

10.0 ENVIRONMENTAL JUSTICE

10.1 Introduction and Summary

This section describes the Southwest Transitway project's compliance with Executive Order 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, U.S. Department of Transportation (USDOT) *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (USDOT Order 5610.2 (a), May 2012), and the Federal Transit Administration's (FTA) Circular 4703.1, *Environmental Justice Policy Guidance for Federal Transit Administration Recipients* (August, 2012). This section also describes methods used to identify minority and low-income populations, and evaluates potential environmental justice issues.

10.2 Legal and Regulatory Overview

As outlined in FTA Circular 4703.1, Executive Order 12898 requires USDOT and FTA to make environmental justice (EJ) part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and/or low-income populations, including project-specific environmental reviews.

USDOT Order 5610.2 (a) sets forth steps to prevent disproportionately high and adverse human health or environmental effects to minority or low-income populations through Title I analyses and environmental justice analyses conducted as part of the federal transportation planning process and National Environmental Policy Act (NEPA) provisions.

10.3 Methodology

The following section discusses methods used to identify minority and low-income populations living within the study area and close to the five Build Alternatives considered. Potential effects to minority and low-income populations were only evaluated for the Build Alternatives because neither the No Build Alternative nor the Enhanced Bus Alternative would directly or indirectly change the existing condition of the surrounding environment. The analysis, however, provides a qualitative discussion of potential effects to environmental resources and conditions resulting from the No Build Alternative and Enhanced Bus Alternative with respect to minority and low-income populations.

10.3.1 Method for Identifying the Census Blocks or Block Groups for Each Alternative

Census blocks or block groups were selected for each of the five alternatives in the study area using the following method:

- A half-mile buffer¹ was created using Geographic Information Systems (GIS) computer software along each proposed rail alignment for the five alternatives (including the Freight Rail relocation alignment²).
- All Census blocks or block groups that intersected the buffer for each alternative were selected for analysis.

All Census blocks and block groups identified within the study area lie entirely within Hennepin County.

10.3.1.1 Method for Identifying Minority Census Units

In accordance with the recommended guidelines outlined in FTA's Circular, the following process was used to identify those Census blocks in the study area that are populated by minorities:

- According to data obtained from the 2010 Census, the minority population percentage for Hennepin County is 28.3 percent.
- The minority population percentage for each Census block within the study area was calculated with the obtained Census data. If the minority population percentage of the Census block was equal to or greater than the county percentage (28.3 percent), that Census block was identified as a minority Census block.

In accordance with the USDOT's updated environmental justice order as published in the Federal Register (Vol. 77, No. 91, May 10, 2012), "minority" means a person who is:

- Black: A person having origins in any of the black racial groups of Africa;
- Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;
- Asian American: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
- American Indian or Alaskan Native: A person having origins in any of the original people of North America, South America (including Central America), and who maintains cultural identification through tribal affiliation or community recognition; or
- Native Hawaiian and Other Pacific Islander: People having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

¹ The half-mile buffer was determined to be the distance over which potential effects from the alternatives would extend.

² For this segment, a geographically narrower area of Census block data were analyzed to ensure the overall analysis did not inadvertently miss a minority or low income pocket by analyzing at only the half-mile study area buffer.

Minority Population is defined in the USDOT's updated order as any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy, or activity.

10.3.1.2 Method for Identifying Low-Income Census Units

Low-income individuals are defined as persons whose median household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. The 2000 Census provides detailed information at the Census block group level on household incomes and the percentage of the population that is below the poverty level. The data from the 2010 Census and the American Community Survey for poverty was not used because it is not available at the block group level.³

Similar to the identification of minority population areas, Census data were used to determine whether Census block groups within the study area were above or below the poverty percentage for Hennepin County.

- According to the 2000 Census data, 8.3 percent of Hennepin County's total population were below the federal poverty level (12.4 percent)
- The low-income population percentage for each Census block group within the study area was calculated with the obtained Census data. If the low-income population percentage for a Census block group was found to be equal to or greater than 8.3 percent, the block group was identified as a low-income block group

A low-income population is defined as any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FTA program, policy, or activity.

10.3.2 Description of Minority and Low-Income Populations in the Study Area

Applying the methodology described in Section 10.3.1, the analysis first determined the number of Census blocks and block groups that were either minority and/or low-income within the study area. Table 10.3-1 displays the percentages of minorities and low-income populations residing within a half-mile of each LRT Build Alternative. The percentage of minority and low-income populations differs by alternative because each alternative serves a different geographic area. The minority and low-income population numbers and percentages for Hennepin County are provided as a means of comparison.

For each LRT Build Alternative analyzed, thematic maps were developed to show the distribution of minority and low-income populations within a half-mile of each LRT alternative. As described in Table 10.3-1, the LRT 1A alternative has the lowest proportion of minority populations within a half-mile of the alternative's alignment, while

³ When 2010 Census data becomes available, it will be reviewed to determine whether the number and/or distribution of low-income populations have changed since the 2000 Census data were gathered.

LRT alternatives 3A (LPA) and 3A-1 (Co-location)⁴ contain slightly higher proportions of minority populations. Comparatively, LRT alternatives 3C-1 (Nicollet Mall) and 3C-2 (11th/12th Street) have the greatest number of minority residents within a half-mile of the proposed alternative alignments, with alternative LRT 3C-2 being approximately eight percentage points more minorities as compared to LRT 1A alternative.

In terms of low-income populations, a similar number of low-income persons live within a half-mile of the LRT 1A, LRT 3A (LPA), and LRT 3A-1 (Co-location) alternatives.

Conversely, a higher proportion of low-income populations live in proximity to the LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street) alternatives (about five percentage points more) compared to the other alternatives. This is largely due to the density and type of development surrounding the LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street) alternatives. Table 10.3-1, below, provides the minority and low-income population percentages by alternative.

Table 10.3-1. Summary of Minority Population and Poverty Status by Alternative

Environmental Justice Measure	Build Alternative					Hennepin County
	1A	3A (LPA)	3A-1 (Co-location)	3C-1 (Nicollet Mall)	3C-2 (11 th /12 th Street)	
Percentage below poverty*	8.3	8.1	8.3	12.8	13.2	8.3
Percentage Minority**	24.7	26.3	28.5	31.8	32.5	28.3

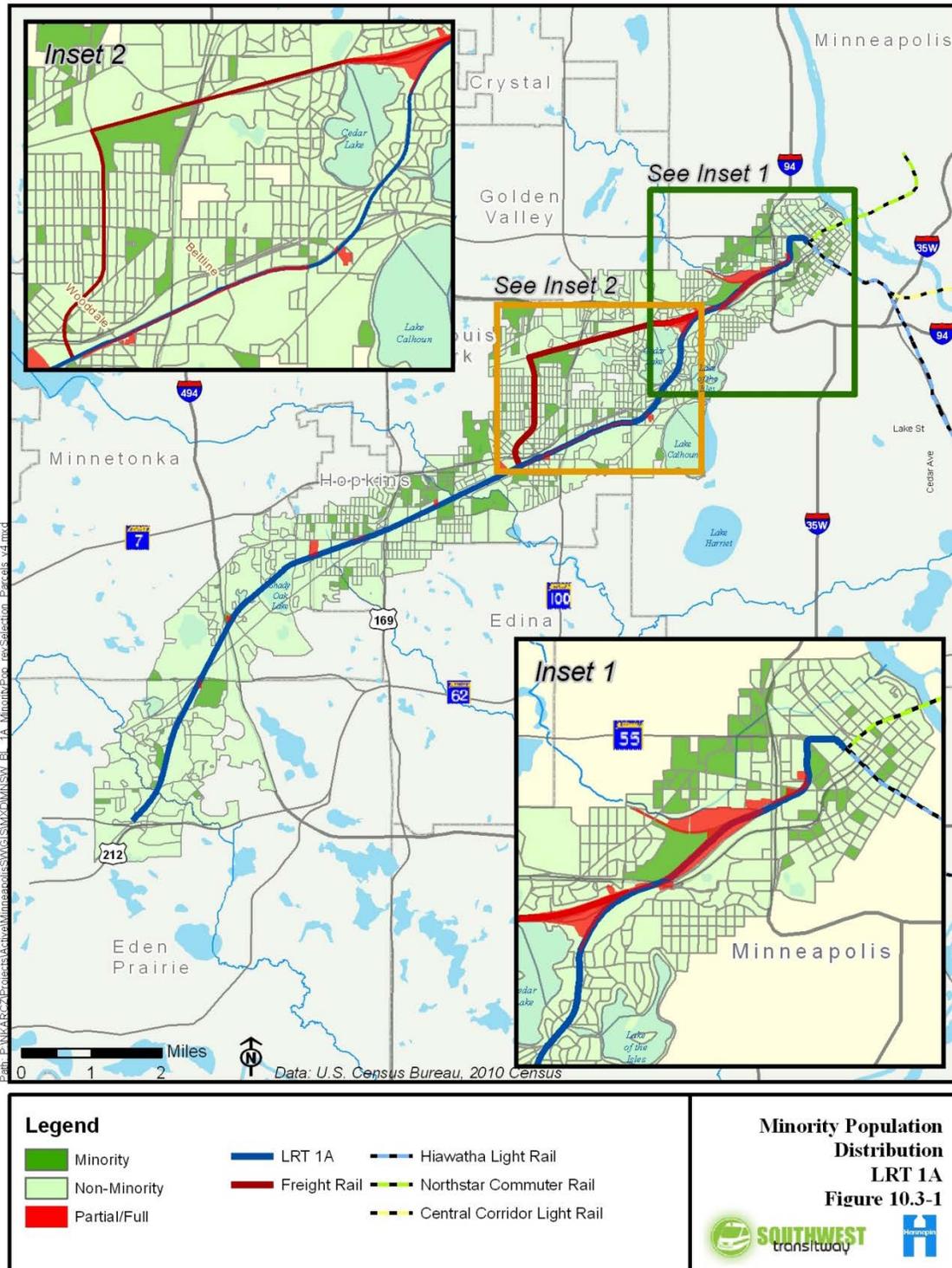
*2000 Census Data, SF3 (Block Group)

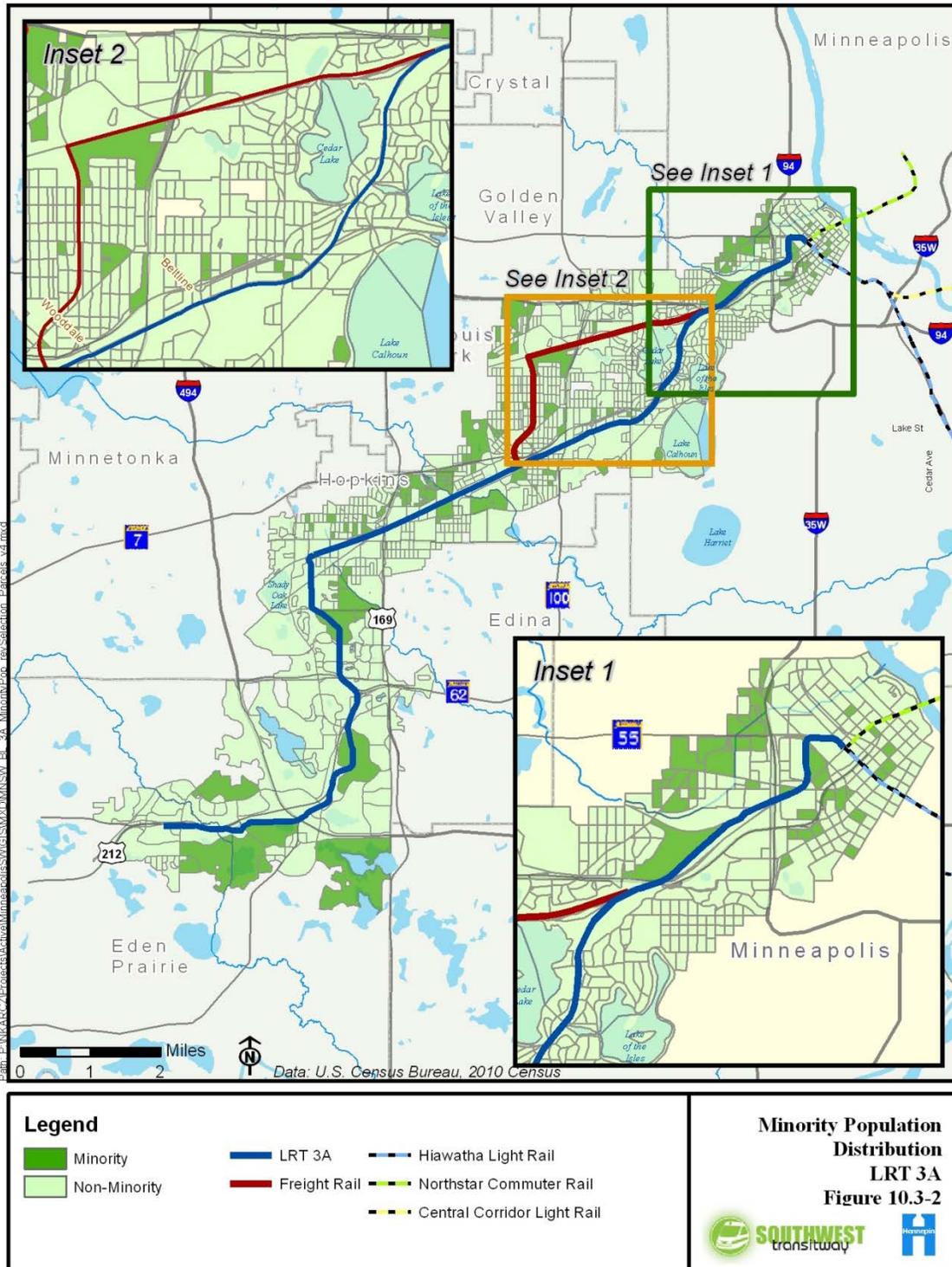
**2010 Census Data (Block Level)

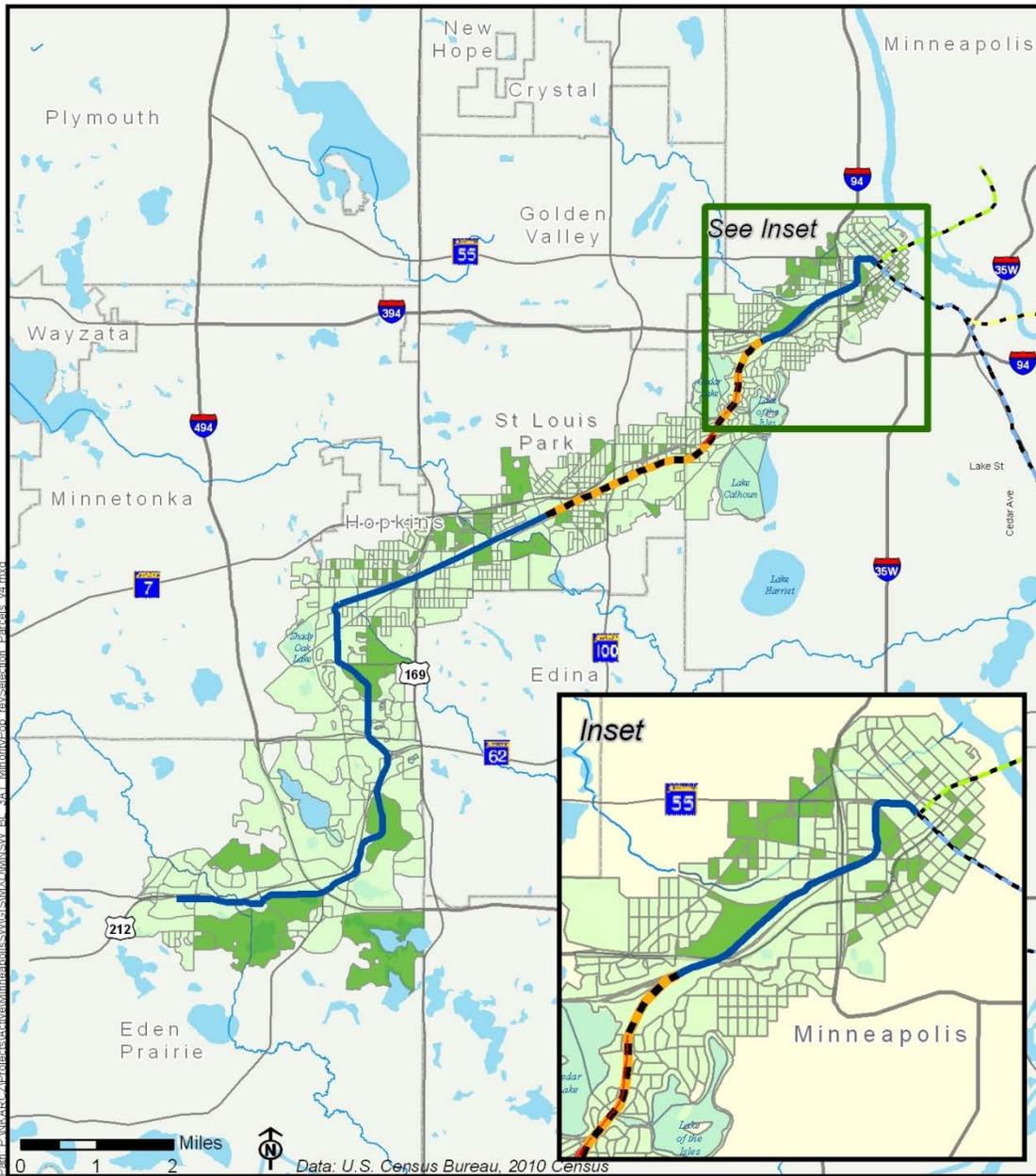
Source: US Census Bureau, Census 2010 and Census 2000

As evidenced by the Census data, environmental justice populations are present within the project study area. Figure 10.3-1 through Figure 10.3-5 illustrates the distribution of minority populations within a half-mile of the Build Alternatives considered. The distribution of low-income populations in the study area for each alternative is shown in Figure 10.3-6 through Figure 10.3-10.

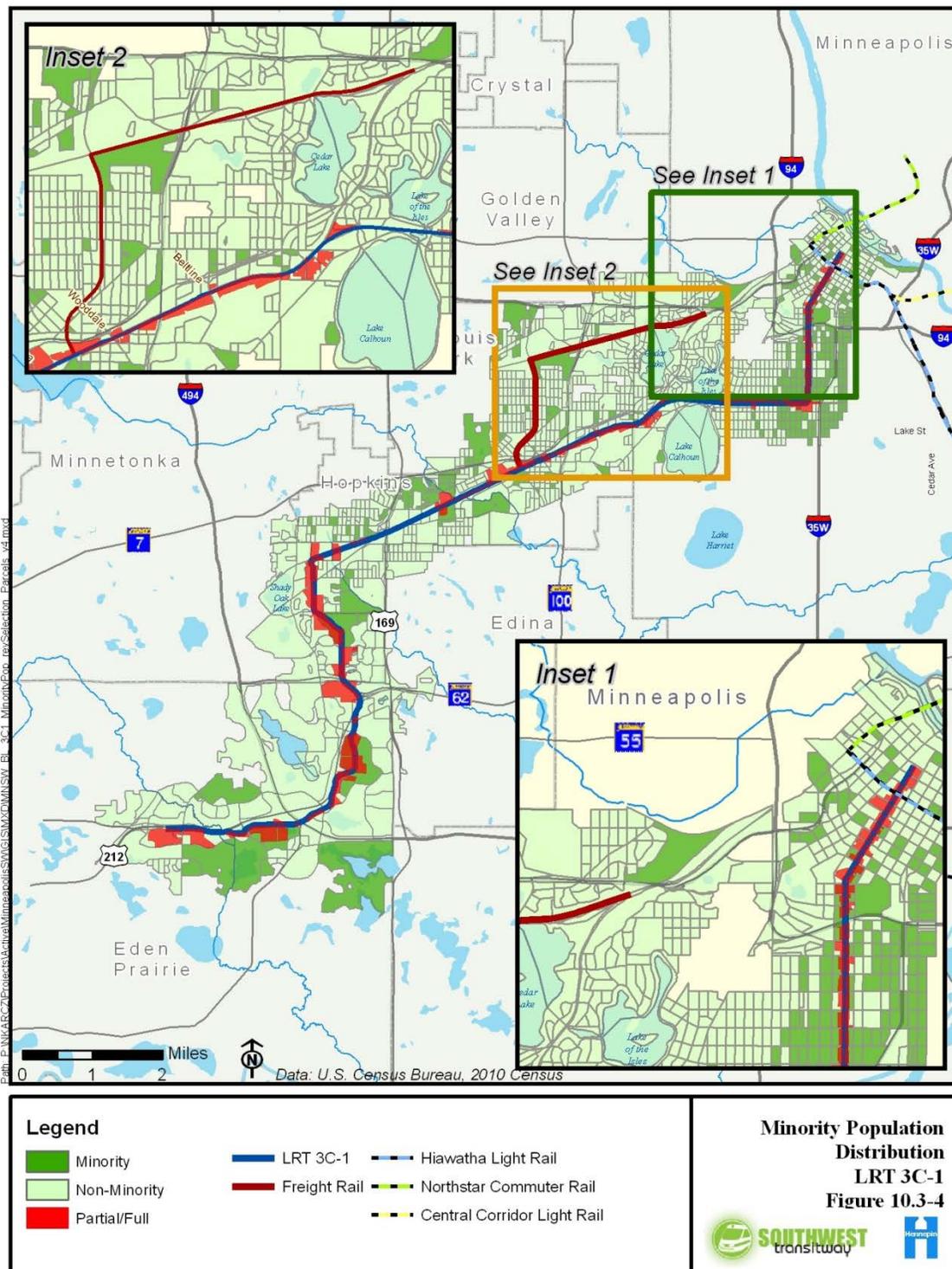
⁴ Please see Section 2.1.2.1 of this Draft EIS for why LRT 3A-1 (co-location alternative) is included in this Draft EIS.

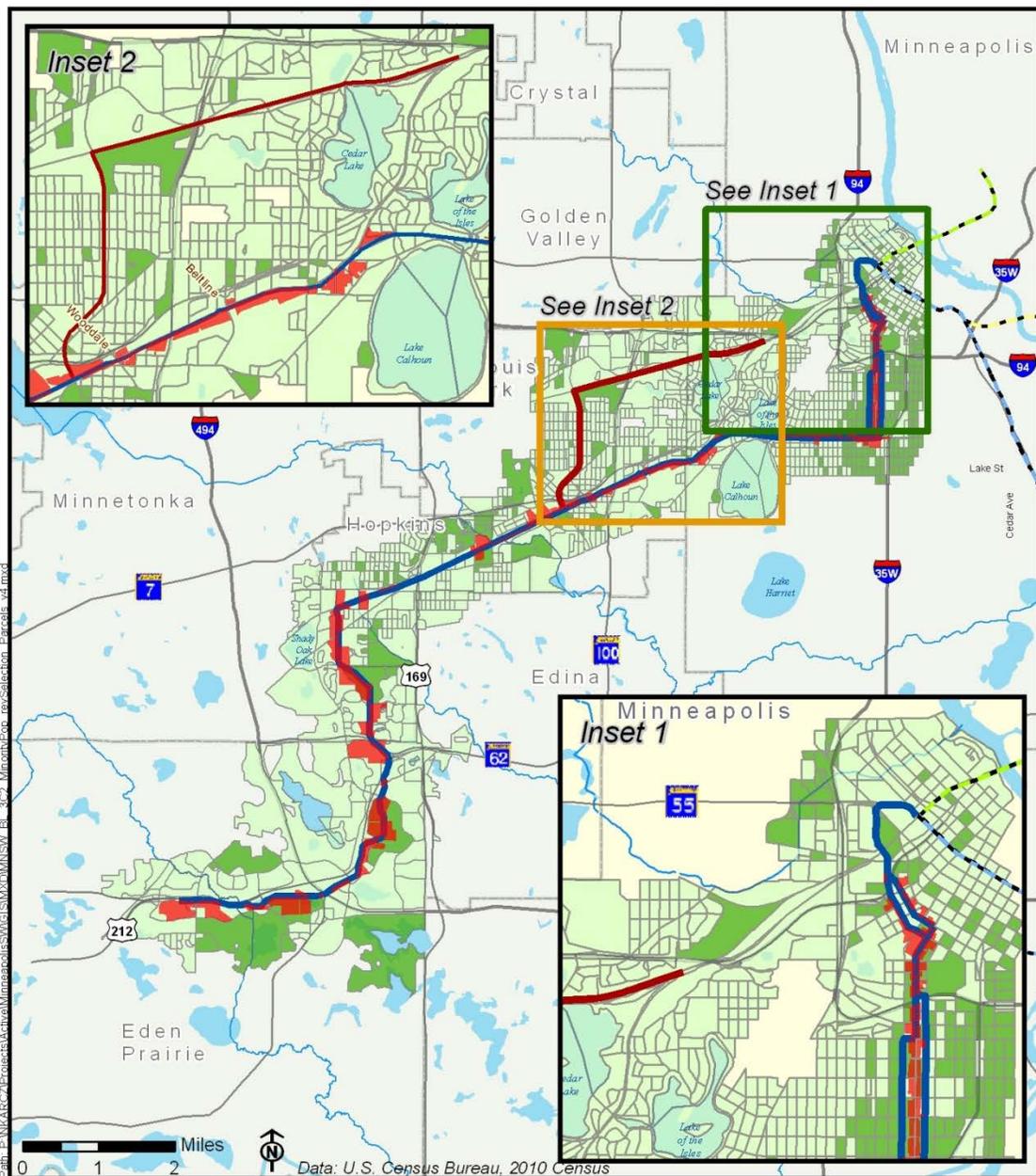




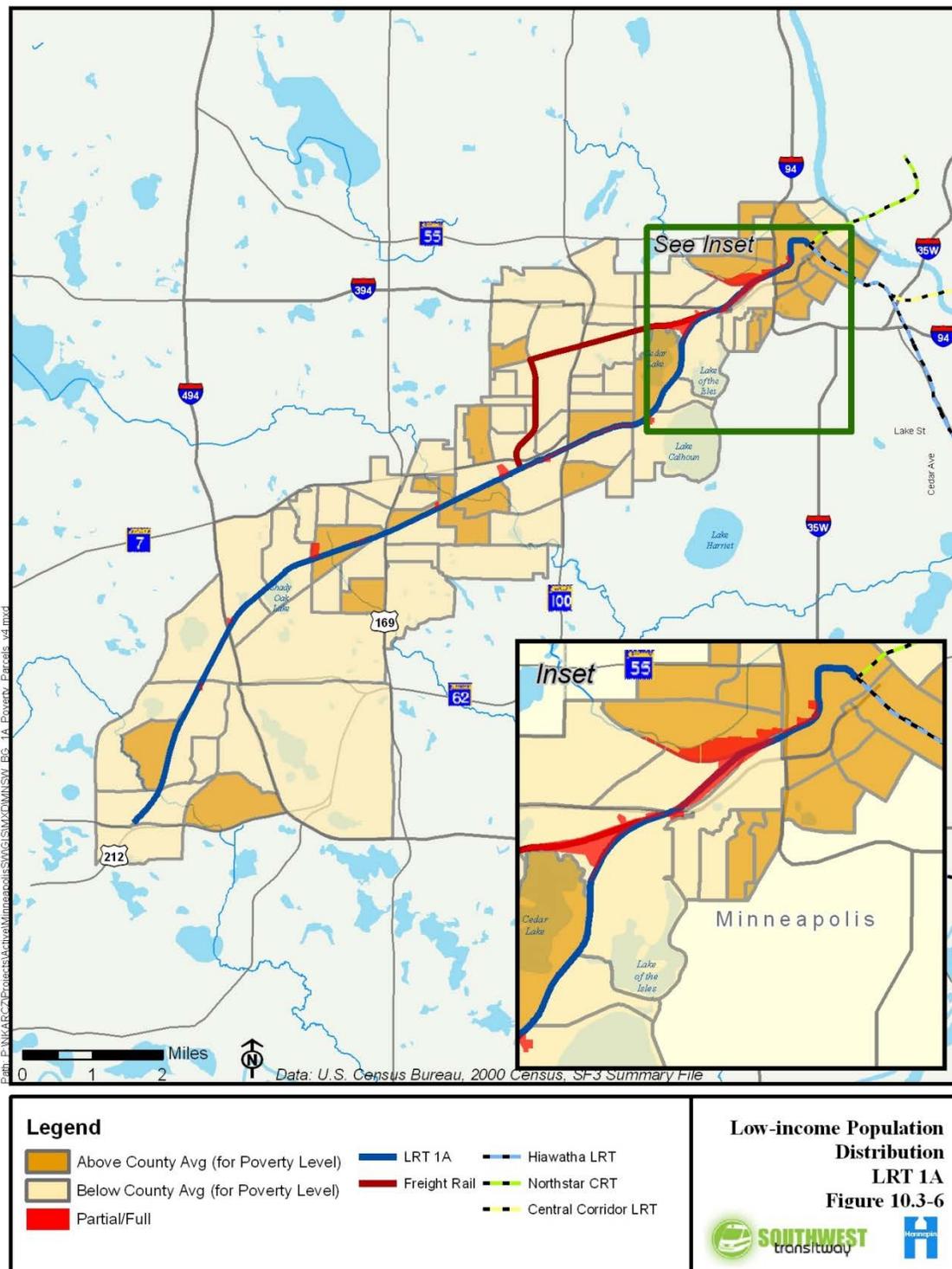


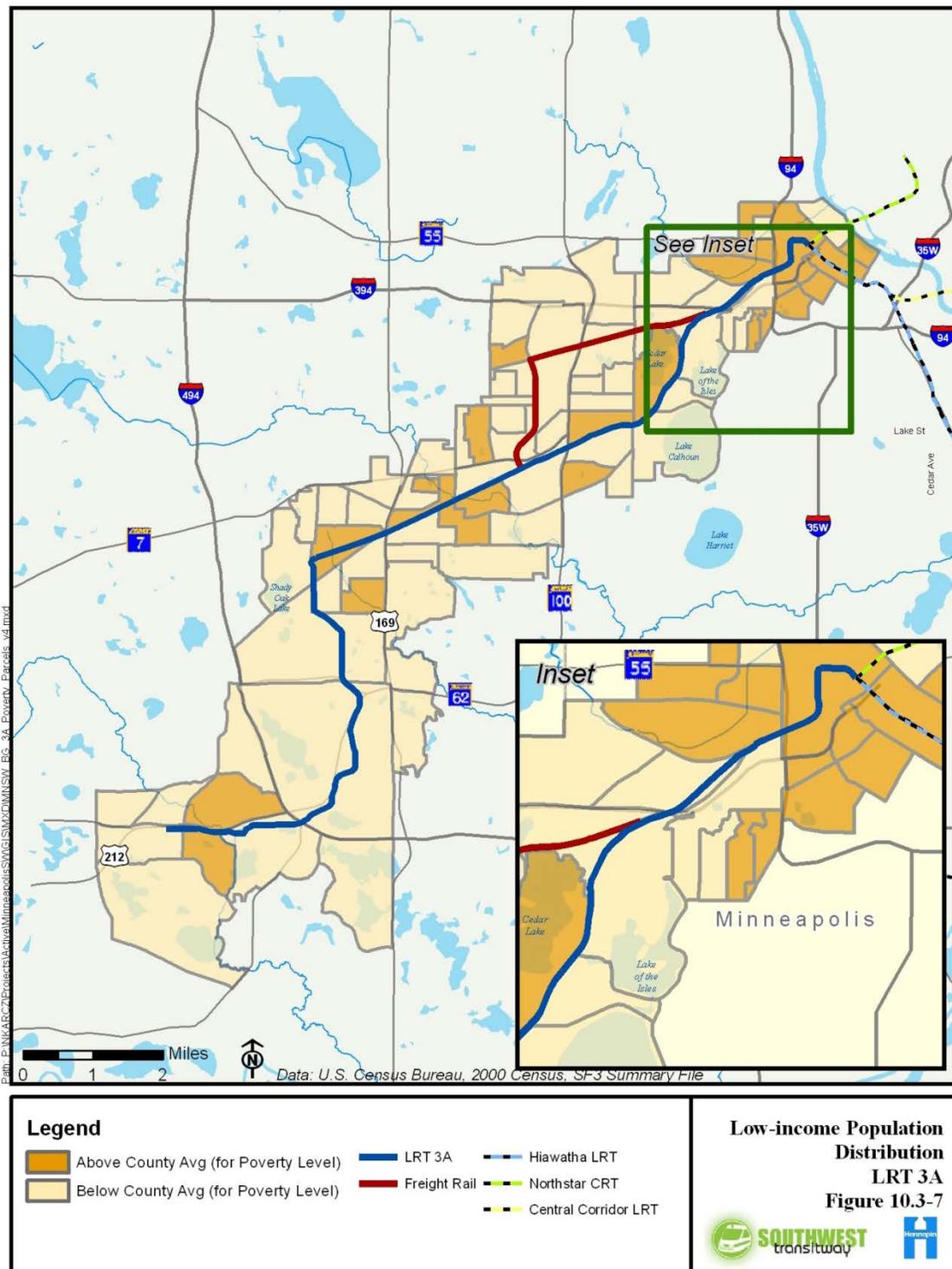
Legend		Minority Population Distribution	
Minority	LRT 3A-1	Hiawatha Light Rail	LRT 3A-1 Figure 10.3-3
Non-Minority	Freight Co-location	Northstar Commuter Rail	
Partial/Full		Central Corridor Light Rail	

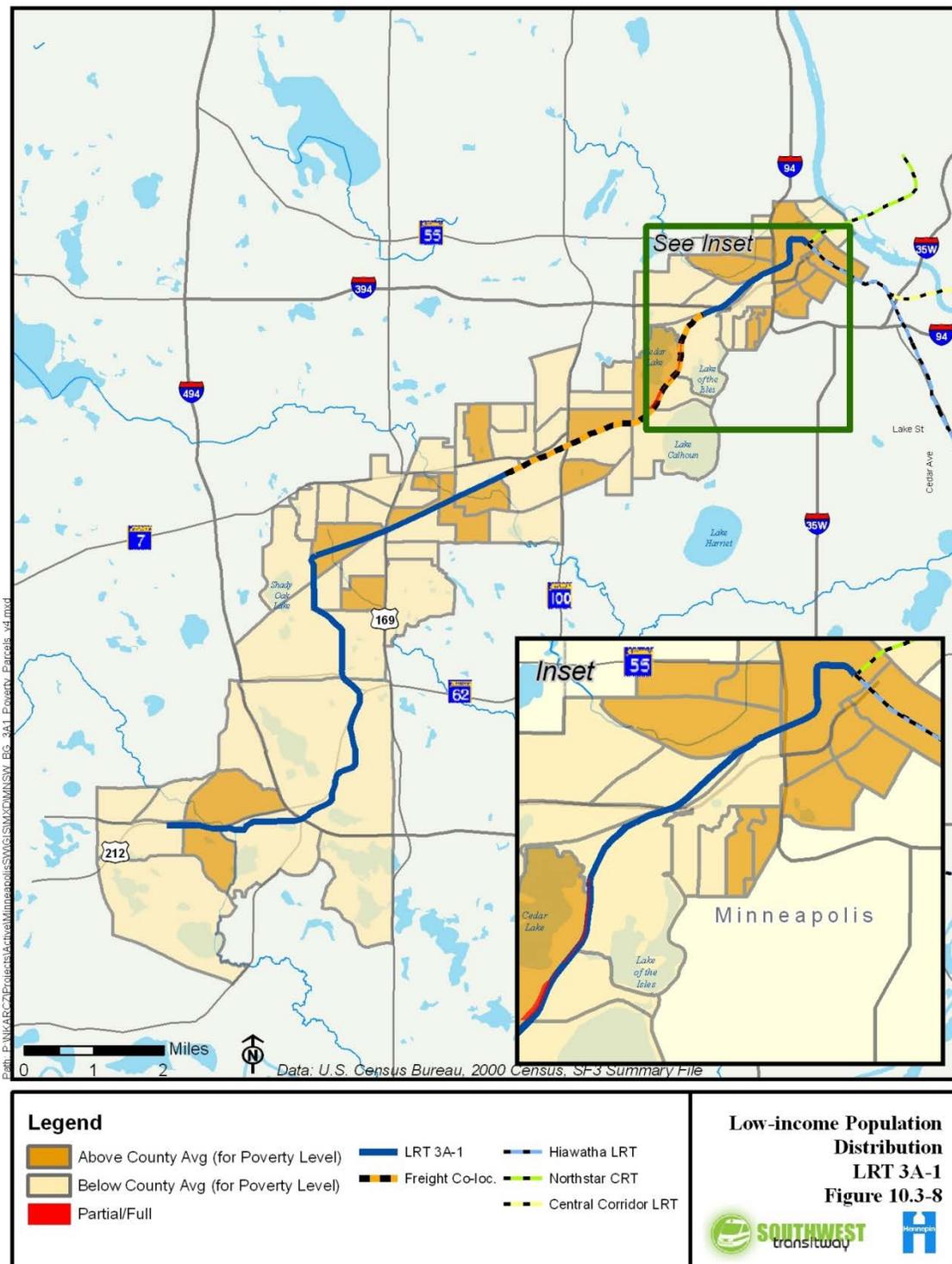


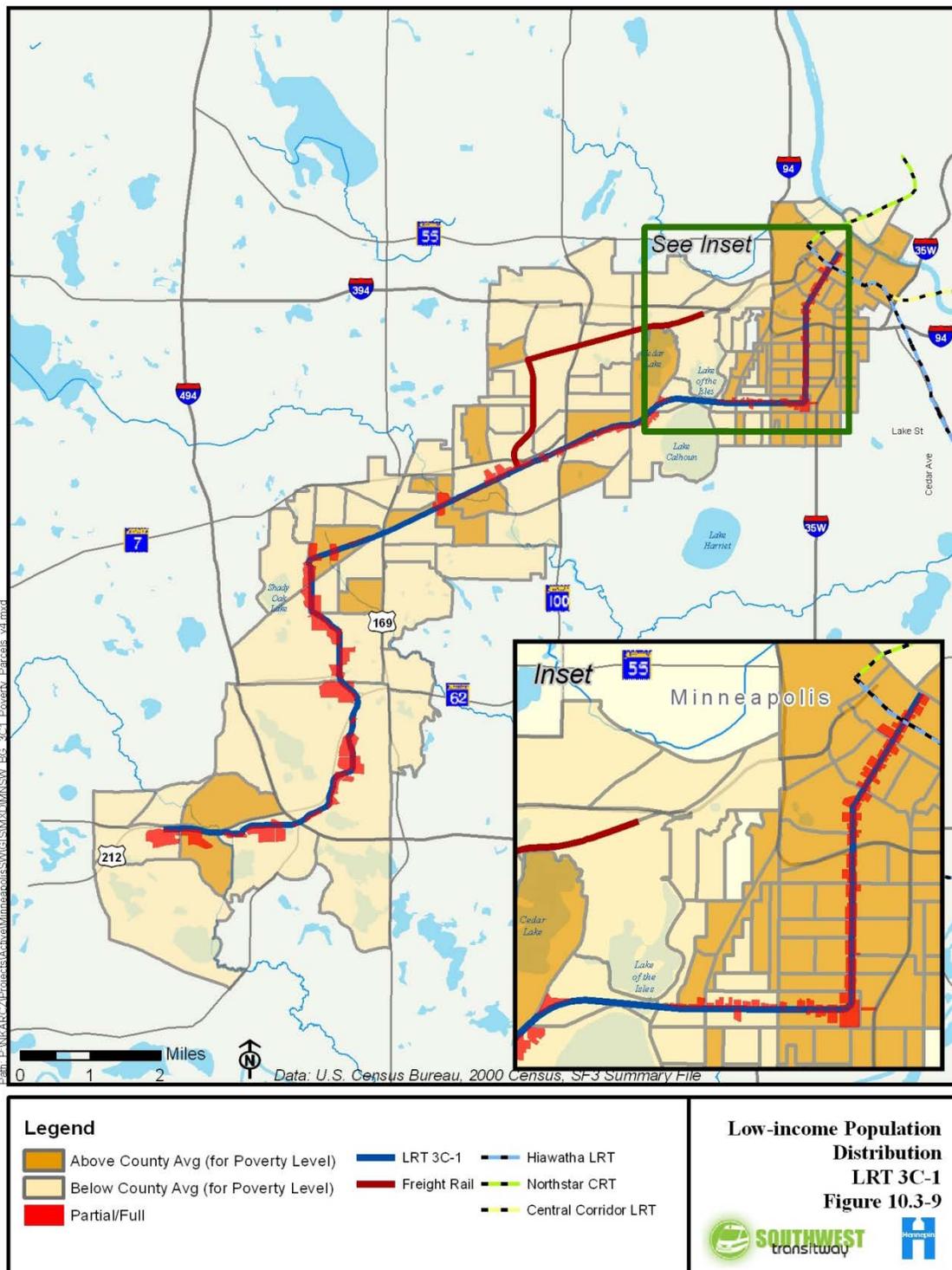


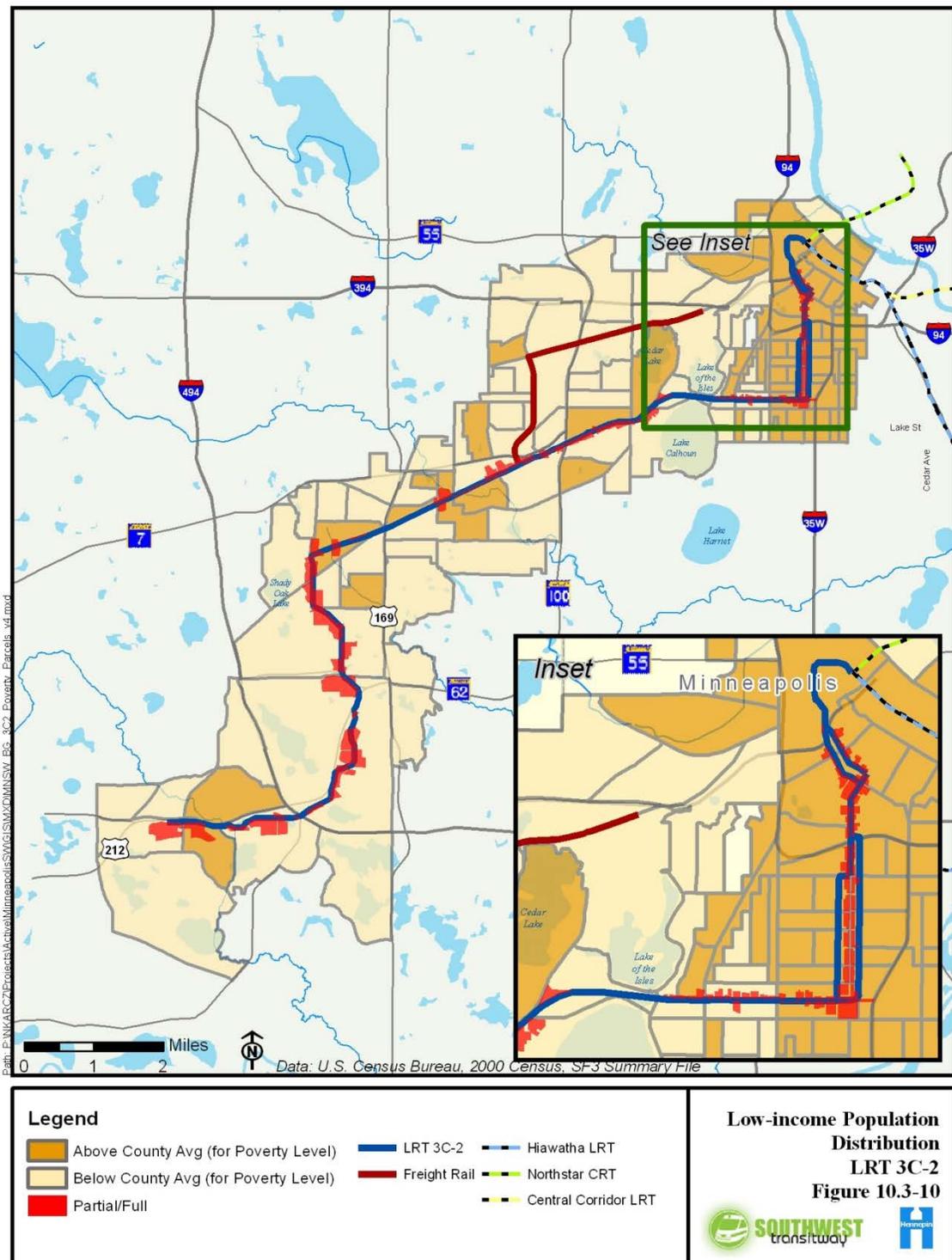
Legend		Minority Population Distribution	
 Minority	 LRT 3C-2	 Hiawatha Light Rail	Figure 10.3-5
 Non-Minority	 Freight Rail	 Northstar Commuter Rail	
 Partial/Full	 Central Corridor Light Rail	 Central Corridor Light Rail	











10.3.3 Components of an Environmental Justice Analysis

As described in FTA Circular 4703.1 (page 50), this Draft EIS should include the following components:

- A description of low-income and minority populations within the study area affected by the project, and a discussion of the method used to identify this population.
- A discussion of all adverse effects of the project both during and after construction that would affect the identified minority and low-income population.
- A discussion of all positive effects that would affect the identified minority and low-income population, such as an improvement in transit service, mobility, or accessibility.
- A description of all mitigation and environmental enhancement actions incorporated in the project to address the adverse effects including, but not limited to, any special features of the relocation program that go beyond the requirements of the Uniform Relocation Act and address adverse community effects such as separation or cohesion issues, and the replacement of the community resources destroyed by the project.
- A discussion of the remaining effects, if any, and why future mitigation is not proposed.
- For projects that traverse through predominately minority and low-income and predominately non-minority and non-low-income areas, a comparison of mitigation and environmental enhancement actions that affect predominately low-income and minority areas with mitigation implemented in predominantly non-minority or non-low-income areas.

For the purpose of this analysis, an adverse effect means the totality of significant individual or cumulative human health or environmental effects including interrelated social and economic effects. A disproportionately high and adverse effect on minority and low-income populations means an adverse effect that:

1. Is predominantly borne by a minority population and/or a low-income population, or
2. Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Adverse effects include major transportation, social, economic, environmental, or human health effects likely to be caused by implementation of any Build Alternative considered that exceeds an established federal or state standard. Adverse impacts associated with a project for which no federal or state standards exist include a broad range of potential effects such as traffic, parking, transit accessibility, community cohesion, acquisitions and displacements, and other effects. For some potential adverse effects, such as traffic, long-standing engineering practices and methodologies exist to quantify potential impacts and their relative level of adversity. For instance, traffic impacts have graded **levels of service** from "A" through "F." Other potential adverse effects, such as

"Level of service" is a quality measure used by traffic engineers to describe traffic, generally in terms of speed and travel time, maneuverability, comfort, and convenience. LOS ratings range from A (best) to F (worst). The Highway Capacity Manual provides LOS measures, thresholds, and estimation procedures for automobiles, transit, bicycles, and pedestrians.

community cohesion, are qualitative in nature. A discussion of these effects to minority and low-income (environmental justice) populations is included in this section.

Each of the Build Alternatives would serve geographic areas with environmental justice populations, along with non-minority and non-low income (non-environmental) areas. None of the five Build Alternatives traverse environmental justice areas exclusively. Segments of two alternatives, the LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street), would traverse areas in midtown Minneapolis with higher proportions of environmental justice populations as compared to the other Build Alternatives. Findings of the analysis suggest that potential impacts to environmental resources include air quality, noise and vibration, and traffic. These effects would be experienced by all populations living in the study area regardless of race, ethnicity, or socioeconomic characteristic during and after construction. Potential impacts to other resources such as property acquisition and displacement, community cohesion, construction effects, and traffic are more localized impacts. A detailed discussion of potential impacts to environmental justice populations follows.

10.4 Public Involvement

The Southwest Transitway project's public involvement activities included efforts to engage diverse populations living in the areas that would be served by the project. These activities included presenting information about the project at neighborhood meetings and providing opportunities for the public to participate in the project's alternatives analysis, route planning and station-area planning activities. Specific examples of public involvement activities undertaken by the project are:

- Conducting more than 50 public presentations and discussions with neighborhood, community and civic organizations.
- Holding sixteen public open houses and public hearings.
- Conducting general information sessions at neighborhood council meetings.
- Publishing project materials in multiple languages including Hmong, Spanish, and Somali.
- Giving presentations at various meetings with project stakeholders.
- Meeting monthly with representatives of the Somali community under the auspices of the SWLRT Community Advisory Committee (CAC).
- Inviting and engaging representatives from traditionally low-income neighborhoods as members of the CAC.
- Meeting one-on-one with members of disability communities and their representatives in order to understand mobility needs and develop methods to coordinate station design feedback.
- Holding monthly meetings with small business owners through the SWLRT Business Advisory Committee (BAC).
- Engaging in dialogue with the Southwest Corridor Immigrant Council (SCIC), an agency that works with minority and immigrant communities in the southwest metro

area, to encourage participation by minority and immigrant communities in formulating, visioning, implementing, and evaluating the SWLRT project.

The SWLRT Project created public service announcements targeted to local and regional ethnic media outlets including print, television, and radio programs in Hmong, Spanish, and Somali. Important project publications and materials were translated into a variety of languages, including Hmong, Spanish, and Somali.

Additionally, the project staff made special efforts to publish materials and discuss the project with speakers of languages other than English, Hmong, Spanish, and Somali. These additional outreach activities were specifically intended to engage environmental justice populations. Further information on the public involvement activities of the project may be found in Chapter 12.

10.5 Environmental Justice Analysis

10.5.1 No Build Alternative

The No Build Alternative, as described in Chapter 2, includes roadway and programmed bus system improvements within the Southwest Transitway study area. These improvements are specified in Transportation Improvement Programs (TIP) and 2030 Transportation Policy Plan (TPP) for which funding has been committed. The current transportation system, including transit facilities and services, with minimal modifications or expansions, form the basis of the No Build Alternative. The No Build Alternative would not cause disproportionately high and adverse effects to environmental justice populations because this alternative would not implement any changes to existing conditions. The No Build Alternative would not lead to major public infrastructure investments and improvements, and development throughout the corridor would continue at the current pace. Mobility improvements and offsetting quality-of-life benefits that would accrue with changes proposed by the Build Alternatives would not be realized under the No Build Alternative.

10.5.2 Enhanced Bus Alternative

Implementation of the Enhanced Bus Alternative is not anticipated to result in any disproportionately high and adverse effects to environmental justice populations living in the study area. The additional transit service to the southwest metropolitan region, coupled with the addition of new bus stops, is anticipated to improve access within the study area, provide an additional transportation option, and have offsetting benefits that could include moderate improvements to air quality, reductions in traffic levels, and improved connections between communities. Because this alternative would not involve the construction of any transit-specific facilities beyond bus stops, and bus service would be provided along existing roads, the Enhanced Bus Alternative represents a minimal change to the existing conditions of the study area.

10.5.3 Build Alternatives

10.5.3.1 LRT 3A (LPA)

Adverse Effects on Environmental Justice Populations During and After Construction

Construction Effects

The nuisance-related impacts associated with construction are discussed throughout this Draft EIS. The construction effects associated with LRT 3A (LPA) do not create disproportionately high and adverse effects on environmental justice populations.

Positive Effects on Environmental Justice Populations

Increased Transit Service and Accessibility

LRT 3A (LPA) will provide benefits to environmental justice populations with an increase in the level of transit service and improved service reliability, with more frequent service and greater transit capacity for riders. Transit access to downtown Minneapolis job opportunities, job centers along the corridor, including the Opus office park and Golden Triangle areas, the University of Minnesota, and regional shopping centers will be significantly improved for environmental justice populations.

Air Quality Benefits

LRT 3A (LPA) is expected to divert about 6,800 person trips from the automobile mode to the transit mode. This diversion would reduce about 5,700 auto vehicle trips from the highway system. Though some of this reduction would be distributed to areas outside the study area, it would still contribute to reductions in overall air pollution in the region. The impact of the air pollution reduction, however small it may be, will be enjoyed by both environmental justice and non-environmental justice populations equally.

A "person trip" is a trip by one or more persons in any mode of transportation. Each person is considered as making one person trip. For example, four persons traveling together in one auto make four person-trips.

Improved Multimodal Environment

Construction of the Southwest Transitway project will improve the existing pedestrian and bicycle infrastructure along the alignment, and improve the safety of pedestrians and bicyclists through implemented design guidelines. All pedestrian facilities will be designed in accordance with current design standards and Americans with Disabilities Act (ADA) requirements to ensure access and mobility for all.

Mitigation and Enhancements

Mitigation for LRT 3A (LPA) is discussed throughout this Draft EIS. Because no disproportionately high and adverse impacts on environmental justice populations have been identified at this time, no additional mitigation measures are identified.

Comparison of Mitigation and Enhancements

Because no mitigation or enhancements are proposed, a comparison of mitigation and enhancements between environmental justice and non-environmental justice populations is not needed.

10.5.3.2 LRT 1A

Adverse Effects on Environmental Justice Populations During and After Construction

Construction Effects

The nuisance-related impacts associated with construction are discussed throughout this Draft EIS. The construction effects associated with LRT 1A do not create disproportionately high and adverse effects on environmental justice populations.

Positive Effects on Environmental Justice Populations

Increased Transit Service and Accessibility

LRT 1A will provide benefits to environmental justice populations with an increase in the level of transit service and improved service reliability, with more frequent service and greater transit capacity for riders. Transit access to downtown Minneapolis job opportunities, the University of Minnesota, and regional shopping centers will be significantly improved for environmental justice populations.

Air Quality Benefits

LRT 1A is expected to divert about 5,000 person trips from the automobile mode to the transit mode. This diversion would reduce about 4,200 auto vehicle trips from the highway system. Though some of this reduction would be distributed to areas outside the study area, it would still contribute to reductions in overall air pollution in the region. The impact of the air pollution reduction, however small it may be, will be enjoyed by environmental justice populations.

Improved Multimodal Environment

Construction of LRT 1A will improve the existing pedestrian and bicycle infrastructure along the alignment, and improve the safety of pedestrians and bicyclists through implemented design guidelines. All pedestrian facilities will be designed in accordance with current design standards and ADA requirements to ensure access and mobility for all.

Mitigation and Enhancements

Mitigation for LRT 1A is discussed throughout this Draft EIS. Because no disproportionately high and adverse impacts on environmental justice populations have been identified at this time, no additional mitigation measures are identified.

Comparison of Mitigation and Enhancements

Because no mitigation or enhancements are proposed, a comparison of mitigation and enhancements between environmental justice and non-environmental justice populations is not needed.

10.5.3.3 LRT 3A-1 (Co-location Alternative)

Adverse Effects on Environmental Justice Populations During and After Construction

Construction Effects

The nuisance-related impacts associated with construction are discussed throughout this Draft EIS. The construction effects associated with LRT 3A-1 (co-location alternative) do not create disproportionately high and adverse effects on environmental justice populations.

Positive Effects on Environmental Justice Populations

Increased Transit Service and Accessibility

LRT 3A-1 (co-location alternative) will provide benefits to environmental justice populations with an increase in the level of transit service and improved service reliability, with more frequent service and greater transit capacity for riders. Transit access to downtown Minneapolis job opportunities, job centers along the corridor including the Opus office park and Golden Triangle areas, the University of Minnesota, and regional shopping centers will be significantly improved for environmental justice populations.

Air Quality Benefits

LRT 3A-1 (co-location alternative) is expected to divert about 6,800 person trips from the automobile mode to the transit mode. This diversion would reduce about 5,700 auto vehicle trips from the highway system. Though some of this reduction would be distributed to areas outside the study area, it would still contribute to reductions in overall air pollution in the region. The impact of the air pollution reduction, however small it may be, will be enjoyed by both environmental justice and non-environmental justice populations equally.

Mitigation and Enhancements

Mitigation for LRT 3A-1 (co-location alternative) is discussed throughout this Draft EIS. Because no disproportionately high and adverse impacts on environmental justice populations have been identified at this time, no additional mitigation measures are identified.

Comparison of Mitigation and Enhancements

Because no mitigation or enhancements are proposed, a comparison of mitigation and enhancements between environmental justice and non-environmental justice populations is not needed.

10.5.3.4 LRT 3C-1 (Nicollet Mall)

Adverse Effects on Environmental Justice Populations During and After Construction

Acquisitions and Displacements

Property acquisition will be necessary in order to implement any of the Build Alternatives considered. For LRT 3C-1 (Nicollet Mall), a disproportionately higher number of parcels will need to be acquired in areas where low-income populations have been identified. Specifically, 67 percent of the total parcels needed, or 255 parcels, would be acquired

from low-income block groups and 33 percent of the total parcels needed, or 127 parcels, would be acquired from non-low-income block groups.

Community Cohesion

Potential impacts to community cohesion are primarily related to construction of the cut-and-cover tunnel needed for LRT 3C-1 (Nicollet Mall) along planning Segment C-1. Construction of the tunnel entrance and exit portal at the Midtown Greenway would necessitate the realignment of the grade-separated Midtown Greenway commuter bike trail. The tunnel portal would force trail users to cross the LRT trackway at street level. An entrance and exit ramp on the west side of Nicollet Avenue currently connects the trail with the street. A new ramp on the east side of Nicollet Avenue would be needed to reconnect the trail and allow trail users to cross above the tunnel portal.

With the presence of environmental justice populations adjacent to planning Segment C-1, separating the Midtown Greenway commuter bike trail system in this region could constitute a disproportionately high and adverse effect to community cohesion. While the mitigation proposed to offset this effect (installation of new access ramps) would reconnect the trail, the separation of a seamless trail network as compared to other portions of the study area could be perceived as a barrier to connectivity between neighborhoods, and would have the potential to create a disproportionately high and adverse effect on community cohesion.

Construction Effects

Local business adjacent to the LRT 3C-1 (Nicollet Mall) ROW would experience adverse effects or disruption during the construction along planning Segment 3C-1 (Nicollet Mall). The short-term effects of construction would be most disruptive along Nicollet Avenue between 29th Street and Franklin Avenue, where the construction of a cut-and-cover tunnel would close half of Nicollet Avenue for extended periods; and along 1st Avenue, where a full closure between blocks may be needed due to the narrower ROW. The extensive nature of the construction involved for the tunnel portion of Alternative LRT 3C-1 (Nicollet Mall) would likely be more disruptive to local businesses than construction elsewhere along the proposed alignments, thereby creating a disproportionately high and adverse effect on environmental justice populations.

Traffic

An analysis of existing and projected traffic conditions was completed for the project. Signalized intersections where trains would cross at-grade were modeled to evaluate the future operational level of service condition with the implementation of LRT service. Queuing analysis was also performed for at-grade intersections where motor vehicle traffic would cross freight rail facilities.

Results of the traffic analysis indicate that one intersection (Franklin Avenue and 1st Avenue) is located in Census blocks or block groups identified as having environmental justice populations. With implementation of LRT, this intersection is anticipated to degrade from LOS "A" to LOS "E" in year 2030. This intersection would be the northern portal of a tunnel beneath 1st Avenue to the Midtown Corridor. Such a degradation of level of service at this intersection would constitute a disproportionately high and adverse effect on environmental justice populations.

As engineering is refined and the NEPA process progresses, a more detailed analysis of traffic and associated impacts will be developed. The project will employ a variety of traffic safety measures to mitigate traffic issues and protect drivers and trains from conflict points. Mitigation measures could include the installation of railroad quad gates, flashers, and appropriate signage, along with modifications to signal systems. The full traffic impact analysis is in Section 6.2, Effects on Roadways.

Positive Effects on Environmental Justice Populations

Increased Transit Service and Accessibility

LRT 3C-1 (Nicollet Mall) will provide benefits to environmental justice populations with an increase in the level of transit service and improved service reliability, with more frequent service and greater transit capacity for riders. Transit access to downtown Minneapolis job opportunities, job centers along the corridor including the Opus office park and Golden Triangle areas, the University of Minnesota, and regional shopping centers will be significantly improved for some of the environmental justice populations.

Air Quality Benefits

LRT 3C-1 (Nicollet Mall) is expected to divert about 5,800 person trips from the automobile mode to the transit mode. This diversion would reduce about 4,800 auto vehicle trips from the highway system. Though some of this reduction would be distributed to areas outside the study area, it would still contribute to reductions in overall air pollution in the region. The impact of the air pollution reduction, however small it may be, will be enjoyed by both environmental justice and non-environmental justice populations equally.

Improved Multimodal Environment

Construction of the Southwest Transitway project will improve the existing pedestrian and bicycle infrastructure along the alignment, and improve the safety of pedestrians and bicyclists through implemented design guidelines. All pedestrian facilities will be designed in accordance with current design standards and ADA requirements to ensure access and mobility for all.

Mitigation and Enhancements

Acquisitions and Displacements

In the event acquisitions and displacements do occur, all displaced residents (regardless of socioeconomic characteristic) will receive relocation assistance as mandated by the Uniform Relocation and Real Property Assistance Act of 1970. This Act, as amended, requires that replacement housing must be "decent, safe, and sanitary," and be functionally equivalent in the number of rooms and living space, location, and general improvements. Replacement dwellings must meet all minimum federal housing requirements and conform to state and local occupancy codes. Relocation assistance will follow the guidelines set forth in Title 49, Part 24 of the Code of Federal Regulations (49 C.F.R. Part 24 and FTA Circular 5010.1C dated October 1, 1998, as amended). Relocation benefits may be available to businesses, and nonprofit organizations that may be displaced. Payments may be made for:

- Moving costs
- Tangible personal property loss as a result of relocation or discontinuance of operations
- Reestablishment expenses
- Costs incurred in finding a replacement site

Community Cohesion

Construction of LRT 3C-1 (Nicollet Mall) would result in several major and minor impacts to adjacent communities. Construction plans will be developed during the Preliminary Engineering and Final Design phases of the project. The Metropolitan Council, as the owner and operator of the Southwest Transitway, will be responsible for developing construction plans. In order to avoid lengthy impacts to adjacent residents and businesses, it is anticipated that a phased construction plan will be developed. Roadway operations, parking, access to businesses, public utility services, and pedestrian and bicycle facilities along with short-term effects to air quality, noise, and vibration are anticipated to be the most substantial impacts experienced by the people and businesses located adjacent to or near the construction zones, but would be mitigated to the extent possible with construction phasing. These mitigation measures will be equally applied to both environmental justice and non-environmental justice communities.

Construction Effects

Short-term construction effects for LRT 3C-1 (Nicollet Mall) can be mitigated by using standard construction best management practices (BMPs) such as construction staging, restricted construction times, optimum traffic re-routing measures, minimization of lane, sidewalk, or trail temporary closures, and maintenance and timely removal of temporary traffic control devices. Although specific plans for maintaining access to local businesses and construction BMPs are not yet established, it is expected that a BMP construction plan will be developed prior to construction. This plan will specify construction staging and treatments to minimize impacts. The BMPs could include working with local businesses to provide alternative access to their establishments, providing advance notice of construction plans and phasing, maintaining access to bus stops, and alerting the public to road, sidewalk, and trail closures and detour routes. These mitigation measures will be equally applied to both environmental justice and non-environmental justice communities.

Comparison of Mitigation and Enhancements

Mitigation measures for acquisitions and displacements, community cohesion, and construction effects will be equally applied to both environmental justice and non-environmental justice communities. No comparison is, therefore, needed.

10.5.3.5 LRT 3C-2 (11th/12th Street)

Adverse Effects on Environmental Justice Populations During and After Construction

Acquisitions and Displacements

As stated earlier, property acquisition will be necessary in order to implement any of the Build Alternatives considered. For LRT 3C-2 (11th/12th Street), a disproportionately higher number of parcels will need to be acquired in areas where low-income populations

have been identified. Specifically, 65 percent of the total number of needed parcels, or 241 parcels, would be acquired from low-income block groups and 35 percent of the total number of needed parcels, or 127 parcels, would be acquired from non-low-income block groups.

Community Cohesion

Potential impacts to community cohesion are primarily related to construction of the cut-and-cover tunnel needed for LRT 3C-2 (11th/12th Street) alternatives, along planning Segment 3C-2. Construction of the tunnel entrance and exit portal at the Midtown Greenway would necessitate the realignment of the grade-separated Midtown Greenway commuter bike trail. The tunnel portal would force trail users to cross the LRT trackway at street level. An entrance and exit ramp on the west side of Nicollet Avenue currently connects the trail with the street. A new ramp on the east side of Nicollet Avenue would be needed to reconnect the trail and allow trail users to cross above the tunnel portal. If LRT service were implemented beneath Blaisdell Avenue or 1st Avenue (the LRT 3C-2 (11th/12th Street) alternative) new ramps on either side of these streets would be needed.

With the presence of environmental justice populations adjacent to LRT 3C-2 (11th/12th Street), separating the Midtown Greenway commuter bike trail system in this region could constitute a disproportionately high and adverse effect on to community cohesion. While the mitigation proposed to offset the effect (installation of new access ramps) would reconnect the trail, the separation of a seamless trail network as compared to other portions of the study area could be perceived as a barrier to connectivity between neighborhoods, and as would have the potential to create a disproportionately high and adverse effect on community cohesion.

Construction Effects

Local business adjacent to the LRT 3C-2 (11th/12th Street) ROW would experience adverse effects or disruption during the construction along planning Segment 3C-2. The short-term effects of construction would be most disruptive along Nicollet Avenue between 29th Street and Franklin Avenue, where the construction of a cut-and-cover tunnel would close half of Nicollet Avenue for extended periods; and along 1st Avenue, where a full closure between blocks may be needed due to the narrower ROW. The extensive nature of the construction involved for the tunnel portion of Alternatives LRT 3C-2 (11th/12th Street) would likely be more disruptive to local businesses than construction elsewhere along the proposed alignments, thereby creating a disproportionately high and adverse effect on environmental justice populations.

Traffic

An analysis of existing and projected traffic conditions was completed for the project. Signalized intersections where trains would cross at-grade were modeled to evaluate the future operational level of service condition with the implementation of LRT service. Queuing analysis was also performed for at-grade intersections where motor vehicle traffic would cross freight rail facilities.

Results of the traffic analysis indicate that one intersection (Franklin Avenue and 1st Avenue) is located in Census blocks or block groups identified as having environmental justice populations. With implementation of LRT, this intersection is

anticipated to degrade from LOS "A" to LOS "E" in year 2030. This intersection would be the northern portal of a tunnel beneath 1st Avenue to the Midtown Corridor. Such a degradation of level of service at this intersection would constitute a disproportionately high and adverse effect on environmental justice populations.

As engineering is refined and the NEPA process progresses, a more detailed analysis of traffic and associated impacts will be developed. The project will employ a variety of traffic safety measures to mitigate traffic issues and protect drivers and trains from conflict points. Mitigation measures could include the installation of railroad quad gates, flashers, and appropriate signage, along with modifications to signal systems. The full traffic impact analysis is in Section 6.2, Effects on Roadways.

Positive Effects on Environmental Justice Populations

Increased Transit Service and Accessibility

LRT 3C-2 (11th/12th Street) will provide benefits to environmental justice populations with an increase in the level of transit service and improved service reliability, with more frequent service and greater transit capacity for riders. Transit access to downtown Minneapolis job opportunities, job centers along the corridor including the Opus office park and Golden Triangle areas, the University of Minnesota, and regional shopping centers will be significantly improved for some of the environmental justice populations.

Air Quality Benefits

LRT 3C-2 (11th/12th Street) is expected to divert about 6,600 person trips from the automobile mode to the transit mode. This diversion would reduce about 5,500 auto vehicle trips from the highway system. Though some of this reduction would be distributed to areas outside the study area, it would still contribute to reductions in overall air pollution in the region. The impact of the air pollution reduction, however small it may be, will be enjoyed by both environmental justice and non-environmental justice populations equally.

Improved Multimodal Environment

Construction of the Southwest Transitway project will improve the existing pedestrian and bicycle infrastructure along the alignment, and improve the safety of pedestrians and bicyclists through implemented design guidelines. All pedestrian facilities will be designed in accordance with current design standards and ADA requirements to ensure access and mobility for all.

Mitigation and Enhancements

Acquisitions and Displacements

In the event acquisitions and displacements do occur, all displaced residents (regardless of socioeconomic characteristic) will receive relocation assistance as mandated by the Uniform Relocation and Real Property Assistance Act of 1970. This Act, as amended, requires that replacement housing must be "decent, safe, and sanitary," and be functionally equivalent in the number of rooms and living space, location, and general improvements. Replacement dwellings must meet all minimum federal housing requirements and conform to state and local occupancy codes. Relocation assistance will follow the guidelines set forth in Title 49, Part 24 of the Code of Federal Regulations (49 C.F.R. Part 24 and FTA Circular 5010.1C dated October 1, 1998,

as amended). Relocation benefits may be available to businesses, and nonprofit organizations that may be displaced. Payments may be made for:

- Moving costs
- Tangible personal property loss as a result of relocation or discontinuance of operations
- Reestablishment expenses
- Costs incurred in finding a replacement site

These mitigation measures would be equally applied to both environmental justice and non-environmental justice communities.

Community Cohesion

Construction of LRT 3C-2 (11th/12th Street) would result in several major and minor impacts to adjacent communities. Construction plans will be developed during the Preliminary Engineering and Final Design phases of the project. The Metropolitan Council, as the owner and operator of the Southwest Transitway, will be responsible for developing construction plans. In order to avoid lengthy impacts to adjacent residents and businesses, it is anticipated that a phased construction plan would be developed. Roadway operations, parking, access to businesses, public utility services, pedestrian and bicycle facilities, along with short-term effects to air quality, noise, and vibration are anticipated to be the most substantial impacts experienced by the people and businesses located adjacent to or near the construction zones, but would be mitigated to the extent possible with construction phasing. These mitigation measures will be equally applied to both environmental justice and non-environmental justice communities.

Construction Effects

Short-term construction effects for LRT 3C-2 (11th/12th Street) can be mitigated by using standard construction BMPs such as construction staging, restricted construction times, optimum traffic re-routing measures, minimization of lane, sidewalk, or trail temporary closures, and maintenance and timely removal of temporary traffic control devices. Although specific plans for maintaining access to local businesses and construction BMPs are not yet established, it is expected that a BMP construction plan will be developed prior to construction. This plan will specify construction staging and treatments to minimize impacts. The BMPs could include working with local businesses to provide alternative access to their establishments, providing advance notice of construction plans and phasing, maintaining access to bus stops, and alerting the public to road, sidewalk, and trail closures and detour routes. These mitigation measures will be equally applied to both environmental justice and non-environmental justice communities.

Traffic

As engineering is refined and the NEPA process progresses, a more detailed analysis of traffic and associated impacts will be developed. The project will employ a variety of traffic safety measures to mitigate traffic issues and protect drivers and trains from conflict points. Mitigation measures could include the installation of railroad quad gates, flashers, and appropriate signage, along with modifications to signal systems. The full traffic impact analysis is in Section 6.2, Effects on Roadways.

Comparison of Mitigation and Enhancements

Mitigation measures for acquisitions and displacements, community cohesion, and construction effects will be equally applied to both environmental justice and non-environmental justice communities. No comparison is needed.

10.5.3.6 Placement of System Components

Operations and Maintenance Facility

A determination of whether the Operations and Maintenance Facility (OMF) will result in disproportionately high and adverse impacts on environmental justice populations cannot be made at this time. Currently, three sites are being considered in Eden Prairie and one site is being considered in Minneapolis. Two of these sites are located in areas with identified environmental justice populations, while the remaining two are identified in areas with no identified populations. The evaluation of environmental justice impacts due to the placement of system components will be addressed in the Final EIS. More information on project facilities and proposed OMF locations can be found in Chapter 2 and Appendix H of this Draft EIS.

Traction Power Substations

The project would necessitate the construction of Traction Power Substation (TPSS) units to power light rail vehicles along any alternative constructed. Although the TPSS locations shown on the conceptual engineering drawings (Appendix F) are slightly different for each alternative, none of the alternatives would result in disproportionately high or adverse effect on environmental justice populations.

10.6 Environmental Justice Analysis Conclusions

The findings resulting from the environmental justice analysis for environmental justice populations living within the study area of the Southwest Transitway project are summarized in Table 10.6-1.

Table 10.6-1. Summary of Environmental Resource Impacts to Environmental Justice Populations by Alternative

Alternative	Analysis Finding
No Build Alternative	No disproportionately high or adverse effects anticipated.
Enhanced Bus Alternative	No disproportionately high or adverse effects anticipated.
LRT 1A	No disproportionately high or adverse effects anticipated.
LRT 3A (LPA)	No disproportionately high or adverse effects anticipated.
LRT 3A-1 (Co-Location)	No disproportionately high or adverse effects anticipated.
LRT 3C-1 (Nicollet Mall)	Disproportionately high or adverse effects anticipated: <ul style="list-style-type: none"> • Acquisitions and displacements • Community Cohesion • Construction Effects • Traffic
LRT 3C-2 (11 th /12 th Street)	Disproportionately high or adverse effects anticipated: <ul style="list-style-type: none"> • Acquisitions and displacements • Community Cohesion • Construction Effects • Traffic
OMF Locations	Determination cannot be made at this time.
TPSS Locations	No disproportionately high or adverse effects anticipated.