Final Environmental Impact Statement

WOODWARD AVENUE
LIGHT RAIL TRANSIT PROJECT

Detroit, Michigan

June 2011

U.S. Department of Transportation
Federal Transit Administration

City of Detroit
Department of Transportation

WOODWARD LIGHT RAIL

WOODWARD AVENUE LIGHT RAIL TRANSIT PROJECT
CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

FINAL ENVIRONMENTAL IMPACT STATEMENT

PREPARED PURSUANT TO:
National Environmental Policy Act of 1969 (42 USC §4332); Federal Transit Laws (49 USC §5301(e), §5323(b) and §5324 (b)); 49 USC §303 (formerly Department of Transportation Act of 1966, §4(f)); National Historic Preservation Act of 1966, §106 (16 USC §470f); Executive Order 12898 (Environmental Justice)

By the
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION

and the
CITY OF DETROIT, MICHIGAN

in cooperation with the
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

MICHIGAN DEPARTMENT OF TRANSPORTATION

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Regional Administrator, Region V
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6-1-2011
Date of Approval

Norman L. White
Chief Financial Officer
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6-3-2011
Date of Approval

List of Acronyms and Abbreviations

ADA	Americans with Disabilities Act
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ASA	Archaeological Study Area
BEA	Baseline Environmental Assessment
BMPs	Best Management Practices
BRT	Bus Rapid Transit
CAA	Clean Air Act
CBD	Central Business District
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CR	Consolidated Rail Corporation
CSA	Construction Staging Area
dBA	Decibels (A-weighting)
DDOT	Detroit Department of Transportation
DEGC	Detroit Economic Growth Corporation
DEIS	Draft Environmental Impact Statement
DTOGS	Detroit Transit Options for Growth Study
DPM	Detroit People Mover
DTC	Detroit Transportation Corporation
EIS	Environmental Impact Statement
EJ	Environmental Justice
EO	Executive Order
ESA	Environmental Site Assessment
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HMBS	Hazardous Materials Building Survey
ISTEA	Intermodal Surface Transportation Efficiency Act
Ldn	Day-Night Noise Level
LEP	Limited English Proficiency
Leq	Equivalent Noise Level
LOS	Level of Service
LRT	Light Rail Transit
LRTP	Long Range Transportation Plan
LWCF	Land and Water Conservation Funds
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MDOT	Michigan Department of Transportation
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NHPA	National Historic Preservation Act
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NOI	Notice of Intent
NPS	National Park Service
NREPA	Natural Resources and Environmental Protection Act
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
OCS	Overhead Catenary System
PA	Programmatic Agreement
$PM_{2.5}$	Particulate Matter less than 2.5 micrometers in diameter
PM_{10}	Particulate Matter less than 10 micrometers in diameter

PDD	Detroit Planning and Development Department
RCRA	Resource Conservation and Recovery Act
RTP	Regional Transportation Plan
SAFETEA-LU	Safe, Accountable, Efficient Transportation Equity Act: A Legacy for Users
SEMCOG	Southeast Michigan Council of Governments
SF3	Summary File 3
SHPO	State Historic Preservation Office
SMART	Suburban Mobility Authority for Regional Transportation
TIP	Transportation Improvement Program
TOD	Transit-Oriented Development
TSM	Transportation System Management
TPSS	Traction Power Substation
USC	United States Code
USDOT	United States Department of Transportation
USEPA	US Environmental Protection Agency
VdB	Vibration Level
VMT	Vehicle Miles Traveled
VSMF	Vehicle Storage and Maintenance Facility
WA3	Woodward Avenue Action Association

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Introduction and Abstract

Responsible Agencies

The lead Federal agency for the Project is the U.S. Department of Transportation, Federal Transit Administration (FTA). The Project sponsor is the City of Detroit. The Cooperating Agencies are the U.S. Department of Transportation, Federal Highway Administration; U.S. Department of the Interior, National Park Service; and the Michigan Department of Transportation.

Availability of the FEIS

This FEIS is available at local public libraries and may also be found on the Project website at http://www.woodwardlightrail.com.

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Abstract

The Federal Transit Administration (FTA), as the lead Federal agency, and the City of Detroit, as the project sponsor, jointly prepared this Final Environmental Impact Statement (FEIS), consistent with the requirements of the National Environmental Policy Act, to evaluate and assess potentially substantial and adverse impacts to the human and natural environment that may result from construction and operation of the Preferred Alternative (A4) for the Woodward Avenue Light Rail Transit (LRT) Project (the Project).

The purpose of the proposed Project is to: improve public transit service and provide greater mobility options for the Woodward Avenue Corridor (the Corridor); improve transportation equity among all travelers; improve transit capacity in the Corridor; improve linkages to major activity centers in the Corridor; and support the City's economic development goals and encourage reinvestment in Detroit's urban core.

The need for the proposed Project is based on: strong existing bus ridership and large potential ridership; a heavily transit-dependent population along the Corridor; overcrowding, reliability issues, and lack of rapid transit alternatives with the current bus system; air quality issues due to the region's nonattainment status; and focus of local policy on transit improvements as part of a more balanced and sustainable approach to future growth.

The study area is located in Wayne County, Michigan. It comprises the Woodward Avenue Corridor, which extends 9.3 miles from Downtown Detroit (Downtown) near the Detroit River, and north to the Michigan State Fairgrounds near 8 Mile Road. The study area extends

approximately one-half mile to the east and west of Woodward Avenue and is the area within which project impacts may occur.

This FEIS evaluates the No Build Alternative and the four Project Build Alternatives. The Project is an at-grade LRT system located entirely within existing rights-of-way on Woodward Avenue from Downtown to 8 Mile Road; it would be fully functional as a stand-alone project but would be designed to accommodate possible future extensions. Two mainline operating options (Options A and B), combined with three Downtown design options, created three variations of the Project defined for initial evaluation in the DEIS: median - running Alternative A1 with 15 LRT stations, curb-running Alternative B2 with 21 stations, and curb-running Alternative B3 with 18 stations. This FEIS also evaluates the Preferred Alternative (A4), which is a combination of median-running and side-running with 19 LRT stations. It is a composite of the alternatives previously evaluated in the DEIS. Ancillary facilities associated with the Project include a vehicle storage maintenance facility (VSMF), a park and ride lot, and traction power substations (TPSS) (eight with Alternatives A1, B2, and A4; seven with Alternative B3).

Potential impacts of the alternatives on key resources of the natural and human environment are evaluated in this FEIS. T he legal and regulatory context, analysis methodology, existing conditions, long-term effects, short-term construction effects, and mitigation measures for unavoidable impacts are summarized for each resource. Technical Reports supporting the FEIS are included with this document and are incorporated by reference. With the exception of the *Transportation Technical Report*, the Technical Reports have not been updated with the Preferred Alternative (A4), as it is a composite of the original alternatives whose impacts have already been addressed. A Section 4(f) Evaluation is included with this FEIS, which documents impacts to Section 4(f) resources.

The issuance of the DEIS in January 2011 was followed by a formal public hearing and an open public comment period from January 28, 2011 through March 14, 2011. This FEIS provides responses to public comments received during this time frame and identifies the City's Preferred Alternative (A4). A Record of Decision (ROD) will follow this FEIS and will document FTA's decision to proceed with an approved alternative and mitigation commitments.

Executive Summary

ES.1 Introduction

The Federal Transit Administration (FTA), as the lead Federal agency, and the City of Detroit, as the Project sponsor, jointly prepared this Final Environmental Impact Statement (FEIS), consistent with the requirements of the National Environmental Policy Act (NEPA), to evaluate and assess potentially substantial and adverse impacts to the human and natural environment that may result from the construction and operation of the Preferred Alternative (A4) of the Woodward Avenue Light Rail Transit (LRT) Project in the City of Detroit, Wayne County, Michigan.

The Federal Highway Administration (FHWA), the National Park Service (NPS), and the Michigan Department of Transportation (MDOT) are cooperating agencies.

The Preferred Alternative would be an at-grade LRT system entirely within existing rights-of-way that would provide improved transit capacity, service, and mobility for travelers, and improved linkages to major activity centers in the Woodward Avenue Corridor (the Corridor). Additionally, it would promote improved regional and local transit mobility in Southeast Michigan.

The No Build Alternative and the Project Build Alternatives are evaluated in this FEIS. The Build Alternatives differ in the following aspects: mainline alignments, alignments in Downtown Detroit, and respective number and conceptual design of LRT stations.

The Executive Summary presents the major elements and findings of the evaluation of potential impacts of the No Build and Build Alternatives. It also includes a summary of the Section 4(f) Evaluation; a comparative evaluation of the alternatives; and a summary of the public involvement, agency coordination, and consultation activities conducted during the preparation of this FEIS.

ES.2 Purpose of This FEIS

This FEIS evaluates the potential environmental impacts and benefits of the No Build and Build Alternatives. It summarizes and documents detailed information and data found in Technical Reports and incorporates that information by reference. This FEIS provides information necessary to make an informed decision, including comments received during the formal public and agency comment period on the Draft Environmental Impact Statement (DEIS).

A DVD containing the supporting Technical Reports, including methodologies and assumptions that provided the basis for the technical analyses and findings summarized in this FEIS, is attached to the printed version of the FEIS document. Both the FEIS and the Technical Reports are available on the Project website (http://www.woodwardlightrail.com/) under the NEPA Compliance tab. All comments received on the DEIS during the public comment period and responses are included in the FEIS in Appendix H. Responses to Public Comments (enclosed on DVD) and were addressed in the writing of the FEIS.

ES.3 Purpose and Need for the Proposed Project

The purpose of the proposed LRT Project is to:

- Improve public transit service and provide greater mobility options for the Corridor;

- Improve transportation equity among all travelers;
- Improve transit capacity along the Corridor;
- Improve linkages to major activity centers along the Corridor; and,
- Support the City's economic development goals and encourage reinvestment in Detroit's urban core.

The need for the proposed LRT Project is based on the following considerations:

- Strong existing bus ridership and high potential ridership due to major activity centers along the Corridor;
- A heavily transit-dependent population along the Corridor;
- Overcrowding, reliability issues, and lack of rapid transit alternatives with the current bus system;
- Air quality issues due to the region's nonattainment status; and,
- Focus of local policy on transit improvements rather than roadway improvements as part of a more balanced and sustainable approach to future growth.

ES.4 Woodward Avenue Study Area

The study area is located in Wayne County, Michigan. It comprises the Woodward Avenue Corridor, which extends 9.3 miles from Downtown Detroit (Downtown) near the Detroit River and north to the Michigan State Fairgrounds near 8 Mile Road. Most of the study area lies within the City of Detroit, while approximately two miles (from Webb Street to McNichols (6 Mile) Road) is within the City of Highland Park. The study area boundary extends approximately one-half mile to the east and west of Woodward Avenue, the area within which project impacts may occur (Figure ES-1).

From south to north, the study area includes the densely developed Downtown Central Business District (CBD) and many of the City's prominent historical sites, civic buildings, sports venues and cultural attractions; medical, higher education, and additional cultural institutions north of the CBD; as well as residential areas and the Michigan State Fairgrounds.

ES.5 Description of Alternatives

ES.5.1 No Build Alternative

The No Build Alternative includes increased bus service frequencies to the Detroit Department of Transportation's (DDOT) Route 53 Woodward Avenue and reorganization of feeder bus routes to optimize travel times. It also includes all capacity-related transportation system projects listed in the Southeast Michigan Council of Government's (SEMCOG) Transportation Improvement Program for the Detroit-Warren-Livonia Metropolitan Statistical Area for fiscal years 2008 through 2011 and in the financially-constrained Regional Transportation Plan (RTP) for the Corridor.

ES.5.2 Build Alternatives

The Build Alternatives are based on the Detroit Transit Options for Growth Study (DTOGS), prepared by the DDOT and its planning partners, including the City of Detroit, neighboring cities, SEMCOG, Wayne County, the State of Michigan, and regional and Federal agencies.

All of the Build Alternatives include median-running operations from the State Fairgrounds to just north of Grand Boulevard. The two operating options identified for the Build Alternatives,

from just north of Grand Boulevard through downtown included: median-running and separated from vehicular traffic (Operating Option A) and curb-running operating in mixed traffic (Operating Option B). Four Downtown design options were also identified. Combining the operating and Downtown design options, three variations were initially identified in the DEIS. This FEIS also evaluates a forth Downtown design option. The new variation, A4, is the Preferred Alternative and a hybrid of the three original variations (Appendix D):

- Alternative A1 – median-running with Downtown design option 1 and 16 LRT stations (Figure ES-2);
- Alternative B2 – curb-running with Downtown design option 2 and 21 LRT stations (Figure ES-3);
- Alternative B3 – curb-running with Downtown design option 3 and 18 LRT stations (Figure ES-4); and
- Alternative A4 – combination of median running and curb-running with Downtown design option 4 and 19 LRT stations (Figure ES-5).

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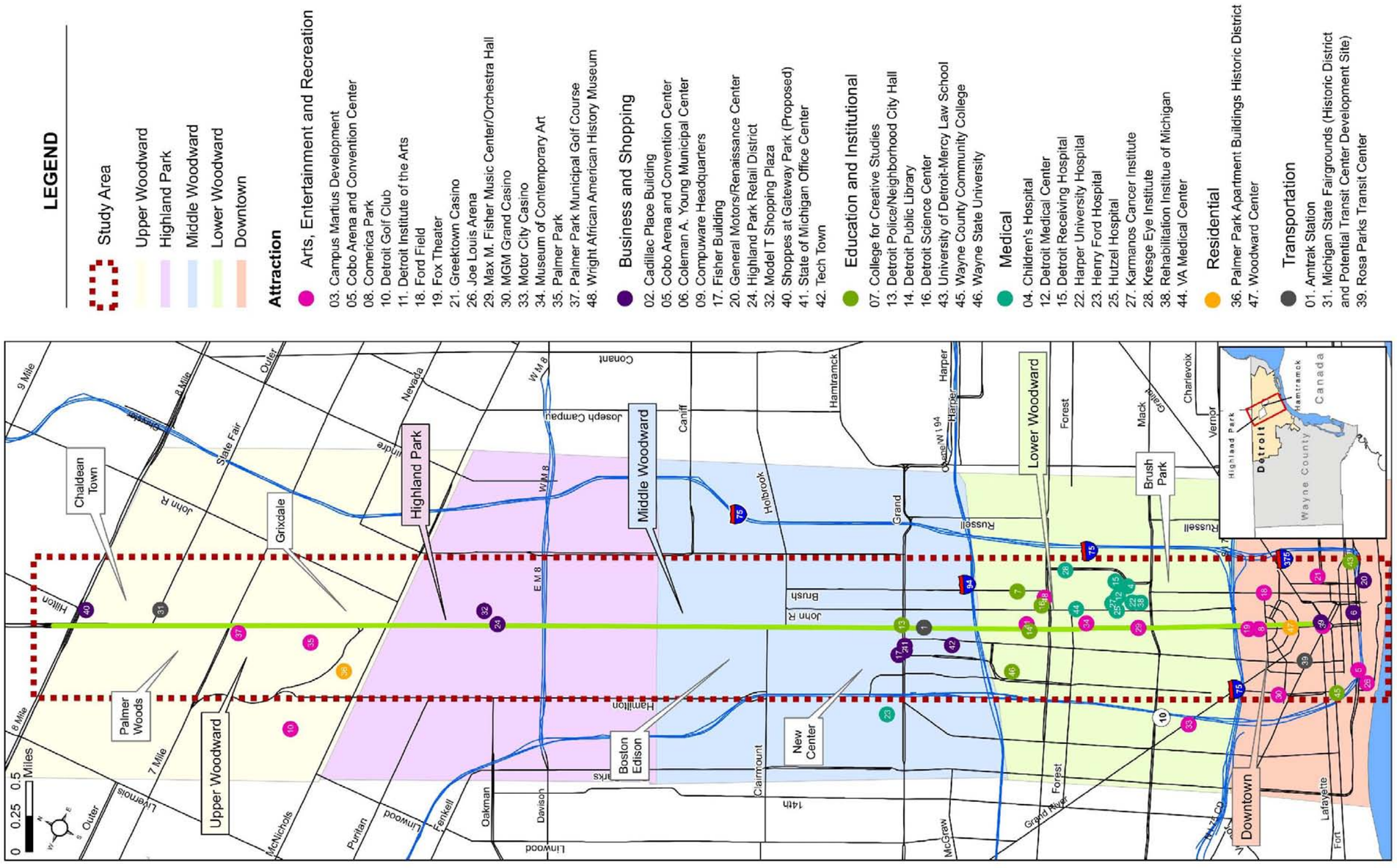
Figure ES-1. Study Area Boundary and Major Destinations



Source: Woodward Avenue LRT Project Team, 2011

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Figure ES-2. Mainline Design Option A and Downtown Design Option 1 (A1)

Source: Woodward Avenue LRT Project Team, 2011

Figure ES-3. Mainline Design Option B and Downtown Design Option 2 (B2)

Source: Woodward Avenue LRT Project Team, 2011

Figure ES-4. Mainline Design Option B and Downtown Design Option 3 (B3)

Source: Woodward Avenue LRT Project Team, 2011

Figure ES-5. Mainline Design Option A and Downtown Design Option 4 (A4)

Source: Woodward Avenue LRT Project Team, 2011

In the DEIS, Alternative A1 evaluated 15 stations. Before the City had selected Alternative A4 as the Preferred Alternative, another station at Grand River Avenue was evaluated for Alternative A1. The Grand River Avenue station is included in the FEIS since its impacts were not examined in Alternative A1 under the DEIS.

The Build Alternatives also include a vehicle storage and maintenance facility (VSMF), for which two potential sites are evaluated, and a park and ride lot. The lot is to be located near the site of the proposed Shoppes at Detroit's Gateway Park, the southeastern corner of 8 Mile Road and Woodward Avenue. Nine traction power substation (TPSS) sites have been preliminarily identified. The locations would be refined during the Preliminary Engineering and Final Design phases of project development. Construction staging areas have been preliminarily identified and are also evaluated.

ES.6 Preferred Alternative

The Preferred Alternative, or Alternative A4, is a hybrid of the previously evaluated alternatives and consists of LRT operating in the center median of Woodward Avenue from the State Fairgrounds to Park Avenue/Witherell Street and then transitioning to curb-running operations (Figure ES-5). When in the center median, the LRT would run separately from vehicular traffic and may or may not include a physical barrier. The median running segment of Alternative A4 includes 16 stations, whose platforms would be located in the median. The downtown portion of Alternative A4 (the Preferred Alternative), which includes stations south of I-75, is a hybrid of Downtown Option 1 and Downtown Option 3, and includes five stations. Of these five stations, two are median-running (Foxtown/Stadium and Grand Circus Park).

ES.7 Potential Impacts and Mitigation

All transportation projects have the potential to cause direct, indirect, or cumulative impacts to natural and human environments. The Preferred Alternative (A4) is anticipated to have beneficial impacts related to increased mobility and improved access to activity centers in the Woodward Avenue Corridor and limited potential adverse impacts, related primarily to hazardous materials, historic resources, noise, and vibration. Findings of the impact analyses are summarized in Table ES-1.

Table ES-1. Summary of Evaluation of Alternatives

Evaluation Measures		No Build Alternative	Project Alternatives			
			A1	B2	B3	A4 (Preferred Alternative)
ENVIRONMENTAL IMPACTS[1]						
Air Quality impact		No impact	No impact			
Hazardous Materials impact		No impact	Potential hazardous materials present on each of the two potential VSMF and the TPSS sites; One or more known or suspected contaminated sites near almost all LRT stations and at two railroad underpasses			
Historic Properties Effects Determinations	*Adverse Effect*	0	8 historic properties	8 historic properties	5 historic properties	13 historic properties
	No Adverse Effect	0	40 historic properties	41 historic properties	38 historic properties	30 historic properties
	No Effect	0	66 historic properties	65 historic properties	71 historic properties	71 historic properties
Archaeological Resources impact		No impact	Potential Impacts to Fort Lernout, the Original Protestant Cemetery, and Capitol Park			
Displacements/Property Acquisition		No impact	No impact			1 building/ 1 business
Environmental Justice impact		Disproportionate high and adverse effect due to decreased air quality	No impacts with implemented mitigation measures			
Noise impact		No change	5 sites	6 sites	5 sites	6 sites
Vibration impact Ground-borne vibration-related noise impact		No impact No impact	1 site 4 sites	2 sites (including Fox Theater) 5 sites	1 site (Fox Theater) 4 sites	1 site 5 sites
Land Use, Zoning, Public Policy impact		No impact	Limited visual impacts on neighborhoods from TPSSs			
Neighborhood Character impact		No impact	Temporary construction-phase disruption of traffic and pedestrian travel patterns			

Table ES-1. Summary of Evaluation of Alternatives

Evaluation Measures	No Build Alternative	Project Alternatives			
		A1	B2	B3	A4 (Preferred Alternative)
Community Facilities and Services impact	No impact	Temporary construction-phase disruption of direct access to community facilities and pedestrian travel patterns			
Parkland impact	No impact	Temporary construction-phase disruption of vehicular and pedestrian access to parklands			
Visual and Aesthetic Conditions impact	No impact	Minor impact			
Utilities impact	No impact	Temporary service disruptions and traffic detours during required utility relocations			
Energy impact	Likely increase in energy use	Likely decrease in overall energy use with LRT operation; Temporary increase in energy use for construction			
Parking impact	No impact	Loss of 93 spaces	Loss of 293 spaces	Loss of 254 spaces	Loss of 156 spaces
Roadways and Levels of Service (LOS) impact	LOS D or better	All major signalized intersections would operate at Level of Service D or better; Traffic re-routings and detours would be required along discrete alignment segments during construction			
Storm Water Management impact	No impact	Limited impact due to an increase in impervious surface and subsequent runoff			
Indirect impact	No impact	Would encourage new development near some LRT stations May encourage infill redevelopment of underutilized or vacant parcels near some LRT stations			
Cumulative impact	No impact	Would enhance economic development opportunities in northern part of study area; Gentrification may occur over an extended period of time			
Section 4(f) Use	No impact	n/a	n/a	n/a	No 4(f) resources used

Table ES-1. Summary of Evaluation of Alternatives

TRANSPORTATION BENEFITS AND IMPACTS					
Encourages transit ridership by providing linkages to existing transit	No impact	Moderate positive impact		Minor positive impact	Positive impact
Provides transportation options (modal choices)	No impact	Would provide LRT as an additional transit option			
Provides transit access to schools, shopping, events, healthcare and other services, and cultural attractions in the Corridor[2]	No impact	48 attractions		43 attractions	49 attractions
Transit travel time: range during peak hours for the given Alternative's entire route	48 – 50 minutes	32 – 33 minutes	37 – 38 minutes	31 – 32 minutes	34 – 36 minutes
Transit travel time reliability	Depends on traffic volume and conditions	Travel time would be predictable	South of Grand Boulevard, travel time would be dependent on traffic volume and conditions		South of Grand Circus Park, travel time would be dependent on traffic volume and conditions.
Vehicular travel time north of Downtown	0 – 1 minute longer than today	8 – 11 minutes longer than No-Build	6 – 9 minutes longer than No-Build		8 – 10 minutes longer than No-Build
Corridor capacity and traffic operations	LOS D or better	LOS D or better			
Motor vehicle safety	No impact	Minor positive impact	Minor negative impact	Minor negative impact	Minor positive impact
Pedestrian safety	No impact	Minor positive impact	No impact	No impact	Minor positive impact
Bicycle safety	No impact	Minor positive impact	Negative impact	Negative impact	Minor positive impact

Table ES-1. Summary of Evaluation of Alternatives

TRANSPORTATION EQUITY AND ENVIRONMENTAL JUSTICE				
Improves public transit service and provides greater mobility options along Woodward Avenue	No impact	Yes		
SUPPORT ECONOMIC AND COMMUNITY DEVELOPMENT GOALS				
Consistent with City of Detroit Master Plan	No	Yes		
Provides transit connections to existing and planned economic development areas	No impact	Yes		
Potential for future transit-supportive and new economic development	Minor positive impact	Moderate positive impact	Minor positive impact	Moderate positive impact

Source: Woodaward Avenue LRT Project Team, 2010-2011

[1] Measures will be implemented to mitigate these impacts.
[2] Attractions directly served by alternative calculated within ¼ miles of LRT stations.

One business displacement would occur with the Preferred Alternative (A4), and no residential or business displacements would occur under Alternatives A1, B2, or B3. Displacements will conform to procedures set forth in the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 as amended. For the TPSS, use of approximately 0.5 acre of properties adjoining the Preferred Alternative (A4) right-of-way may be required, depending on the final locations and configuration of the substations, which would be determined during Preliminary Engineering and Final Design.

Given the significant number of historic properties in the study area, Build Alternatives A1, B2, B3, and A4 (the Preferred Alternative) would result in an adverse effect to 8, 8, 5, and 13 historic properties, respectively. The magnitude and nature of each adverse effect varies by property. Mitigation of impacts to historic resources is feasible, in some cases through refinement of Preferred Alternative (A4) elements, such as LRT station locations and/or design. For adverse effects to historic resources, FTA, in consultation with the Michigan State Historic Preservation Office (SHPO) and other Section 106 consulting parties, developed measures and responsibilities to minimize or mitigate adverse effects. These mitigation measures are documented in a Memorandum of Agreement in Appendix F of this FEIS.

Build Alternatives A1, B2, B3, and A4 (the Preferred Alternative) would result in noise impacts on five, six, five, and six noise-sensitive properties, respectively. Such noise impacts would be mitigated with the use of custom-designed LRT vehicle wheel skirts. Alternatives A1, B2, B3, and A4 (the Preferred Alternative) would result in a vibration impact at one, two, one, and one properties, respectively. While all four Build Alternatives would result in ground-borne noise impacts at several properties, such noise would be inaudible as predicted airborne-noise levels would exceed noise caused by ground-borne vibration of the affected structures.

Phase I Environmental Site Assessment (ESA) investigations identified Recognized Environmental Conditions (REC), indicating the presence of hazardous materials, along the length of the Project and associated with all of the proposed VSMF and TPPS sites and the Gateway Center Building. Adverse long-term effects from purchasing contaminated property will be avoided by conducting the proper due diligence, which includes performing Phase I ESAs and performing Phase II testing. Phase II testing will be conducted to establish whether contamination is present and, if present, to determine its nature and extent. Mitigation measures would be needed only where construction activities encounter known or suspected contamination.

None of the Project alternatives would result in adverse environmental impacts to environmental justice populations with implemented mitigation measures; indeed, these populations would benefit overall from the transit service improvements and the indirect benefit of enhanced economic development potential, particularly near LRT stations, that would result with the Project Alternatives, but not with the No Build Alternative.

ES.8 Section 4(f) Evaluation

The study area's historic resources that would be adversely affected by the Project Build Alternatives, as determined through the Section 106 consultation process, were evaluated to determine whether the Build Alternatives would result in a Section 4(f) impact. The evaluation examined 9 parks and 19 historic resources (no wildlife nor waterfowl refuges are located in the study area). The analysis concluded that Alternative A4 (the Preferred Alternative) will not use any Section 4(f) resources.

ES.9 Evaluation of Alternatives

The evaluation of alternatives considers the extent to which each alternative would satisfy the purpose and need for the proposed transportation improvement. Therefore, the evaluation measures used to compare alternatives reflect the Project purpose and need.

As the Build Alternatives' alignments would follow existing roadway rights-of-way, their potential environmental impacts would be relatively minor in type and degree for a project of this size (Table ES-1).

While the Build Alternatives' transportation benefits would vary, each would provide transit improvements that would not occur with the No Build Alternative. Each of the Build Alternatives would have a positive impact on transit ridership by improving access to existing and planned attractions and development in the study area. Alternative A4 (the Preferred Alternative) would provide improved transit access to slightly more attractions along Woodward Avenue than would Build Alternatives A1, B2, and B3.

The Build Alternatives would provide additional transportation options compared to the No Build Alternative. Their relative attractiveness to transit markets and resulting transit-user benefits would be a function primarily of differences in transit travel time improvement compared to the No Build Alternative. However, in terms of reliability, transit travel time with the median-running Alternative A1 would be predictable; travel time with Alternatives B2 and B3 would be subject to general traffic conditions as the LRT vehicles would operate in mixed traffic. Alternative A4, the Preferred Alternative, would consist of both median-running and curb-running sections, which would involve predictable traffic time considerations and travel time subject to general traffic conditions, as evaluated with the Alternatives A1, B2, and B3.

The Build Alternatives would each be consistent with and support development plans and Woodward Avenue-focused redevelopment initiatives of the Cities of Detroit and Highland Park.

Environmental justice (EJ) and transit-dependent populations, which are heavily represented in the study area, would benefit from the transit service improvements. EJ populations would also benefit from the indirect impact of the enhanced economic development potential, particularly near LRT stations, that would result from the Build Alternatives, but not with the No Build Alternative.

ES.10 Public Participation and Agency Coordination

Public participation strategies and activities have been used during preparation of this FEIS to disseminate project information and solicit and receive public input and comment on project-related issues, concerns, and potential environmental impacts of the Preferred Alternative (A4).

The Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the proposed Woodward Avenue LRT Project was published in the *Federal Register* by FTA on July 30, 2010. Two public scoping meetings were held on August 14, 2010, at the Considine Little Rock Family Life Center (Auditorium) in Detroit, located at 8904 Woodward Avenue in a central part of the Project corridor. More than 120 individuals attended the public scoping meetings and a total of 260 comments were received.

The Project website (http://www.woodwardlightrail.com/) provides information and a means for the public to provide comments. Since July 2010, the site has registered about 31,000 page hits.

The DEIS was published and available for public review on January 28, 2011. The DEIS was circulated to local, State, and Federal agencies for review and comment. Hard copies of the DEIS were available at local libraries along the Corridor, DDOT offices, and the City of Highland Park. An electronic copy of the DEIS was also available on the Project website. A 45-day comment period, beginning January 28, 2011 and ending March 14, 2011, was provided for the public to review and comment on the DEIS.

Two public hearings were held on the DEIS on February 12, 2011; one at 11:00 a.m. and a second at 4:00 p.m. at the Detroit Public Library, Main Branch. Paid legal Public Notices were placed in newspapers announcing the availability of the DEIS and the public hearing date, times, location, and contact information. The Public Notice included specific contact information offering assistance to the public with special needs. Approximately 355 people attended the public hearings; 223 people were present in the morning and 132 were present in the evening. A total of 74 comments, including verbal and written, were received at the public hearing. The City of Detroit held two additional public meetings on March 8 and 10, 2011 within the DEIS 45-day comment period. These additional meetings were targeted to the EJ communities in the Project area. A total of 22 people attended the meetings, and a total of 73 comments were received at both public meetings. Comments received on the DEIS, along with responses, are included in Appendix H. Responses to Public Comments (enclosed on DVD) and were addressed in the writing of this FEIS.

ES.11 Next Steps in the NEPA Environmental Review Process

FTA will issue a Record of Decision to conclude the NEPA process and present FTA's decision to proceed with the Preferred Alternative (A4) and mitigation commitments.

Public participation for the Woodward LRT Project is ongoing through Project newsletters and periodic updates to the Project website.