**FEDERAL TRANSIT ADMINISTRATION**
**REGION V**
**Finding of No Significant Impact**

**Project:** The Milwaukee Streetcar
**Applicant:** City of Milwaukee
**Location:** City of Milwaukee, Milwaukee County, Wisconsin
**Date:** January 25, 2012

## Introduction

The City of Milwaukee has undertaken to construct a modern streetcar system that will circulate people around downtown, support planned development, and provide a transit link to downtown destinations, activity centers and neighborhoods. It will support reinvestment occurring in downtown Milwaukee, connect dispersed area activity generators and provide a link between intercity and local transit. The streetcar will be operated and maintained by the City of Milwaukee.

The Federal Transit Administration (FTA) prepared an Environmental Assessment to determine the Milwaukee Streetcar Project's potential social, environmental, and economic impacts in accordance with the National Environmental Policy Act of 1969 (NEPA). On October 31, 2011, FTA issued the Environmental Assessment for public comment pursuant to 23 C.F.R. § 771.119. The Environmental Assessment evaluated the Locally Preferred Alternative and a No Build Alternative. The Locally Preferred Alternative consisted of an initial 2-mile alignment with extensions that would add 1.5 miles for a total of 3.5 miles. Funding for the Milwaukee Streetcar Project's initial route as described in the Environmental Assessment will be from federal Interstate Cost Estimate funds and local funds. The route extensions would only be constructed if additional funding could be secured. The route extensions were considered in the Environmental Assessment and are addressed in this Finding of No Significant Impact.

## Alternatives Considered

The No Build Alternative includes existing and programmed improvements in the TIP, including bridge reconstructions, extension of the Riverwalk, and various development and redevelopment projects.

An Alternatives Analysis was completed in May 2010. The City of Milwaukee developed three streetcar alternatives, including their respective suboptions and potential route extensions. The City then used technical analyses, public outreach, and alternative ranking to further evaluate the three build alternatives. Based on this evaluation process, the City selected route Alternative 1 and developed two new sub-options for further evaluation (Alternative 1-2A and 1-2B). Alternative 1-2A was selected as the Locally Preferred Alternative and was developed by combining segments of the two highest ranking alternatives (Alternative 1 and sub-option for Alternative 2).

Three maintenance and storage facility sites were also evaluated and based on a comparative analysis of the three sites, 433 W. Clybourn Street was recommended as the preferred site.

### *Proposed Project*

The initial system for the streetcar route is 2.0 miles. The route originates at the Milwaukee Intermodal Station where it will serve passengers transferring from other transportation modes, such as buses and trains. It then proceeds east along St. Paul Avenue, across the Milwaukee River and into the Historic Third Ward neighborhood. Then the route heads north along Broadway, east along Wells Street and north along Van Buren Street. At Ogden Street, the initial route extends east to Farwell Avenue (Burns Commons Park) where it terminates. The return trip doubles back along Ogden Street, turns south at Jackson Street, west at Wells Street and travels south along Broadway. At St. Paul Avenue, the route travels west and finishes its cycle near the Milwaukee Intermodal

Station. The streetcar route extensions would add approximately 1.5 miles to the route for a total of 3.5 miles. On the west side of the study area, the extended route would continue north along 4th Street between St. Paul Avenue and Juneau Avenue. Then it would turn west along Juneau Avenue for approximately three blocks where it would terminate. The Prospect/Farwell extension would continue the route north from Ogden Street along Prospect Avenue, go west along Royall Place for one block and proceed south along Farwell Avenue before doubling back along Ogden Street. The route extensions will only be constructed if additional funding becomes available. A detailed description of the Locally Preferred Alternative route is included in the Environmental Assessment, including the routes and capital improvements including the tracks, stops and shelters, an overhead electrical power system including substations, poles and wires, and a maintenance and storage facility. The Locally Preferred Alternative will require improvements to the roadways to ensure safety and good traffic flow. These improvements will include lane reconfigurations, traffic signals, transit-only lanes, and bike lanes.

## Agency Coordination and Public Opportunity to Comment

The Environmental Assessment was made available for public and agency review on October 31, 2011. A public hearing was held on November 16, 2011. Notifications of the Environmental Assessment and the public hearings appeared in local newspapers, on the Project website, and were sent to local, state, and federal stakeholders. The Environmental Assessment was made available at the Project website (www.themilwaukeestreetcar.com), the Milwaukee Public Library, the Milwaukee Department of City Development, and the Legislative Reference Bureau in Milwaukee City Hall.

The format of the public hearing was an open house with a formal presentation at 6:00 p.m. Following the presentation, the public was given the opportunity to make verbal comments on the Environmental Assessment for the record which were documented by a court reporter. Project team members were available to answer questions about the Project. The hearing was attended by approximately 84 individuals. During the public comment period, a total of 177 public comments were submitted via email, letter, or made at the public hearing. A summary of these comments and responses are included in Appendix A. A copy of the complete transcript and all written comments are contained on a CD in a separate Appendix, which is available on the Project website, www.themilwaukeestreetcar.com. A summary of mitigation commitments is included in Appendix B.

## Determinations and Findings

### *National Environmental Policy Act (NEPA) Finding*

FTA served as the lead agency under NEPA for the Project. The City of Milwaukee will construct the Project in accordance with the design features and mitigation measures presented in the Environmental Assessment as issued by FTA in October 2011. The City of Milwaukee prepared the Environmental Assessment in compliance with NEPA, 42 U.S.C. § 4321, *et. seq.,* and with 23 C.F.R. § 771. FTA has made an independent evaluation of the Environmental Assessment.

After reviewing the Environmental Assessment and supporting documents, including public comments and responses made thereto, the FTA finds under 23 C.F.R. § 771.121 that the proposed Project with mitigation to which the City of Milwaukee has committed, will have no significant adverse impact on the environment. The record provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FTA also finds, in accordance with Federal Transit Law at 49 U.S.C. § 5324(b), that an adequate opportunity to present views was given to all parties with significant economic, social, cultural, or environmental interest, that the preservation and enhancement of the environment and the interest of the community in which the Project is located were considered.

### *Environmental Justice Finding*

Executive Order 12898 provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations." FTA finds that the Project will not have disproportionately high and adverse effects on human health or the environment on low-income or minority populations.

### *Air Quality Conformity*

The Clean Air Act and its amendments require that Federal agencies and Metropolitan Planning Organizations only approve a transportation project, program, or plan, if it conforms to the approved State Implementation Plan (SIP). The Federal Transportation Conformity Rule requires that FTA projects must be found to conform before they are adopted, accepted, approved or funded. The streetcar study area is located within the Southeastern Wisconsin Intrastate Air Quality Control Region #239, which includes the City of Milwaukee. Milwaukee is currently in attainment status for five of the seven criteria pollutants (carbon monoxide, lead, nitrogen dioxide, PM10, and sulfur dioxides), and has been classified as being in moderate nonattainment19 for the 8-hour ozone standard and nonattainment for PM2.5. Therefore, the Project is required to meet Transportation Conformity Rule requirements of 40 CFR Part 93. The Milwaukee area is in attainment for CO, per 40 CFR 93.116, no CO analysis is required. The Southeastern Wisconsin Regional Planning Commission (SEWRPC), the region's Metropolitan Planning Organization, completed a regional conformity analysis for ozone and PM2.5 demonstrating that projected emissions from the planned transportation system do not exceed the air emission budgets established in the Wisconsin State Implementation Plan. Evidence of the conformity analysis is included in the SEWRPC Memorandum Report No. 196 titled, *Assessment of Conformity of the Year 2035 Regional Transportation Plan and the Year 2009-2012 Transportation Improvement Program With Respect to the State of Wisconsin Air Quality Implementation Plan – Six County Southeastern Wisconsin Ozone Nonattainment Area and Three County Fine Particulate (PM2.5) Nonattainment Area.* An electric-powered streetcar will not have any impacts on PM emissions, which are primarily from diesel powered engines. No hot spot analysis is required. The Federal Highway Administration and FTA determined the SEWRPC Regional Transportation Plan and Transportation Improvement Program (TIP) to be in conformance with the transportation planning requirements of Titles 23 and 49 U.S.C., The Clean Air Act Amendments, and related regulation on June 16, 2010.

### *Section 106 Compliance*

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, FTA has determined, with the concurrence of the Wisconsin Historical Society (SHPO), that the Project will have no adverse effect to historic properties located within the Area of Potential Effect pursuant to 36 CFR 800.5(b), if the Project is constructed according to the plans. FTA finds, in accordance with 36 C.F.R. Part 800, that the Section 106 coordination and consultation requirements for the Project have been fulfilled.

### *Section 4(f) Finding*

The Department of Transportation Act of 1966 protects properties including publicly owned public parks, recreation areas, and wildlife or waterfowl refuges, or any publicly or privately owned historic site listed or eligible for listing on the National Register of Historic Places. The Act does not allow federally funded projects to use land from these resources unless deemed by the person with authority over the property that there is no feasible and prudent avoidance alternative and that all impacts to the property have been minimized to the extent possible. The Project will not use any Section 4(f) property.

***Incorporation by Reference***
The full text of the Environmental Assessment, prepared by the City of Milwaukee and approved and issued by FTA, is hereby incorporated by reference in this Finding of No Significant Impact.

Approved:

Marisol Simon
Regional Administrator
Federal Transit Administration, Region V

1-25-2012
Date

Concurs as to legal sufficiency:

Cecelia M. Comito
Regional Counsel
Federal Transit Administration, Region V

1/25/2012
Date

Attachments:

A. Comment Received and Responses Table
B. Environmental Mitigation Commitments

# Appendix A

## Comments Received and Responses Table

The project team made the Environmental Assessment available for public and agency review during a 30-day comment period from October 31, 2011 to December 2, 2011. During the public comment period, the team received 176 comments. The majority of the comments received can be grouped into 10 general categories, the responses to which are set forth below.

**General Comment 1: Current Bus Service Is Sufficient**
This group of comments was generally in support of a bus alternative. Reasons cited for the preference of buses versus a streetcar included: less environmental impact, less traffic interruptions, minimal construction impacts, and flexible routes. Comments also included concerns about duplicity with bus routes and concerns over cuts in bus routes.

**Response:** The proposed streetcar project best meets the purpose and need identified in the Environmental Assessment and was selected through a process that considered alternatives and included community input as set forth more fully in the EA. The specific federal funds identified for the Project may not be used for general operations of the existing bus system in Milwaukee County. The Project is not intended to replace any existing bus service, and is designed to integrate with the current bus system to provide customers with additional transportation options within in the City. The City of Milwaukee is committed to coordinating the streetcar service with the current bus system, and will work with the Milwaukee County Transit System during the construction and operation of the streetcar.

**General Comment 2: Cost and Funding**
This group of comments expressed concerns that the streetcar would be too expensive, exceed projected costs, and increase taxes.

**Response:** No property taxes are planned to be used to fund the Streetcar project. In 2009, $54.9 million in Federal Funds were appropriated specifically for the City of Milwaukee for a fixed-guideway in downtown Milwaukee. Additional funding for the project will be from Tax Increment Finance funds. Operations will be funded with farebox revenue, advertisement income, sponsors and from the City's parking fund.

**General Comment 3: Decision-Making Process**
This group of comments includes requests for a public vote on the project. Concern is expressed that the public meetings were not advertised adequately.

**Response:** The project team provided many opportunities for the public to comment on the project. In February 2009, multiple scoping meetings were held throughout Milwaukee County to receive feedback regarding public transit options, including bus rapid transit and streetcar options. Information from the meetings helped direct the City as it proceeded with the streetcar Alternative Analysis process. The City of Milwaukee completed an Alternative Analysis to guide the decision-making process and determine a route for the streetcar. This process began in August 2009 and was completed in May 2010. The public was encouraged to comment and participate in this process. On October 8, 2009, the City held a public open house to present the streetcar alternatives and seek input. Section 2 in the EA describes the alternatives presented and evaluated. The alternatives analysis process is summarized in Figure 8 and includes several steps. These include the development of alternatives, evaluation of the alternatives using technical analysis, and public input. The alternatives were ranked and then refined before a locally preferred alternative (LPA) was chosen on May 6, 2010 by the project Steering Committee. Following the selection of a LPA, the City proceeded to complete the Environmental Assessment and 30 percent engineering design. The public was again encouraged to participate and comment, including a public meeting held on July 11, 2011. On July 14, 2011, the City of Milwaukee Common Council Steering and Rules Committee held a Public Hearing on the project. On July 26, 2011, the Milwaukee Common Council approved the Milwaukee Streetcar project, as described in the Environmental Assessment, and

authorized the Commissioner of Public Works to take various actions to advance this project. Transportation projects are typically decided through the planning process. At the July 26, 2011 Common Council Meeting, a proposal was made to place this project on a Spring 2012 referendum but it failed to pass.

The project team used an extensive and comprehensive process to notify the public about the Milwaukee Streetcar Project and its public hearings. This included placing ads in the *Milwaukee Journal Sentinel*, *Business Journal*, *Daily Reporter*, *Shepherd Express*, *The Spanish Journal*, *El Conquistador*, *Milwaukee Courier*, *Milwaukee Times*, and *Milwaukee Community Journal*. Postcard notices were mailed to approximately 3,000 people, and included current property owners, tenants with large numbers of employees, first floor retail or service within a block of the proposed route, elected officials, utilities, agencies, environmental groups, and anyone that had attended previous streetcar meetings or asked to be kept informed of project progress). The project team put notice on the project Web site (www.themilwaukeestreetcar.com), mailed official letters to elected officials, tribes, agencies (such as DNR, EPA, etc.) and community groups (such as ACLU, Urban League, Independence First etc.). The project team also sent e-mail notices to approximately 500 people in the project database for which e-mail addresses are on file and reached out to a variety of media outlets, including newspapers, radio, and television affiliates. The Environmental Assessment includes a more comprehensive discussion of the public outreach undertaken.

**General Comment 4: Economic Development**
This group of comments noted that the Project will contribute to economic development by creating jobs, increasing the connectivity of downtown activity centers, and help ensure Milwaukee is an economically competitive city.

**Response:** The expected economic benefits are described in the Purpose and Need Statement and Section 5.1.2 regarding Economic Development effects.

**General Comment 5: Parking Impacts**
This group of comments included concerns over removal of street parking and cited the existing lack of adequate parking in downtown. Some comments noted that the streetcar would provide links to parking areas and it would limit the need for additional parking structures downtown.

**Response:** Studies of the downtown business district reveal that there are sufficient parking spaces to meet needs, but that parking spaces are not evenly distributed geographically. Refer to Section 5.2.4 for discussion on parking. As currently designed, 10% of the on-street parking spaces along the streetcar route will be eliminated and 1% of the total parking spaces within 1/4 mile will be eliminated due to the parking. The streetcar project also will provide a more direct and convenient connection between parking on the edges of the business district.

**General Comment 6: Purpose and Need**
This group of comments questioned the purpose of the Milwaukee Streetcar project and its underlying need.

**Response:** The purpose and need for the project is described in Section 2 of the Environmental Assessment. This section includes a discussion of the project background and detailed discussion of the underlying needs for the project.

**General Comment 7: Route Selection**
This group of comments questioned the selected routing of the streetcar project. Comments proposed modifications to it, in terms of serving other areas of the city and running along specific streets. Comments also addressed possible future extensions of the project and made suggestions for possible alignments.

**Response:** As described in the Environmental Assessment's alternatives analysis, the City of Milwaukee completed an analysis to select a streetcar alignment. A number of alternatives were considered and an

evaluation process was followed to select the preferred alternative. The selected alternative best meets the project's stated purpose and need and best meets the City's overall planning goals and objectives for a fixed guide-way transit service that would support a multi-modal transportation system. The selected route can also be funded by the existing Federal funds. The route extensions are proposed for construction if additional funding can be secured. For more information about the selection of the preferred route alternative, see also the *Locally Preferred Alternative for Streetcar Summary Report* dated May 3, 2010, available at the project website.

The Streetcar project currently under review is a starter system and was designed with future routes in mind. Such future routes, if constructed, could expand to additional neighborhoods and destinations, and will be evaluated when funds become available.

**General Comment 8: Ridership**
This group of comments focused on the projected ridership of the project and the possibility that expectations as to the number of people who would ride the streetcar may be overly optimistic. Some comments questioned the methodology supporting ridership projections. Other comments focused on the impact that the streetcar project would have on those who currently use buses.

**Response:** The downtown area that the streetcar will serve currently has 80,000 jobs, 25,000 residents, 1.4 million users at the Intermodal Station and over 5 million visitors. Additionally the proposed streetcar route will be within 1/4 mile of 100% of the hotel rooms, 91% of retail space, 90% of office space 77% of housing and 77% of parking spaces downtown. Therefore, the large pool of potential riders will allow for a consistent ridership. Ridership numbers were developed using a travel demand model, an industry and FTA accepted method of forecasting ridership on streetcars. Ridership estimates indicate that ridership on the initial route and route extensions is expected to be over 3,610 rides per day and 1,155,200 rides per year in 2015. By 2030, the ridership is expected to increase by 15% to 4,100 rides per day and 1.32 million annual riders. Streetcars are anticipated to provide an additional mode of transportation. Shifts to the streetcar from other forms of transportation including walking, auto and bus were also analyzed using the travel demand model.

**General Comment 9: Utilities**
This group of comments focused on the effect that the streetcar project will have on private and public utilities impacted by the preferred alignment. Comments identified a number of concerns, including the time it would take to relocate utilities, the costs for relocation and the responsibility for those costs, and the effects that the streetcar power system would have on the surrounding steel pipe and steel pipe-encased utilities.

**Response:** Due to the preliminary nature of the streetcar design, there is still a high level of uncertainty of the effects of construction of the streetcar project on utilities, including whether utilities will need to be relocated or construction will result in temporary disruptions in service. As a part of the mitigation for this project, the City will work with utilities to avoid, minimize or mitigate temporary disruptions to service caused by construction activities. The project team will follow an iterative and consultative process, similar to that of other large public infrastructure projects in Wisconsin. The issue of who pays the cost for utility relocations required by the Project is a matter of state law.

**General Comment 10: Winter Weather Issues**
This group of comments focused on the harsh winter weather that the Milwaukee region frequently experiences. Comments questioned the reliability of the streetcar project under freezing conditions and snow and the possible impacts that operating streetcar service during the winter months may have on ridership, customer safety, and predictable service.

**Response:** The streetcar will be designed to operate safely in all weather conditions presented in Milwaukee. Other cities with similar weather conditions to Milwaukee have successfully operated streetcar and/or light rail systems for several years, including Toronto, Vancouver, Minneapolis, Buffalo, and Cleveland. During the design and engineering phases of the project, the extreme weather conditions for Milwaukee will be taken into consideration.

# Appendix B

## Environmental Mitigation Commitments

The mitigation measures and other features of the Project that reduce adverse impacts, to which Federal Transit Administration (FTA) and the City of Milwaukee (the City) committed in the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) are summarized in the following table. This Appendix B summary is provided in the FONSI to facilitate the monitoring of the implementation of the mitigation measures. However, the EA provides the full description of all mitigation measures that are included in the Project. The City will establish a program for monitoring the implementation of the mitigation measures as part of its project management oversight. FTA will oversee the City's program for monitoring environmental compliance, through quarterly review meetings or other means specified by FTA. The City will report on environmental compliance in the quarterly progress reports.

| Environmental Permits, Commitments and Mitigation | | | | |
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| **No.** | **Impact/Mitigation Measure** | **Implementation & Monitoring** | **Responsible Party** | **Timing** |
| 1. | Land Use and Property Impacts | Engineering designs for the impacted parcel at the northeast corner of 4th Street and St. Paul Avenue have been created to minimize the impact to property and to avoid impacts to parking spaces while maintaining at least a five foot wide sidewalk.<br><br>The City of Milwaukee will work with the property owner to purchase the land affected by the streetcar if funding is obtained for the 4th Street extension. If necessary, the City will follow their eminent domain process. Other mitigation measures may be utilized to minimize impacts to the property such as replacement of the landscaped area and notification of the impacts to the property owner throughout the project development process. Impacted landscaping at this site will be replaced by the Project if requested by the property owner. Further efforts to minimize or avoid this impacted property will be made as the Project design proceeds. | City of Milwaukee | |
| 2. | Economic Development | The Project will employ typical construction management practices to avoid or minimize adverse economic consequences to business establishments, such as avoiding full access closures, providing temporary alternate access and signage, and timely communications with business owners. Furthermore, streetcar construction will be staged in such a way to minimize the duration of construction impacts experienced by any given business. The City will continue to coordinate with the affected businesses and residents to inform them of changes to parking, street access, and loading zones. For the two loading zones that need to be eliminated, alternate loading zones are available. For the loading zone on Broadway, an alternative loading zone for the property is available on Michigan Street. For the loading zone on 4th Street, only a portion of the zone will be impacted and loading may continue along the remaining portion of the zone. Also, an alternate loading zone for this property is available along Wells Street.<br><br>The City of Milwaukee held a series of targeted outreach meetings for business owners along the route to precede the public hearing on this Environmental Assessment. These meetings will continue during the design and construction phases of the Project. The business outreach meetings will inform business owners of what they can expect before, during, and after Project construction. The City will also utilize its *Public Works Support for Business Program* for the streetcar. Recognizing that transportation infrastructure projects are critical to long-term economic development, but can also impact surrounding businesses | City of Milwaukee | |

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| **No.** | **Impact/Mitigation Measure** | **Implementation & Monitoring** | **Responsible Party** | **Timing** |
| | | in the short term, the City of Milwaukee developed the program to help nearby businesses before and during construction projects. The City will communicate important Project information and updates and provide businesses with support tools, such as a handbook of tips and resources, signage, Project summaries, and regular e-mail updates about the projects. The City has established a team of community liaisons with a minimum of one liaison assigned to each infrastructure project. Liaisons will serve as the lead point of contact regarding the construction Project and communicate with neighborhood businesses and property owners through letters, e-mail updates, individual meetings and the program website (http://city.milwaukee.gov/mpw/supportforbusiness/).The liaison's primary roles will be to:<br>• Explain plans, procedures, and timelines to the neighborhood<br>• Educate neighborhood businesses and property owners on potential impact mitigation resources available<br>• Advocate on behalf of neighborhood members with the City, and<br>• Assess the impact of the planned construction on the neighborhood and request a corresponding level of support from the City. In addition to the community liaisons, the City provides opportunities for neighborhood groups and businesses in highly affected areas to receive professional consulting on issues ranging from business management and financial planning to human resources and information technology. Qualifying entities will be selected on a case-by-case basis, based on the assessment and recommendation from the community liaison in each area. Groups may also qualify for marketing/advertising consulting through the Public Works Support for Business Program. As with business/technical consulting, qualifying entities are selected on a case-by-case basis, based on the assessment and recommendations from the community liaison in each area. | | |
| 3. | Historic and Archaeological Resources | If archaeological remains, such as human bones, are discovered during construction, all work in the vicinity of the find will stop immediately and the area protected. The State Historic Preservation Office (SHPO),<br>Burial Sites Preservation Office (BSPO), the Federal Transit Administration, and the City of Milwaukee will be notified immediately in accordance with Wisconsin Statue 157.70. This will entail evaluating the find to determine if it is significant and whether mitigation through avoidance or recovery is necessary.<br>Work may proceed only after authorization from the BSPO. Although it is not | City of Milwaukee | |

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| | | anticipated that the construction activities for the Project will have any adverse effects on any historic properties, all construction activities will be required to comply with the City of Milwaukee's Code of Ordinances, Chapter 80, Subchapter 2, Noise Control 80-73.2, Excessive Vibration Prohibited, Temporary and Mobile Sources. The vibration limits established by this ordinance are equivalent to the Construction Vibration Damage Criteria in the FTA Guidance Manual. | | |
| 4. | Aesthetics | The streetcar improvements including the maintenance facility, the electrical overhead contact system (poles, wires, and substations) and other physical elements at the streetcar stops will be designed to fit in with the existing surroundings with the intent of enhancing the character of downtown in a positive way to meet the purpose of the Project. Overhead wires will utilize existing street light and traffic signal poles to reduce the potential for clutter in the street and make the OCS less visible. Mature, healthy trees will be avoided where practical. The City will replace street trees as is appropriate to the character of the Project's design. | City of Milwaukee | |
| 5. | Safety and Security | *Passenger and Driver Safety*<br>The Project design will consider crime prevention and will provide good visibility. To increase personal security, the Project will use transparent glass shelters and ample light at the stops. Fare collection will take place at meters that will be placed along the streetcar corridor instead of on the vehicles. Streetcar operators will also receive safety training to handle problems with belligerent or threatening people. In addition, the City is considering the need to install security cameras on the vehicles. Furthermore, the City may hire a roaming fare checker to randomly confirm ticket purchases. Having this official on duty may be an additional deterrent for criminal activity.<br>*Accessibility*<br>Streetcar stops and shelters will be designed to comply with the Americans with Disabilities Act.<br>*Pedestrian, Vehicle and Bicycle Safety*<br>The City will appropriately place warning signage and/or pavement markings to direct pedestrians, bicyclists and vehicular traffic as necessary to avoid hazards. Openings for the streetcar wheel flanges along the track shall meet minimum standards to minimize injury to pedestrians, bicyclists, and motorcyclists traveling across or along the tracks. The streetcar design will make specific | City of Milwaukee | |

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| | | accommodations to maintain safety for bicyclists. Where there is through traffic, bike lanes will be kept separate from the track lane to minimize the likelihood that a bike tire would become stuck in the groove that holds the streetcar wheel. Figure 30 of the Environmental Assessment shows an example of a sign that is used to alert bikers to this situation. At intersections, transition zones will be provided to prepare bicyclists for interaction with the track and to provide a means for crossing the track at 90 degrees. The transition zones will include directional signage and pavement markings to guide bikes across the tracks at 90 degrees. Figure 31 of the Environmental Assessment shows a diagram of how these transition zones will be applied in select locations along the route. Where stops are located, bike lanes will stay to the right of the stop between a stop island and the curb as shown on Figure 31 and Figure 32 of the Environmental Assessment. Bike lanes may also be relocated to the opposite side of one-way streets to avoid any potential conflicts with the streetcar. Additional design treatments intended to increase bike and pedestrian safety will be investigated and included as necessary as streetcar plans progress through to final design. The streetcars will be equipped with a bell and a horn. The bell will be used under normal operating conditions, while the horn will only be used if the operator feels that there is a dangerous situation. The City of Milwaukee will ensure that the streetcar operator will provide driver safety training to make sure drivers know how to identify and respond to potential conflicts with pedestrians, vehicles, and bicycles. The City of Milwaukee will implement an education program before the streetcar becomes operational to prepare the public for the new transportation mode. Education efforts will continue after the streetcar service opens. | | |
| 6. | Noise and Vibration | Noise mitigation generally involves the treatment of three fundamental components: the source, the propagation path, and the receiver. The City will employ noise mitigation measures that involve the treatment of the source. A major source of noise from steel-wheel/steel-rail systems is the wheel/rail interaction. The City will use resilient wheels, which have been recommended by a number of modern streetcar manufacturers to reduce rolling noise by a minimum of 2 dB. Resilient wheels typically have rubber installed between the wheel hub and the steel wheel that rides on the rail. This mitigation measure has been utilized in the noise analysis and the City will require resilient wheels in the streetcar specifications. Likewise, the proposed rail design has a significant portion of the embedded rail that is not in contact with the steel wheel encased in | City of Milwaukee | |

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| | | rubber. This encasement or rubber boot was included in the noise analysis and can reduce noise by another 2 dB. The City will require the installation of a rubber boot. See Figure 39 of the Environmental Assessment for a picture of a rubber boot. The City will develop an attainable noise specification for the streetcar that eliminates the moderate noise impact. Based on noise data from three modern streetcar manufacturers, preparing an attainable noise specification should not be difficult. In addition, the City will maintain the wheels during the life of the streetcars by truing wheels and grinding the rails to help eliminate future increases in noise as maintaining smooth wheel/rail interaction can reduce age and wear induced noise. The streetcars will be equipped with a friction modifier dispenser that when applied in the area of the wheel contact with the rail reduces the potential for wheel squeal. This friction modifier will be formulated for all weather usage. Application of the friction modifier will be controlled by the operator.<br>Construction noise will be controlled as recommended in Section 5.2.5 of the Environmental Assessment. Construction activities will comply with the City of Milwaukee's Code of Ordinances, Chapter 80, Subchapter 2, Noise Control 80-60. | | |
| 7. | Hazardous Materials | To reduce the Project's environmental liability and risk, additional analysis of the proposed maintenance facility site and proposed substation location at North Market Street are necessary. According to the Wisconsin Department of Transportation Facilities Development Manual, Procedure 21-35-10, Phase II HMAs are warranted to characterize the historical fill and subsurface soil conditions that may be disturbed during site construction at both locations. A Phase II HMA typically includes a focused investigation of the subsurface media through soil and potential groundwater sampling with laboratory analytical analysis. If the results of the Phase II HMA indicate that the historical fill and/or subsurface soils at the Project site are impacted with contaminants above regulatory standards, "Special Provisions and a Notice to Contractors" will be developed and incorporated into the construction specifications to address impacted soils. | City of Milwaukee | |
| 8. | Traffic and Transportation | *Transit:* The City will meet with Milwaukee County Transit System (MCTS) to coordinate streetcar and bus service. The City will coordinate with Megabus and other intra city bus services to relocate their 4th Street passenger loading zone to a similarly convenient location. | City of Milwaukee | |

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| **No.** | **Impact/Mitigation Measure** | **Implementation & Monitoring** | **Responsible Party** | **Timing** |
| | | *Vehicular traffic:* The Project proposes a number of measures to eliminate conflict between the streetcar and vehicles and to mitigate delays that would occur as summarized in the Environmental Assessment and described in detail in the *Milwaukee Streetcar Traffic Operations* technical memorandum. To address the conflicts and minimize delays, the City of will make the necessary improvements to lane configurations; install new traffic signals; install transit signal phases and Opticom; and add a signal phase to the existing signal network.<br>*Bicycle and Pedestrian Facilities:* Mitigation measures recommended under Section 5.1.7 of the Environmental Assessment, Safety and Security, will be implemented to increase bicycle and pedestrian safety. The City will appropriately place warning signage and/or pavement markings to direct bicyclist and pedestrians to avoid hazards.<br>*Parking:* The City will continue to coordinate with the affected businesses and residents to inform them of changes to parking before the streetcar begins service. See mitigation measures under Section 5.1.2 of the Environmental Assessment, Economic Development, for more information about how the City will conduct business outreach.<br>*Driveways:* The City will work with the owner of the affected parking lot to ensure that driveway access is provided. | | |
| 9. | Construction Impacts | The following is a summary of the various mitigation measures that apply to construction activities. The City will utilize its *Public Works Support for Business Program*, which is designed to help nearby businesses before and during construction projects. This program incorporates best practices from around the country and provides tools such as a handbook of tips and resources, signage, Project summaries, and regular e-mail updates about the projects. The City will coordinate closely with MCTS so they can notify riders of any bus and/or trolley detours and temporary closed/relocated bus stops. The City will continue to coordinate with property owners to manage and minimize access closures and relocations during construction. Construction management practices to minimize business impacts will be implemented including avoiding full access closures and providing temporary alternative access and signage as appropriate. Construction dust and noise will be controlled as recommended in Section 5.2.1 of the Environmental Assessment, Air Quality, and Section 5.2.2, Noise and Vibration. Construction activities will comply with the City of Milwaukee's Nuisance Ordinance (Chapter 80). Dust abatement shall be included in the | City of Milwaukee | |

| Environmental Permits, Commitments and Mitigation | | | | |
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| | | specifications. Best Management Practices for erosion control will be developed and applied as required by the Wisconsin Department of Natural Resources as part of their construction permitting process. The City will comply with City of Milwaukee regulations regarding construction site erosion control. The City will continue to coordinate with utility providers so that any required changes to their facilities will minimize disruption to services and be coordinated with the construction schedule. Construction and staging areas will be maintained as required by the City under Chapter 115 and any other applicable regulations of the City's ordinances. Site cleanliness of staging areas shall be included in the specifications. The contractor will be required to restore the staging area to its original condition once the Project is completed. All standard City requirements regarding construction site control will be followed.<br>The City will use diesel engine retrofit technology on diesel construction vehicles and diesel powered equipment. | | |
| 10. | Utilities | The City will continue to coordinate with utility providers throughout project design and make modifications to the track design to minimize impacts. The City will continue to coordinate with utilities during the construction phase to avoid interruptions to utility services. | City of Milwaukee | |
| 11. | Stray Current and Corrosion | The City will continue to work with private utilities to implement feasible design methods to minimize stray current. The City will implement corrosion control measures as discussed above to minimize stray current and minimize corrosion on streetcar facilities and public utilities. Corrosion control measures will be designed to conform or exceed the latest versions of relevant local, state, and national codes and standards. The rail design will include the installation of a rubber boot to help minimize stray current and reduce noise and vibration. A dielectric coating made up of a material that is a poor conductor of electricity could also be applied to the rail components to prevent stray current. | City of Milwaukee | |
| 12. | Water Quality/Resources | Since providing detention storage on the maintenance facility site for only 1.4 acres of land disturbance would not be practical, the preliminary assessment recommended that the City consider an exemption from meeting their Chapter 120 detention requirement for the Project. If some level of stormwater management is preferred, whatever stormwater does accumulate on the maintenance facility site during severe storm events could be captured and stored for use as wash water, landscape irrigation, or detained and discharged at | City of Milwaukee | |

| Environmental Permits, Commitments and Mitigation | | | | |
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| | | a very limited rate to the combined sewer system. The City might also be able to compensate for this exemption by providing the required storage volume on another City project site. The City requires implementation of a Stormwater Management Plan and an Erosion and Sediment Control Plan for land disturbing projects. The Milwaukee City Engineer will ensure the application of this requirement is carried through. The construction contractor will apply the required measures during construction. During construction of the track, substations and maintenance facility, soils will be exposed. The City Engineer will ensure that the contractor uses Best Management Practices to minimize soil erosion and runoff. An erosion control plan will be developed and approved by the City Engineer to minimize release of soils into the stormwater system. See also Section 5.2.5, Construction, for examples of Best Management Practices. The City will continue to coordinate with the Wisconsin Department of Natural Resources on construction site permit requirements as design progresses. Existing storm sewer inlets that slope down from the affected areas will be lined with filter fabric under the grates and periodically cleaned of sediments collected during construction. Silt fencing will be placed and will be maintained until the ground stabilization measures are established. Where excavation dewatering is required, sediment-laden water will be pumped into a sediment basin prior to discharge. Silt fence and hay bales may be placed as required at the perimeter of the impacted areas. An Erosion Control Plan will be prepared and implemented and will include those items mentioned above to manage stormwater runoff. All erosion control measures will be coordinated through the City. | | |