

**ENVIRONMENTAL ASSESSMENT
FOR THE TROY TRANSIT CENTER
INTERMODAL RAIL PASSENGER FACILITY
OAKLAND COUNTY, MICHIGAN**

Prepared Pursuant to 42 USC § 4332, 49 USC § 303, and 64 FR 28545 by the Michigan
Department of Transportation and City of Troy, Michigan

June 2011

The following person may be contacted for additional information concerning this document:

Steven J. Vandette
City of Troy
Engineering Department
500 Big Beaver Road
Troy, MI

Executive Summary

The City of Troy in Oakland County, Michigan is proposing to construct the ~~XXXXXX~~ Troy Transit Center Intermodal Rail Passenger Facility (Intermodal Facility). The Intermodal Facility would serve the Cities of Troy and Birmingham, Michigan. The City of Troy may utilize federal monies for the construction of this project. Therefore, this planning study and associated documentation have been performed and prepared in accordance with the National Environmental Policy Act (NEPA) with the Federal Railroad Administration (FRA) acting as the lead federal agency. NEPA requires federal agencies to consider the impacts of their actions on the natural, social, economic and cultural environment, and disclose those considerations in a public document. The NEPA process is intended to help public officials make decisions based on an understanding of the environmental consequences and take actions that protect, restore, and enhance the environment (40 CFR § 1500.1).

The Intermodal Facility would service the communities of Troy and Birmingham by strengthening the existing transit options in the area through a centralized facility that will allow users to access intercity rail service, local and regional rail and bus routes and other modes such as air and taxi services. The proposed Intermodal Facility is included as a hub in the Detroit Regional Mass Transit plan (DRMT). The facility would serve as a catalyst for coordinated regional mass transit in Southeastern Michigan.

In 2000, the City of Troy identified potential locations for an Intermodal Facility. The City applied for and received funding from the Michigan Department of Transportation (MDOT) in 2006 to evaluate several alternatives for an Intermodal Facility. This funding was used to begin this study, the purpose of which is to identify a Preferred Alternative site within the proposed project area and to complete preliminary engineering on the Preferred Alternative. Several alternatives are considered based on input from the Cities of Troy and Birmingham, as well as agency and public comment and other stakeholder input. These include the No Action Alternative, use of the existing station in Birmingham, and four build alternative sites located along the Canadian National (CN) Rail line that bisects Troy and Birmingham. The alternative sites were compared based on criteria formed from public and agency input and professional experience.

From the alternative sites considered, a Preferred Alternative was identified in the City of Troy. The Preferred Alternative site, located 1,700 feet south of Maple Road on Doyle Drive, was selected based on the site's ability to maximize views and access from both Maple Road and Coolidge Highway and to facilitate transfers between travel modes. The proposed Intermodal Facility would be located adjacent to the rail along the south property line and would include an approximately 2,500 square foot station building, station accommodations for bus and other public transit vehicles, pedestrian bridge, and surface parking for approximately 116 passenger vehicles.

The site is located on an existing surface parking lot in Troy that is accessed from Doyle Drive, either from Maple Road or Coolidge Highway, allowing for easy access to parking and for easy pick-up and drop-off. Parking spaces would be provided on site, including barrier-free spaces. Barrier-free sidewalks and crosswalks would be provided.

A new Amtrak platform alongside the eastern rail line would require passenger trains to switch to the eastern track of the CN Railroad so that passengers could access trains without crossing over the CN tracks.

The Intermodal Facility would also be pedestrian and bicycle accessible, and would be completely compliant with requirements of the Americans with Disabilities Act (ADA). Design elements intended to improve accessibility include pedestrian scale lighting, hand rails, horizontal landing areas, and benches. The planned connecting pathways would be designed and landscaped to improve aesthetics, reduce soil erosion/runoff, and create a comfortable, attractive space for people to enjoy.

Suburban Mobility Authority for Regional Transportation (SMART) is the public bus service provider in the metropolitan Detroit area. SMART currently provides service to the Cities of Birmingham and Troy, and SMART officials have indicated that the Preferred Alternative would be an appropriate hub for the regional bus system. A drop-off area with slips for four buses is proposed to provide transit links for rail passengers.

The Intermodal Facility building and site would be designed using sustainable design concepts including, but not limited to, a green roof, rain gardens and geothermal HVAC.

Implementation of the Preferred Alternative would have few environmental impacts. The existing use of the property, for the most part, is a parking lot. A small grassed area and some planted trees may be disturbed. There are no threatened or endangered species in the vicinity. There are no residences or businesses to be relocated. The Intermodal Facility would not cause substantial changes in air quality, noise or vibration, or hydrology and water quality. There are no populations living adjacent to the site, and, therefore, no impacts would occur to community cohesion. No community facilities would be impacted. There would be no environmental justice issues. The project is consistent with local land use plans and would require utility tie-ins. Operation of the station would impact transit schedules and routes for some buses, traffic surrounding the station would increase, and some commuter traffic would decrease due to the connectivity provided through the station.

Construction of the Preferred Alternative would result in minor short-term negative impacts related to construction activities, such as a temporary increase in noise levels, exhaust, fumes, and fugitive dust. There are no anticipated long-term negative impacts resulting from the project. The Preferred Alternative would have numerous positive effects, including economic benefits from potential opportunities for transit oriented development, a decrease in reliance on the automobile, reduced greenhouse gas emissions, and improved access to multiple modes of public transit.

Contents

Executive Summary	i
Section 1. Purpose and Need	1
1.1 Project Location and Description.....	1
1.2 Project Needs	4
1.3 Project Purpose	4
1.4 Ridership Projections	4
Section 2. Alternatives	6
2.1 Alternatives Considered.....	6
2.2 Preferred Alternative.....	12
Section 3. Affected Environment and Environmental Impacts	14
3.1 Transportation	16
3.1.1 Rail Passenger and Freight Traffic	16
3.1.2 Transit	16
3.1.3 Traffic and Parking	19
3.2 Physical Environment	23
3.2.1 Air Quality	23
3.2.2 Noise and Vibration	26
3.2.3 Hydrology and Water Quality.....	27
3.2.4 Energy Conservation and Use.....	28
3.3 Ecological Environment.....	29
3.3.1 Terrestrial Resources	29
3.3.2 Threatened and Endangered Species	29
3.4 Land Use	30
3.4.1 General Land Use and Zoning	30
3.4.2 Consistency with Local Plans	31
3.4.3 Utilities.....	31
3.5 Social and Economic Environment.....	31
3.5.1 Community Facilities.....	31
3.5.2 Demographics	32
3.5.3 Economic Resources	32
3.5.4 Community Cohesion	33
3.5.5 Safety and Security	34
3.5.6 Possible Barriers to the Elderly and Handicapped.....	35
3.6 Environmental Justice.....	35
3.7 Cultural Resources	37
3.8 Visual Resources.....	38
3.9 Contaminated Sites and Areas of Environmental Interest	38
3.10 Indirect and Cumulative Effects	39
3.11 Construction Impacts	41
Section 4. Agency Coordination and Public Participation.....	42
Section 5. Sources Consulted.....	45

Appendix

List of Figures

Figure 1-1: Project Location and Project Area 3
Figure 2-1: Alternatives Considered..... 7
Figure 2-2: Preferred Alternative Preliminary Design..... 13
Figure 3-1: Study Area Intersections Evaluated 20

List of Tables

Table 2-1: Alternatives Screening Evaluation 11
Table 3-1: Resources/Issues Considered and Impacts Identified 15
Table 3-2. SMART Bus Routes that Would Serve the Preferred Alternative 17
Table 3-3: SMART Bus and Taxi /Sedan Service Emissions..... 25
Table 3-4: Construction and Fugitive Emissions Estimate..... 25
Table 3-5: Estimated Emissions from the Preferred Alternative by Year 26
Table 3-6: Proposed Action Peak Year Comparison for Preferred Alternative..... 26
Table 3-7: Occupations 33
Table 3-8: Unemployment Rates 33

Section 1. Purpose and Need

The City of Troy in Oakland County, Michigan, is proposing to construct an Intermodal Rail Passenger Facility (Intermodal Facility) to serve as a hub for all transportation modes, a gateway for the city and the region, and to provide for transfers between motorized and non-motorized transportation modes. The proposed Intermodal Facility would contribute to the region's economic health while avoiding impacts to the environment. The project is located in the City of Troy, Oakland County, Michigan, approximately 15 miles north of downtown Detroit.

The need for a new transit facility arises from the inadequacy of the existing local Amtrak station located in the City of Birmingham to serve Amtrak users, a lack of direct access from Troy, and no opportunities for intermodal connectivity with buses, taxis or shuttles. Amtrak service consists of six trains per day; three southbound trains arriving from Pontiac and departing for Detroit, and three northbound trains arriving from Detroit and departing for Pontiac. The existing station consists of a platform with a semi-enclosed shelter adjacent to the tracks in Birmingham. A pay telephone is located on site. There are only four parking spaces available for users at this station, which is not sufficient for current ridership. Presently, vehicles or pedestrians from Troy can only access the station from one quarter mile to the northwest at Maple Road and Eton Street.

1.1 Project Location and Description

The City of Troy is a low-density, suburban community, with a mix of low density residential subdivisions, large industrial properties, retail shopping malls and strip centers, and sprawling office parks. The City is approximately 34 square miles in size and is home to approximately 81,000 people. More importantly, it is home to many international corporations and about 6,000 individual businesses, with over 18 million square feet of manufacturing/engineering space, 17 million square feet of office space, and 6.59 million square feet of retail space. Troy provides a significant employment base for all of metropolitan Detroit, with a workforce of 125,000 people and a daytime population of 136,000 people. Many private employers are included among the stakeholders who support improvements to transportation options that will assist the regional workforce to gain access to jobs in Troy.

The City of Birmingham is a densely populated city with a strong urban core. It is approximately four square miles in size, and is home to just under 20,000 people. The City was developed in the early 1900s and was home to many automotive executives as early as the 1920s when the Detroit Inter-Urban Streetcars ran out along America's first highway, which runs directly from downtown Detroit, through Birmingham to Pontiac, Michigan to the north. As such, the City has a historic downtown core, with a vibrant mix of retail, restaurant and entertainment uses on the first floor, office uses on the second and third floors, and residential units on the upper floors. It serves as one of only five walkable, urban cores within the Detroit metropolitan area, and thus acts as the downtown for many of the surrounding, sprawl-based suburbs.

Three major Southeast Michigan transportation corridors are located within the Cities of Troy and Birmingham: 1) Woodward Avenue (M-1), a state trunkline, which bisects the City of

Birmingham and extends from Detroit to Pontiac, 2) Big Beaver Road, also known as 16 Mile Road, which links both the Cities of Troy and Birmingham with the interstate system; and 3) the CN Rail line that runs from Pontiac through Detroit, Lansing, Kalamazoo and continues into Illinois (*Figure 1-1*). Amtrak provides the “Wolverine” service on this line which travels daily between Pontiac and Chicago.

The project area is located on the eastern limits of the City of Birmingham where they abut the western limits of the City of Troy, from Maple Road extending south approximately one-half mile to the east and west of the CN Railroad line, between Eton Street in Birmingham and Coolidge Highway in Troy.

The proposed Intermodal Facility would provide multi-modal access to intercity rail service and public transit, and would provide much needed connections between carriers and routes. It would act as a hub in the regional transit system, thus greatly enhancing mobility and access to jobs within the area. The Intermodal Facility would also provide an opportunity for bus travelers to choose rail travel, thus providing a drastic reduction in travel times over buses in mixed traffic on public roads. By encouraging the creation of walkable places and improving public transit options and connections, congestion on area streets will be reduced, thereby reducing commuting time and improving the quality of life for area residents.

1.2 Project Needs

The need for the project is based on the following factors:

- Absence of transit and other modal connections to existing intercity rail service in Birmingham and Troy;
- Absence of passenger services at the existing Amtrak Station, and the inability to offer such services given the size constraints of the existing facility; and
- Focus of local policy on transit improvements and connections rather than vehicular-centric roadway improvements as part of a more balanced and sustainable approach to future growth;
- Need for economic development and investment in the Cities of Birmingham and Troy.

The goal for the project is to develop an intermodal transportation facility to provide for a variety of transportation modes and to act as a transportation hub for both Cities, and for the region. In addition, the City would like the facility to serve as a demonstration project for sustainability. As an intermodal facility, the facility would provide a smooth transfer area between motorized and non-motorized transportation modes, (i.e. bus, rail, air, automobile, bicycle, vans, walking, etc.). As a demonstration project for sustainability, the Intermodal Facility would utilize energy efficient geothermal heating and cooling systems, LED lighting, greywater recycling, a green roof, natural daylighting and recyclable building materials. The facility would also provide multiple electric vehicle charging stations. Leadership in Energy and Environmental Design (LEED) certification would be sought for the facility through the U.S. Green Building Council.

1.3 Project Purpose

The purpose of the Intermodal Rail Passenger Facility is to:

- Provide multimodal transit connections to Amtrak platform that provides intercity rail service between Pontiac, Detroit and Chicago;
- Provide basic services to intercity rail travelers, including ticketing services, restrooms, climate controlled waiting and connection facilities, and much needed parking;
- Improve public transit service linkage and provide greater mobility options;
- Improve linkages to major activity centers; and
- Support the City's economic development goals.

The Intermodal Facility would provide multiple transit services, as well as multi-modal transit connections, increased parking for rail and transit riders, increased safety and convenience, and room for expansion in the future. The Intermodal Facility would anchor the community's new Intermodal Facility District to the east and serve as a critical hub in the region's advanced mass transit plan.

1.4 Ridership Projections

The existing Amtrak service to the Birmingham Station consists of six trains daily, with three southbound (arriving from Pontiac & departing for Detroit) and three northbound (arriving from Detroit & departing for Pontiac) trains. According to Amtrak data, the annual ridership for the

existing Birmingham Station was 19,404 passengers in fiscal year 2007 and 19,714 passengers in fiscal year 2008.

In February 2008, a Traffic Impact Study (TIS) was prepared for the new Intermodal Facility (prepared by Fitzgerald & Halliday, Inc. for the City of Troy). Rail ridership projections were conducted for the years 2012 and 2027. In the year 2012, the study projected that the new Intermodal Facility would be served by the existing Amtrak service (three daily northbound and three daily southbound) with average daily boardings and alightings of 124 passengers (annual ridership of 24,765 passengers). In 2027, projected ridership average daily boardings and alightings would increase to 257 passengers daily (annual ridership of 51,485 passengers). This is an anticipated 25.6% growth in daily passengers between 2008 and 2012 and a projected growth between 2012 and 2027 of 108%.

The Southeast Michigan Council of Governments (SEMCOG) is also preparing to commence commuter rail service between Detroit and Ann Arbor as a demonstration project. Should this line be successful in terms of ridership, consideration will be given to extending this commuter service north from Detroit to Pontiac, with a stop at the new Intermodal Facility. Projections for ridership on this portion of the commuter line have not been established, as the majority of users of the current Amtrak service are long-distance trips, not daily commutes. According to SEMCOG traffic data, approximately 50,000 vehicles daily travel on I-75 from northern suburbs towards downtown Detroit. Many of those automobile commuters would benefit from a commuter rail service and would likely use it if available. The new Intermodal Facility would provide a centralized location for future commuter rail users in addition to existing intercity rail users.

Section 2. Alternatives

This chapter summarizes the alternatives analysis that lead to the identification of the Locally Preferred Alternative (LPA). The chapter describes the reasonable alternatives, including the No Build Alternative and the Preferred Alternative, which are evaluated in this environmental assessment. In total, six different alternatives were evaluated:

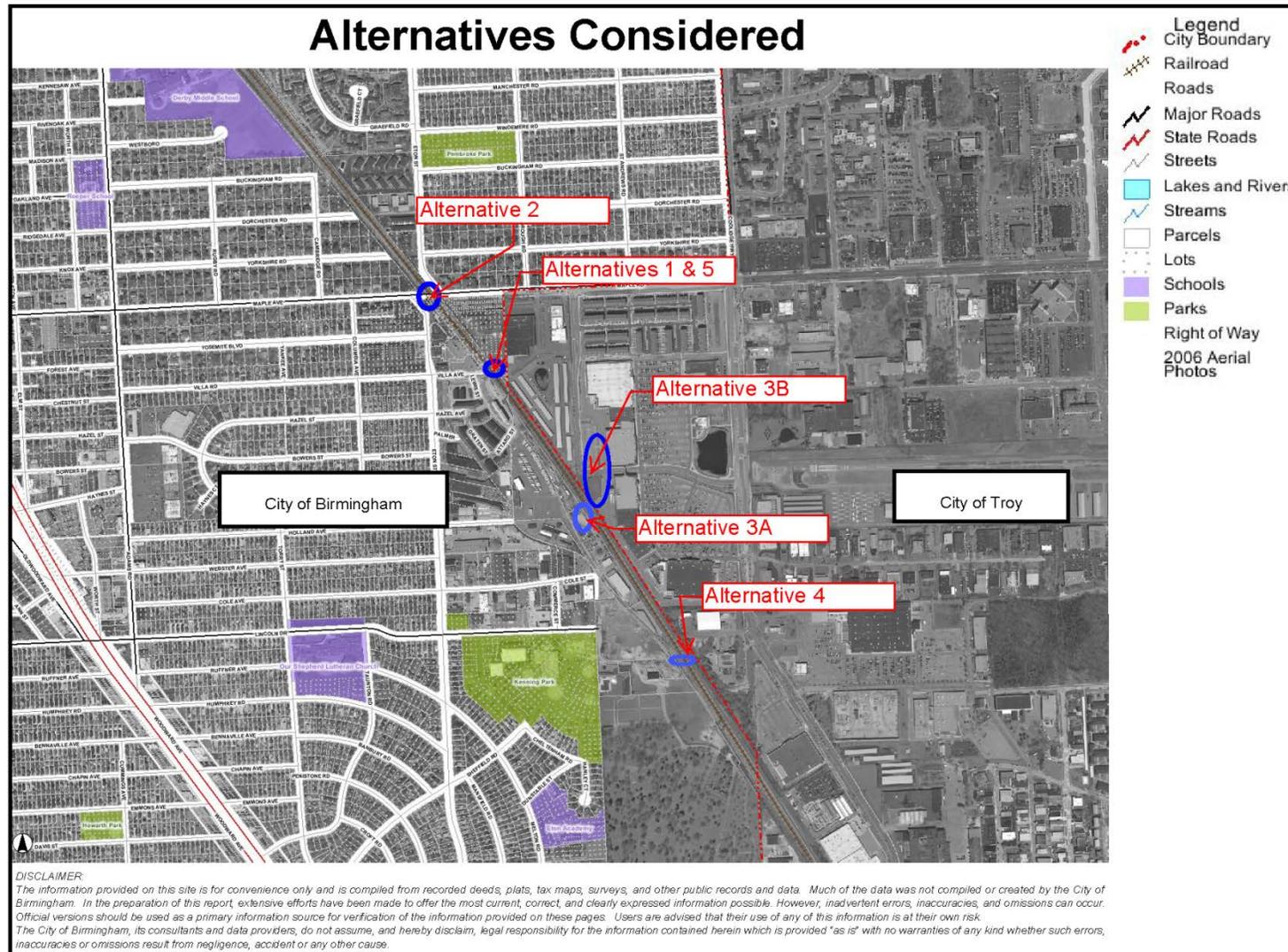
- Alternative 1: Expand and Renovate the Existing Train Station in Birmingham;
- Alternative 2: Maple Road, Birmingham;
- Alternative 3A: End of Holland Street, Birmingham;
- Alternative 3B: Doyle Drive, Troy;
- Alternative 4: East end of Lincoln Street, Birmingham; and
- Alternative 5: No Build Alternative.

An initial screening process was used to limit those alternatives that would be studied further. The criteria used in the screening process involved the ability of the proposed alternatives to meet the project's purpose and need, including providing multi-modal connections to the station, sufficiency of land to accommodate an expandable intermodal facility, providing passenger services and ample public parking, the ability to provide greater mobility options and linkages to major activity centers in both Birmingham and Troy, and the opportunity to stimulate transit-oriented development (TOD) in both Birmingham and Troy.

2.1 Alternatives Considered

The following provides a brief description of alternatives considered, as listed above and shown in *Figure 2-1*. Each of the alternative sites is described, as are the benefits and issues/concerns associated with locating the Intermodal Facility on the site. A summary of the evaluation criteria used is illustrated in *Table 2-1* that follows the alternatives' descriptions. The alternatives were rated using a point system of 0 to 5 points, with 5 being given to the alternatives that best met the criteria, and 0 points given to the alternatives that did not meet the criteria. Of a total of 35 possible points, a rating above 30 was initially considered acceptable.

Figure 2-1: Alternatives Considered



Alternative 1: Expand and Renovate the Existing Birmingham Train Station

The existing site, located in Birmingham at the end of Villa Street, provides easy access to Eton Street. The existing station has poor visibility from the main streets and there is a severe shortage of parking. The existing station provides only four off-street parking spaces for users. The area surrounding the existing station has recently been redeveloped with four-story, mixed use buildings constructed within three feet of the existing station right-of-way. The development is fully occupied.

Expansion and renovation would require the taking of this recently developed property to provide for adequate parking and construction of an intermodal facility building. The current traffic control is adequate, but significant physical modifications would be required to accommodate large volumes of vehicle traffic and to provide multi-modal connections. Additional directional signage would be needed to identify the station's location. The site received a low rating (22 of 35 possible points) using the initial Screening Evaluation (see *Table 2-1*). As a result, this alternative was dismissed.

Alternative 2: Maple Road, Birmingham

This site is located in Birmingham northwest of the existing Amtrak station, adjacent to and east of the CN Rail overpass, south of Maple Road. Approximately two acres in size, the site has frontage and good visibility from Maple Road. This parcel has been developed since its initial identification as an alternative location with an office building and a large surface parking lot. An existing cell tower and associated equipment is located immediately adjacent to the CN Rail right-of-way on this site in Birmingham.

The site is located on a steep slope from the roadbed under the railroad overpass, sloping up to the railroad tracks. Given the slope and proximity to the overpass, driver sight distance at the existing driveway is very poor. The existing intersection would have to be completely reconfigured to provide appropriate sight distance and queuing storage for the large vehicles that need to access the site. The site would not allow for future expansion and requires major geometric improvements to access. Maple Road would need to be widened to accommodate buses in the vicinity of the rail overpass, and the community has already demonstrated intense opposition to the widening of Maple Road between Coolidge and Woodward Avenue. The newly constructed office building would require removal and its tenants relocated. In addition, a National Register Historic District, the Birmingham Grand Trunk Western Railroad Depot Historic District, is located on the west side of the CN Rail line, and the expansion of a platform with a covered canopy would have a significant visual impact on the Historic District. The site received a rating of 28 out of 35 points in the initial Screening Evaluation (see *Table 2-1*). As a result, this alternative was dismissed.

Alternative 3A: End of Holland Street, Birmingham

This site is located in Birmingham approximately 1,200 feet south of the existing Amtrak stop, along the CN Rail line. The site is long and narrow and is approximately 2.5 acres in size. The site is not visible from Maple Road or Eton Road. The parcel is currently not occupied with a building, but there is significant outdoor storage of landscaping materials and equipment on the site. Access to the site is across a 12-foot wide easement on an adjacent lot owned by an automobile towing company.

Development of this site would require major investments in transportation improvements to provide appropriate access, including construction of new roads that would accommodate a significant increase in traffic volume as well as large buses. This location would provide only one access point to Eton Road. All traffic, including buses, would be routed through the multi-family mixed use development to the north (Eton Street Station) to gain access to Eton Road and Maple Road, severely affecting the community. The capacity of this single-lane frontage road may not be adequate for the additional site traffic. The existing intersection at Eton and Hazel and/or Villa Street would need to be reconstructed and signalized to accommodate the increased traffic into the Intermodal Facility. There is insufficient room to accommodate access roads, bus slips and queuing, as well as an Intermodal Facility with sufficient parking. The site received a rating of 23 points out of a possible 35 in the initial Screening Evaluation (see *Table 2-1*). As a result of the evaluation, this alternative was dismissed.

Alternative 3B: Doyle Drive, Troy (Preferred Alternative)

This site is located in the City of Troy, approximately 1,200 feet south of the existing Amtrak stop in Birmingham and on the east side of the CN Railroad line. The 2.73-acre site is part of a 77-acre Brownfield redevelopment area owned by Grand Sakwa and is currently partially developed with a large surface parking lot.

The site has been set aside in a Consent Agreement between the City of Troy and Grand Sakwa to be donated to the City of Troy for use to construct an Intermodal Facility. Thus, the land is essentially a private donation to the project and there would be no cost associated with its transfer to the City of Troy. The site has adequate egress and ingress from Doyle Drive, which directly accesses Maple Road to the north at a signalized intersection and Coolidge Highway to the east. Sufficient room exists along Doyle Drive for bus stops and queuing, as well as the Intermodal Facility building. The parking facility would provide 116 spaces for users of the Intermodal Facility. The platform would be relocated from Birmingham to Troy, on the eastern side of the CN Railroad tracks, and CN would install appropriate track switch signals to provide access to the platform from the western track. A pedestrian bridge would be constructed over the tracks, connecting the station to the west side in Birmingham. Access to the pedestrian bridge would be provided by stairs and elevators on both sides of the tracks.

All of the desired elements of the Intermodal Facility can be accommodated to meet the project's purposes. *Figure 2-2* in Section 2.2 shows the proposed development of this site. In the initial Screening Evaluation (see *Table 2-1*). This site is identified as the Preferred Alternative by the City of Troy and MDOT and is carried forward for further evaluation.

Alternative 4: East End of Lincoln Street, Birmingham

This site is located in Birmingham approximately 3,000 feet south of the existing Amtrak station along the CN Rail line. The site is approximately six acres in size, and is not visible from Maple Road or Eton Street. The parcel is currently unoccupied, open and void of buildings. Access to the site is currently at the east end of East Lincoln Avenue.

Although all of the desired elements of the Intermodal Facility can be accommodated to meet the project's purposes on this site, development of the site would require major investments in

transportation improvements to provide a secondary access point to the site, provide circulation, queuing and bus stops, and provide on-site parking for patrons. These investments would include the reconstruction of existing roads and construction of new roads and parking facilities that would accommodate a significant increase in traffic volume from existing levels, as well as queuing for large buses. The capacity of the single-lane frontage road, Eton Street, may not be adequate for the additional site traffic. The existing intersection at Eton Street and East Lincoln Avenue would need to be reconstructed and signalized to accommodate the increased traffic volumes and large vehicles accessing the Intermodal Facility. This site received the second highest rating, 27 of 35 points, in the initial Screening Evaluation (see *Table 2-1*). Although this site scored an acceptable rating, the comparative complexity of access infrastructure needed between this alternative and Alternative 3B led to its dismissal.

Alternative 5: No Build Alternative

The No Action Alternative, hereafter referred to as the No Build Alternative, consists of routine maintenance and repairs to the existing road, rail and transit system. The existing station's amenities were described previously under Alternative 1. No initiatives would be taken to develop intermodal-type facilities in the Project Area. The existing rail station would remain in use solely as an Amtrak station. The No Build Alternative would not improve the level and quality of passenger rail service in Birmingham and Troy; would not provide intermodal connections to rail passengers; would not provide additional parking for rail passengers, and would not contribute to economic growth within the region.

Although the No Build Alternative does not meet the project's purpose and need, this alternative is carried forward for detailed study to serve as a baseline for evaluation under the National Environmental Policy Act (NEPA).

Table 2-1: Alternatives Screening Evaluation

Screen 1 Evaluation Criteria	Alternative 1 Expand & Renovate Existing Birmingham Train Station	Alternative 2 Maple Road, Birmingham	Alternative 3A End of Holland Street, Birmingham	Alternative 3B Doyle Drive, Troy	Alternative 4 East end of Lincoln Street, Birmingham	Alternative 5 No Build
Screen 1 Criteria						
Proximity to Employment Opportunities	5	5	5	5	5	0
Ability to Provide Multi-Modal Connections to Existing Transit Routes in Birmingham & Troy	2	4	3	3	3	0
Underutilized Land to Construct/Expand Transit Center with Passenger Services Adjacent to Rail	1	2	4	5	5	0
Available Land for Parking	2	2	2	5	5	0
Proximity to Retail and Other Major Trip Generators (within 1/2 mile)	3	5	3	5	3	0
Proximity to Major Roadways	4	5	4	4	3	0
Proximity to Existing Transit Routes	4	5	3	5	3	2
Total Rating	21	28	24	32	27	2
Recommendation	Dismiss	Dismiss	Dismiss	Retain	Dismiss	Retain*

Scoring Definition:

0 = Did Not Meet Criteria

5 = Best Met Criteria

*The No-Build Alternative is retained as a baseline for comparison of alternatives.

2.2 Preferred Alternative

Alternative 3B was chosen as the Preferred Alternative as it best meets the purpose and need of the study. Additionally, when compared to the other alternatives, it requires fewer major roadway improvements, does not require a large parking facility, provides land at no cost to the city, and provides the greatest potential for TOD in Troy.

The Preferred Alternative (*Figure 2-2*) would be designed to maximize views from both Maple Road and Coolidge Highway making it easy to find, easy to access, and easy to facilitate transfers between travel modes. A large parking facility currently exists on site. The site would provide easy access for buses, including bus stop areas that would accommodate four full size buses, queuing space for four additional buses, and a hub connector service stop that accommodates a 20-foot long bus. The site would provide for drop off and pick up of passengers and a taxi queuing area. An approximately 2,500 square foot facility building would be constructed on the site to provide ticket sales, a large waiting room, public restrooms, and kiosk space for lease. A large plaza area and Americans with Disabilities Act (ADA) compliant walkway would provide access from Troy down to a new boarding platform for access to the eastern rail line on which Amtrak will operate. The new Amtrak platform would be equipped with a wheelchair lift and is otherwise ADA compliant.

The current Amtrak train service, three trains daily in each direction between Pontiac and Detroit, would continue at the new Troy location, and the existing station in Birmingham would close. No additional passenger rail service is anticipated at this time. SMART bus service would use the Intermodal Facility in Alternative 3B as a transit hub. Alternative 3B will improve existing connectivity by providing a new multi-modal center that will serve as a transfer point and coordination center for Amtrak intercity rail travel, regional SMART bus services, the new direct Hub Connector service, access to ground transportation to Detroit Metro Airport and Troy Oakland County Airport, and local transportation programs.

The No Build Alternative is carried forward for further evaluation as well, to serve as a basis for comparison. Both the No Build Alternative and Alternative 3B were further evaluated for environmental benefits and impacts, socioeconomic factors, social equity and environmental justice factors, community goals and objectives, conceptual engineering issues, transportation benefits and impacts. Public perception was also considered. The results of this evaluation are provided in **Section 3** of this EA.

Figure 2-2: Preferred Alternative Preliminary Design

Insert 11x17 pdf of **new design, with ramp directly to platform**

Section 3. Affected Environment and Environmental Impacts

This section describes the existing conditions and potential impacts of the Preferred Alternative on the natural and built environment. This EA focuses only on those resources that would be affected by the Preferred Alternative, shown on *Figure 2-2*. The EA focuses on the following resource categories: transportation (including passenger and freight, by all modes, including automobile, mass transit, pedestrian and bicycle); air quality; noise and vibration; water quality; energy resources; ecological systems; threatened and endangered species; land use; socioeconomic environment; public health; commerce; potential barriers to the elderly or handicapped; environmental justice populations; cultural resources; aesthetics and design quality; public safety, including impacts of hazardous materials; and construction period impacts. This section also considers indirect and cumulative effects. There would be some unavoidable, short-term adverse impacts associated with the construction of the Intermodal Facility. However, these will be mitigated as set forth herein and the project would have numerous positive impacts on a number of the aforementioned categories. The project would comply with all applicable federal, state, and local laws and regulations.

The following resources are not located within the Study Area and therefore are not affected by the Preferred Alternative: solid waste disposal; wetland areas; flood hazards or floodplains; coastal zones; wildlife; other natural resources such as water, minerals, or timber; recreational opportunities; or Section 4(f) and Section 6(f) protected properties. Thus, effects on these resources are not evaluated in this document. *Table 3-1* summarizes all of the potential environmental impacts of the Preferred Alternative, based on the analysis provided in the sections following.

Table 3-1: Resources/Issues Considered and Impacts Identified

Resource/Issue	Evaluated for Impacts	Impact	Comment/ Mitigation
Air quality	Yes	No	
Water quality	Yes	No	Impacts minimized through use of green technologies
Noise & Vibration	Yes	No	
Solid waste disposal	Not present	N/A	
Ecological systems	Not present	N/A	
Wetland areas	Not present	N/A	
Endangered species or wildlife	Not present	N/A	
Floodplains	Not present	N/A	
Coastal zone management	Not present	N/A	
Use of energy resources	Yes	No	Minimized through resource conservation
Use of other natural resources, such as water, minerals or timber	Not present	N/A	
Aesthetics and design quality	Yes	No	Visual improvement over existing
Impacts on transportation (all modes) in local, regional, national & international perspectives; including traffic congestion: Encourages transit ridership by providing linkages to existing transit Provides modal choices Provides transit access to services and attractions Improves motor vehicle, pedestrian & bicycle safety Roadway congestion & intersection operations	Yes	No	Moderate positive impact Moderate positive impact Moderate positive impact Minor positive impact Minor impact on surrounding roads and intersections
Possible barriers to the elderly and handicapped	Yes	No	ADA-compliant facility
Land use (existing & planned)	Yes	No	Consistent with zoning and with Cities' master plans
Socioeconomic environment	Yes	No	Likely to stimulate economic development
Environmental justice	Yes	No	Minor positive impact
Public health	Yes	No	
Public safety, including impacts due to hazmats	Yes	No	
Recreational opportunities	Not present	N/A	
Locations of historic, archeological, architectural or cultural significance, including if applicable, consultation with the appropriate SHPO	Yes	No	No effect on historic resources
Use of Section 4(f) protected properties	Not present	N/A	
Indirect and Cumulative Effects	Yes	No	Likely to promote TOD; encourages future transit development
Construction period impacts (temporary)	Yes	Yes	Minimized through adherence to regulations for noise and air quality

3.1 Transportation

3.1.1 Rail Passenger and Freight Traffic

Existing Conditions

The existing Amtrak service to the Birmingham Station consists of six trains daily, with three southbound (arriving from Pontiac & departing for Detroit) and three northbound (arriving from Detroit & departing for Pontiac) trains. Amtrak passenger service operates on the western track of the CN rail line mixed with freight trains on the same track.

Impacts

The No Build Alternative would not impact existing rail passenger or freight service.

The Preferred Alternative site is located adjacent to the eastern rail track. CN Railroad has agreed (refer to the June 28, 2011 letter in the Appendix) to provide infrastructure improvements such as signaling relocation and upgrades, crossovers and turnouts as required to serve the new Troy station. In addition, although CN has plans to remove the eastern track, they would preserve a portion of sufficient length to serve as the station track for the transit center. Ongoing maintenance would be subject to future negotiation in a future operating agreement to be developed between MDOT and CN. As there are no plans to increase existing passenger service, passenger and freight rail would continue to operate on the existing western track, and installation of switching signals would allow for seamless service to the Troy station without affecting freight movement through the area.

3.1.2 Transit

Existing Conditions

The Cities of Troy and Birmingham are currently served by a public transportation system consisting of bus service operated by SMART, Detroit Department of Transportation (DDOT), and Amtrak rail service. SMART operates both fixed route and community transit service, which is curb to curb advanced reservation service designed to meet the special needs of people who cannot access SMART's regular fixed route service. SMART operates 54 bus routes that serve Macomb, Wayne, and Oakland Counties. Average weekday ridership on the system overall is 37,000 passengers, and average weekly ridership including weekends brings that total to 200,000 passengers. Based on information provided by SMART, nearly 13 million people of all ages and incomes ride SMART buses annually. Almost 70 percent of SMART riders use the service to get to or from work and an additional 20 percent to commute to educational facilities. Nearly 40 percent of SMART riders do not have a car and over 41 percent of SMART riders have been a rider for five years or more (SMART, 2007).

SMART Bus currently operates 18 fixed bus routes, nine each in Troy and Birmingham. Six of the nine Troy routes currently terminate or pass through the area near the proposed Intermodal Facility. These existing routes generate 209 trips daily in the vicinity of the proposed Intermodal Facility. **Table 3-2** details the six routes that currently terminate or run through the area near the Preferred Alternative and the areas served:

Table 3-2. SMART Bus Routes that Would Serve the Preferred Alternative

Route	Communities Served	Trips/Day
415	Berkley, Beverly Hills, Birmingham, Detroit, Oak Park, Royal Oak, Royal Oak Township, Southfield, Troy	42
420	Berkley, Beverly Hills, Birmingham, Detroit, Oak Park, Royal Oak, Royal Oak Township, Southfield, Troy	42
460	Berkley, Birmingham, Detroit, Ferndale, Huntington Woods, Pleasant Ridge, Royal Oak, Troy	65
465	Auburn Hills, Berkley, Birmingham, Bloomfield Township, Detroit, Ferndale, Huntington Woods, Pleasant Ridge, Pontiac, Royal Oak, Troy	12
475	Berkley, Birmingham, Detroit, Ferndale, Huntington Woods, Pleasant Ridge, Royal Oak, Troy	8
780	Birmingham, Bloomfield Township, Clawson, Clinton Township, Fraser, Roseville, St. Clair Shores, Sterling Heights, Troy, West Bloomfield Township	40

In addition, there are numerous taxi companies in Troy and Birmingham which provide services to the public, as well as Black Sedan service, and auto rental companies. However, the existing Amtrak Station does not have sufficient space to accommodate bus, taxi, or Black Sedan service at the facility.

Future Planned and Proposed Services

SMART has agreed to coordinate all nine Birmingham and Troy bus routes through the Intermodal Facility in the Preferred Alternative to provide enhanced local and regional connections.

The City of Troy has also been working with Detroit Regional Mass Transit (DRMT), a regional effort between Wayne, Oakland and Macomb counties and the City of Detroit to develop a regional mass transit plan for the entire Detroit metropolitan area. The Intermodal Facility is included in the regional transit plan as one of ten regional transit hubs. This designation is important as all existing and all future transit services would provide connections to the Intermodal Facility, increasing the ease and convenience of travel for local residents and employees. In addition, designation as a regional hub would provide a brand new, direct Hub Connector Service between this Intermodal Facility and regional transit hubs in the cities of Sterling Heights, Roseville, Harper Woods, Detroit, Dearborn, Southfield, Taylor, State Fair Grounds (on the Wayne/Oakland County border), Plymouth and Flint, Michigan. The addition of a Hub Connector Service would add yet another travel option for users of the Intermodal Facility, as it would include direct routes to each of the above cities with service proposed every 15 minutes. The Hub Connector Service is anticipated to reduce the average travel time by 54 minutes when compared to existing bus routes for the trip between regional hubs. This represents a 50.8 percent improvement for hub to hub travel within the region.

The City has also worked with Detroit Metro Airport and the Troy Oakland Airport to provide transit connections to both destinations. The Preferred Alternative is located approximately one-quarter mile west of the Troy Oakland Airport. Currently this airport handles small charter airplanes for private and corporate users and a flying school. The airport is capable of handling light jet service (air taxi) to other airports, including Detroit Metro Airport. The Preferred

Alternative would provide an essential transit connection between the Troy Oakland Airport and other modes of transit, including bus and rail services, Black Sedan (car for hire), and taxi connections to Detroit Metro Airport.

Other transit services in Troy that are operated or sponsored by SMART, such as Dial-A-Ride, Job Express, Oakland Mall Job Shuttle and Troy Medi-Go Plus, could also be benefited by providing service to the Intermodal Facility. The transit hub would provide a convenient location for these services to pick up/deliver passengers. SMART also provides ADA Paratransit services for persons with disabilities who are unable to use SMART's regular fixed route bus service. Every Community Transit/Connector vehicle is wheelchair lift-equipped. This service provides curb-to-curb transportation and covers the same areas, times, and transfers as SMART fixed route services, which will include the routes that would terminate or pass through the Intermodal Facility.

The Preferred Alternative building and site would provide opportunities for shared or rental bicycle services. All SMART fixed route buses are being equipped with an industry standard bike rack that is reliable, easy to use, and quickly secures up to two bicycles. These racks would allow passengers to switch transportation modes quickly and easily. The Intermodal Facility would also provide secure storage areas for bicycles, and a bicycle rental/share program is proposed. There are several bike paths and trails available in the City of Troy that would provide bicycle connections from the Preferred Alternative to the surrounding area. A pedestrian bridge would be provided to provide access from the station to the Birmingham (west) side of the CN tracks.

In addition, the Preferred Alternative would significantly enhance user mobility through the creation of more convenient transportation options for travelers, including the following:

- Providing services and amenities, including extensive parking, to rail travelers between Pontiac, Michigan and Chicago, Illinois via Detroit on existing Amtrak routes;
- Providing access for the entire region to rail travel options through new connections with local and regional bus routes that would run through the Intermodal Facility, with rail connections to destinations across the state and country;
- Providing a brand new, direct, Hub Connector Service between this Intermodal Facility and Sterling Heights, Roseville, Harper Woods, Rosa Parks Intermodal Facility in Detroit, Dearborn, Southfield, Taylor, State Fair Grounds (Wayne/Oakland County border), Plymouth and Flint, Michigan;
- Providing new connections to eastbound Amtrak trains out of Toledo, Ohio;
- Providing new connections to Detroit Metro Airport and Oakland County Airport through a taxi and Black Sedan service hub on site; and
- Providing car and bike rental options for short distance travel.

Impacts

The No Build Alternative would not impact existing transit. The existing Amtrak Station does not currently provide for the inclusion of bus, taxi, or Black Sedan and is unable to accommodate it given the limited size and functionality of this facility. Under the No Build Alternative, transportation options and regional connectivity would not be enhanced.

The Preferred Alternative would affect existing bus transit in the area by rerouting existing services to serve the Intermodal Facility, resulting in a small change in travel patterns for bus passengers. The parking lot in Troy would be reconfigured to accommodate a driveway to allow the addition of bus slips along Doyle Drive. Once the station is completed, SMART would begin to reroute some of the fixed route buses to serve the new Intermodal Facility. Changes to the fixed route bus lines to serve the Intermodal Facility have not been determined, but would likely create a negligible change in travel pattern for the commuter. SMART does not plan to develop new routes, only adapt existing routes to serve the Intermodal Facility while likely keeping existing bus stop locations the same.

The Preferred Alternative would provide a year-round, 24-hour facility that would link commuter and high speed rail transit with bus, taxi and Black Sedan service. The Preferred Alternative would provide a new intermodal facility that would be open 24 hours a day and would provide positive benefits for commuters. The Intermodal Facility would support a TOD district for Troy; future residents and businesses would utilize the connection to rail, bus and van service. The Preferred Alternative would positively impact the current Amtrak ridership statistics, as the new facility would provide enhanced services and conveniences and facilitate improved ridership.

The impact of the Preferred Alternative on transit would be positive, as the new Intermodal Facility would provide better linkages for public transit commuters to destinations locally, regionally, and outside the state on existing and new transit alternatives.

3.1.3 Traffic and Parking

Traffic

The impacts of the Preferred Alternative on the surrounding roadway network were evaluated for years 2007, 2012, 2017, 2022, and 2027. The site is located along Doyle Drive, approximately 1,500 feet south of the intersection of Doyle Drive and Maple Road and approximately 1,300 feet west of the intersection of Doyle Drive and Coolidge Road. The site would feature two-way internal circulation for bus service adjacent to the Intermodal Facility on Doyle Drive and pick up/drop off activity at the Intermodal Facility.

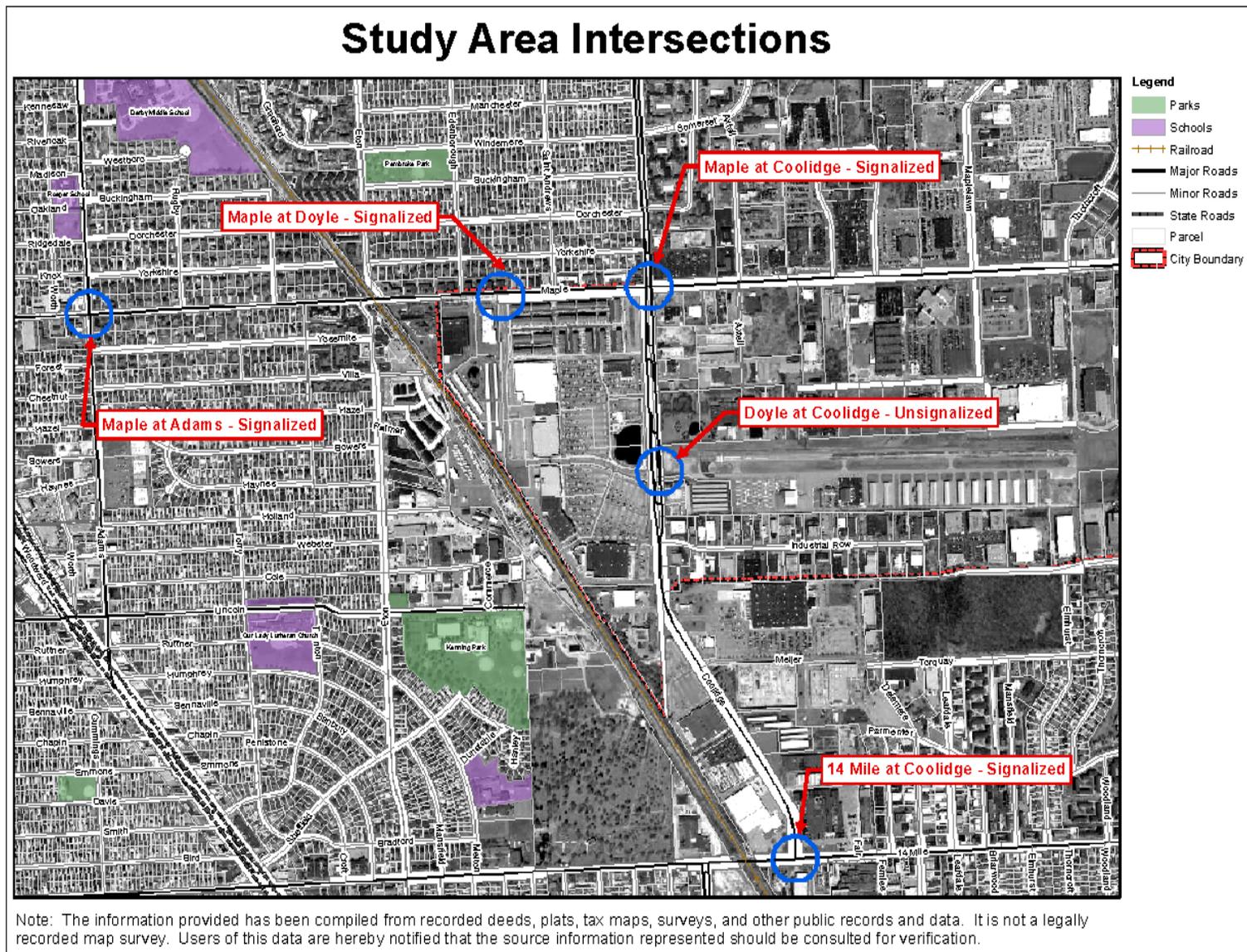
Existing Conditions

Existing year 2007 peak hour traffic conditions were evaluated for the Study Area intersections and roadways of Maple Road, Coolidge Highway, Adams Road and 14 Mile Road. The Average Daily Traffic (ADT) volumes vary from a low of 13,571 vehicles per day (vpd) on Adams Road to a high of 32,435 vpd on Coolidge Highway. Weekday traffic peak hours occur from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM.

The Study Area includes five existing intersections, shown in **Figure 3-1**:

- Maple Road at Adams Road – signalized
- Maple Road at Doyle Drive – signalized
- Maple Road at Coolidge Highway – signalized
- Doyle Drive at Coolidge Highway – unsignalized
- 14 Mile Road at Coolidge Highway – signalized

Figure 3-1: Study Area Intersections Evaluated



The studied intersections were analyzed using the procedures outlined in the 2000 Highway Capacity Manual (HCM) to identify the Level-of-Service (LOS) and overall delays for the Study Area intersections. LOS is a term used to denote different operating conditions which occur at a given intersection under various traffic volume loads. It is a qualitative measure of the effect of a number of factors including intersection geometrics, speed, travel delay, freedom to maneuver and safety. LOS provides an index to the operational qualities of an intersection as perceived by motorists. LOS A represents the best operating conditions while LOS F represents the worst. Generally, LOS D or better is considered acceptable.

Under existing conditions the following three signalized Study Area intersections operate at an overall failing LOS (E or F) during the AM or PM peak hour:

- Maple Road at Adams Road (PM peak hour)
- Maple Road at Coolidge Highway (AM and PM peak hour), and
- 14 Mile Road at Coolidge Highway (PM peak hour);

and the signalized intersection at Maple Road and Doyle Drive operates at LOS A during the AM peak and at LOS B during PM peak hours.

Under existing conditions, each of the four signalized intersections have some critical movements that will operate at a failing LOS. The critical movement at the unsignalized intersection of Coolidge Highway and Doyle Drive operates at an acceptable LOS (LOS D or better).

The signalized intersections in the Study Area operate poorly under current conditions largely because peak hour volumes exceed the existing capacity. This problem is exacerbated by the number of conflicting movements. These intersections are located on roadways which are classified as arterials and function as major east-west or north-south connectors in this area. The intersection of two major roadways results in conflicting movements and high demand for green time, leading to delays.

Impacts

The No Build Alternative considers traffic growth that would occur over time for the future conditions in 2012, 2017, 2022 and 2027. Forecasted traffic volume data was obtained from SEMCOG. Traffic volumes on Study Area roadways are anticipated to remain stagnant over the next 20 years. For a more conservative analysis, the existing peak hour traffic volumes were increased by 1.25 percent annually to reflect background traffic growth on the roadways.

Results of the No-Build analyses indicate the following three Study Area intersections would continue to operate at an overall failing LOS during the AM and/or PM peak hour in all future analysis years:

- Maple Road at Adams Road (PM peak hour),
- Maple Road at Coolidge Highway (AM and PM peak hour), and
- 14 Mile Road at Coolidge Highway (AM and PM peak hour).

All four signalized intersections, including Maple Road at Doyle Drive, have critical movements that are projected to continue to operate poorly. The critical movement at the unsignalized intersection of Coolidge Highway and Doyle Drive is projected to operate at acceptable levels

during the 2012 and 2017 conditions but would operate at an overall failing LOS in 2022 and 2027 conditions.

For the Preferred Alternative, results of the traffic analyses indicate that with the proposed Intermodal Facility, traffic operations at the Study Area intersections are anticipated to be similar to operations under the No-Build conditions. The Preferred Alternative is projected to generate the following weekday peak hour trips during the AM and PM peak hours based on the estimated number of rail and bus passengers that would arrive by vehicle and the number of buses that would access the site (SMART and MDOT projections):

- 2012 – 91 vehicles per hour (vph),
- 2017 – 122 vph,
- 2022 – 159 vph, and
- 2027 – 201 vph.

Under the Preferred Alternative, the same three Study Area intersections are projected to operate at an overall failing LOS during the AM and/or PM peak hour. Also, all Study Area intersections would have the same critical movements operate poorly under the Preferred Alternative with the sole proposed addition of the westbound left turn movement (Maple Road westbound to Adams Road southbound) at the intersection of Maple Road and Adams Road during the AM peak hour (LOS E). Traffic operations at the site access points are expected to be adequate during both peak hours.

Thus, operational inefficiencies at the Study Area intersections would not result from the proposed Intermodal Facility traffic, but as a result of existing traffic growth that naturally occurs over a period of time. The Preferred Alternative is not anticipated to increase congestion or decrease the LOS at Study Area intersections.

Mitigation

Though improvements are not warranted to address traffic impacts that would result from completion of the Preferred Alternative, mitigation measures were identified and evaluated to determine what improvements would address the operational inefficiencies that result from the existing and future projected travel demand. The improvements identified include signal timing modifications, addition of a traffic signal at the unsignalized intersection, and construction of exclusive left turn lanes at select locations. Mitigation measures would be implemented based on actual traffic growth in the future. Modifications to traffic signal timings can be made in real-time due to the adaptive signal system in place. Physical improvements (i.e. new traffic signal and turn lanes) would be implemented if operational inefficiencies are realized in the future.

Parking

Existing Conditions

The existing parking lot on the Preferred Alternative site adjacent to Doyle Drive provides 125 regular spaces and five ADA compliant handicap spaces. This parking lot was constructed in anticipation of the Intermodal Facility when the Midtown Shopping Plaza was constructed in 2000 and is not currently used. However, these parking spaces are not currently accessible to the existing Amtrak station, as no crossing is available in this vicinity to connect the parking area

and the existing Birmingham station. There are four parking spaces at the existing Birmingham Station.

Impacts

The No Build Alternative would not impact parking. The existing parking lot would continue to be unused.

The Preferred Alternative would include a total of 116 parking spaces reserved for the Intermodal Facility users. Seven new handicap spaces and two new spaces for electric car charging are proposed north of the Intermodal Facility building. Based on traffic and ridership projections, there would be ample parking for intercity rail passengers with additional spaces for future rail passenger expansion. Projected parking forecasts for future build years indicate a need for spaces for 42 cars daily in 2012 up to 94 cars daily by 2027. The existing parking lot area on the site would also allow for consideration of a parking deck in the future if needed.

3.2 Physical Environment

3.2.1 Air Quality

Air pollutants are contaminants in the atmosphere from both anthropogenic and natural sources. Anthropogenic sources of air pollutants include both mobile and stationary sources often from combustion of fuels such as coal, oil, natural gas, diesel, or gasoline. The principal factors affecting air pollutant concentrations with respect to transportation projects are the amount of traffic, the type of vehicle and fuel used, and vehicle emission rates.

In accordance with the federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants considered harmful to public health and the environment. These are carbon monoxide (CO), lead, nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}), ozone (O₃) and sulfur dioxide (SO₂). Areas that do not meet the standards for these pollutants are designated as nonattainment and states must develop a State Implementation Plan (SIP) to improve the air quality in these areas and bring them into attainment by specific deadlines set by the EPA.

Federal agencies responsible for an action occurring in nonattainment areas are required to determine if the action conforms to the applicable SIP. The General Conformity regulations under 40 CFR Part 93 consist of the following two parts and detail the requirements for determining whether or not a proposed action conforms to a SIP:

- Transportation Conformity - Transportation projects developed or approved under the Federal Aid Highway Program or Federal Transit Act [40 CFR Part 93, Subpart A]; and
- General Conformity - Other proposed actions not developed or approved under the Federal Aid Highway Program or Federal Transit Act [40 CFR Part 93, Subpart B].

The proposed alternative covered by this EA does not fall under Transportation Conformity requirements. No funding assistance or approval is being provided through the Federal Aid Highway program or the Federal mass transit program for the proposed action; only the General Conformity requirements must be considered when evaluating the proposed action.

General Conformity

General Conformity was established under section 176(c)(4) of the Clean Air Act. The purpose of the General Conformity Rule was to provide states a tool to help improve air quality in areas that do not meet the NAAQS. Under the General Conformity Rule, federal actions that occur in a nonattainment or maintenance area must conform to the air quality plans established in the applicable SIP. The Conformity rule ensures:

- Federal activities do not cause or contribute to new violation of NAAQS;
- Actions do not cause additional or worsen existing violations of or contribute to new violations the NAAQS; and
- Attainment of the NAAQSs is not delayed.

Existing Air Quality of the Project Area

The Proposed Action is planned to occur in the cities of Birmingham and Troy which are both located in Oakland County. Oakland County is in attainment for NO₂, SO₂, CO, lead and coarse particulate matter (PM₁₀). The County is in maintenance for ozone and nonattainment for fine particulate matter (PM_{2.5}).

In 2005, Oakland County was designated part of a seven-county nonattainment area for the annual and 24-hour daily PM_{2.5} standards. In 2008, MDNRE submitted a SIP to EPA detailing its strategy for attaining the annual standard. The plan has been implemented and monitoring data indicates that the entire seven-county area is in compliance with the annual PM_{2.5} standard and 24-hour daily PM_{2.5} standard. MDNRE has requested the counties be redesignated as in attainment for PM_{2.5}. However, since the County has not been redesignated as attainment, Oakland County is still considered in nonattainment for PM_{2.5}.

No Build Alternative

Under the No Build Alternative, the only actions that would occur at the existing station would be routine maintenance and repair of the facility. Since these routine actions would not increase existing air emissions, the No-Build Alternative would not impact regional or local air quality.

Preferred Alternative

Under the Preferred Alternative, the existing Birmingham train station will be closed and a new platform and parking lot will be built approximately 1,200 feet to the south. The new facility will provide both better service for train riders as well as various transit services that were not available at the existing station. The new station will include new bus slips as well as a place for taxis/sedan service. To ensure that constructions activities and the increase in transit traffic in the area do not affect the surrounding air quality, an emission analysis was conducted for the Preferred Alternative. The four sources of air quality emissions analyzed as part of this EA include SMART bus operations, taxi/sedan services, construction activities, and fugitive emissions.

SMART bus and taxi/sedan emissions were analyzed based on information provided from the City of Troy regarding the additional vehicle miles traveled and number of SMART bus and taxi/sedan service trips to the proposed station. The increase in transit vehicles at the new Troy

station would cause only a minor increase in air quality emissions because of the relatively small increase in additional miles traveled by buses and taxi/sedans to the new station (see **Table 3-3**).

Table 3-3: SMART Bus and Taxi /Sedan Service Emissions

Pollutant	Emissions (tons/yr)		
	SMART Bus	Taxi/Sedan Service	Totals
CO	0.06	0.03	0.09
NO _x	0.08	0.003	0.08
PM ₁₀	0.002	2.65E-05	0.002
PM _{2.5}	0.002	2.12E-05	0.002
VOC	0.003	0.002	0.006

Emissions from the proposed DRMT hub could not be estimated since the DRMT hub is still in the initial planning phase and does not yet exist. In addition, emissions could not be estimated for the curb to curb transportation services because there are no fixed routes with these buses.

Emissions from construction activities, including equipment operation and the hauling of material, will result in a temporary increase of emissions and are accounted for in this analysis (see **Table 3-4**). Construction emissions were estimated based on an assumed mix of construction equipment operating during facility construction for a specific length of time. Since the construction plan is not complete, broad assumptions were made in determining the type and amount of equipment as well as the estimated length of construction. For details of the construction emission analysis, refer to **Appendix A**.

Table 3-4: Construction and Fugitive Emissions Estimate

Pollutant	Emissions (tons/yr)		
	Construction	Fugitive	Totals
CO	4.10	N/A	4.10
NO _x	7.58	N/A	7.58
PM ₁₀	0.68	7.71	8.39
PM _{2.5}	0.60	0.77	1.37
SO ₂	0.27	N/A	0.27
VOC	0.70	N/A	0.70

PM₁₀ emissions from construction equipment that will travel on unpaved roads and surfaces during construction were estimated based on the acreage of disturbed land and months of activity. PM_{2.5} emissions were calculated by using a multiplier to infer PM_{2.5} emissions from PM₁₀ emissions. Emissions that do result from construction dust associated with exposed soils would be controlled, if necessary, with the application of water or other approved dust palliatives.

Total Emissions by Year

To determine whether or not a General Conformity determination was required, the results of the emissions estimates for the various portions of the proposed action were compiled on a yearly basis and compared to the General Conformity *de minimis* thresholds (see **Table 3-5**). The assumption was made all construction would occur in Year 1 with the balance of emissions for the year comprised of emissions from the bus and taxi/sedan vehicles. The out years (e.g.,

Year 2 and beyond) would consist only of emissions from the bus and taxi/sedan vehicles; no attempt was made to scale these emissions to account for the change in ridership or alternative bus/taxi/sedan schedules.

Table 3-5: Estimated Emissions from the Preferred Alternative by Year

Year	Emissions (tons)					
	CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	VOC
Year 1	4.13	7.60	8.39	1.37	0.27	0.7
Year 2 and beyond	0.09	0.08	0.002	0.002	-	0.006

Table 3-6 provides a comparison of estimated emissions for Year 1 (the year during which the greatest emissions are expected to occur) to the *de minimis* thresholds. The comparison shows that the Preferred Alternative would not require a formal conformity determination because projected emission levels would be below the applicable *de minimis* thresholds. It is expected, therefore, any impacts on air quality would not be significant.

Table 3-6: Proposed Action Peak Year Comparison for Preferred Alternative

Pollutant	Year 1 Emissions (tons/year)	<i>de minimis</i> Threshold (tons/year)
NO _x	7.60	100
VOC	0.71	100
PM _{2.5}	1.37	100

Note: Year 1 represents the year with the greatest potential to produce the most emissions from the Proposed Action.

Indirect and Cumulative Impacts

The Proposed Alternative would have no significant impact on current or future air quality standard based on the analysis performed as part of this EA. The analysis shows the increase in emissions from increased bus and taxi/sedan service is relatively low and the emissions from construction activities are of short duration. In addition, the proposed alternative does not have the potential to cause the area to exceed the NAAQS, lead to the establishment of a new nonattainment area, or delay achievement of standard attainment.

3.2.2 Noise and Vibration

Existing Conditions

Noise and vibration impacts were assessed in accordance with the Federal Transit Administration's (FTA) guidelines set forth in *Transit Noise and Vibration Impact Assessment* (May 1996), which FTA relies upon for assessing impacts from passenger rail projects of this nature. Traffic noise is unwanted sound that is a function of the volume and speed of traffic. An important consideration in noise analysis is the proximity of noise-sensitive receptors to the source of the noise. These receptors are stationary far-field positions at which noise or vibration levels are specified. They are important because the receptors predict whether or not the specified noise limits will be exceeded. Should these limits be exceeded, mitigation measures and a demonstration of the expected noise reductions resulting from these measures would be

included in construction plans. Vibration refers to the ground-borne noise and perceptible motion. For people living near a transit route, the rumbling sound and vibration from passing trains may permeate an entire building and may be extremely annoying for occupants.

A screening was completed to identify potential noise and/or vibration sensitive land uses within the Study Area. Land uses in the Study Area are mostly commercial and business, and are not noise or vibration sensitive. Some residential develop abuts the Study Area in Troy (Midtown Square); however, this area is beyond the range of influence for noise and vibration impacts

Impacts

The No Build Alternative would not cause noise or vibration impacts to sensitive receptors in the Study Area.

Equipment operation and the hauling of material could result in temporarily increased noise and vibration during construction activities. These activities would be limited to daytime hours between 7:00 AM and 9:00 PM Monday through Friday as permitted by City ordinances. Increased noise and vibration levels would be short term, occurring only during construction periods. After construction is completed, the Preferred Alternative would not have adverse effects on noise or vibration levels in the Study Area.

3.2.3 Hydrology and Water Quality

Existing Conditions

The Preferred Alternative lies entirely within the Twelve Towns Drain Area, a subwatershed of the Clinton River drainage basin. There are no streams or wetlands located within the Preferred Alternative site or affected directly by the construction of the Intermodal Facility.

The Twelve Towns Drain Area is a combined sewer system. Normal dry weather flow discharges to the Dequindre Interceptor, from where it is routed to the Detroit Water and Sewerage Department (DWSD) for treatment. When certain wet weather conditions occur, flows are routed to the George W Kuhn Drainage District CSO Retention Treatment Basin (completed in 2007) where it is retained until it can be rerouted to the DWSD. In instances where flows exceed the retention treatment basin's capacity, flows are treated and discharged to the Red Run Drain. The Red Run Drain is a 12.7 mile long tributary to the Clinton River. From the confluence of the Red Run Drain, the Clinton River runs approximately 16.7 miles east and discharges to Lake St. Clair.

The Preferred Alternative lies within the Midtown Square Shopping Center site. Separate storm sewers and a storm water detention basin were constructed for the shopping center in 2000; the design included provisions for future development of the Intermodal Facility and is adequate for the future facility. The area drains to the Twelve Towns Drain on Coolidge Highway. The existing impervious area for the site is currently developed to 46 percent of its design capacity.

Impacts

The No Build Alternative would not impact the existing sewer and stormwater drainage systems, and the directly-measured overall impervious surface area of the site would not increase.

The Preferred Alternative would not have a direct impact on the Twelve Towns Drainage system nor the George W Kuhn Drainage District CSO Retention Treatment Basin as these systems were designed to accept flows from the project area and the Midtown Square Shopping Center's storm water detention basin. Following construction of the Preferred Alternative, the directly-measured overall impervious surface area of the site would increase from 46 percent to 71 percent of its design capacity. Any water quality impacts that may result from this increase should be minimal and can be adequately mitigated with stormwater management best management practices (BMPs) that would be included during final design.

Mitigation

To mitigate the increase in impervious surface area resulting from construction of the Preferred Alternative, a number of measures would be employed throughout the project area for both the facility building and parking areas. These measures will effectively reduce the imperviousness by decreasing the peak runoff rate and volume from the site and improving surface water quality as compared to existing conditions. These include the use of a green roof system on the facility building, rain gardens, underdrains, and rainwater recycling.

During construction, specific environmental control methods would be employed to minimize water quality impacts. Soil erosion would be minimized by wetting down construction areas, installing soil erosion control measures, seeding disturbed land areas, and covering haul trucks in accordance with City ordinances and Michigan laws. Sediment and erosion control measures would be used to minimize any water quality impacts during construction in accordance with the Troy Soil Erosion and Sedimentation Control Ordinance requirements.

3.2.4 Energy Conservation and Use

Existing Conditions

The Preferred Alternative location currently has a paved parking lot with lighting on the northwest end of the property. Energy is needed to operate the lights that are on continuously from dusk to dawn. There are no buildings or other facilities on the site that use energy resources.

Impacts

The No Build Alternative would not impact energy conservation or use.

The Preferred Alternative would minimize the short- and long-term environmental impacts of development and other activities through resource conservation, recycling, waste minimization, and the use of energy-efficient and ecologically responsible materials, systems and techniques.

The Preferred Alternative would also encourage mode-shift to transit options through increased connectivity and non-motorized transportation opportunities provided through various pathways and links as well as storage and rental of bicycles, rollerblades, skateboards, and new emerging types of personal transportation, which would potentially reduce energy consumption.

3.3 Ecological Environment

3.3.1 Terrestrial Resources

Existing Conditions

The Preferred Alternative parcel includes an open mowed grass area adjacent to Doyle Drive and an existing parking lot to the north. The parcel is surrounded by a mixed-use development with large retail stores and a nearby condominium community. Trees throughout the site are the result of the shopping center development landscaping that took place in 2000. There is also an area of unimproved right-of-way that is scrub/shrub and grass-type vegetation.

Field observations to ascertain the presence of high-quality habitat were conducted in early spring 2010; no species of significance were observed. It is important to note that there have been numerous coyote sightings along the rail corridor.

Impacts

The No Build Alternative would not affect terrestrial resources.

Construction of the Preferred Alternative would impact terrestrial resources in the Study Area because it would involve only the removal of an open mowed area. This impact would be minor given the previously disturbed character of the vicinity of the Preferred Alternative.

3.3.2 Threatened and Endangered Species

Existing Conditions

A review of the readily available and accessible data from Michigan Natural Features Inventory (MNFI) data was performed. The following is a summary of the results from the MNFI for the Project Area:

Watershed Name: Clinton
HUC ID: 04090003010150

Scientific Name	Common Name	State Status	Global Rank	State Rank
<i>Angelica venenosa</i>	Hairy angelica	SC	G5	S3
<i>Arabis missouriensis</i> var. <i>deamii</i>	Missouri rock-cress	SC	G5	S2
<i>Asclepias sullivantii</i>	Sullivant's milkweed	T	G5	S2
<i>Carex lupuliformis</i>	False hop sedge	T	G4	S2
<i>Clemmys guttata</i>	Spotted turtle	T	G5	S2
<i>Galearis spectabilis</i>	Showy orchis	T	G5	S2
<i>Scirpus clintonii</i>	Clinton's bulrush	SC	G4	S3

T= Threatened

SC= Special Concern

G4= Apparently secure globally, though it may be quite rare in parts of its range

G5 = Demonstrably secure globally, though it may be quite rare in parts of its range

S2 = Imperiled in state because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extirpation from the state

S3= Rare or uncommon in state (on the order of 21 to 100 occurrences).

During the field observations conducted in early spring 2010, no listed species or other species of significance were observed. The Preferred Alternative is located on a parking lot and an area of mowed turf. The likelihood of any occurrence of the plant species listed above is very small. In addition, it is unlikely that any amphibians would be utilizing the mowed turf and/or paved parking lot for habitat.

Impacts

The No Build Alternative would not impact the listed species.

As a result of observations and analysis, it is concluded that the Preferred Alternative would have no impact on known species of concern at the locations specified. Consequently, construction of the Preferred Alternative would have no impact on threatened and endangered species in the Study Area.

3.4 Land Use

3.4.1 General Land Use and Zoning

Existing Conditions

Land Use

The existing land use of Preferred Alternative site is paved parking with a small open mowed grass area. The area that surrounds the Preferred Alternative site contains a mix of uses with large retail stores and a condominium community; the CN railway right-of way adjoins the western boundary. There are two sets of CN tracks within the right-of-way. The Troy Oakland Airport and industrial facilities are to the east of the retail development. The existing Amtrak station is located in Birmingham, on the west side of the tracks, approximately 1,200 feet north of the Preferred Alternative site. The station consists of a concrete platform with a simple bus type shelter.

Zoning

The City of Troy adopted its new Zoning Ordinance on April 28, 2011. Under the new ordinance, the 2.7-acre Preferred Alternative site is zoned IB, Integrated Industrial Business District, with a transit facility such as the Intermodal Facility listed as a permitted use. The CN Railway right-of-way serves as the western boundary of the site as well as the boundary between the Cities of Troy and Birmingham. The adjacent surrounding zoning designation is IB, with IB, MR Maple Road – multi-family residential using form-based codes, and MR – mutli-family residential to the north and east.

Impacts

The No Build Alternative would not affect land use or zoning.

The Preferred Alternative would not impact land use or zoning. Construction of the centralized intermodal facility would support surrounding land uses. The proposed facility would benefit the area by providing a transportation hub that would centralize Amtrak service, local bus service, and taxi services.

3.4.2 Consistency with Local Plans

Existing Conditions

The City of Troy Master Plan, adopted in October 2008, identifies the Troy Intermodal Rail Passenger Facility as the Troy-Birmingham Transit Center. According to the Master Plan, the surrounding area is described as mixed use made up of a complementary combination of residential, commercial, and service-oriented land uses.

The Red Run Watershed Management Plan (WMP; 2006) goals include 1) Protect, restore and enhance water quality of the Red Run watershed; and 2) Reduce runoff impacts through sustainable storm water management.

Impacts

The No Build Alternative is not inconsistent with local plans.

The Preferred Alternative is consistent with local plans. In addition to meeting the goals of the City of Troy Master Plan in supporting growth and development in the surrounding area, the new Intermodal Facility would also support the goals of the WMP through the implementation of BMPs and sustainable station design.

3.4.3 Utilities

Existing Conditions

The utilities within the project area include natural gas, International Transmission Company electric transmission lines overhead, and underground telecommunication lines within the Canadian National Railroad right-of-way. Overhead electric lines, telecommunication lines, underground electric service lines, sanitary, storm sewer and water lines are located on the site.

Impacts

The No Build Alternative would not impact any utilities.

Construction of the Preferred Alternative would require relocation of an underground telecommunication line in the CN right-of-way, relocation of overhead electric and telecommunication lines, and taps to existing sanitary, storm sewer and water within the Midtown Square shopping center in Troy. No major impacts to utilities or utility corridors are anticipated. Utility customers will be informed of the scheduled work times, and, although no outages are anticipated, emergency measures will be developed in case of interruption of service.

3.5 Social and Economic Environment

3.5.1 Community Facilities

Existing Conditions

A number of community facilities and services are found within the Project Area; however, there are no community facilities, including parks and other Section 4(f) and Section 6(f) properties, located within the Study Area or that would be affected by the construction of the Intermodal Facility.

Impacts

The No Build Alternative would not affect community facilities.

Construction of the Preferred Alternative would not affect any community facilities. Emergency response time would not be affected by the Preferred Alternative.

3.5.2 Demographics

Existing Conditions

Demographics include a description of population and housing characteristics in the Study Area. The Preferred Alternative lies within an area zoned for business, light industrial, commercial, and residential uses in Troy (see Section 3.4.1). Nearby residences include the Village at Midtown Square townhomes in the southeast quadrant of Maple Road and Doyle Drive in Troy.

Impacts

The No Build Alternative would not impact population or housing.

Construction of the Preferred Alternative would not displace any businesses or residences and would not adversely affect the demographics of the Study Area. Businesses in the area would benefit from the more efficient transportation of people as a result of the Intermodal Facility. Population trends would continue with or without the proposed Intermodal Facility.

3.5.3 Economic Resources

Existing Conditions

The following section provides a description of economic indicators within the Study Area.

Per Capita Income

According to the 2000 U.S. Census, per capita income in Troy in 2000 was \$35,936. Per capita income for Oakland County was \$32,534 and for the State of Michigan was \$22,168.

Employment

According to the 2000 U.S. Census, the majority of workers in Troy (54.8%) were in management, professional and related occupations (**Table 3-7**). The proportions of persons in similar occupations were less in both Oakland County (44.6%) and the State of Michigan (31.5%). Major employers in Troy include Flagstar Bank, William Beaumont Hospital, Delphi Automotive Systems, Troy School District and Kelly Services, Inc. (Oakland County Planning and Economic Development Services, 2009).

Table 3-7: Occupations

Occupation	State of Michigan	Oakland County	City of Troy
Management, professional and related occupations	31.5%	44.6%	54.8%
Service occupations	14.8%	10.7%	8.4%
Sales and office occupations	25.6%	26.8%	25.3%
Farming, fishing and forestry occupations	0.5%	0.1%	0.0%
Construction, extraction, and maintenance occupations	9.2%	6.9%	4.3%
Production, transportation, and material moving occupations	18.5%	10.9%	7.2%

Source: U.S. Bureau of the Census, 2000.

The unemployment rate in Troy in 2000 was 2.3%. As a comparison, unemployment in Oakland County was 2.5% and in the State of Michigan was 3.7%. Beginning in 2008, unemployment rates have dramatically increased in the local area and the State of Michigan in light of the national recession. **Table 3-8** illustrates the 2000 and existing levels of unemployment in the area. Current predictions have indicated that unemployment rates have stabilized and are expected to decrease slowly over the next several years.

Table 3-8: Unemployment Rates

Year	State of Michigan	Oakland County	City of Troy
2000	3.7%	2.5%	2.3%
2010	15.8% ¹	10.6% ¹	13.2% ²

Sources: 1. Michigan Department of Labor (2010)

2. www.city-data.com (2010)

3. www.bestplaces.net (2010)

Impacts

The No Build Alternative would have no impact on economic resources.

The Preferred Alternative would not adversely affect economic resources in the Project Area. No businesses or government services would be displaced or otherwise adversely affected. It is anticipated that construction of the Preferred Alternative would provide new jobs during construction and during operation of the facility and would stimulate investment in new commercial ventures adjacent to the Intermodal Facility. This would improve the Troy economy by providing additional tax base and employment opportunities.

3.5.4 Community Cohesion

Existing Conditions

The location of the Preferred Alternative for the proposed Intermodal Facility site is on parcels of underutilized land. At present, it serves no community function and does not provide any special benefit to the local businesses or residents.

In Troy, the Village at Midtown Square is a condominium complex of 295 residential units located north of the Preferred Alternative site, west of Coolidge Highway and south of Maple Road. This residential complex is a part of the Brownfields redevelopment site.

Impacts

The No Build Alternative would not change existing community cohesion patterns. The No Build Alternative would not result in increased opportunities for community cohesion through increased connectivity.

Construction of the Preferred Alternative would not affect the existing community in the Village at Midtown Square. The residential area of Midtown Square would be within a walkable distance of the Intermodal Facility, providing residents easy access to all modes of transportation. The location of the Preferred Alternative would provide walkable access to the commercial areas of Midtown Square. There would be no adverse effects to community cohesion.

3.5.5 Safety and Security

Existing Conditions

The existing Amtrak station is located in Birmingham, on the west side of the tracks, north of the Preferred Alternative. The station consists of a concrete platform with a simple bus type shelter; it offers no rail passenger services and does not connect to any other public transportation systems. There are disembarking platforms between the tracks that may be used for passenger trains operating on the eastern track; Amtrak uses the westerly track, adjacent to the platform, to serve the station. The easterly track is used for freight traffic. There have been no train-related crashes within the vicinity of the existing station or the Preferred Alternative (SEMCOG).

Impacts

The No Build Alternative would not alter safety conditions associated with the existing Birmingham Amtrak station. In the event that passengers are discharged to the platform in between the tracks, they would have to cross the tracks to reach the station, which is a safety issue.

Safety elements and ADA compliance would be incorporated into the design of the Preferred Alternative. A new Amtrak platform would be constructed on the east side of the CN Railroad, and passenger service would be provided on the easterly track using either track switches or a turnout. CN would provide the appropriate switching service so that passenger trains can safely stop at the Intermodal Facility for alighting and boarding passengers. It is anticipated that freight trains would be routed onto the westerly track during scheduled passenger dwell times.

Access to the platform would be provided by barrier-free ramps and stairs. Design elements intended to improve safety and accessibility include pedestrian scale lighting, hand rails, horizontal landing areas, benches, and radiant heat under ramps to melt ice and snow during winter months. Security cameras would be installed throughout the facility, parking areas, and on the platform. The passenger platform would be enhanced by the addition of a large canopy, shielded on four sides, to protect users from the elements and to provide a sense of security.

New 8-foot high fencing would be installed to prevent pedestrian access to the railroad tracks, except in the designated platform area.

Doyle Drive would be restriped to provide a bike lane on one side to provide a safe path for bicyclists traveling to and from the Intermodal Facility. The bike lane would provide a linkage between existing bicycle routes, and the Intermodal Facility would provide bicycle racks for commuters using this form of transportation.

Security would also be provided by regular ongoing police patrol. Emergency phones are planned within the Intermodal Facility building. Pedestrian scale lighting is planned for the inside and outside of the Intermodal Facility building, throughout the parking area, and around the passenger platform area. The increased police presence, cameras, lighting and phones would ensure that the Intermodal Facility is safe and secure for all of its users.

3.5.6 Possible Barriers to the Elderly and Handicapped

Existing Conditions

The existing Amtrak station in Birmingham consists of a concrete platform with a simple bus type shelter. The existing station offers no services and does not connect to any other public transportation systems. Access to the platform is provided by stairs and a handicapped accessible ramp.

Impacts

The No Build Alternative would not alter conditions associated with the existing Birmingham Amtrak station, and thus would not provide any additional improvements for or eliminate existing barriers to access and use by the elderly and the handicapped.

The Preferred Alternative would improve accessibility for both the elderly and the handicapped. Designated ADA compliant parking spaces would be provided to assure the availability of parking and decrease the distance for elderly and disabled passengers to travel to the train platform. Access to the platform would be provided by both barrier-free ramps and stairs, and lifts will be provided from the platform to board the trains. The pedestrian bridge would be accessible by elevators on both sides of the tracks. Additional design elements in the Preferred Alternative intended to improve safety and accessibility for all users, particularly the elderly and handicapped, include pedestrian scale lighting, hand rails, horizontal landing areas for rest along barrier-free ramps, benches, and radiant heat under the ramp to melt ice and snow during winter months to reduce slip and fall incidents. The Intermodal Facility would be designed to facilitate use by the elderly and the handicapped.

3.6 Environmental Justice

The policy on nondiscrimination in all federally funded activities formally began with Title VI of the 1964 Civil Rights Act. Section 601 of Title VI requires that “No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal Financial assistance.”

Further guidance was provided in 1994 with Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The intent of the Executive Order is to identify and avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Existing Conditions

Data from the 2000 Census was used to determine the presence of minority and low-income populations within the Project Area. According to the Council on Environmental Quality (CEQ), minorities are defined as the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black, and Hispanic (1997).

Analysis of the data indicates that, at the block level, there are no minority populations greater than 14.4 percent within the Project Area, which is roughly equivalent to the percent minority of the surrounding area of the City of Troy (13.2 percent) but slightly higher than that of Oakland County (10.1 percent).

Economic data from the 2000 Census indicated that there is a small percentage (3.2 percent) of the population below the poverty level within the Project Area. However, this percentage is below that of Oakland County (3.8 percent) and higher than for the City of Troy (2.7 percent). Additionally, a review of the Michigan State Housing Development Authority directory of subsidized housing indicates there is no such housing in the Study Area.

Public Involvement

The planning and development of the Intermodal Facility began as a collaborative effort between the Cities of Troy and Birmingham and the Troy and Birmingham-Bloomfield Chambers of Commerce. The two planning bodies have held numerous joint public meetings on the proposed Intermodal Facility and the Intermodal Facility District that was jointly established. All of these meetings were open to the public. Public participation was encouraged by advertising through social media and websites, direct mailings to local residents, traditional media coverage and press releases. The meetings have been accessible by public bus (existing bus routes on East Maple and Lincoln Roads) and bike routes with ADA accessible sidewalks to all meeting locations. In all cases, members of the public were present and participated in the discussion.

A two-day charrette, open to the public, was held on June 15-16, 2009 in Birmingham and Troy. Admission to the charrette was free, and light food and beverages were also provided to attendees throughout, free of charge. This public input process was designed to inform the public about the planning efforts for the Intermodal Facility and the Intermodal Facility District and to solicit public input on the proposed Intermodal Facility location and on the future development of the area surrounding the proposed location. The charrette was held adjacent to the existing Amtrak station, and was publicized through the same means as the meetings described above. The charrette was held in an ADA accessible building which was within 500 feet of an existing bus route, with sidewalk access.

Impacts

The No Build Alternative would not have an impact on EJ populations.

The Preferred Alternative would not have a disproportionately high or adverse effect on either minority or low-income populations. The Preferred Alternative is expected to have a net positive impact on minority and low-income populations by increasing mobility between underserved areas with high unemployment and areas where job opportunities exist in greater numbers and by increasing affordable transportation options for local residents.

3.7 Cultural Resources

Existing Conditions

A cultural resources field review was completed to investigate the presence of archaeological or architectural resources in the Project Area. With respect to archaeological resources, the Intermodal Facility project would involve ground disturbing activity, utility installation and removal of a small number of trees (although they would be transplanted and reused on the site). The study determined, and the Office of the State Archaeologist (OSA) concurred, that there was a low potential for recovery of archaeological remains and no further investigation was warranted.

The Preferred Alternative location was studied under the Draft *Service NEPA Environmental Assessment for the Chicago-Detroit/Pontiac Rail Corridor Improvements from Chicago, Illinois to Pontiac, Michigan*, completed by MI DOT and submitted to FRA in October 2009. The State Historic Preservation Office (SHPO) was contacted regarding the then-proposed Troy/Birmingham transit station as part of the document investigations. A list of known and identified National Register of Historic Places (NRHP) eligible, listed, or potentially eligible above-ground historic resources was reviewed, and it was determined that no above-ground cultural and historic resources in the area would be affected by the proposed transit station. A copy of the SHPO letter of September 22, 2009, expressing concurrence with the determination of No Adverse Effect, is included in the Appendix.

The only nearby historic resource is the Birmingham Grand Trunk & Western Railroad Depot, which opened on August 1, 1931. The Depot is located lies at the northern edge of the Project Area, west of the CN tracks. The property was listed on the National Register of Historic Places on September 12, 1985. The building was closed as a railroad depot in 1978 and was later restored and converted into a restaurant.

Impacts

The No Build Alternative would have no adverse effect on the Birmingham Grand Trunk & Western Railroad Depot.

The Preferred Alternative would have no adverse effect on the Birmingham Grand Trunk & Western Railroad Depot due to distance (approximately 1,500 feet) from the proposed facility and intervening structures. There are no other historic buildings or structures located on or adjacent to the Preferred Alternative site that would be affected by the project.

3.8 Visual Resources

Existing Conditions

The Intermodal Facility site is located on the east side of the CN Rail corridor, south of Maple Avenue. The site is at the back of a retail complex to the north and east; a public storage complex is north of the site, east of the railroad. Across the CN Railroad from the site, the Birmingham School District bus yard lies adjacent to the tracks surrounded by open storage of landscaping materials; a towing company lies to the south. There is little visual quality surrounding the site.

Impacts

The No Build Alternative would not affect the visual quality of the site or surrounding area.

The new Intermodal Facility would be designed as a gateway in the area. The building would provide visual interest and the facility complex would be a visual asset to the area. The architectural style of the building, which has not yet been determined, has been the topic of many public meetings and the June 2009 charrette, where much input was received regarding community preference.

In order to meet the required track clearance requirements, the roof of the pedestrian bridge would be approximately 35 feet high, and would be 22 feet above the roofline of the station building. The bridge would be visible from nearby apartments and businesses. However, the bridge would not modify the visual context of the community given the existing urban characteristics of the study area.

3.9 Contaminated Sites and Areas of Environmental Interest

Existing Conditions

The Preferred Alternative parcel is a 2.73-acre portion of a 77-acre Brownfield redevelopment project. Historic operations resulted in releases of hazardous substances at 34 areas of concern (AOCs) across the 77-acre property. Nine former AOCs are on or within the boundary of the proposed Intermodal Facility site. In accordance with the Michigan Natural Resources and Environmental Protection Act (Act 451), which was implemented by the Michigan Department of Environmental Quality (MDEQ), environmental cleanup actions have occurred at the Brownfield property. Documentation required under Act 451 includes the *Remedial Action Completion Report* that details the cleanup actions. A review of available soil verification data indicates that the MDEQ Generic Criteria developed for Commercial Land Use are met throughout the site. All appropriate permits required by both the City of Troy and the State of Michigan were obtained for both the remediation of the site and all site construction before completion of the current structures, parking lots and open areas.

Impacts

The No Build Alternative would not impact, or be impacted, by hazardous materials on the preferred site.

The Preferred Alternative would not impact or be impacted by hazardous materials on the site. Remediation has been completed and contaminated soils removed.

3.10 Indirect and Cumulative Effects

Indirect Impacts

Indirect impacts are defined as reasonably foreseeable future consequences to the environment that are caused by the proposed action, but that would occur either in the future (later in time) or in the vicinity of, but not at the exact same location, as direct impacts associated with implementation of a build alternative. The Council on Environmental Quality (CEQ) regulations define indirect (secondary) impacts as those that are "...caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR § 1508.8b).

Indirect impacts can be associated with the consequences of land-use development that would be indirectly supported by changes in local access or mobility. Indirect impacts differ from those directly associated with the construction and operation of a facility itself and are often caused by what is commonly referred to as "induced development." Induced development would include a variety of alterations such as changes in land use, economic vitality, property value, population density. The potential for indirect impacts to occur is determined in part by local land-use and development-planning objectives and the physical location of a proposed action. Specific resources may be affected by indirect development, but resource-specific indirect impacts cannot be reasonably foreseen.

The *Troy/Birmingham Transit Center Strategic & Implementation Plan, 2007*, a study completed by the University of Michigan for the Urban Land Institute, identifies the market potential for future development, transportation options and complementary land uses near the proposed Intermodal Facility. The study indicates there is a sufficient demand for as many as 300 attached residential rental units within the Intermodal Facility District in the next five years.

The City of Troy Master Plan calls for a transformation of the area surrounding the Intermodal Facility, and the April 2011 Zoning Ordinance is the tool that will implement the Master Plan. Under the new Zoning Ordinance, the Intermodal Facility area and District is designated IB - Integrated Industrial Business District, with permitted and allowed uses that include those found in mixed-use and TOD areas. Permitted and allowed uses include multi-family residential uses, complementary commercial, retail, and service oriented land uses, transit centers (the Oakland/Troy Airport and the planned Intermodal Facility), public schools, recreational facilities and parks. The combination of air, rail, bus and non-motorized transportation in one compact area, supported by a high-density residential development and regional commercial uses, is anticipated to create a vibrant gateway to the southwest corner of Troy.

The City of Birmingham's Master Plan for the area also calls for further mixed use development in the area, including residential, commercial and light industrial uses, higher densities, and walkable urban form. This type of development in the area in Birmingham west of the Preferred Alternative has already started to develop in this manner.

The No Build Alternative would not result in indirect impacts and would not promote growth or changes in land use.

The Preferred Alternative would likely result in beneficial indirect impacts. The Preferred Alternative may accelerate land use changes that are recommended in the Master Plans of both Birmingham and Troy. The land use surrounding the new Intermodal Facility may shift to land uses compatible with these new transit opportunities, such as higher density TOD mixed-use residential and commercial development designed to maximize access to public transport and incorporate features to encourage transit ridership. As the surrounding area changes, it is expected that the new land use would support the Intermodal Facility and would encourage ridership and use.

There is the potential for the Preferred Alternative to spur growth of residential development (new or redevelopment), providing greater housing opportunities and improved access to jobs. The increased density may spur further development and redevelopment of residential and commercial properties. The improved access to transit alternatives could provide more opportunity for minorities and persons at lower income brackets to access Birmingham and Troy to live, work and play, therefore, increasing socioeconomic diversity.

As these future development possibilities unfold, there may be indirect impacts associated with natural resources and the existing built environment, including historic resources. Indirect impacts are generally addressed only for those resources that are directly impacted. Environmental regulations and guidelines, such as Section 106 and Section 4(f) among others, as well as the master planning documents and zoning regulations, would assure the consideration and avoidance or minimization of impacts to protected resources and provide for the mitigation of unavoidable impacts.

Additionally, the Preferred Alternative could result in an increased tax base due to an increase in commercial, industrial and residential development. It is anticipated that there would be an increase in employment opportunities and worker productivity due to improved transit and access to a labor pool residing outside of Birmingham and Troy. Increased pedestrian activity could result in greater patronage of local businesses and the likelihood of visitors accessing local, civic, and recreational resources in both Birmingham and Troy and the local area.

Cumulative Impacts

The consideration of cumulative effects consists of an assessment of the total effect on a resource, ecosystem, or community from past, present, and future actions that have altered the quantity, quality, or context of those resources within a broad geographic scope. The CEQ regulations define cumulative effects as "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR § 1508.7). The cumulative effects analysis considers the aggregate effects of direct and indirect impacts from federal, non-federal, public, and private actions on the quality or quantity of a resource.

The intent of the cumulative effects analysis is to determine the magnitude and significance of cumulative effects, both beneficial and adverse, and to determine the contribution of the proposed action to those aggregate effects.

The No-Build Alternative would not contribute to cumulative impacts.

The Preferred Alternative would have beneficial contributions to cumulative impacts. Cumulative effects expected to occur as a result of construction of the Preferred Alternative include reduced automobile traffic, resulting in less congestion and air and noise pollution. This would also increase safety for pedestrians and bicyclists and would lead to improved community livability and cohesion. There is also a potential to decrease dependence on the automobile and increase non-motorized transit alternatives including development of bicycle and pedestrian improvements. The Preferred Alternative is also consistent with the master plans of both Birmingham and Troy, and both communities' visions for growth in this area.

3.11 Construction Impacts

Construction of the Preferred Alternative may result in short-term water, air quality and noise impacts that have been addressed within each resource discussion (Sections 3.2.3, 3.2.1, and 3.2.2 respectively). Construction documents would identify specific environmental control methods to minimize air and water quality impacts. These air and water quality impacts, such as fugitive dust and exhaust from construction equipment and soil erosion would be minimized by wetting down construction areas, installing soil erosion control measures, seeding disturbed land areas, and covering haul trucks in accordance with City ordinances and Michigan laws. Sediment and erosion control measures would be used to minimize any water quality impacts during construction in accordance with Troy's Soil Erosion and Sedimentation Control Ordinance requirements.

There would be an increase in noise and vibration levels during construction activities. These activities may be limited to daytime hours between 7:00 AM and 9:00 PM Monday through Friday as permitted by City ordinances. Increased noise and vibration levels would be short term, occurring only during the period of construction.

Emissions from construction activities, including equipment operation and the hauling of material, will result in a temporary increase of emissions; estimated amounts are shown previously in **Table 3-4**. Construction emissions are estimated based on an assumed mix of construction equipment operating during facility construction for a specific length of time. Emissions that would result from construction dust associated with exposed soils would be controlled, if necessary, with the application of water or other approved dust palliatives.

Section 4. Agency Coordination and Public Participation

It should be noted that the City of Birmingham withdrew from the joint cities effort in the spring of 2011, as this EA document was being prepared for FRA acceptance. The past efforts of the City of Birmingham have contributed much to the planning process associated with the proposed Intermodal Facility, as the City of Troy and MDOT continue forward.

In order to ensure long term success and high levels of transit utilization subsequent to the construction of the Intermodal Facility, education and engagement relative to the benefits of transit was an important component of the planning strategy. To that end, the Cities of Birmingham and Troy, in tandem with the respective Chambers of Commerce, formed a transit team comprised of tacticians capable of making the Intermodal Facility a reality and advancing the need for a region wide transit system.

The team established a regular bi-weekly meeting schedule over a roughly two year period (and continues to meet presently). The bi-weekly meetings have been a critical component in effectively coordinating the myriad agencies necessary for the decision making process to flow and in actively engaging the public. A sampling of agency coordination and public involvement related initiatives follows. Early coordination activities were designed to inform residents, public officials, business owners, property owners, other stakeholders, and regulatory agencies about the issues involved in studying the feasibility of creating an intermodal transportation facility for the Cities of Troy and Birmingham.

Agency Coordination

Several meetings were held between the Federal Transportation Administration, the U.S. Department of Transportation, MDOT, and the Michigan Department of Labor and Economic Growth to discuss the project and details associated with the Intermodal Facility. Letters were also sent to the MDEQ, Michigan Department of Natural Resources (Wildlife Division), the Michigan Historical Center (Archaeology Division), and the U.S. Department of the Interior (Fish and Wildlife Services) to gather information regarding rare and unique natural features, historical resources, and threatened and endangered species within the Project Area. Coordination with the SHPO and Tribal Affairs was also undertaken to determine the presence of potential architectural or archeological resources listed or eligible for the NRHP. All comments received as a result of the agency coordination process are provided in Appendix C.

Relationship Management with Other Agencies/Stakeholders

The transit team has also proactively engaged multiple agencies and stakeholders for the primary purpose of supporting and evaluating the proposed Intermodal Facility and to advance the need for regional transit with intermodal connections. Included in this outreach are SEMCOG, SMART, CN, Amtrak, Detroit Regional Mass Transit, Transportation Riders United, The Center for Michigan, Midwest High Speed Rail Association, Aerotropolis and Regional Transit Authority advocates, Connect and Prosper, the Detroit Regional Chamber, House Transportation Committee, neighboring property owners, homeowner associations, complementary committees/groups (e.g. Chamber of Commerce affiliated economic development groups, etc.), County Commissioners, County Executive, foundations, Oakland County City Managers

Association, Destination District representatives, and others. Resolutions and/or letters of support were procured where appropriate.

Public Participation

In addition, public participation efforts sought community input regarding the alternatives being considered, potential environmental impacts, and other study concerns. As part of the project, a series of public presentations and workshops were held. Participants at the public presentations and workshops included local MDOT representatives, homeowners representing individual properties as well as neighborhood associations, business representatives, elected and appointed officials, property owners in the Project Area, and special interest groups. These sessions enabled the study team to gain a greater understanding of local concerns and priorities and to receive suggestions regarding potential alternatives and impacts. Workshops were held in Troy and in Birmingham.

University of Michigan/Urban Land Institute Real Estate Forum – November 2007, Troy MI

The Forum was the culmination of a year-long planning process that focused on the Project Area. The planning process was led by Brookings Fellow and University of Michigan professor, Christopher Leinberger, supported by a graduate level student team and local representatives. It was an important opportunity to conduct detailed research, galvanize a team of decision makers, educate the public, identify resources, initiate the planning process and evaluate alternatives. The year-long study included a market study, economic impact analysis, traffic analysis, site analysis and design recommendations. Results of the study were presented and public comments were recorded.

SEMCOG University Walkable Communities Workshop - April 2009, Birmingham MI

Peter Lagerwey convened this workshop in order to provide a common vocabulary, understanding and appreciation for building healthy, sustainable, livable, and walkable, communities with active transportation options. The workshop served to bring together a diverse group of stakeholders to work collaboratively toward an evaluation of the Project Area and the necessary pedestrian and vehicular improvements to ensure full access to the Intermodal Facility. Public comments were recorded.

Joint Planning Board Meetings – 2008, 2009, 2010

The planning bodies of Birmingham (Birmingham Planning Board) and Troy (Troy Planning Commission) have convened nine joint public meetings since 2008 for the sole purpose of advancing quality planning relative to the location and design of the Intermodal Facility and future transit oriented development in the surrounding area. Both the Birmingham-Bloomfield Chamber and the Troy Chamber of Commerce have attended and supported the planning groups at each of these meetings. These official meetings continue today and have alternated in location between Birmingham and Troy. All of the meetings were open to the public and were conducted in accordance with the Open Meetings Act. Members of the public were in attendance at each of the meetings, and public comments were recorded.

Transit Oriented Development Charrette – June 15th and 16th 2009, Birmingham MI

A two-day charrette was held on June 15-16, 2009 in Birmingham and Troy. This public input process was conducted by both the Cities of Troy and Birmingham, the Troy Chamber of

Commerce and the Birmingham-Bloomfield Chamber. The charrette was designed to (1) inform the public about the planning efforts for the Intermodal Facility itself and the Intermodal Facility District that was established in the surrounding area, and (2) to solicit public input on the proposed Intermodal Facility location and on the future development of the area surrounding the proposed location. Activities included walking tours, stakeholder interviews, and visioning sessions. Topics covered included planning for multi-modal transportation options in the District, creating a pedestrian-oriented, mixed use, walkable destination around the Intermodal Facility, and the nature and form of development that was envisioned.

The charrette was organized to ensure that key stakeholder groups were represented throughout the process. Participants in the charrette included business owners and residents of the Project Area; developers and representatives of the Cities of Birmingham and Troy; and architects, urban designers and students from local colleges and universities. Over 200 people attended the two-day charrette, and over 100 letters of support for the Intermodal Facility were obtained. Walking tours of the surrounding area in both Birmingham and Troy were conducted to familiarize the public with the proposed sites and to provide an opportunity for alternative evaluation. The outcome was the presentation of design concepts and preliminary recommendations based on stakeholder input. The website www.15miletransit.org keeps the public informed on the status of the project.

Encouraging Full Public Participation

Throughout the planning process, a concerted effort has been made to apprise the elected bodies (Birmingham City Commission and Troy City Council) of the status of the Intermodal Facility. These updates have occurred on an ongoing basis and, because the meetings are televised and open to all, they serve to update and educate the public regarding all aspects of the location, design and operation of the Intermodal Facility and provide important opportunities for community dialogue.

Recognizing the need for public education and advocacy support, the transit team also placed some emphasis on engaging media outlets in the attempt to build grass roots support. Multiple reports were conveyed in traditional outlets such as CNN, The Detroit News, The Detroit Free Press, Crain's Detroit Business, local print publications like the Observer & Eccentric Newspapers, Oakland Press, The Paper, Troy Today (and myriad others), and niche outlets such as National Public Radio, Metromode, and others.

The Chambers and the Cities continue to work together to facilitate and monitor the development of the Intermodal Facility and the corresponding Intermodal Facility District. In an effort to keep the communities and the region updated on the Intermodal Facility progress, the Cities and Chambers established the website www.15miletransit.org, a LinkedIn Group (15 Mile Transit), a Facebook account, and a Twitter account (also known as 15 Mile Transit).

Section 5. Sources Consulted

Amtrak Stations, Birmingham, Michigan,

http://www.amtrak.com/servlet/ContentServer?pagename=am/am2Station/Station_Page&code=BMM

Architects & Engineers PC – June 2009

Birmingham Historical Museum, Historic Property Archives, Grand Trunk Western Railroad Birmingham Depot, Birmingham, Michigan

Birmingham Remembered, Jervis B. McMechan, in *The Birmingham Eccentric*, Birmingham, Michigan

Center for Transportation Excellence website: <http://www.cfte.org/trends/benefits.asp>

City of Birmingham Eton Road Corridor Plan (1998)

City of Birmingham, Community Development, Planning and Development Department, Planning Division, Designated Historic Property Files, Grand Trunk Western Railroad Birmingham Depot, Birmingham Michigan

City of Birmingham Zoning Ordinance, May 2005

City of Troy Brownfield Redevelopment Authority

<http://67.38.83.10/BrownfieldRedevelopmentAuthority/BrownfieldPlans.aspx>

City of Troy Zoning Ordinance, October 2008

City of Troy Master Plan (2009)

Clinton River Watershed Management Plan for Improving Water Quality in the Red Run Drain, Clinton River, Lake St. Clair, and the Great Lakes; The Red Run Subwatershed of Macomb and Oakland Counties, 2006, prepared by Tetra Tech, Inc.

Department of Environmental Quality

<http://www.deq.state.mi.us/SiteRegistry/>

Federal Highway Administration <http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm>

Grand Trunk Western Railroad Birmingham Depot,

<http://www.mcgi.state.mi.us/hso/sites/22488.htm>

Haley & Aldrich Consultants, *Environmental Site Assessment Report, Proposed Intermodal Facility*

McMechan/Clohset/Klein, "The Book of Birmingham," Averill Press, Birmingham, Michigan, 1976

Michigan Natural Features Inventory, www.msue.msu.edu/mnfi

Michigan State Housing Development Authority

http://www.mshda.info/housing_locator/index.jsp?Keyword=birmingham&searchtype=SearchKeyword&submit=Search&home=home&display=home§ion=&subsection=

Michigan State Housing Development Authority

http://www.mshda.info/housing_locator/index.jsp?Keyword=troy&searchtype=SearchKeyword&submit=Search&home=home&display=home§ion=&subsection=

Michigan State Housing Development Authority, Office of the State Archaeologist (OSA)

Michigan State Housing Development Authority, State Historic Preservation Office (SHPO)

National Park Service, U. S. Department of Interior, National Register of Historic Places, Grand Trunk Western Railroad Birmingham Depot,

<http://nrhp.focus.nps.gov/natregsearchresult.do?fullresult=true&recordid=0>

New Restaurant on Tap, in *The Birmingham Eccentric*, Birmingham, Michigan, April 17, 1997

New Train Station Preserves Tradition, in *The Birmingham Eccentric*, Birmingham, Michigan, June 20, 2004

Reusing Railroad Stations, Educational Facilities Laboratories, Inc., New York, New York, 1974

Oakland County Water Resources Commissioner, George W. Kuhn Drainage District Operation Plan

Oakland County Water Resources Commissioner, Twelve Towns Drain Project Plan

SMART website: <http://www.smartbus.org/smart/Home>

Southeast Michigan Council of Governments (SEMCOG) website, Data and Maps–Traffic Crash Data, <http://www.semcog.org/Data/Apps/crash.cfm?med=8999>

Traffic Impact Study – Troy Intermodal Intermodal Facility, prepared by Fitzgerald & Halliday, Inc., February 2008

Train Station Recycling Rolling, in *The Birmingham Eccentric*, Birmingham, Michigan

Trainweb, Birmingham, Michigan, <http://www.trainweb.org/usarail/birminghammi.htm>

Troy-Birmingham Intermodal Facility - Schematic Design Report, prepared by Wendel
Duchscherer University of Michigan for the Urban Land Institute, *Intermodal Facility Strategic
& Implementation Plan (2007)*

U.S. Census Bureau Website

[http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=data
sets_1&_lang=en](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=data
sets_1&_lang=en)

Wikipedia, Birmingham, Michigan (Amtrak Station),

[http://en.wikipedia.org/wiki/Birmingham,_Michigan_\(Amtrak_Station\)](http://en.wikipedia.org/wiki/Birmingham,_Michigan_(Amtrak_Station))

APPENDIX