

Detroit Intermodal Freight Terminal Project

SUMMARY

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 more often.



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.

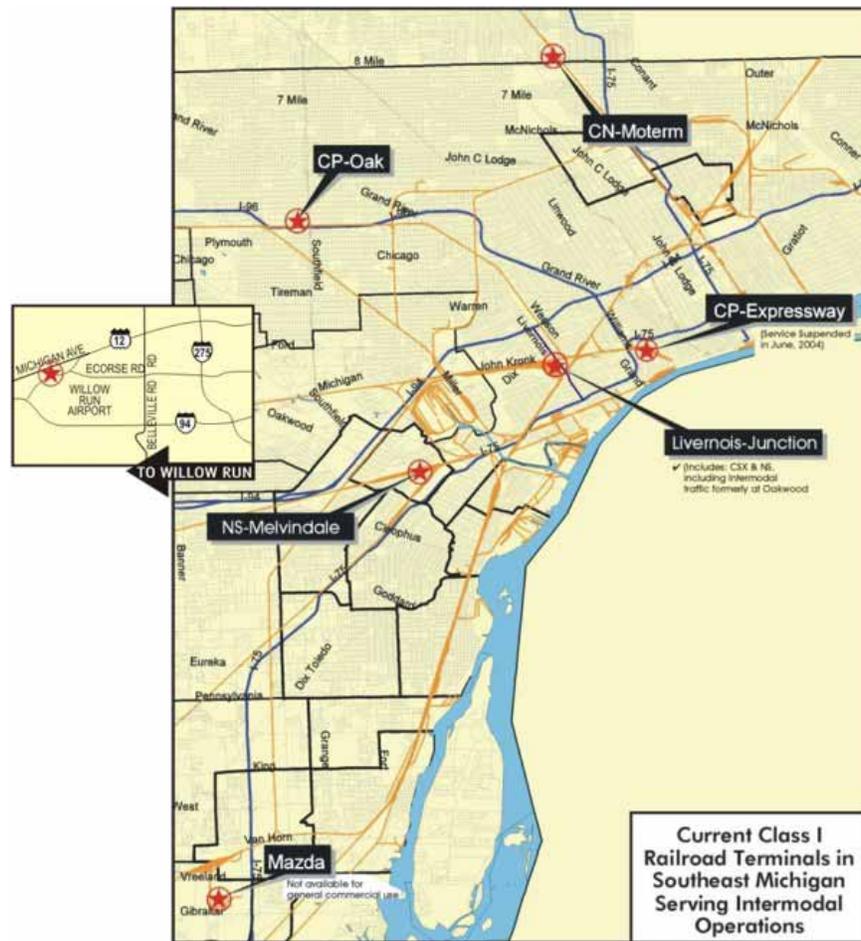


Intermodal Container Being Loaded to Railcar

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.)

There is a current lack of adequate intermodal capacity in Southeast Michigan. Therefore, the Detroit Intermodal Freight Terminal (DIFT) Project proposed enhancement of intermodal operations by the four

Class I railroads¹. 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.

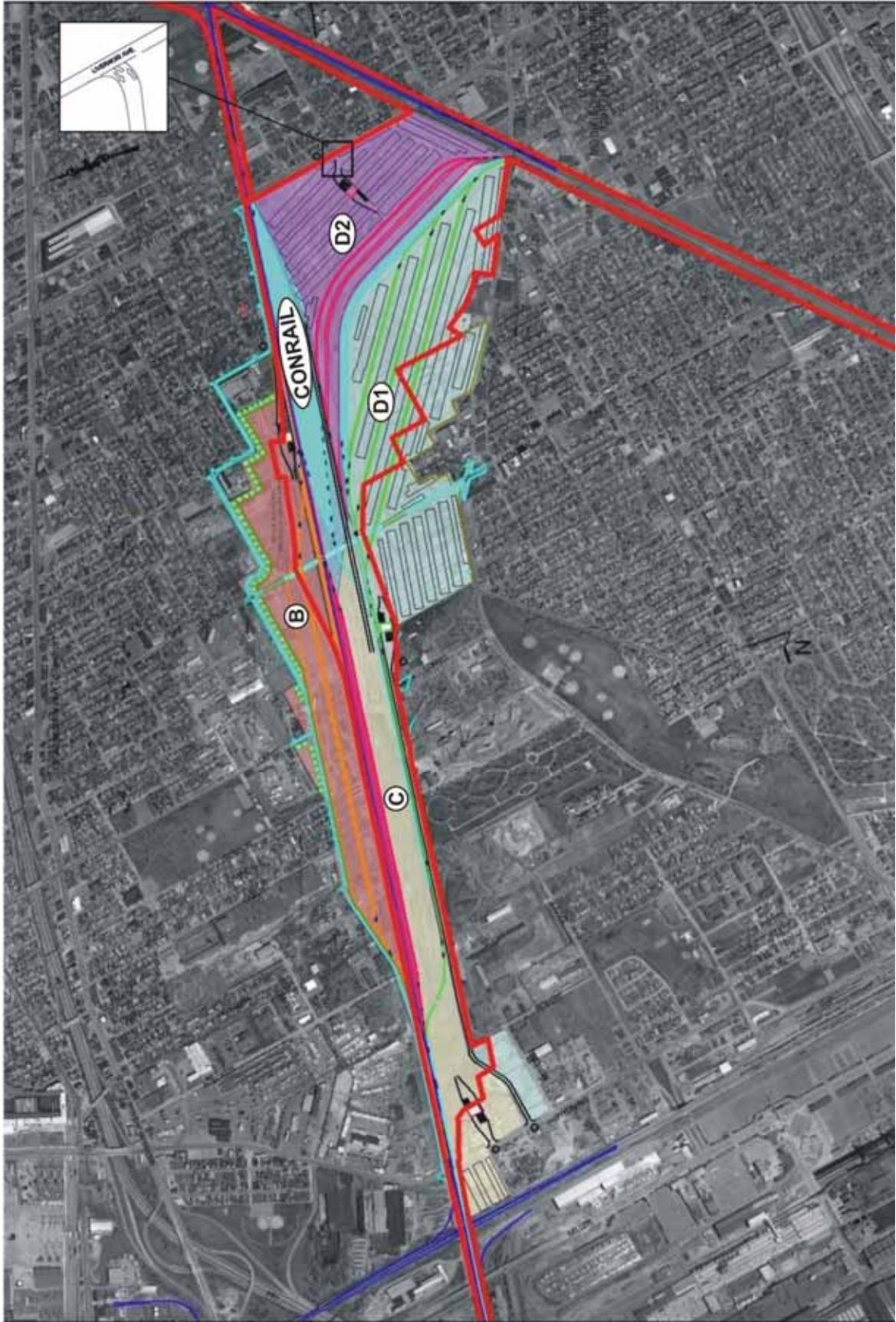


Description of the Preferred Alternative

Review of public and agencies' comments after the public hearing, plus consultation with the railroads, has led to the formulation of the Preferred Alternative (Figure 1-1). It involves consolidating intermodal operations of the 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 railroad purposes. Canadian Pacific's Expressway operation (trailer loading) at the Michigan Central Depot has terminated. The Canadian

¹ 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.

Figure 1-1
Detroit Intermodal Freight Terminal Project
Preferred Alternative



Letters refer to four different Intermodal Terminal operations.
Source: The Corradino Group of Michigan, Inc.

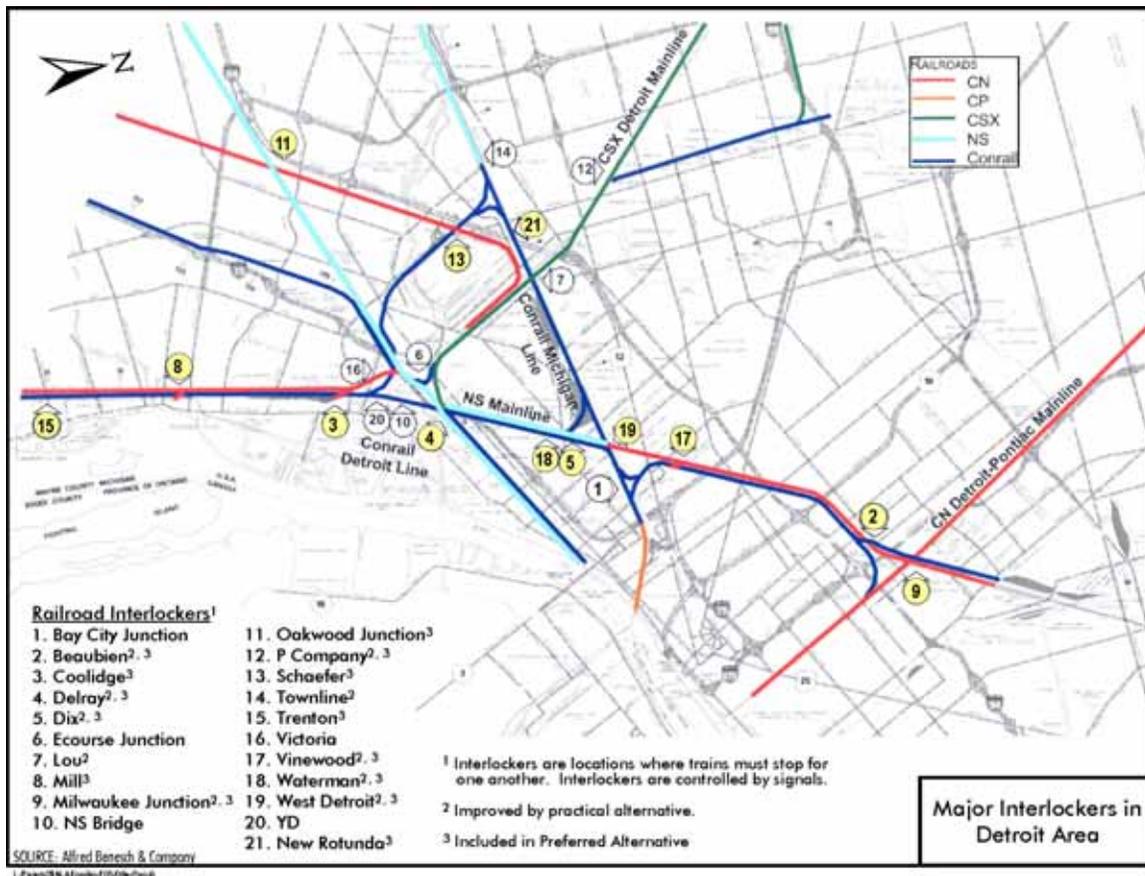
National Railroad has opted not to shift its Moterm operation to the Livernois-Junction Yard and not to expand its terminal. But, it will pay its share of external-to-terminal rail improvements that are part of the DIFT project. Such improvements by the DIFT project will increase the efficiency of operations. Road improvements will also be made. Both the proposed external-to-terminal rail and road improvements are discussed below.

This means 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.

All four Class I railroads will participate in an external rail improvement program at the following locations:

- Beaubien
- Coolidge/YD
- Delray
- Mill
- Milwaukee Junction
- Oakwood Junction
- Schaefer
- FN/Trenton
- Vinewood
- Dix/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.



Proposed Modification of the I-94/Livernois Interchange



Proposed Central Avenue Underpass

- 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.

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 the FEIS. A few of the most important issues are elaborated upon below.

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

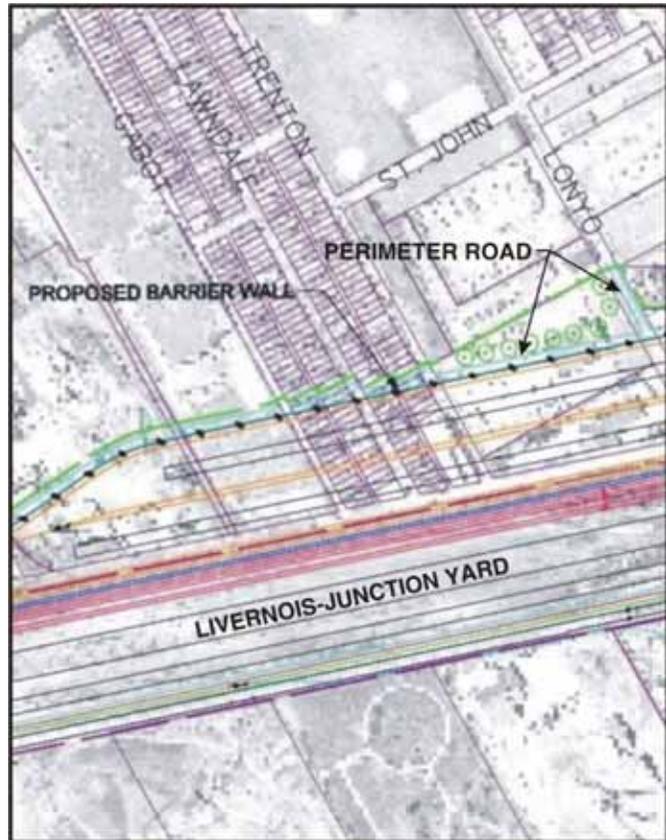
Expanding the Livernois-Junction Yard, as called for in the Preferred Alternative, is consistent with the Detroit Master Plan of Policies because much of the development will take place on industrial property. About ten acres of the 169 acres of the expansion area is now residential and rezoning would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

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/barrier wall on the north side and most of the south side of the terminal, creating a visual and noise barrier between the terminal and adjacent neighborhoods/noise-sensitive residential uses.



Existing Livernois-Junction Yard to be Expanded for DIFT Program



Proposed Barrier Wall and Perimeter Road

**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	29	N/A	None

Farmland/Part 361 Lands		Economic Impacts		Air Quality				Noise Considerations	
				Hot Spots		Pollutant Burden			
No Action	Preferred	No Action	Preferred	No Action	Preferred	No Action	Preferred	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 Overall 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. 	<ul style="list-style-type: none"> No perceptible increase. 	<ul style="list-style-type: none"> No perceptible increase with the addition of planned barrier walls.

^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.
 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. Barrier 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 2008)		
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 additional development, but no certainty exists. 	<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 Total: \$0 	<ul style="list-style-type: none"> Land Acquisition and Relocation: \$104 Construction: \$386 Community Benefits: \$10 Total: \$500

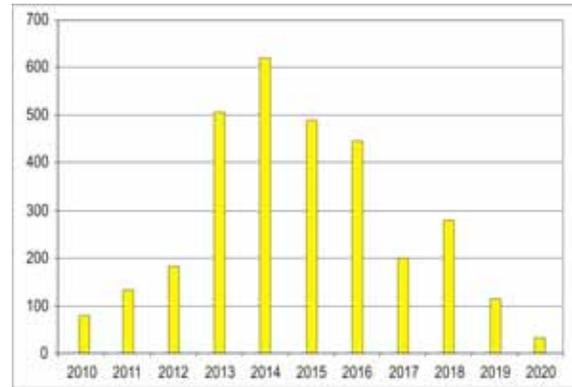
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Source: The Corradino Group of Michigan, Inc.

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 years² of employment would be generated, with construction peaking in 2014 at 620 jobs.



Projected Construction Employment

Air Quality

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} 65 µg/m³ 24-hour and 15 µg/m³ annual standards 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

² A person year is one person working one year.

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 reduce 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, before the DIFT project commences. 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. An example is that monitors next to some roadways with the highest truck volumes in the region (e.g. at Livonia) are not violating standards. 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}.

Visual Conditions

A barrier 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.

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. A Central Avenue viaduct will allow vehicles to safely pass under the terminal, eliminating the possibility of train/car crashes on Central Avenue. Once the Central underpass is completed, traffic on Lonyo Avenue will be rerouted to Central Avenue, eliminating any future car/train crashes at that location also.

Road upgrades will be made including \$11 million for improvements to federal-aid local roads that carry DIFT truck traffic and were identified as a priority by community leaders. The DIFT will address the important issue of reducing truck traffic on neighborhood streets by channeling truck movements to I-94 from Livernois Avenue, through the use of directional curbing at the gate entrance 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. Natural buffering in the form of shrubbery and landscaping are also included. MDOT will work together with the City of Detroit in an effort to secure Transportation Enhancement Funds to beautify roadways and greenways near the DIFT.

MDOT will participate with other stakeholders in funding a study of economic development opportunities such as the Michigan Economic Development Corporation, the Detroit Economic Growth Corporation, and the Dearborn Department of Economic Development.

MDOT will participate in funding to support efforts of SEMCOG to develop a plan for PM_{2.5} attainment. The plan could include: 1) a baseline of all pollutant sources (stationary and mobile) and amounts, against which the future can be compared to show progress toward attainment in the area of Southwest Detroit-East Dearborn; 2) an action plan to achieve attainment; and, 3) an implementation strategy to achieve attainment including responsible entities, schedule, budget, and funding.

Through its work with the railroads, MDOT has a commitment from them to the extent feasible:

- To use new container-handling equipment that is electric or hybrid. If diesel equipment use at the terminal persists, it will use low-sulfur fuel. In any case, this equipment will have minimal emissions.
- To purchase when new line-haul locomotives are needed for use at the terminal, equipment with the latest pollution abatement technology.
- To participate in a “matching-cost” program to install horsepower reduction technologies on switch locomotives.
- To use clean diesel fuel in all railroad equipment used on the terminal after a specified date, such as following the first year of construction.