/Livernois Interchange



Proposed Central Avenue Underpass

- Improving John Kronk for a new gate at Martin (entrance from Livernois Avenue) for a new terminal on the north of and contiguous to the existing Livernois-Junction Yard.
- Constructing a north perimeter road to replace John Kronk between a point west of Stecker to Central, then along the terminal boundary to Martin. This road is laid out with curves east of Central Avenue to discourage use by large trucks and high-speed traffic.

The Preferred Alternative will generate by 2030 approximately 4,500 permanent jobs statewide of which about 2,360 new jobs will be in the Detroit area, and approximately 1,540 in the Livernois-Junction Yard area.

The Preferred Alternative will require acquisition of approximately 169 acres of land and relocate 28 single-family dwellings, four apartment units, and 29 businesses.

Consultation with public interest stakeholders has resulted in a carefully defined program of mitigation/enhancements that is summarized on the project mitigation summary "Green Sheet" contained in this FEIS at the end of Section 5.

1.4 Impacts

The following is a summary of the impacts associated with the No Action and Preferred Alternatives (Table 1-1). A more detailed description of impacts is found in Section 4 of this FEIS. Proposed mitigation measures are discussed in Section 5.



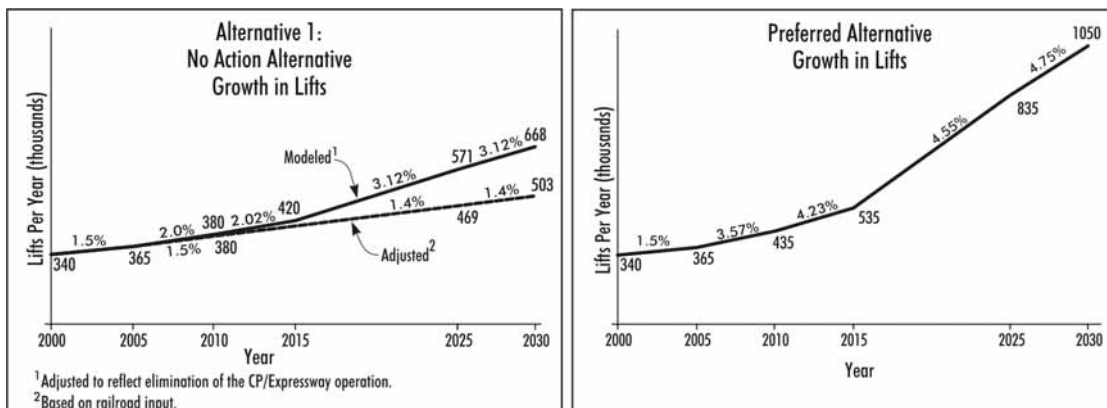
Existing Livernois-Junction Yard to be Expanded for DIFT Program

1.4.1 Traffic and Safety

The traffic analysis of the Preferred Alternative was updated in 2008 to extend the forecasts to 2030, the Horizon Year in the Long-Range Transportation Plan of

SEMCOG, the regional planning agency. The forecast of traffic for the Preferred Alternative was also adjusted when it became clear that the CP's Expressway operation, which was doing business in Southeast Michigan at the Michigan Central Depot, would not continue. It was assumed 25 percent of the CP/Expressway business would go to a competitor and the rest to shipment by truck. Figure 1-2 and Table 1-2 show the changes.

Figure 1-2
Forecast of Intermodal Activity (Lifts) – Without CP/Expressway



SOURCE: The Corradino Group of Michigan, Inc.
L:\Project\2946-A\Graphics\FEIS\LIFTGrowthRev.doc

Table 1-2 illustrates how annual lifts translate to daily two-way truck volumes at gates. The assignment of these trucks to key links in the roadway network around the Livernois-Junction Yard is shown on Figure 1-3. Railroad operating terminals are shown in Figure 1-4. Background traffic was assumed to grow at one percent a year. So, the No Action Alternative volumes increase over time. With the Preferred Alternative, new gates at the west end of the yard connecting to Wyoming Avenue would split intermodal truck traffic with Livernois Avenue (Table 1-2 and Figure 1-3). The gate at Dix/Waterman, near a residential area, would close. Truck volumes on Central Avenue, which serves a residential area for most of its length north of Kronk Street, would decline.

**Table 1-1
Summary of Direct and Indirect Impacts – No Action and Preferred Alternatives – Livernois-Junction Yard**

Livernois-Junction Yard Area ^a													
Traffic and Safety		Community Cohesion		Environmental Justice		Land Use		Relocations					
								No. of Residential Units Affected (Acquisitions)		No. of Business Units Affected (Acquisitions)		Other Affected Properties (Acquisitions)	
No Action	Preferred	No Action	Preferred	No Action	Preferred	No Action	Preferred	No Action	Pref.	No Action	Pref.	No Action	Pref.
<ul style="list-style-type: none"> Normal, non-DIFT traffic of all kinds increases. Truck traffic continues to use neighborhood streets. Acceptable volume/capacity conditions at all intersections, except at the Dix/Waterman/Vernor intersection. Continued rail/vehicle conflicts at Central and at Lonyo. 	<ul style="list-style-type: none"> Grade separation of Central will reduce vehicle-rail conflicts and crashes. I-94/Livernois interchange improvement will improve safety. Truck traffic will be reduced on local roads. Acceptable volume/capacity conditions will be experienced at all intersections. 	<ul style="list-style-type: none"> Industrial/commercial uses will continue to be mixed with residential uses. Continued rail/vehicle conflicts at Central/Lonyo. 	<ul style="list-style-type: none"> Lonyo will be closed. Central Avenue railroad crossing will be grade separated. Truck traffic will be reduced on neighborhood streets. 	<ul style="list-style-type: none"> No adverse disproportionate impact expected. 	<ul style="list-style-type: none"> There is a history of impacts to minority and low-income populations associated with past industrialization and transportation projects. There will be adverse disproportionate impacts from this project. 	<ul style="list-style-type: none"> Maintains existing land use pattern. 	<ul style="list-style-type: none"> Consistent with Detroit and Dearborn land use plans. 	0	<ul style="list-style-type: none"> 28 single-family Four apartments 	0	<ul style="list-style-type: none"> 29 	N/A	<ul style="list-style-type: none"> None
Farmland and Open Space/ Part 361 Lands		Economic Impacts				Air Quality				Noise Considerations			
No Action	Preferred	No Action		Preferred		Hot Spots		Pollutant Burden		No Action	Preferred		
<ul style="list-style-type: none"> No active farmland, or Part 361 open space land needed. 	<ul style="list-style-type: none"> No active farmland, or Part 361 land needed. 	<ul style="list-style-type: none"> Jobs Relocated: 0 Net Jobs Gained: Terminal Area 194, Statewide 1,029 	<ul style="list-style-type: none"> Jobs Relocated: 231 Net Jobs Gained: Terminal Area 1,542, Statewide 4,514 	<ul style="list-style-type: none"> No violations of CO standards at intersections. 	<ul style="list-style-type: none"> No violations of CO standards at intersections. Qualitative analysis of PM_{2.5} or PM₁₀ hotspots indicates there will be no standards violated. 	<ul style="list-style-type: none"> Terminal burdens less than existing conditions except for PM₁₀ and PM_{2.5}. Roadway burdens less than existing conditions because of cleaner engines and fuels. Regional burdens are reduced. 	<ul style="list-style-type: none"> Terminal burdens about same as No Action even with increased intermodal activity. Roadway burdens similar to No Action. Regional burdens will be reduced with freight shift to rail. 	<ul style="list-style-type: none"> No perceptible increase. 	<ul style="list-style-type: none"> No perceptible increase with the addition of planned security walls. 				

^a Only the Livernois-Junction Yard is involved in the Preferred Alternative. There are no project impacts at other terminals.
Source: The Corradino Group of Michigan, Inc.

Table 1-1 (continued)
Summary of Direct and Indirect Impacts – No Action and Preferred Alternatives – Livernois-Junction Yard

Livernois-Junction Yard Area ^a													
Surface Water Impacts		Wetlands		Threatened and Endangered Species		Historic/ Archaeological 4(f) Resources		Parklands/ Recreational Land 4(f) Resources		Visual Effects			
No Action	Preferred	No Action	Preferred	No Action	Preferred	No Action	Preferred	No Action	Preferred	No Action	Preferred		
<ul style="list-style-type: none"> No change 	<ul style="list-style-type: none"> Yard paving will improve drainage. Storm drainage subject of NPDES permitting. Spill prevention plans will be in place. Particulate matter that clogs sewers will be reduced. 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 0.01 acres of Palustrine Emergent wetland of low quality will be affected. 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> No effect 	<ul style="list-style-type: none"> Adverse effect with removal of Michigan Box Company building. SHPO review of security wall across from 6332 Kronk for compatibility. 	<ul style="list-style-type: none"> No effect 	<ul style="list-style-type: none"> No direct effects, indirect or cumulative negative effects. 	<ul style="list-style-type: none"> Unightly properties and streetscapes remain. 	<ul style="list-style-type: none"> Removal of some unsightly properties through acquisition will be positive. Security wall along north edge of terminal will separate terminal operations. Directional lighting near residential areas will be used to reduce/avoid light intrusion. 		
Contaminated Sites		Soils		Indirect and Cumulative						Energy		Implementation Project Cost (millions of 2008 Dollars)	
No Action	Preferred	No Action	Preferred	No Action	Preferred					No Action	Preferred	No Action	Preferred
<ul style="list-style-type: none"> No sites around terminal area expected to change Potential to remediate up to 10 acres for non-terminal intermodal activity 	<ul style="list-style-type: none"> 27 sites need additional testing Up to 100 acres for non-terminal intermodal activity will be remediated. 	<ul style="list-style-type: none"> No change 	<ul style="list-style-type: none"> Former clay pits will need geotechnical testing prior to construction of any structures. 	<ul style="list-style-type: none"> Perpetuates current conditions/ trends in traffic, economics, land use, community effects, noise, cultural resources, contaminated sites and water quality. Pollution reduced by cleaner engines/fuel. 	<ul style="list-style-type: none"> No negative traffic congestion effects. Some business expansion expected. Unwanted mixing of land uses must be resisted through local land use controls. No adverse air quality effects are expected. 	<ul style="list-style-type: none"> Ambient noise levels may increase in commercial areas with no negative effect. Existing land use controls must be enforced to avoid adverse cultural resource impacts. 	<ul style="list-style-type: none"> Some contaminated property reclaimed. Available infrastructure is expected to handle stormwater from the buildout of the expanded Livernois-Junction Yard. 	<ul style="list-style-type: none"> DRIC^b project will reduce I-75 access to Livernois/ Dragoon 	<ul style="list-style-type: none"> Continues past trends. 	<ul style="list-style-type: none"> Energy will be used during construction. Improved efficiencies from conversion of some freight shipments from truck to rail are expected. 	<ul style="list-style-type: none"> Land Acquisition and Relocation: \$0 Construction: \$0 Community Benefits: \$0 Studies: \$7 Total: \$7 	<ul style="list-style-type: none"> Land Acquisition and Relocation: \$123 Construction: \$395 Community Enhancements: \$11 Total: \$529 	<p>Note that inflation would add \$121 million for a Year of Expenditure total cost of \$650 million</p>

^a Only the Livernois-Junction Yard is involved in the Preferred Alternative. There are no project impacts at other terminals.

^b DRIC is the Detroit River International Crossing, proposing a new international bridge to Canada. The DIFT has independent utility from the DRIC.

Source: The Corradino Group of Michigan, Inc.

Figure 1-3
Daily Two-way Truck Traffic on Key Links

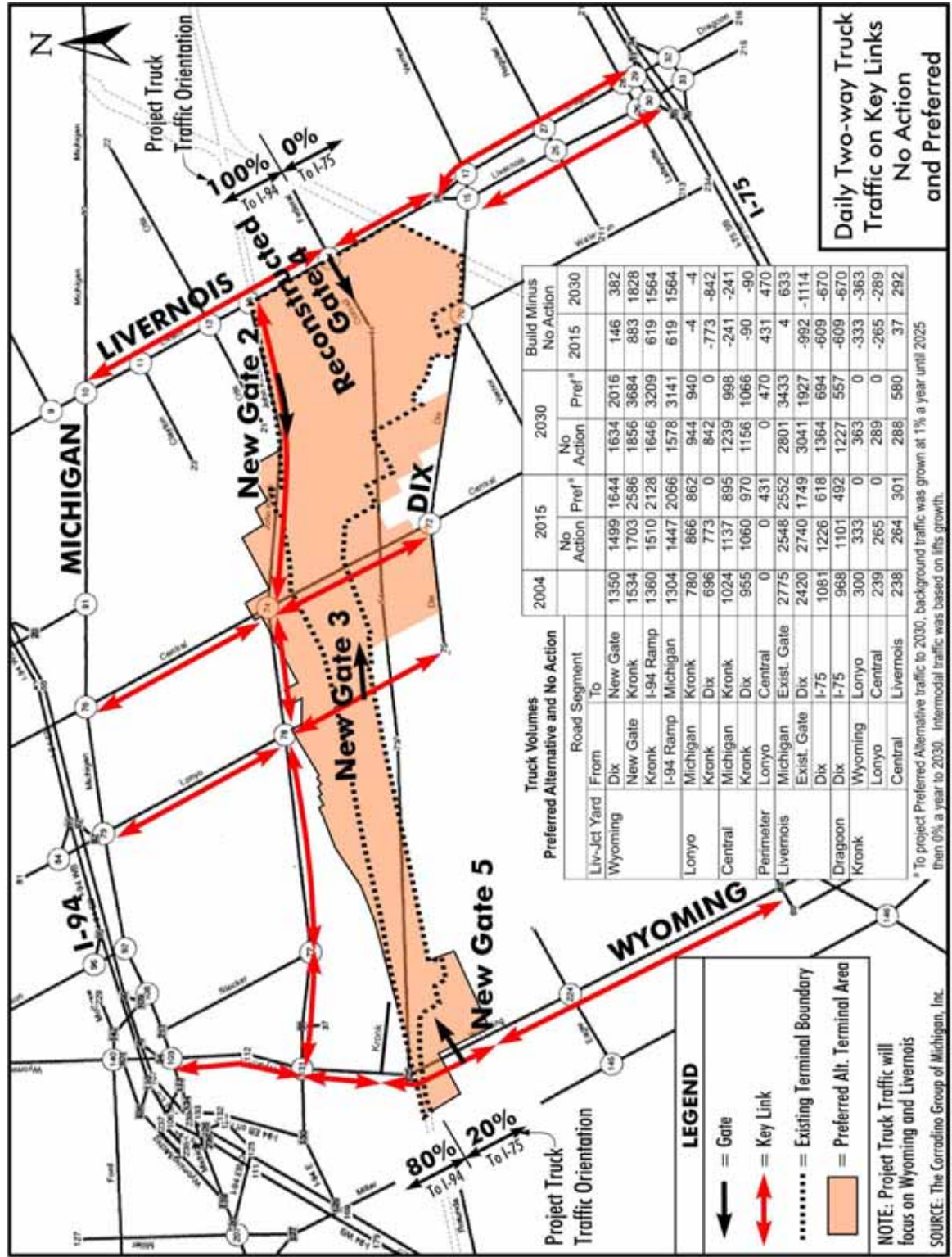
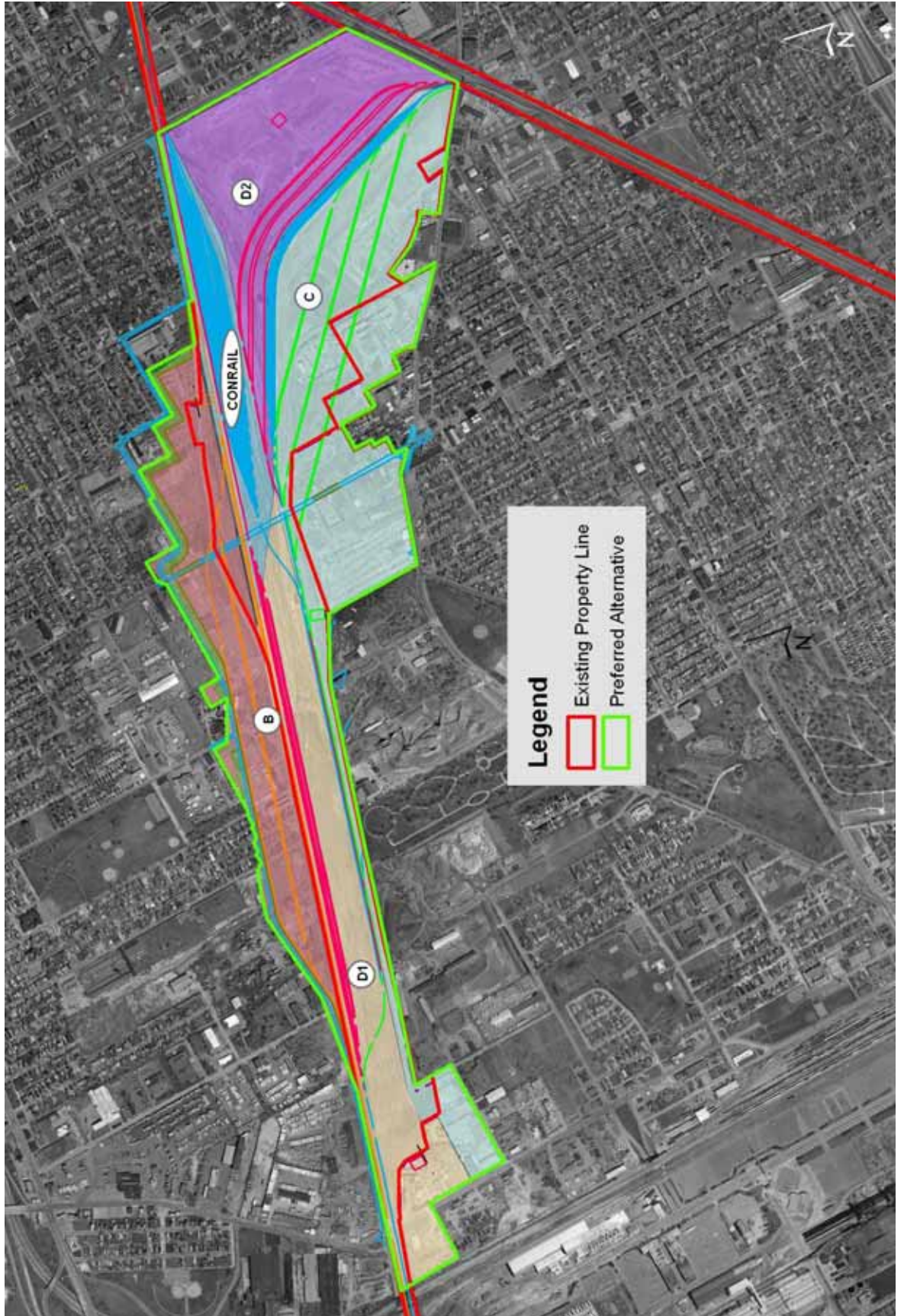


Figure 1-4
Detroit Intermodal Freight Terminal Project
Preferred Alternative with Terminals



**Table 1-2
2030 Annual Lifts and Truck Traffic**

No Action Alternative

Terminal ^a	From Commodity Flow Model		Adjusted Downward	Daily Two-Way Truck Trips	Principal Access
	Low	High			
W	425,800	533,000	309,800	1,520	Livernois
Y	160,500	200,900	117,900	460	Evergreen
Z	81,900	87,800	75,000	430	8 Mile
Total	668,000	821,700	503,000	2,410	

Preferred Alternative

Terminal ^a	From Commodity Flow Model		Daily Two-Way Truck Trips	Terminal Gate	Principal Access
	Low	High			
A	101,000	135,000	720	NA	8 Mile Rd.
B	127,000	157,000	570	2	Livernois
C	132,000	188,500	1,270	3	Wyoming
D1	227,000	357,000	1,140	5	Wyoming
D2	135,000	212,500	820	4	Livernois
Total	722,000	1,050,000	4,520		

^a Terminal's owner/operator is not identified at the railroads' request in light of proprietary interests.
Source: The Corradino Group of Michigan, Inc.

The daily 2030 two-way intermodal truck total will be 4,520 (3,800 at the Livernois-Junction Yard and 720 at the CN/Moterm terminal) in the Preferred Alternative, compared to 2,400 (1,500 at the Livernois-Junction Yard) with the No Action Alternative. The net increase in intermodal truck trips at the Livernois-Junction Yard would be 2,300. But, acquisition of land for the Preferred Alternative will eliminate 1,600 two-way truck trips per day. The net result is an increase of 700 trucks per day. Traffic will shift from Livernois Avenue to Wyoming Avenue, with 80 percent of the Wyoming traffic expected to use I-94.

The truck (and auto) traffic adjustments from the Preferred Alternative would not result in any intersections being at Level of Service D³, or worse, in the peak hour in 2015 or 2030.

The Preferred Alternative will close Lonyo Avenue at the rail terminal and divert its traffic via a new Perimeter Road to Central Avenue. Safety will be improved with eliminating the two rail/highway crossings. The regional shift from truck to rail will reduce regional vehicle miles of travel so that Wayne County's annual 2030 injury crashes and fatalities will be reduced by 25 and one, respectively, and the reduction in these statistics for the seven-county Southeast Michigan region will be 97 and 4, compared to the No Action Alternative.

1.4.2 Relocations, Community Cohesion, Environmental Justice, Land Use and Farmland

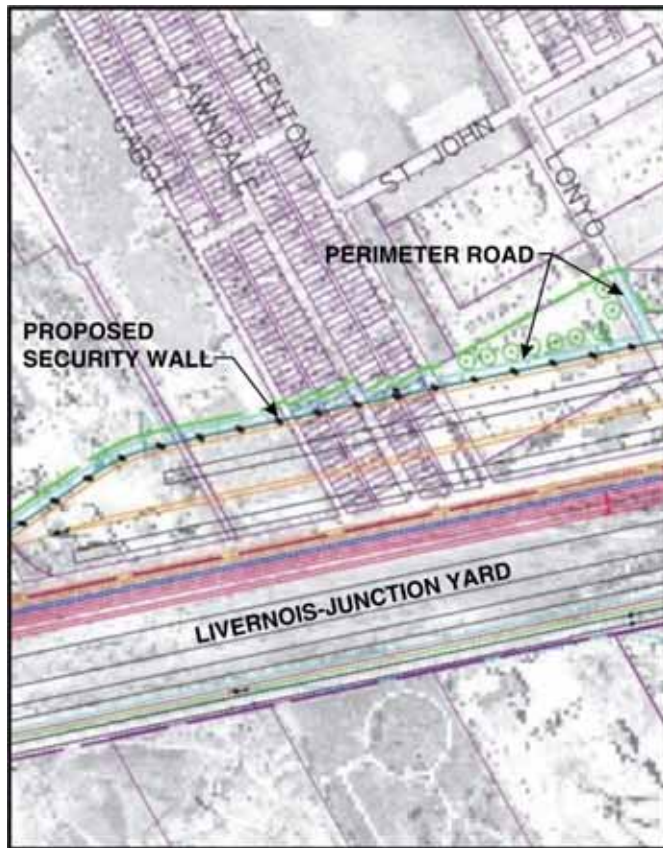
Expanding the Livernois-Junction Yard, as called for in the Preferred Alternative, is consistent with the Detroit Master Plan of Policies because much of the development will take place on industrial property. About ten acres of the 169 acres of the expansion area is now residential and rezoning would be required.

³ Level of Service (LOS) is a way of expressing how much congestion there is. LOS "A" is best. LOS "E" is the maximum flow possible without breakdown.

The Preferred Alternative is expected to result in the acquisition of thirty-two housing units. Adequate housing is available to accommodate the relocatees. Twenty-nine businesses will be relocated. They provide 275 jobs. Vacant industrial/commercial space is widespread so finding opportunities to relocate businesses is not complicated. The business owner at the northwest corner of Central Avenue and Kronk Street has noted a concern with relocation. No farmland will be affected, nor will the Part 361 lands which are protected by state law.

The Preferred Alternative will provide a buffer/security wall on the north side and most of the south side of the terminal, creating a visual and noise break between the terminal and adjacent neighborhoods/noise-sensitive residential uses.

There will be disproportionately adverse housing and cultural resource effects on minority or low-income populations as defined in Executive Order 12898, "Federal Actions To Address Environmental Justice In Minority Populations And Low-Income Populations," or discrimination prohibited by Title VI of the Civil Rights Act of 1964. The details are provided below.



Proposed Security Wall and Perimeter Road

- Mobility – There will be acceptable levels of traffic congestion throughout the roadway network around the terminal, as presented in Section 4.1 of this FEIS. There will be a net increase of approximately 700 trucks a day in 2030 in the terminal area compared to the No Action Alternative. The planned road and gate improvements will split truck traffic between Livernois and Wyoming Avenues, with Wyoming serving an industrial area and Livernois Avenue serving a mix of residential and commercial development. Truck traffic will be reduced on neighborhood streets (Central north of Kronk, Livernois south of the terminal entrance gate, and Dagoon south of Dix). Lonyo will be closed, while the Central Avenue crossing of the railroad tracks will be grade separated, thereby improving the safe movement of traffic around the terminal area. Finally, improving the I-94/Livernois interchange will improve safe truck movements and also help reduce truck traffic on neighborhood streets. There will be no impacts on public transit routes.
- Economic Impacts – Approximately 275 jobs are expected to relocate within or outside of the terminal area due to terminal expansion. These will be replaced in the terminal area by more than 1,540 new jobs associated with the investment in intermodal development, over the next 20 years, as defined in Section 4.5 of this FEIS. The new job total is expected to be approximately 4,500 statewide. In the Detroit area, the net new jobs total is forecast at about 2,360. Local business expansion and growth in the local tax base are anticipated.

- Land Use – The expected investment by the government and railroads is likely to stimulate, over the next 20 years, industrial/commercial development of up to 60 acres of available land to support intermodal activity, as defined in Section 4.5 of this FEIS. This intermodal development activity is consistent with the land use plans of Detroit and Dearborn. Unwanted mixing of land uses can and should be resisted by applying already-existing provisions in the Detroit Master Plan of Policies and the Dearborn Master Plan.
- Air Quality – Analyses presented in Section 4.8 of this FEIS indicate no violations of CO standards are expected in the area around the Preferred Alternative. Likewise, no violations of PM_{2.5} or PM₁₀ daily or annual standards are anticipated, based on qualitative hot-spot analyses of these two pollutants. Compared to the No Action condition in 2030, terminal pollutant burdens are expected to change. Carbon monoxide and particulate matter are expected to decrease, while the other pollutants are expected to increase with the increase in intermodal activity. The roadway burdens are expected to be about the same as the No Action Alternative because of the removal of traffic through acquisition/relocation from the area around the terminal (29 businesses). The regional mobile source pollutant burdens will be reduced due to diversion of freight shipments from truck to rail and the use of cleaner fuels and engines.
- Community Effects – Twenty-nine business properties, 28 single-family residences, and four apartment units are expected to be acquired for the expansion of the terminal. Almost 275 jobs would be relocated within or outside of the terminal area, compensated by an increase of approximately 1,540 new jobs stimulated by intermodal investment, consistent with data presented in Section 4.5 of this FEIS. Lonyo would be closed and Central Avenue grade separated from the railroad lines, improving safe flow of vehicles, pedestrians and bicyclists. Truck traffic on a number of neighborhood streets would be reduced. Security walls on the north side of the terminal, and part of the south, will buffer its activity, improving the aesthetics of the area. The terminal will be paved, reducing the effects of dust on the nearby population.
- Noise – No perceptible increase in noise on sensitive areas is expected with planned security walls, as defined in Section 4.9 of this FEIS. Traffic volumes in the terminal area will increase as economic conditions improve, but in terms of noise, the changes with DIFT traffic are inconsequential compared to background traffic. The exception is that redirecting truck traffic on Livernois away from the area south of the entry gate and closing the existing gate, at Dix/Waterman, will cut truck traffic on south Livernois and Dragoon to a noticeable extent, so that noise levels will be perceptibly lower.

- Cultural Resources – Removal of the Michigan Box Company building will result in an adverse effect; the construction of a security wall across from 6332 Kronk may pose an adverse effect.⁴ (Section 4.13.) No effects are forecast on parks/recreational lands, as presented in Section 4.14 of this FEIS.
- Contaminated Sites – Twenty-seven sites in the immediate area around the terminal, suspected of having contamination, need additional testing. This information is presented in Section 4.16 of this FEIS. The increased intermodal activity could cause, over the next 20 years, up to 60 acres of contaminated land (e.g., brownfields) to be reclaimed by the private sector. This could lead to increased, but less polluted, water runoff.
- Water Quality – As discussed in Section 4.11 of this FEIS, it is expected that paving the Livernois-Junction Yard will improve drainage as the runoff today clogs sewer inlets, which causes standing water in



Michigan Box Company — North Wall, View to East.

railroad viaducts on Lonyo, Central and Livernois. The standing water sometimes causes these roads to be impassable. The storm drainage system of the improved terminal will be subject to National Pollution Discharge Elimination System (NPDES) permitting. Where the project increases stormwater amounts by paving terminal surfaces that now absorb water, surface runoff will be directed to an engineered onsite collection site to ensure that future flow rates do not increase. Because of the combined sewer system, all water will be treated before it outfalls to the Detroit River. Prevention plans to address accidental spills of hazardous materials will continue to be maintained by the railroads. Reclaiming up to 60 acres of potential contaminated properties (e.g., brownfields) is possible, as noted above.

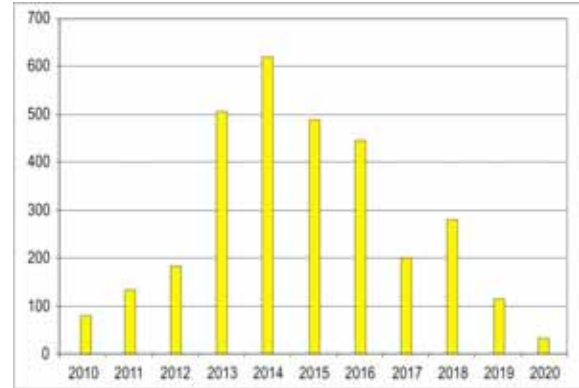
The results of the conditions presented above indicate an adverse effect in terms of relocations and cultural resources on populations covered by the EJ regulations. Therefore, mitigation is included in Section 5 of this FEIS. Nonetheless, it must be recognized that, over time, undesirable environmental features have accumulated from industrialization and related transportation projects. Some have existed for many years. Public resources to address many of these conditions have been lacking. The DIFT project is envisioned as a way for public and private sector investments to bring some measure of improvement to existing rail activity and the affected population, knowing that activity will expand in the future with or without the project.

⁴ The State Historic Preservation Officer (SHPO) will review the security barrier wall across from the house at 6332 Kronk in the design phase.

On balance, the investment and improvements of the Preferred Alternative with mitigation and community enhancements is seen to be beneficial to these areas compared to the No Action Alternative.

1.4.3 Economics – Permanent and Construction Jobs

Results of the analysis of the Preferred Alternative reflect updated data and reapplication of the REMI model. While some 275 jobs would be relocated by the DIFT project, the economic stimulus of it would generate approximately 4,500 jobs statewide including 2,360 jobs in the Detroit area. The schedule of the Preferred Alternative construction occurs later than was foreseen for the Practical Alternatives, as the project has been delayed in its review/approval. Nonetheless, about 3,085 person years⁵ of employment would be generated, with construction peaking in 2014 at 620 jobs.



Projected Construction Employment

1.4.4 Air Quality

A protocol (Appendix E) was developed to guide the DEIS air quality analysis with respect to National Ambient Air Quality Standards (NAAQS) and Mobile Source Air Toxics (MSATs).⁶ Since the DEIS was published, analysis methodologies have changed. Therefore, the air quality presentation is considerably different than that in the DEIS. Further, the analysis reflects updates for the intermodal activity of the Preferred Alternative, as well as air pollutant monitor data and emission factors. Also reflected in the analysis is the fact that, since the project began, the Southeast Michigan Council of Governments (SEMCOG) has advanced the horizon year of their Regional Transportation Plan (RTP) to 2030 from 2025.

The scope of and methodology used in this air quality analysis are consistent with current guidance from the Federal Highway Administration (FHWA) and MDOT. Interagency consultation was held with SEMCOG, the U.S. Environmental Protection Agency (EPA) Region 5, and the Michigan Department of Environmental Quality (MDEQ). This air quality analysis covers the following topics:

- Pollution Burden
- Mobile Source Air Toxics
- Air Quality Conformity
- Air Quality Control Measures
- Construction Impacts

1.4.4.1 Pollution Burden Analysis

Pollutant burden analysis was performed for conditions at the terminal and on the surrounding streets (Section 4.8.2). The analysis of the terminal activity includes visitor and employee traffic; container truck activity; container handling in the yard; locomotive activity; fugitive dust; loss of

⁵ A person year is one person working one year.

⁶ The Corradino Group, *Detroit Intermodal Freight Terminal Study Air Quality Protocol*, March 2005 and Addendum October 2006.

traffic due to relocation of some businesses; and, closure of public streets that fall within the future terminal. For the roadway analysis, the number of vehicles was used in conjunction with road link lengths and speeds.

1.4.4.1.1 Terminal Area Pollution Burden

Because the CN/Moterm terminal is not to be expanded as part of the Preferred Alternative, its activity and pollutant burden will be only marginally higher than under No Action conditions. On the Livernois-Junction Yard, the greater truck activity, compared to the No Action Alternative, means the hydrocarbon (HC), nitrogen oxide (NO_x), volatile organic compounds (VOCs), diesel particulate matter (DPM), benzene, formaldehyde, acetaldehyde and acrolein burdens will be higher. The paving of the yard will substantially reduce particulate matter compared to No Action.

EPA regulations will continue to improve air quality on terminals as well as roadways. By mid-2010 non-road diesel equipment, such as that used to move containers, will be required to use the same low-sulfur fuel that on-road vehicles began using in 2007. (This fuel prevents the fouling of pollution control equipment on newly manufactured vehicles.) Locomotives have until 2012 to start using the fuel. But, as a practical matter, refineries are fully converting to production of the ultra low sulfur fuel. All new and remanufactured locomotives must meet Tier 3 air quality standards by 2009 (which includes idle reduction requirements) and Tier 4 by 2015 (essentially adding afterburners and benefiting from clean diesel). So, new equipment will continue to be cleaner. The railroads could adopt voluntary measures.

While new diesel equipment will have cleaner burning engines and use low-sulfur fuels, hybrid or electric vehicles are an option. An additional optional measure that may be available would be a continued partnering on conversion of local switch locomotives to units that emit less and reduce idling. It is notable that CSX has received from SEMCOG in collaboration with MDOT Congestion Mitigation Air Quality (CMAQ) grants to retrofit four switch locomotives. These must remain in the Dearborn and Detroit yards for a minimum of five years.

1.4.4.1.2 Public Roadway Pollution Burden

The Preferred Alternative would direct DIFT truck traffic to two gates accessed from Wyoming Avenue and two from Livernois Avenue. Access to the Wyoming gates is expected to be predominantly from I-94 and access to the Livernois gate is expected to be exclusively from I-94. This pattern moves the roadway air quality pollutant burden away from residential areas. Combined with the lower emission factors in the future, the pollutant burden on many roadway links near the Livernois-Junction Yard will go down in the future (2015 and 2030) from base year (2004) levels and will be slightly less than the No Action Alternative.

In 2015, the number of trucks on Wyoming Avenue, south towards Dix, will increase by 145 with the Preferred Alternative relative to the No Action Alternative. This is in close proximity to the Wyoming Avenue air quality monitoring site. However, the annual PM_{2.5} value for 2015, which is of greatest concern, is the same (0.06 tons) as for the No Action conditions and less than half of the 2004 value of 0.13 tons per year.

In summary, considering both roadway and terminal pollutant burdens, the Preferred Alternative at the Livernois-Junction Yard would reduce the levels of NAAQS pollutants relative to the No Action Alternative in 2015 for all but VOC, which would be almost unchanged. When pollution within the terminal is added in 2030, these pollutants would remain lower than the No Action Alternative, except for NO_x and VOC. In those latter cases, the increases over the No Action

Alternative would be more than offset by decreases at the Wayne County and regional levels. Particulate matter would be substantially reduced.

1.4.4.2 Mobile Source Air Toxics (MSATs) – Quantitative Analysis

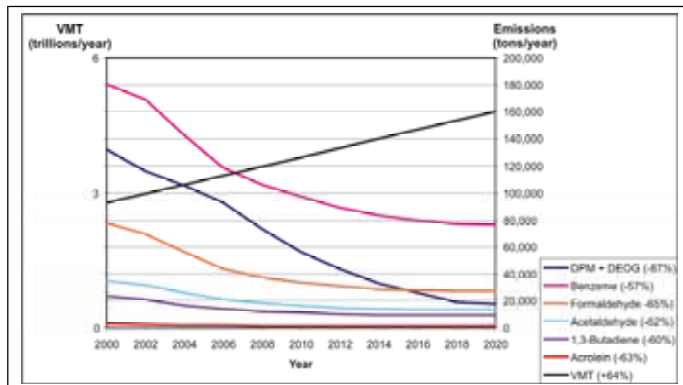
The quantitative analysis of MSATs presented in Section 4.8.3 of this FEIS provides a means of comparing the Preferred Alternative to taking no action, consistent with the federal guidance and the agreed-upon analysis protocol.

1.4.4.2.1 Terminal Area MSAT Quantitative Analysis

The overall conclusion for MSAT conditions for the terminal area indicate diesel particulate matter (DPM) will drop substantially from current levels with the Preferred Alternative. But, increased terminal activity will increase the levels of butadiene, formaldehyde, acetaldehyde, and acrolein compared to today’s levels and compared to taking no action. These increases would be more than offset by reductions in Wayne County with the mode shift from truck to rail.

1.4.4.2.2 Roadway MSAT Quantitative Analysis

The Preferred Alternative will reduce the MSAT pollutant burden on the local road network in 2015 and in 2030, compared to 2004. The most important reductions would occur on Livernois Avenue and Dragoon Street south of Dix to I-75. There, the homes are about 30 feet from the streets. MSAT burdens in 2030 with the Preferred Alternative would be about one-third of base year (2004) amounts.



U.S. Annual Vehicle Miles vs. MSAT Emissions

1.4.4.3 SEMCOG Attainment Status/Air Quality Conformity

EPA has promulgated two sets of regulations to implement the conformity requirements of the Clean Air Act: 1) General Conformity Regulations, which apply to other Federal projects; and 2) Transportation Conformity Regulations, which apply to highways and mass transit and establish the criteria and procedures for determining whether transportation plans, programs, and projects funded under title 23 U.S.C. or the Federal Transit Act conform with the State Implementation Plan (58 FR 62188). These two regulatory approaches are discussed below.

The Clean Air Act requires Michigan (and all other states) to have a State Implementation Plan (SIP) to demonstrate how it will attain and/or maintain NAAQS (Table 4-21). SEMCOG collaborates with the Air Quality Division of the Michigan Department of Environmental Quality (MDEQ) to prepare and/or update a SIP. SEMCOG is responsible for evaluating mobile source (vehicular) emissions in Southeast Michigan when projects are proposed for inclusion in its long-range transportation plan. SEMCOG’s 2030 Regional Transportation Plan (RTP) must undergo a quantitative analysis demonstrating that emissions levels associated with implementing planned transportation projects are equal to, or lower than designated emissions limits (budgets) set forth in the SIP. In doing so, SEMCOG is managing the transportation air quality conformity process in Southeast Michigan. The DIFT project is subject to air quality transportation conformity

review through SEMCOG. This review has occurred and the DIFT Preferred Alternative has been found to conform.

1.4.4.3.1 General Conformity

General conformity normally applies to non-transportation projects. Threshold (*de minimus*) emission levels have been set by EPA for particulate pollution (PM_{2.5} and PM₁₀) to determine when general conformity determinations are necessary (40 CFR 93.153(b)). Because the DIFT is a transportation project, transportation conformity would normally apply. But, DIFT is unique in that it involves a terminal(s). There, trucks will idle briefly as they pick up and drop off containers. Therefore, plaza activity has been examined to determine whether *de minimus* levels of 100 tons per year for PM_{2.5} or PM₁₀ are exceeded during system operations. The year of highest emissions, 2015, has been analyzed and compared to the *de minimus* thresholds.

Because of the scale of the DIFT project, the *de minimus* threshold was also applied to construction activities to determine whether PM₁₀ dust levels exceed 100 tons in any construction year.

PM_{2.5} and PM₁₀ Operations *de minimus* Analysis – The federally-determined *de minimus* level of 100 tons annually was published in the *Federal Register* of July 17, 2006, for both PM_{2.5} and PM₁₀. The DIFT project implementation will actually reduce the annual PM_{2.5} and PM₁₀ burden at the Livernois-Junction Yard (the only terminal that receives government funding under the Preferred Alternative) in 2015 and 2030 compared to the No Action Alternative. So, the DIFT project operations will not trigger the need to conduct general conformity.

PM₁₀ Construction *de minimus* Analysis – An examination of the proposed DIFT construction program found that, in any given year, the dust created during project implementation will also be well within the PM₁₀ *de minimus* level. The 300 existing acres, plus 169 new acres, are predominantly clear of major buildings and structures. With a project implementation program of ten years, it is reasonable to assume about 125 acres would be the most to be worked on in a given year. Assumptions were a site development area 1100 feet wide and 5000 feet long and use of earthmovers and/or graders with a PM₁₀ dust emission factor of 3.6 lbs/vehicle mile of travel of the construction equipment. Using the methodologies available in EPA's "Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1: Stationary Point and Area Sources," revised December 2003, and the construction assumptions, maximum yearly estimates of dust from construction are under 30 tons, well under the 100 ton threshold.

1.4.4.3.2 Transportation Conformity

Regional Conformity – With identification of the Preferred Alternative, DIFT project elements that cause changes to the transportation network were evaluated by SEMCOG for air quality conformity. When analyzed together with other plan elements, the air pollution generated must not exceed "budgets" established in the SIP. This is the case for carbon monoxide, ozone, and PM_{2.5}. This analysis has been performed and the DIFT has been included in SEMCOG's cost-feasible RTP and Transportation Improvement Program (TIP).

Hot-spot Analysis – Hot-spot analysis is designed to evaluate whether there are air quality impacts on a smaller scale than an entire nonattainment or maintenance area. Conforming to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS.

The hot-spot analysis applies to carbon monoxide (CO), PM_{2.5}, and PM₁₀, consistent with 40 CFR 93.116.

The CO analysis is done on a quantitative basis per 40 CFR 93.123(a) to determine whether estimated “with-project” concentrations of CO exceed the established one-hour and/or eight-hour standards. If they do not, the project conforms. Hot-spot conformity for PM_{2.5} and PM₁₀ is determined on a qualitative basis per 40 CFR 93.123(b)(4) until appropriate methods and modeling guidance are available for quantitative analysis.

Regarding PM₁₀, a portion of Detroit that includes the proposed DIFT project is a maintenance area. In the Maintenance Plan, SEMCOG, MDEQ and EPA concluded that mobile source (vehicular) PM₁₀ emissions are not a significant contributor to regional PM₁₀ emissions. So, SEMCOG is not required to consider PM₁₀ in its regional conformity analyses. However, because no similar determination was made with respect to whether mobile source PM₁₀ emissions contribute to localized hot-spot problems, a PM₁₀ hot-spot qualitative analysis is required. It is covered later in this section. First, discussions of CO and PM_{2.5} are presented.

CO Hot-spot Quantitative Analysis –

Guidance for CO hot-spot analysis (40 CFR 93.123(a)) states that, if there are no violations of the CO standards in the area affected by the project, then the project's future effect is compared to the standard because the test is whether the project causes an exceedance of the standard at a sensitive receptor. Based on available local monitoring data, there are no current violations in the area. So, the test is whether the project could cause a new violation. Modeling performed for the DEIS indicates the Preferred Alternative would not cause CO values at hot-spots around the terminal anywhere near the level of the one-hour and eight-hour NAAQS standards.

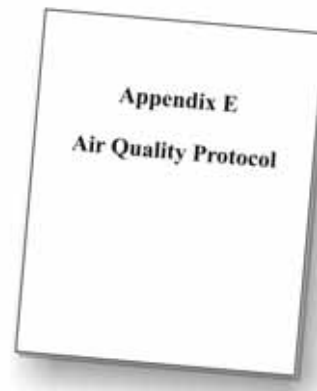


Project Area Air Quality Monitors

PM_{2.5} Hot-spot Qualitative Analysis – This subsection addresses the change since the publication of the DEIS in the air quality regulatory background resulting from the publication of the “Final Rule for PM_{2.5} and PM₁₀ Hot-spot Analyses in Project-Level Transportation Conformity Determinations,” which appeared in the March 10, 2006, Federal Register. Subsequent to the publication of the Final Rule, EPA and FHWA jointly issued “Transportation Conformity Guidance for Qualitative Hot-spot Analysis in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas,” March 29, 2006. The DIFT project is of “air quality concern” (Transportation Conformity Guidance, Chapter 1.3) for PM_{2.5} because it would represent a transfer point that has “a significant number of diesel vehicles congregating at a single location.” (40 CFR 93.123(b)(1)(iii)). A hybrid of methods A and B from the Guidance is used.

Upon publication of the guidance, interagency consultation occurred on May 11, 2006, among EPA, FHWA, SEMCOG, MDOT and MDEQ. EPA, FHWA, and MDOT met again July 19, 2006. Consultation led to an Addendum to the original Air Quality Protocol for the

DIFT project (Appendix E). Both the Protocol and the Addendum guided the analysis in this section of this FEIS. Subsequent to these noted activities, interagency consultation continued on the Detroit River International Crossing (DRIC), which proposes building a new bridge to Canada, also to be located in Southwest Detroit. The DIFT project has independent utility from the DRIC. That further consultation led to refinements to the DIFT Air Quality Protocol and Addendum. The analysis that follows reflects the continued interagency consultation.



The qualitative PM_{2.5} “hot-spot” analysis is in addition to the process SEMCOG has used in past years to determine regional transportation conformity. The qualitative hot-spot analysis is designed to determine the effect of PM_{2.5} on a localized basis, i.e., project-level conformity. This hot-spot analysis is designed to consider direct emissions only, not secondary particles, as these take several hours to form in the atmosphere, giving emissions time to disperse beyond the immediate area of concern.

The qualitative hot-spot analysis in this section addresses both the 24-hour and annual standards for PM_{2.5}. The SEMCOG area was designated non-attainment with the annual PM_{2.5} standard of 15 µ/m³ in 2004. The analysis herein addresses that standard and the concurrent 65 µg/m³ 24-hour standard. It has been anticipated that during 2009 the region will be designated in non-attainment with the stricter 35 µ/m³ 24-hour standard established in 2006. However, based on the rules that govern conformity, the region will have another year before conformity to the 35 µ/m³ standard applies. Therefore, while 35 µ/m³ is the 24-hour standard shown herein in tables and graphics, it is the 65 µ/m³ standard that is still the test for conformity. The DIFT project will be implemented over a number of years. If there are future federal actions or major project changes, the U.S. Department of Transportation will comply with whatever conformity requirements apply at that time.

The hot-spot analysis includes the Livernois-Junction Yard and the roadway network which trucks would use to carry containers to and from that terminal. It does not need to include activity at key intersections where the LOS drops to D, or worse, because the DIFT traffic analysis found there are no such locations. It considers construction activity because dust could be a consideration in the SIP. The SIP for PM_{2.5} is now under review by U.S. EPA. Consequently, there are not yet “budgets”⁷ for PM_{2.5}. Until there are, regional conformity is determined by ensuring that future annual emissions do not exceed 2002 levels.

The DIFT is a project of air quality concern because large numbers of diesel trucks are involved. The DIFT project, and its increase in truck traffic, will develop over a ten-year period, 2010 through 2019. There is no “year of opening,” as there would be with many other transportation projects. Rather, the railroads, in conjunction with MDOT, will prioritize and capitalize a set of improvements over time. The year of peak construction is projected to be 2014. So, for analysis purposes, the year of highest emissions is taken to be 2015. By this point in time, major features of the project are expected to be in place, such as the purchase of property and entry gate development on Wyoming Avenue. The Detroit River International Crossing project will be in place (projected year of opening of 2015), limiting access to the DIFT by the reconstruction of the Livernois/Dragon interchange with I-75. The further in

⁷ Budgets for certain pollutants limit how much can be produced in an area so that air quality standards can be attained and maintained.

the future the analysis is performed, the cleaner the overall vehicle fleet will be. So, 2015 is a reasonable choice as the highest year of emissions.

While the Preferred Alternative will develop over a ten-year period, it consists of a set of project elements at different times and locations, none of which last five years. The project design year is 2030, consistent with SEMCOG's *Regional Transportation Plan*.

The PM_{2.5} annual terminal pollutant burden is projected to be 14.9 tons in 2030 for the Preferred Alternative, compared to 30.9 tons for the No Action Alternative. In 2015, the relationship is 8.8 tons for the Preferred Alternative to 26.0 for the No Action Alternative. Existing (2004) PM_{2.5} is 43.5 tons a year. Therefore, the Preferred Alternative's PM_{2.5} terminal burden will be less than one fourth the 2004 condition. The principal change will come with paving the Livernois-Junction Yard. Though PM_{2.5} is a small fraction of the particulate matter on the unpaved yard, the yard is so big that the portion which is unpaved produces a large quantity of pollution.

The DIFT project would result in higher intermodal truck volumes overall, but a redistribution of that truck traffic away from residential areas. This would happen by shifting trucks to two new gates off Wyoming Avenue, reorienting intermodal truck traffic on Livernois Avenue to the north, and closing the Dix/Waterman gate to the Livernois-Junction Yard. These changes can be seen in the last two columns in Table 1-3. Truck volumes would decrease on Livernois Avenue and Dragoon Street south of the existing gate to I-75 (red box on Table 1-3). Lonyo traffic (orange box) would shift to Central Avenue and Kronk Street would be closed by the project (green box). The net traffic change on Central Avenue (blue box) would be a decrease because several large trucking concerns would be relocated by the project and trucks that are presently using Central would be removed in the future. Truck volumes will increase on Wyoming (black box), especially between the new proposed gates and Michigan Avenue and, to a lesser extent, south of the gates towards Dix. The Dearborn air quality monitor is located on Wyoming between the new gates and Dix.

**Table 1-3
Detroit Intermodal Freight Terminal Study
Truck Volumes – Preferred Alternative and No Action**

Road Segment	From	To	2004	2015		2030		Pref. minus No Action	
			Base	No Action	Pref.	No Action	Pref.	2015	2030
Liv-Junc Yard									
Wyoming	Dix	New Gate	1350	1499	1644	1634	2016	146	382
	New Gate	Kronk	1534	1703	2586	1856	3684	883	1828
	Kronk	I-94 Ramp	1360	1510	2128	1646	3209	619	1564
	I-94 Ramp	Michigan	1304	1447	2066	1578	3141	619	1564
Lonyo	Michigan	Kronk	780	866	862	944	940	-4	-4
	Kronk	Dix	696	773	0	842	0	-773	-842
Central	Michigan	Kronk	1024	1137	895	1239	998	-241	-241
	Kronk	Dix	955	1060	970	1156	1066	-90	-90
Perimeter Rd	Lonyo	Central	0	0	431	0	470	431	470
Livernois	Michigan	Exist. Gate	2275	2548	2552	2801	3433	4	633
	Exist. Gate	Dix	2420	2740	1749	3041	1927	-992	-1114
	Dix	I-75	1081	1226	618	1364	694	-609	-670
Dragoon	Dix	I-75	968	1101	492	1227	557	-609	-670
Kronk	Wyoming	Lonyo	300	333	0	363	0	-333	-363
	Lonyo	Central	239	265	0	289	0	-265	-289
	Central	Livernois	238	264	301	288	580	37	292

^a To project Preferred Alternative traffic to 2030, background traffic was grown at 1% a year until 2025 then 0% a year to 2030. Intermodal traffic was based on lifts growth.

Source: The Corradino Group of Michigan, Inc.

In the intermediate year of 2015, the project is estimated to result in about 600 fewer trucks per day to the Livernois-Junction Yard area (○ red oval on Table 1-4) because, even though the project brings new trucks to the terminal, it would eliminate existing land uses that generate many truck trips. In the near term, as these land uses are converted, the result would be fewer trucks. In 2030, with further intermodal growth, there will be approximately 700 additional truck trips (○ blue oval on Table 1-4) in the Livernois-Junction Yard area because intermodal traffic will continue to increase beyond 2015, while there would be no new relocations of non-intermodal trucking activities between 2015 and 2030. Roads that, today, generate a substantial amount of dust will also be closed at the beginning of project construction, while project lifts and truck traffic will increase gradually thereafter. As a result, there will still be increases on certain roadway links, even in 2015, as shown on Figure 1-3.

Table 1-4
Detroit Intermodal Freight Terminal Study
Net Truck Trips at Livernois-Junction Terminal

Condition	Truck Trips	
	2015	2030
Preferred Alternative Intermodal Trucks	1974	3800
No Action Alternative Intermodal Trucks	956	1510
Increase with Preferred Alternative	1018	2290
Trucks eliminated at Relocated Business	-1600	-1600
Net Change in Trucks	-582	690

Source: The Corradino Group of Michigan, Inc.

For this qualitative analysis, three types of hot-spots have been identified (Figure 1-3): key intersections near the Livernois-Junction Yard; gates serving the yard; and, roadway links around the Livernois-Junction Yard with heavy truck traffic under the Preferred Alternative.

Intersections

The traffic analysis (Section 4.1 of this FEIS) examined over 100 intersections around the intermodal terminals to determine whether project-related traffic would cause impacts. The analysis found the truck (and auto) traffic changes of the Preferred Alternative will not result in any intersection operating at Level of Service D, or worse, in the peak hour in 2015 or in 2030 in the Livernois-Junction Yard area. This analysis has been updated with additional traffic counts performed since the DEIS. Future background volumes were assumed to increase one percent a year from the present. Based on actual historic patterns, this overstates actual traffic growth. In addition, SEMCOG released a study in 2007 outlining reduced growth and travel in the region.⁸ So, the stated conditions for traffic represent worst-case conditions for air quality purposes.

Gates

Average check-in and check-out times of four minutes have been assumed at each terminal gate, compared to five minutes for the less efficient layouts of No Action.

⁸ SEMCOG, *A Region in Turbulence and Transition*, April 2007.

Actual Preferred Alternative times may be less. Four gates are distributed around the perimeter of the Livernois-Junction Yard under the Preferred Alternative. With No Action, all trucks enter the yard off of Livernois or Waterman at Dix.

With the Preferred Alternative, the maximum two-way daily gate truck volume in 2030 at any one gate (Gate 5) is forecast to be 1270. Next in volume would be Gate 3 with 1,140 two-way daily trucks (Figure 1-3). Total two-way trucks for all gates would be 3800. The estimated annual PM_{2.5} pollutant burdens in tons for the idle time related to delay at the gates is 0.7 tons in 2015 and 0.13 tons in 2030.

The amount of delay and associated idling is small in comparison to the burden reduction the project would bring: 17 tons in 2015 and 16 tons in 2030.

Roadway Links

Figure 1-3 shows anticipated truck volumes on key roadway links near the Livernois-Junction Yard. It also shows that intermodal trucks will use Wyoming Avenue (80% north and 20% south) and Livernois Avenue (100% north to I-94) to get to and from the yard. This pattern would focus truck traffic on routes that carry trucks today and reorient truck traffic away from residential areas, notably homes along the Livernois/Dragon one-way pair that connects the Livernois-Junction Yard to I-75. Today, that one-way pair is a route of choice by truckers. The noted shifts are consistent with the wishes of local residents. The Livernois gate will be reengineered to prevent turns to and from the south as will the intersection of Kronk (Gate 2) with Livernois Avenue. Also, the existing Waterman gate on the south side of the Livernois-Junction Yard will be closed. Waterman is another route that passes through a residential area.

The only links with traffic increases due to the DIFT are Livernois Avenue north of the terminal and Wyoming Avenue. The Dearborn air quality monitor is on the section of Wyoming between Dix and the new Gates 3 and 5. The monitor is also directly across from the Sverstal Steel facility which, together with improvements at U.S. Steel and the Marathon Refinery, are expected to experience an annual PM pollutant burden reduction of 330 tons. Work is underway to use federal Congestion Mitigation Air Quality (CMAQ) funds to rebuild four switch locomotives with GenSet equipment to reduce PM emissions. These switch locomotives idle while sitting on tracks as close as 250 feet from the Dearborn monitor. GenSet locomotives have multiple off-road, low-emitting diesel engines, and engines shut down while not in use.

The overall roadway network pollution burden associated with the Livernois-Junction Yard would be reduced with the Preferred Alternative. In the base year of 2004, about 1.5 tons of PM_{2.5} were generated on the identified road network of key links. In 2015 these levels would be reduced by over half a ton with the Preferred Alternative. By 2030, both the Preferred Alternative and No Action Alternative would generate only one-third of the 2004 amounts. The road link of Wyoming between Dix and the new gates would see its burden fall from 0.13 tons annually in 2004 to 0.06 in 2015 and 0.05 in 2030, with either the Preferred Alternative or No Build Alternative. At the Wayne County level, PM reductions will be realized from the shift of traffic from truck to rail.

The vehicles-per-day analysis found the project would increase truck traffic in the vicinity of the Dearborn monitor by 146 in 2015. It is not believed the increase in truck traffic by the Dearborn monitor will lead to new air quality violations or the delay in attaining standards because:

- 1) It is anticipated that the Dearborn monitor will attain the PM_{2.5} annual standard of 15 µg/m³ by 2010 and continue to conform to the 65 µ/m³ daily standard. Though the 2007 value of 16.9 µg/m³ was over the standard, values at the end of the year were lower. This reflects the implementation during the year of a Sverstal Steel baghouse (air quality control mechanism) just upwind of the monitor. Data for 2008 are below the standards (see conclusions below).
- 2) Implementation of engine-idle packages on the switch engines in the CONRAIL Rougemere Yard, across Wyoming from the Dearborn monitor, is expected to have direct results at that monitor.
- 3) Coincident with the above-cited activities is the institution of low sulfur fuel in 2007 and the continuation of truck fleet turnover to much cleaner diesel engines, dampening the effect of the small increase in truck traffic.

The analysis indicates, for the typical roadway link speed of 30 mph, the emission factor for PM_{2.5} drops from 0.31 grams per mile in 2004, to 0.07 in 2015 (a 75 percent reduction) and to 0.03 in 2030 (a 90 percent reduction).

Construction Considerations

The DIFT project involves roadway and terminal construction. The PM_{2.5} analysis has considered this construction. However, in accordance with 93.123(c)(5), emissions from construction-related activities can be considered temporary, if they occur only during the construction phase and last five or fewer years at any individual site. Implementation of the DIFT project will extend for ten years but consists of a series of elements none of which is expected to last five years. Temporary emissions are not required to be included in hot-spot analyses.

Conclusions Related to PM_{2.5} Qualitative Hot-spot Analysis

The conclusion of this qualitative PM_{2.5} hot-spot analysis is that the proposed project will not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. Therefore, no mitigation is required. But, voluntary measures are proposed as discussed earlier. This applies to both the 24-hour and annual standards. This conclusion, subject to interagency consultation, is based on the following:

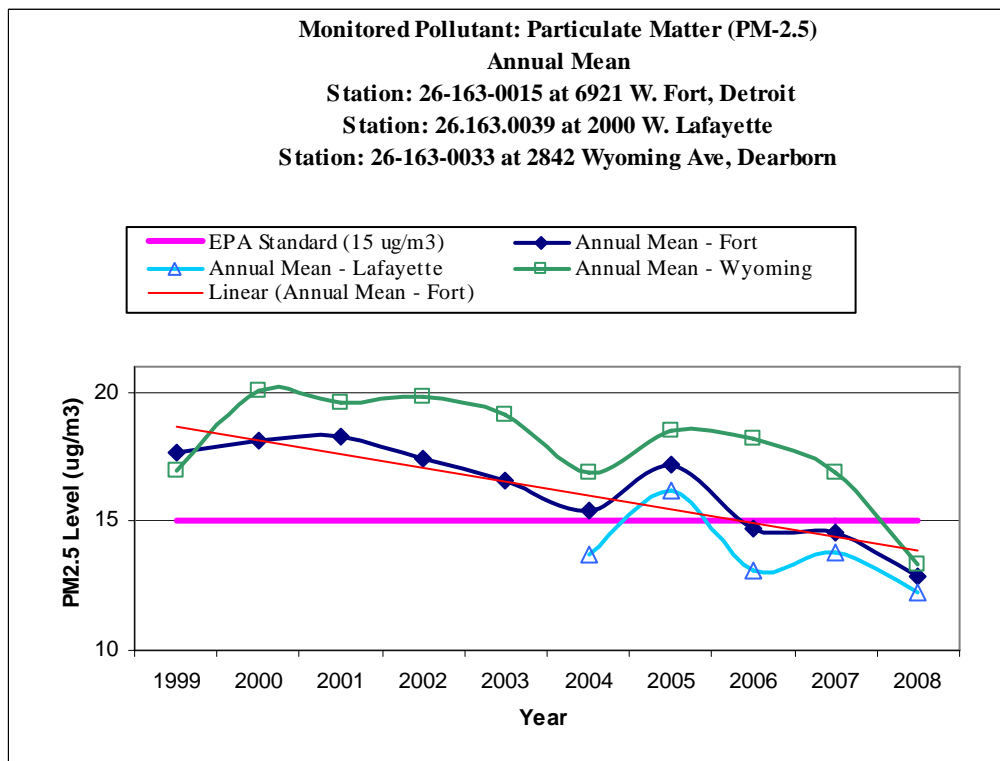
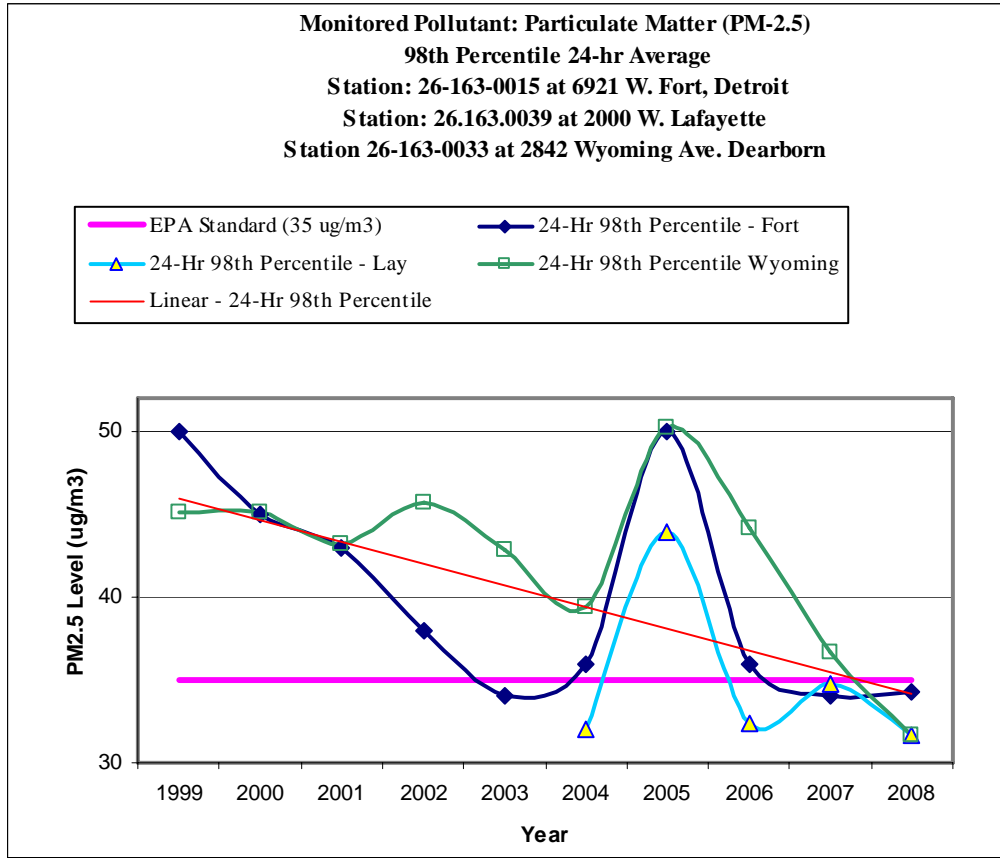
- SEMCOG and MDEQ have been moving aggressively to address air quality concerns, in general, and PM_{2.5}, specifically. This includes programs such as diesel locomotive retrofits, and controls on consumer products.
- EPA is addressing the non-local component of PM_{2.5} pollution through programs such as the Clean Air Interstate Rule, stricter controls on vehicle emissions – including locomotives, and the low-sulfur fuel introduced in 2007. In March 2008, EPA issued a final rule requiring that idle shutdown packages be added when locomotives are remanufactured. This normally occurs every five to 15 years.
- A number of major polluters believed to be significant contributors to the PM_{2.5} emission problem have closed. Mandated enforcement controls are being applied at other local industries such as Sverstal Steel, Marathon Oil and U.S. Steel.

Marathon Oil has announced additional air quality control measures as part of a proposed expansion.

- The SIP analysis addresses the SEMCOG region's attainment of the PM_{2.5} 15 µg/m³ annual standard by 2010. DIFT implementation will be just beginning at that point. Truck traffic will initially decrease as existing businesses are acquired for right-of-way.
- Information on the relationship of vehicular traffic to pollution at monitoring sites demonstrates that vehicular activity in Southeast Michigan can occur without violation of standards. The Livonia monitor is in close proximity to some of the heaviest truck movements in the region and is not violating the PM_{2.5} standards. And, this occurred before the 2007 elimination of sulfur from fuels and more stringent diesel engine requirements.
- There are a number of trucking terminals in the area. To reduce fuel costs, most trucking companies are implementing anti-idling policies.
- While recognizing that MOBILE6.2 emission factors are not designed for localized analysis, an examination of Wyoming between Dix and the new Livernois-Junction Yard west-side gates shows the 2004 PM_{2.5} annual pollutant burden of 0.13 tons would be cut in half by 2015 and reduced further to 0.05 tons in 2030 with a negligible difference between no action and the Preferred Alternative.

In summary, SEMCOG believes it will reach attainment of the annual PM_{2.5} standard by 2010, when the DIFT project is expected to commence. Substantial reductions are expected from industrial sources and data from monitors near these sources have been trending down. Emission factors are trending down faster than truck traffic will increase. Every indication is that concentrations at nearby monitors will continue to trend downward.

Certified 2008 PM_{2.5} data have been submitted to U.S. EPA by MDEQ that show the three monitors of PM_{2.5} in Southwest Detroit at 2842 Wyoming, 6921 West Fort, and 2000 West Lafayette all under the 15 µ/m³ annual standard, at 13.33, 12.85, and 12.23 µ/m³ respectively. Likewise values at these locations were under even the new, stricter 24-hour 98th Percentile standard of 35 µ/m³ with values for 2842 Wyoming, 6921 West Fort, and 2000 West Lafayette of: 31.7, 34.3, and 31.7, respectively. This means they were well under the applicable 24-hour 98th Percentile standard of 65 µ/m³ which is the applicable standard for the 24-hour conformity test.



Therefore, the conclusion is that the proposed project will not cause new air quality violations, worsen existing violations, or delay timely attainment of the annual or 24-hour NAAQS for PM_{2.5}.

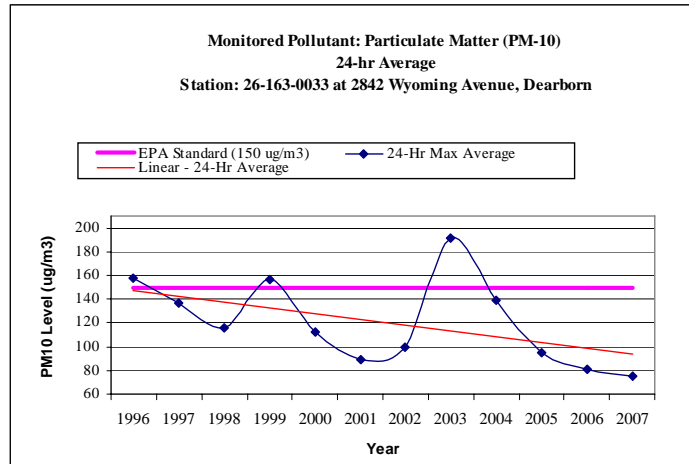
PM₁₀ Hot-spot Qualitative Analysis – The PM₁₀ hot-spot analysis is substantially the same as the PM_{2.5} hot-spot analysis. The DIFT project is of “air quality concern” (Transportation Conformity Guidance, Chapter 1.3) for PM₁₀ because it would represent a transfer point that has “a significant number of diesel vehicles congregating at a single location.” (40 CFR 93.123(b)(1)(iii)).

Background Conditions

MDEQ’s 2006 Air Quality Report presents 2002 EPA data showing that for PM₁₀ Michigan’s sources are: point sources – 34 percent, area sources – 32 percent, non-road vehicles – 20 percent, and on-road vehicles – 14 percent. MOBILE6.2 emission factors for PM₁₀ substantially decline over time.

From 1996 to 2005, there were five exceedances of the 24-hour PM₁₀ standard in Michigan. Each occurred at the Dearborn monitoring station (the closest PM₁₀ monitor to the proposed project). Two exceedances in 2003 and one in 2004 happened when construction occurred near the Dearborn monitor. However, only the 2004 exceedance was considered an “exceptional event” under federal criteria. That concentration was not used for attainment/nonattainment purposes, but the high value for 2003 was used. In spite of that, the decline in PM₁₀ is clearly evident. Many of the actions related to PM_{2.5}, and point sources that are being pursued by MDEQ, will have beneficial effects on PM₁₀, as well.

Detroit Intermodal Freight Terminal Study PM₁₀ at Dearborn Monitor



Source: The Corradino Group of Michigan, Inc. using MDEQ data.

PM₁₀ Project Conditions - Future (2015 and RTP Horizon Year - 2030)

As with PM_{2.5}, a perspective on likely project effects on PM₁₀ concentrations can be gained by examining changes in future emission factors. For the 10 mph speed, that represents truck operation within the Livernois-Junction Yard, and 30 mph, that represents travel on roadway links, PM₁₀ emission factors decline over time as shown below.

- | <u>10 mph</u> | <u>30 mph</u> |
|--|--|
| • 2004 – 0.38 grams/mile = 100% | • 2004 – 0.36 grams/mile = 100% |
| • 2015 – 0.11 grams/mile = 29% of 2004 | • 2015 – 0.11 grams/mile = 28% of 2004 |
| • 2030 – 0.05 grams/mile = 13% of 2004 | • 2030 – 0.05 grams/mile = 14% of 2004 |

As noted in the PM_{2.5} qualitative hot-spot analysis, no intersections will operate at Level of Service D, or worse, and, so, under the guidelines for hot-spot analysis, no intersections are hot-spots.

Gates are expected to generate through idling trucks 0.8 annual tons of PM₁₀ in 2015 and 0.15 annual tons in 2030.

The roadway network associated with the Livernois-Junction Yard would experience a decline in PM₁₀ pollution in the future with or without the project. In the base year 2004, about 2.2 tons of PM₁₀ were generated on the network of key links. By 2015, that would be reduced by one-half to about 1.1 tons, and by 2030, it would be 1.2 tons.

Construction Considerations

The DIFT project involves roadway and terminal construction. However, in accordance with 93.123(c)(5), emissions from construction-related activities can be considered temporary, if they occur only during the construction phase and last five or fewer years at any individual site. This is expected to be the case on the DIFT. Temporary emissions are not required to be included in hot-spot analyses. Implementation of the DIFT project will extend for ten years but consists of a series of elements none of which is expected to last five years.

Conclusions Related to PM₁₀ Qualitative Hot-spot Analysis

The conclusion of this qualitative PM₁₀ hot-spot analysis is that the proposed project will not cause new air quality violations. There are no existing violations. This applies to both the 24-hour standard and the revoked annual standard. This conclusion, subject to interagency consultation, is based on many of the same factors for PM_{2.5} conditions, which are repeated here for completeness:

- SEMCOG and MDEQ have been moving aggressively to address air quality concerns, in general, and PM specifically. This includes programs such as diesel locomotive retrofits, and controls on consumer products.
- EPA is addressing the non-local component of PM pollution through programs such as the Clean Air Interstate Rule, stricter controls on vehicle emissions – including locomotives, and the low-sulfur fuel introduced in 2007. In March 2008, EPA issued a final rule requiring that idle shutdown packages be added when locomotives are remanufactured. This normally occurs every five to 15 years.

- A number of major polluters believed to be significant contributors to the PM_{2.5} emission problem have closed. Mandated enforcement controls are being applied at other local industries such as Sverstal Steel, Marathon Oil and U.S. Steel. Marathon Oil has announced additional air quality control measures as part of a proposed expansion. Reduction of PM_{2.5} at these locations will reduce PM₁₀ as well.
- The SIP analysis addresses the SEMCOG region's attainment of the PM_{2.5} 15 µg/m³ annual standard by 2010. DIFT implementation will be just beginning at that point. Truck traffic will initially decrease as existing businesses are acquired for right-of-way. Again, measures to reduce PM_{2.5} will reduce PM₁₀.
- There are a number of trucking terminals in the area. To reduce fuel costs, most trucking companies are implementing anti-idling policies.
- While recognizing that MOBILE6.2 emission factors are not designed for localized analysis, an examination of Wyoming between Dix and the new Livernois-Junction Yard west-side gates shows the 2004 PM₁₀ annual pollutant burden of 0.18 tons would be cut in half by 2015 and stay at that level through 2030 with a negligible difference between no action and the Preferred Alternative.

In summary, substantial reductions in PM₁₀ are expected from industrial sources and monitors near these sources have been trending down. Emission factors are trending down faster than truck traffic is increasing. Every indication is that concentrations at the Dearborn monitor will continue to trend downward as they are today. Therefore, the conclusion is that the proposed project will not cause new air quality violations of 24-hour NAAQS for PM₁₀.

1.4.4.4 Construction Impacts – Preferred Alternative

Construction for the DIFT would represent a series of projects spread over time: 1) land acquisition and clearing one section at a time; 2) site development; and, 3) roadway improvements at I-94 and at Central Avenue. Therefore, the provisions of 40 CFR 93.153 regarding general conformity do not apply.

It is anticipated that most construction related to ground disturbance would occur in one year. MDOT's Standard Construction Specification Sections 107.15(A) and 107.19 would apply to control fugitive dust during construction and cleaning of haul roads.

Construction mitigation is not required, but several voluntary measures are outlined in the Community enhancements section of the Green Sheet that follows Section 5. Included are strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits. For example, agreements that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation. Also, technological adjustments to construction equipment, such as off-road dump trucks and bulldozers, could be an appropriate strategy. These technological fixes could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of ultra-low sulfur diesel will be in effect for non-road vehicles in 2010.

1.5 Noise and Vibrations

Receptors with sensitivity to noise exist adjacent to the Livernois-Junction Yard area, near the CN/Moterm terminal, and along several residential streets that experience truck traffic at these and the CP/Oak terminal. Analysis was performed to determine whether any areas qualify for noise abatement in the loudest hour of the day. It found that the number of new intermodal trains at the Livernois-Junction Yard would be expected to go from two in 2004 to 28. These trains come in and go out in all directions, so these volumes do not represent trains on any one rail link.

Preferred Alternative – Noise and Vibrations

The Preferred Alternative will include security walls along the north and south sides of the Livernois-Junction Yard, where residential uses are adjacent. This will mitigate noise. Along the north side of the yard, along Kronk Street where the active tracks are relatively close to homes, the intermodal train increase is estimated to be from four in 2004 to ten in 2030. In this location, the security wall would extend 1,700 feet at 12 feet high to control noise. Rail horn use would cease at Lonyo and Central as the former would be closed and the latter would pass under the rail yard. Perceptible noise level reductions will occur on Livernois Avenue and Dragoon Street south of Dix to I-75 due to reduced truck traffic there.



Example of Security Wall in Residential Area at Nearby Melvindale Terminal

The conclusions related to vibrations with the Preferred Alternative is that there could be perceptible vibrations at the Beard School less frequently than once per hour during the school day (ten new intermodal trains with the Preferred Alternative in 2030 routed past the school). No mitigation is proposed because vibrations occur throughout the school day even in the absence of intermodal train activity.

1.6 Threatened and Endangered Species

The Preferred Alternative will have no effect on any state or federally listed Threatened, Endangered, or Special Concern plant or animal specie.

A snail called the heath helicellid, *Xerolenta (=Helicella) obvia*, has been found in the Detroit area associated with railroad yards, including the Tri-modal facility on Dix and within the Livernois-Junction Yard. It has



Xerolenta obvia

been considered an agricultural pest in Europe especially of grains. It could become a pest in Michigan. Attempts are underway to eradicate the populations found so far. Property owners will need to be made aware of this potential pest during DIFT project development.

1.7 Waterways/Water Quality/Floodplains/Coastal Resources

1.7.1 Waterways

No waterways or waterbodies including lakes, ponds, perennial streams, and intermittent streams would be affected by the Preferred Alternative.

1.7.2 Water Quality

The Preferred Alternative will increase surface runoff on-site, but it will be directed to an engineered on-site collection system to ensure that future flow rates off the site do not increase. There are no special pollutants of concern associated with intermodal operations (see Section 1.14 Emergency Response Controls). The flow will be subject to NPDES permitting. The railroads will be responsible for applying for these permits and meeting their conditions. Paving the yard will result in significantly less erosion and silt carried to local roads clogging the local storm drainage system. Likewise, reduction in dirt carried to local roads by vehicle tires and/or blown there will benefit water quality.

1.7.3 Floodways and Floodplains

The Preferred Alternative will not affect floodways or floodplains.

1.7.4 Coastal Resources

The Preferred Alternative is outside Michigan's Coastal Zone and will have no effect on resources therein. Likewise, it is not subject to the Great Lakes Coastal Barrier Act. There will be no effect on any coastal barrier, critical dunes, or high risk erosion areas.

1.8 Wetlands

The 400 square foot (less than 0.01 acre) Palustrine Emergent wetland identified at the southeast corner of Central Avenue and the railroad overpass, at the south limit of the current yard, will be lost under the Preferred Alternative. MDOT, through a cooperative agreement with MDEQ, will build or restore compensatory mitigation for unavoidable wetland impacts using a "Moment of Opportunity" site allowed under the General Permit Category of Part 303 of the Michigan Natural Resources and Environmental Act 451 (1994, as amended).



Wetland Area Affected

The project is in compliance with Executive Order 11990, "Protection of Wetlands." It has been determined that there is no practicable alternative to the proposed action, and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

1.9 Historic and Archaeological Resources

Impacts on properties on or eligible for the *National Register of Historic Places* (Section 106 of the National Historic Preservation Act properties) were reviewed. These resources are also afforded protection under Section 4(f) of the Department of Transportation Act of 1966 if there is a “use” of the property (see Section 6 of this FEIS). Adverse effects⁹ on historic resources are avoided when prudent and feasible. When it is not prudent and feasible to avoid adverse effects, they are minimized or mitigated. The Preferred Alternative has adverse effects. So, measures have been developed in consultation with the State Historic Preservation Officer (SHPO), the community, and the Advisory Council on Historic Preservation in Washington, D.C. That information is presented in Section 6 of this document, which covers impacts to Section 4(f) properties.

Archaeological Resources – Research and field review found no known *National Register* eligible archaeological resources at any intermodal terminal for any alternative. However, at the time of the DEIS, the SHPO agreed with the assessment that field investigations at two archaeological sites at the Livernois-Junction Yard (**Jacques Baby Mill** and the **Michigan Central Stockyard Hotel**) should be conducted to determine whether archaeological deposits exist prior to any construction (see letter dated November 22, 2004 in Appendix A, Section 2). Subsequently, it was determined that the Preferred Alternative would avoid the Jacques Baby Mill site and recent construction activity by the railroad in the vicinity of the Michigan Central Stockyard Hotel within the Livernois-Junction Yard has likely further buried the site under fill. DIFT activity is expected to add more fill, protecting the site. (See Section 4.13.5.) Ground disturbing activities will not be conducted in this area. Construction plans will specify that excavation beneath existing ground disturbance is prohibited in this environmentally sensitive area. A map depicting the environmentally sensitive area will accompany the plans.

Therefore, as a result of these consultations, it has been determined and agreed that no historic properties are affected for archeological resources by this undertaking. Finally, in the event any unknown archaeological resources are accidentally identified during the execution of the work, it is also agreed that the site is only important for the information it may reveal and not for preservation in place.

Above-ground Resources – The Preferred Alternative will have an adverse effect on the **Michigan Box Company** by causing its removal. A Memorandum of Agreement (MOA) related to this property is included in Appendix C. Impacts to the property are addressed in Section 6 of this FEIS, which is the Final Section 4(f) Evaluation for the DIFT Project. Also, the SHPO stated

⁹ Adverse effects occur when a project alters the characteristics that qualify the property for the *National Register of Historic Places*.

What is the National Register of Historic Places (NRHP)?

The NRHP, established under the NHPA of 1966, is the official list of cultural resources worthy of preservation maintained by the National Park Service. Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

What is the National Historic Preservation Act (NHPA)?

Legislation passed in 1966 establishing the federal government’s policy on historic preservation and the national historic preservation program through which that policy is implemented.

What is Section 4(f)?

Section 4(f) of the Department of Transportation Act of 1966 states that no transportation project should be approved which requires the “use” of any publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless there is no feasible or prudent alternative to use of such land.

in a letter dated June 20, 2005 (Appendix A) that the “construction of a barrier wall alongside the railroad yard across the street from the house [6332 John Kronk] has the potential to result in an Adverse Effect on the house through its height, design, and placement. Therefore, any alternative that includes the construction of such a wall must include the condition that the plans for the barrier wall and any landscaping are subject to review and approval by the SHPO.” Since that time the SHPO has found that there would be no adverse effect (see MOA, Appendix C).



6332 John Kronk Streetscape, View to south-southwest toward rail yard from house (house is on the right)

Traditional Cultural and Religious Properties – There are no known traditional cultural and/or religious properties claimed or reported by any other cultural group within the area of potential effect. Project early coordination letters were sent to the twelve (12) federally recognized Tribes of Michigan seeking comments regarding any issues and/or special concerns relating to this undertaking. Subsequent to these tribal notifications, no requests for consultation or identification of any Traditional Cultural and/or Religious Properties were received from any of the twelve federally recognized Tribes. Therefore, because there are no reported impacts to traditional cultural and/or religious properties and no request for consultation caused by this undertaking regarding any such properties, no historic properties are affected and the Section 106 process pertaining to traditional cultural and/or religious properties has been completed.

1.10 Parkland and Public Recreation Land

The Preferred Alternative will not have any direct or indirect effect on any parkland, including during construction.

1.11 Visual Conditions

A wall will be built for security on the north side, and part of the south side, of the expanded Livernois-Junction Yard. A new perimeter road is also part of the plan on the terminal’s north boundary. These features will shield the view of the terminal and provide a more visually pleasing setting than the existing conditions. Several abandoned properties, salvage yards, and industrial facilities will be removed and new intermodal facilities will be built in their place.



Area on Kronk, near Stecker, that would be taken by the Preferred Alternative.

1.12 Contaminated Sites

A Project Area Contamination Survey (PACS), or Level 1 environmental assessment, was conducted for the DIFT project.¹⁰ The purpose of the PACS was to investigate parcels of property potentially affected by the project for the presence of environmental contamination and to determine the need for further investigation and, where needed, mitigation measures. Because there was no development outside the rail terminal under the No Action Alternative, it was not the subject of the PACS.

More than five dozen sites were investigated for contamination. The federal environmental records and databases searched were:

- CERCLIS (Comprehensive Environmental Response, Compensation, and Liability, Information System); NPL (National Priorities List [Superfund]);
- RCRIS (Resource Conservation and Recovery Information System);
- CORRACTS (Corrective Action Report); and,
- ERNS (Emergency Response Notification System).

State environmental records that were reviewed include:

- SHWS (State Contaminated Sites);
- SWF/LF (Solid Waste Facilities Database);
- LUST (Leaking Underground Storage Tanks);
- UST (Underground Storage Tanks);
- BEA (Baseline Environmental Assessment);
- Indian UST (USTs on Indian land); and,
- HIST LF (Inactive Solid Waste Facilities).

These databases and lists conform to the requirements of ASTM E1527-00 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process).

The PACS found:

- No NPL sites;
- Two CERCLIS sites, both of which were NFRAP (No Further Remedial Action Planned) sites – ANR Freight System (Crown Enterprises), 3685 Central Avenue, and Central Transport, Inc., 4440 Wyoming;
- No RCRIS TSD facilities (Treatment, Storage or Disposal);
- Thirty-one RCRIS hazardous waste generators;
- No CORRACTS sites;
- Four ERNS sites;
- Nine Michigan Contaminated Sites List sites; and,
- Twenty-eight LUST sites.

Based on interviews with property owners and occupants, site visits, and record reviews, each of the sites was rated low (L), medium (M), or high (H) for potential environmental contamination.

¹⁰ “Project Area Contamination Survey,” The Corradino Group, August 2004.

L (Low): These sites include known current or former hazardous or petroleum handlers that are not currently being investigated or remediating an environmental problem. Examples of this category are gas stations that have been designated “closed LUST” sites and businesses that handle hazardous materials or petroleum.

M/H (Medium/High): These sites: have a reasonable chance of contamination on a given site. Examples of this category include gas stations that are identified by MDEQ as open LUST sites; former gas stations closed prior to December 1988 (the date of current federal and state UST regulations); sites on the Michigan Central Contaminated Sites List; and, sites that exhibit indications of improper handling of materials, such as the presence of stained soils, improperly stored materials, etc., or other evidence of a recognized environmental condition. These sites may need sampling and testing to characterize their environmental condition.

A limited Preliminary Site Investigation (PSI) was also conducted as part of the environmental assessment process. The purpose of the PSI was to further investigate parcels of property identified in the PACS as having known or suspected contamination. Typically, the PSI consists of on-site sampling of soils, groundwater, and/or surface water and laboratory analysis of samples. The PSI conducted for the DIFT Project consisted of soil borings in public rights-of-way near the Livernois-Junction Yard, the CP/Expressway and CP/Oak terminals in Detroit, because landowners would not grant permission to collect samples on their properties. The soil borings in the public rights-of-way provided a means of examining subsurface soil conditions to identify signs of pervasive contamination and backfilled clay pits, which have been well documented in the vicinity of the Livernois-Junction Yard. The findings of the PSI did not reveal any indications of pervasive soil contamination or fill. No soil borings were conducted in Dearborn for the Livernois-Junction Yard.



Geoprobe Vehicle Used for Soil Sampling

Twenty-seven properties rated M/H will require PSIs to assess potential contamination and to determine if cleanup or mitigation is required. Impacts will be minimized by disposing contaminated material properly and by protecting workers. As the DIFT project goes forward, a Risk Assessment Plan will be developed to include a Worker Health and Safety Plan. If monitoring wells are present, they will be abandoned properly. All contaminated areas will be marked on the plans. A Utility Plan will also be prepared to ensure no deep utility cuts will impact and/or spread existing contamination.

1.13 Indirect and Cumulative Impacts

The indirect (secondary) and cumulative effects associated with the proposed improvements to intermodal terminal development are presented here. The basis upon which the analysis was conducted is defined in federal guidance, which indicates the following:

Indirect (secondary) effects – Caused by an action (intermodal terminal expansion) and occurring later in time or farther removed in distance, but occurring in the reasonably foreseeable future (40 CFR 1508.8(b)).

Cumulative effects – Resulting from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7).

Indirect and cumulative impacts for the Preferred Alternative are summarized below. Additional information, at the end of this section, has been developed in response to comments on the DEIS.

- **Mobility:** While there will be an increase in traffic due to both the growth in intermodal activity and the stimulated additional development, there are no negative congestion/mobility effects expected either on major arteries or local neighborhood streets.

It should be noted that under the Preferred Alternative, where intermodal operations of three railroads are to be consolidated at the Livernois-Junction Yard, the terminals at CP/Oak, Melvindale and Willow Run are to continue to be used for shipping freight by other means than intermodal. That activity would be associated with a smaller volume of truck traffic than if the terminal was to continue to serve intermodal.

- **Economic Impacts:** It is expected that local businesses will develop or expand in several sectors related to the growth in intermodal transportation. Likewise, such change will be associated with an increase in local jobs with greater income levels and buying power. This should then help grow the tax base.
- **Land Use Changes:** Land use changes are expected to accelerate with growth in intermodal transportation and the associated and improved economic stimulus. Such growth could be associated with the mixing of land use types that are unwanted, i.e., industrial/commercial with residential. This can be avoided by local units of government applying already-existing land use/zoning principles, like those in the City of Detroit's Master Plan of Policies.
- **Air Quality:** Increased development will likely increase vehicular activity. But, results of the analysis of direct/indirect air quality impacts indicate that such increases will not cause standards to be violated. This will happen through government actions that are consistent with the planning policies in effect in each jurisdiction.
- **Cultural Resources:** Historic districts/properties may experience adverse effects from new private sector development associated with the growth in intermodal activity that could occur adjacent to their boundaries if already-existing local governmental controls are not applied.

- **Community Cohesion:** Development stimulated by intermodal activity/investment may create opportunities for use of abandoned residential parcels (the City of Detroit owns thousands of such parcels as a result of tax delinquencies). This development could lead to unwanted mixing of land uses if controls in the master plans of various cities are not implemented. For example, logistics businesses to support intermodal activity could locate (if not regulated) along or near the Livernois-Junction Yard, on tracts of land that are tucked in residential areas. If that is allowed to occur, increased truck activity would have a negative effect on the surrounding community.
- **Noise:** Traffic volumes and ambient noise levels will increase as economic conditions improve. Negative effects are not expected and can be avoided with care by the developer and local government agencies in locating this increased development away from sensitive uses. The DRIC project would reconfigure access along I-75 in the Livernois/Dragoon area. These changes could lead to a significant drop in truck access in the area north of I-75.
- **Water Quality:** Increased development could lead to more impervious surface runoff and pollutant load. This could be offset by reclaiming properties now affected by contaminated materials for increased economic activity. Thousands of such properties exist, are abandoned, and have not been remediated. Use of some of these properties by DIFT-related activities will cause remediation, which will improve the quality of the runoff into surface and subsurface drainage infrastructure.

For the Preferred Alternative, the conclusions related to indirect and cumulative impacts, cited above, are amplified here in response to comments on the DEIS.

- **Mobility –** A West Detroit Junction railroad project will facilitate Amtrak train movement in Southwest Detroit.

Michigan Avenue was recently reconstructed, substantially improving its driving surface and improving travel speeds. MDOT has also been reconstructing Fort Street from the Ambassador Bridge, south across the Rouge River. The reconstruction of the bridge over the Rouge River will require a two-year detour of vehicular, bicycle and pedestrian traffic to the Dix Road bridge to the north.

The Ambassador Bridge Gateway Project, scheduled to be completed in 2009, was planned to provide direct access between the Ambassador Bridge and the interstate system. In the past, many trucks lost their way and “wandered” around Southwest Detroit on local streets trying to get to or from the Ambassador Bridge. The Gateway Project will substantially reduce the chance trucks will use local streets.

The Detroit River International Crossing (DRIC) project is to provide a new bridge to Canada. The crossing will connect to I-75 between the Rouge River and the Ambassador Bridge. It will provide an alternative to the Ambassador Bridge for traffic to/from Canada. A new crossing to Canada will avoid mobility restrictions between Southeast Michigan and Ontario, Canada. The DIFT project has independent utility from the DRIC.



Future Detroit River Crossing

The biggest change that could be brought by the DRIC to the DIFT would be closing the Livernois-Dragoon interchange with I-75. This would reinforce the DIFT intention to focus truck traffic on I-94 to Livernois and Wyoming Avenues.

Whether or not the DRIC Study produces a new crossing, the Ambassador Bridge owners are pursuing construction of a replacement span. It would directly connect to the plazas in the U.S. and Canada that are being expanded.

The proposed project to upgrade the Blue Water Bridge Plaza would have a negligible effect on the Detroit -Windsor area, including the DIFT project, because there will be neither cost, nor travel time savings sufficient to cause long distance diversions.

- Economic Impacts - It is expected the reconstruction of Michigan Avenue by MDOT will foster economic redevelopment there.

The Ambassador Bridge Gateway Project was planned to divert truck traffic from Fort Street to direct ramp connections to the interstates. Historically, all trucks coming into the U.S. got to I-75 southbound via Fort Street. Some of these trucks likely take advantage of the numerous truck-oriented businesses along Fort Street. These businesses will see fewer trucks passing by.

- Land Use – Without the DIFT project there is no indication the pattern of industrial/trucking/scrap yard uses will change. Though residential rehabilitation is occurring in Southwest Detroit, this is not the case nearer the Livernois-Junction Yard. Several homes on the north side of John Kronk, originally counted as relocations in the DEIS, no longer exist.

There is a community sense that appropriately placed vegetation can have a long-term positive land use effect on air quality – via the Sverstal Consent Agreement. By providing a buffered “edge” to the railroad terminal, the project will be a better neighbor than the rail yard is today, and help stabilize land uses in the area. There are few such buffers in the area now.

- Air Quality – A number of actions are being taken regionally to improve air quality. Actions related to U.S. Steel, Sverstal Steel and Marathon were noted earlier. Dust control plans have been instituted in some instances. The Ambassador Bridge Gateway

project will provide direct connections for trucks to the freeway system, eliminating Fort Street as the access to I-75 southbound. The DIFT project promotes the use of rail, rather than roads to move freight and reduce both on-terminal and local roadway emissions. Insofar as increased development accompanies these projects individually and/or collectively over time, SEMCOG has forecast that cleaner engines and fuel will outstrip increased travel.

Over the long term, increasingly stringent EPA controls announced in March 2008 on new and remanufactured locomotives (remanufacturing normally occurs every five to 15 years) and on locomotive idling will substantially improve CO₂, NO_x and PM emissions.

It is also important to recognize what effects may occur in one key regional area: wealth distribution/redistribution, which occurs with shifts in population, employment and tax base. Shifts in tax base occur as land is developed for new housing and businesses. Shifts also occur within existing built-up areas as residents and businesses move. Both processes usually result in less taxable property in older communities that have little undeveloped land and room to grow.

Market-driven actions and supporting public policy decisions underlie the dynamics of the wealth distribution pattern in the Detroit-centered region. All of these dynamics operate separately from the Preferred Alternative. These dynamics include, as cited by SEMCOG in its report entitled *Land Use Changes in Southeast Michigan, Causes and Consequences*, "...residential segregation by race and income, federal tax subsidies for home mortgage interest and property taxes, school funding and quality, crime and public safety, societal ideals of lifestyle and urban design, constitutional protections of private property rights, infrastructure financing policies, and extent of personal vehicle ownership and use."

The DIFT Preferred Alternative has the ability to respond to this pattern in a positive way. The DIFT can have greater positive than negative impacts – direct, indirect and cumulative, by building on the transportation and industrial strength of the areas in which intermodal terminals function; by making improvements to move terminal traffic out of residential areas; by constructing walls that provide terminal security and reduce noise; by paving surfaces that are unpaved; by creating jobs in the local area around the terminal; and, by helping residents be prepared to take those jobs.

The DIFT can also be measured as a positive proposal by using a number of principles of Governor Granholm's Land Use Leadership Council, which promote use of existing infrastructure in communities to create public-private investments to address economic and other quality-of-life issues. These principles are:

- Supporting efforts to make Michigan cities more livable by expediting the reuse of abandoned properties, controlling blight, encouraging private investment, encouraging mixed-use development, improving transportation options, supporting a full range of housing options, and attracting and retaining residents who can contribute to the viability of our urban core areas.
- Making better use of existing public infrastructure by encouraging public and private investment in already developed areas.
- Creating incentives to encourage interagency and intergovernmental cooperation in addressing land use issues and public investments of more than local concern.

- Encouraging private investment in already developed areas by removing governmental barriers and creating incentives.
- Identifying “commerce centers” where infrastructure is already serving relatively dense populations to guide the future investment of state resources to support private investment and development.

1.14 Emergency Response Controls

Each of the Class I railroads operating intermodal freight terminals in Southeast Michigan has Emergency Response Plans in place to address transportation incidents involving U.S. DOT-regulated materials (hazardous materials, hazardous substances and hazardous wastes) and oils. These plans prescribe procedures to respond to spill incidents from derailments, leaks, fuel spills, etc.

Regulations governing Emergency Response Plans include OSHA’s (the U.S. Occupational Safety and Health Administration) Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements, U.S. DOT’s 49 CFR 130, the Oil Pollution Prevention and Response regulations (40 CFR Part 112) and other programs of the Clean Water Act. Components of Emergency Response Plans include pre-emergency planning coordination with local agencies; assignment of personnel, their roles and responsibilities; hazard recognition; specialized personnel training; site security and control; emergency notification procedures; spill response equipment; and, emergency medical treatment provisions.

Spill prevention and response at fixed facilities (including railroad terminals) that store quantities of oil and hazardous materials above threshold amounts are addressed with Spill Prevention Control and Countermeasures Plans (SPCC) and Stormwater Pollution Prevention Plans that have been prepared by the railroads. These plans focus on prevention of releases to streams and other water bodies.

These procedures are part of the Preferred Alternative.

1.15 Terminal Security

Security walls, fencing, other physical barriers, and electronic systems (e.g., sensors, alarms) are part of the Preferred Alternative to protect areas within the terminal from unauthorized access. Along Kronk Street between Martin Street and Livernois Avenue, the security wall will also act to abate noise. This 1700-foot wall would be 12 feet tall above the existing retaining wall. Access control points for personnel and vehicles to move through the terminal boundary lines (such as gates, doors, guard stations, and electronically controlled or monitored portals) are also included in the conceptual design of the Preferred Alternative. Measures that will enhance these boundaries/access points include clear zones on both sides of fences, security lighting, locks, closed-circuit television (CCTV) systems and signage.

While the number of access points will be kept to a minimum, adequate vehicle access points are planned for maintenance and emergency operations. To prevent obstructions within the gate path and protect gate equipment, the design concept includes proper drainage grading; planned gaps in curbs; installation of concrete channels or mow strips below the gate path; and, use of bollards.

Security effectiveness of the perimeter area will be enhanced by the provision of clear areas on both sides of the wall to facilitate surveillance and maintenance of the wall and deny cover to vandals and trespassers. Suggested clear distances range from 10 to 30 feet, within which there should be no climbable objects, trees, or utility poles abutting the wall nor areas for stackable crates, pallets, storage containers, or other materials. Likewise, the parking of vehicles along the wall will also be prevented. In addition, landscaping within the clear area will be designed to reduce potential hidden locations for persons, objects, fence damage, and vandalism.

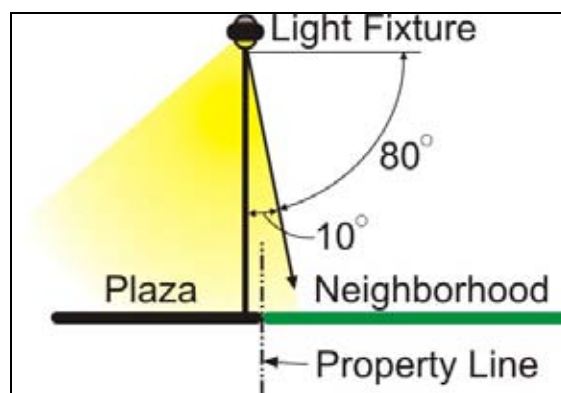
Lighting of the area on both sides of gates, and selected areas of walls, will be provided. Similarly, sufficient lighting will be provided for areas in which a CCTV camera is intended to monitor activity. Reduced lighting, or sensor-activated lighting, may be considered in areas which have minimal traffic in the off-peak hours. CCTV monitoring will be considered, particularly for low-traffic gates and maintenance access points that are removed from principal activity areas.

Signage will be posted on certain security boundaries and at selected access points. Signs will be located such that when standing at one sign, the observer will be able to see the next sign in both directions. The use of signage, even in some non-required locations, will provide a deterrent by warning of the boundary as well as for notification of the consequences for violation. Many locations with access control or CCTV equipment may warrant signage for either directional or legal purposes (e.g., “Alarm Will Sound If Opened,” “Authorized Personnel Only,” “Notice: All Activities In This Area Are Being Recorded via CCTV,” etc.).

VACIS (Vehicle and Cargo Inspection Station) is an X-ray-type device that is able to see into containers/trailers to detect any unusual cargo. VACIS systems are in operation by each of Canadian Pacific and Canadian National Railroads to screen trains on the Canadian side of the international border before they enter the U.S. Consideration by all DIFT participants (public and private) will be given to installing a VACIS (or similar) system at the Livernois-Junction Yard with the Preferred Alternative.

1.16 Terminal Lighting

Lighting will increase with the Preferred Alternative for security purposes. To the extent practical, lighting in the area of Cabot, Lawndale, and Trenton Avenues, along east Kronk and the area south of Dix Avenue (at the central/east end of the terminal) will be directional to minimize glare in these residential areas. There is already street lighting in each of these areas.



Directional Lighting at Terminal Edge

1.17 Soils

The former clay pits near the Livernois-Junction Yard will need to be tested to determine what type of soil/materials were used to infill the area. The potential of the existence of contaminated materials causes this need.

1.18 Permits

Construction activities for the Preferred Alternative will involve obtaining permits in several areas to ensure appropriate steps are taken to protect existing/remaining resources. Impacts on wetlands will require permits under federal and state law:

Federal

- Executive Order 11990 (Wetland Protection)
- Clean Water Act of 1977, as amended: Section 401, State Water Quality Certification; Section 402(p), National Pollutant Discharge Elimination System, stormwater permit; and, Section 404, related to dredge and fill.

Federal Executive Order 11990 (Wetland Protection) states that when federal funds are used on a project, impacting any wetland (regardless of size) requires that there be no practicable alternative to impacts on that wetland.

Section 401 of the Clean Water Act of 1977, as amended, requires certification from the state's water quality agency (MDEQ) to ensure that the discharge of dredged or fill material complies with the provisions of the Federal Water Pollution Control Act.

Section 402(p) of the Clean Water Act and subsequent regulation under 40 CFR 122.26 requires a National Pollutant Discharge Elimination System Storm Water permit for construction projects that involve land clearing of one acre or greater. The intent of these requirements is to reduce impacts on water quality during and after construction.

State

Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended:

- Part 55, Air Pollution Control
- Part 303, Wetlands Protection

All bituminous and Portland Cement concrete proportioning plants and crushers must meet the requirements of the rules of Part 55 of Act 451.

A Part 303 wetland permit is required for any wetland disturbance, permanent, as well as temporary. At the Livernois Yard, MDOT, through an agreement with the MDEQ, would provide wetland mitigation using a "Moment-of-Opportunity" site allowed under the General Permit Category for Part 303.

Final mitigation measures proposed in areas requiring the above permits will be developed in consultation with the appropriate agencies, and will be included in the design plans and permit applications for implementing the project. Section 5 of this FEIS summarizes mitigation measures.

1.19 Energy

Energy would be used to construct the Preferred Alternative. Fuel savings should be realized in the long term due to improved efficiencies in the movement of freight on rail to, from, and within intermodal yards. There will also be improved efficiencies in the movement of freight on trucks to and from intermodal yards adding to fuel savings, consistent with the reduction of vehicle miles of travel in shifting freight from truck to rail (each intermodal rail car is the equivalent of three trucks).

1.20 Implementation Cost

Estimated construction costs for the Preferred Alternative (in 2008 dollars) are \$395 million. Community enhancement costs add \$11 million (Table 4-18). Another \$123 million is required for right-of-way and relocation. These costs will be borne by both government and the railroads. The total project cost is \$529 million. Accounting for the years in which the dollars will actually be spent means that inflation adds another \$121 million for a year of expenditure project cost of \$650 million (at an estimated level of confidence of 70 percent).

1.21 The Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

This project is a result of local and regional, as well as statewide comprehensive planning. Present and future freight needs were considered and are reflected in the Preferred Alternative that address the proposed project's purpose and need. It is concluded that the local short-term impacts and use of resources by the Preferred Alternative¹¹ are consistent with the maintenance and enhancement of long-term productivity for both the local (Southeast Michigan) area and the State of Michigan. Project construction will result in increased use of a more efficient mode – rail – over the long term, compared to the No Action Alternative.

1.22 Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action

To date, the DIFT studies have cost \$7.5 million. There would be no additional cost if no government action is taken. Implementation of the Preferred Alternative involves a commitment of a range of natural, physical, human, and fiscal resources. Land used for expansion/construction of a proposed terminal is an irreversible commitment of land.

Considerable amounts of fossil fuels, labor, and construction materials such as cement, aggregate, and bituminous material will be expended for this project. Additionally, large amounts of labor and natural resources will be used in the fabrication and preparation of construction materials. Their use will not have an adverse effect upon the supply.

Construction of the Preferred Alternative will require a substantial expenditure of state, federal, local and private funds. The commitment of these resources will result in an improved freight transportation system, providing improved efficiency, safety, and savings in time. These are expected to outweigh the commitment of these resources.

¹¹ In the context of a major transportation improvement, short-term use of the environment means use of resources such as fossil fuels, building materials, petroleum, and the like, for a few years, not for an indefinite period.

1.23 Areas of Controversy

Project controversy originated early in the project over the number of trucks forecast to use the project at the Livernois-Junction Yard where all four railroads would consolidate their intermodal operations. Revised forecasts and engagement with the community reduced the concern, but controversy lingered when the scope of the Practical Alternatives was expanded to include the potential expansion of the existing Oak and Moterm terminals. The latter is located in Ferndale and the expansion potentials were to the west into a neighborhood, to the east into a major employment center and tax-base resource for the community, and to the south into the Michigan State Fairgrounds (which had seen earlier rail use). Use of the State Fairgrounds was included as a site for a Practical Alternative. As the comments in Section 7 indicate, there was substantial concern about use of the Fairgrounds.

Southwest Detroit near the Livernois-Junction is an area of high concentration of minorities and low-income peoples. So environmental justice is an issue. This took the form of concern about air quality and health effects. The analysis finds no air quality effects, but there remain concerns about truck traffic and health effects.

The remaining principal areas of controversy, in addition to issues arising out of property acquisition, are impacts to the tax and employment base, impacts to the sustainability of the areas near the terminals, and air quality impacts.

They have been addressed with the Preferred Alternative through mitigation and community enhancements, and in the Pre-Development Plan Agreement with the railroads (see Section 1.27 and Appendix F).

1.24 Public Involvement

Public and agency input was vital to the development of the alternatives, the analysis of impacts, the selection of the Preferred Alternative and the measures to minimize harm that have been developed to mitigate project impacts. Section 7 of this FEIS covers: early coordination; the public meetings conducted during the course of the project that led to the public hearing, including the results of interviews with individuals and groups with project interests in each terminal area; coordination with Native American Groups; comments received from the public at the public hearing and during the comment period and the responses to them; and, the comments of agencies and other entities and responses to them.

Public Hearings were held June 13, 14, 15 and 16, 2005, at LASED Youth Center, IBEW Local 22, the Holiday Inn in Grandmont, and the Michigan State Fairgrounds, respectively. Total attendance at the meetings was approximately 290 persons. The numbers of comments received are as follows:

- 34, 23, 15, and 43 people, respectively over the four nights, speaking at the public hearing or giving oral comments to court recorders (total 115 persons – note that some were repeat speakers over the four hearings)
- 28 comment forms turned in at the hearings or received before the close of comments on March 12, 2004.
- Numerous signatures on petitions
- 10 e-mails
- 13 comments recorded onto the web site
- 26 letters from individuals, groups, or public entities

- 12 letters from resource agencies and elected officials

Full copies of all comments (including the public hearing transcript) can be reviewed at the locations listed in the preface to this FEIS.

Section 7 addresses comments received from the general public and a number of organizations. Comments received from agencies and government entities are treated separately in Appendix A.

1.25 Unresolved Issues

There are no substantive unresolved issues.

1.26 Project Status

This project is listed in MDOT's *2005-2030 State Long-Range Transportation Plan*. It is on SEMCOG's *2030 Regional Transportation Plan (RTP)*, with construction beginning in 2010. With its inclusion on the plan, it was shown to be in conformity with the Clean Air Act. After this Final EIS is completed, a Record of Decision (ROD) for the project will be requested. Its signing allows the project to advance to design.

Due to modifications that are recommended at the I-94 interchange with Livernois Avenue, an Interstate Break-in-Access Justification Report (IAJR) is being prepared to document the effect of the proposed access changes on the interstate system and affected local roads. Analysis performed for the IAJR has been incorporated into this FEIS.

The Canadian National Railway Company; Canadian Pacific Railway Company; Conrail; CSX Intermodal and CSX Transportation, Inc.; Norfolk Southern Railway Company and Triple Crown Services Company; and the Michigan Department of Transportation have signed a Pre-Development Plan Agreement (Appendix F). The signature of that document was a necessary condition for the signing of this FEIS. It refines the understandings and intentions of the parties with respect to certain terms of the DIFT.

Subsequent to the Record of Decision, a detailed DIFT Development Plan (20-year period) agreed to by all the parties, will be signed. Thereafter, Program Agreements (rolling five-year periods) will lead to individual Project Agreements executed by MDOT with individual railroads.

1.27 Additional Mitigation or Modifications

The final mitigation package will be reviewed by division representatives on the MDOT project study team, in cooperation with concerned state, federal, and local agencies.

Some changes to the early mitigation concepts discussed in this document may be required when design proceeds. These mitigation concepts will be implemented to the extent possible. Where changes are necessary, they will be designed and field reviewed before permits are applied for or construction begins.

These mitigation concepts are based on the best information available through October 2009.

It is noted elements that are part of terminal design (paving, lighting, security walls, Central Avenue underpass) are covered in a Pre-Development Plan Agreement included as Appendix F.

The PDPA is the basis of more detailed agreements, to be developed/executed with individual railroads once the Record of Decision is issued. In those areas around the terminals where Federal Highway Administration Noise Abatement Criteria are exceeded due to terminal activity, the security walls will be designed to reduce terminal noise a minimum of 5 dBA.

Community Mitigation and Enhancements

In response to a proposal advanced by local community members who organized themselves into a group called “Working Group for a Community Benefits Agreement on the Detroit Intermodal Freight Terminal Project” MDOT has agreed to participate, along with FHWA in a set of improvements in the community related to the DIFT project.

- In the vicinity of the DIFT project area, adjacent local roads will be evaluated to determine what improvements are needed to the roadway including paving, sidewalks, streetscaping, and lighting. MDOT will coordinate with the City of Detroit to determine the scope of work, cost, and schedule for the local road improvements. Environmental clearance for the local road improvements will be addressed in future separate clearances.
- MDOT will work together with the City of Detroit in an effort to secure Transportation Enhancement Funds to further beautify roadways and greenways in the vicinity of the DIFT.
- The DIFT will also address the important issue of reducing truck traffic on neighborhood streets by channeling truck movements to/from I-94 along Livernois Avenue, through the use of directional curbing at the Livernois gate and by eliminating the Waterman/Dix entrance to the terminal.
- New gates will be constructed at the west end of the yard, providing direct access to I-94 via Wyoming Avenue.
- Construction of security walls at various locations along the perimeter of the terminal will minimize visual and noise impacts.
- MDOT will participate with other stakeholders in funding a study of economic development opportunities that will support small business development in the DIFT study area. MDOT will continue to coordinate with the Michigan Economic Development Corporation, the Detroit Economic Growth Corporation, the Dearborn Department of Economic Development, various public-private partnerships and the local community.
- MDOT will work with SEMCOG, MDEQ, and the private sector to create an action plan that includes short-term and long-term objectives aimed at reducing fugitive dust, diesel truck idling, fuel consumption, or diesel emissions to limit PM_{2.5} emissions in the study area defined by the map shown in Figure 3-16 of this FEIS. The action plan will identify priorities for future federal aid eligible transportation projects through programs such as Congestion Mitigation and Air Quality (CMAQ) and the Midwest Clean Diesel Initiative. The action plan will be implemented during design and construction phases, and sustained through the maintenance and operations of the facilities. Activities could also include outreach activities to inform commercial operations and residents on air pollution control strategies. The actual projects will be generated from the community and its partners who will develop project proposals.
- MDOT will coordinate with the Michigan Department of Labor and Economic Growth to explore job training opportunities, English as a Second Language (ESL), and other training options in the project area.

SECTION 2

PURPOSE OF AND NEED FOR ACTION

This section defines the purpose of the proposed action, including a brief history of intermodal activity in the Greater Detroit Area (GDA). It then explains the need for the project in terms of demand and capacity.

2.1 Purpose of the Proposed Action

The purpose of the Detroit Intermodal Freight Terminal (DIFT) project is to support the economic competitiveness of southeastern Michigan and the state by improving freight transportation opportunities and efficiencies for business, industry and the military. The goal is to ensure Southeast Michigan has a regional facility, or facilities, with sufficient capacity and interconnectivity to provide for existing and future intermodal demand and reduce time, monetary costs and congestion to support the economic competitiveness of Southeast Michigan.

2.1.1 Project Background

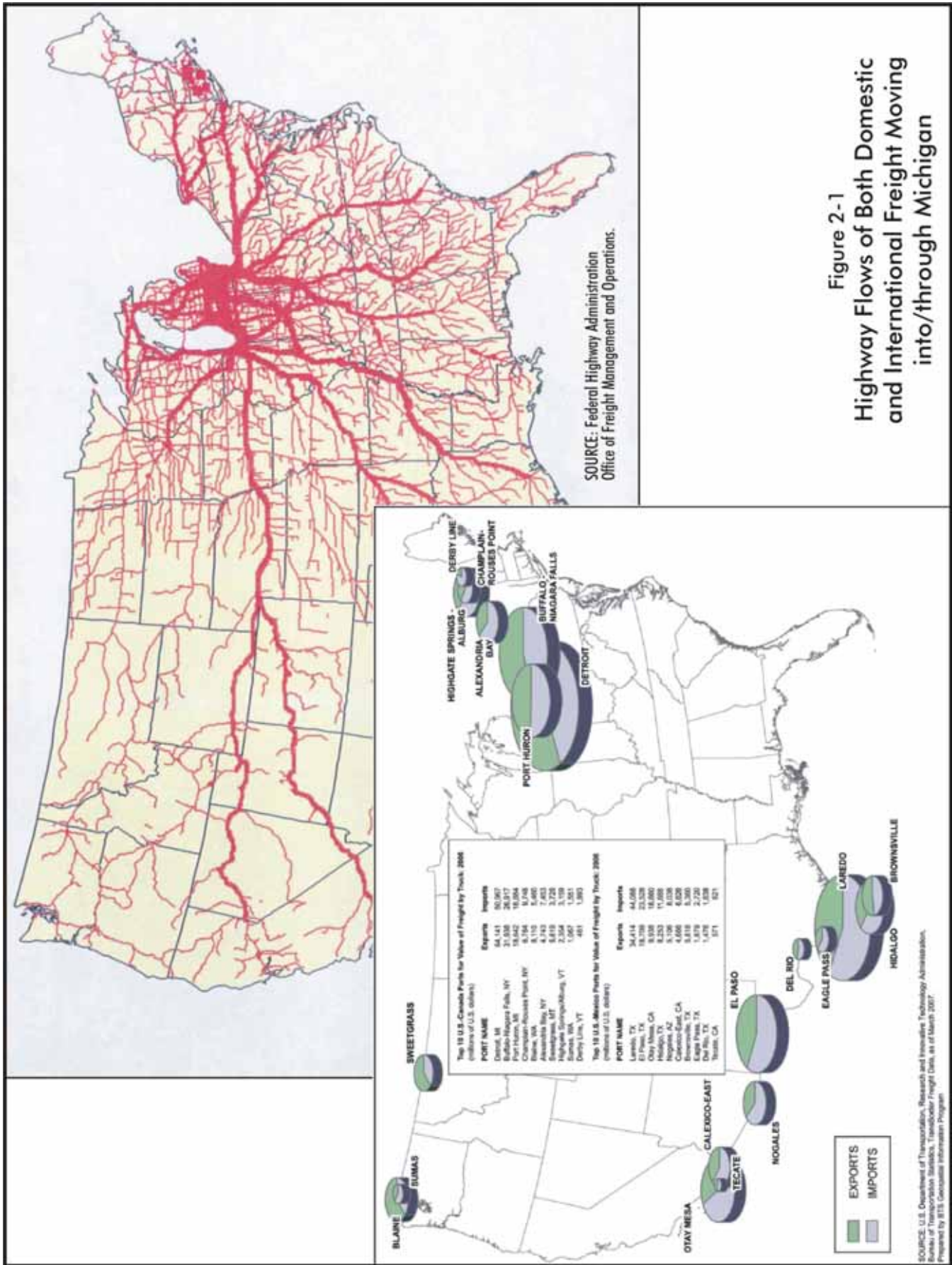
The growth of U.S. intermodal traffic (Figures 2-1 and 2-2), the enormous influx of double-stack trains, and the entry and rapid growth of rail-truckload initiatives have all raised questions about the adequacy of intermodal terminals to handle traffic increases, and to do so efficiently.

In the 1980s, railroads began to consolidate their intermodal service networks into fewer, larger hub terminals. Railroads saw an opportunity to consolidate enough volume in one location to justify lift machines and other costly improvements/equipment, and to eliminate smaller facilities.

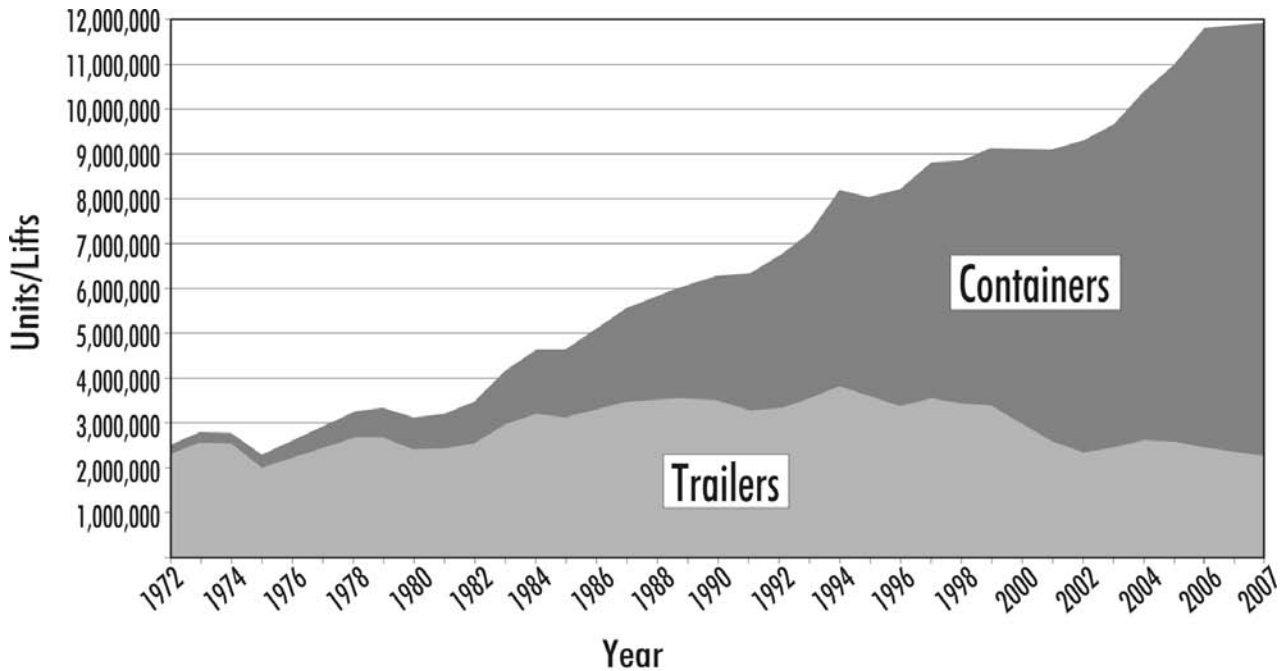
But, the challenge is to not only provide capacity for future intermodal growth; it is to also plan for this growth so that rail and highway freight facilities operate as a coordinated system.

The initial response to the challenge occurred when the Michigan Department of Transportation hired Mercer Management Consultants in 1993 to respond to the Michigan Legislature's initiative to address intermodal transportation in the Greater Detroit Area. The results of that, and subsequent work, recognized that:

- Detroit is one of the top markets in the nation for intermodal freight (trailer or container loads moving by rail).
- Detroit has led the nation in its use of "RoadRailer" technology, i.e., a truck trailer becomes a rail car by placing rail wheels underneath.
- One-third of Detroit's intermodal traffic is trucked to and from other cities. This means it travels by rail to Chicago, Toledo, or Windsor for example, and then is trucked to Detroit. Better intermodal service could result in a diversion of some of this intermodal activity to Detroit because of reduced transportation costs. This would eliminate some trucks from Michigan's roads, which could reduce congestion and help ease the need for added capacity on the roadway network.



**Figure 2-2
U.S. Rail Intermodal Traffic**



SOURCE: American Association of Railroads and Intermodal Association of North America. Container volume estimated prior to 1988

- The proposed improvement of the Detroit-Windsor rail tunnel and the construction of a new Port Huron-Sarnia rail tunnel enhance intermodal access to/from the Detroit area.

2.2 Need for the Proposed Action

The Detroit area has a need for greater intermodal capacity and improved connectivity among the intermodal terminals of the Class I railroads. The needs of the U.S. economy and national defense are undergoing a significant change. Modern supply chain logistics, just-in-time manufacturing and deployment, and leaner organizations have revolutionized the way industry and the military transport freight. Concurrently, intermodal freight transport also is undergoing change. It is growing, spreading into new markets and restructuring to meet the needs of its customers. Supporting the needs of business, industry and the military – particularly in the way they contribute to the quality of life, the economy and national defense – continues to be the primary justification for public investments in the transportation system.

Intermodal traffic could grow faster and to greater levels in Detroit, if adequate capacity existed (Section 2.2.1). Detroit has been one of the top intermodal markets in the nation. The Detroit market has characteristics that could cause intermodal traffic to grow faster than the national average, including its strategic trade relationship with Canada (\$150 billion in cross-border trade annually).

MDOT’s role in the DIFT is to improve the connectivity between modes through provision of a better interface between the public road system and the private rail system and to facilitate the development of significant capacity at the region’s intermodal facilities (Section 2.2.2). It is the role of government (in this case MDOT) to ensure that the businesses and industries involved in the freight transportation segment of the economy continue to have access to the market (i.e., customers,

workers, shippers, etc.). This, in turn, supports jobs in Michigan and nationally and ensures maintenance of the national defense as well as a high quality of life for the region's citizens.

2.2.1 Intermodal Terminal Capacity Versus Demand

The following discussion deals with intermodal terminal activity in the Greater Detroit Area (GDA). It is presented without identifying each terminal because of the proprietary nature of the information.

Mercer Management Consulting, under contract with the Michigan Department of Transportation, assessed the 1993/1994 conditions of intermodal transportation in the GDA and defined a course for the future. The study found that the volume of intermodal traffic, called lifts,¹¹ was 335,000 in 1994, which was an 18 percent increase over the 1992 volume of 283,000 lifts. In 1998, the volume had grown to approximately 400,000 lifts or another 16 percent over 1994. The number of lifts then declined, mainly because of the railroads' decision to truck more GDA products to Chicago, the economic conditions of the period, and the increasing attention to international security threats. By 2002 the number of lifts had rebounded and was higher (Table 2-1) than the low end of the forecast Mercer had made for 2000 (i.e., 335,000 lifts). Those Mercer forecasts had indicated the intermodal capacity of the GDA would be exceeded in 2000.

**Table 2-1
2002 Lift Summary**

Terminal ^a	Lifts
1	60,000
2	55,000
3	83,000
4	77,000
5	25,000
6	48,000
Total	348,000

^a Terminals are those that served intermodal activity in 2002, exclusive of Mazda, which is not available for commercial use. Willow Run was not in intermodal service in 2002. CP/Expressway service was available at Michigan Central Depot in 2002 but was terminated in June 2004. Source: The Corradino Group of Michigan, Inc. through cooperation of CSX, NS, CP and CN.

Following the Mercer work, MDOT conducted a feasibility study in 2001. It concluded that doing nothing did not address the regional intermodal capacity demands on Southeast Michigan. It also determined that a build alternative could provide the future capacity needed, help address community issues in the vicinity of the Livernois-Junction Yard and form a partnership of railroads, community and government to create a sustainable environment. The feasibility study led to this Environmental Impact Study, which began early in 2002.

As an early part of the environmental analysis, an inventory was conducted in 2002 of intermodal activity and capacity at each of the six terminals operating at that time. It ratified the earlier Mercer forecast and the feasibility study conclusion that the overall regional intermodal demand is at terminal capacity, while three of six terminals lacked adequate capacity. Subsequent information gathered for the DIFT project indicates the Norfolk Southern Railroad had realized a significant increase in its Triple Crown business to the extent it cannot be accommodated at its

¹¹ A lift is the transfer of a trailer or container to or from a rail car.

Melvindale terminal. NS requested MDOT’s financial assistance so that it can consolidate its Triple Crown intermodal trailer operations at the Livernois-Junction Yard, as it has done with its container operations. But, until the DIFT EIS is finalized and a Record of Decision executed, use of federal monies to provide such assistance is not available. So, NS reopened in 2004 its terminal at Willow Run in Romulus, Michigan to handle its Triple Crown business growth. If the DIFT were approved, and if appropriate improvements are made on a timely basis, NS **might** shift all its Triple Crown operations in Michigan to the Livernois-Junction Yard. This would leave four intermodal Class I Railroad¹² terminals serving Southeast Michigan.

An assessment of the demand/capacity relationships at the three intermodal terminals that will serve the region in the future under the No Action Alternative is shown on Table 2-2. A range of demand is provided based on varying growth rate forecasts. Table 2-2 also illustrates the maximum possible capacity as provided by the terminal operator. It is the most the terminal can handle with the densest use of the existing terminal space, i.e., stacking of containers/parking of trailers, and without additional property. These data indicate a lack of capacity at each yard and an overall deficit in the region from 80 percent to almost 120 percent by 2025 (Table 2-2). *Note that Table 2-2 has been modified for this FEIS to reflect the fact that the CP/Expressway terminal has closed because Canadian Pacific has terminated its Expressway business entirely.*

**Table 2-2 Revised for FEIS
Demand vs. Capacity
No Action Scenario**

Terminal ^{a,b}	2025 Outlook of Lift Activity (Demand) ^c		Lift Capacity	Lift Deficiency
	Low	High		
W	363,900	455,500	150,000	213,900 to 305,500
Y	137,200	171,700	95,000	42,200 to 76,700
Z	70,000	75,000	75,000	-5,000 to 0
Total	571,100	702,200	320,000	251,100 to 382,200
				78% to 119%

^aAll Norfolk Southern intermodal activity is consolidated at Livernois-Junction Yard, so NS’ four terminals become one.

^bTerminal’s owner/operator is not identified at the railroads’ request in light of proprietary interests.

^cDetroit Intermodal Freight Terminal Project, “Commodity Flow Model Structure and Preliminary Results,” January 2004 as adjusted to reflect elimination of the CP/Expressway operation and updated in April 2008 for 2030.

Source: The Corradino Group of Michigan, Inc.

It is noteworthy that the growth associated with the No Action Alternative is forecast by use of a commodity flow model created specifically for the study of the Detroit Intermodal Freight Terminal (refer to Technical Report list at the end of Table of Contents). The model’s results were reviewed by the railroads affected by the DIFT. The intermodal terminal operators who responded indicated the high end of the lift range for the alternatives involving government investment (i.e., Alternatives 2, 3 and 4) are optimistic, but reasonably so, in light of the horizon being 2025. (The commodity flow model was rerun in April 2008 for 2030 with similar findings.) These consultations also indicated that, without government assistance, i.e., Alternative 1: No Action, the intermodal growth could be as low as about 470,000 lifts per year in 2025, compared to the model’s low side forecast of 571,000 lifts. This is because business could be shifted to terminals outside the region, for example CSX to Cleveland, NS to Toledo or Columbus and CP to Chicago. Nonetheless, even this lower forecast of future activity under No Action conditions cannot be handled without the railroads expanding existing terminals (Table 2-3).

¹² A Class I railroad does at least \$250 million of business annually.

**Table 2-3 Revised for FEIS
Demand vs. Capacity
Revised Low-end-of-Range Forecast**

Terminal^{a,b}	2025 Revised Low-end Lift Forecast	Lift Capacity	Low-end-of-Range Lift Deficiency
W	289,000	150,000	139,000
Y	110,000	95,000	15,000
Z	70,000	75,000	-5,000
Total	469,000	320,000	149,000
			47%

^aAll Norfolk Southern intermodal activity is consolidated at Livernois-Junction Yard, so NS' four terminals become one.

^bTerminal's owner/operator is not identified at the railroads' request in light of proprietary interests.

Source: The Corradino Group of Michigan, Inc.

2.2.2 Intermodal Connectivity Needs

Because freight transport is not just about terminal facilities but also about how the system operates, there is a need to provide a better interface between the public road system (primarily interstate freeways) and the terminals and between the rail lines themselves external to the intermodal terminals. There is a need to locate and coordinate services so they can best meet the needs of businesses, industries, and the U.S. military in Michigan and nationally. Individual private businesses, such as rail companies, are not expected to take sole responsibility for these system issues. Government has a role. The types of connections to be considered in addressing the need for better connectivity are (Figure 2-3):

- Rail-to-Highway (I-75, I-96, I-94)
- Rail-to-Rail (CN, CP, CSX, NS)
- Rail-to-Cross-Border Connections
 - Bridges (Blue Water, Ambassador and possible new crossing)
 - Tunnels (Port Huron-Sarnia and Detroit-Windsor)

The rail-to-highway issues, while specific to each alternative, affect connections to I-75, I-96, and I-94. For example, channeling trucks directly to I-96 at the CP/Oak terminal would ease traffic on local streets such as Artesian, Davison and Schoolcraft. Likewise, better connections between Livernois Avenue and I-94 would ease traffic on streets such as Central Avenue and Livernois/Dragoon Avenues south of the Livernois-Junction Yard.

While it is important to ensure good cross-border connections, it is recognized that only one fourth of one percent of the freight tonnage crossing the border at Detroit is truck-related intermodal, so the effect of a new Ambassador Bridge span or the implementation of the DRIC project would have a negligible effect on the DIFT.

As an example of the difficult rail-to-rail connectivity issues in the Detroit area, the June 2003 *Trains* magazine reported: "...For railroads, Detroit is the proverbial bowl of spaghetti. Main lines entangle and intertwine in seemingly impossible combinations." Nothing has changed since that article was published.

It is noted that improvements to intermodal connectivity near the Livernois-Junction Yard will also benefit Amtrak passenger rail service.



SOURCE: The Corradino Group of Michigan, Inc.
 I:\Projects\2016-AG\Graphics\FIS\KeyTrkComp.dwg

Railroad capacity is determined through a combination of allowable train speed, length of trains, route conflicts (delays), signaling and track switching operations. In Detroit, a number of these issues are causing problems for the approximately 80 trains per day that operate through the Southwest Detroit area.

- **Train Speeds.** Due to the layout and the historical development of the routes in the Detroit area, train speeds are restricted at many of the junctions because of the curves in the tracks, track conditions, inadequate signaling or railroad operating rules. Trains operating at 10 mph occupy track junctions 2.5 times longer than trains operating at 25 mph.

Examples:

- The Milwaukee Junction and Bay City Junction interlockers (refer to Figure 3-15 for interlocker locations) have severe curves restricting speeds to just 10 mph.
- Delray’s interlocker does not have adequate signaling equipment, so trains must operate at less than 20 mph.

Because of speed restrictions, Norfolk Southern trains traveling from Livernois-Junction Yard to the River Rouge Bridge are scheduled to take 30 minutes, even though it is approximately three miles away. Trains occupying these segments of track for this long – whether they are departing, waiting or arriving – reduce the available track time for other trains, which must park and wait.

- **Length of Trains.** For many years, the standard rail car was 40 feet long and a typical train with 100 cars was about 4,000 feet long. Today, many rail cars are 90 feet long with some reaching 250 feet. Train length can easily reach 9,000 feet.

Examples:

- If a train longer than 4,000 feet is stopped between West Detroit interlocker and Delray interlocker it will block tracks at Dix and Waterman, stopping other trains trying to get into the Livernois-Junction Yard as well as through the corridor.
- A train moving to the NS/Oakwood Yard could have tracks blocked affecting movement to and from Delray, River Rouge and Ecorse.

- **Route Conflicts.** Because of the way some track connections are laid out, trains sometimes block other trains.

Examples:

- Amtrak passenger trains currently travel west from the Milwaukee Junction interlocker to Livernois-Junction Yard. While making this trip, they stop all movements on three of the four tracks causing conflicts at Milwaukee Junction interlocker. The Amtrak trains cause conflicts again at Beaubien Junction, stopping the movement on three of the four tracks there. They then have to cross over the Vinewood interlocker, stopping movement on all but one track. Finally, they cross at the West Detroit interlocker, stopping all movement on the CN and NS mainline track.¹³
- Every time a CP train travels through the Delray interlocker, all NS and CN trains must stop moving until the CP train has cleared the yard.

- **Signaling.** In the area around Livernois-Junction Yard, several different signaling situations cause major impacts on train operations.

¹³ Note: An independent Amtrak project may address this issue.

Examples:

- The Delray interlocker is operated by CSX, while the River Rouge Bridge, less than half a mile southwest, is operated by NS. The track in between has signals in only one direction. This requires continual coordination among railroads for every train movement.
 - Because there are signals in only one direction, trains must operate at restricted speeds.
 - Signal spacing governs the speed at which trains can operate. Trains leaving and entering areas with signals around the Livernois-Junction Yard generally must operate at only 10 mph.
 - In several locations, more than one train operator is needed to make a single movement. This happens when one railroad has control over one switch while another has control of a second switch, and both are needed for a train to move through an area. This occurs at Vinewood, where Conrail has control of one switch and CN has control over the other switch. This also occurs at the CP Lou, Coolidge and Milwaukee Junction interlockers.
- Switching Operations. At several locations in the area, railroads must use the mainline tracks to switch rail cars around while “building” a train.

Examples:

- At the southeast end of Livernois-Junction Yard, rail cars being switched take up three of the four available tracks that mainline trains could be using to pass through.
- This also occurs at the east end of Livernois-Junction Yard, and at the Milwaukee Junction and Ecorse interlockers. At all of these locations, switching rail cars impacts movement within the yard or on the mainline.

In all cases cited above, any increase in the number of trains or the amount of switching required will make the existing problems worse. Addressing these rail connection problems would improve the efficiency of the yards, increase the productivity of freight trains, improve travel times for Amtrak passenger trains, and reduce costs, pollution and noise.

2.3 Government Involvement

A commitment to study improving intermodal transportation in Southeast Michigan was initiated in 1993 by MDOT. In 1998, study of Detroit Intermodal Freight Terminal was listed as a High Priority Project within the federal transportation bill known as the Transportation Equity Act of the 21st Century, or TEA-21. TEA-21 provided \$18 million in federal funding assistance for the project (TEA-21, Section 1602, High Priority Project 1221).

2.4 Summary

The Michigan Department of Transportation is engaged in the DIFT to ensure that the businesses and industries involved in the intermodal freight transportation segment of the economy continue to have access to the market (customers, workers, shippers, and the like) **by supporting an increase in intermodal capacity and connectivity**. This, in turn, will support mobility and maintenance of the Michigan and national economies and national defense and promote a high quality of life for the region’s citizens including the following, if improvements are made to the intermodal system under one of the Action Alternatives:

- Providing the necessary infrastructure to support current and future distribution needs of industry, particularly auto manufacturing, the state's largest industry, and other Southeast Michigan businesses.
- Achieving a competitive advantage both regionally and nationally by focusing federal, state, local and private (i.e., railroad and other private entities) investments and resources on an "intermodal" strategy.
- Stimulating economic development and redevelopment throughout Southeast Michigan through job creation, and an increasing the tax base.
- Reducing truck "vehicle miles traveled," which saves lives, reduces pollution and conserves highway capacity.
- Removing intermodal terminal-related truck traffic from the local streets of the nearby neighborhoods so that quality of life issues, such as air pollution and safety, are addressed.
- Buffering the intermodal facility from nearby neighborhoods through improvements that reduce noise and use trees, vegetation and other enhancements to improve the terminal's exterior appearance.

The project is needed to handle the increasing intermodal volumes, which grew from 283,000 lifts in 1992 to 348,000 lifts in 2002 (down from a high of about 400,000 in 1998 largely due to economic and security risk conditions). It is estimated the current lift volume is 383,000. The capacity of the existing intermodal terminals in the region is about 320,000 annual lifts. The forecast demand for 2025, if normal trends occur, would range from about 470,000 to 700,000 annual lifts.

SECTION 3 ALTERNATIVES

A Preferred Alternative has now been identified. The decision on the Preferred Alternative was made after the public hearing and comment period that followed, consideration of all comments and engagement of the four affected railroads. Bold, italicized text in a green box such as this shows changes for this FEIS.

This section describes how the alternatives were developed from **the purpose and need as stated** in the Notice of Intent¹⁴ (NOI), through the consideration of many regional sites (see **Section 3.2.2**) including “greenfield” sites, and consideration of an alternative proposed by a local organization, to a set of Practical Alternatives that have been analyzed in this EIS.

3.1 Alternatives Development

The purpose of an EIS is to present alternatives, disclose impacts related to the alternatives and serve as a decision-making document in order to select an alternative that addresses the project’s need and best meets the goal of the project, while considering the impacts. The goal of the DIFT is to develop a regional facility or facilities with enough capacity to handle current and future intermodal freight shipments needed by business, industry and the U.S. military and to provide efficient interconnectivity of intermodal operations to reduce time, monetary costs, and congestion to support the economic competitiveness of Southeastern Michigan and the nation. This report also identifies impacts and benefits of all Practical Alternatives. Where negative impacts are identified, ways to avoid, minimize or mitigate them are examined and applied, as appropriate.

From the passage of TEA-21 in 1998 (Public Law 105-178, Section 1602, High Priority Project [HPP] 1221) until the fall of 2002, federal and state efforts on the DIFT project were directed at a single intermodal terminal in Southwest Detroit, Wayne County at the Livernois-Junction Yard. In March 2002, the federal Notice of Intent was published to advise the public that an Environmental Impact Statement (EIS) would be prepared. It listed one alternative to taking no action, i.e., “refinements to Rail Strategy 3,” as identified in the Detroit Intermodal Freight Terminal Project Feasibility Study, Technical Report No. 4, i.e., consolidation of regional intermodal operations at the Livernois-Junction Yard. In the latter part of 2002, the Federal Highway Administration, following a resource agency scoping meeting held on September 19, 2002, issued the following position:

“The overall goal of the DIFT is to enhance intermodal operations and economic competitiveness of SE Michigan. In fulfilling this goal, we (FHWA) believe treating the RRs with equity is sound public policy. This policy does not [emphasis added] define the starting point, rather it places a condition on the outcome, similar, for example, to assuring that air quality standards will be met. In our (FHWA) view this policy does not pre-limit [emphasis added] the EIS to investigating only a single solution. The EIS must consider a range of practical alternatives. Ultimately, the EIS process will result in a preferred alternative and the EIS must clearly articulate the basis for the preferred alternative.”

¹⁴ A Notice of Intent is the formal announcement in the *Federal Register* that a study is underway and that an Environmental Impact Statement will be developed. The NOI was published in the *Federal Register* on March 13, 2002. A revised NOI was published in the *Federal Register* March 21, 2003.

Subsequently, the approach to alternatives was updated. The revised Notice of Intent was issued in March 2003. Since then, the project has evolved, with public involvement, to include the following:

Alternative 1 No Action: This alternative assumed the railroads would develop their existing intermodal rail yards in Southeast Michigan without federal and state government funding assistance and oversight.

Alternative 2 Improve/Expand: This alternative proposed improvements to four existing intermodal rail terminals (at Livernois-Junction Yard, CP/Expressway, CP/Oak and CN/Moterm) operated by the four Class I railroads in Southeast Michigan with railroad funding, as well as federal and state governments funding assistance and oversight. This alternative includes improvements inside and outside the existing railroad terminal property.

Alternative 3 Consolidate: This alternative proposed the intermodal operations of all four Class 1 railroads be consolidated at the Livernois-Junction Yard area. Railroad funding, plus federal and state governments funding assistance and oversight are to be involved in making improvements inside and outside the existing yard. The existing terminals from which intermodal business would be transferred would continue to serve other railroad business.

Alternative 4 The Composite Option: This alternative proposed the intermodal operations of three railroads (CSX, Norfolk Southern and Canadian Pacific) be consolidated at the site of the Livernois-Junction Yard in southwest Detroit, while improving/expanding the existing CN/Moterm terminal, with federal and state funding assistance and oversight for improvements inside and outside the terminals. The railroads were also to invest in these improvements. The existing terminals from which intermodal business would be transferred would continue to serve other railroad business.

It is important to recognize that “external-to-terminal” improvements, such as the rail connections/interfaces at Delray, West Detroit, Milwaukee Junction, Vinewood and other interlockers, are part of Alternatives 2, 3 and 4 (see Figure 3-15). These are to be accomplished on existing railroad property.¹⁵ All Action Alternatives also include improving the north side of the I-94/Livernois Avenue interchange to facilitate truck movements to the Livernois-Junction Yard and keep them out of the neighborhood north of the yard.

3.2 Alternatives Eliminated from Further Study

All reasonable and Practical Alternatives were carried forward for detailed study. Alternatives, which clearly did not address the project purpose and need were eliminated from future consideration. The latter alternatives are described below.

3.2.1 Other Sites for Intermodal Terminals

Since the 1980s, railroads have consolidated their intermodal service networks into fewer, larger-hub terminals as they saw an opportunity to consolidate enough volume in one location to justify lift machines and other expensive equipment/facilities. Small facilities have been eliminated. For example, the intermodal activity at the smaller Norfolk Southern terminal at Oakwood was shifted/consolidated at the Livernois-Junction Yard in 2003. This location, and others in the region like at Highland Park, do not lend themselves to productive intermodal operations. Nonetheless, an

¹⁵ Minor right-of-way might be required at the West Detroit interlocker, though this may be achieved through a separate Amtrak project.

existing terminal like Norfolk Southern's terminals at Melvindale and Willow Run may be used for some time into the future, if adequate capacity is not available for consolidation on a timely basis at the Livernois-Junction Yard. But, even if these Class I railroad terminals stay in use indefinitely, their capacity, when added to that of the four intermodal terminals most likely to continue, does not address the demand expected in the future.

The August, 1994 Mercer Report¹⁶ identified the CN/Highland Park terminal as one of two alternatives that warranted further investigation for a consolidated terminal (the Livernois-Junction Yard was the other alternative identified at that time). The Mercer Report and subsequent research has found the Highland Park site is not a viable intermodal terminal option for CN because:

1. The Highland Park property is cut up by major transportation facilities, so that standards for a modern intermodal terminal cannot be met.
2. Storage and support tracks would have to be located offsite causing additional switching inefficiencies for the rail operators and the possible need for additional property acquisition.

It is also not a viable option for CSX, NS and CP or for consolidation of the intermodal activity of all four railroads for the above-stated reasons, plus:

1. Extensive trackage rights would be required for any of these railroads to use the site.
2. The cost and time for these carriers to access the site make it an unacceptable option.

The Port of Detroit has also been suggested as an alternative to the consolidation at Livernois-Junction Yard. The Port of Detroit, consisting of approximately 36 privately-owned marine terminals, continues to be a successful and active commercial port that typically handles 15-20 million tons of cargo annually. The vast majority of this cargo consists of bulk materials, including iron ore, stone, coal, cement, and petroleum. A portion of these bulk cargoes is transferred between ships and trucks for local or regional distribution. Another portion of these cargoes are processed or transformed at the port (e.g., steel mills, electric generating plants, asphalt plants, etc.). A fairly small portion of Detroit's waterborne commerce consists of general (non-bulk) cargo, including steel products and, occasionally, machinery. These cargoes are also transferred between ships and trucks (occasionally rail) for local or regional distribution/collection.

There are no regular movements of containers via marine transportation at the Port of Detroit or other Great Lakes ports. For overseas container movements, the economic efficiencies of the overland transportation system (rail and truck) serving coastal ports, combined with the physical constraints of the Great Lakes/St. Lawrence Seaway System (lock size, channel depth, seasonality), make direct movement of containers through Great Lakes ports uncompetitive and highly unlikely. Southeast Michigan's overseas container traffic utilizes the efficient rail connections to coastal ports, including Montreal, Halifax, New York/New Jersey, Baltimore, Hampton Roads, Los Angeles/Long Beach, Oakland, Seattle/Tacoma, and Vancouver. This is largely affected by the lack of reliability for time-sensitive cargo to move inland via the St. Lawrence Seaway as weather makes its use practically impossible for months each year. Finally, it is not a practical option for consolidation because extensive trackage rights would be required for CP and CN to use the port.

¹⁶ *Greater Detroit Area Intermodal Study, Phase II – Intermodal Transportation Center Concept*, Mercer Management Consulting, August 1994.

3.2.2 Greenfield Site

Each of the railroads reaches Detroit over a network of individually-owned rail lines. There are locations along those lines where tracts of land that are largely undeveloped and otherwise known as “greenfields,” might appear to be available for development. But the rail infrastructure is not available for access by multiple railroads. The same can be said of abandoned properties known as “brownfield” sites.

Another issue with those undeveloped properties is they tend to be removed from the shippers that they would be serving. This fragmentation results in increased distance/time to haul goods (drayage) and contributes to highway congestion creating a less-efficient intermodal transportation system, which is counter to the purpose of this project. Finally, “greenfield” developments may also contribute to urban sprawl and require new highway, utility and other infrastructure. Conversely, for the most part, the existing intermodal facilities, and the proposed consolidated terminal at the Livernois-Junction Yard, are able to use the established infrastructure that is already in place.

The earlier studies in 1993/1994 conducted for MDOT by Mercer Consulting examined possible “greenfield” sites. One, Willow Run, while having several attributes, was served by only a single railroad at the time, Conrail. Since the sale of the Conrail assets, Norfolk Southern now controls access to the location. The earlier MDOT studies found that the Willow Run site was far from its market with high pickup and delivery costs. Nonetheless, because of the Triple Crown business growth, NS has had to reopen the Willow Run terminal or lose the business. It has, at the same time, asked MDOT for financial assistance so that it can consolidate all its intermodal operations on an accelerated pace at the Livernois-Junction Yard. None can be provided unless and until the DIFT environmental review is complete and a Build Alternative approved.

Overall, a “greenfield” site does not meet the purpose of the project because it results in increased distance/time to haul goods (drayage) and contributes to highway congestion creating a less efficient intermodal transportation system.

3.2.3 Communities for a Better Rail Alternative

An alternative proposed by a group known as Communities for a Better Rail Alternative (CBRA) focuses only on the Livernois-Junction Yard. It involves several elements including building a new interchange at I-94/Rotunda Drive to connect with the rail line plus a second interchange connecting the rail line with I-75 north of the Ambassador Bridge. These interchange concepts are not possible according to American Association of State Highway and Transportation Officials (AASHTO) design standards because of constraints on spacing of interchanges, and elevations/grades. In addition, the CBRA alternative would not meet the forecasted future demand for lift capacity. There would be no increase in the terminals’ size for increased lift capacity resulting in a lift deficiency ranging from 155,000 to 431,000 lifts per year in 2025. Nonetheless, the basic CBRA concept of improving, without expanding the boundaries of the Livernois-Junction Yard and improving its physical relation with the surrounding community is closely, but not completely, aligned with the proposal for that terminal under Alternative 2.

3.3 Project Status

A Preferred Alternative has been identified in consultation with the railroads, and after the DEIS publication, public hearing and consideration of comments received from the public and agencies. The comment period was from **May 13, 2005, to August 16, 2005**. **MDOT provided an extended comment period to respect requests from Congressional and local interests for a 90-day review period**. Subsequently, consultation continued among government agencies and stakeholders to work out details of ownership, operation and mitigation. The project was added to SEMCOG's *Regional Transportation Plan* in **November 2008**.

3.4 Practical Alternatives

The Practical Alternatives analyzed in the DEIS were those defined at the outset of this section and identified as follows:

- Alternative 1 – No Action
- Alternative 2 – Improve/Expand Existing Terminals
- Alternative 3 – Consolidate All Four Class I Railroads' Intermodal Activity at the Livernois-Junction Yard Area
- Alternative 4 – The Composite Option, or a combination of Alternatives 2 and 3.

3.4.1 Characteristics of Proposed Intermodal Terminals

The following information is provided to understand how the terminals shown on Figure 3-1 would operate. Their general characteristics were summarized in Table 1-1.

Livernois-Junction Yard

CSX and Norfolk Southern jointly control the 300-acre Livernois-Junction Yard. The yard was improved in 2004-2005 through a project of independent utility with a \$10 million public (MDOT)/private (CSX/NS) investment. Meanwhile, NS's Triple Crown business has outgrown its Melvindale terminal. So, NS reopened its Willow Run terminal in 2004. NS has indicated it prefers to consolidate all its intermodal business at the Livernois-Junction Yard, provided adequate facilities can be developed. NS has asked MDOT for financial assistance in accomplishing that objective. None can be provided unless and until the environmental review of the proposed DIFT is complete and a Build Alternative approved.

Under Alternative 1 – No Action, the Livernois-Junction Yard is to continue to operate with two gates – one at Livernois Avenue, between John Kronk Street and Toledo Avenue, and a second near the intersection of Dix/Waterman/Vernor (Figure 3-2). Trucks now use a variety of paths to reach these gates, including streets like Dragoon, Livernois and Vernor. Other local streets, such as Waterman, Dix and Springwells are impacted by intermodal trucks. Additionally, a host of industrial activities, (e.g., the trucking center at the northwest corner of John Kronk Street and Central Avenue), will likely continue to operate/grow causing streets like Central Avenue to experience an increase in large-truck traffic.

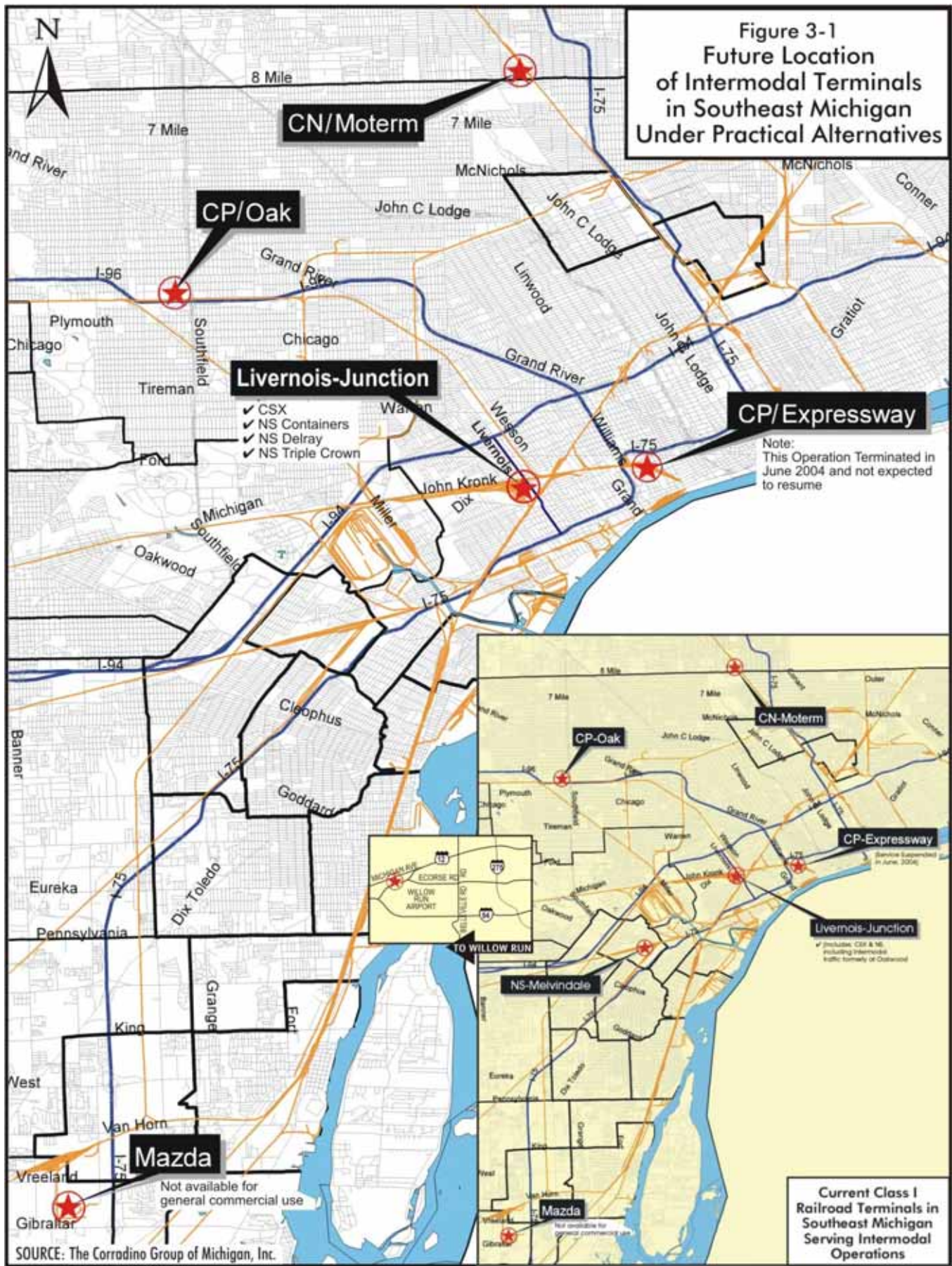
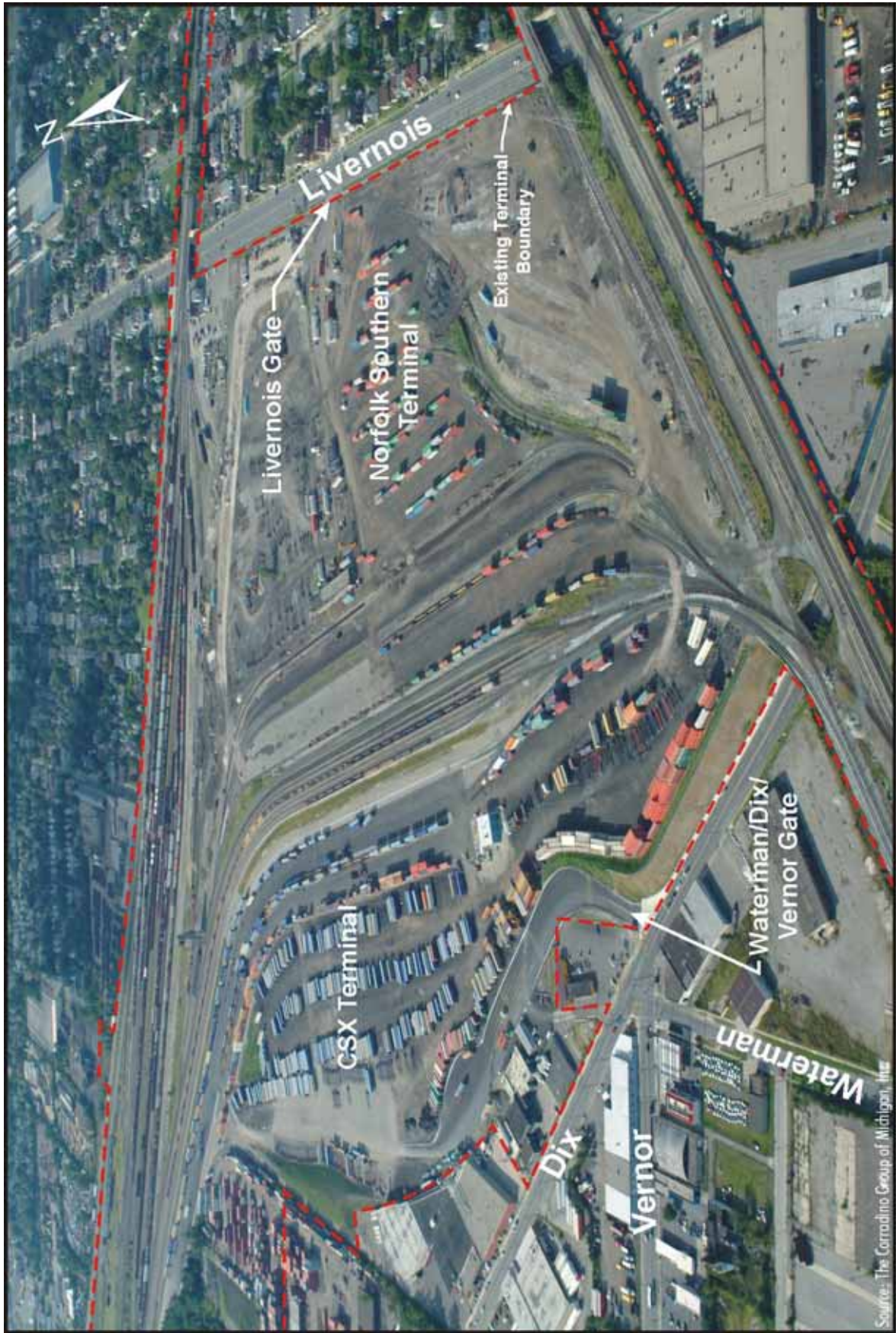


Figure 3-2
Existing Livernois-Junction Yard Access



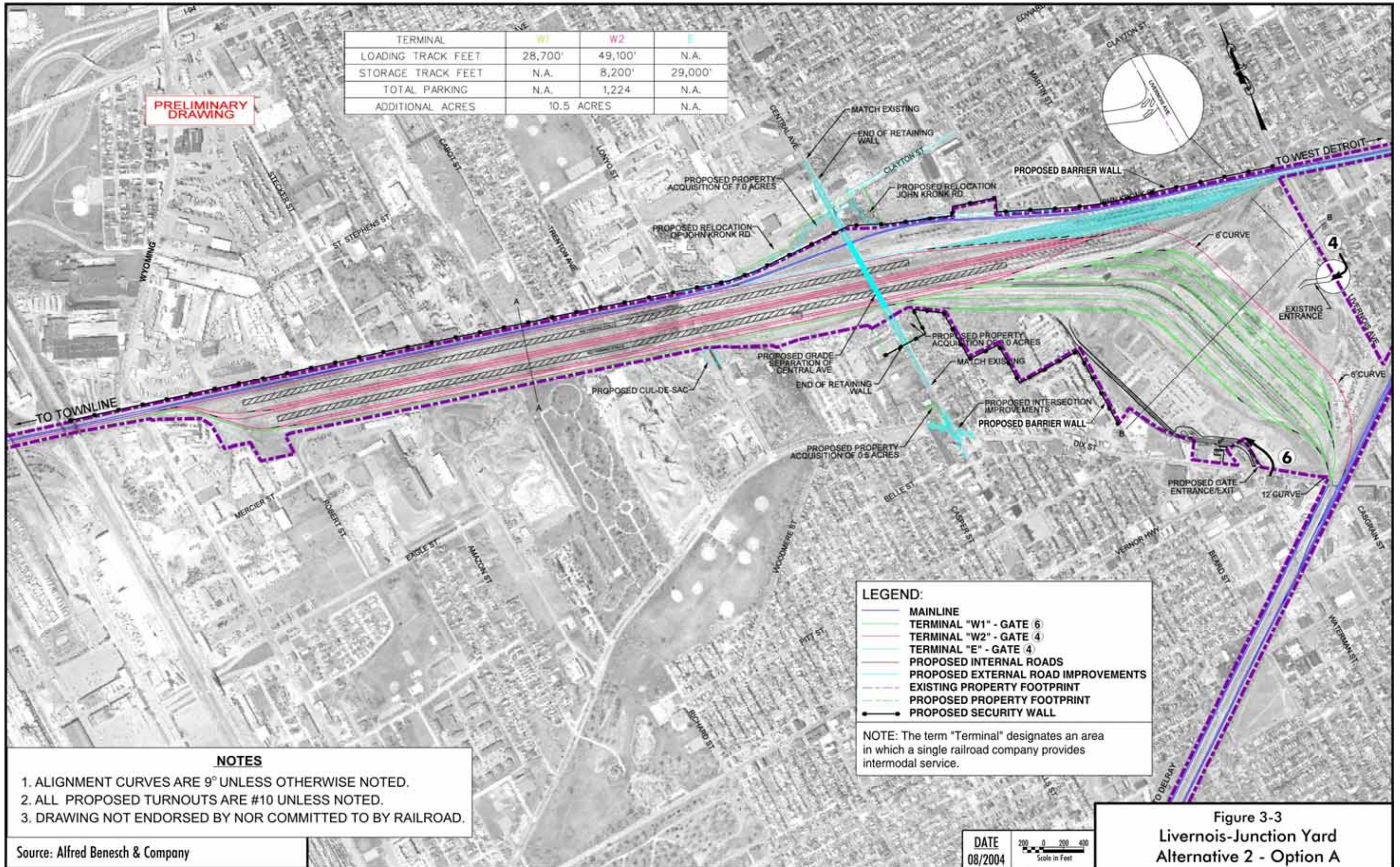
Under Alternative 2 – Improve/Expand Existing Terminals, the Livernois-Junction Yard is to still be served by the Livernois Avenue entrance. Three options were considered:

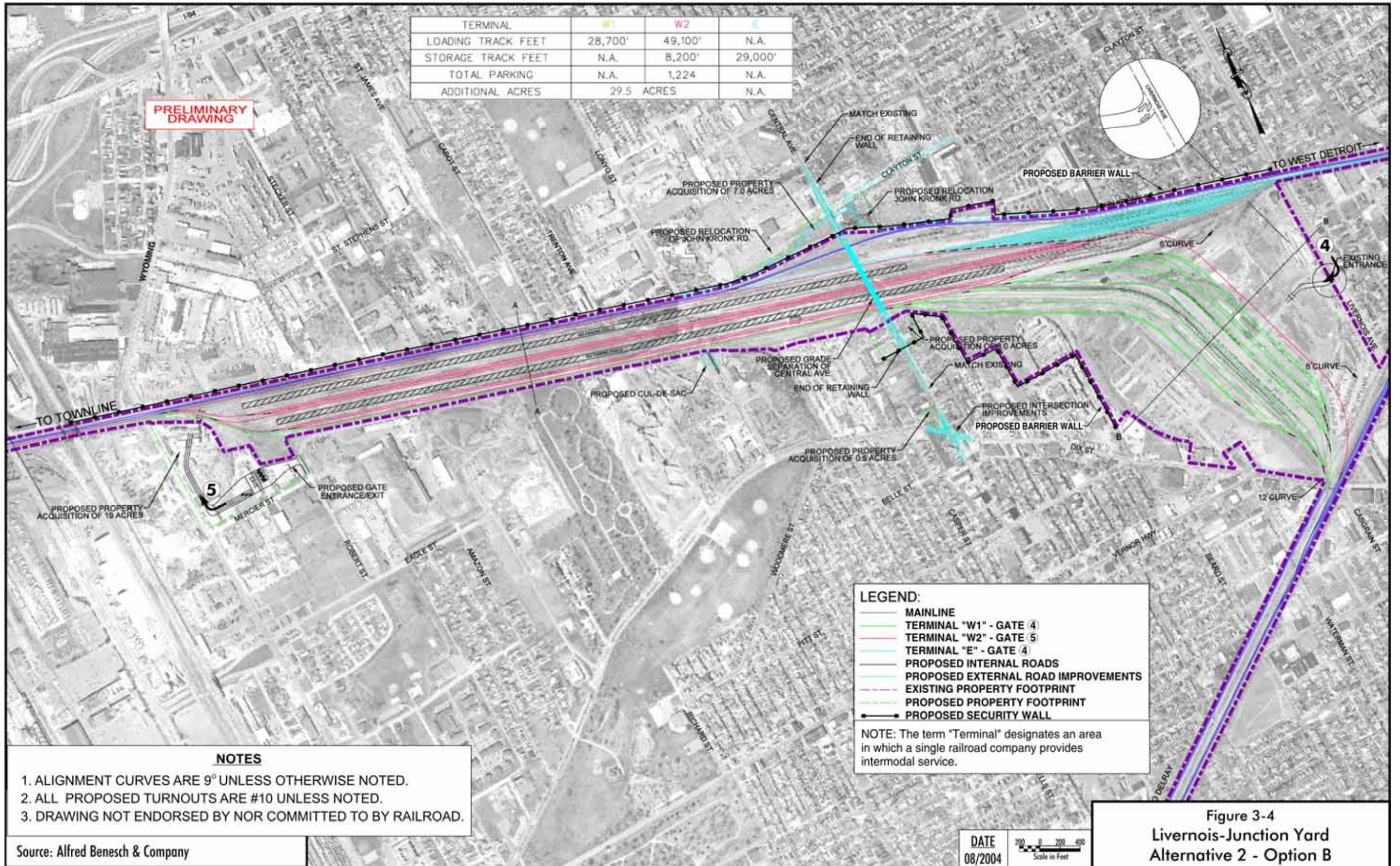
- Under Option A, the Dix/Waterman/Vernor gate is to remain (Figure 3-3). There would be no displacements of residential properties but eight business relocations on 10 to 11 acres.
- Under Option B, the Dix/Waterman/Vernor gate would be eliminated by developing a western gate (Figure 3-4) served by Wyoming Avenue. Eleven businesses would be relocated but no residential properties. Acquisition would be 29.5 acres.
- Under Option C, the Dix/Waterman/Vernor gate would be eliminated by focusing all traffic at the Livernois Avenue gate, with a tunnel (14'-9" clearance) in the yard to allow trucks to move under the rail lines to access both sides of the terminal without crossing the rail lines at grade (Figure 3-5). Eight businesses would be relocated but no residential units. Acquisition would be 10 to 11 acres.

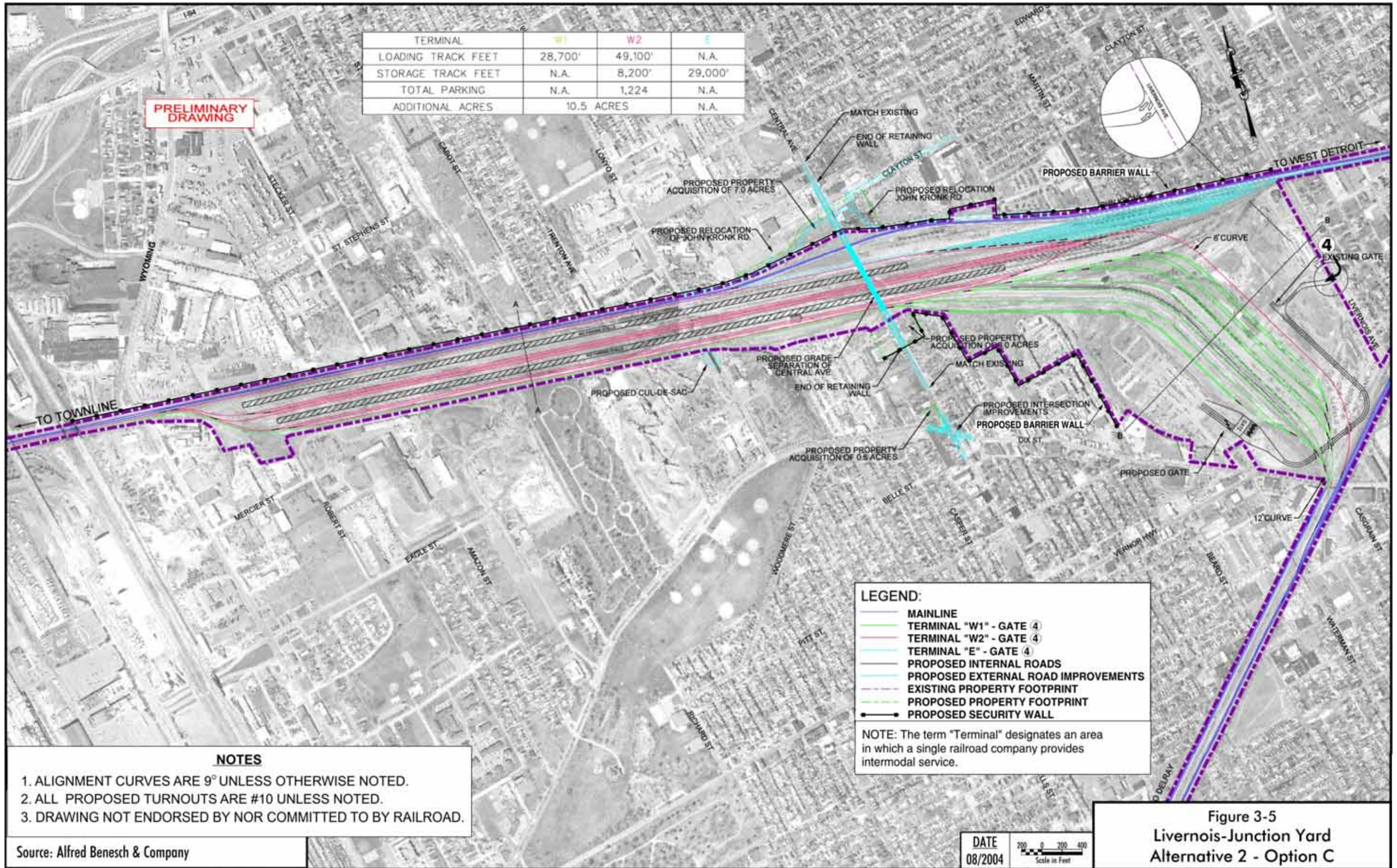
Under DIFT Alternative 2, for all options, Lonyo Avenue would be closed at the rail yard boundary. Traffic would be channeled by way of a relocated John Kronk Street to Central Avenue (see Figure 3-3). Central would pass under the railroad tracks (Figures 3-3 through 3-5). Businesses supporting the terminal's intermodal growth would likely have been drawn to the area near the terminal. There are hundreds of acres of brownfield and other vacant/abandoned properties in the vicinity of the terminal (known as the "terminal area," which is elaborated on in Section 3.4.2 of this FEIS) to accommodate such development. Under this alternative, the Livernois-Junction Yard would be paved and a wall for terminal security provided along the entire north side of the terminal and on the south side, east of Central Avenue. These latter two elements are integral parts of the proposed alternative.

Under Alternative 3 – Consolidation, the Livernois-Junction Yard is to accommodate all Class I railroads' intermodal operations in Southeast Michigan. The terminal would be served by five gates (Figure 3-6). Alternative 3, like Alternative 2, would see Lonyo Avenue closed and Central Avenue pass under the railroad tracks. Because this alternative would remove John Kronk as a city street, a perimeter road on the terminal's north side would be constructed to include a landscaped buffer. It would allow travel between Livernois and Wyoming Avenues. Alternative 3 would require acquisition of approximately 384 acres and relocation of 64 businesses and 83 residential units. This acquisition would cause diversion to other locations in the terminal area of more than 4,000 trips per day. So, while the expanded intermodal activity under Alternative 3 was to generate about 5,000 daily truck trips (two-way) in 2025 (which is approximately 3,500 more daily truck trips (two-way) expected at the terminal than the No Action Alternative), there was to be an offsetting relocation of trips from the area immediately surrounding the terminal to the broader terminal area. Furthermore, access to the terminal's gates would be a combination of interstate-to-major arterial connectors (i.e., I-75/I-94 to Wyoming/Livernois¹⁷ Avenues) thereby directing intermodal trucks away from the neighborhoods. Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal. Under this alternative, the Livernois-Junction Yard would be paved and a wall for terminal security would be provided along the entire north side of the terminal and on the south side east of Central Avenue. These latter two elements are integral parts of the proposed alternative.

¹⁷ The Livernois Avenue entrance would be configured so trucks must enter from or exit to the north.







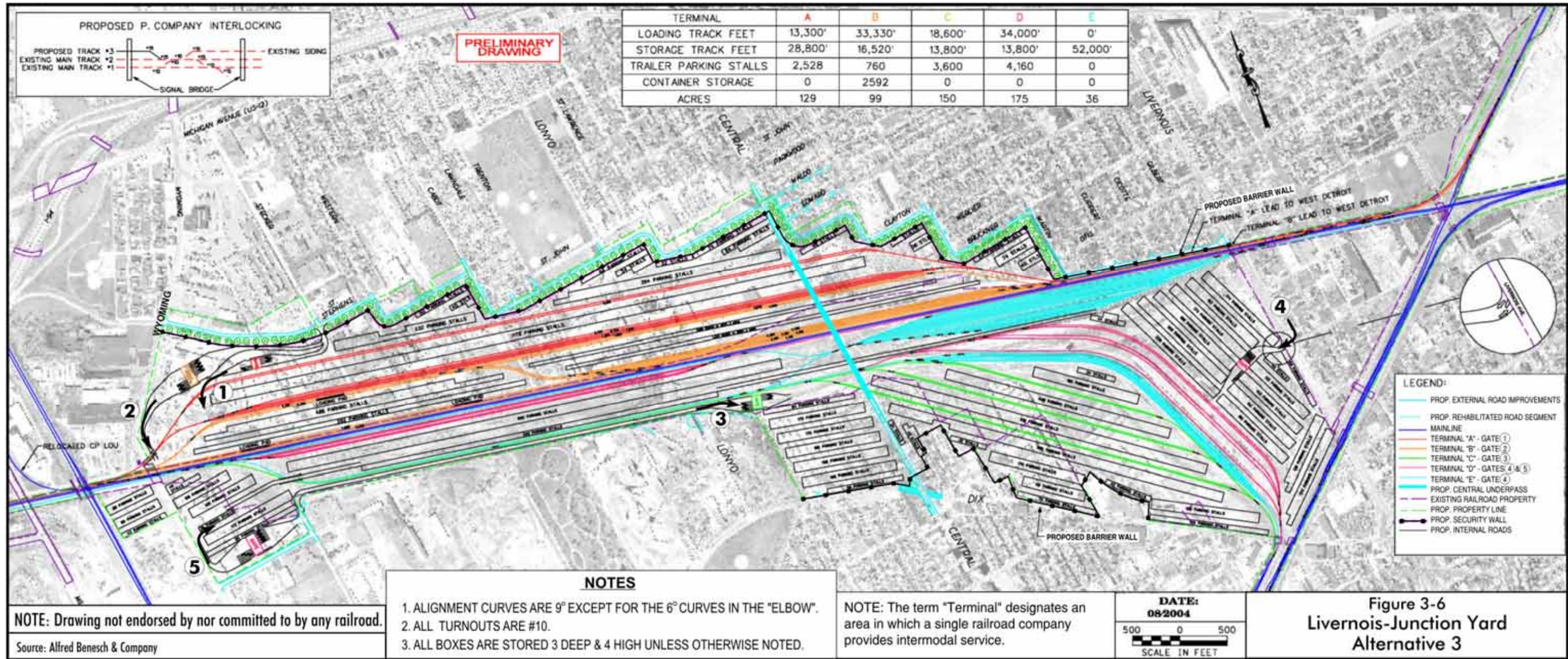


Figure 3-6
Livernois-Junction Yard
Alternative 3

Alternative 4 – Composite of Alternatives 2 and 3 is similar to Alternative 3, except Canadian National Railroad would remain at an expanded/improved Moterm facility and its intermodal business would not be consolidated at the area of the Livernois-Junction Yard. This would reduce the number of gates there to four, compared to five for Alternative 3 (Figure 3-7). The potential acquisition of 265 acres at the Livernois-Junction Yard area (119 fewer than Alternative 3) would involve acquisition of 51 businesses and 33 residential units. This acquisition would have caused the relocation of more than 3,600 trips per day. The number of daily, two-way intermodal truck trips in 2025 would be close to 4,600. So, the net “new” trips would be 1,000. The access routes to these gates via the interstate highway system, in combination with Wyoming and Livernois Avenues, would be the same as Alternative 3. Lonyo Avenue would be closed at the terminal boundary. Its traffic would be channeled via a new perimeter road to connect with Central Avenue to pass under the railroad tracks. The perimeter road and buffer would be built on the north side of the terminal to connect Livernois and Wyoming Avenue. Businesses supporting the terminal’s intermodal growth would likely have been drawn to the area near the terminal. Under this alternative, the Livernois-Junction Yard would be paved and a wall for terminal security provided along the entire north side of the terminal and on the south side, east of Central Avenue. A security wall would also be placed on the east side of the CN/Moterm terminal. These elements are integral parts of the proposed alternative.

CP/Expressway Terminal

The CP/Expressway terminal was open when the Practical Alternatives were developed, but was closed in June 2004. The CP/Expressway terminal under the Alternative 1 - No Action in 2025 was expected to handle about 140 daily two-way truck trips using city streets (Figure 3-8). Under Alternative 2 - Improve/Expand, the truck trips were expected to grow to 250 also using city streets (Figure 3-9). Expanding the terminal would require the acquisition of 12 acres, including one institutional property and no residences. Businesses supporting the terminal’s intermodal growth would likely have been drawn to the area near the terminal. It is noteworthy that expansion of this terminal would have been precluded if the Jobs Tunnel proposed at that time by the Detroit River Tunnel Partnership (DTRP) were to become a reality, because there was not enough space to handle both projects. The DTRP project proposed to convert two existing rail tunnels connecting Detroit and Windsor to truck use and build a third, more modern, tunnel for rail. Proponents have withdrawn their proposal for truck tunnels, but continue planning for a new rail tunnel.

Under Alternatives 3 and 4, CP/Expressway’s business (trailers) would be consolidated at the Livernois-Junction Yard area (refer to Figures 3-6 and 3-7).

CP/Oak Terminal

Under Alternative 1 – No Action, Canadian Pacific Railway (CP) would continue to operate on approximately 24 acres leased from CSX to conduct its intermodal container business at the CP/Oak terminal (Figure 3-10). Truck traffic would grow from 280 trips (two-way) to almost 400 trips (two-way) by 2025 under No Action, Alternative 1.

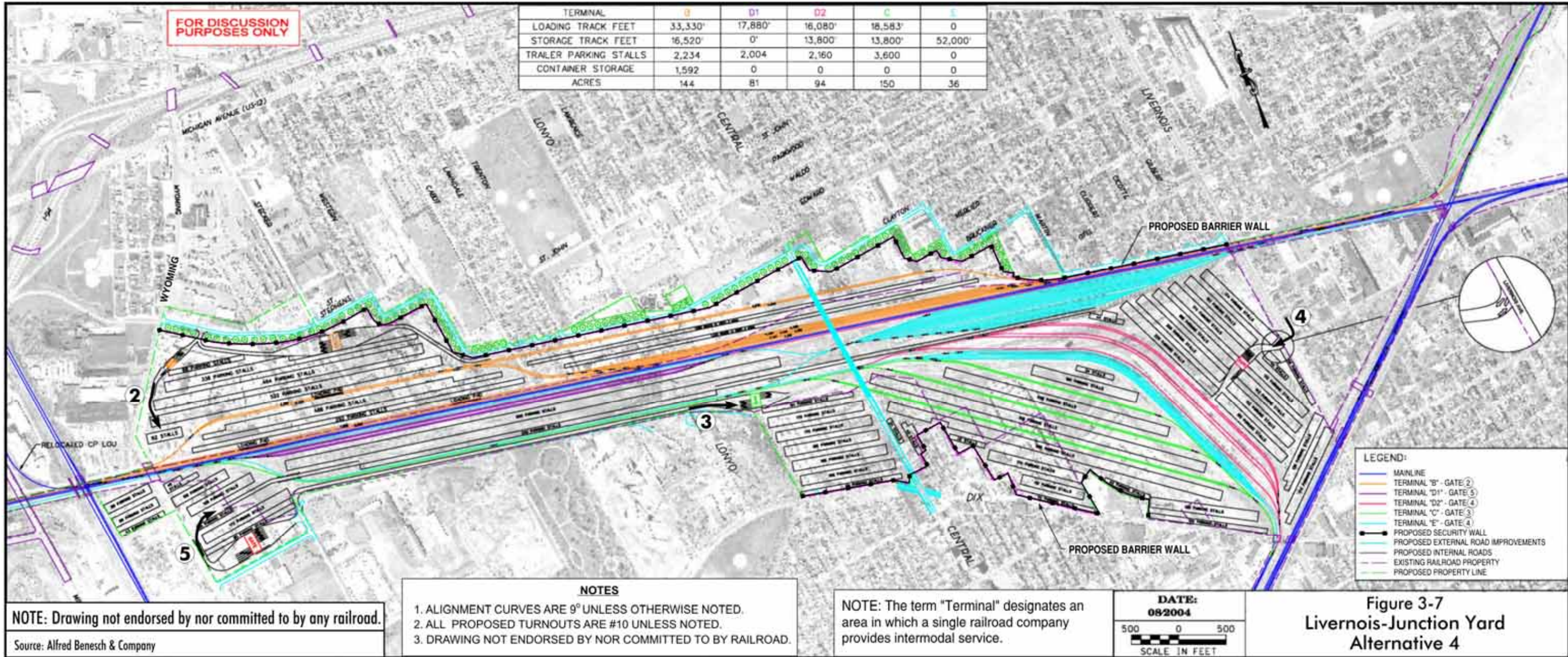
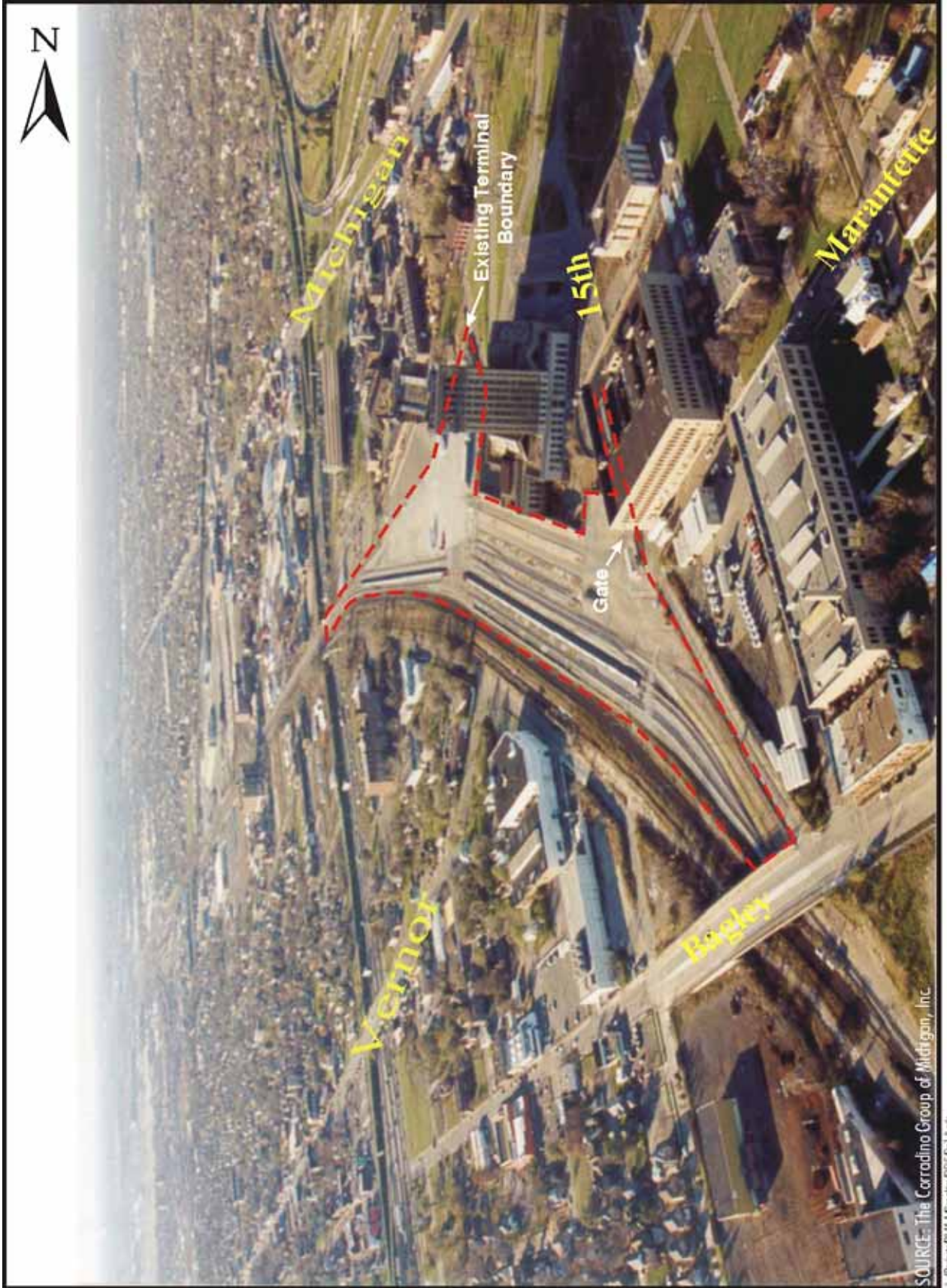


Figure 3-8
Former CP/Expressway Terminal Access



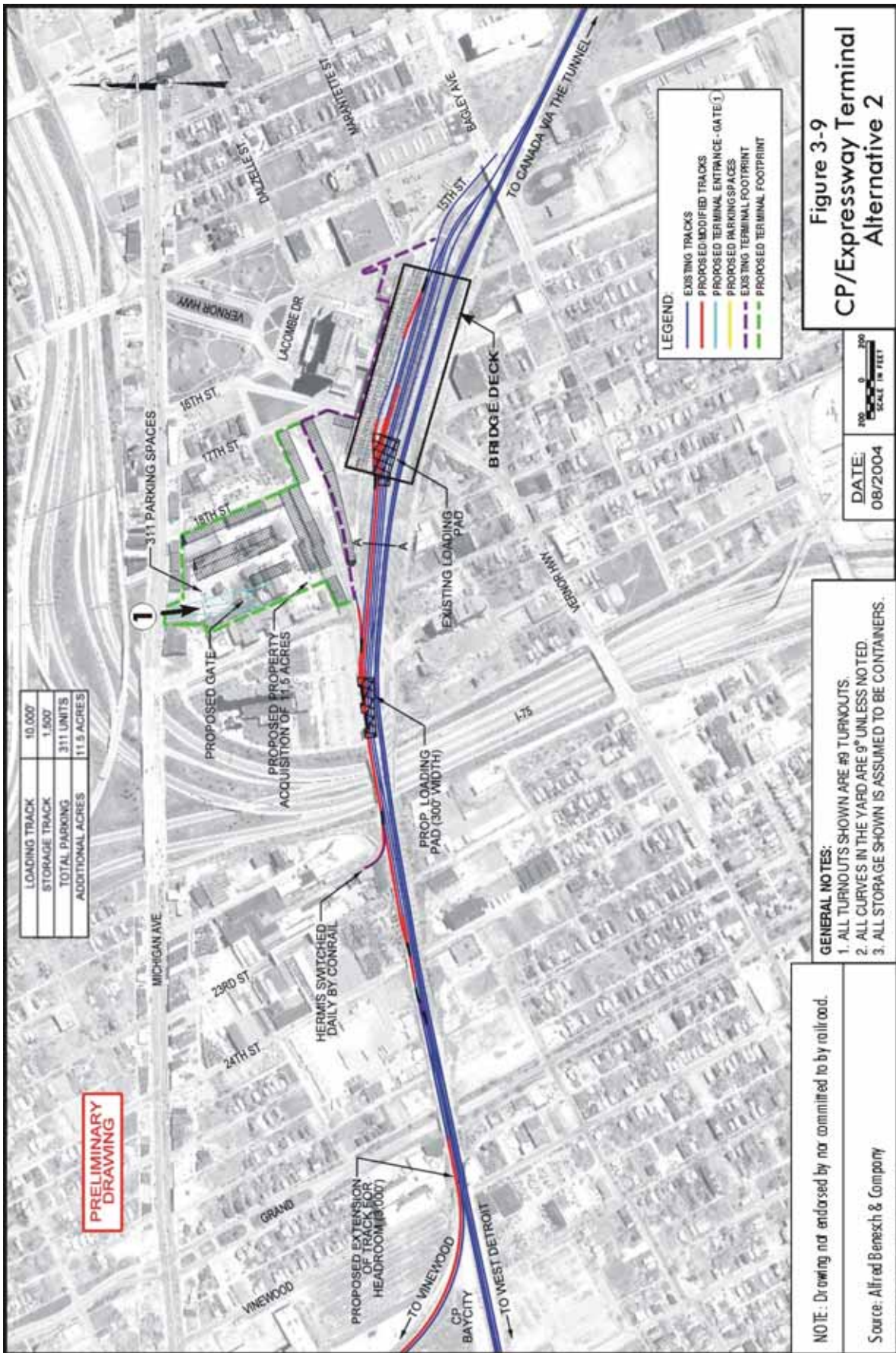


Figure 3-10
Existing CP/Oak Terminal Access



Under Alternative 2 – Improve/Expand Existing Terminals, expanding the CP/Oak terminal would grow the two-way, daily truck volume to about 700. Today, trucks access that yard through one gate and exit at two locations. These trucks use the Southfield Freeway service drive plus local streets like Glendale, Davison, and Artesian to travel to/from this facility. There were two options for this terminal under Alternative 2 (Figure 3-11 and 3-12), differing only in the connection between the improved interchange at I-96/Evergreen Road and the expanded terminal. By virtue of the improved access, intermodal truck traffic affecting the surrounding neighborhood, including numerous residential properties located along the Southfield Freeway service drive, would be virtually eliminated and the now-existing gates closed. Expanding the terminal would require acquisition of five businesses for Option A and six for Option B. The truck traffic associated with these businesses would be relocated elsewhere. No residential property was to be acquired. The expanded terminal was to be about 60 acres larger than today. Businesses supporting the terminal's intermodal growth would be drawn to the area near the terminal. Under this alternative, a wall for terminal security would be provided on the north side of the terminal as an integral part of this proposed alternative.

Under Alternatives 3 and 4, CP/Oak's business (containers) would be consolidated at the Livernois-Junction Yard area (refer to Figures 3-6 and 3-7).

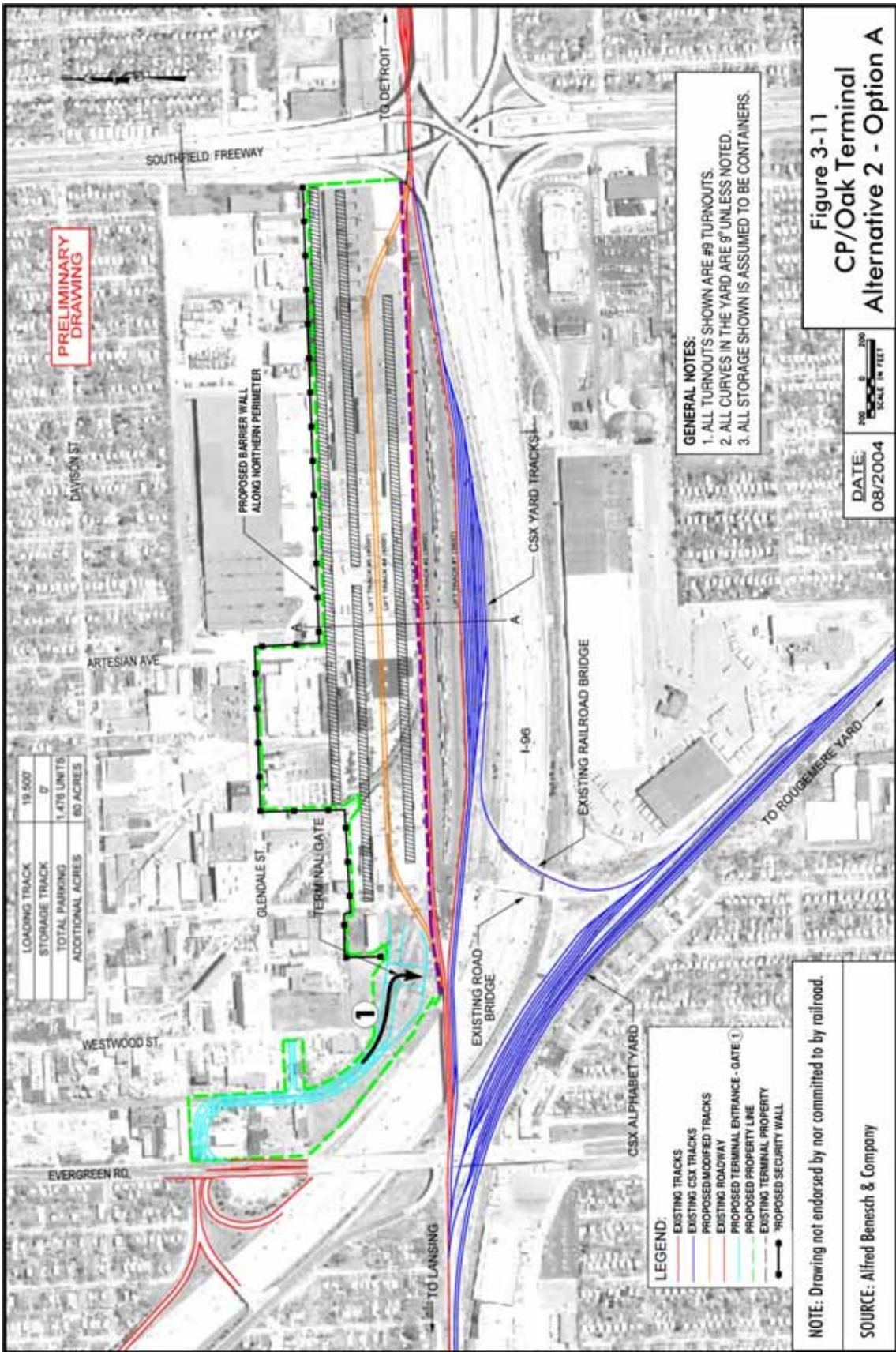
CN/Moterm Terminal

Grand Trunk Western Railroad, now Canadian National (CN), has for many years operated the 29-acre terminal in Ferndale north of Eight Mile Road. Trucks access/egress the terminal by way of Fair and Chesterfield Streets north of Eight Mile Road. Late in the 1990s, the intermodal business there was roughly double what it is today. At that time, CN leased five to 10 acres of State Fairgrounds property for container storage (south of Eight Mile Road). When a major shipping contract ended, CN ceased its use of the Fairgrounds property.

Under Alternative 1, the CN/Moterm terminal would continue on the existing 29-acre site (Figure 3-13). The number of daily two-way truck trips in 2025 was expected to be 370.

In developing the proposal for Alternatives 2 and 4 to re-enter the Fairgrounds for expansion of the CN/Moterm terminal, options to the east and west of the terminal, and north of Eight Mile Road, were examined, but were not considered reasonable.

- Going west would require penetration of a dense residential area. Sixty single-family houses would be acquired, as well as seven businesses. Fair Park would also be taken by expansion of the terminal to the west.
- Expanding the terminal to the east, north of Eight Mile Road, would cause displacement of 10 businesses that, combined, are responsible for a major portion of the tax base of the City of Ferndale. Because of the limited amount of industrial redevelopment property in the city, these businesses would likely be lost to other areas. Additionally, Gage Products Company would be displaced by expanding the CN/Moterm terminal to the east. This company is a permitted storer of up to one million gallons of hazardous material. It is Ferndale's largest taxpayer. It is not possible to relocate it in Ferndale because of its handling of hazardous material.
- Expanding the terminal to the east, south of Eight Mile Road, would cause the displacement of 90 single-family residences and seven businesses. Hunt Playground (about six acres) would also be removed.



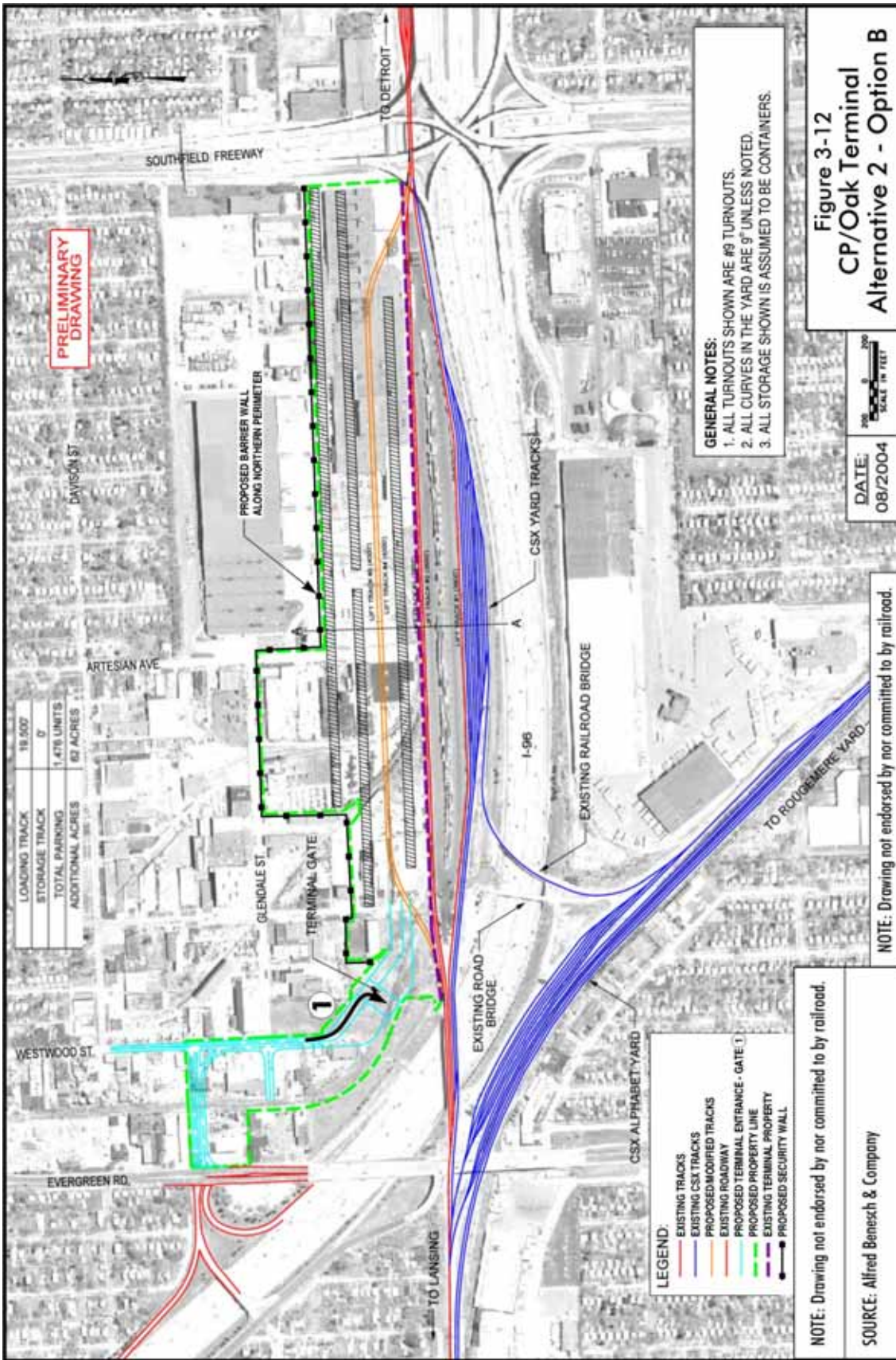
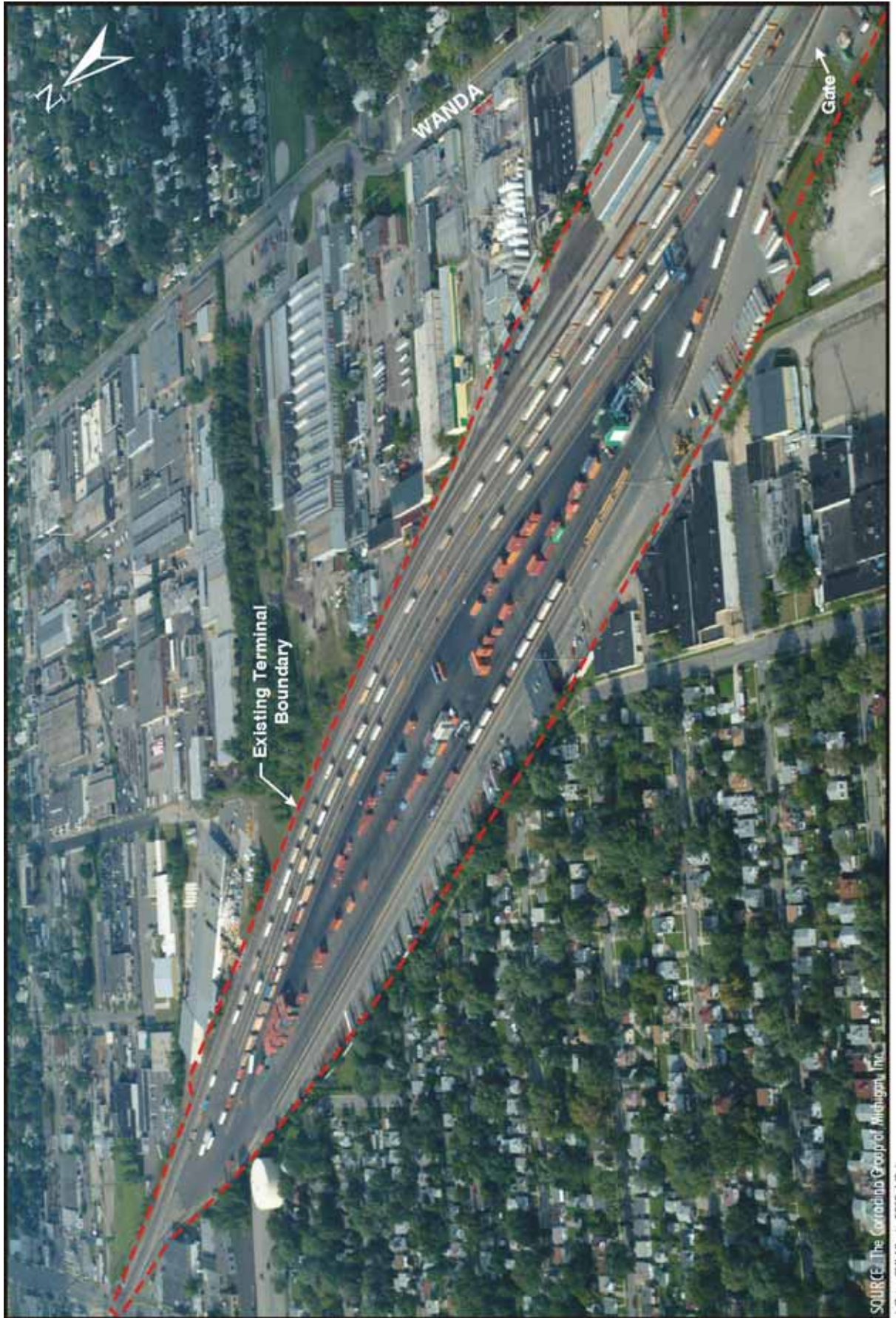


Figure 3-13
Existing CN/Moterm Terminal Access



So, the proposed expansion of the Moterm terminal avoided going east or west of the terminal, north of Eight Mile Road. It avoided going east of the existing tracks south of Eight Mile Road. Expansion was proposed due south into the State Fairgrounds on approximately 35 acres (Figure 3-13 and Figure 4-10d). Access would be directly from Eight Mile Road south into the terminal. A survey of the terminal's intermodal activity indicated that virtually all intermodal trucks use I-75 and M-102 (Eight Mile Road) to access the terminal. That is expected to be the pattern of the future. A wall for terminal security was to be provided on the east side of the terminal as an integral part of this proposed alternative.

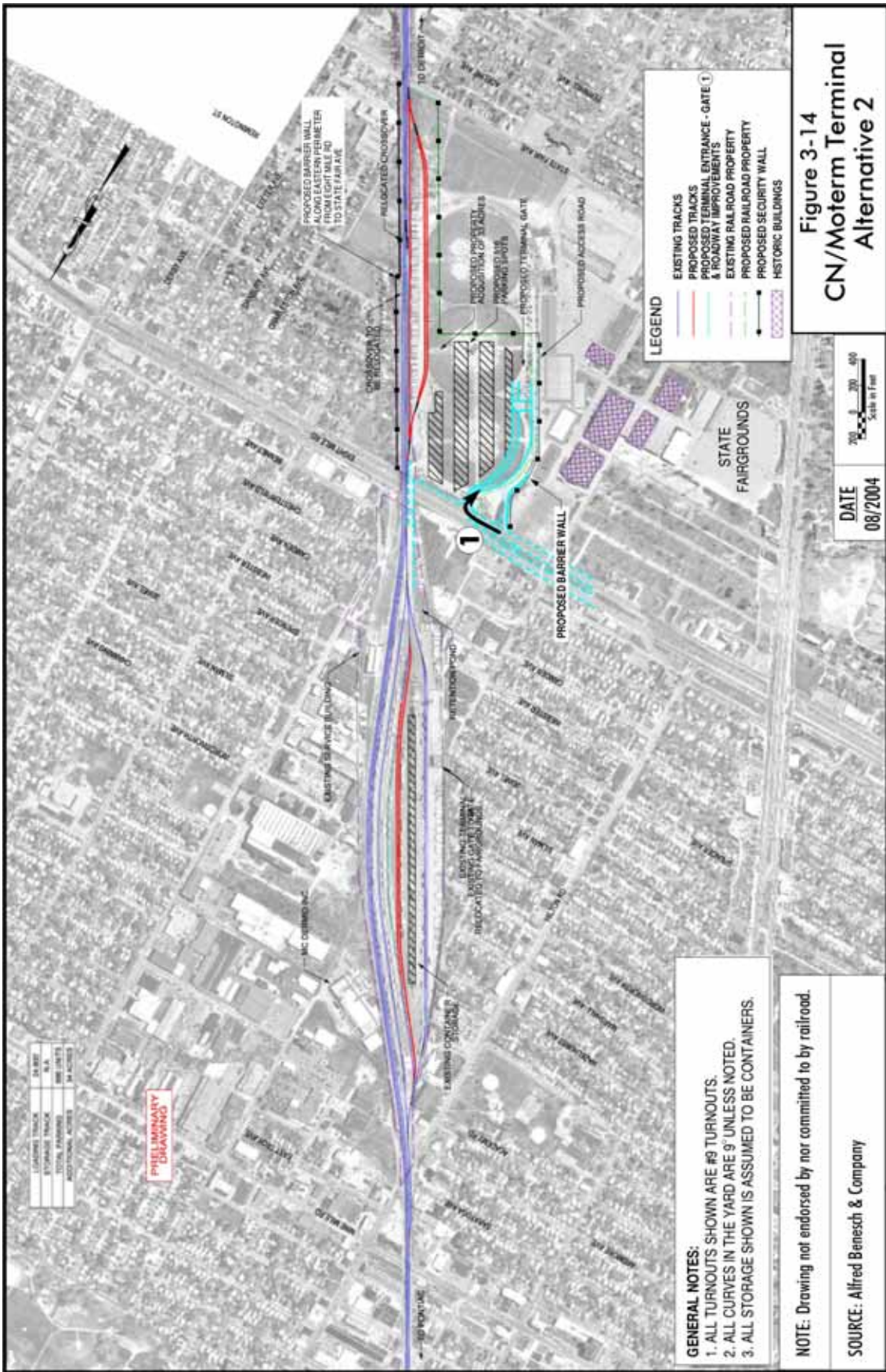
It is noted that use of the Fairgrounds as depicted on Figure 3-13 would cause no residential or business relocations. It would have created a 4(f) recreational resource impact and wetland impact, discussed in more detail in Sections 4.14 and 5.13, respectively.

Under Alternatives 2 and 4, the number of intermodal trucks serving the Moterm terminal on an average day in 2025 was expected to be 650 compared to 370 under Alternative 1 – No Action. Businesses supporting the terminal's intermodal growth would likely have been drawn to the area near the terminal (Figure 3-14). A wall for terminal security was to be provided on the east side of the terminal as an integral part of the proposed alternative.

Under Alternative 3, Canadian National's intermodal operation would be shifted to the Livernois-Junction Yard area (refer to Figure 3-6).

Continued Use of CP/Oak, CN/Moterm and CP/Expressway

Under Alternatives 3 and 4, where intermodal operations of either three or four railroads were proposed to consolidate at the Livernois-Junction Yard, the terminals at CP/Oak and CN/Moterm would continue to be used by the railroads for shipping freight by means other than intermodal. That activity was assumed to be associated with a much smaller volume of truck traffic than if the terminal were to continue to serve intermodal. Shifting intermodal activity from the CP/Expressway terminal to the Livernois-Junction Yard area under Alternatives 3 and 4 would allow the Expressway terminal area to be transitioned to other uses (but in any case, the Expressway operation is now closed).



Rail Network Improvements

The rail network in the Greater Detroit Area has a number of correctable shortcomings that would increase the efficiency of train movements. These are switches, interlockers,¹⁸ and track modifications that will positively affect intermodal train speed and lessen route conflicts and, as a result, enhance the region's rail system interconnectivity. This is consistent with the project purpose as stated in Section 2.1. None of these proposals would involve any right-of-way acquisition. All would occur on existing railroad-owned property except for a possible minor acquisition associated with the West Detroit interlocker.¹⁹ No environmental impacts are anticipated with these improvements.

Figure 3-15 shows the major interlockers in the Detroit area. Those affected by the Practical Alternatives are listed in Table 3-1. Continuing discussions with the railroads have led to a revised list for the Preferred Alternative (see Section 3.5). Those are highlighted in yellow.

Table 3-1
Railroad Interlockers and Track Locations Affected by Alternatives

Railroad Interlocker	Alternative		
	2	3	4
2. Beaubien	✓	✓	✓
4. Delray	✓	✓	✓
5. Dix	✓	✓	✓
7. Lou	✓	✓	✓
9. Milwaukee Junction	NC	✓	NC
12. P Company	✓	✓	✓
14. Townline	✓	✓	✓
17. Vinewood	✓	✓	✓
18. Waterman	✓	✓	✓
19. West Detroit	✓	✓	✓

NC – No Change

Source: Alfred Benesch & Company

3.4.2 Terminal Areas

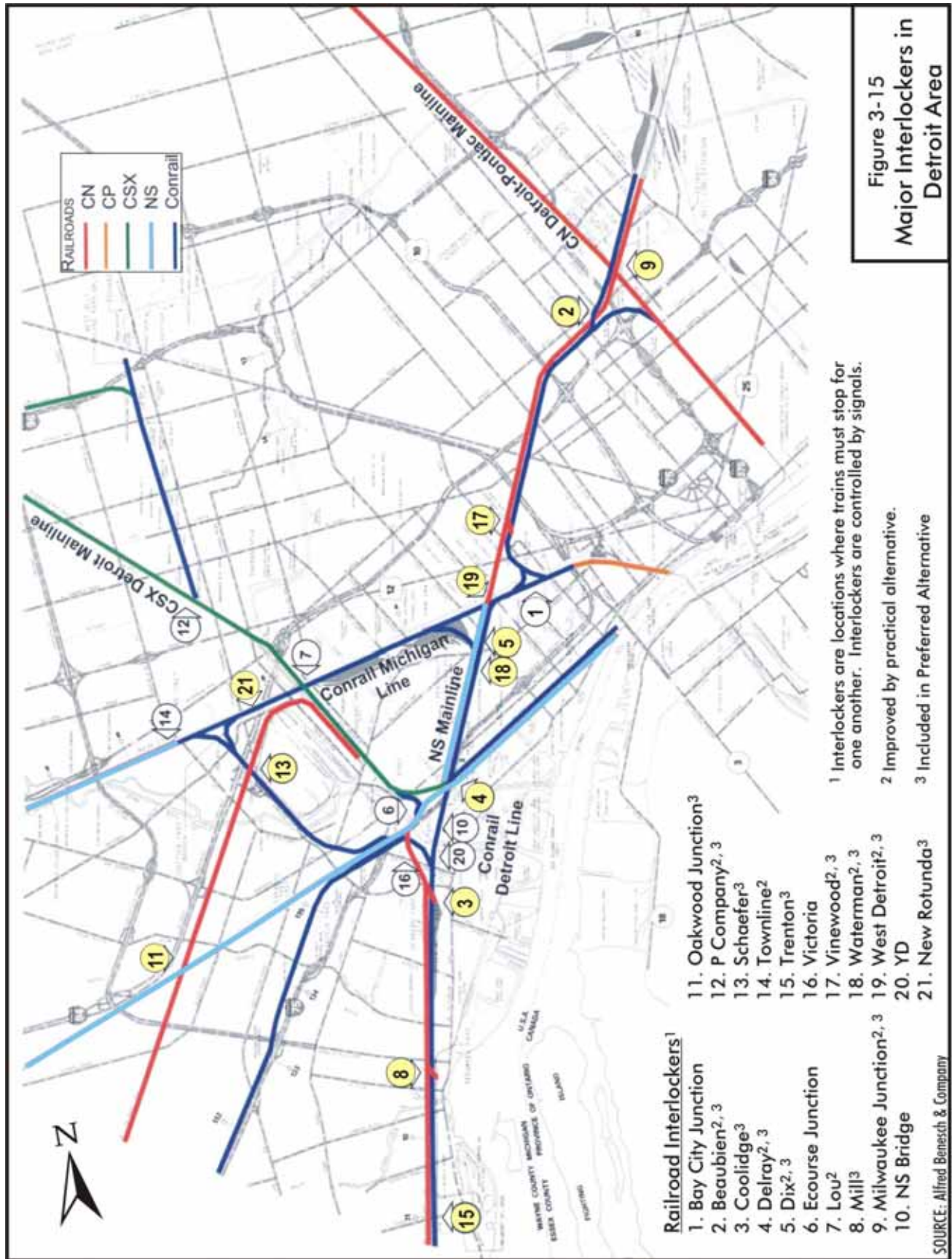
Each intermodal terminal has a “zone of influence” known as a terminal area. The definition of each terminal area reflects the neighborhood/community relationships to the terminal and the transportation facilities serving them. In defining each terminal area associated with transportation/land use interaction, aerial photography since the mid-1930s was examined to assess the extent to which transportation and land developments have occurred over the last 70 years. The definition of each terminal area was also established by examining community facilities and services.

Livernois-Junction Yard and CP/Expressway Terminal Area

The terminal area that encompasses the Livernois-Junction Yard and the CP/Expressway terminal is shown on Figure 3-16. It lies in the cities of Detroit and Dearborn. Railroad facilities and activities have been dominant in this area since 1850.

¹⁸ Interlockers are locations where trains must stop for one another. Interlockers are controlled by signals.

¹⁹ A survey is required to determine property lines and a separate Amtrak project may partly address this issue.



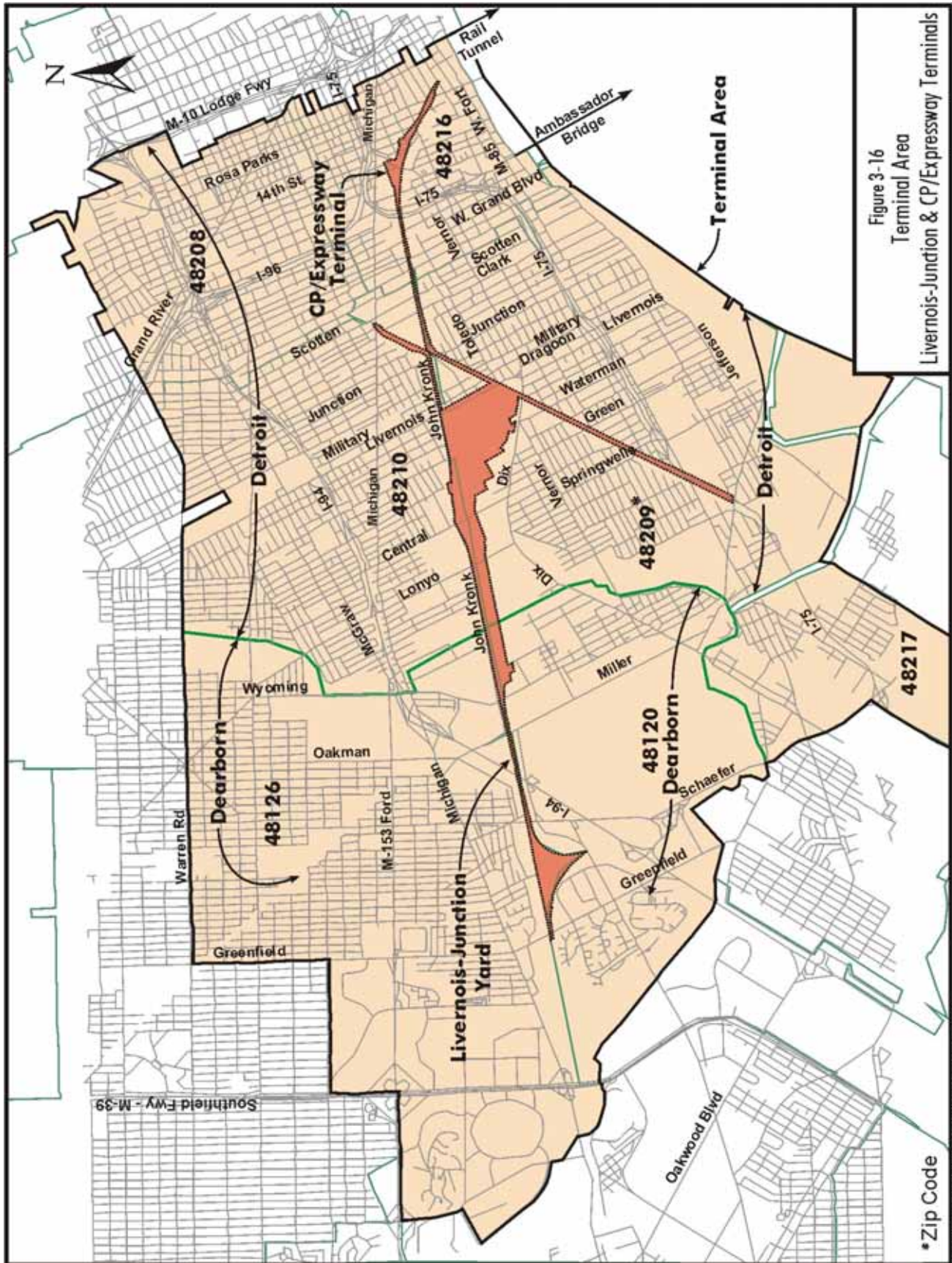


Figure 3-16
Terminal Area
Livernois-Junction & CP/Expressway Terminals

* Zip Code
SOURCE: The Corradino Group of Michigan, Inc.
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About 80 train movements occur daily at some point within the area, with fewer than half being continuous, through movements. International border crossings at the Ambassador Bridge, the Detroit-Windsor Tunnel, and the Detroit-Canada Rail Tunnel serve the area. A portion of the geographical area known as the Port of Detroit is within the project area. And, Greater Detroit's airports are directly connected to the project area by the freeway system.

The Fisher Freeway (I-75) cuts through the terminal area. It is a major north-south interstate highway that connects Sault Ste. Marie to the north, in Michigan's Upper Peninsula, to Miami, Florida. I-75 is a major economic corridor that is critical to Michigan's and the nation's economy.

The Edsel Ford Freeway (I-94) also traverses the terminal area. It is a primary east-west connector linking Canada through Port Huron, Michigan, to Chicago and points west. I-94 also links four regional airports in Southeast Michigan. I-96 (Jeffries Freeway) originates at the Ambassador Bridge where it intersects with I-75 and I-94. It runs west through Lansing, Michigan, and Grand Rapids before terminating near Muskegon, Michigan.

The Detroit Department of Transportation (DDOT) operates a number of bus routes on Michigan, Dix, Livernois and Wyoming Avenues. Suburban Mobility Authority for Regional Transit (SMART) operates a route on Michigan Avenue.

CP/Oak Terminal Area

CP/Oak is located entirely in the City of Detroit (Figure 3-17). A rail line has occupied the current location of CP/Oak since 1871 when the Detroit, Lansing and Lake Michigan Railroad completed its east-west routing through the site. Existing rail activity in the proposed terminal area includes intermodal and conventional rail freight operations of Canadian Pacific Railway on land leased from CSX. Land uses in the study area are a blend of industrial, commercial, and residential.

This terminal area's primary north/south highway route is the Southfield Freeway (M-39) connecting with I-75, I-94, Michigan Avenue (U.S. 12), I-96, and the Lodge Freeway (M-10). Primary exits along the Southfield Freeway that serve the area include I-96 (exit 11), Joy Road (exit 9), and Grand River Avenue (exit 13). The main east/west route is I-96, which originates at the Ambassador Bridge where it intersects with I-75 and I-94. It runs west through Lansing and Grand Rapids before terminating at U.S. 31 near Muskegon on the western side of Michigan. Primary exits along I-96 that serve the area include Evergreen Road (exit 182) and the Southfield Freeway (exit 183). SMART and DDOT both provide bus service in the area. SMART serves the area with park-and-ride-routes connecting Livonia and Farmington to downtown Detroit and routes along Plymouth and Schoolcraft. DDOT provides bus service to the area through its Plymouth, Schoolcraft, Evergreen and Southfield routes.

CN/Moterm Terminal Area

The terminal area around CN/Moterm is bounded by I-696 on the north, Seven Mile Road on the south, Dequindre Avenue on the east, and Schaefer Road on the west (Figure 3-18). Approximately two-thirds of the area is in Wayne County with the balance in Oakland County. Land uses in the study area are a blend of industrial, commercial, and residential. The Michigan State Fairgrounds is located to the south of the terminal.

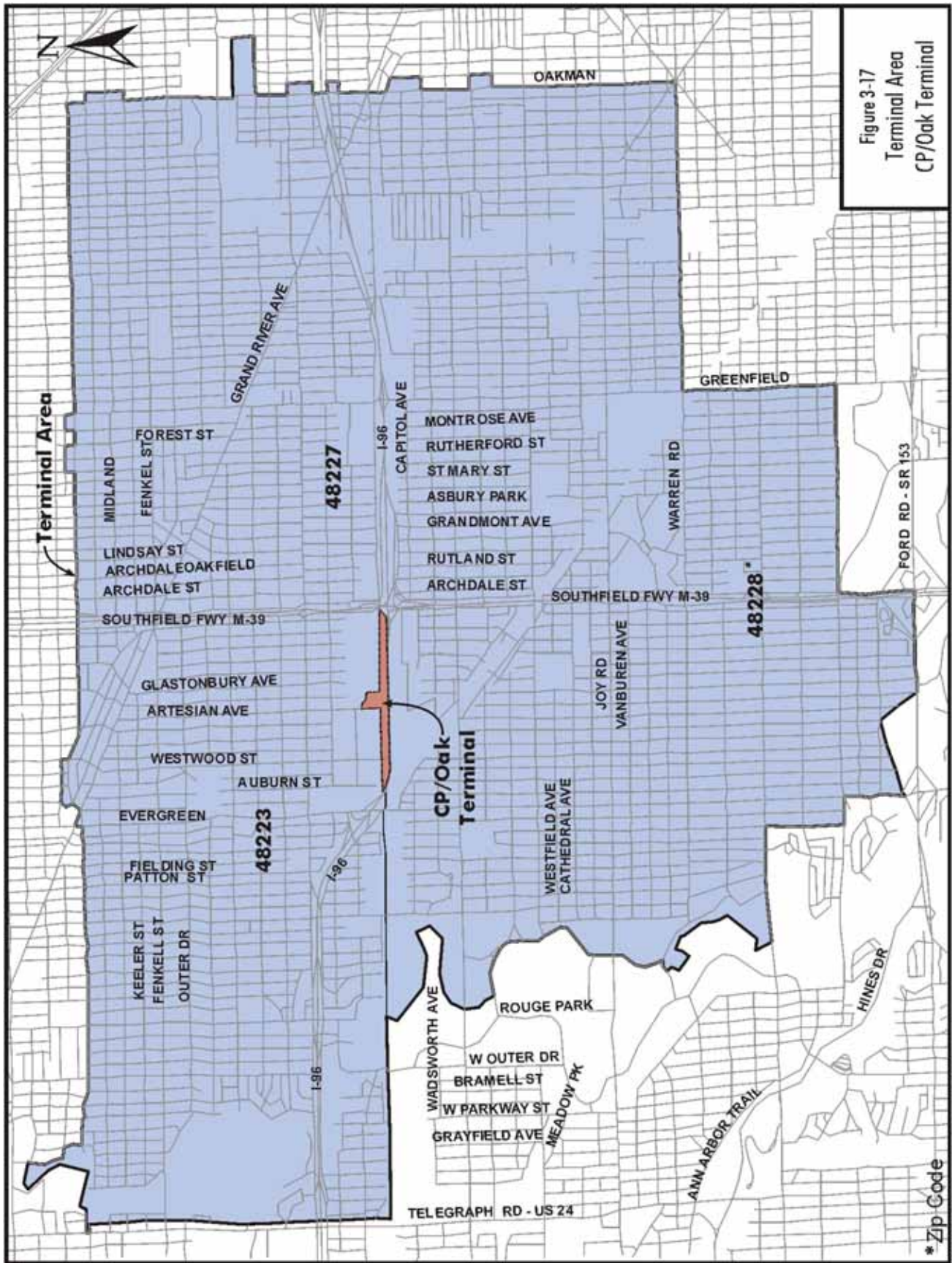


Figure 3-17
Terminal Area
CP/Oak Terminal

*Zip Code
SOURCE: The Corradino Group of Michigan, Inc.
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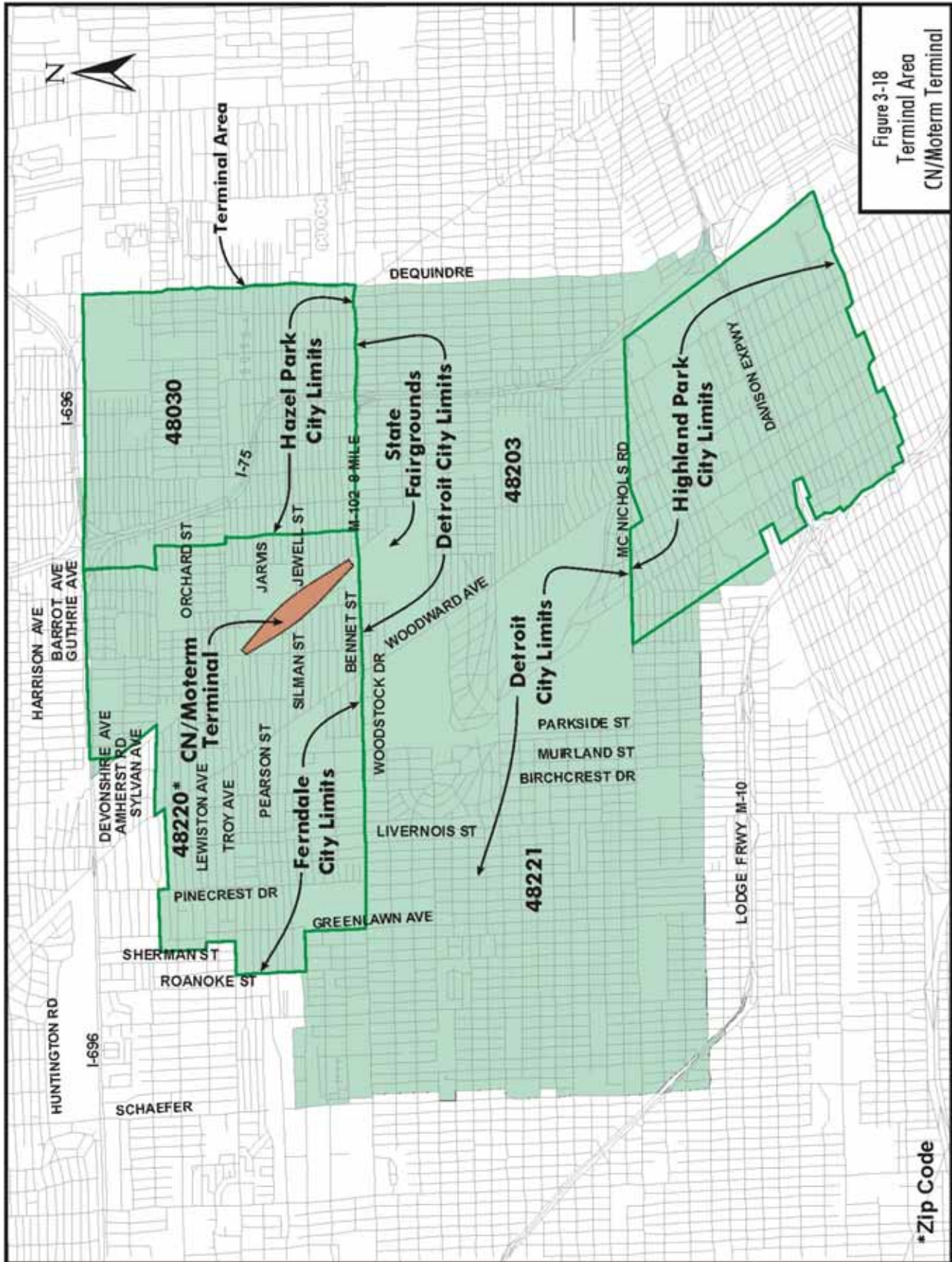


Figure 3-18
Terminal Area
CN/Moterm Terminal

*Zip Code

SOURCE: The Corrodino Group of Michigan, Inc.
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The CN/Moterm area has direct access to two interstates – I-696 running east/west and I-75 running north/south. Primary exits along I-696 that serve the area include Schaefer Highway (exit 14), Woodward Avenue (exit 16), and I-75 (exit 18). Primary exits along I-75 that serve the area include Nine Mile Road (exit 60), Eight Mile Road (exit 59), and Six Mile Road (exit 57). The area is also served by M-1 (Woodward Avenue), linking downtown Detroit with Pontiac and M-102 (Eight Mile Road).

Several public transportation routes serve the area. SMART provides bus service to the area with its Woodward and John R routes as well as east/west routes along Eight Mile and Nine Mile Roads. DDOT maintains bus routes along Woodward, Eight Mile Road, and Seven Mile Road.

3.5 Preferred Alternative

Review of public and agencies' comments after the public hearing, plus consultation with the railroads, led to the formulation of the Preferred Alternative.

The purpose of the project is to support the economic competitiveness of southeastern Michigan and the state by improving freight transportation opportunities and efficiencies. The intent was for the public sector to afford the first class railroads operating in southeastern Michigan the opportunity to participate. It was recognized that much of the growth in freight transportation would come in the form of intermodal container use. So, the participation of the railroads is essential to the project. The development of the alternatives represented a way to test how the public sector could support the private railroads in an equitable way. The railroads meanwhile discussed internally their business plans and needs. Some railroads had the need for expanded capacity, others, in the end determined they did not. All saw advantages to the various external rail improvements. This process of consultation leading to the Preferred Alternative was evolutionary. For example, during the course of the study, the CP Expressway operation at the Michigan Central Depot went out of business. The Preferred Alternative represents the culmination of the process and is codified in the railroad's agreement to the outcome in the signed Pre-Development Plan Agreement (Appendix F). From the public point of view, the process allowed planning for intermodal growth to be done consistent with community needs. Area roadway improvements and paving, buffers around the Livernois-Junction Yard, and addressing poorly working viaducts under railroad lines that leave the yard were addressed in the comprehensive process that led to the Preferred Alternative. Conclusions reached as a result of this consultation process are:

- The No Action Alternative does not meet the project purpose and need.*
- CSX, NS and CP desire to be at the Livernois-Junction Yard. Therefore, Alternative 2, which would have had each railroad expand its current location, is not consistent with the desires of CP. Because the project is designed to afford an opportunity for all Class I railroads to participate, and moving to the Livernois-Junction Yard is the way that CP desires to participate, Alternative 2 cannot be the Preferred Alternative.*
- Because CN desires to remain at its Moterm Terminal, Alternative 3, which would consolidate all railroads at the Livernois-Junction Yard cannot be the Preferred Alternative.*
- Alternative 4 was designed to bring CSX, NS, and CP together at the Livernois-Junction Yard and have CN expand at Moterm. But that expansion of Moterm was not desired by CN and, if expansion had occurred, it would have been into the Michigan State Fairgrounds.*

The Preferred Alternative (Figure 3-19) is a variation of Alternative 4 that will consolidate intermodal operations of CSX, NS, and CP railroads in Southwest Detroit at the Livernois-Junction Yard. The CP/Oak terminal will continue to be used for non-intermodal purposes.

Canadian Pacific's Expressway (trailer loading) operation at the Michigan Central Depot has terminated. The Canadian National Railroad will not shift its Moterm operations to the Livernois-Junction Yard and not expand its terminal. But, it, like the other railroads, will participate in paying its share of external-to-terminal rail improvements that are part of the DIFT project. Such improvements by the DIFT project will increase the efficiency of operations of all the railroads. The agreement on the Preferred Alternative is memorialized in the signed Pre-Development Plan Agreement in Appendix F. Road improvements will also be made, as discussed below.

In summary, the Preferred Alternative will:

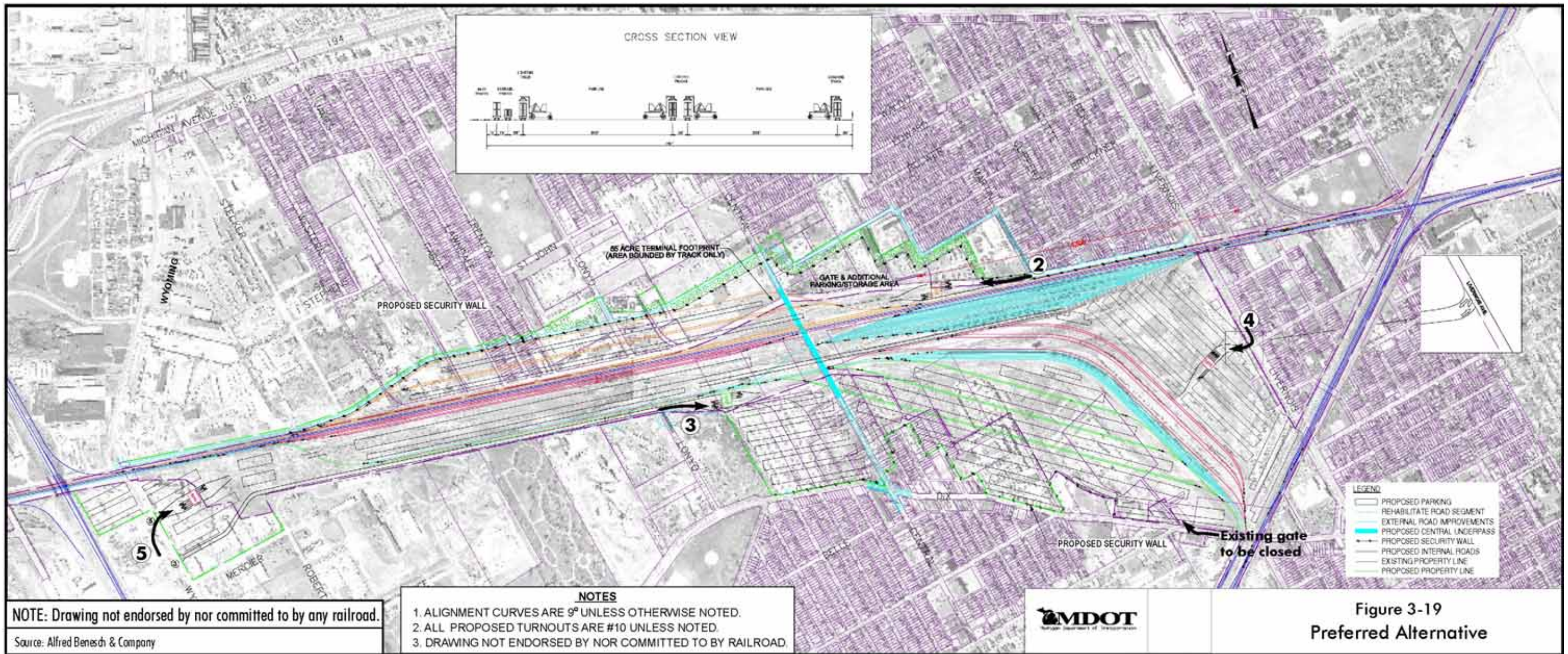
- *Expand the NS and CSX intermodal operations at the Livernois-Junction Yard;*
- *Provide the opportunity to shift the NS Triple Crown operations from Melvindale and Willow Run in Romulus to the Livernois-Junction Yard; and*
- *Move the CP Oak intermodal operation to the Livernois-Junction Yard.*

All four Class I railroads will participate in an external rail improvement program at the following locations (Figure 3-15):

- *Beaubien*
- *Coolidge*
- *Delray*
- *Dix*
- *Mill*
- *Milwaukee Junction*
- *Oakwood Junction*
- *Schaefer*
- *Trenton*
- *Vinewood*
- *Waterman*
- *West Detroit*
- *New Rotunda*
- *Track from Delray to Dix*
- *Track from Oakwood to Schaefer*

Several road improvements will be made to facilitate access to the Livernois-Junction Yard:

- *Modifying the I-94/Livernois interchange on its north side so that trucks will use this interchange (one curve is now too tight for efficient use) and Livernois Avenue, rather than other roads that pass through areas that are predominantly residential;*
- *Closing the Waterman/Dix entrance to the Livernois-Junction Yard and modifying the Livernois entrance so that trucks access the yard from I-94 only;*
- *Closing Lonyo Avenue and rebuilding Central Avenue under the Livernois-Junction Yard so that railroad operations do not conflict with the movements of cars and trucks that now pass across the yard;*
- *Providing two new access points to the yard from the west off Wyoming Avenue. The most southerly is approximately 1,000 feet south of the point where the mainline east-west tracks servicing the yard cross Wyoming Avenue. The other is approximately 500 feet south of the mainline track crossing.*
- *Improving John Kronk for a new gate at Martin (entrance from Livernois Avenue) for a new terminal on the north of and contiguous to the existing Livernois-Junction Yard.*
- *Constructing a north perimeter road to replace John Kronk between a point west of Stecker to Central, then along the terminal boundary to Martin. This road is laid out with curves east of Central Avenue to discourage use by large trucks and high-speed traffic.*



The Preferred Alternative will generate by 2030 4,500 permanent jobs statewide of which 3,150 new jobs will be in the Detroit area, and 1,542 in the Livernois-Junction Yard area.

The Preferred Alternative will require acquisition of approximately 169 acres of land and relocate 28 single-family dwellings, four apartment units, and 29 businesses. The daily 2030 two-way intermodal truck traffic total will be 4,520 (3,800 at the Livernois-Junction Yard), compared to 2,400 (1,500 at the Livernois-Junction Yard) with the No Action Alternative. The net increase in intermodal truck trips at the Livernois-Junction Yard would be 2,300. But, acquisition of land for the Preferred Alternative will eliminate 1,600 two-way truck trips. Thus, the net result is an increase of 700 truck trips per day. Intermodal truck traffic in 2030 would be split 37%/63% between Livernois Avenue and Wyoming Avenue, respectively. Intermodal truck traffic on Livernois/Dragoon south of the terminal would drop to a negligible volume. This will be, in part, due to changes at the Livernois/Dragoon interchange with I-75 that are part of the Preferred Alternative for the Detroit River International Crossing Project (DRIC). The DRIC project will eliminate direct ramp connections to Livernois and Dragoon and make truck access via I-75 substantially more difficult, while improvements to the I-94/Livernois interchange will make access from the north much more attractive. The DIFT project has independent utility from the DRIC project.

Consultation with public interest stakeholders has resulted in a carefully defined program of mitigation/enhancements that is summarized on the "Green Sheet" contained in this FEIS at the end of Section 5.

