

## **APPENDIX B: Supplemental EA**

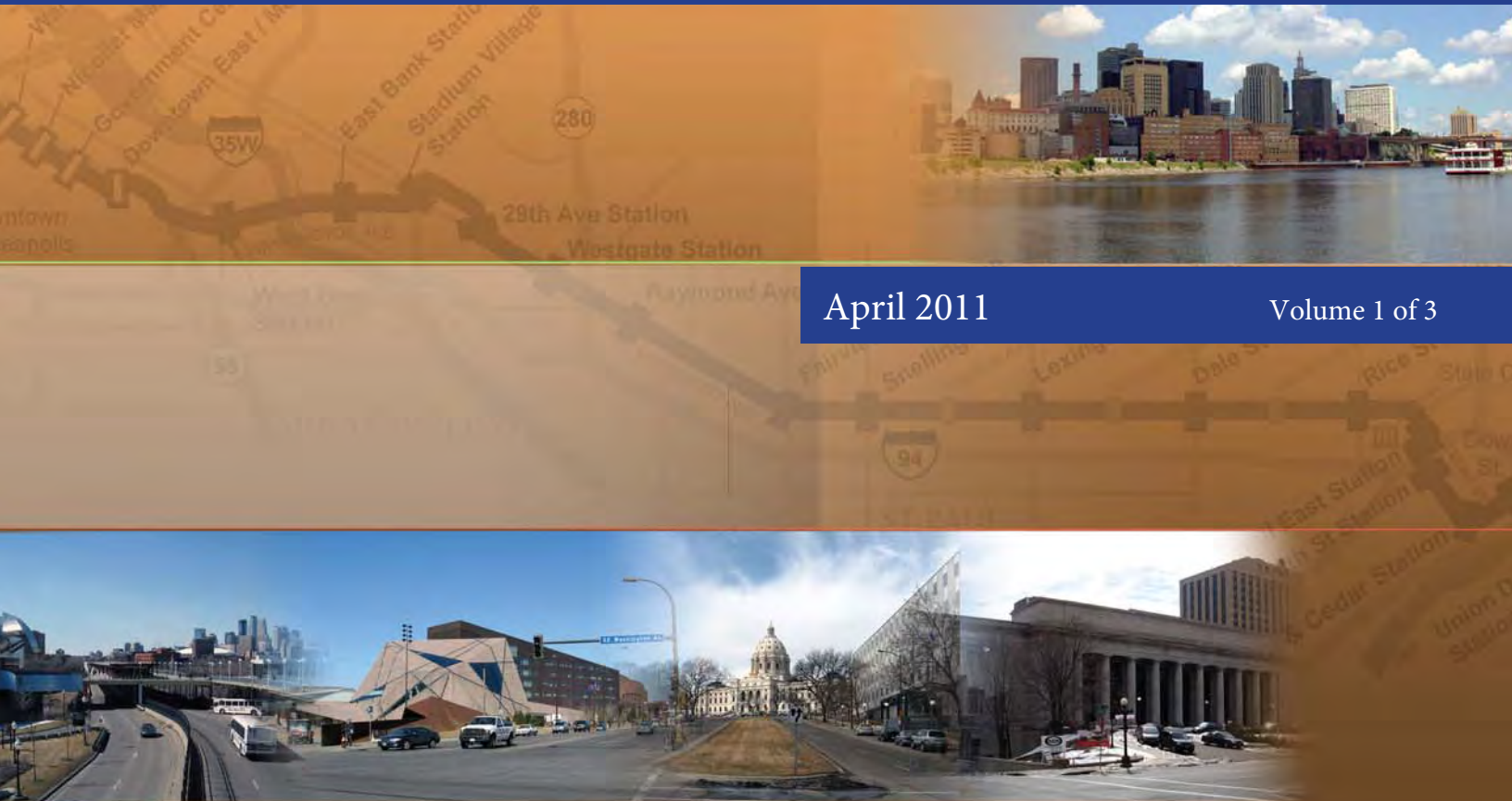
# Central Corridor Light Rail Transit

 Metropolitan Council

## Supplemental Environmental Assessment Construction - Related Potential Impacts on Business Revenues

April 2011

Volume 1 of 3




**CENTRAL CORRIDOR LIGHT RAIL TRANSIT PROJECT**  
**SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT**  
**CONSTRUCTION-RELATED POTENTIAL IMPACTS ON BUSINESS REVENUES**

**Prepared by:**  
**Federal Transit Administration (FTA)**  
**Metropolitan Council**


**Pursuant to:**

National Environmental Policy Act of 1969, Section 102(2)(c), 42 U.S.C. 4332 (2)(c);  
National Historic Preservation Act of 1966, Section 106, 16 U.S.C. 470f, et seq.;  
Federal Transit Act, 53 U.S.C. Section 5323(b), Section 5309(e)(2) – (7), 5301(e), and  
5324(b)(1) – (3);  
Title 49 U.S.C. Section 303, formerly Department of Transportation Act of 1966, Section 4(f);  
Executive Order 11990 (Protection of Wetlands);  
Executive Order 12898 (Environmental Justice);  
Executive Order 13045 (Protection of Children from Environmental Health and Safety Risks);  
Executive Order 13166 (Improving Access to Services for Persons with Limited  
English Proficiency).

*4-20-2011*  
Date of Approval

  
Marisol Simon, Region 5  
Regional Administrator  
Federal Transit Administration

*4.20.11*  
Date of Approval

  
Mark W. Fuhrmann  
New Starts Program Director  
Metropolitan Council

## ABSTRACT

The Metropolitan Council and the Federal Transit Administration (FTA), the lead federal agency, have prepared this Construction-related Potential Impacts on Business Revenues Supplemental Environmental Assessment (EA) for the Central Corridor Light Rail Transit Project (the Project) pursuant to 23 CFR 771.130(c). The Project is 10.9 miles long (9.7 miles of new alignment, 1.2 miles on shared alignment) and consists of 23 Central Corridor Light Rail Transit (LRT) stations – 18 new stations and five shared with the Hiawatha LRT. On January 26, 2011, the U.S. District Court for the District of Minnesota in the case *NAACP, et. al. v. US Department of Transportation, et. al.*, CIV 10-147, held that the Final Environmental Impact Statement (“FEIS”), prepared in June 2009, did not evaluate potential impacts on the loss of business revenue during construction and that it should have been evaluated during the National Environmental Policy Act (“NEPA”) process. This supplemental EA analyzes the potential average loss of revenue by local businesses during the construction period for the Project.

A public comment period was established for this document. Comments were submitted in writing, via e-mail or in person at two public hearings held on Wednesday, March 16, 2011. Two hearings were held that day, one starting at 8:00 am at the Lao Family Community of Minnesota (320 W. University Ave., St. Paul, MN 55103) and one starting at 6:00 pm at Goodwill / Easter Seals (553 Fairview Ave. N., St. Paul, MN, 55104).

FOR ADDITIONAL INFORMATION CONCERNING THIS DOCUMENT, CONTACT:

Maya Ray  
Office of Planning & Environment  
Federal Transit Administration  
1200 New Jersey Avenue SE  
Washington, DC 20036  
(202) 366-5811

Kathryn O'Brien  
Environmental Project Manager  
Central Corridor Project Office  
540 Fairview Avenue  
St. Paul, MN 55410  
(651) 602-1927

# Central Corridor Light Rail Transit

## Supplemental Environmental Assessment Construction-Related Potential Impacts on Business Revenues

Federal Transit Administration  
Metropolitan Council  
April 2011

Table of Contents

VOLUME 1 OF 3

ES 1.0	EXECUTIVE SUMMARY .....	ES-1
ES 1.1	BASIS FOR THIS ENVIRONMENTAL ASSESSMENT .....	ES-1
ES 1.2	DESCRIPTION OF CONSTRUCTION ACTIVITIES .....	ES-2
ES 1.3	EXISTING ECONOMIC CONDITIONS AND DEMOGRAPHICS .....	ES-2
ES 1.4	SUMMARY OF CONSTRUCTION-RELATED IMPACTS ON BUSINESS REVENUES .....	ES-3
ES 1.5	PUBLIC COORDINATION .....	ES-4
ES 1.6	CONCLUSION AND SUMMARY OF COMMITMENTS .....	ES-5
1.0	BASIS FOR THIS ENVIRONMENTAL ASSESSMENT .....	1
1.1	BASIS FOR THIS ENVIRONMENTAL ASSESSMENT .....	1
1.2	UPDATES SINCE PUBLICATION OF THE DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT .....	1
2.0	DESCRIPTION OF CONSTRUCTION ACTIVITIES .....	2
2.1	CONSTRUCTION ACTIVITIES .....	2
2.1.1	Civil West Construction .....	2
2.1.2	Civil East Construction .....	4
2.1.3	Other Construction Activities .....	4
2.2	CONSTRUCTION SCHEDULE AND SEGMENTS .....	4
2.2.1	Construction Schedule .....	5
2.2.2	Construction Segments .....	5
2.3	CONSTRUCTION SEQUENCING AND UTILITIES .....	5
2.3.1	Construction Sequencing .....	6
2.3.2	Utility Disruptions During Construction .....	7
3.0	EXISTING ECONOMIC CONDITIONS AND DEMOGRAPHICS .....	13
3.1	OVERVIEW OF EXISTING ECONOMIC CONDITIONS .....	13
3.1.1	Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area Economic Indicators .....	13
3.1.2	Central Corridor LRT Business Characteristics .....	14
3.2	PROJECT AREA POPULATION DEMOGRAPHICS .....	15
4.0	CONSTRUCTION-RELATED IMPACTS ON BUSINESS REVENUES AND MITIGATION .....	17
4.1	INCOMPLETE OR UNAVAILABLE INFORMATION .....	17
4.2	CONSTRUCTION-RELATED POTENTIAL IMPACTS ON BUSINESS REVENUES TECHNICAL STUDY .....	17
4.2.1	Potential Impacts .....	17
4.2.2	Economic Impacts .....	19

4.3	MITIGATION PROGRAM OVERVIEW .....	21
4.3.1	Mitigation Approach .....	21
4.3.2	Mitigation Commitments .....	26
4.3.3	Value of Mitigation Commitments .....	31
5.0	PUBLIC COORDINATION .....	33
5.1	FEBRUARY 17, 2011 TOWN HALL MEETINGS .....	33
5.2	DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT COMMENT PERIOD .....	33
6.0	CONCLUSION AND SUMMARY OF COMMITMENTS .....	40

**Appendices**

- Appendix A: Technical Report on the Potential Impacts on Business Revenues During Construction of the Central Corridor Light Rail Project
- Appendix B: Sample of Weekly Construction Update and News Release
- Appendix C: Sample of Construction Information Packet
- Appendix D: Sample Construction Access Plan
- Appendix E: Sample of Contractor Incentive Program
- Appendix F: Sample of Construction Public Information and Communication Plan
- Appendix G: Response to Comments Matrix and Index of Commenters

VOLUME 2 OF 3 AND VOLUME 3 OF 3

**Appendices**

- Appendix H: Record of Comments Received

**List of Tables**

Table 2-1:	Central Corridor LRT Construction Schedule Overview .....	8
Table 3-1:	Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area Economic Indicators .....	13
Table 3-2:	Central Corridor LRT Business Establishments .....	14
Table 4-1:	Business Classification .....	20
Table 4-2:	Mitigation Measures: Financial Commitments .....	32
Table 4-3:	Mitigation Measures: Staffing and Contract Commitments .....	33

**List of Figures**

Figure 2-1:	Civil West Construction and Civil East Construction .....	3
Figure 2-2:	Construction Segments (Downtown Minneapolis and University/ Prospect Park) .....	9
Figure 2-3:	Construction Segments (Midway West and Midway East) .....	10
Figure 2-4:	Construction Segments (Midway East and Capitol Area) .....	11
Figure 2-5:	Construction Segments (Capitol Area and Downtown St. Paul) .....	12

## ES 1.0 EXECUTIVE SUMMARY

The Metropolitan Council and Federal Transit Administration (FTA), the lead federal agency, have prepared this Supplemental Environmental Assessment (EA) of the potential impacts on business revenues during construction of the Central Corridor Light Rail Transit (LRT) Project pursuant to 23 CFR 771.130(c). The Project is 10.9 miles long (9.7 miles of new alignment, 1.2 miles on shared alignment) and consists of 23 Central Corridor LRT stations – 18 new stations and five shared with the Hiawatha LRT.

### ES 1.1 Basis for this Environmental Assessment

#### **Basis for this Environmental Assessment (Section 1.1)**

Following the June 2009 Final Environmental Impact Statement (“FEIS”) and the August 2009 Record of Decision (“ROD”), a lawsuit was filed against the U.S. Department of Transportation, the FTA and the Metropolitan Council by a coalition of local businesses, residents and non-profit organizations. One of the four claims made in the lawsuit was that the environmental review of the Project violated the National Environmental Policy Act (“NEPA”) by failing to adequately analyze potential loss of business revenues caused during construction of the Project. The Court held that the FEIS prepared in June 2009, had failed to evaluate potential impacts on the loss of business revenue during construction and that it should have been evaluated during the NEPA process. The Court ordered the Metropolitan Council and FTA to supplement the FEIS for this issue and to address any loss of business revenues as an adverse impact of the construction of the Central Corridor LRT. The results of this analysis, as required by the January 26, 2011 Court order, are documented in this Supplemental EA.

The Court order in *NAACP v. DOT*, Case No. 10-147 (USDC MN), dated January 26, 2011, stated that the “FEIS was deficient in its consideration of lost business revenue as an adverse impact of the construction of the CCLRT” and ordered the defendants to supplement the FEIS on that issue. FTA’s regulation 23 CFR Section 771.130, titled “Supplemental environmental impact statements” provides a number of options for supplementing an EIS. Section 771.130(c) states, “Where the Administration is uncertain of the significance of the new impacts, the applicant will develop appropriate environmental studies or, if the Administration deems appropriate, an EA to assess the impacts of the changes, new information, or new circumstances.” Because the issue that FTA was evaluating was discrete and narrow in scope, FTA chose to conduct a supplemental EA as the appropriate level of environmental review under NEPA.

#### **Updates Since Publication of the Draft Supplemental Environmental Assessment (Section 1.2)**

Since publication of the Draft Supplemental EA, updated information regarding existing economic conditions, construction-related impacts on business revenues and mitigation, and public involvement has been incorporated into this final Supplemental EA.



## ES 1.2 Description of Construction Activities

For the purposes of this final Supplemental EA, construction of the Project is being addressed in two general sections: Civil West and Civil East. The Civil West construction comprises the western three miles of the Project within the City of Minneapolis. The Civil East construction comprises the eastern seven miles of the Project within the City of St. Paul. The western one-mile segment of the Project along the Hiawatha LRT in downtown Minneapolis will not be affected by project construction and therefore is not included in this Supplemental EA.

### **Civil West and Civil East Construction (Section 2.1)**

Civil West and Civil East construction includes utility relocations, LRT construction and related activities, bridge construction, and roadway construction and related activities (e.g., new roadway pavements, sidewalks, curbs and gutters, street lighting, above and below-grade traffic signal facilities, etc.). Other activities that would occur during project construction include Operations and Maintenance Facility (OMF) construction, LRT systems construction, fare collection installation, and station artwork. The following activities have already been completed: 4th Street advanced utility construction in downtown St. Paul, advanced traffic improvements to streets at the University of Minnesota, and OMF yard site preparations.

### **Construction Schedule and Segments (Section 2.2)**

Construction of the Central Corridor LRT began in late 2009. Final completion of all Civil West and Civil East construction work is anticipated by the end of 2013, with system operation anticipated in 2014. Civil West construction and Civil East construction are each divided into five segments. Detailed work-specific construction plans will be developed to establish the estimated schedule and staging of construction phases for all project segments, consistent with the constraints and sequencing limitations identified in the construction contract documents.

### **Construction Sequencing and Utilities (Section 2.3)**

The overall construction period for each segment will include a period of localized utility work, site preparation and mobilization, heavy construction, and construction completion and clean up. Utility relocations may result in temporary, short-term disruptions to utility services; however, utility service will be maintained throughout project construction. After the final completion of all construction activities, there will be a shorter period of integration and system testing prior to full operation of the Central Corridor LRT system.

## ES 1.3 Existing Economic Conditions and Demographics

### **Existing Economic Conditions (Section 3.1)**

The Central Corridor LRT is located within the Minneapolis-St. Paul-Bloomington MN-WI (Minnesota-Wisconsin) Metropolitan Statistical Area (MSA). A sample of economic indicators for the Minneapolis-St. Paul-Bloomington MN-WI MSA region from years 2001 through 2009 are presented in Table 3-1 of this Supplemental EA. The indicators suggest that the project area lies within a strong, stable regional economy.

U.S. Census information for 2008 documented over 4,000 establishments in the 8 zip codes surrounding the Central Corridor LRT alignment outside of the downtown areas. A large majority (greater than 75 percent) of business establishments located with zip codes corresponding to the Central Corridor LRT are establishments with fewer than 20 employees.

The zip code level is the smallest geographic area corresponding to the Central Corridor LRT where reliable, current data is available. However, the geographic area covered by these eight zip codes extends far beyond the project corridor. The number of business establishments adjacent to the project corridor has been estimated by local planning groups at approximately 1,100 establishments outside of the downtown areas.

### **Project Area Demographics (Section 3.2)**

Project area demographics are described in detail in Section 3.8.4 of the FEIS. Ethnic minority populations comprise a significant portion of study area population. Although distributed throughout the study area, the highest concentrations of minority populations are located along University Avenue from Rice Street to Snelling Avenue. The Central Corridor project area generally has higher percentages of low-income persons compared to Hennepin County and Ramsey County.

## **ES 1.4 Summary of Construction-Related Impacts on Business Revenues**

### **Incomplete or Unavailable Information (Section 4.1)**

Information is incomplete or unavailable to credibly and reliably predict the potential loss of business revenues for any one business due to the construction phase of a light rail transit project. The outcome of such an analysis would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than actual construction-related business revenue impacts directly attributable to the environmental effects of the proposed action.

### **Construction-Related Potential Impacts to Business Revenues Technical Study (Section 4.2)**

Discussion of potential impacts to revenues of business in the project corridor are drawn from a technical study prepared by the US DOT Volpe Center (“Volpe Center”) titled “Technical Report on the Potential Impacts on Business Revenues during Construction of the Central Corridor Light Rail Project” (“Technical Report”) which has been revised since the publication of the Draft Supplement EA. A copy of the revised Technical Report can be found in Appendix A of the final Supplemental EA.

The Technical Report identifies seven impact categories based on previous studies. The Technical Report anticipates that construction activities will temporarily impede access by pedestrians and vehicles; temporarily consume space for parking; lead to temporary utility shutoffs; result in nuisance impacts such as noise, vibration, and dust; and temporarily impede business visibility. Over the course of the project, most of the businesses along the corridor are likely to experience potential impacts from project construction, including issues associated with those factors identified above.

The Technical Report notes that no studies have directly connected potential construction-related impacts to quantitative estimates of business revenue losses during construction. The Volpe Center conducted a comprehensive literature review on the topic identifying four previous studies addressing business revenue impacts resulting from construction activities. While any individual business has the potential to experience a loss of business revenues during the construction period, the one previous study most similar to Central Corridor conditions indicated

that four business types (general merchandise, food stores, automotive retail and home furnishings) are more likely to experience greater sales revenue losses due to construction, as well as other economic factors. See De Solminihac and Harrison study.

In light of the numerous comments regarding the applicability of the Volpe methodology to the Central Corridor LRT Project to provide any reliable estimate of prospective potential loss of revenues caused by the construction phase of the Project, FTA has decided that predicting average percent business losses with any accuracy is not warranted here because any prediction would be too speculative. Moreover, since releasing the Draft Supplemental EA for comment, a number of other reports looking at the impact of the construction phase of transportation projects on businesses have been brought to FTA's attention. These reports, although not put through the scientific rigor of a peer review, provide additional support for FTA's conclusion that providing a reliable estimate of future lost revenues is not possible given the current state of knowledge, but would only be conjecture and speculation, and have the effect of understating the actual impacts some businesses may incur during the construction phase of the Project.

### **Mitigation Program Overview (Section 4.3)**

While many of the factors that contribute to potential loss of business revenue cannot be avoided during construction activity, studies referenced in the *Technical Report* identify a number of suggested mitigation measures to counteract loss of business revenue. These include business counseling, adjustments to construction phasing, traffic management and public relations and marketing activity. Furthermore, as required by Minnesota legislation, the Minnesota Department of Transportation (Mn/DOT) concluded a study that reviewed the impacts to businesses due to construction and recommended a series of mitigation measures as best practices for transportation projects.

Based on the "best practices" currently available to alleviate construction impacts to businesses and the recommendations made in the Mn/DOT study, proposed mitigation for the Central Corridor LRT Project focuses on: (1) minimizing the unavoidable impacts of construction activities; (2) proactive communications with both corridor businesses and the community to minimize confusion and uncertainty regarding the timing and duration of construction activities; (3) promotional and marketing activities to encourage patronage of businesses during construction; (4) technical assistance to businesses during the construction period to improve business management and customer communication skills; (5) financial assistance to businesses losing nearby on-street parking, and; (6) general financial assistance to small businesses affected by construction activities.

Key elements of the mitigation commitments include a number of contractor obligations to minimize potential construction impacts, extensive communications and coordination activities, and financial programs to enhance parking/access and support businesses through the construction period. The value of mitigation commitments totals nearly \$15 million.

## **ES 1.5 Public Coordination**

### **February 17, 2011 Town Hall Meetings (Section 5.1)**

Two town hall meetings were held on February 17, 2011, to consider the views of the general public and local merchants and to gather information in anticipation of the Supplemental Environmental Assessment. The town hall meetings were held in an open house format. Representatives of the FTA, the Metropolitan Council, City of St. Paul and Business Resource

Collaborative members were available at the meetings to discuss the Project and the supplemental environmental review process. Business owners, employees and citizens were provided the opportunity to discuss specific issues and provide written and verbal comments.

### **Draft Supplemental Environmental Assessment Comment Period (Section 5.2)**

The public had the opportunity to review and comment on the Draft Supplemental EA from March 1 through March 31, 2011. Two public hearings were held on March 16, 2011. Public comments were received from 73 individuals or groups/organizations during the comment period. A summary matrix of all substantive comments and responses is included in Appendix G.

## **ES 1.6 Conclusions and Summary of Commitments**

The Technical Report anticipates that construction activities will cause temporary partial blockages to access, traffic detours, parking restrictions, temporary utility shutoffs and nuisance impacts such as noise, vibration, dust and visual impacts. The Technical Report prepared by the Volpe Center states that while any individual business has the potential to experience loss of business revenues during the construction period, previous studies indicate that businesses that include general merchandise, food stores, automotive retail, and furniture stores are more likely to experience greater sales revenue losses due to construction activities. These studies also recognize that there are many factors unrelated to construction activity that may also impact business revenues, including external economic factors, unemployment rates, and world events.

The Technical Report also states that the estimate of impacts is subject to significant uncertainty and there may be businesses with sales revenue losses other than those identified as being impacted. We cannot predict with specificity which particular businesses will experience adverse impacts or positive impacts, and to what extent those impacts may affect business revenues. Smaller businesses may be impacted to a greater extent depending on the duration and magnitude of nuisance impacts associated with project construction. If construction impacts to businesses are sufficiently adverse, then businesses may close or choose to relocate. Less severely impacted businesses would likely experience short-term declines in revenues due to reduced business activity. Metropolitan Council is implementing mitigation measures to address potential adverse construction impacts to the extent reasonable and feasible. However, FTA recognizes that some adverse impacts will be unavoidable and may be of a magnitude that the effect to an individual business may be losses in revenues that result in the business owner deciding to either relocate or close.

While many of these factors cannot be completely avoided during construction activity, a number of mitigation measures have been identified to minimize the negative impact of construction activities, improve communications and provide assistance to businesses to counteract loss of business revenue. Direct financial commitments to mitigation measures total nearly \$15 million. In addition, substantial staffing, communication and contractual commitments are provided to implement mitigation measures and assure contractor compliance.

## 1.0 BASIS FOR THIS ENVIRONMENTAL ASSESSMENT

### 1.1 Basis for this Environmental Assessment

The content of a traditional Environmental Assessment (EA) document includes a discussion of the following elements: purpose and need for the proposed action; alternatives to the proposed action, including the no-build alternative; evaluation of the social, economic and environmental impacts of the project; identification of mitigation measures; and a description of public involvement/agency coordination activities. These elements were previously addressed in the June 2009 FEIS and August 2009 ROD for the Central Corridor LRT and therefore are not included in this EA. The basis for this EA is described below.

Following the June 2009 FEIS and the August 2009 ROD, a lawsuit was filed against the US Department of Transportation (DOT), the FTA, and the Metropolitan Council by a coalition of local businesses, residents, and non-profit organizations. One of the four claims made in this lawsuit was that the environmental review of the Project violated the National Environmental Policy Act (NEPA) by failing to adequately analyze the impact on business revenues potentially caused during the construction of the Project. The Court directed the FTA, and the Metropolitan Council to supplement the FEIS to address the potential loss of business revenues as an adverse impact of the construction of the Central Corridor LRT.

The Court order in *NAACP v. DOT*, Case No. 10-147 (USDC MN) dated January 26, 2011, stated that the “FEIS was deficient in its consideration of lost business revenue as an adverse impact of the construction of the CCLRT” and ordered the defendants to supplement the FEIS on that issue. FTA’s regulation 23 CFR Section 771.130, titled “Supplemental environmental impact statements” provides a number of options for supplementing an EIS. Section 771.130(c) states, “Where the Administration is uncertain of the significance of the new impacts, the applicant will develop appropriate environmental studies or, if the Administration deems appropriate, an EA to assess the impacts of the changes, new information, or new circumstances.” Because the issue that FTA was evaluating was discrete and narrow in scope, FTA chose to conduct a supplemental EA as the appropriate level of environmental review under NEPA.

### 1.2 Updates Since Publication of the Draft Supplemental Environmental Assessment

Since publication of the Draft Supplemental EA, updated information regarding existing economic conditions, construction-related impacts on business revenues and mitigation, and public involvement has been incorporated into Chapter 3 through Chapter 5 of this final Supplemental EA. An updated version of the US DOT Volpe Center *Technical Report on the Potential Impacts on Business Revenues During Construction of the Central Corridor Light Rail Project* is located in Appendix A.

## 2.0 DESCRIPTION OF CONSTRUCTION ACTIVITIES

Chapter 2 presents several topics related to the construction of the Central Corridor LRT Project. Specifically, a summary of construction activities is provided, including information regarding construction schedule, construction segments, and sequencing of construction activities.

### 2.1 Construction Activities

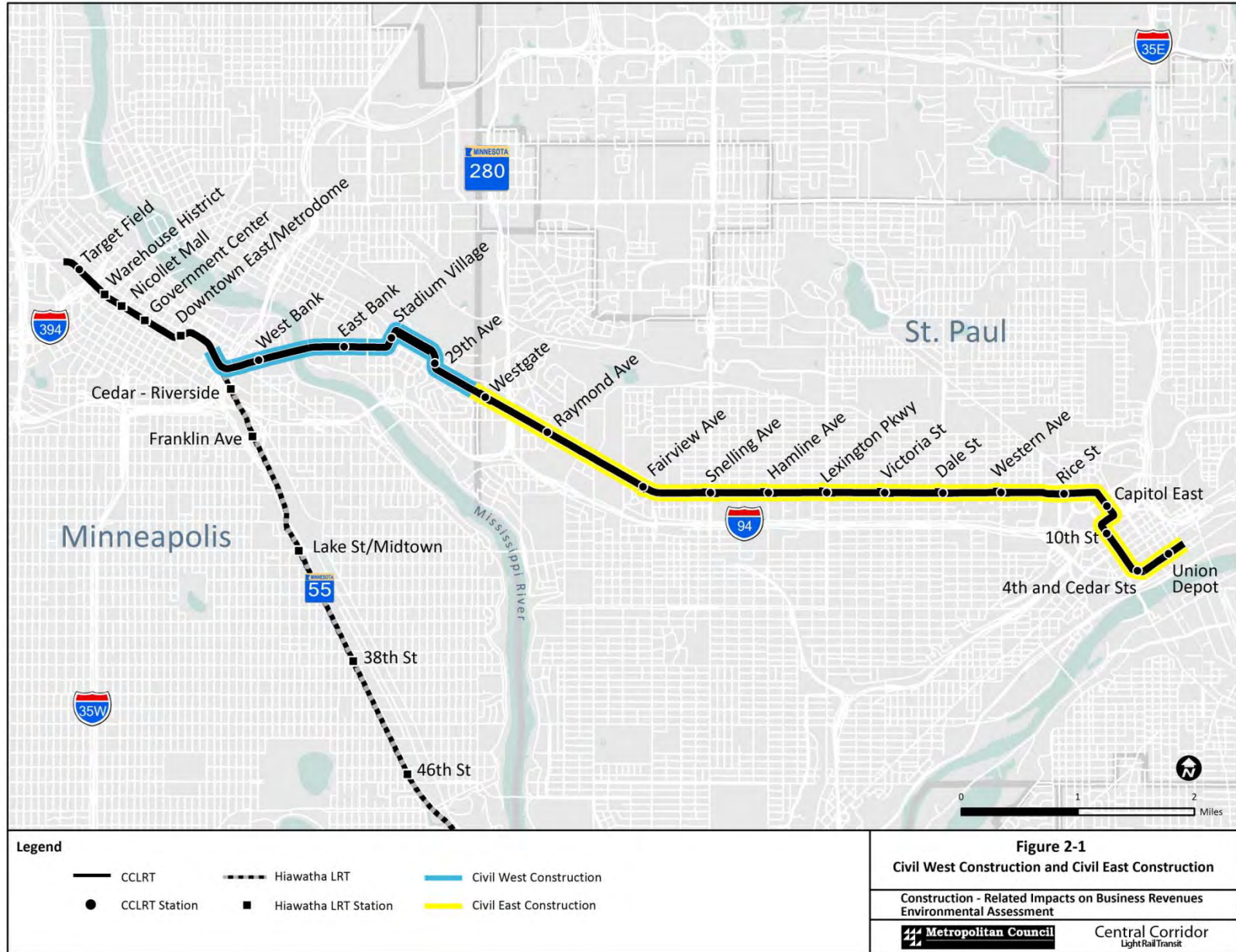
This section identifies the construction activities associated with the Project. For the purposes of this Supplemental EA, construction of the Project is being addressed in two general sections: Civil West and Civil East. The Civil West construction comprises the western three miles of the Project within the City of Minneapolis. The Civil East Construction comprises the eastern seven miles of the Project within the City of St. Paul. The western one-mile segment of the Project along the Hiawatha LRT in downtown Minneapolis will not be affected by project construction because the Hiawatha LRT Project is already completed. The boundaries of the Civil West construction and Civil East construction are described below.

#### 2.1.1 Civil West Construction

The Civil West segment extends generally from a connection to the existing Hiawatha LRT line near the Hubert H. Humphrey Metrodome, crossing over Interstate-35W (I-35W), continuing along Washington Avenue across the Mississippi River on the existing Washington Avenue Bridge and through the University of Minnesota campus, along the south side of the University of Minnesota Transitway, along 29th Avenue SE, and along University Avenue to the Saint Paul city limits near Emerald St SE. (See Figure 2-1.)

The Civil West construction includes: demolition of existing underground utilities and roadway pavement; environmental remediation; construction of underground public utilities; areaways (underground building spaces); drainage; light rail track and stations; retaining wall structures; underground communication, signal, and traction power ducts; pull boxes; and catenary pole foundations. Construction also includes any work on and to off-site locations such as duct bank, utilities, and traction power substation sites. Associated roadway work includes construction of new roadway pavements, sidewalks, curbs and gutters, street lighting, above and below-grade traffic signal facilities and other related improvements. Associated utility work includes relocation of private utilities by the utility owner and/or its contractor.

Civil West construction activities also include modifications to the Hiawatha LRT bridge over 3rd and 4th Streets (Bridge 27884); construction of a new bridge spanning Interstate 35W (I-35W) (Bridge 27B63); modifications to the Washington Avenue Bridge over the Mississippi River, West River Road and East River Road (Bridge 9360); and construction of a transit mall through the University of Minnesota campus. Washington Avenue Bridge work includes converting the interior lower deck roadway lanes to a light rail transit track, leaving one outer lane on each side of the bridge for vehicular traffic. Modification work will be performed on the existing Hiawatha LRT bridge (Bridge 27878), the existing Cedar Avenue Bridge (Bridge 27030), and the existing 19th Avenue South bridge (Bridge 27620) to accommodate future LRT operations. Transit mall work includes landscaping, street and sidewalk paving, lighting, signage, and a light rail station.



### 2.1.2 Civil East Construction

The Civil East construction segment extends generally from the Minneapolis/St. Paul border along University Avenue to the State Capitol, Robert Street to 12th Street, 12th Street to Cedar Street, Cedar Street to 4th Street and then 4th Street to Broadway Street. (See Figure 2-1.)

The Civil East construction activities include: demolition of existing structures, underground utilities, and roadway pavement; environmental remediation; underground public utilities; drainage; light rail track and stations; retaining wall structures; adjustments to areaways (below ground building spaces); underground communications, signal, and traction power ducts; pull boxes; and catenary pole foundations. Construction also includes any work on and to off-site locations such as duct bank, utilities, and traction power substation sites. Associated roadway work includes construction of new roadway pavements, sidewalks, curbs and gutters, street lighting, above and below-grade traffic signal facilities and other related improvements. Associated utility work includes relocation of private utilities by the utility owner and/or its contractor.

Civil East construction also includes modifications to the University Avenue Bridge over State Highway 280 (Bridge 9472) and modifications to the Cedar Street Bridge over I-94/I-35E (Bridge 62889).

### 2.1.3 Other Construction Activities

Other activities that will occur during project construction are summarized below. These activities will occur concurrently or subsequent to the Civil West and Civil East construction.

- **Operations and Maintenance Facility (OMF):** Construction of the Central Corridor LRT maintenance facility at the eastern end of the Project on the east side of Broadway Street.
- **Systems:** Construction and testing of train control signals, overhead catenary system, traction power system, and communication facilities.
- **Fare Collection:** Installation of ticket vending machines and related equipment on station platforms.
- **Station Artwork:** Installation of artwork at all station locations.

Central Corridor LRT construction activities that have been completed include:

- **4th Street Advanced Utility Construction:** Construction of underground utilities in 4th Street in downtown Saint Paul (Minnesota Street to Broadway Street).
- **Advanced Traffic Improvements:** Street modifications to Pleasant Street, East River Parkway, Arlington Street, and other streets at the University of Minnesota as part of the Central Corridor LRT Project.
- **OMF Yard Site Preparation:** Placement of surcharge soils in OMF yard.

## 2.2 Construction Schedule and Segments

This section describes the anticipated construction schedule for the Project and the construction segments along the project corridor.



## 2.2.1 Construction Schedule

Construction of the Central Corridor LRT began in late 2009. Final completion of all Civil West and Civil East construction work is anticipated by the end of 2013, with system operation anticipated in 2014. Under this schedule, project construction will take approximately four years, followed by a shorter period of integration, measurements and system testing.

## 2.2.2 Construction Segments

Construction of linear projects such as the Central Corridor LRT is typically divided into various segments. Civil West construction segments and Civil East construction segments are illustrated in Figures 2-2 through Figure 2-5.<sup>1</sup> Table 2-1 summarizes the Civil West and Civil East construction segments and the anticipated construction schedule associated with each segment from start of construction to substantial completion as identified in the construction documents. Civil West and Civil East construction work will occur concurrently, along with other construction activities described above. The duration of construction for individual segments will depend upon construction staging, construction methods and other constraints (e.g., maintenance of vehicular and pedestrian traffic and access, property access, street closures and detours, etc.).

Within each segment, construction will be staged to minimize impacts to adjacent properties. A sample illustration of construction staging on 4th Street in downtown St. Paul (Civil East Segment 5) is provided in the construction update news release in Appendix B. A sample illustration of construction staging on University Avenue between Emerald Street and Hamline Avenue is provided in the construction information packet in Appendix C. Construction staging on Emerald Street to Hamline Avenue (Civil East Segment 1) will occur in one-mile sections, beginning at Emerald Street and progressing to the east. Heavy construction will start on the south side of University Avenue first, followed by heavy construction on the north side of the roadway. One lane of through traffic will be maintained in each direction on University Avenue during this time. Station construction (Civil East Segment 1A) and trackway construction (Civil East Segments 1B and 1C) will continue within the middle of the street until construction is substantially complete.

Detailed, work-specific construction plans will be developed for all project segments. These construction plans will establish the estimated schedule and staging of construction phases within each segment, similar to the examples provided above, consistent with the constraints and sequencing limitations identified in the construction contract documents.

## 2.3 Construction Sequencing and Utilities

This section describes the general sequencing of construction activities and the duration of temporary utility disruptions during construction.

---

<sup>1</sup> Figures 2-2 and 2-3 illustrate trackway construction from Emerald Street to Prior Avenue (Segment 1B) and from Prior Avenue to Hamline Avenue (Segment 1C). Heavy construction for the entire section from Emerald Street to Hamline Avenue (Segment 1) will occur in stages from March 2011 to November 2011.

### 2.3.1 Construction Sequencing

The overall construction period for each segment will include a period of localized utility work and relocation, site preparation and mobilization, heavy construction, and finish construction and clean up. A general description of the activities associated with each of these construction periods is described below.

- **Localized Private Utility Work:** Prior to project construction, utilities such as electric, natural gas lines, phone and fiber optic communication cables may be relocated by the private utility owner or its contractors. The duration of utility relocation would depend upon the number of utilities within the corridor, and the extent to which the utilities would need to be relocated to accommodate the Project. When possible, relocation of private utilities will be incorporated into heavy construction to minimize the duration of construction activities.
- **Site Preparation and Mobilization:** Site preparation and initial mobilization will include preparation of staging areas, transporting and assembling necessary work materials and equipment to the project site, and installation of security measures (e.g., barriers or fencing enclosing work areas). Traffic control measures, including barricades, signage, temporary traffic signalization and temporary accesses will also be installed during site preparation activities.
- **Heavy Construction:** Heavy construction activities include relocating existing public utilities, such as water, storm sewer, and sanitary sewer. All existing surface features within the right of way, including the street surface, sidewalks, curbs and gutters, medians, trees and other vegetation would be removed. Excavation for the light rail track and stations would be completed, along with station foundation work. The final stages of heavy construction include curb and gutter and median construction, planting of boulevard trees, asphalt paving of roadways, and construction of sidewalks.

Once the roadway is removed adjacent to an existing property, contractors will have a maximum of 150 days to restore the roadway directly adjacent to the property. Once sidewalks are removed, contractors will have a maximum of 15 days to restore sidewalk areas.<sup>2</sup> At least four feet of sidewalk width would be maintained, except when the new sidewalk is being constructed. Contractors will be required to maintain access at all times and provide Americans with Disabilities Act (ADA)-compliant temporary walkways over construction areas. Traffic and pedestrian access will be restored to its final condition by the end of heavy construction activities.

- **Finish Construction and Clean Up:** Finish construction and clean-up activities include construction of the trackway, above-ground station work and welding of the embedded track. This stage would also include the systems construction (installation of overhead wires and associated communication systems). This work will occur within the middle of the roadway. Following the completion of

---

<sup>2</sup> The 150 day limit for contractors to restore the roadway directly adjacent to an existing property applies to all construction segments except for Civil West, Segment 1 (Hiawatha LRT to I-35W) and Civil West, Segment 3 (Washington Avenue, Pleasant Street to Walnut Street). The 15-day limitation for restoring sidewalk areas adjacent to existing properties applies project-wide.

station, track and systems construction, final construction and site clean-up will be completed and remaining construction areas would be restored to their final condition.

After the final completion of all construction activities summarized above, there will be a shorter period (approximately six months) of integration and system testing prior to full operation of the Central Corridor LRT system.

### **2.3.2 Utility Disruptions During Construction**

Examples of public and private utilities within the project corridor include: hot water, cooling water, municipal water and sewer, electric, natural gas, phone and fiber optic communication cables. Private utility relocations may be undertaken by the utility owner in advance of heavy construction; however, private utility relocations will be incorporated into heavy construction activities when possible. The Metropolitan Council will coordinate with utility owners to coordinate construction activities and minimize the duration of private utility relocations. Relocation of public utilities generally will occur concurrent with heavy construction activities, although some minor work could also occur in advance of heavy construction. The timing of utility relocations will depend upon construction sequencing limitations and constraints.

**The Remainder of This Page Intentionally Left Blank**

Table 2-1. Central Corridor LRT Construction Schedule Overview

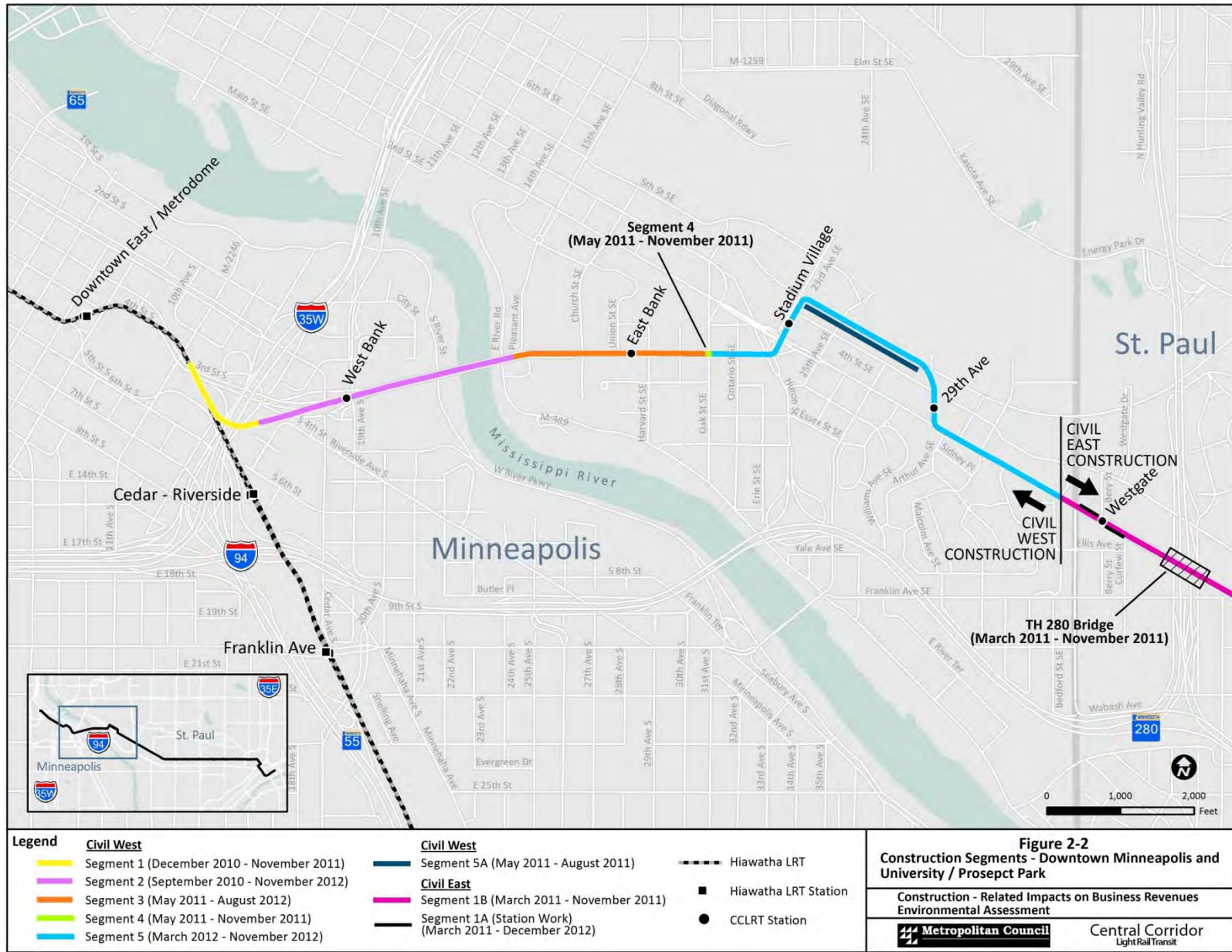
Approximate Location			Construction Schedule <sup>(1)</sup>	
Segment	From	To	Anticipated Start	Substantially Complete
<i>Civil West Construction</i>				
Segment 1 <sup>(2)</sup>	Hiawatha LRT	I-35W	Dec. 2010	Nov. 2011
Segment 2 <sup>(3)</sup>	I-35W	Pleasant St	Sept. 2010	Nov. 2012
Segment 3	Pleasant St	Oak St	May 2011	August 2012
Segment 4	Oak St		May 2011	Nov. 2011
Segment 5	Oak St	Emerald St	March 2012	Nov. 2012
Segment 5A (U of M Transitway)	23rd Ave SE	29th Ave SE	May 2011	Aug. 2011
<i>Civil East Construction</i>				
Segment 1 (Heavy Construction)	Emerald St	Hamline Ave	March 2011	Nov. 2011
Segment 1A (Station Work)	Emerald St	Hamline Ave	March 2011	Dec. 2012
Segment 1B (Trackway)	Emerald St	Prior Ave	March 2011	Nov. 2011
Segment 1C (Trackway)	Prior Ave	Hamline Ave	March 2011	June 2012
Segment 2	Hamline Ave	Robert St	Nov. 2011	Nov. 2012
Segment 2A (Station Work)	Hamline Ave	Robert St	Nov. 2011	April 2013
Segment 3	University Ave	Cedar St	July 2010	Nov. 2011
Segment 4	12th St	Minnesota St	June 2011	Nov. 2012
Segment 4A <sup>(4)</sup>	Cedar St. and 5th St.		April 2011	Nov. 2011
Segment 5	Minnesota St	Broadway St	March 2011	Nov. 2011
Bridges	University Ave. over State Hwy 280		March 2011	Nov. 2011
	Cedar St over I-94/I-35E		March 2011	Nov. 2012

<sup>(1)</sup> Approximate construction duration from start of construction to substantial completion as identified in the construction documents. The anticipated final completion date for all work for both Civil West and Civil East is December 2013.

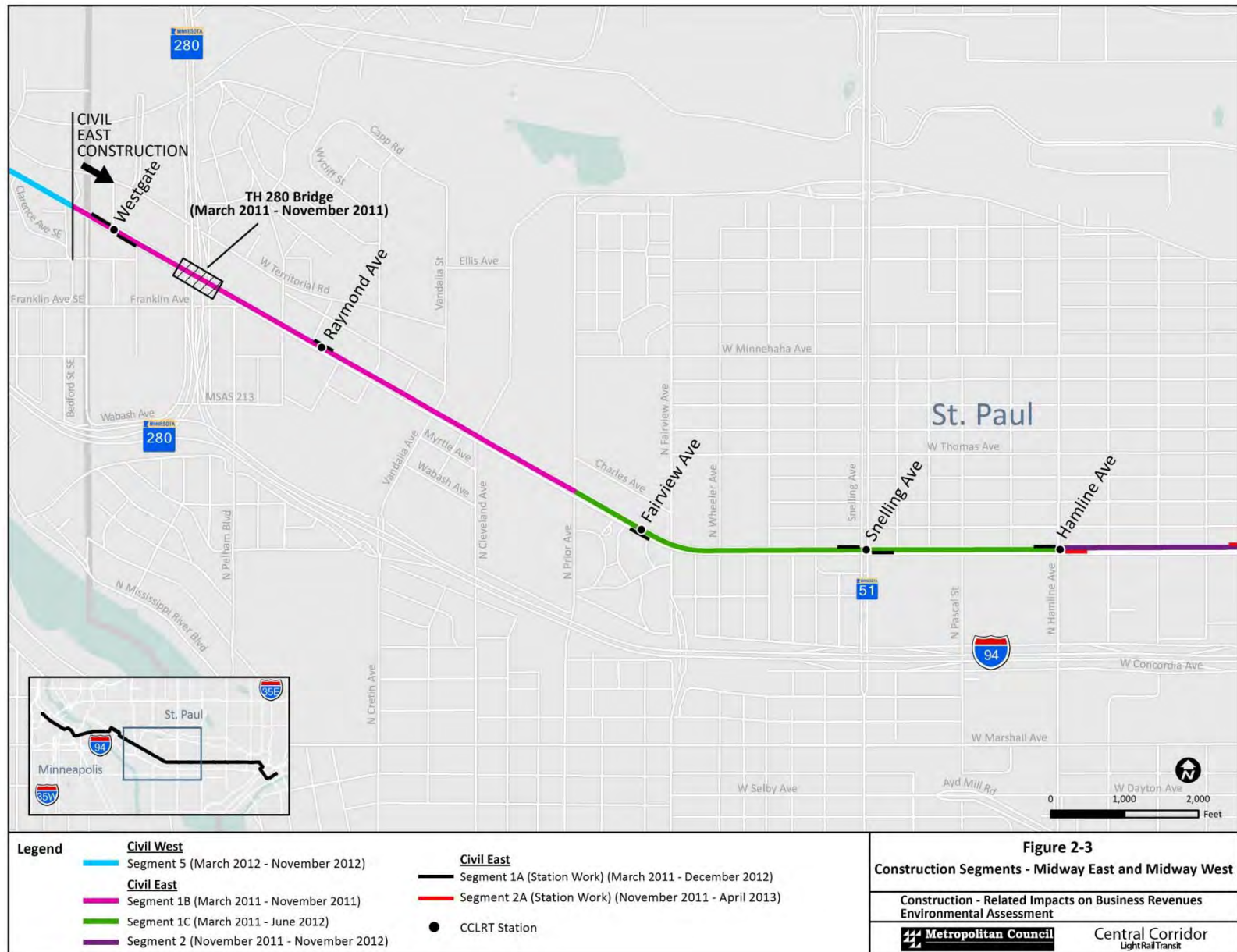
<sup>(2)</sup> Civil West, Segment 1 includes Central Corridor LRT Bridge over I-35W.

<sup>(3)</sup> Civil West, Segment 2 includes Washington Avenue Bridge over the Mississippi River, West River Road and East River Road.

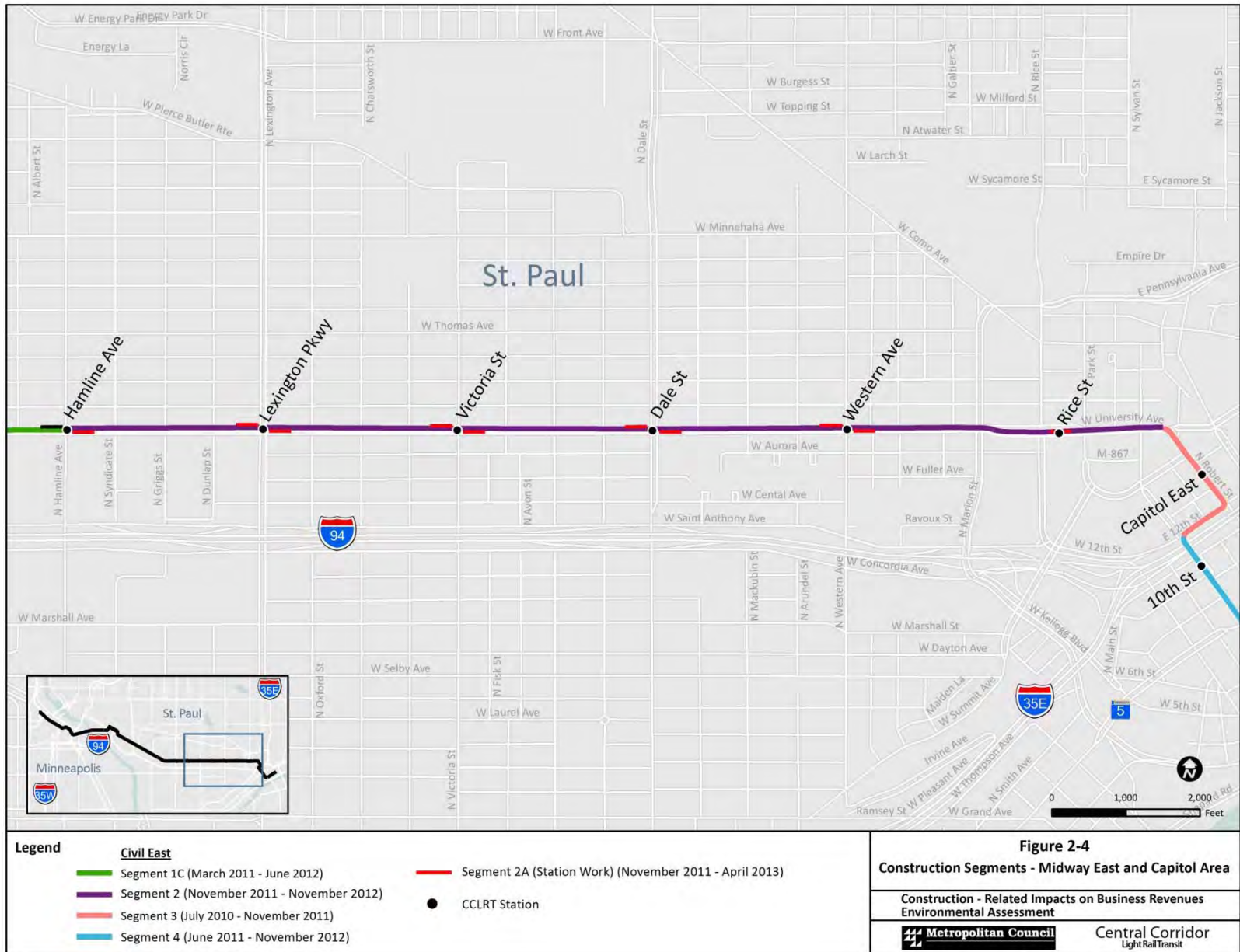
<sup>(4)</sup> Civil East, Segment 4A includes demolition of former Bremer Bank building and replacement of skyway.







**Note:** Figure 2-3 illustrates Segment 1B and Segment 1C trackway construction. Civil East Segment 1 (Emerald to Hamline) heavy construction is scheduled from March 2011 to November 2011. (See Table 2-1.)









### 3.0 EXISTING ECONOMIC CONDITIONS AND DEMOGRAPHICS

Chapter 3 presents a summary of existing economic characteristics of the Minneapolis-St. Paul-Bloomington 13-county MN/WI Metropolitan Statistical Area and general characteristics of existing businesses along the Central Corridor LRT. Chapter 3 also presents project area demographics as described in more detail Section 3.8 of the FEIS.

#### 3.1 Overview of Existing Economic Conditions

This section provides a summary of existing economic characteristics within the Minneapolis-St. Paul-Bloomington MN-WI Metropolitan Statistical Area and general characteristics of existing businesses along the Central Corridor LRT.

##### 3.1.1 Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area Economic Indicators

The Central Corridor LRT is located within the Minneapolis-St. Paul-Bloomington MN-WI (Minnesota-Wisconsin) Metropolitan Statistical Area (MSA). The Minneapolis-St. Paul-Bloomington MN-WI MSA is comprised of a total of 13 counties: 11 counties in Minnesota (Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright) and 2 counties in Wisconsin (Pierce and St. Croix). A sample of economic indicators for the Minneapolis-St. Paul-Bloomington MN-WI MSA region from years 2001 through 2009 are presented in Table 3-1. Data available regarding MSA Gross Domestic Product (GDP), Per Capita Personal Income and Median Household Income show steady increases in the past decade while unemployment rates have varied within a range between 3.5% and 5.1%. Indicators for 2009 show a slight decrease in GDP and an increase in the unemployment rate, likely reflecting impacts from the current recession. While the MSA is significantly larger than the Central Corridor LRT project area, these indicators suggest that the project area lies within a strong, stable regional economy.

**Table 3-1. Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area Economic Indicators**

Economic Indicators	Year								
	2001	2002	2003	2004	2005	2006	2007	2008	2009
GDP for MSA (\$ billion) <sup>(1)(2)</sup>	\$144B	\$149B	\$156B	\$167B	\$176B	\$182B	\$189B	\$192B	\$189B
Per Capita Personal Income <sup>(2)</sup>	\$37,901	\$38,467	\$39,534	\$41,613	\$42,721	\$44,975	\$46,870	\$47,653	--
Median Household Income <sup>(3)</sup>	--	--	--	--	\$65,803	\$66,454	\$66,352	\$65,862	--
Unemployment Rate (%) <sup>(4)</sup>	3.5%	4.4%	4.7%	4.4%	3.9%	3.8%	4.3%	5.1%	7.8%

<sup>(1)</sup> Gross Domestic Product (GDP) for Metropolitan Statistical Area (MSA) in billions of current dollars.

<sup>(2)</sup> Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts.

<sup>(3)</sup> Median household income in 2008 dollars. Metropolitan Council. *MetroStats*. October 2009.

<sup>(4)</sup> Source: U.S. Department of Labor. Bureau of Labor Statistics.

### 3.1.2 Central Corridor LRT Business Characteristics

The Central Corridor LRT alignment extends between downtown St. Paul and downtown Minneapolis largely along University Avenue. Both downtown areas can be described as dense, urban commercial environments characterized by multi-story office/retail (3-50 stories) buildings. University Avenue commercial areas are less dense, with buildings typically 1-3 stories tall, and intermixed with residential and institutional uses. Types of businesses in the project corridor range from small service uses, restaurants, and retail storefronts to “big box” stores and large department stores. Business ownership ranges from individually or family-owned single establishments, to local companies with multiple Twin City outlets, to national chains.

U.S. Census information for 2008 documented over 4,000 establishments in the 8 zip codes surrounding the project corridor outside of the downtown areas.<sup>3</sup> Business establishment size, as measured by number of employees, was also identified along the project corridor using U.S. Census Bureau data at the zip code level. The number of business establishments within each zip code, including the number of business establishment by size (i.e., number of employees) is presented in Table 3-2. A large majority (greater than 75 percent) of business establishments located with zip codes corresponding to the Central Corridor LRT are establishments with fewer than 20 employees.

**Table 3-2. Central Corridor LRT Business Establishments**

Business Establishments	Central Corridor LRT Zip Codes <sup>(1)</sup>								TOTAL
	Minneapolis Zip Codes				St. Paul Zip Codes				
	55415	55454	55455	55414	55114	55104	55103	55101	
Number of Establishments <sup>(2)</sup>	325	164	30	801	563	1155	340	765	4143
Establishments with 1 to 19 employees <sup>(2)</sup>	266	127	24	627	428	954	270	635	3331
Establishments with ≥ 20 employees <sup>(2)</sup>	59	37	6	174	135	201	70	130	812

<sup>(1)</sup> Does not include zip codes in downtown Minneapolis along the shared segment of the Hiawatha LRT which has already been completed.

<sup>(2)</sup> Source: U.S. Census Bureau. 2008 Zip Code Business Patterns (NAICS).

The Central Corridor Funders Collaborative, a coalition of local planning groups concerned with the community and economic health of neighborhoods adjacent to the project corridor, have assembled “indicators” to provide an information baseline against which changes in the residential and business community can be measured.<sup>4</sup> The indicators identified for the “Strong Local Economy” outcome include share of business establishments by top industries and business establishments by size with data sources identified as the U.S. Census at the zip code

<sup>3</sup> U.S. Census Bureau. 2008 Zip Code Business Patterns (NAICS). Zip code area is the smallest level of geography for which information regarding business establishments is provided. Data provided at the zip code level is limited to the number of establishments, the number of employees per establishment, and aggregate payroll.

<sup>4</sup> Wilder Research, “Central Corridor Key Outcomes: Baseline Indicators Report,” March 2011, available at [http://www.wilder.org/reportssummary.0.html?tx\\_ttnews%5Btt\\_news%5D=2393](http://www.wilder.org/reportssummary.0.html?tx_ttnews%5Btt_news%5D=2393).

level.<sup>5</sup> Other economic indicators identified include Central Corridor LRT construction work hours performed by women, Central Corridor LRT construction work hours performed by minorities, share of Central Corridor LRT contracts paid to disadvantaged businesses, and low- or moderate-income employed residents who work within a 45-minute transit commute shed.

However, the geographic area covered by these eight zip codes extends far beyond the project corridor. The number of business establishments adjacent to the project corridor has been estimated by local planning groups at approximately 1,100 outside of the downtown areas, a majority of which are reported to be small businesses with revenues less than \$2 million per year<sup>6</sup>. Other sources verifying the data provided by local planning groups regarding the number, characteristics, and annual revenues of businesses adjacent to the project corridor are not readily available.

The Metropolitan Council conducted a survey of businesses along the alignment to determine whether the businesses were owned by members of minority groups. FTA analyzed the data and found that the survey established that the businesses directly on the alignment include 162 Asian owned businesses (15.1%), 51 Black or African American owned businesses (4.8%) and 4 Hispanic or Latino owned businesses (0.4%), representing slightly over 20% in minority owned businesses compared to the alignment area minority population of 46%. Therefore, there is no disparate or disproportionate impact to minority owned businesses along the corridor.

### 3.2 Project Area Population Demographics

Similar to the Project Corridor's commercial characteristics, residential population within and adjacent to the corridor is very diverse. Total population and percent of total population by identified racial or ethnic heritage for Hennepin County, Ramsey County, and a one-half mile study area adjacent to the Central Corridor LRT are identified in Section 3.8.4.1 of the FEIS. The following discussion from the FEIS describes the racial and ethnic minority composition of the Central Corridor LRT study area.

[I]n 2000 there was a small majority of non-Hispanic white persons living in the Central Corridor study area. However, ethnic minority populations comprise a significant portion of study area population (46 percent), and account for a higher total minority population percentage than Hennepin County (19 percent) and Ramsey County (23 percent) (excluding the Hispanic or Latino category). Within the study area, the Black or African-American population represents the largest ethnic minority group next to non-Hispanic Whites with the Asian community being the next largest ethnic community group.

Although distributed throughout the study area, the highest concentrations of minority populations are located along University Avenue from Rice Street to Snelling Avenue. Minority populations also represent a significant portion of the downtown St. Paul population. In Minneapolis, the Cedar-Riverside neighborhood located just east of Downtown Minneapolis is home to a concentration of ethnic minorities, comprised primarily of recent Somali and East

---

<sup>5</sup> U.S. Census data typically lags two years behind data collection. 2008 data is currently available; 2009 data at the zip code level will be available in August 2011.

<sup>6</sup> U-PLAN Community Studio, "University Avenue Business List, July 2010" 712 University Avenue, Suite 105, Saint Paul, MN 55104

African immigrants. As shown by the data, minority populations of African-Americans and Somali or other East African immigrants are also higher near the Hubert H. Humphrey Metrodome and in the Elliot Park neighborhood of Minneapolis. Native American populations are highest along Franklin Avenue between the Franklin Avenue Hiawatha LRT station and Interstate 35W.

Income characteristics for Hennepin County, Ramsey County, and a one-half mile study area adjacent to the Central Corridor LRT are identified in Section 3.8.4.2 of the FEIS. The following discussion from the FEIS describes the distribution of median household incomes within the one-half mile study area adjacent to the Central Corridor LRT.

Areas with significantly lower incomes are predominantly located north, south, and west of downtown St. Paul. Along the corridor, median household incomes are also relatively low in the Midway East segment, with incomes moderately rising in the Midway West segment. Low-income populations are also located on the southeast side of Downtown Minneapolis, particularly the Elliot Park neighborhood south of the Downtown East/Metrodome Hiawatha LRT station. Median household incomes rise in select Census block groups paralleling the river in Downtown Minneapolis, an area that has recently seen significant residential and some commercial development. Incomes are lowest surrounding the University of Minnesota. Relatively few households are located within the Census block groups that surround the University of Minnesota. The primary form of housing on the campus is dormitories populated by students for select periods of time. Students typically comprise a lower-income group, and that group is reflected in the data (Figure 3.8.3).

Additional social and demographic factors are described in Section 3.8.4.3 of the FEIS. The following list describes the select demographic characteristics (e.g., age, disability, language proficiency and access to a personal vehicle) within the Central Corridor LRT study area.

- [T]he 2000 Census indicates that the majority of residents in the study area are between the ages of 18 and 64.
- [P]ersons with disabilities are distributed throughout the study area, with some noticeable concentrations.
- Among households, the 2000 Census data indicate that 4,876 households within the study area Census block groups are categorized as linguistically isolated or speak English as a second language.
- According to 2000 Census data for the study area, within one-half mile of the proposed LRT alignment, approximately 15,502 households are without an automobile, or approximately 31 percent of all households in the study area.

Environmental justice findings related to the implementation of the Central Corridor LRT are addressed in Section 3.8 of the FEIS. Minority and low-income populations are found within the Central Corridor LRT project area. Adverse impacts, off-setting benefits, and mitigation for adverse effects not offset by project benefits are committed to by the Metropolitan Council. Please refer to Section 3.8 of the FEIS for a complete discussion of the environmental justice analysis and conclusions.

## 4.0 CONSTRUCTION-RELATED IMPACTS ON BUSINESS REVENUES AND MITIGATION

Chapter 4 summarizes potential, short-term impacts to business revenues during construction of the Project, and describes mitigation measures to help reduce impacts to affected businesses during project construction.

### 4.1 Incomplete or Unavailable Information

As noted in the Volpe Center *Technical Report on the Potential Impacts on Business Revenues During Construction of the Central Corridor Light Rail Project* (“Technical Report”) (see Appendix A), lack of available information based on generally accepted scientific approaches or research methods makes it difficult to reliably predict potential adverse impacts to business revenues for any one business caused by construction of the Project. Due to this limitation, the following discussion is included in this Supplemental EA in accordance with Council on Environmental Quality (CEQ) regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information. The limitations and uncertainty in predicting the potential loss of business revenues due to project construction are reported below as described in the Technical Report.

An exhaustive review of the peer-reviewed literature was conducted as part of the Technical Report. Prior studies recognize that numerous factors other than construction activities can impact revenues of an individual business, including external economic factors, unemployment rates, and world events. The ability to control for these external factors is limited. Further, accurate data documenting long-term revenue patterns, and the factors that influenced revenues, is not readily available. As a result, predicting the amount of lost business revenue for any given business or market segment is highly uncertain and speculative. Further discussion of this issue can be found in Chapter 3 of the Technical Report.

### 4.2 Construction-Related Potential Impacts on Business Revenues Technical Study

This section summarizes the results of the Technical Report, which can be found in Appendix A.

#### 4.2.1 Potential Impacts

Project construction activities can result in short-term, temporary impacts to businesses. The Technical Report identifies seven impact categories: temporary impediments to access by pedestrians and vehicular traffic; temporary loss of parking; utility shut-offs; increases in noise levels and vibrations; increases in dust and dirt; and temporary visual impacts. These short-term, construction-related impacts are qualitatively described below.

- **Impacts to Pedestrian Access:** Impediments to pedestrian access will occur mainly at the beginning of the construction period within each phase, when one side of the road is demolished to build new sidewalks and roadway. During this period, pedestrians will need to access the building from side streets or use temporary sidewalks created by the contractor.

- **Impacts to Vehicle Access:** Restrictions to vehicle access will occur mainly at the beginning of the construction period within each phase, when one side of the road is demolished to build new sidewalks and roadway. Construction can impact vehicular access to businesses in two ways: it can increase congestion on the roadway and block access to entryways. Increased congestion on the roadway can lead to potential customers avoiding the location, effectively reducing traffic to the business, and congestion can also serve to block access, as it becomes difficult to turn in or out of the building's parking lot. Access can also be blocked if roadways or intersections are closed for a length of time. These effects can be more severe if the customers are uninformed of the situation and unexpectedly find themselves unable to access a business from the direction they are approaching, potentially causing them to take their business elsewhere.

In addition to the impact to customers, constraints on vehicle access and congestion hinder delivery of goods to the stores and restaurants. Impacts to vehicle access may cause businesses to reduce or relocate services during the period of roadway reconstruction. Businesses which rely on pick-ups and deliveries at specific times may be affected by traffic conditions.

- **Impacts on Parking:** Parking along the corridor alignment will be lost during construction due to roadway reconstruction, and side street parking may be impacted on days when intersections are closed for construction activities. The effects of this temporary loss of parking may impact smaller establishments without access to off-street parking more than businesses that have off-street parking lots.
- **Impacts due to Utility Shut-Offs:** Business impacts due to utility shutoffs usually have a fairly short duration and can be scheduled around business hours. Utilities located along the corridor include gas, water, electricity, and internet service, and all will need to be relocated during at least one phase of the project. There are approximately four hotels and bed and breakfasts adjacent to the alignment, all of which potentially need access to at least water and electricity 24 hours a day. Additionally, restaurants and food stores would need advanced warning of shutoffs to ensure adequate food storage and safety measures are put in place. Loss of power or water could impact personal care services and manufacturers. Professional services businesses tend to keep regular business hours, so that utility shutoffs could be adjusted to minimize impacts.
- **Impacts due to Noise and Vibrations:** Noise and vibrations from construction and truck traffic can create an unpleasant shopping environment during the duration of construction. These impacts may be more significant during the beginning of the construction phase, when dirt and debris from demolition are removed and replaced with new materials.
- **Impacts due to Dust and Dirt:** Reconstructing the road and sidewalks will generate fugitive dust and dirt which may limit outdoor storage of goods for sale, discourage outdoor dining, and require additional interior and exterior cleaning of businesses.
- **Visual Impacts:** Construction of temporary fencing, equipment and materials storage and construction activities may obstruct business signage making businesses difficult to find and/or lead customers to believe that businesses have closed during the

construction period. This problem would largely affect “impulse-stop” businesses, such as retail shops, restaurants, and food stores.

#### 4.2.2 Economic Impacts

The Technical Report notes that no previous studies have directly connected the potential impacts qualitatively described in Section 4.2.1 to quantitative estimates of business revenue losses during construction. Further, the Technical Report outlines the challenges of preparing the “ideal” predictive analysis of construction impacts on sales revenues, noting that many market variables would need to be accounted for to isolate impacts resulting from the construction impacts discussed above and that measurable data for these variables is difficult to obtain. (See Section 3.3 of the Technical Report.) The Report concludes that “[w]ith the current state of knowledge about construction impacts on business revenue, developing reliable point estimate of such transit construction impacts is infeasible to implement for a project-level analysis. ... As a result, predicting the amount of lost business revenue for any given business or market segment is highly uncertain and speculative.”<sup>7</sup>

In the absence of substantive data available to assess loss of revenue directly applicable to construction-related environmental impacts on a light rail transit project in an urban setting, the analysis described in the Technical Report utilized previously published studies as the framework for defining the potential loss of revenue for the corridor, with the caveat that the assessment is an estimation at best. The Technical Report notes that comparison between the four studies identified in a comprehensive literature search to the Central Corridor project is difficult, as none represent similar corridor characteristics or project elements to the Central Corridor project.<sup>8</sup> The studies also employed a wide range of sophistication in their data collection and analysis techniques, providing little guidance as to a broadly accepted approach to the issue.

Consequently, the studies identified during the literature search were reviewed to determine if any would provide a framework for acceptable estimates of revenue losses. The De Solminihac and Harrison (1993) study analyzing impacts to business revenues during the construction of the Southwest Freeway in Houston, Texas, project was selected as the best predictive approach because the context was the most analogous to the Central Corridor Project, and used the strongest methodological approach. The authors examined ten categories of retail businesses using statistical techniques to compare actual revenues during construction with what might otherwise be anticipated in the corridor. They also compared the results for the construction-affected businesses to the results for a similar corridor not impacted by the construction to include the effects of the economy. The authors concluded that four retail categories – general merchandise, food stores, automotive outlets, and home furnishings – were adversely affected by the construction. Revenue losses for these categories of businesses ranged from 17% to 37%. The remaining six categories of businesses did not experience revenue losses. These findings were used to estimate the upper bound of average revenue losses for small businesses adjacent to the Central Corridor. Because of the large number of small businesses in the Central Corridor project area, and the vulnerability of small businesses in particular to withstand construction impacts to revenues, estimation of revenue losses focused on small businesses.

---

<sup>7</sup> Volpe Center. April 2011. *Technical Report on the Potential Impacts on Business Revenues During Construction of the Central Corridor Light Rail Project*, pg. 8

<sup>8</sup> Studies identified in the literature search are described in Section 3.2 (pg.4 – pg.7) of the Technical Report.

The Technical Report utilized the U-Plan dataset to identify business types and small businesses along the project corridor.<sup>9</sup> The U-Plan dataset initially contained more than 1,400 business listings as of July 2010. The U-Plan dataset was validated against information from project area business associations, resulting in 1,272 business listings as of December 2010. This dataset was next compiled with available annual revenue data and current NAICS information. There were 947 businesses along the project alignment with revenue data and current NAICS information. Using this dataset, businesses were then sorted by the ten categories used in De Solminihac and Harrison (1993). Section 3.6 and 3.7 of the Technical Report describes how businesses were sorted into categories used in De Solminihac and Harrison (1993) based on NAICS codes. Table 4-1 lists the business types represented along the project corridor corresponding to the categories used in De Solminihac and Harrison (1993).

**Table 4-1. Business Classification**

<b>Business Type <sup>(1)</sup></b>	<b>Percent Revenue Loss from the Literature</b>	<b>Number of Businesses</b>	<b>Percent With Annual Revenue Less than \$2 million</b>	<b>Number of Businesses with Revenue Less than \$2 million (Small businesses)</b>
Food Stores	37%	25	76%	19
General Merchandise	28%	6	33%	2
Furniture Stores	17%	3	100%	3
Automotive Retail	32%	53	81%	43
Building Materials	0%	3	67%	2
Liquor Stores	0%	5	60%	3
Clothing	0%	31	94%	29
Restaurants	0%	93	99%	92
Drug Store	0%	15	67%	10
Miscellaneous Businesses <sup>(2)</sup>	0%	713	81%	576
<b>Total # of Businesses</b>	--	947	82%	779

<sup>(1)</sup> Does not include businesses located in downtown St. Paul and downtown Minneapolis (shared segment of the Hiawatha LRT which has already been completed).

<sup>(2)</sup> Includes all businesses in the sector categories listed in Table 2 of the Technical Report, with the exception of the Retail and Accommodations and Food Services sectors. 20 business establishments are miscellaneous retail shops, such as book or music stores, and the 6 hotels from the Accommodations category.

As shown in Table 4-1, the four categories found to be most sensitive to construction impacts in the De Solminihac and Harrison study represent approximately 9% of the businesses (87 businesses) along the project corridor. The De Solminihac and Harrison study categories of building materials, liquor stores, clothing, restaurants, and drug stores represent approximately 16% of the businesses (147 businesses) along the project corridor. The remaining 713

<sup>95</sup> The U-Plan dataset includes business listings outside of the project corridor, but does not include business listings within downtown St. Paul and downtown Minneapolis.



businesses (75% of the businesses) were classified under the miscellaneous retail category similar to the De Solminihac and Harrison study.

The table also indicates a majority of the businesses are small businesses with revenues less than \$2 million per year. Based on a year 2010 database of business revenue data, 779 businesses along the Central Corridor LRT would be considered small businesses, of which 67 businesses represent the four business categories (general merchandise, food stores, automotive outlets, and home furnishings) used in the De Solminihac and Harrison (1993) study.

The aggregate business revenue loss for all small businesses included in the database was estimated using the percent loss found in each category.<sup>10</sup> The losses were totaled across the categories to get the total revenue lost by small businesses on the corridor (\$13,935,430) and then divided by the total small business revenue (\$487,805,000) yielding the upper bound average percentage loss of 2.85%.

The Technical Report concluded that there are a number of external factors, other than construction activities, that can impact revenues of an individual business. In light of the information presented in the technical report and the applicability of the methodology used in the Technical Report to provide any reliable estimate of prospective potential loss of revenues caused by the construction phase of the project, FTA has decided not to adopt the 2.85% average developed in the Technical Report to predict the total average business loss to individual businesses. The basis for this decision is more fully set forth in Section 5.2 of this Supplemental EA.

### 4.3 Mitigation Program Overview

This section discusses the mitigation approach and describes mitigation measures to help reduce short-term impacts to business revenues during project construction.

#### 4.3.1 Mitigation Approach

As previously discussed, studies of construction-related impacts on business revenues have identified a number of factors that contribute to loss of business revenue during project construction including loss of access, loss of parking, and reduced traffic flow. These studies also recognize that there are many factors unrelated to construction activity that may also impact business revenues, including local and global economic factors, unemployment rates, seasonal businesses, etc. Indirectly, potential customers also may be discouraged from patronizing businesses due to both real and perceived inconvenience factors including congestion, confusion, safety concerns, noise, and dust.

---

<sup>10</sup> For example, the combined revenue of the 43 small automotive businesses was \$27,051,000. The sums for each category were then multiplied by the percentage impacts from De Solminihac and Harrison (1993) to calculate the predicted revenue loss. To continue the example, automotive outlets were found to lose 32% of revenue in the De Solminihac and Harrison study, so \$27,051,000 was multiplied by 0.32 to get \$8,656,320, the estimated revenue loss for automotive outlets.

While many of these factors cannot be completely avoided during construction activity, studies referenced in the Technical Report identify a number of suggested mitigation measures to counteract loss of business revenue. These include:

- Business counseling<sup>11</sup>
- Adjustments to construction phasing<sup>11</sup>
- Traffic management<sup>11</sup>
- Public relations and marketing activity<sup>12</sup>

In addition, the Minnesota Department of Transportation (“Mn/DOT”) recommends mitigation measures as best practices for transportation projects.<sup>13</sup> The following is a list of the relevant mitigation strategies identified by Mn/DOT applicable to construction of a light rail transit project and how the Central Corridor Project sponsors propose to address that mitigation strategy.

- 1. Small business outreach must be emphasized as an integral part of a broader public participation process.** While greater emphasis on business outreach is necessary, the outreach must be conducted as part of an integrated public outreach program...

**Central Corridor project response:**

- During the early phases of Central Corridor LRT project development, a Business Advisory Committee was formed to provide input into the project, including the siting of traction power substations, reconstruction of the road from building face to building face (including sidewalk reconstruction), design of streetscaping (planting trees, street furniture, lighting, etc.) and other design elements.
- Business outreach was part of a broader program of public involvement aimed at engaging all project stakeholders. This program of outreach substantially influenced the project and was successful at reaching a broad group of people.
- Since December 2006, the Metropolitan Council has had a number of Outreach Coordinators, including staff fluent in languages commonly spoken along the corridor, such as Hmong, French, and Spanish. The Outreach Coordinators are full-time staff and are available to work with businesses, including minority-owned businesses, interest groups and the public along the corridor to provide information and assistance regarding the construction of the project.

---

<sup>11</sup> De Solminihac, Hernan E. and Robert Harrison, “Analyzing Effects of Highway Rehabilitation on Businesses” Transportation Research Record 1395, Transportation Research Board of the National Academies, Washington, D.C., 1993, pp 137-143.

<sup>12</sup> University of Wyoming, Department of Civil and Architectural Engineering. *Highway Construction Related Business Impacts: Phase 3 Effort for the Town of Debois*. U.S. Department of Transportation – Federal Highway Administration. March 2008.

<sup>13</sup> CH2MHill for the Minnesota Department of Transportation, “Report on Mitigation of Transportation Construction Impacts”. Final Report. February 2009. Note that Item 2 is not listed here as it pertains to a Mn/DOT specific program not applicable to the Central Corridor Project.

### **3. Important business issues need to be identified early in project development**

- a. Consultation with local units of government and business community representatives to identify businesses surrounding the project, potential impacts to small businesses (e.g., parking, traffic, and access), and to discuss potential mitigation measures;
- b. Development of a packet for businesses that will include project information (e.g., nature, extent, and timing of construction and anticipated changes in parking, traffic, and public access), a transportation agency project contact; and
- c. Determine a list of project-specific area business development organizations that may offer support and resources to affected businesses.

#### **Central Corridor project response:**

- The Metropolitan Council has been in close consultation with all local units of government along the Central Corridor LRT alignment. In December 2006, the Metropolitan Council formed a Project Advisory Committee (PAC), including representatives from the cities of Minneapolis and St. Paul, Hennepin and Ramsey counties, Mn/DOT, and the University of Minnesota. The PAC has been meeting regularly since December 2006 and will continue to meet through the duration of Central Corridor construction.
- The Metropolitan Council partnered with the City of St. Paul to investigate options for mitigating the loss of on-street parking along the corridor during construction. It should be noted that loss of on-street parking was in some part related to mitigating for another impact noted by residents and community members in the environmental justice areas of the Corridor, specifically, the desire for pedestrian crossings of University Avenue to avoid loss of community cohesion.
- As referenced above, the Metropolitan Council has engaged in a rigorous program of outreach targeted at reaching all Corridor stakeholders since taking over as the lead planning agency in June 2006. A significant component of that outreach has been working with the business and property owners along the alignment to discuss issues related to design, access during construction, parking, and construction-related concerns.
- The project web site ([www.centralcorridor.org](http://www.centralcorridor.org)) contains a wealth of information on the project, with a focus on construction information and advisories. Information includes maps and text describing the location and impacts of expected construction activities, including road and sidewalk closures, bus stop and route changes, and other changes in access that may affect workers and patrons of businesses. This information is updated regularly to reflect progress of construction activities.
- The Metropolitan Council partnered with the Business Resources Collaborative with funding provided by the Central Corridor Funders Collaborative to prepare the "Ready for Rail" initiative, which includes information available online and printed packets of material. The "Ready for Rail" program includes information on the Business Resources Collaborative, which is a partnership of business coalitions, nonprofit community developers, and local governments that bridges various community-led planning efforts addressing business and economic development in

the Central Corridor. This packet was also made available in Somali, Vietnamese, Hmong, and Spanish.

4. **Identify opportunities for partnership with a greater depth of resources, including economic development offices, dynamic local business leaders, or local government agencies.** Every project has unique technical issues but also unique human resources, personalities, and organizations. Taking advantage of the ideas, services, and relationships that these resources can offer will help businesses manage the challenges of construction. Besides offering greater knowledge of site-specific issues, their presence often serves as a moderating force in public outreach that enables a shared understanding of project impacts.

**Central Corridor project response:**

- See the above discussion regarding the “Ready for Rail” program and Business Resources Collaborative.
- The Metropolitan Council, the City of St. Paul, and the Central Corridor Funders Collaborative have all contributed funding to the City of St. Paul’s Business Support Fund (“Business Support Fund”). The purpose of the Business Support Fund, as described in the Joint Powers Agreement between the Metropolitan Council and the City of St. Paul, is identified below. More information is provided in Section 4.3.2 of this Supplemental EA.

The purpose of this Agreement is to help implement a support program (“Program”) for small businesses located along the CCLRT corridor that may experience disruptions from construction activities associated with the CCLRT Project. The program is intended to help provide a modest “safety net” for small businesses that undertake business planning and prepare in advance for the CCLRT Project but still may be adversely affected by construction activities, and to provide some incentives for those businesses to continue operating at their existing locations after construction is completed and the CCLRT is operating.

- Metropolitan Council’s Outreach Coordinators work closely with business organizations and chambers of commerce in the corridor to share information and coordinate activities in support of corridor businesses.
5. **Enhance engagement of the construction contractor as an important resource for business communication and relationships.** The construction contractor offers a tremendous resource that can positively or adversely affect the effectiveness of business outreach. As a result of their visibility in the construction area, contractors oftentimes become the face of a project in the eyes of the public. ... Transportation agency staff may consider including contract provisions related to contractor participation or communication in projects where small businesses will be impacted. This may include a requirement that the contractor provide a business liaison to communicate with business operators and resolve issues on a regular basis (e.g. weekly) or as need may arise.

**Central Corridor project response:**

- Construction contract bid documents for construction of the Civil East (all LRT trackway and station construction in St. Paul) and the Civil West (all LRT trackway and station construction in Minneapolis) segments included measures to either require or to encourage the contractor to take measures to avoid business impacts during construction.
- One entire section of the construction bid documents was solely devoted to Public Involvement (Section 01 31 20 – Public Involvement). This included requirements to submit a Public Involvement Plan, a monthly Community Involvement Report (submitted with Application for Payment), and an employee parking plan minimizing use of existing parking currently needed by local residents and businesses. The contract also requires the designation of a Contractor Community Relations Leader who is required to attend meetings with the public, as specified, and to provide support to the Metropolitan Council's Community Outreach Staff. Under Community Impact Mitigation, the Contractor is required to maintain access (parking, deliveries, and pedestrian) and participate in meetings with affected property owners. The Contractor is also required (under Community Impact Mitigation) to develop access plans for business and residents on each block and to provide maps showing existing and planned patron, delivery, and resident access during any construction period. The access plans are to include times of business operation and deliveries.
- Contract bid documents for Civil East and Civil West also provide for a Contractor Incentive Allowance (Section 01 21 50 – Incentive Allowance). This document describes the Construction Communication Committees (CCC's) established for the contract and the ways in which their input will be used to evaluate Contractor responsiveness to public and business concerns and to award the incentive allowance based on Contractor performance, as ranked and evaluated by the CCC's.
- Contract Special Procedures include a comprehensive listing of community and other special events and require that the Contractor meet with event coordinators and other officials to submit plans and procedures associated with the protection of the public and the work during the events.

- 6. Review policies for signing in construction zones...** Appropriate signing can benefit businesses but, at the same time, good signing practices must be maintained (for example, drivers can be overwhelmed with information from too many signs, spaced frequently). Signing practices that can be considered should be documented as well as those that should not be used. ...

**Central Corridor project response:** The Civil West and Civil East construction packages include allowances for signage and requirements for signage of alternative access to businesses and traffic detours. The Council created a working group to provide guidance on the types of signage needed by businesses as well as to provide advice on the language and general placement of the signs. The working group started meeting in November 2010 and includes business owners, business organizations, Metropolitan Council Outreach Coordinators and construction staff, contractor's traffic and outreach staff, and city economic development and public works representatives.

- 7. Evaluate the effectiveness of small business outreach activities.** Mn/DOT will regularly review business outreach efforts on a project-by-project basis and apply lessons learned to future projects. ...

**Central Corridor project response:**

- The Metropolitan Council encourages people to provide feedback on communication and outreach efforts and frequently makes changes and additions based on input received. For example, early versions of the construction update newsletters included photos of construction. Community representatives suggested using the space in the construction updates to feature businesses or community events. This has been a key part of the construction updates.
- The Metropolitan Council is aware that the Central Corridor Funders Collaborative with the assistance of Wilder Research has prepared baseline indicators to measure progress toward key outcomes of the Central Corridor project. These indicators include several measures of a "Strong Local Economy" including number of businesses, share of business establishments by industry and number of employees by establishment. The Metropolitan Council endorses the efforts of the Central Corridor Funders Collaborative in this work and will review the annual indicator updates.

In addition to the key recommendations noted above, other Central Corridor LRT project efforts of note include the disadvantaged business enterprise (DBE) goals for contracting established by the Metropolitan Council; the LRT Works program, which seeks to pair tradespeople seeking employment with the Central Corridor LRT Contractors working on the Project; and the Ride-to-Rewards program, a business marketing/loyalty program which allows its members to accumulate points by riding buses and trains and by shopping at participating merchants, including Central Corridor businesses.

Based on these recommendations, proposed mitigation for the Central Corridor LRT Project focuses on: (1) minimizing the unavoidable impacts of construction activities; (2) proactive communications with both corridor businesses and the community to minimize confusion and uncertainty regarding the timing and duration of construction activities; (3) promotional and marketing activities to encourage patronage of businesses during construction; (4) technical assistance to business during the construction period to improve business management and customer communication skills; (5) financial assistance to businesses losing nearby on-street parking, and; (6) general financial assistance to small businesses affected by construction activities.

#### 4.3.2 Mitigation Commitments

The following mitigation activities are already being implemented through commitments in contracts or agreements entered into by the Metropolitan Council for the Central Corridor LRT Project.

#### **Construction Contract Requirements During Construction**

Construction contract specifications will include measures to minimize construction-related disruptions to businesses, and will include incentives to encourage contractor cooperation with implementation of these measures. Construction contract specifications will also include measures to minimize construction-related noise, vibration, and dust impacts through construction practices. Elements identified in construction documents are summarized below.

- **Construction Access Plans:** A construction access plan will be developed for all Civil West and Civil East project segments to identify construction-related access concerns for each corridor business and document how business access will be maintained during construction. The construction contracts include \$200,000 for construction access plans. A sample access plan is included in Appendix D. Access plans will contain maps showing existing and planned patron, delivery, and resident access during construction periods. Maps will also show times of business operations and deliveries. Businesses will be notified of any changes to access at least two weeks prior to the start of construction.
- **Contractor Incentive Program:** A contractor incentive program will be provided to encourage effective communication and cooperation between the contractor, businesses and residents. A Construction Communication Committee (“CCC”) comprised of business owners, residents, and other stakeholders will be created for each outreach sector identified in contract documents. The CCC will meet every two weeks to vote on identified evaluation criteria measuring contractor efforts to minimize construction-related impacts and award quarterly incentives to contractors demonstrating compliance with these measures. The construction contracts include an \$850,000 allowance (project-wide total) for the contractor incentive program. A sample CCC charter, evaluation process and evaluation form are included in Appendix E.
- **Special Events Plans:** Special events anticipated in the corridor during the construction period will be identified in the construction documents. Contractors will work with cities and community groups to coordinate construction activities with these events to protect the both the work site and the public, and minimize construction-related disruptions during scheduled special events.
- **Construction Best Management Practices (BMPs):** Contract documents will require best management practices (BMPs) to help minimize construction-related noise, vibration and dust impacts to businesses throughout construction.

#### **Proactive communications by the Contractor**

- **Contractor Community Relations Leader:** Construction contract specifications will include public outreach measures to assure that impacted businesses are fully informed about potential construction-related disruptions, which will also be included in the contractor incentive program described above. Each contractor will be required to provide a Contractor Community Relations Leader to establish and maintain communication between Community Outreach Coordinators, businesses and the public. Contractor Community Relations Leaders will communicate construction activities to the public and businesses, and respond to concerns from business owners during project construction. Contractor Community Relations Leaders will also attend weekly Construction Communication Committee meetings and monthly public involvement meetings.

#### **Proactive communications by Metropolitan Council**

Metropolitan Council has implemented a comprehensive public outreach program for the Project to assure that impacted businesses are fully informed about potential construction-related disruptions, including: temporary access modifications; parking availability; temporary street

closures; temporary utility shut-offs; abnormally loud construction noise or vibrations; and potential light/glare impacts associated with any necessary nighttime construction. The elements of the public outreach program are described below.

- **Construction Public Information and Communication Plan:** A Construction Communication Plan will be developed for all Civil West and Civil East project segments. A sample communication plan is included in Appendix F (Construction Public Information and Communication Plan, Capitol Area, August 2010). The Construction Communication Plan will contain the following elements:
  - Provide a 30-day notice of construction (includes private utility relocations and LRT construction).
  - Provide a 72 hour advance notice to businesses for utility shut-offs.
  - Provide a 24-hour construction hotline and project information line.
  - Communication with businesses through weekly meetings with Community Outreach Coordinators and the contractor's community relations leader as well as monthly public informational meetings.
  - Provide clear directional signage, variable message signs, and construction site information such as contact information and anticipated completion dates. The construction contracts will include a \$200,000 allowance (project-wide total) to accommodate special signage. (See also Construction Signage.)
  - Produce communication materials such as weekly construction updates, construction update posters, and monthly newsletters ("Making Tracks" newsletter). Weekly construction updates will be distributed by email, news release and posted to the Central Corridor Project Website. (See Appendix B). Work with affected business owners to include information regarding their businesses in these construction update materials. (See also Construction Information Packet.)
- **Community Outreach Coordinators:** Community Outreach Coordinators will be provided by the Metropolitan Council throughout project construction. The Community Outreach Coordinators will act as a liaison between the public and local businesses, including minority-owned businesses, and project contractors. Community Outreach Coordinators will be available to answer questions and direct specific construction-related concerns back to project contractors and the Metropolitan Council. The Metropolitan Council has dedicated \$4,000,000 to this effort, which includes salary and benefits for a fully staffed Central Corridor Outreach and Communications Team for the four years of project construction from 2010 through 2013.
- **Construction Information Packet:** Construction information packets will be developed for all Civil West and Civil East project segments. A sample construction information packet is included in Appendix B (Central Corridor LRT 2011 Construction Schedule. University Avenue: Emerald to Hamline). Construction information packets will include a description of upcoming construction activities, construction schedule, and construction staging. Construction information packets will also include contact information for Community Outreach Coordinators, business assistance, and local City contacts for non-construction related questions.
- **Construction Signage:** Construction signage will include "Open for Business" signage for all businesses that are subject to temporary changes in access. These signs will include an "open for business" statement, emergency contact information, and



Metropolitan Council contact information. Approximately four signs will be required per block of construction, and signs will be in place until substantial completion of construction of the surface elements of the project.

### Measures to assist businesses losing nearby on-street parking

- **Construction Employee Parking Plan:** Construction contracts will require contractors to minimize use or available parking by developing an employee parking plan to direct employee and construction vehicle parking away from business and residential areas. Contractors are responsible for identifying parking off-site and transporting workers to the work site if necessary. Construction vehicles will be parked within delineated construction zones and work material will be kept out of existing parking areas.
- **Neighborhood Commercial Parking Program:** The City of St. Paul will fund and administer a program to address the loss of parking during and after project construction by providing financial assistance to improving off-street parking. The program provides low-interest loans of up to \$25,000 to individual businesses that can be used for facilitating agreements with other businesses for shared parking or limited construction improvements to improve the access or parking efficiency (e.g., driveway grades, more efficient uses/physical reconfiguration of existing parking). As of April 2011, the Neighborhood Commercial Parking Program included \$2.1 million in loan funds.
- **Alley Improvements Program:** The City of St. Paul is prioritizing a list of alleys to be repaved and refurbished providing enhanced access to off-street parking to mitigate parking loss during Central Corridor LRT construction. Many alleys behind Central Corridor businesses are in extremely poor condition (large potholes, broken pavement, etc.). Improving these alleys will make the off-street parking behind Central Corridor businesses more easily accessible for customers and mitigate some effects of loss of on-street parking during construction. A total of \$350,000 has been dedicated in the City of St. Paul's Capital Improvement Budget to complete this work.

### Technical and financial assistance to businesses affected by construction activities

Business programs have been developed to provide measures to assist businesses impacted by construction of the Project. These programs have been identified to specifically assist small businesses that may be impacted by temporary vehicular and pedestrian access changes, traffic detours, or other construction-related impacts (e.g., noise, dust). The business assistance programs include the following measures.

- **Business Support Fund:** The Business Support Fund program provides low- or no-interest forgivable loans and grants with no obligation to repay to small businesses (gross annual sales less than \$2 million) that may experience construction-related disruptions. The Business Support Fund includes \$4.0 million in loan funds (\$2.5 million from the Metropolitan Council; \$1.0 million from the City of Saint Paul and \$0.5 million from the Central Corridor Funders Collaborative). \$3.5 million of the funds will be available as forgivable loans; \$0.5 million will be available as grants<sup>14</sup>. Individual small businesses whose business focuses on retail sales would be eligible for loans of up to \$10,000. Loans could be used for basic business expenses including taxes,

<sup>14</sup> These changes (increase in total funds, change from non-forgivable to forgivable loans) will necessitate an amendment to the Joint Powers Agreement between the City of St. Paul and Metropolitan Council.

rent/mortgage, utility or personnel payments. The Business Support Fund is being administered by the City of St. Paul Housing and Redevelopment Authority ("HRA").

Eligibility requirements for the Business Support Fund, as defined in the Joint Powers Agreement between the Metropolitan Council and the City of St. Paul HRA, are identified below. The Business Support Fund program will be available to small businesses that:

- (1) Qualify as a "small business" as that term has been defined by the Saint Paul HRA and others involved in the development and implementation of the Program;
  - (2) Are located in close proximity to the CCLRT line (using standards established by the Saint Paul HRA and others involved in the development and implementation of the Program) and can demonstrate a clear, significant new barrier to access during construction; and
  - (3) Prequalify by successfully participating in appropriate training or attending meetings with a business consultant and meeting other Program requirements developed by the parties and others involved in the development and implementation of the Program. Businesses participating in the bridge loan and grant component of the Program are excluded from this requirement.
- **Business Improvement / Expansion Assistance:** The Business Improvement/Expansion Assistance program includes \$850,000 available in loan, grant and Program Related Investment (PRI) funds to assist targeted businesses with significant growth opportunities and/or that are in a position to buy or improve their own buildings with the goal of reinforcing the importance of locally- and minority-owned businesses to the Central Corridor. This program will be administered by the Neighborhood Development Center.
  - **Business Resources Collaborative (BRC):** The Business Resources Collaborative (BRC) is an informal coalition that provides support and technical assistance to businesses affected by the Project. The BRC has received \$240,000 in grants in support of its operations. The BRC provides the following services to businesses along the Central Corridor:
    - Provide business consulting and technical assistance (e.g., business and real estate development loan assistance; parking; energy efficiency programs; advocacy, information and referrals).
    - Provide and maintain a business resource/information clearinghouse (<http://www.readyforrail.net>).
    - Provide a grassroots "buy local" marketing campaign to help provide customers to Central Corridor businesses during project construction.
  - **University Avenue Business Preparation Collaborative (U7):** The University Avenue Business Preparation Collaborative (U7) was created by community development organizations to provide marketing support, on-site business consulting, resource center and planning center, small business workshops, grants for marketing and façade improvements, microlending and financing support to small businesses along the Central Corridor. U7 has received a total of \$675,000 in grants in support of its operations (\$400,000 from Central Corridor Funders Collaborative, \$150,000 from the F.R. Bigelow Foundation, and \$125,000 from the St. Paul Foundation).

- **Great Streets and Business Association Assistance Program:** The City of Minneapolis will contribute a total of \$210,000 for business technical and marketing support.

### University Avenue / Cedar Riverside Betterments

Adding amenities and improving the aesthetics of commercial areas will attract customers to the Central Corridor project area. The following activities have been funded and may occur both during and after the construction period.

- **Improved Street Lighting / Trees / Street Furniture:** The City of St. Paul has contributed additional funds to the project in the amount of \$650,000 for aesthetic improvements and amenities, including street lighting, trees, and street furniture within the public right of way, to enhance the pedestrian character of University Avenue and downtown business districts.
- **Business Façade Improvement Financing:** The City of Minneapolis has committed \$150,000 for business façade-improvement matching grants to businesses along the project corridor.

### Promoting Business Access

Additional measures have been undertaken to encourage patronage of Central Corridor businesses.

- **Additional Business Signage:** The Metropolitan Council will employ movable variable message signs during construction to assist travelers in accessing businesses in response to day to day changes in construction activities. A total of \$50,000 will be allocated by the Metropolitan Council for this additional business signage.
- **Cooperative Advertising and Transit Fare Passes:** Metro Transit will provide \$250,000 in marketing support in the form of cooperative advertising and fare passes to businesses for distribution to customers.

### 4.3.3 Value of Mitigation Commitments

The above mitigation commitments represent a substantial investment of financial resources as well as staffing commitments to communications activities and inspection activities to assure contractor compliance. The following tables summarize direct financial commitments to date totaling nearly \$15 million (Table 4-2) as well as staffing/contractual commitments (Table 4-3).

**Table 4-2. Mitigation Measures: Financial Commitments**

Mitigation Measures		Dollar Amount	Responsible Agency
Construction Contract	Construction Access Plan	\$200,000	Metropolitan Council/ Contractor
	Contractor Incentive Program	\$850,000	Metropolitan Council
Project Communications	Community Outreach Coordinators <sup>(1)</sup>	\$4,000,000	Metropolitan Council
	Construction Communication Plan (Special Signage) <sup>(2)</sup>	\$200,000	Metropolitan Council / Contractor
Parking Assistance	Neighborhood Commercial Parking Program	\$2,100,000	City of St. Paul
	Alley Improvements Program	\$350,000	City of St. Paul
Business Assistance Programs	Business Support Fund <sup>(3)</sup>	\$4,000,000	City of St. Paul
	Business Improvement / Expansion Assistance	\$850,000	Neighborhood Development Center
	Business Resources Collaborative <sup>(4)</sup>	\$240,000	N/A
	University Avenue Business Preparation Collaborative <sup>(5)</sup>	\$675,000	N/A
	Great Streets and Business Association Assistance Program	\$210,000	City of Minneapolis
	Other <sup>(6)</sup>	\$7,670	N/A
University Avenue / Cedar Riverside Betterments	Improved Street Lighting / Trees / Street Furniture	\$650,000	City of St. Paul / Metropolitan Council
	Business "Façade Improvement Financing	\$150,000	City of Minneapolis
Promoting Business Access	Additional Business Signage	\$50,000	Metropolitan Council
	Cooperative Advertising and Transit Fare Passes	\$250,000	Metro Transit
<b>TOTAL</b>		<b>\$14,782,670</b>	

<sup>(1)</sup> Includes salary and benefits for the fully staffed Central Corridor Outreach and Communications Team for the four years of project construction from 2010-2013.

<sup>(2)</sup> Includes temporary directional signage, including portable changeable message signs, project identification boards, construction site signage, and other signs.

<sup>(3)</sup> Includes \$2,500,000 from the Metropolitan Council, \$1,000,000 from the City of St. Paul, and \$500,000 from the Central Corridor Funders Collaborative.

<sup>(4)</sup> Includes grants from Central Corridor Funders Collaborative as well as a matching investment from the City of St. Paul for marketing during project construction.

<sup>(5)</sup> Includes \$400,000 from Central Corridor Funders Collaborative, \$150,000 from the F.R. Bigelow Foundation, and \$125,000 from the St. Paul Foundation.

<sup>(6)</sup> Includes grants from Central Corridor Funders Collaborative to Central Corridor Partnership and Asian Economic Development Association to support presentations from business mitigation consultants.

**Table 4-3. Mitigation Measures: Staffing and Contract Commitments  
(Non-Direct Financial Commitments)**

Mitigation Measures		Responsible Agency
Construction Contract	Special Events Plans	Metropolitan Council/ Contractor
	Best Management Practices (BMPs)	Metropolitan Council/ Contractor
Project Communications	Contractor Community Relations Leader	Contractor
	Construction Communication Plan	Metropolitan Council
	Construction Information Packet	Metropolitan Council
	Construction Signage	Metropolitan Council/ Contractor
Parking Assistance	Construction Employee Parking Plan	Metropolitan Council/ Contractor

## 5.0 PUBLIC COORDINATION

### 5.1 February 17, 2011 Town Hall Meetings

Two town hall meetings were held on February 17, 2011 to consider the views of the general public and local merchants and to gather information in anticipation of the supplemental Environmental Assessment. The town hall meetings were held in an open house format. Representatives of the FTA, the Metropolitan Council, City of St. Paul and Business Resource Collaborative (BRC) members were available at the meetings to discuss the Project and the supplemental environmental review process. Business owners, employees and citizens were provided the opportunity to discuss specific issues and provide written and verbal comments. A meeting notice announcing the Town Hall Meetings was published in local newspapers (Pioneer Press, Star Tribune and Finance and Commerce). News advisories were distributed by the Metropolitan Council to area media outlets, community groups, stakeholders and project partners. This news advisory was also distributed by the Metropolitan Council to community leaders, business owners and other area organizations, and was posted on the Project Website.

### 5.2 Draft Supplemental Environmental Assessment Comment Period

The Construction-Related Potential Impacts on Business Revenues Draft Supplemental Environmental Assessment (EA) was made available for public review on March 1, 2011. The public had an opportunity to review and comment on the Draft Supplemental EA from March 1 through March 31, 2011. Two public hearings were held on March 16, 2011. Notifications of the Draft Supplemental EA and the public hearings appeared in area newspapers and were sent to stakeholders in the project corridor including local, regional and state agencies. The Draft Supplemental EA was made available for viewing online and at area libraries prior to the public hearings.

Public comments were received from 73 individuals or groups/organizations and those comments are contained verbatim in Appendix H to the final Supplemental EA, along with complete copies of the transcript from the two public hearings held on March 16, 2011. Below is

a summary by topic of comments addressing issues raised in the Supplemental EA Construction-Related Potential Impacts on Business Revenues. Comments that were outside the scope of the Supplemental EA were not addressed in the Response to Comments, but complete copies of those comments are available in Appendix H.

Below are FTA's detailed responses to comments on the following subjects: NEPA EA process, adequacy of technical report analysis methodology, comparison of analysis methodology/mitigation identification to other similar projects (Lake Street and Seattle projects), adequacy of mitigation measures, and public participation.

- **NEPA EA Process:** Comments were received on the Draft Supplemental EA concerning the adequacy of the use of an environmental assessment to supplement a Final Environmental Impact Statement.

**Response:** The Federal Transit Administration, as the lead federal agency, and the Metropolitan Council, as the lead local agency, have prepared the Draft Supplemental EA and final Supplemental EA in compliance with the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 et. seq., and with FTA's regulations, 23 C.F.R. Part 771. Section 1.1 of this document describes the basis of the Supplemental EA. Section 1.1 also discusses FTA's decision to conduct a Supplemental EA as the appropriate level of environmental review under NEPA. Public participation is a requirement of NEPA for the preparation of environmental documents. The March 16, 2011 public hearings and 30-day comment period for the Supplemental EA are a part of this public participation process. Substantive comments submitted during the Draft Supplemental EA comment period, and oral testimony recorded at the March 16, 2011 public hearings, are responded to in the final Supplemental EA (see Appendix G for responses to comments).

- **Adequacy of Technical Report Analysis Methodology:** Comments were received regarding the adequacy of the methodology used in the Technical Report.

**Response:** The Technical Report addressed the potential loss of revenue by local businesses during the construction period by classifying the businesses that abut the alignment, identified the potential environmental impacts caused by the construction and attempted to quantify the potential average loss of revenue for small businesses. Due to the dearth of information available that provides a reliable methodology for quantifying potential business losses caused by construction of a light rail project prospectively, Volpe undertook an exhaustive literature review to find peer reviewed methodological approaches to a retrospective calculation of business revenue loss from construction of transportation infrastructure projects. The search yielded 4 previous studies, of which one study (De Solminihac & Harrison, 1993) was utilized as the framework under which Volpe started its analysis for the Central Corridor project. All studies reflected a range of impacts on business revenues, from positive to larger negative impacts on discrete market segments. The studies also reflected that some businesses experienced an increase in revenues during the construction period, most likely due to receiving business from construction workers. Volpe then attempted to take the methodology used for quantifying actual impacts on business revenues during a transportation construction project and develop a basis for predicting what impact the construction on the Central Corridor LRT project will have on the local businesses along the corridor. In order to do make this prediction, Volpe analyzed the data provided in the four peer reviewed studies.

Data availability and methodological practices limit how researchers can conduct the analysis. An extensive literature search, which included researching multiple comprehensive reference databases, revealed the four studies utilized in the Technical Report. Each of the studies was peer reviewed or published by a government agency, a criterion held strongly by Volpe Center in assessing which studies to utilize for the Technical Report, because it ensures that the studies are unbiased and have met generally accepted methodological standards. The process of peer review means that qualified individuals in the given topic of study evaluated the study for its analytical credibility. The peer reviewers provide comments to the authors on how to improve the study, and studies are not published unless the concerns of the reviewers are met.

The four peer-reviewed studies considered by Volpe provided estimates of overall impacts of construction on business revenues, finding that such losses generally fall within a small range on average. Of the four peer-reviewed studies, Volpe concentrated on the De Solminihac & Harrison (1993).

Considering the complexities of using information from the literature, the De Solminihac and Harrison (1993) study was selected as the best predictive approach because the context of the transportation project in that study was the most analogous to the Central Corridor Project, and it was the strongest study from a methodological perspective, given the lack of available studies on this subject matter. The analysis used in the Technical Report applied the estimates of actual impacts on business revenues in one provided by De Solminihac and Harrison (1993) study to predict the upper bound of the effects of the construction phase of the Central Corridor LRT Project on sales revenues of impacted businesses. The project reviewed in the De Solminihac and Harrison study was in a major urban area with a variety of options for consumers to switch their business away from the construction corridor based on the environmental impacts caused by the construction phase of the project. The project also included some transit elements (bus transitway) as part of major work on a busy urban highway. The business mix on that study corridor was weighted differently than the Central Corridor LRT corridor but included many of the same categories of business. De Solminihac and Harrison found revenue decreases in four types of businesses: general merchandise, food stores, automotive outlets, and home furnishing, ranging from 17 to 37 %. No impacts were found in the remaining six categories. These findings were used to estimate the upper bound of effects of the construction phase of the Project on sales revenues for impacted businesses.

Volpe gathered relevant data for businesses along the Central Corridor alignment. Volpe used a dataset assembled by U-Plan (a Twin Cities community planning studio located on the Corridor). The U-Plan dataset consists of 1,410 businesses located on University Avenue and Washington Avenue from July 2010. U-Plan validated the data against lists from the University Avenue Betterment Association, Asian Economic Development Association, and the University of Minnesota. The validation effort resulted in 1,272 businesses in December of 2010, compiled with annual revenue as well as a GIS marker on the business address. The U-Plan dataset did not include downtown St. Paul and Minneapolis and is not limited to the businesses adjacent to the Central Corridor LRT alignment. Finally, Volpe eliminated those businesses not adjacent to the alignment, resulting in a total of 947 discrete businesses with revenue information in the U-Plan dataset.

All 947 small businesses from the Central Corridor LRT dataset were assigned to the impact categories used in the De Solminihac and Harrison study. The aggregate business revenue loss for all businesses in the U Plan database was estimated by multiplying the combined revenue of all businesses within the four categories by the percent loss found in each category. The losses were totaled for the four categories to get the projected estimated total revenue lost by this subset of small businesses on the Corridor, \$13,935,430, and then divided by the total small business revenue for all nine categories of businesses, \$487,805,000, yielding the upper bound average percentage loss of 2.85% across all small business categories. Changes in sales revenues to individual businesses could fall above or below this range. For example, businesses that sell to the construction workers and companies will likely benefit with higher revenues during construction. Some businesses that experience disruption but do not attract business from the construction spending may see their revenues decline. For instance, restaurants that can meet a construction worker's needs during their lunch break may see their revenues increase, while a more formal restaurant that targets the dinner crowd may lose business to similar restaurants unaffected by construction.

To develop an estimate of construction impacts on a project-level, it is necessary to have a reliable estimate of current and future revenues for specific businesses, and then adjust that estimate by the change in business resulting from the construction controlling for other economic and social factors. Difficulties in estimating future revenues include: accurately predicting the overall state of the economy and how it affects businesses in the construction zone, predicting local changes in socio-economic characteristics, anticipating other local changes that would affect traffic or business patterns, anticipating other technological or behavioral changes that could affect businesses in each industry and anticipating for acts of nature in some instances. As a result, predicting the amount of lost business revenue for any given business or market segment is highly uncertain and speculative. Indeed, Volpe acknowledged that "With the current state of knowledge about construction impacts on business revenues, developing reliable point estimates of such transit construction impacts is infeasible to implement for a project-level analysis."<sup>15</sup>

As raised by several of the people who commented on the Draft Supplemental EA, drawing a direct comparison from the academically published studies in the Technical Report to the Central Corridor is difficult. The construction projects analyzed in the studies were all highway projects, with measures taken to minimize disruption. Moreover, the highway projects varied significantly from the Central Corridor project in terms of construction complexity, duration, construction staging options, geographic constraints and construction seasons, all of which can contribute to the impact of construction on a given business' revenues.

Considering the complexities of using information from the literature, the De Solminihac and Harrison (1993) study was selected as the best predictive approach because the context was the most analogous to the Central Corridor Project, and it was the strongest study from a methodological perspective, given the lack of available studies on this subject matter. Volpe has provided a revised Technical Report that further explains the methodology and conclusions reached in the report. However, in light of the numerous comments regarding the applicability of the Volpe methodology to the Central Corridor LRT Project to provide any reliable estimate of prospective potential loss of revenues

---

<sup>15</sup> Volpe Center. April 2011. *Technical Report on the Potential Impacts on Business Revenues During Construction of the Central Corridor Light Rail Project*, pg. 8



caused by the construction phase of the Project, FTA has decided that to use the 2.85% average to predict with any accuracy the total average business losses is not warranted here. Moreover, since releasing the Draft Supplemental EA for comment, a number of other reports looking at the impact of the construction phase of transportation projects on businesses have been brought to FTA's attention. These reports, although not put through the scientific rigor of a peer review, provide additional support for FTA's conclusion that providing any hard estimate of future lost revenues is not possible given the current state of knowledge, but would only be conjecture and speculation, and have the effect of understating the actual impacts some businesses may incur during the construction phase of the Project.

- **Comparison of Analysis Methodology / Mitigation Identification to other similar projects:** Comments concerning the Technical Report analysis methodology and mitigation identification focused on two other projects: a study of business impacts during reconstruction of Lake Street in Minneapolis and the mitigation proposed for the Seattle Central Link LRT construction. The Lake Street study is suggested as an alternate methodology for the study of business impacts; the Seattle project is referenced as an approach to mitigation of business impacts during of construction. Many of the concerns noted that these two studies should have been considered more strongly in the methodology used for the analysis of business impacts in the Draft Supplemental EA, and in determining mitigation for impacts identified.

**Response (Lake Street Study):** The Lake Street study (Diaz, Jose, "Economic Indicators of the Lake Street Corridor," NPCR1303)<sup>16</sup> used aggregated taxable revenue and number of businesses collected for state sales tax purposes at the census block level to ascertain economic impacts from the 2004-2006 reconstruction of Lake Street in Minneapolis. Comparable data from businesses located on University Avenue was used as a control group (due to similar types, size, age and character of the two business corridors) as a means to determine what variations in the data might be attributable to construction activities versus broader fluctuations in economic activity. The study found significant variations in taxable revenue, only some of which correlated with construction activities. FTA staff have reviewed the study and found the methodology inconclusive as a predictive tool for revenue impacts for the Central Corridor project for two reasons: (1) as sales taxes are collected on a limited type of goods sold (and not services), variations in sales taxes collected do not directly correlate with business revenues (which is further confounded during the study timeframe due to laws governing sales tax collection) and (2) insufficient information regarding the numbers and locations of businesses to directly correlate variations in sales tax data with the addition/loss of the number of businesses and/or types. In addition, the block level data does not allow distinctions to be made about differing levels of impacts by types of businesses or other characteristics.

**Response (Seattle Central Link project):** The Record of Decision prepared for the Seattle Central Link project required the creation of a \$50 million Transit-Oriented Business Development Fund (later renamed the Rainier Valley Community Development Fund) to assist the community and qualified local businesses, neighborhood organizations and community institutions in mitigating and offsetting adverse economic impacts resulting from the Link light rail and its construction. The Fund was available to fund physical and economic improvements to the Southeast Seattle Corridor and was to

---

<sup>16</sup> Diaz, Jose, "Economic Indicators of the Lake Street Corridor," NPCR1303, available at <http://www.cura.umn.edu/search/index.php>

be exclusively used to increase transit ridership on the system and/or address project impacts. A portion of the fund was designated as Supplemental Mitigation Assistance (SMA) to provide assistance to both relocated and remaining businesses along the project corridor. The assistance was used for rent increases, equipment replacement, tenant improvements and operating costs necessary to maintain business operations or reestablish a business. Under this program, over \$15 million was granted to local businesses achieving a success rate of 85% of the businesses operating pre-construction surviving post construction. The City of Seattle provided funding for the program, but specifically recognized the uniqueness of both the project (64 full property acquisitions and 232 partial acquisitions resulting in the relocation of 60 businesses and 38 residential households) and the circumstances surrounding the project that warranted creation of the Fund. The City found that the convergence of a significant investment in a regional transportation improvement, the degree of displacement of small businesses, the high presence of low-income minorities, refugees and immigrants and weak market conditions to drive redevelopment created a unique situation warranting City investment beyond what would otherwise be necessary. Unlike the Seattle project, the Central Corridor LRT project will require only one operating business to relocate as a result of the project. Moreover, Metropolitan Council, in cooperation with its funding partners and other stakeholders, has undertaken significant measures to either avoid construction-related impacts or mitigation the extent of those impacts on the businesses located along the corridor. The mitigation measures more fully discussed in Section 4.3 should provide an adequate measure of financial security for businesses, including minority-owned and small businesses that will be adversely affected during the construction of the Central Corridor project.

- **Adequacy of Mitigation Measures:** Comments received on the Draft Supplemental EA concerning mitigation measures focused on the adequacy of the mitigation measures to help minimize adverse impacts to businesses during project construction. In particular, many of the concerns focused on the adequacy, size and administration of the Business Support Fund (i.e., \$10,000 loans to qualified businesses for basic business expenses) or the need for a business compensation/grant program.

**Response:** A report prepared for the Legislature of the State of Minnesota in February 2009, titled "Mitigation of Transportation Construction Impacts," served as the primary reference point for identifying mitigation activities reported in this Supplemental EA. This February 2009 document was prepared in response to an act of the 2008 Minnesota Legislature requiring the Minnesota Department of Transportation (Mn/DOT) to report on the mitigation of construction impacts on small businesses.

The key recommendations of this February 2009 report served as the basis for developing the business mitigation measures for Central Corridor LRT project construction as described in Section 4.3.1 of this Supplemental EA.

NEPA requires federal agencies take a "hard look" at environmental consequences and provide for broad dissemination of relevant environmental information. NEPA does not impose a substantive duty on agencies to mitigate adverse environmental effects or to mandate particular results. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 109 S.Ct. 1835, 104 L.Ed.2d.351 (1989). However, as noted in Chapter 6 of this Supplemental EA, the Metropolitan Council, along with the assistance and support of its project partners and other project stakeholders, intends to mitigate adverse construction impacts on businesses to the extent reasonable and feasible. Mitigation measures to

help reduce short-term impacts to business revenues during project construction include financial commitments totaling nearly \$15 million, and also include non-financial staffing/contractual commitments. (See Section 4.3.3 of this Supplemental EA). These mitigation measures are not intended to be restorative to businesses with respect to potential losses to revenues during project construction. That is, these mitigation measures are not designed to replace any percent of revenue or any specific dollar amount of business revenue lost during the period of project construction.

The Business Support Fund is intended to be as accessible as possible to eligible businesses along the Central Corridor. The City of St. Paul will select one or more qualified non-profits to administer the loan program and to assist business owners in completing the modest requirements necessary to access funds through this program. The \$10,000 limit was established by the City of St. Paul in order to ensure as many businesses as possible were served by available funds. With new funds being committed for the Business Support Fund, this limit may change. The City of St. Paul will be revising its Joint Powers Agreement with the Metropolitan Council, and any final changes to the limit on funds available to any individual business will be reflected in the revised Joint Powers Agreement.

FTA finds that while some businesses may be adversely impacted during the construction of the project, the avoidance and mitigation strategies set forth in Section 4.3 will provide an adequate measure of financial security for businesses, including minority-owned and small businesses adversely affected during the construction of the Central Corridor project. FTA also will monitor the success of the mitigation measures that Metropolitan Council has agreed to implement to address impacts on business revenues.

- **Public Participation:** The majority of the comments concerning the February 17, 2011 town hall meetings were in regards to the disposition of comments that were submitted to Metropolitan Council at these meetings.

**Response:** Two town hall meetings were held on February 17, 2011, to consider the views of the general public and local merchants and to gather information in anticipation of the Supplemental Environmental Assessment. The town hall meetings were held in an open house format. Representatives of the FTA, the Metropolitan Council, City of St. Paul and Business Resource Collaborative members were available at the meetings to discuss the project and the supplemental environmental review process. Business owners, employees and citizens were provided the opportunity to discuss specific issues and provide written and verbal comments.

The February 17, 2011 town hall meetings were not public hearings with respect to the NEPA process, thus formal responses were not generated for comments received at the meetings. However, the input collected at these meetings was considered during preparation of the Draft and final Supplemental EA and in preparing the response to comments on the Draft Supplemental EA. Moreover, the subjects raised in the comments received at the town hall meetings are similar to the comments raised in the NEPA comment period and are addressed in the final Supplemental EA.

The following list summarizes the common themes of comments received at the February 17, 2011 town hall meetings.

- General comments regarding traffic and transportation, including support for transit; accessibility; impacts to bus routes; design alternatives such as narrowing University Avenue to two lanes of traffic to accommodate multiple transportation modes; and traffic flow and congestion.
- A majority of the comments received were in regards to concerns for impacts to businesses. Generally, these concerns included impacts to specific businesses and parking availability; comments regarding business mitigation programs, business support and the need for grant programs; concerns about agency communication and project construction communications; and comments regarding the loss of rental income.
- Comments regarding impacts to business revenues, including the need for estimates of impacts to business revenues and the loss of business revenues impacting the personal incomes of small business owners.
- Comments regarding construction impacts to businesses, including the loss of business revenue during project construction; concerns regarding abilities of small businesses to survive through the construction period; comments regarding the need for property tax relief; the need for business marketing support; concerns regarding utility relocations and impacts to business revenues; and comments regarding signage plans.
- More than 20 comments were received regarding parking and impacts to businesses, including concerns regarding the loss of parking; availability for employee parking during construction; the need for replacement parking; comments regarding preservation of parking at station areas; parking in Minneapolis; and maintaining on-street parking on University Avenue.

## 6.0 CONCLUSION AND SUMMARY OF COMMITMENTS

Studies of construction-related impacts on business revenues resulting from transportation projects have identified a number of factors that contribute to loss of business revenue during project construction including loss of access, loss of parking, reduced traffic flow and utility shut offs. Indirectly, potential customers may also be discouraged from patronizing businesses due to both real and perceived inconvenience factors including congestion, confusion, safety concerns, noise, vibration and dust. These studies also recognize that there are many factors in addition to construction activity that may also impact business revenues, including external economic factors, unemployment rates, and world events.

The Technical Report, prepared by the Volpe Center, categorized business types along the project corridor using NAICS codes, identifying business types most sensitive to seven impact factors stated earlier based on previous studies. The Technical Report anticipates that construction activities will cause temporary partial blockages to access, traffic detours, parking restrictions, temporary utility shutoffs and nuisance impacts such as noise, vibration, dust and

visual impacts. The Technical Report states that while any individual business has the potential to experience business revenues losses during the construction period, previous studies indicate that businesses that include general merchandise, food stores, automotive outlets, and home furnishings stores are more likely to experience greater sales revenue losses due to construction, as well as other economic factors.

The Technical Report also states that the estimate of impacts is subject to significant uncertainty. Given this uncertainty, it is likely that there may be other types of businesses with sales revenue losses other than those identified in the Technical Report as being impacted. However, we cannot predict with specificity which particular businesses will experience adverse impacts and to what extent those impacts may affect business revenues. Additionally, some businesses will experience positive impacts to their revenues during construction of the project. Again, we cannot predict with specificity which particular businesses will experience positive impacts and to what extent those impacts may affect business revenues. Furthermore, construction work may cause temporary partial blockages to access, decreased traffic volumes, increased congestion, detours, parking restrictions, and nuisance impacts such as noise and dust. Smaller businesses may be impacted to a greater extent depending on the duration and magnitude of nuisance impacts associated with construction. If construction impacts to businesses are sufficiently adverse, then businesses may close or chose to relocate. Less severely impacted businesses would likely experience short-term declines in revenues due to reduced business activity. Construction activity would, however, also result in increased output, income, and jobs for the local economy. Estimates of the economic impact of construction expenditures can be reviewed in Section 5.1.1 of the FEIS. Metropolitan Council is implementing mitigation measures to address potential adverse construction impacts to the extent reasonable and feasible. However, FTA recognizes that some adverse impacts will be unavoidable and may be of a magnitude that the effect to an individual business may be losses in revenues that result in the business owner deciding to either relocate or close.

FTA finds that while some businesses may be adversely impacted during the construction of the project, the avoidance and mitigation strategies set forth in this Supplemental EA will provide an adequate measure of financial security for businesses, including minority-owned and small businesses adversely affected during the construction of the Central Corridor project. These mitigation measures include:

#### **Efforts to minimize the unavoidable impacts of construction activities**

- Construction Access Plans
- Contractor Incentive Program
- Special Events Planning
- Construction Best Management Practices (BMPs)

#### **Proactive communications**

- Contractor Community Relations Leaders
- Construction Public Information and Communication Plans
- Community Outreach Coordinators
- Construction Information Packets
- Construction Signage

**Measures to assist businesses losing nearby on-street parking**

- Construction Employee Parking Plan
- Neighborhood Commercial Parking Program
- Alley Improvements Program

**Technical and financial assistance to businesses affected by construction activities**

- Business Support Fund
- Business Improvement / Expansion Assistance
- Business Resources Collaborative (BRC)
- University Avenue Business Preparation Collaborative (U7)
- Great Streets and Business Association Assistance Program

**University Avenue / Cedar Riverside Betterments**

- Improved Street Lighting / Trees / Street Furniture
- Business Façade Improvements Financing

**Promoting Business Access**

- Additional Business Signage
- Cooperative Advertising and Transit Fare Passes to Corridor Businesses

Direct financial commitments to these mitigation measures total nearly \$15 million. In addition, significant staffing, communication and contractual commitments are provided to implement mitigation measures and assure contractor compliance.

The mitigation program is designed to target businesses that may require financial assistance. Based on the information discussed in this document, not all businesses will need assistance or suffer revenue losses; those that do will likely not be severe and prolonged; and that with the mitigation program, the impacts are not expected to be significant in the aggregate.

## APPENDIX A





U.S. Department of Transportation  
Federal Transit Administration

# Technical Report on the Potential Impacts on Business Revenues during Construction of the Central Corridor Light Rail Project

**REPORT DOCUMENTATION PAGE***Form Approved  
OMB No. 0704-0188*

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE April, 2011	3. REPORT TYPE AND DATES COVERED	
4. TITLE AND SUBTITLE Technical Report on the Potential Impacts on Business Revenues during Construction of the Central Corridor Light Rail Project			5. FUNDING NUMBERS	
6. AUTHOR(S) Radin, Sari; Ray, Rosalie				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) USDOT Volpe Center 55 Broadway Cambridge, MA 02142			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Department of Transportation Federal Transit Administration Office of Planning and Environment Washington, DC 20590			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT This document is available to the public through the National Technical Information Service, Springfield, VA 22161.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) This report investigates the potential impacts to business revenues along the Central Corridor resulting from the construction of the Central Corridor Light Rail Project. This study addresses the potential loss of revenue by local businesses during the construction period.				
14. SUBJECT TERMS Construction impacts, revenue loss			15. NUMBER OF PAGES 21	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT	

**Contents**

1.0 Introduction..... 1
2.0 Economic description of the region ..... 2
3.0 Methodology ..... 3
3.1 Background ..... 3
3.2 Literature search..... 4
3.2.1 Academic and government-published studies ..... 4
3.2.2 Additional published studies..... 6
3.2.3 Student papers..... 6
3.3 Development of a methodology for the Central Corridor ..... 7
3.3.1 Consideration of the four studies in developing a prediction ..... 8
3.3.2 Selection of the De Solminihac and Harrison study as a basis for estimation..... 9
3.4 Case studies of other light rail projects ..... 10
3.5 Data ..... 14
3.6 Description of businesses ..... 14
3.7 Estimation of business revenue loss using De Solminihac and Harrison findings ..... 16
4.0 Results..... 17
4.1 Qualitative assessment of potential construction-related impacts..... 17
4.2 Estimates of impacts to business revenue ..... 19
5.0 Conclusion ..... 20

**Tables**

Table 1. Recent quantitative studies of construction sales revenue impacts on businesses ..... 8
Table 2. Sector composition of the Central Corridor..... 15
Table 3. Categorization of Central Corridor businesses by the De Solminihac and Harrison categories ..... 15

**Figures**

Figure 1. Business openings and closures compared to overall trends in Minneapolis-St. Paul... 2
Figure 2. Business openings and closures in Portland during light rail construction ..... 11
Figure 3. Business openings and closures in Salt Lake City during light rail construction ..... 12
Figure 4. Business openings and closures in San Jose during light rail construction..... 13
Figure 5. Business openings and closures in Seattle during light rail construction..... 14

# 1.0 Introduction

This report will investigate the impacts to business revenues along the Central Corridor resulting from the construction of the Central Corridor Light Rail Project (“Project”). It is prepared in response to the District Court’s January 26, 2011 opinion issued in *NAACP et al v. USDOT*,<sup>1</sup> in which the Court held that the Final Environmental Impact Statement (“FEIS”) did not evaluate potential impacts on the loss of business revenue during construction and that it should have been evaluated during the National Environmental Policy Act (“NEPA”) process. This study will address the potential loss of revenue by local businesses during the construction period for the Project. This report will classify the businesses that abut the alignment, identify the potential environmental impacts caused by the construction of the project, and attempt to quantify the potential average loss of revenue for small businesses, to the extent that such potential losses can be quantified.

It is important to note that there is a dearth of information available that provides a reliable methodology for quantifying potential business losses caused by construction of a project like the Central Corridor Project. We undertook an exhaustive review of the literature, searching the largest online bibliographic database of transportation research and working with research librarians in government and a major research university and were only able to find four prior studies since 1990 that used objective data to attempt to quantify the construction impacts on businesses that abut the construction of transportation alignments. These studies, which are set forth in more detail in Table 1, reflect a range of impacts on business revenues, from positive impacts to larger negative impacts on discrete market segments. These studies also reflect that some businesses may show an increase in revenues likely due to receiving business from construction workers. None of the studies reviewed provided an “apples to apples” comparison, with each study reflecting projects of different sizes and scope, construction duration, and construction staging options. Moreover, what is clear from reviewing the studies is that numerous factors other than construction can impact a business’ revenues, including external economic factors, unemployment rates, and world events. The ability to control for these external factors is limited. Indeed, based on the experience of the businesses along the Central Corridor between 2009 and 2011, the number of vacancies increased from 126 to 193.<sup>2</sup>

---

<sup>1</sup> *NAACP, et al. v. US Department of Transportation, et. al.*, CIV 10-147 (W.D. MN, UNPUBLISHED DECISION, January 26, 2011).

<sup>2</sup> Business census data of the Central Corridor from the Metropolitan Council. E-mail 2/23/11 from Robin Cauffman.

## 2.0 Economic description of the region

The Central Corridor Light Rail Transit Project is located within the Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area (MSA). As a whole, the MSA has experienced lower unemployment rates and higher per capita personal income than the national average, though the recession did negatively impact both unemployment rates and commercial and retail vacancy rates within the region.<sup>3</sup>

Current unemployment data by county is also available from the Minnesota Department of Employment and Economic Development, and shows some regional differences between the two cities and counties through which the CCLRT runs, Minneapolis in Hennepin County and St. Paul in Ramsey County. Unemployment in Minneapolis is at 6.5%, while it is at 7.3% in St. Paul. The county data shows lower unemployment in each county than in its city, with Hennepin at 6.4% and Ramsey at 6.9%. Additionally, St. Paul had a lower average weekly wage than Minneapolis in 2010, with workers making an average of \$877-\$962 per week in St. Paul versus \$1,087-\$1,212 per week in Minneapolis.

Of particular interest to this study when looking at regional economic indicators are the measures of annual business openings and closings by MSA, which can be found on the Census website under the Statistics of U.S. Businesses section.<sup>4</sup> Unfortunately, the data is only available through 2007, so it does not capture what happened in the most recent recession. The data, however, is still illustrative of the yearly churn of business openings and closings.

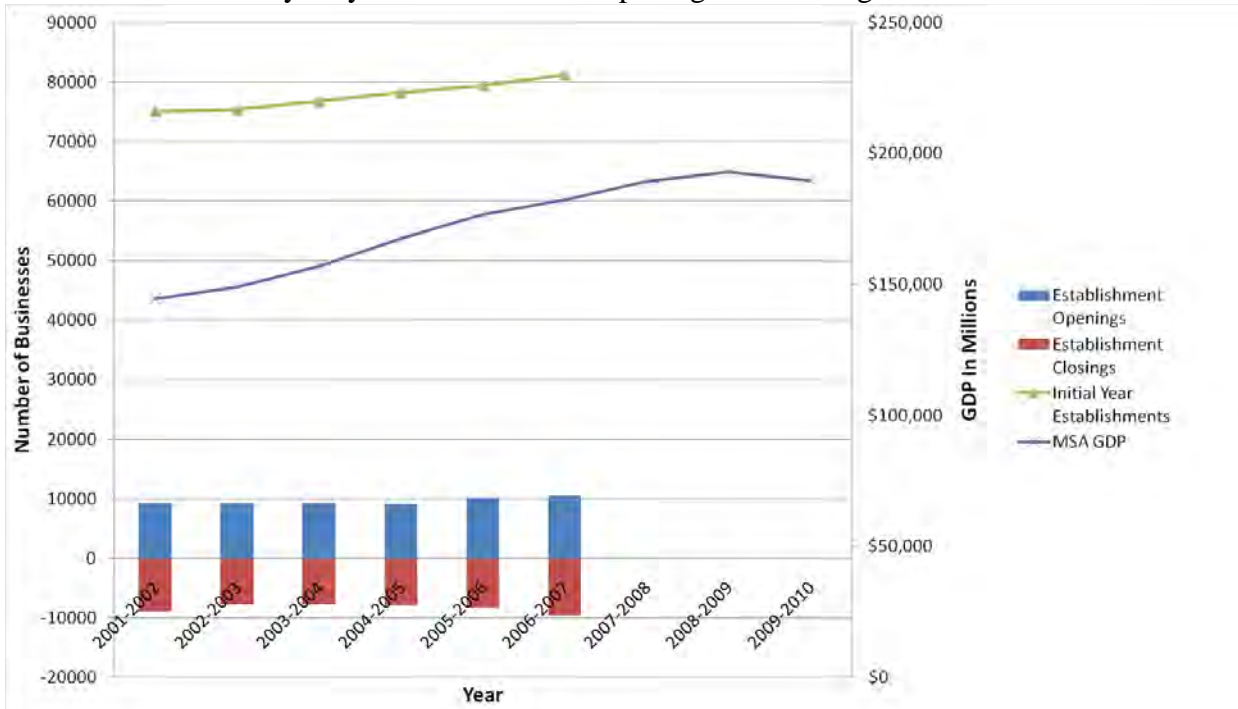


Figure 1. Business openings and closures compared to overall trends in Minneapolis-St. Paul

<sup>3</sup> Federal Reserve Beige Book, Region IX, March 4<sup>th</sup>, 2009 and April 15<sup>th</sup> 2009.

<sup>4</sup> <http://www.census.gov/econ/susb/>

As can be seen in Figure 1, the numbers of businesses that open or close each year are roughly equal, with the small net increase each year leading to the rising trend in initial year establishments, the green line on the graph. The definition of initial year establishments is the number of establishments in March of the first year of each range. For example, in March 2001 there were 75,057 businesses in the MSA. Between March 2001 and March 2002, 9,279 businesses opened and 8,942 closed, resulting in a net gain of around 300 businesses, reflected in the 2002 initial year establishment figure of 75,360.<sup>5</sup> Over the years for which there are data, an average of 8,355 businesses closed each year within the MSA.

With regards to small businesses, which make up the largest part of businesses on the Central Corridor, a 2005 nationwide study of Bureau of Labor Statistics data from 1999-2002 found that around a third of new small businesses fail within two years of opening, while 56% of small business have closed after four years. In general, one business in five of establishments that opened in the same year fails each year.<sup>6</sup> While a similar study has not been done for Minnesota specifically, the study's findings can be put in context using the Forbes' "Best States for Business and Careers" rankings. In 2010, Minnesota was 15<sup>th</sup> overall, which was driven by high rankings in quality of life and labor force. Business costs, regulatory environment, and economic climate rankings were much lower, at 30<sup>th</sup>, 32<sup>nd</sup>, and 37<sup>th</sup> in the country, respectively, which can have a negative effect on the likelihood of small business success.<sup>7</sup>

## 3.0 Methodology

### 3.1 Background

The Minnesota Department of Transportation's February 2009 report, *Mitigation of Transportation Construction Impacts* ("MnDOT Report"), provides context regarding the types of impacts experienced by businesses during construction of transportation projects. The report, required by Minnesota law, surveyed business owners recently affected by highway construction projects to determine the greatest impacts on the businesses and the most successful mitigation practices.<sup>8</sup> The businesses named loss of access, highway or road closures, detours, reduced traffic, poor signing, and project length as major impacts, as well as congestion resulting from lane closures, lost parking leading to avoidance of the construction area (and surrounding businesses), and property damage resulting from contractor actions. While the report focused on roadway reconstruction projects, not transit projects, the types of construction activities (demolition of pavement, utility reconstruction, signal construction, drainage systems and signage) and resulting impacts to traffic and access (lane closures, rerouting of access,

---

<sup>5</sup> The data is not an exact function of net gain plus initial, but the numbers are very close. The dataset does not provide an explanation for the small difference.

<sup>6</sup> Knaup, Amy E. "Survival and Longevity in the Business Employment Dynamics Database" *Monthly Labor Review*, Volume 128, Number 5 (May 2005), pp. 50-6

<sup>7</sup> Badenhausen, Kurt. "The Best States for Business and Careers" *Forbes Magazine*, October 13, 2010. Accessed at <http://www.forbes.com/2010/10/13/best-states-for-business-business-beltway-best-states-table.html>

<sup>8</sup> CH2MHill for the Minnesota Department of Transportation, "Report on Mitigation of Transportation Construction Impacts". Final Report. February 2009.

displacement of parking) are very similar to that experienced during construction of a transit facility within a roadway.

Environmental Impact Statements (EIS) from four light rail projects that are either constructed or in the final design phase document similar types of impacts to businesses in construction corridors: Portland's light rail link to Milwaukie, scheduled to be finished in 2015; Dallas's Green Line ("the DART Project"), already operating as of December 2010; and two projects in Seattle, the East Link and the North Link, scheduled to open in 2016. All of the projects except the DART Project have some stretch of the corridor operating along a retail street. In the EIS reviews, the major impacts considered were access to businesses, traffic impacts, noise and vibration, temporary loss of parking, increased dirt and dust, visual impacts, and utility shutoffs.

However, neither the MnDOT study nor these environmental reviews attempted to quantify the effect these impacts would have on the potential loss of business revenues during construction. In this study, the Volpe Center conducted a literature search to identify studies that could be used to predict anticipated revenue losses to businesses along construction corridors, and developed an estimate for the Central Corridor project.

### **3. 2 Literature search**

A search using the TRID database, INSPEC database, Engineering Index, and EBSCOhost identified four peer reviewed or government studies. Additional publications were found documenting anecdotal reports of business impacts during construction. Several student projects were also identified in the Minneapolis-St. Paul area addressing the topic. These studies are summarized below.

Few studies have attempted to quantify specific values for loss of revenue associated with construction, and the identified studies focus on the impacts of highway construction rather than transit. In addition, the quantified impacts vary with the context of the project, so there is not a single point estimate on which all agree. With the current state of knowledge about construction impacts on business revenues, developing reliable point estimates of such transit construction impacts is infeasible to implement for a project-level analysis.

#### **3.2.1 Academic and government-published studies**

Four studies were identified through a comprehensive literature search to identify studies that were completed since 1990 and used objective methods to measure construction impacts on sales revenues, such as analyzing sales tax revenue of businesses during construction.

**Buddemeyer, Young and Vander Giessen** studied the impacts of reconstruction of US 26/287 over Togwotee Pass on businesses in Dubois, Wyoming. Businesses were concerned prior to the construction that there would be a loss in tourism traffic during construction since that route connects Dubois to Jackson Hole and Yellowstone National Park. The study looked at business impacts and the effectiveness of mitigation efforts through sales tax revenue analysis, a literature review and business and traveler surveys. The sales tax revenue analysis focused on business

impacts, while the literature review and surveys primarily assessed the effectiveness of mitigation. The 174 businesses in Dubois are highly dependent on out of town customers with over 60% of businesses reporting that 75% or more of their customers are from out of town. The businesses were classified by Standard Industrial Classification (SIC) codes into one of nine categories: apparel, automobile, building and hardware, food stores, furniture, general merchandise, miscellaneous stores, traveler accommodation, and restaurants. The researchers were able to obtain sales tax revenue data from the State of Wyoming. The businesses were only identified by SIC code to preserve confidentiality. The researchers calculated revenues for each business based on the tax rates for each type of business. Using tax revenue data on 110 businesses, the researchers estimated a trend line for revenues. Revenues during the construction period were compared to the trend line. The authors conclude that the overall estimated sales revenue is holding steady with minor declines. The magnitude of sales revenue growth was lower for tourist-based businesses than others.

**De Solminihac and Harrison** analyzed historical sales data of the businesses and interviewed the owners of businesses in the area of construction activities for the Southwest Freeway project in Houston. This project had both highway and transit components, with construction going from August 1989 to December 1992. The authors examined ten categories of retail businesses: building materials, general merchandise, food stores, automotive, clothing, home furnishings, restaurants, drug stores, liquor stores, and miscellaneous. For each of those categories, the authors estimated regressions with annual sales data for the preconstruction period as the dependent variable. They used these regressions to predict sales during the construction period and identified which business categories had actual sales revenues outside of the confidence intervals of the regressions. They also compared the results for the construction-affected businesses to the results for a similar corridor to include the effects of the economy. The authors conclude that four retail categories—general merchandise, food stores, automotive outlets, and home furnishings—were adversely affected by the construction.

**Wildenthal and Buffington** studied the impact of widening State Highway 21 in Caldwell, Texas, a town of 3000. They looked at a range of impacts, including sales, property values, traffic volumes, travel time, and accident rates. For their sales revenue analysis, they used gross sales data for all Caldwell businesses combined obtained from the state comptroller's office and surveyed business owners about their sales during construction. Some surveyed business owners reported sales numbers, but many would only report on whether there was an increase or decrease. The authors used the gross sales data for all of Caldwell (5% increase) in combination with the reported sales numbers from the survey to conclude that while abutting businesses gross sales dropped 5%, nonabutting businesses' sales must have increased. This conclusion relies on the assumption that the survey responses on gross sales were representative of the population of abutting businesses.

**Young, Wolffing, and Tomasini** looked at 12 case study projects in Wyoming and compared actual Wyoming Department of Revenue tax data to survey responses from business owners addressing their perceptions of the impacts on revenues. The projects took place from 1998 to 2001 in towns with populations ranging from 807 to 53,011. Projects ranged from simple sidewalk and curb replacements to complete pavement rehabilitations. As in the related study by Buddemeyer, Young and Vander Giessen, the businesses were classified by Standard Industrial



Classification (SIC) codes into one of nine categories: apparel, automobile, building and hardware, food stores, furniture, general merchandise, miscellaneous stores, traveler accommodation, and restaurants. The researchers were able to obtain sales tax revenue data from the State of Wyoming. The businesses were only identified by SIC code to preserve confidentiality. The researchers calculated revenues for each business based on the tax rates for each type of business. The average change in sales revenues overall ranged from an 8.3% decrease to a 39.9% increase across all projects. The authors also summarized the sales data by business categories. It is difficult to reach conclusions about the effect of construction because the study did not account for other changes that occurred at the same time. One particularly interesting conclusion from the report, however, is that the perceived impacts from the business survey and the actual impacts from the sales tax data were only in agreement 60% of the time.

### 3.2.2 Additional published studies

In addition to the peer-reviewed, statistics based studies of highway impacts, there are also two anecdotal studies of impacts from recent light rail projects, which, while not replicable or peer-reviewed are useful for providing more information on the subject. The first study was conducted by **Houston Tomorrow**, formerly known as the Gulf Coast Institute, a non-profit organization in Houston.<sup>9</sup> The goal was to inform Houston residents about impacts that other large cities had experienced due to recent light rail projects. The non-profit spoke with representatives of the local governments, transit agencies, and business community in six cities: Los Angeles, San Diego, Dallas, Portland, Minneapolis, and Salt Lake City. In general, they found estimates of business closures ranging from one business in Portland to 10-15% of businesses in Dallas, but Dallas could not specifically attribute closures to the line, and had received few negative comments from businesses. Portland's corridor was the most similar to University Ave, as their Interstate MAX line ran along a major commercial arterial. Portland was the only city that was able to document whether businesses had closed due to construction, though Salt Lake City noted that two businesses that it had given mitigation loans to had closed.

### 3.2.3 Student papers

The other anecdotal study that mentioned business impacts from light rail projects in specific cities was a master's thesis from the Hubert H. Humphrey Institute for Public Affairs at the University of Minnesota, which focused on mitigating impacts from the Central Corridor project.<sup>10</sup> The study found one article in the Salt Lake City Tribune that estimated that nearly 30% of businesses closed during the construction of Salt Lake City's first alignment (an earlier project than the one looked at by Houston Tomorrow), but there was no formal tracking done by the city. The study also mentions Martin Luther King Jr. Way, a major arterial in a diverse neighborhood in Seattle. Similarly to University Avenue, Seattle's Central Link project included a reconstruction of that roadway from building face to building face. A Seattle Times news

---

<sup>9</sup> "The Impact of Light Rail on Local Businesses," published by Houston Tomorrow, May 2006. Available at [http://www.gulfcoastinstitute.org/university/LightRail\\_BusinessImpact.pdf](http://www.gulfcoastinstitute.org/university/LightRail_BusinessImpact.pdf).

<sup>10</sup> Collins, Reuben. "Light Rail Transit Construction Impact Mitigation Strategies: Case Studies and Recommendations for the Central Corridor." Master's Thesis at the Hubert H. Humphrey Institute for Public Affairs, University of Minnesota, 21 December 2007. Available at [http://nexus.umn.edu/Theses/ReubenCollins\\_ProfessionalPaper.pdf](http://nexus.umn.edu/Theses/ReubenCollins_ProfessionalPaper.pdf)

article reported that as of February 2006, 44 of the 274 businesses along Martin Luther King Jr. Way were no longer operating, but again, there is no way to identify from the article whether the closures were part of natural turnover or directly resulting from the construction.<sup>11</sup>

### ***3.3 Development of a methodology for the Central Corridor***

The ideal analysis of impacts of construction on sales revenues would use direct measures of the environmental effects of construction on behavior of consumers and businesses to estimate the sales revenue impacts and the associated business decisions that were made. For instance, an anticipation of losses could cause businesses to relocate prior to construction, or actual losses during construction could lead to businesses incurring additional costs, such as increased marketing costs or making private arrangements for customer parking. The ideal analysis would categorize businesses so that all businesses in a category experience similar gains or losses resulting from the construction. Explanatory variables would include measures of actual environmental impacts so that businesses that have more extreme exposure can be distinguished from those with moderate exposure. It would be necessary to control for the size of the metro area, the local economy, and any significant shifts in the customer base, such as the effects of shifts in neighborhood ethnic composition on an ethnic food store. The ideal analysis would also include variables addressing broad shifts in customer behavior, such as competition from internet businesses. It would also be necessary to control for mitigation of the impacts. When all of the data are assembled, the researcher would conduct a statistical analysis to develop estimates of sales revenue impacts, dependent on the variables that are good predictors of outcomes. These statistical relationships would then be used to develop forecast predictions for the corridor of interest, making explicit the range of uncertainty in those estimates.

However, data availability and methodological issues limit how close researchers can come to an ideal analysis. The analysis would ideally be done using comparable data on multiple projects with reasonable variation in the factors described for a recent time period. To obtain a set of recent light rail transit construction projects affecting businesses, it is necessary to look at multiple states. These states have different sales taxes, so they would not be directly comparable. Simplifying to one state with the most similar project would require negotiations with the state government to obtain data in a sufficiently disaggregated form to be able to conduct the analysis described. It is not clear that such data would be provided in a manner that would allow matching with other necessary data.<sup>12</sup> Complicating the analysis further, many of the desired explanatory variables do not have readily available information. For instance, local economic data are not available more recently than 2007, and information on ownership of businesses is not available on an annual basis, but only when a special study was conducted. It is not clear what level of detail on construction environmental impacts would be available for a completed project.

---

<sup>11</sup> Collins, pg. 8

<sup>12</sup> Aggregated data is readily available, such as at the State of Minnesota website, <http://map.deed.state.mn.us/m3d/>. Aggregated sales tax data were used in an analysis done by a research assistant at the University of Minnesota for the Lake Street Council. Unfortunately, the block level data do not allow distinctions to be made about differing levels of impacts by types of businesses or other characteristics. The study is Diaz, Jose, "Economic Indicators of the Lake Street Corridor," NPCR1303, available at <http://www.cura.umn.edu/search/index.php>.

***With the current state of knowledge about construction impacts on business revenues, developing reliable point estimates of such transit construction impacts is infeasible to implement for a project-level analysis.*** To develop an estimate of construction impacts on a project-level, it is necessary to have a reliable estimate of current and future revenues for specific businesses, and then adjust that estimate by the change in business resulting from the construction controlling for other economic or social factors. Difficulties in estimating future revenues include: accurately predicting the overall state of the economy and how it affects businesses in the construction zone, predicting local changes in socio-economic characteristics, anticipating other local changes that would affect traffic or business patterns (such as the opening or closing of competing businesses outside the construction zone), anticipating other technology or behavioral changes that could affect businesses in each industry (such as the downsizing of businesses due to technological advances in the business function), and anticipating force majeure impacts (e.g. “acts of nature”) to businesses. As a result, predicting the amount of lost business revenue for any given business or market segment is highly uncertain and speculative. Business forecasts generally are not done for corridors for this reason, even under ordinary circumstances, let alone when business is disrupted by a construction project.

### 3.3.1 Consideration of the four studies in developing a prediction

Given these difficulties in developing a new specially tailored estimate of construction impacts, the studies identified during the literature search were reviewed to determine if any studies that have already been done would provide acceptable estimates. Table 1 summarizes estimates of construction impacts on business revenues drawn from studies discussed above.

**Table 1. Recent quantitative studies of construction sales revenue impacts on businesses**

Study	Context of construction	Magnitude of impact
<b>Buddemeyer, Young and Vander Giessen (2008)</b> <sup>13</sup>	Highway reconstruction near Dubois, Wyoming on the way to Jackson Hole and Yellowstone National Park	No impact: “holding steady with minor declines”
<b>De Solminihac and Harrison (1993)</b> <sup>14</sup>	Houston urban highway rehabilitation, including High Occupancy Vehicles (HOV) lanes and a transit center	General merchandise: 28% decrease Food stores: 37% decrease Automotive outlets: 32% decrease Home furnishings: 17% decrease
<b>Wildenthal and Buffington (1996)</b> <sup>15</sup>	Widening a state highway in Caldwell, TX (population	5% decrease

<sup>13</sup> Buddemeyer, Jenna, Rhonda Young and Steven Vander Giessen, “Highway Construction Related Business Impacts: Phase 3 Effort for the Town Of Dubois”. FHWA-WY-08/01F. March 2008: <http://rip.trb.org/browse/dproject.asp?n=11090>.

<sup>14</sup> De Solminihac, Hernan E. and Robert Harrison, “Analyzing Effects of Highway Rehabilitation on Businesses” Transportation Research Record 1395, Transportation Research Board of the National Academies, Washington, D.C., 1993, pp 137-143.

Study	Context of construction	Magnitude of impact
<b>Young, Wolffing, and Tomasini (2005)</b> <sup>16</sup>	Twelve highway construction projects in Wyoming in towns ranging in size from 807 to 53,011 people	8.3% decrease to 39.9% increase

Drawing a direct comparison from these studies to the Central Corridor is difficult. The construction projects analyzed were all highway projects, with measures taken to minimize disruption. Moreover, the highway projects varied significantly from the Central Corridor project in terms of construction complexity, duration, construction staging options, geographic constraints and construction seasons, all of which can contribute to the impact of construction on a given business' revenues.

The studies ranged in sophistication of analytical techniques. For instance, Buddemeyer, Young and Vander Giessen provided summary statistics of sales data, while De Solminihac and Harrison tried to control for other effects on revenues through advanced statistical methods. They estimated average impacts of construction on sales tax revenues by comparing to businesses in a similar location during the same time period. Even with the more sophisticated method, these average impacts do not provide good predictions of sales revenue impacts for any particular business, because businesses experienced both greater and lesser impacts, with only the average presented. The average is presented with a confidence interval that lets the reader interpret how sure the authors are. For instance, De Solminihac and Harrison used a confidence level of 90% in their analysis to conclude that there were no sales revenue impacts for building materials, clothing, restaurants, drug stores, liquor stores, and "miscellaneous". Consequently, the average sales revenue impact was sufficiently small that the study could not distinguish it from zero. This occurs when there are businesses in the category that have increased sales and others with decreased sales. For example, if sales at sandwich shops increase and sales at formal restaurants decrease, the overall category of restaurants could show on average no effect.

### 3.3.2 Selection of the De Solminihac and Harrison study as a basis for estimation

Considering the complexities of using information from the literature, the De Solminihac and Harrison (1993) study was selected as the best basis for estimation because the context was the most analogous to the Central Corridor Project, and it was the strongest study from a methodological perspective, given the lack of available studies on this subject matter. The project reviewed in the De Solminihac and Harrison study was in a major urban area with a variety of options for consumers to switch their business away from the construction corridor based on the environmental impacts caused by construction. It included some transit elements

---

<sup>15</sup> Wildenthal, MT and Buffington, "Estimated Construction Period Impact of Widening State Highway 21 in Caldwell, Texas" *Transportation Research Record* 1559, Transportation Research Board of the National Academies, Washington, D.C., 1996, pp 76-83.

<sup>16</sup> Young, Rhonda Kae, Chris Wolffing, and Michael Tomasini, "Highway Construction Impacts on Wyoming Businesses" *Transportation Research Record: Journal of the Transportation Research Board*, No. 1924, Transportation Research Board of the National Academies, Washington, D.C., 2005, pp. 94-102.

(bus transitway) as part of major work on a busy urban highway. The business mix on that corridor is weighted differently than the CCLRT corridor but includes the same categories of business.

The findings in the De Solminihac and Harrison (1993) study were used to estimate the upper bound of effects of the Project on sales revenues impacted businesses. The estimates provided by the other three studies in Table 1 were used to support a predicted lower bound of no effect since the business contexts for those construction projects would tend to lead to the economic stimulus effects of construction spending outweighing the disruptive effects on businesses of the construction itself.

The percentage impacts from De Solminihac and Harrison (1993) are applied to revenue data from a July 2010 business survey by the U-Plan community planning studio to develop the upper bound revenue loss by business type.<sup>17</sup> For the calculation of sales revenue impacts, the categories are consolidated to reflect the way business categories are aggregated in the previous studies. These categories reflect differences in potential sales revenue impacts by business category, but are not tied directly to the qualitative impacts that will be described. No attempt was made to adjust the impacts for seasonal factors because of the inherent uncertainty in the estimates and lack of information to attempt to adjust for seasonal patterns in revenue in conjunction with fluctuating levels of construction activity through the seasons.

Estimates of the numbers of small businesses affected are presented in this report. Small businesses are defined as those with annual revenues less than \$2 million. The percentage impacts from De Solminihac and Harrison (1993) are applied to annual revenues of small businesses in the corridor to generate an upper bound sales weighted average overall impact estimate for small businesses.

### ***3.4 Case studies of other light rail projects***

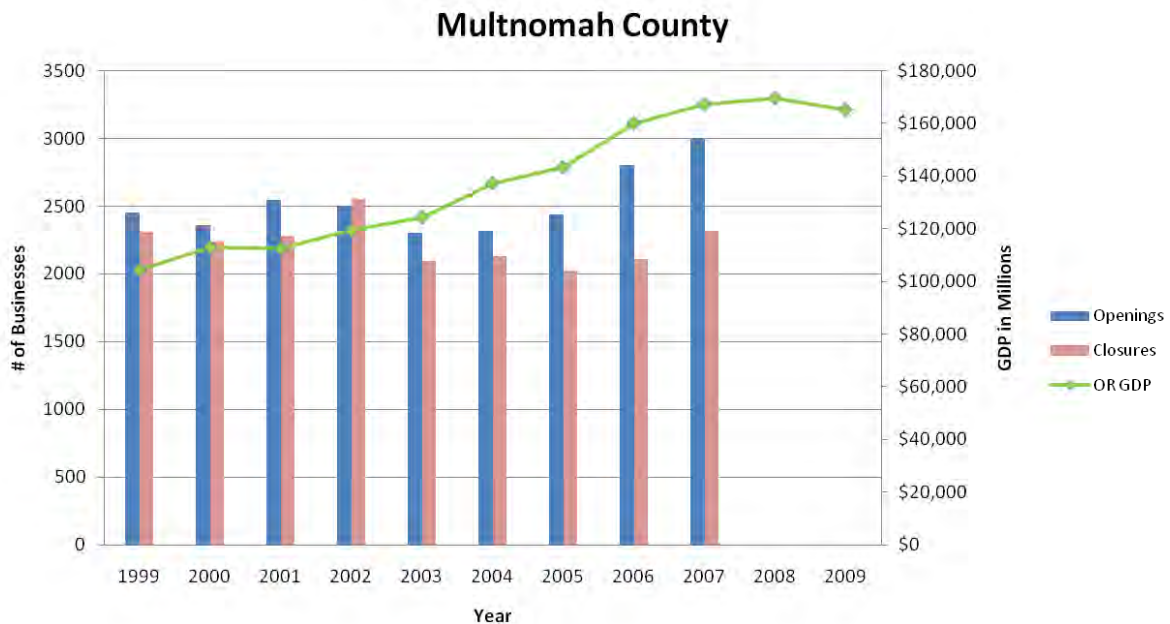
Four similar light rail transit projects were also researched, to explore whether any business impacts could be seen in the county level business turnover numbers, taken from the same Census dataset used above in the Economic Description section, Statistics of US Businesses. The difficulty with the data is that the business turnover trends appear to be much more influenced by the economy than by any specific disruption along a corridor. Therefore, in cases like Portland and San Jose, where little impact was identified in terms of business closure, there are upticks in business closures due to a bad economy at that time, while Seattle, which reported 44 business closures in 2006 due to the Central Link on MLK Jr. Way, was overall doing well as a whole and in 2006 had many more businesses opening than closing.

Portland's Interstate Avenue project was the closest match to the CCLRT project, as much of the project length runs at surface level along a commercial corridor. Figure 2, below, shows the business openings and closures in Multnomah County before, during, and after the construction of the Interstate MAX, which became the Yellow Line. Business closures exceeded openings in only one year during the construction period, and Portland's own data on business effects during the construction, retrieved from a survey of light rail projects carried out by Houston Tomorrow,

---

<sup>17</sup> U-PLAN Community Studio, "University Avenue Business List, July 2010" 712 University Avenue, Suite 105 Saint Paul, MN 55104 adam@u-plan.org

a non-profit organization, found only that only three businesses were forced to close or relocate during construction, not nearly enough to cause closures to exceed openings.<sup>18</sup>

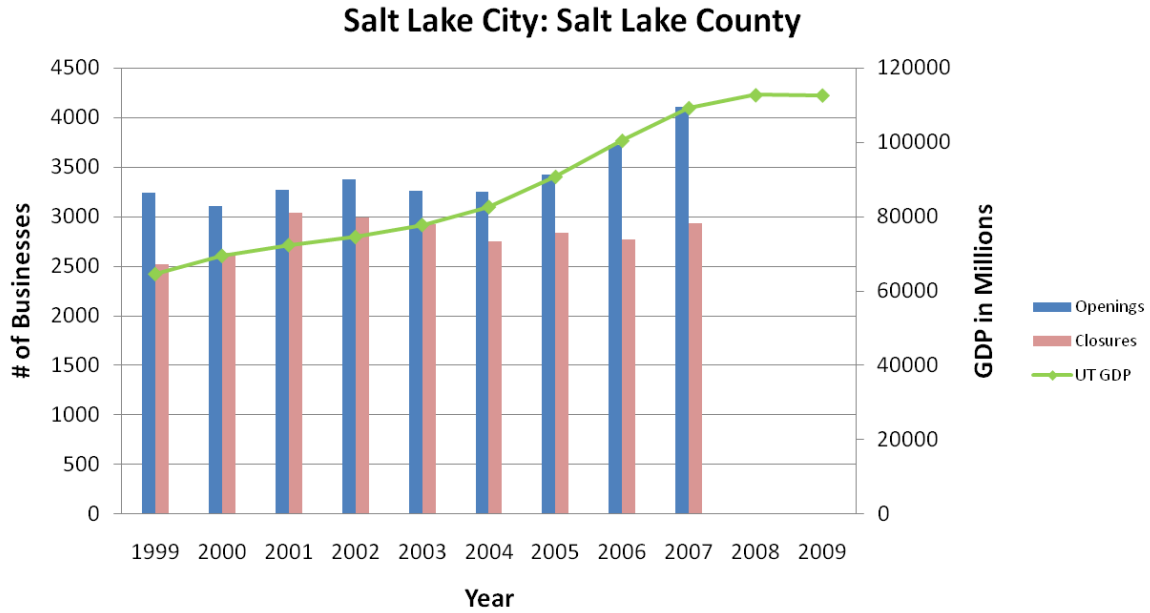


**Figure 2. Business openings and closures in Portland during light rail construction**

The Houston Tomorrow survey also looked at impacts in Salt Lake City during the construction of the TRAX University and Medical Center extensions, as well as the initial TRAX construction, all of which took place in the downtown area and were surface level. During the initial construction, the combination of highway reconstruction and light rail construction downtown was “problematic for businesses,” according to Allison McFarlane of the City of Salt Lake.<sup>19</sup> The Houston Tomorrow study identified two businesses that had closed as well as one that had closed for the construction and then reopened. During the construction of the extensions, businesses reported much less impact, and the TRAX has been popular enough that four more lines are now being constructed as part of the Frontlines 2015 project. Figure 3 shows the business turnover in Salt Lake County during the construction periods. It is important to keep in mind that Salt Lake City hosted the Olympics in 2002, which might explain why it alone of the four cities researched had business openings exceed business closures in 2002, despite construction.

<sup>18</sup> “The Impact of Light Rail on Local Businesses,” published by Houston Tomorrow, May 2006. Available at [http://www.gulfoastinstitute.org/university/LightRail\\_BusinessImpact.pdf](http://www.gulfoastinstitute.org/university/LightRail_BusinessImpact.pdf).

<sup>19</sup> “The Impact of Light Rail on Local Businesses,” published by Houston Tomorrow, May 2006, page 6

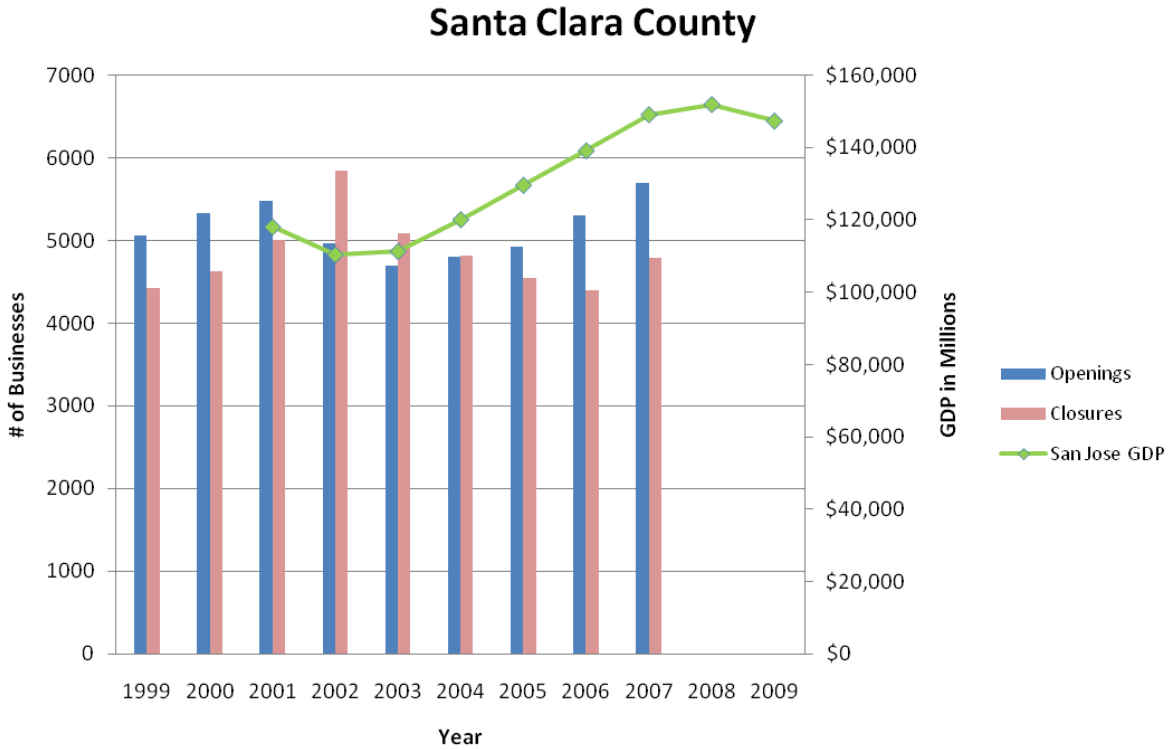


**Figure 3. Business openings and closures in Salt Lake City during light rail construction**

San Jose built its Tasman East extension along Tasman Drive, Great Mall Parkway, and Capitol Avenue between 1999 and 2004. The project included an elevated section over I-880 and then a surface section running along an arterial street. Most of the businesses along the arterial are office buildings set back from the road with surrounding parking lots, and relatively little retail, so the impacts were mainly traffic related.<sup>20</sup> Figure 4 shows the business turnover in Santa Clara County during the construction. Unlike the other business turnover graphs, which use the state Gross Domestic Product (GDP) to show overall economic trends, this graph uses the San Jose Metropolitan Statistical Area GDP, as San Jose is too small in relation to the rest of California for the state GDP to be relevant. The downturn in the early 2000s reflects the “dot com” bust, which affected the major industry of San Jose, more than the minimal impacts of construction.

<sup>20</sup> Collins, Reuben. “Light Rail Transit Construction Impact Mitigation Strategies: Case Studies and Recommendations for the Central Corridor.” Master’s Thesis at the Hubert H. Humphrey Institute for Public Affairs, University of Minnesota.



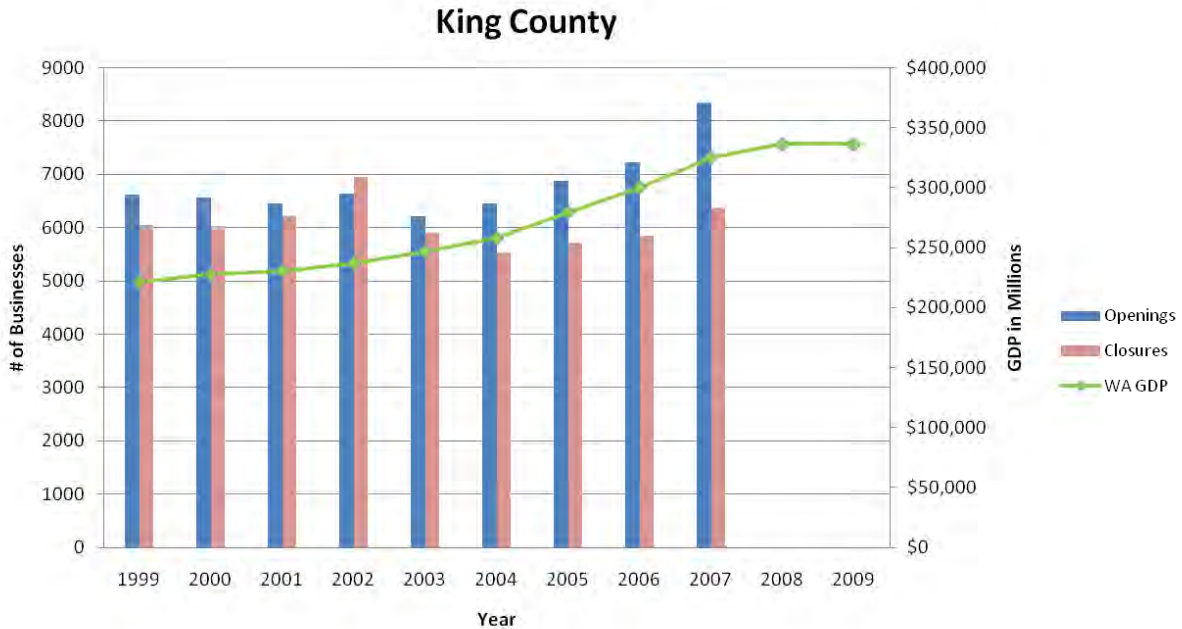


**Figure 4. Business openings and closures in San Jose during light rail construction**

The last city explored was Seattle during the construction of their Central Link from 2002 to 2009. While much of the alignment is either underground or elevated, it does run on the surface along Martin Luther King Jr. Way, a major arterial in a diverse neighborhood. Similarly to University Avenue, the project included a reconstruction of the roadway from building face to building face. A Seattle Times news article reported that as of February 2006, 44 of the 274 businesses along Martin Luther King Jr. Way were no longer operating.<sup>21</sup> Figure 5 reports business turnover figures for King County, which does not reflect these losses as the King County economy as a whole was benefiting from a strong economy in 2006.

<sup>21</sup> Collins, pg. 8





**Figure 5. Business openings and closures in Seattle during light rail construction**

### 3.5 Data

In order to identify small businesses along the corridor, the dataset assembled by U-Plan (a community planning studio located on the corridor) was utilized (“U-Plan Dataset”). The U-Plan Dataset initially consisted of 1,410 entities that were located on University Avenue and Washington Avenue in July 2010. U-Plan validated the data against lists from the University Avenue Business Association, Asian Economic Development Association, and the University of Minnesota capstone project. The validation effort resulted in 1,272 businesses in December of 2010, compiled with annual revenue as well as a GIS data point based on the business address. The U-Plan Dataset does not include downtown St. Paul and Minneapolis and is not limited to businesses adjacent to the alignment. There were 947 businesses with revenue in the dataset along the construction alignment.

### 3.6 Description of businesses

The Central Corridor has a diverse economy with nearly all of the North American Industry Classification System (NAICS) sectors represented along it.<sup>22</sup> 82% of the businesses along the corridor are small businesses with revenues under \$2 million. Table 2 shows a breakdown of the businesses in the corridor by NAICS sector.<sup>23</sup>

<sup>22</sup> The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. See <http://www.census.gov/eos/www/naics/> for additional information on how the codes classify businesses.

<sup>23</sup> The NAICS classifications were taken from the U-Plan dataset, with the exception of three businesses. Episcopal Homes and Second Debut 2 were added to the U-Plan Dataset between August 2010 and December 2010 and did

**Table 2. Sector composition of the Central Corridor**

Business Type	Percent of the Corridor	Number of Businesses	Percent Small Business	Number of Small Businesses
Animal Production	0%	1	100%	1
Construction	2%	23	78%	18
Manufacturing	2%	21	62%	13
Wholesale	4%	37	38%	14
Retail	17%	161	75%	121
Transportation and Warehousing	1%	8	100%	8
Information and Cultural Industries	3%	28	75%	21
Finance and Insurance	5%	51	76%	39
Real Estate, Rental, and Leasing	4%	37	81%	30
Professional Scientific and Technical Services	14%	130	85%	111
Company Management	0%	1	0%	0
Administrative and Support Services	6%	55	82%	45
Education	1%	8	88%	7
Health Care and Social Assistance	20%	185	85%	158
Arts, Entertainment and Recreation	1%	13	92%	12
Accommodation and Food Services	10%	99	97%	96
Other Services	9%	89	96%	85
<b>Total</b>	<b>100.00%</b>	<b>947</b>	<b>82%</b>	<b>779</b>

Table 3 shows the breakdown of businesses identified in the U-Plan dataset by the categories used in De Solminihaac and Harrison (1993), including the percentage with revenues less than \$2 million per year.

**Table 3. Categorization of Central Corridor businesses by the De Solminihaac and Harrison categories**

Business Type	Percent Revenue Loss from the Literature	Number of Businesses	Percent with Annual Revenue Less than \$2 million	Number of Businesses with Revenue Less than \$2 million
Food Stores	37%	25	76%	19
General Merchandise	28%	6	33%	2
Furniture Stores	17%	3	100%	3
Automotive Retail	32%	53	81%	43

not include a NAICS code in their entry. Macy's in Downtown St. Paul was added by the project team from information provided by the Metropolitan Council. Episcopal Homes was coded as Health Care and Social Services, Second Debut 2 was coded as Retail-Miscellaneous, and Macy's was coded as Retail-General Merchandise.

Business Type	Percent Revenue Loss from the Literature	Number of Businesses	Percent with Annual Revenue Less than \$2 million	Number of Businesses with Revenue Less than \$2 million
Building Materials	0%	3	67%	2
Liquor Stores	0%	5	60%	3
Clothing	0%	31	94%	29
Restaurants	0%	93	99%	92
Drug Store	0%	15	67%	10
Miscellaneous Businesses <sup>24</sup>	0%	713	81%	576
<b>TOTAL BUSINESSES</b>		947	82%	779

### **3.7 Estimation of business revenue loss using De Solminihac and Harrison findings**

Using the findings of the De Solminihac and Harrison (1993) study to develop the upper bound revenue loss by business type required organization of the U-Plan data into similar categories to that of the study.<sup>25</sup> De Solminihac and Harrison found revenue decreases in four types of businesses: general merchandise, food stores, automotive outlets, and home furnishing. No impacts were found in the remaining categories.

To create a category similar to “food stores”, all businesses assigned a NAICS code beginning with “445” were placed in a category with the exception of the five business coded 4453 (“Beer, Wine, and Liquor Stores”) because the De Solminihac and Harrison (1993) study specifically separated out liquor stores. Similarly, all general merchandise stores begin with 452, while home furnishings stores begin with 442. There is not a similarly broad category for automotive outlets, as they consist of a number of different types of economic activity. Therefore, an “automotive outlet” category was created from businesses with NAICS codes of new and used car and truck dealers (4411), tire and auto parts stores (4413), auto repair stores (8111), gas stations (447), and automotive rental stores (5321).

The De Solminihac and Harrison study also included the categories of building materials, liquor stores, clothing, restaurants, drug stores, and miscellaneous retail as noted in Table 3. As the study found no business revenue impacts in any of these categories, businesses in these categories were treated as a single group for the purposes of this analysis. Within the CCLRT corridor, there are three building materials stores (4441), five liquor stores (4453), 31 clothing and accessory stores (4481), 93 food service and drinking places (722), and 15 health and

<sup>24</sup> Includes all businesses in the sector categories listed in Table 2 except for Retail and Accommodations and Food Services. Added to that total are 20 miscellaneous retail shops, such as book or music stores, and the 6 hotels from the Accommodations category.

<sup>25</sup> U-PLAN Community Studio, “University Avenue Business List, July 2010” 712 University Avenue, Suite 105 Saint Paul, MN 55104 adam@u-plan.org

personal care stores (446). The remaining 713 businesses were classed under miscellaneous retail.

## **4.0 Results**

### ***4.1 Qualitative assessment of potential construction-related impacts***

This analysis addresses seven different impacts that the construction of light rail can have on local business revenues. Construction can impede access to businesses by foot and by vehicle; it can temporarily consume space for parking; it can lead to temporary, and potentially unexpected, utility shutoffs; increased truck traffic and certain construction activities such as sheet piling can increase ambient noise levels and lead to unpleasant vibrations; road demolition for the laying of tracks can increase the amounts of dust and dirt in the air; and the construction vehicles and temporary fencing of the work site can impede business visibility.

#### **4.1.1 Impacts to pedestrian access**

Impediments to pedestrian access will occur mainly at the beginning of the construction period within each phase, when one side of the road is demolished to build new sidewalks and roadway. During this period, pedestrians will need to access the building from side streets or use temporary sidewalks created by the contractor.

#### **4.1.2 Impacts to vehicle access**

Restrictions to vehicle access will also occur mainly at the beginning of the construction period within each phase, when one side of the road is demolished to build new sidewalks and roadway. Construction can impact vehicular access to businesses in two ways: it can increase congestion on the roadway and block access to entryways. Increased congestion on the roadway can lead to potential customers avoiding the location, effectively reducing traffic to the business, and congestion can also serve to block access, as it becomes difficult to turn in or out of the building's parking lot. Access can also be blocked if roadways or intersections are closed for a length of time. These effects can be more severe if the customers are uninformed of the situation and are unexpectedly unable to access a business from the direction they are approaching, potentially causing them to turn around and take their business elsewhere.

In addition to the impact to customers, constraints on vehicle access also hinder delivery of goods to the stores and restaurants, which can be further hampered by roadway congestion. Impacts to vehicle access may cause businesses to reduce or relocate services during the period of roadway reconstruction. Businesses that rely on pick-ups and deliveries at specific times may be affected by traffic conditions along the roadway. Most office buildings along the CCLRT corridor have parking lots accessible by side streets and can alert their employees and clients to the need to change their route to work for the construction period.

#### **4.1.3 Impacts on parking**

Parking along the corridor alignment will be lost during construction due to roadway reconstruction, and side street parking may be impacted on days when intersections are closed for construction activities. The effects of this temporary loss of parking may impact smaller establishments without access to off-street parking more than businesses that have off-street parking lots.

#### **4.1.4 Impacts due to utility shutoffs**

Business impacts due to utility shutoffs usually have a fairly short duration and can be scheduled around business hours. Utilities located along the corridor include gas, water, electricity, and internet service, and all will need to be relocated during at least one phase of the project. There are approximately four hotels and bed and breakfasts adjacent to the alignment, all of which potentially need access to at least water and electricity 24 hours a day. Additionally, restaurants and food stores would need advanced warning of shutoffs to ensure adequate food storage and safety measures are put in place, and the loss of power or water could impact personal care services and manufacturers. Professional services businesses tend to keep regular business hours, so that utility shutoffs could be adjusted to minimize impacts.

#### **4.1.5 Impacts due to noise and vibrations**

Noise and vibrations from construction and truck traffic can create an unpleasant shopping environment during the duration of construction and could impact business revenues. These impacts likely will be more significant during the beginning of the construction phase, when dirt and debris from demolition are removed and replaced with new materials. Because University Avenue is a major truck route within St. Paul, the additional construction trucks will not have as great an impact as they would traveling on a residential street. Additionally, the noise from the construction site and from any traffic congestion resulting from the site can lead retail shoppers to go elsewhere until the construction is finished.

#### **4.1.6 Impacts due to dust and dirt**

Reconstructing the road and sidewalks will generate a lot of dirt and dust, not all of which will stay inside the construction site. The need to clean this dust may negatively impact businesses, particularly car dealerships whose goods are stored out in the open. The dirt and dust may also necessitate more window cleaning and mopping or sweeping as it is tracked in by customers, and will impact possibilities for outdoor dining during the summer months. Because most dust is generated while construction work is actually occurring, it should be confined to daylight hours unless it is disturbed by the wind at night.

#### **4.1.7 Visual impacts**

Construction of temporary fencing and equipment movement and storage may obstruct business signage and may lead customers to believe that businesses have closed during the construction period, leading them to look elsewhere for their business. This problem would largely affect non-appointment based businesses, such as retail shops and many restaurants, as those businesses with appointments can assure their customers that they are operating. It would also reduce the

likelihood of impulse decisions to stop in at a particular store or personal care service place, such as a nail salon.

## **4.2 Estimates of impacts to business revenue**

No studies have directly tied the impacts qualitatively described above to quantitative estimates of revenue losses. As described in the methodology section, the potential for sales revenue losses was calculated using information from the literature on actual losses during construction projects. Baseline revenue figures are from the U-Plan Dataset. There have been some new businesses and some closures since that measurement, and refined data are currently not available.

In the absence of substantive data available to assess loss of revenue directly applicable to construction-related environmental impacts on a light rail transit project in an urban setting, this analysis utilized previously published studies as the framework for defining the potential loss of revenue for the corridor with an understanding that the assessment is an estimation at best. In addition to presenting the estimated average percent losses by category and the number of businesses in each category, an average loss range was estimated for the entire corridor. This estimate is in keeping with the studies reviewed in the literature, which presented overall losses, and where possible provided estimates or descriptions of the variation across categories or geography.

For small businesses under \$2 million in annual sales revenues, the upper bound average percentage revenue loss is estimated to be 2.85%. This estimate is derived from averaging potential losses across all business types. All small businesses in the corridor were assigned to the impact categories as discussed in the Methodology section.<sup>26</sup> The aggregate business revenue loss for all businesses in the U Plan database was estimated by multiplying the combined revenue of all businesses within the four categories by the percent loss found in each category by the De Solminihac and Harrison study.<sup>27</sup> The losses were totaled across the categories to get the total revenue lost by small businesses on the corridor, \$13,935,430, and then divided by the total small business revenue, \$487,805,000, yielding the upper bound average percentage loss of 2.85%.

As noted in the Methodology section, the lower bound of average impacts is predicted to be no average loss, yielding a range of potential average losses to small businesses of 0 to 2.85% of revenue. Changes in sales revenues to individual businesses could fall above or below this

---

<sup>26</sup> The effects on small businesses were summarized in this fashion because of concerns expressed specifically about small businesses, and the fact that most businesses in the corridor are small businesses. However, all businesses in the corridor were identified by these same impact categories. The best information available on impacts is from the De Solminihac and Harrison study, so the impact estimates for larger businesses would be the same percentage impacts as for small businesses.

<sup>27</sup> For example, the combined revenue of the 43 small automotive businesses was \$27,051,000. The sums for each category were then multiplied by the percentage impacts from De Solminihac and Harrison (1993) to calculate the predicted revenue loss. To continue the example, automotive outlets were found to lose 32% of revenue in the De Solminihac and Harrison study, so \$27,051,000 was multiplied by 0.32 to get \$8,656,320, the estimated revenue loss for automotive outlets.

range. Some businesses that sell to the construction workers and companies will likely benefit with higher revenues during construction. Some businesses that experience disruption but do not attract business from the construction spending may see their revenues decline. For instance, limited service restaurants that can meet a construction worker's needs during their lunch break may see their revenues increase, while a more formal restaurant that targets the dinner crowd may lose business to similar restaurants unaffected by construction.

## 5.0 Conclusion

While this technical analysis examined impacts on business revenues along the Central Corridor resulting from the construction of the Central Corridor Light Rail Project, the analysis presented in this report is not a conclusive statement on the potential loss of revenue for the businesses along the CCLRT alignment. As described in the Methodology section, quantifying the amount of lost business revenue in the absence of future global and local economic factors and historical context has great uncertainty for project-level analysis. It is not possible to predict the specific revenues (losses or gains) that any individual business may experience during the construction period. However, given the limitation of available data, the analysis describes a range of potential impacts both in terms of qualitative assessments of potential impacts (through an EIS review of analogous transit projects in metro areas) and estimates of sales revenue impacts of construction (by developing a corresponding classification system utilized by previously published studies approximately analogous to the CCLRT project).

Over the course of the project, businesses adjacent to the alignment are likely to experience potential impacts on revenues from construction, including issues with pedestrian access, vehicle access, parking, utility shut-offs, noise and vibrations, dust and dirt, and visual impacts. These effects will be phased over the course of the project, with construction extending from March 2011 to November 2012. During that time, while any individual business has the potential to experience business revenue losses during the construction period, the studies indicate that businesses that include general merchandise, food stores, automotive outlets, and home furnishings stores are more likely to experience greater sales revenue losses due to construction, as well as other economic factors. This estimate of impacts is subject to significant uncertainty, including:

- Limited published research on the sales revenue impacts of construction on businesses caused reliance on a single study for the upper bound, which addresses impacts of a primarily highway project going through neighborhoods with a different mix of businesses than the Central Corridor.
- The studies relied upon for estimation of sales revenue impacts from construction had limited ability to separate construction impacts from other factors that affected business revenues.
- The statistical analysis in that study concluded that there were no sales revenue impacts for building materials, clothing, restaurants, drug stores, liquor stores, and "miscellaneous businesses". Consequently, it is likely that there were average sales revenue impacts that were sufficiently small that the study could not detect them, and some businesses in these categories gained revenue while other businesses lost revenue.

Given this uncertainty, it is likely that there will be businesses with sales revenue losses other than those identified as being impacted. In some cases, the losses may be significant, since statistical methods provide average results for a group, rather than exact predictions for individual businesses. At the same time, there are likely to be businesses that experience increased revenues as a result of construction spending during the project. Based on the level of aggregation and uncertainty associated with the studies on which this analysis relies, there is no way to predict what any one business will experience during the construction project. This analysis provides estimates of average effects for broad categories of businesses, and applies these estimates to the small businesses in the corridor to yield a range of average impacts on the small businesses of no impact to 2.85% loss of revenue during the construction period.



## APPENDIX B

Having trouble viewing this email? [Click here](#)

## Central Corridor Light Rail Transit

# Downtown St. Paul Construction Update



Updated October 15, 2010

Construction Details for the week of October 18th - October 24th

**For all construction questions, call the Construction Hotline: (651) 602-1404**

### Advanced Utility Relocation Overview

- Utility relocation and road construction is occurring on Fourth Street between Minnesota and Broadway streets in preparation for the Central Corridor Light Rail. This work includes relocating utilities, permanently removing parking meters and replacing sidewalks and light poles. When this work is complete in November 2010, the road will be restored to its final layout with one lane of traffic westbound between Wacouta and Minnesota streets. (Scheduled completion subject to change due to weather and unforeseen circumstances.)
- Additional work in 2011 and 2012 will involve laying the tracks, building the stations and installing the electrical and communication systems. More detail will be provided when the schedule is available.

**ALERT: Construction crews have started sidewalk reconstruction along 4<sup>th</sup> Street between Minnesota and Broadway; watch for marked pedestrian detours. The information included in this update and map reflects work at the beginning of the week. Change may occur midweek; check [www.centralcorridor.org](http://www.centralcorridor.org) construction alerts for any changes that occur midweek.**

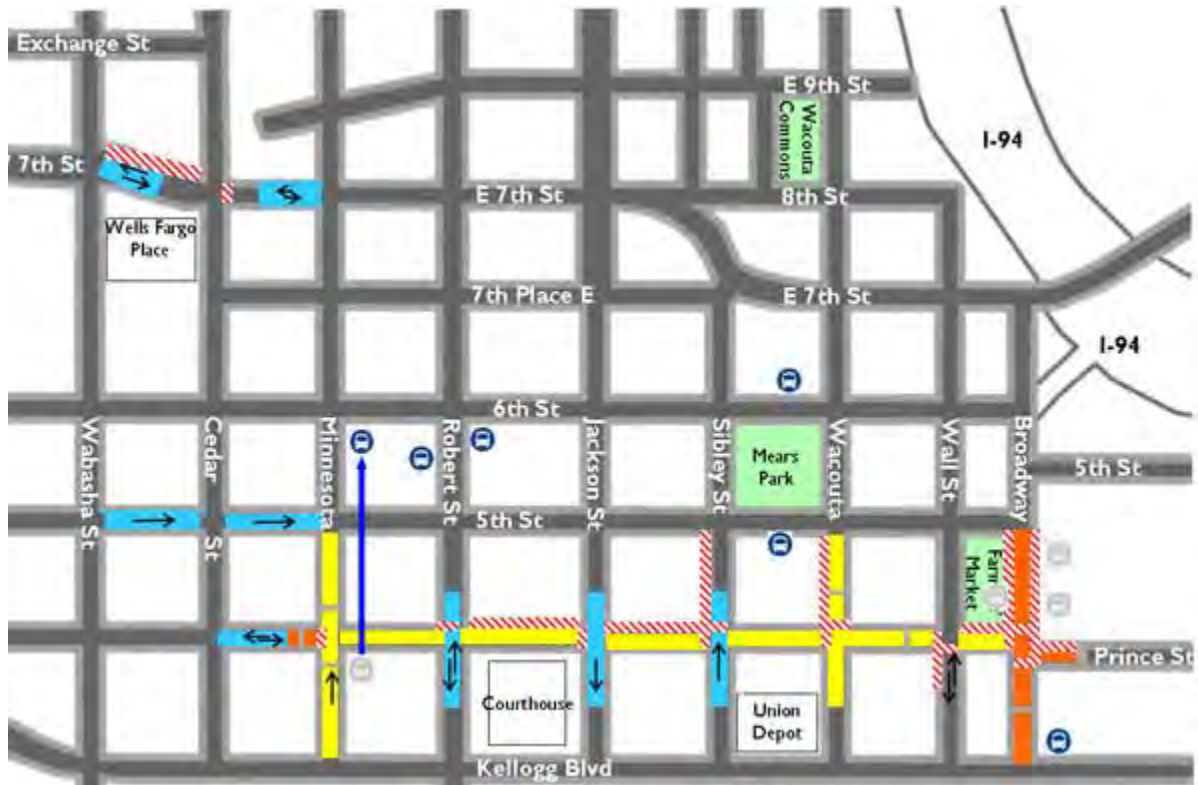









New sidewalks are being installed on Fourth Street.

**Traffic and pedestrian modifications until further notice**

Businesses are open and accessible via the skyway system and sidewalks.  
Street signs and the information below provide alternate route information.

**Downtown St. Paul:  
Utility Relocation Construction**  
For the Week of October 18th-October 24th



-  Midblock Crossing
-  Road Closed; no vehicle access
-  Sidewalk or crosswalk closed
-  Road closed to thru traffic, access maintained for businesses & parking ramp/lot
-  Some lanes impacted, still open to thru traffic (arrow added to indicate one-way traffic where necessary)
- Old bus stop location   New/resuming bus stop location

[A printable version of this map](#) is also available.

### Traffic Detail

- Prince St. closed approximately 100 feet east of Broadway.
- Fourth between Broadway to just west of Minnesota closed to through traffic; local access only.
- Broadway closed to through traffic between 5th Street and Kellogg.
- Wacouta closed to through traffic at intersection with Fourth.
- Sibley open to one lane northbound.
- Jackson open to one lane southbound.
- Robert open to one lane in each direction.

- Minnesota closed between Fifth and Kellogg; local access only. **-NEW**
- Seventh between Minnesota and Cedar open to one lane of traffic in each direction.
- Seventh between Cedar and Wabasha open to two lanes eastbound and one lane westbound.
- Fifth between Minnesota and Wabasha open to two lanes of traffic eastbound.

### Sidewalk Detail

- South and east crosswalks at Prince and Broadway closed. Alternate routes are crosswalks at Kellogg and Broadway. Midblock crossing available between Prince and Kellogg. West and north crosswalks at Fourth and Broadway closed. Alternate routes are crosswalks at Wall and Fourth.
- West and south crosswalks at Fourth and Wall closed. Use east and north crosswalks.
- North and west crosswalks at Fourth and Wacouta closed. Use east and south crosswalks. **-NEW**
- West and north crosswalks at Fourth and Sibley closed. Use east and south crosswalks.
- North crosswalk at Fourth and Robert closed. Use east, west and south crosswalks.
- West crosswalk at Fourth and Jackson closed. Use east, north and south crosswalks.
- West crosswalk at Fourth and Minnesota closed. Use east, north and south crosswalks.
- East crosswalk at Seventh and Cedar closed. Use west, south and north sides crosswalks. **-NEW**
- Sidewalk closed on north side of Seventh between Wabasha and Cedar. Alternate route is sidewalk on the south side of Seventh. **-NEW**
- Sidewalk closed on north side of Prince approximately 100 feet east of Broadway. Alternate route is temporary midblock crossing to sidewalk on south side of Prince.
- Sidewalks closed on west and east sides of Broadway between Fifth and Prince. Alternate routes are sidewalks on Wall.
- Sidewalk closed on the north side of Fourth between Broadway and Wall. Alternate route is sidewalk on south side of Fourth.
- Sidewalk closed on west side of Wall at Fourth extending 150 feet south. Alternate route is sidewalk on east side of Wall.
- Sidewalk closed on west side of Sibley between Fourth and Fifth. Alternate route is east sidewalk.
- Sidewalk closed on west side of Wacouta between Fourth and Fifth. Alternate route is east sidewalk.
- Sidewalk closed on north side of Fourth between Jackson and Sibley. Alternate route is south sidewalk.
- Sidewalk closed on north side of Fourth between Jackson and Robert. Alternate route is side walk on south side of Fourth.

### Bus stop relocation detail

- Routes 21, 53, 63, 70, 294, 350, 351, 353, 361 and 364 in both directions. Bus stops on Broadway will be closed; passengers are directed to board east bound/south bound buses on Fifth Str. between Sibley and Wacouta and west bound/north bound buses at Kellogg and Broadway or at Sixth Str. and Sibley.
- Routes 68 and 71 southbound: Bus stop on the west side of Robert between Sixth and Fifth is open
- Routes 68 and 71 northbound: Bus stop on the northeast corner of Robert and Fourth is closed. Passengers should use the regular bus stop on the southeast corner of Robert and Sixth.



**Got questions? Contact the project office, not the work crews!**

Please don't go around barriers into work zones. Construction hours will generally be from 7 a.m. to 5 p.m. weekdays, but crews will be allowed to work from 7 a.m. to 10 p.m. seven days a week if needed. Schedules are subject to changes due to weather and other unforeseen circumstances! Check [www.centralcorridor.org](http://www.centralcorridor.org) frequently for updates.

If you have questions or concerns, please contact the Central Corridor LRT Project office at [centralcorridor@metc.state.mn.us](mailto:centralcorridor@metc.state.mn.us) or call 651-602-1645.

**For all construction questions, call the Construction Hotline: 651-602-1404**

**For general project questions and comments, contact:**

Community outreach coordinator Dana Happel  
Office: 651-602-1954 Cell: 612-968-8382  
Email: [dana.happel@metc.state.mn.us](mailto:dana.happel@metc.state.mn.us)

**For utility service questions, contact:****District Energy -**

Nina Axelson  
Phone: 651-925-8147  
Email: [nina.axelson@ever-greenenergy.com](mailto:nina.axelson@ever-greenenergy.com)

**Xcel Energy -**

Shannon M. Forss  
Phone: 612-720-3663  
Email: [shannon.m.forss@xcelenergy.com](mailto:shannon.m.forss@xcelenergy.com)

**St. Paul Public Works -**

Shannon Tyree  
Phone: 651-266-6063  
Email: [shannon.tyree@ci.stpaul.mn.us](mailto:shannon.tyree@ci.stpaul.mn.us)

**St. Paul Regional Water Services -**

Jerry Strauss  
Phone: 651-266-6268  
After hours dispatch: 651-266-6874  
Email: [jerry.strauss@ci.stpaul.mn.us](mailto:jerry.strauss@ci.stpaul.mn.us)

Follow us on 

**About the project:** The Central Corridor Light Rail Transit Project will link downtown St. Paul and downtown Minneapolis along Washington and University avenues via the state Capitol and the University of Minnesota. Construction began in late summer 2010 on the planned 11-mile Central Corridor line, and service will begin in 2014. The line will connect with the Hiawatha LRT line at the Metrodome station in Minneapolis and the Northstar commuter rail line at the Target Field Station. The Metropolitan Council will be the grantee of federal funds. The regional government agency is charged with building the line in partnership with the Minnesota Department of Transportation. The Central Corridor Management Committee, which includes commissioners from Ramsey and Hennepin counties, the mayors of St. Paul and Minneapolis and the University of Minnesota, provides advice and oversight. Funding is provided by the Federal Transit Administration, Counties Transit Improvement Board, state of Minnesota, regional railroad authorities for Ramsey and Hennepin counties, city of St. Paul, Metropolitan Council and the Central Corridor Funders Collaborative. The Central Corridor LRT Project Website is [www.centralcorridor.org](http://www.centralcorridor.org).



[Forward email](#)

✉ **SafeUnsubscribe®**

This email was sent to robin.caufman@metc.state.mn.us by [centralcorridor@metc.state.mn.us](mailto:centralcorridor@metc.state.mn.us).  
[Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

Email Marketing by



Central Corridor Project Office | Griggs Midway Building | 540 Fairview Ave. N. | Suite 200 | Saint Paul | MN | 55104

## Central Corridor Light Rail Transit

# News Advisory

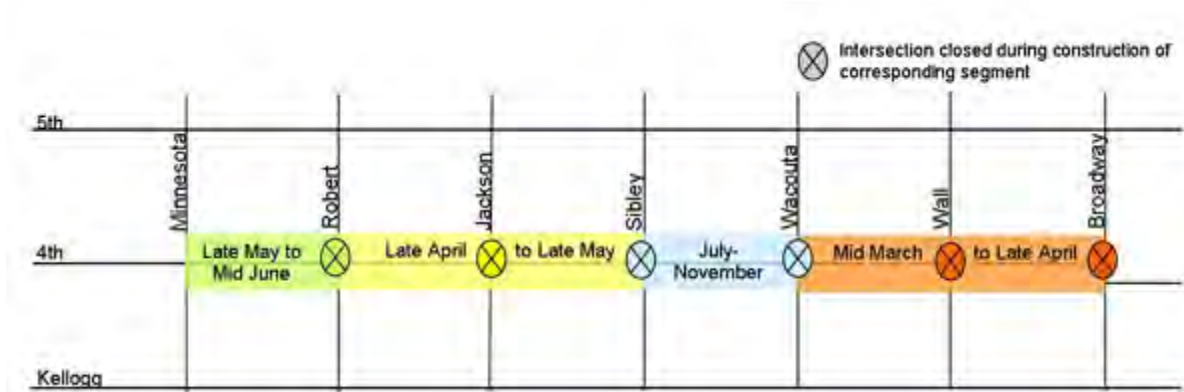


Contact: Laura Baenen  
Communications Manager  
Central Corridor LRT Project  
Metropolitan Council  
651-602-1797 office  
612-269-4365 cell  
[Laura.baenen@metc.state.mn.us](mailto:Laura.baenen@metc.state.mn.us)

### LRT work to begin March 21 in segments on 4th Street

**Feb. 7, 2011 – ST. PAUL** – Construction of the Central Corridor Light Rail Transit line will begin March 21 in segments on Fourth Street in St. Paul. Below are details by segment:

#### First stage: road and rail guideway constructed in segments



**Mid-March to late April:** From Wacouta to Broadway streets under construction. Wall and Broadway intersections will be closed during this time

**Late April to late May:** From Robert to Sibley streets under construction. Jackson Street intersection will be closed during this time.

**Late May to mid-June:** From Minnesota to Robert streets under construction. Robert Street intersection will be closed during this time.



**July to November:** From Sibley to Wacouta streets under construction. Sibley and Wacouta intersections will be closed during this time.

Traffic control measures, including barricades and signage installed.

Removal of temporary asphalt and excavation for the track guideway and stations.

Asphalt paving of street of new roadway between Wacouta and Broadway.

Foundation for the guideway and station is poured.

Construction between Wacouta and Sibley, which includes guideway, station and track work; begins after track work completed on rest of the segments. Timing coordinated with Union Depot work to minimize impacts.

Lanes closed to through traffic.

Access maintained to parking facilities or alternative parking provided.

Newly constructed sidewalks remain open.

Cross street intersections closed, as marked, to through traffic.

## Second stage: construct embedded track



**Mid-May to early June:** Embedded track construction between Wacouta and Broadway streets. Intermittent lane closures at Wall and Broadway intersections.

**Early June to early July:** Embedded track construction between Robert and Sibley streets. Intermittent lane closures at Jackson Street intersection.

**July:** Embedded track construction between Minnesota and Robert streets. Intermittent lane closures at Robert Street intersection.

**July to November:** Embedded track construction between Sibley and Wacouta streets. Intermittent lane closures at Sibley and Wacouta intersections.

Lanes open to through traffic, intermittent closures when pouring concrete.

Access maintained to parking facilities or alternative parking provided.

Newly constructed sidewalks remain open.

Intermittent cross street intersection closures when laying track through the intersection, notice will be provided.

***Schedules subject to changes due to weather and other unforeseen circumstances!  
Weekly online construction updates at [www.centralcorridor.org](http://www.centralcorridor.org) provide schedule updates and changes.***

### **About the Central Corridor LRT Project**

The Central Corridor Light Rail Transit Project will link downtown St. Paul and downtown Minneapolis along Washington and University avenues via the state Capitol and University of Minnesota. Construction began in 2010 on the planned 11-mile Central Corridor line, and service will begin in 2014. The line will connect with the Hiawatha LRT line at the Metrodome station in Minneapolis and the Northstar commuter rail line at the new Target Field Station. The Metropolitan Council would be the grantee of federal funds. The regional government agency is charged with building the line in partnership with the Minnesota Department of Transportation. The Central Corridor Management Committee, which includes the mayors of St. Paul and Minneapolis, commissioners from Ramsey and Hennepin counties and the University of Minnesota, provides advice and oversight. Funding is provided by the Federal Transit Administration, Counties Transit Improvement Board, state of Minnesota, Ramsey and Hennepin counties' regional railroad authorities, city of St. Paul, Metropolitan Council and the Central Corridor Funders Collaborative. For details, visit [www.centralcorridor.org](http://www.centralcorridor.org)

## APPENDIX C

*Improving  
mobility*

*Easing  
congestion*

*Strengthening  
our communities*

## Central Corridor LRT 2011 Construction Schedule

### University Avenue: Emerald to Hamline

#### Finished Product

- LRT tracks and stations
- New sidewalks
- New curbs and gutter
- New street surface
- New landscaping



#### Work in Progress

- One through lane of traffic each way on University Avenue
- Alternate vehicle access to buildings
- Temporary sidewalks, ramps over construction
- Pavement restored within 150 days, sidewalks within 15 days

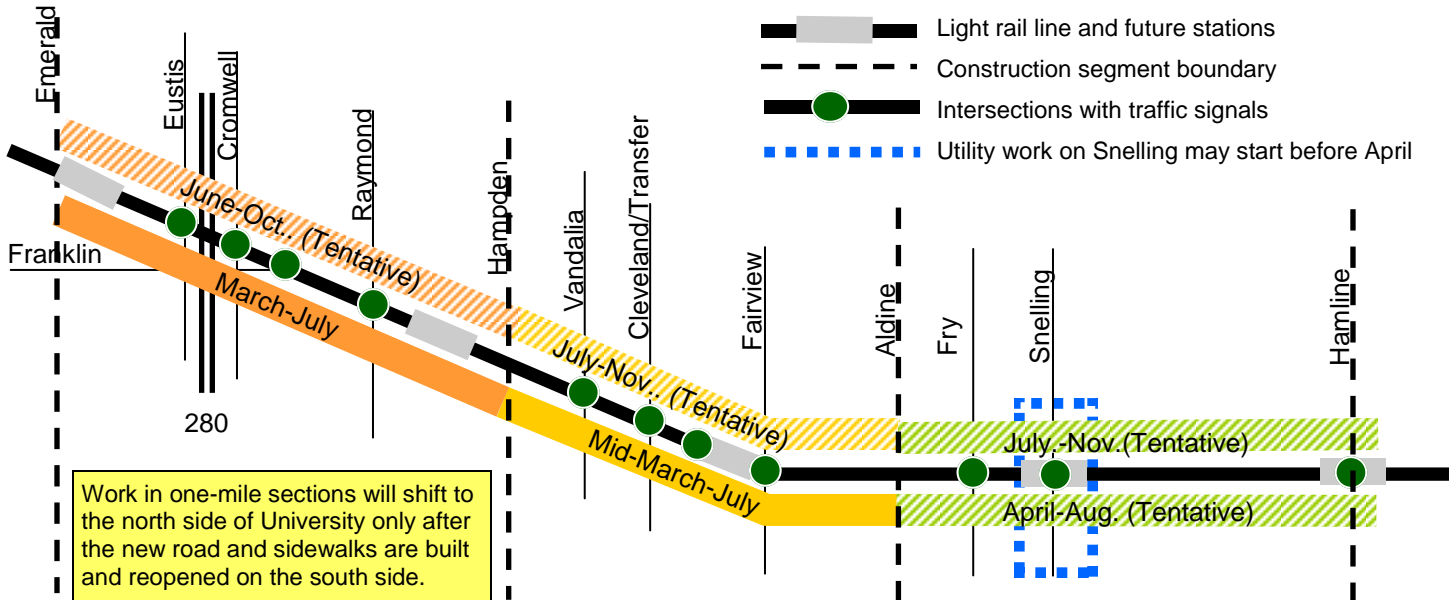


[www.centralcorridor.org](http://www.centralcorridor.org)

## What to Expect from 2011 Construction

- Heavy construction will start in March on the south side of University at Emerald and progress eastward in approximately one-mile sections to just east of Hamline.
- Work in the one-mile sections will shift to the north side of University only after the new road and sidewalks are built and reopened on the south; project staff will provide notification prior to shifting traffic lanes.
- When work is done on the north side, two lanes of traffic will be restored in each direction with work continuing in the middle of the road on track, guideway and stations through 2012.
- Snelling Avenue will be open during the State Fair.

## Planned Construction Schedule by One-Mile Sections



1. Traffic control measures, including barricades, signage, temporary traffic signalization and temporary accesses will be installed. Left turns across University will be restricted to 11 signalized crossings.
2. Partial removal of the street surface (on one side of the street at a time), sidewalks, curbs, gutters, median, trees and other vegetation. At least four feet of sidewalk width will be maintained, except when the existing or new sidewalk is being constructed.
3. Relocation of public and private utilities, such as water, storm and sanitary sewers and electrical and phone lines.
4. Excavation for the track guideway and stations; station foundation work.
5. Removal of remainder of curbs and other half of sidewalks and construction of new sidewalks. Contractor is required to provide alternate pedestrian access via ramps and temporary walkways over construction and to restore the sidewalk within 15 days of removal.
6. Reinstallation of curbs, gutters, medians and trees.
7. Asphalt paving of street.
8. Traffic switch to newly paved south side of University so crews can work on the north side of the street, repeat steps 1-7.
9. Construction of guideway and stations and welding of embedded track in the middle of the street.



## Construction Will Be Staged to Maintain Traffic and Pedestrian Access

Crews will stage construction to maintain one lane of through traffic in each direction on University Avenue. The contractor is required to restore the roadway within 150 days after the pavement is removed. During this time, traffic and pedestrian access will be maintained to all businesses and properties. Construction and outreach staff will meet with each building to discuss access plans and timing of sidewalk replacement. At least four feet of sidewalk will be maintained, except when the new sidewalk is being constructed. The following graphics demonstrate how the contractor will remove portions of the road and sidewalk in stages.

**Stage 1:** Work starts on south two-thirds of University. One lane of traffic maintained in each direction on the north side of University. Roadway restored within 150 days.



**Stage 2:** Work shifts to north two-thirds of University. One lane of traffic maintained in each direction on the newly restored road on the south side of University. Pavement restored within 150 days.



**Stage 3:** Two lanes of traffic restored in each direction. Work continues on guideway, track and stations in the middle of University through November 2011. In 2012, crews return to complete station and tracks and install overhead wires and communication systems.

**Schedules subject to changes due to weather and other unforeseen circumstances! Weekly online construction updates at [www.centralcorridor.org](http://www.centralcorridor.org) provide schedule updates and changes.**



**24-hour hotline 651-602-1404**

## Contacts and More Information

Community outreach coordinators for the Central Corridor LRT Project are liaisons between the public and contractors. For questions or concerns about 2011 construction activities on the western Saint Paul portion of University Avenue, contact outreach coordinators:



- Rita Rodriguez, 651-602-1805, [rita.rodriquez@metc.state.mn.us](mailto:rita.rodriquez@metc.state.mn.us)
- Joey Browner, 651-602-1953 [joey.browner@metc.state.mn.us](mailto:joey.browner@metc.state.mn.us)
- Construction hotline at 651-602-1404

### To stay informed ahead of the construction work:

- Get email updates every Friday on road, sidewalk and crosswalk detours and relocated bus stops for the coming week. To sign up, fill in your email address in the yellow box at the top right of the [www.centralcorridor.org](http://www.centralcorridor.org) homepage.
- Attend regular meetings for businesses and residents in the construction zone. To receive meeting notices, contact outreach coordinator Rita Rodriguez at [rita.rodriquez@metc.state.mn.us](mailto:rita.rodriquez@metc.state.mn.us) or 651-602-1805 or the general project email address at [centralcorridor@metc.state.mn.us](mailto:centralcorridor@metc.state.mn.us)

### To get business assistance:

- Contact the Business Resources Collaborative at [www.readyforrail.net](http://www.readyforrail.net)

### For non-construction related questions, contact City of Saint Paul staff:

- **Land-Use**  
Christina Morrison, Planner, (651) 266-6546, [christina.morrison@ci.stpaul.mn.us](mailto:christina.morrison@ci.stpaul.mn.us)
- **Parking**  
Craig Blakely, Senior planner, (651) 266-6697, [craig.blakely@ci.stpaul.mn.us](mailto:craig.blakely@ci.stpaul.mn.us)
- **Public Works**  
Shannon Tyree, Public Relations Manager, (651) 266-6063, [shannon.tyree@ci.stpaul.mn.us](mailto:shannon.tyree@ci.stpaul.mn.us)

Please don't go around barriers into construction zones. Construction hours will generally be from 7 a.m. to 5 p.m. weekdays, but crews will be allowed to work from 7 a.m. to 10 p.m. seven days a week if needed.

***Schedules are subject to change due to weather and other unforeseen circumstances! Check [www.centralcorridor.org](http://www.centralcorridor.org) frequently for updates.***

**About the project:** The Central Corridor Light Rail Transit Project will link downtown Saint Paul and downtown Minneapolis along Washington and University avenues via the state Capitol and the University of Minnesota. Construction began in late summer 2010 on the planned 11-mile Central Corridor line, and service will begin in 2014. The line will connect with the Hiawatha LRT line at the Metrodome station in Minneapolis and the Northstar commuter rail line at the Target Field Station. The Metropolitan Council will be the grantee of federal funds. The regional government agency is charged with building the line in partnership with the Minnesota Department of Transportation. The Central Corridor Management Committee, which includes commissioners from Ramsey and Hennepin counties, the mayors of Saint Paul and Minneapolis and the University of Minnesota, provides advice and oversight. Funding is provided by the Federal Transit Administration, Counties Transit Improvement Board, state of Minnesota, Ramsey and Hennepin counties' regional railroad authorities, city of Saint Paul, Metropolitan Council and the Central Corridor Funders Collaborative.

## APPENDIX D

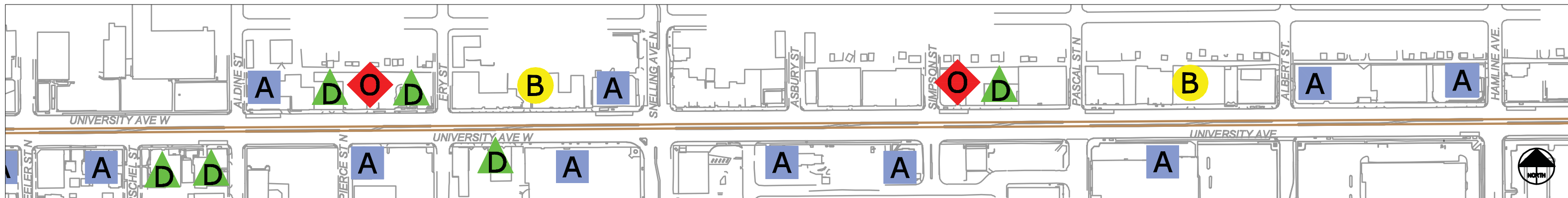
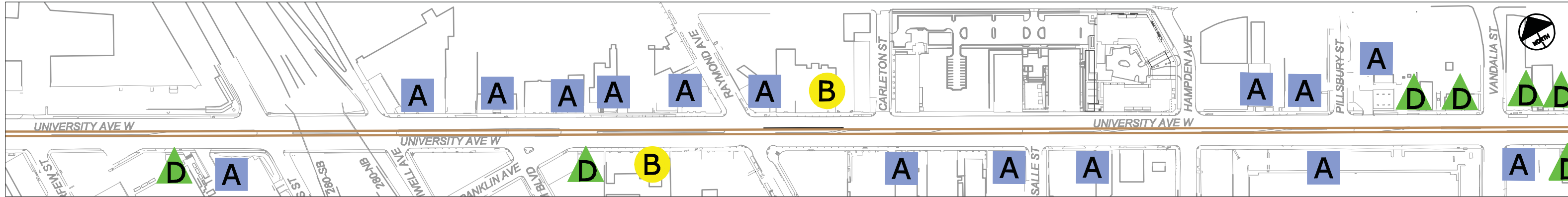
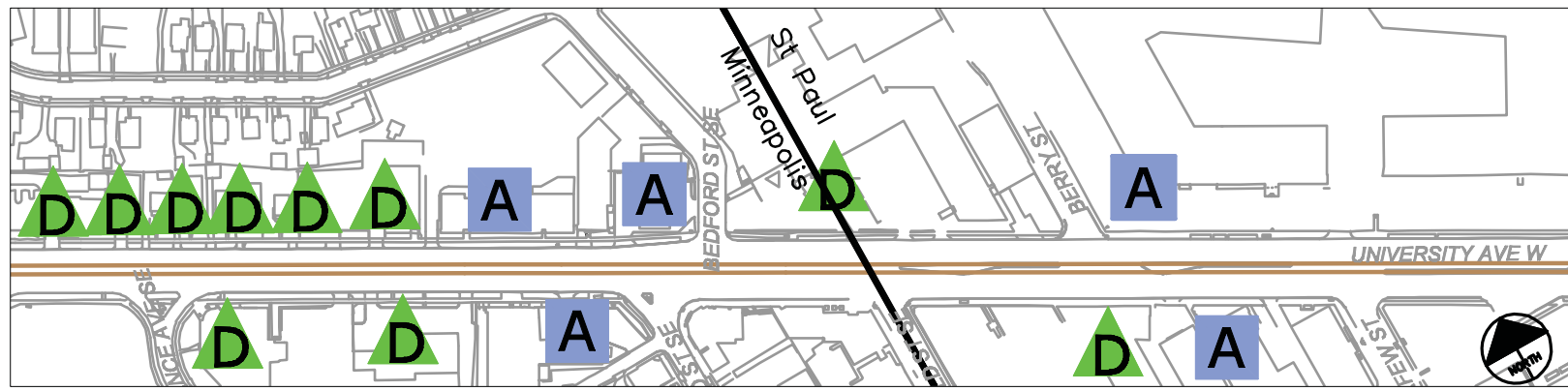


# CORRIDOR ACCESS OPPORTUNITIES MAP CE Segment 1

**Draft 9-14-2010**

## LEGEND

- A Side street access available
- B Alley access available
- C New alley access
- ▲ D Maintain main access
- ◆ Other





# CORRIDOR ACCESS OPPORTUNITIES CE SEGMENT 1

February 14, 2011

Contents	
Clarence, Bedford.....	1
Berry, Curfew .....	2
Highway 280.....	3
Cromwell, Franklin, Pelham, Raymond .....	4
Raymond, Carleton La Salle .....	5
Hampden, Pillsbury .....	6
Vandalia, Transfer, Cleveland .....	7
Cleveland .....	8
Prior, Lynnhurst.....	9
Lynnhurst, Fairview .....	10
Fairview, Beacon, Wheeler .....	11
Aldine, Pierce.....	12
Fry, Snelling.....	13
Asbury, Simpson, Pascal.....	14
Pascal, Albert.....	15
Hamline, Syndicate.....	16

Central Corridor  
Light Rail Transit

 Metropolitan Council



Clarence, Bedford

**Notes:**  
 -Plan used to show access for properties only.  
 -For traffic control and end treatment detail see traffic control plan.  
 -Sign locations are approximate.  
 -It is anticipated that general business way-finding signs will be needed and will be installed as directed by the CAR

**LEGEND**

- A** Side street access available
- B** Alley access available
- C** New alley access
- D** Maintain main access
- Other** **○** No Left Turn

February 14, 2011





# Berry, Curfew

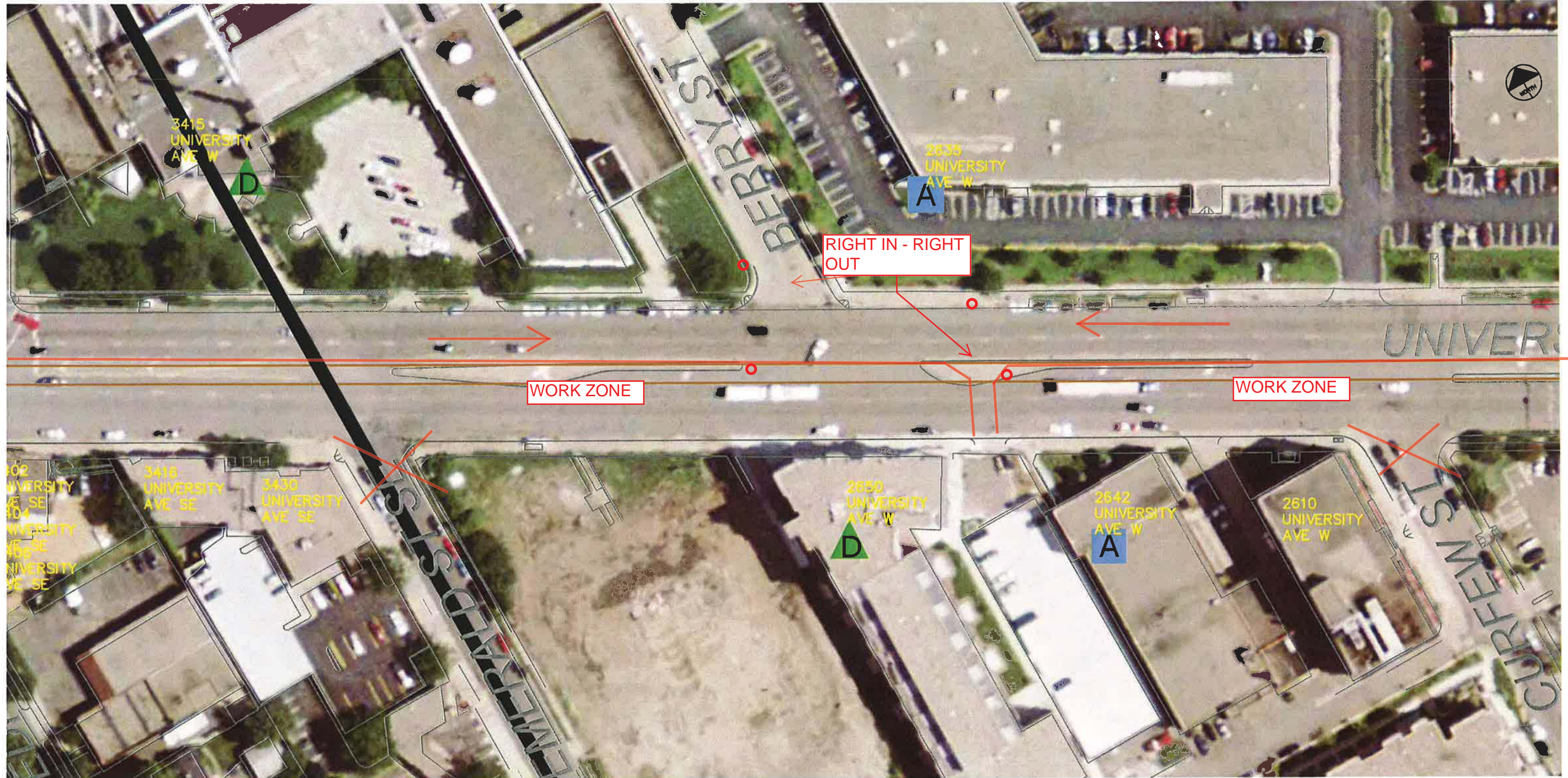
Notes:  
 -Plan used to show access for properties only.  
 -For traffic control and end treatment detail see traffic control plan.  
 -Sign locations are approximate.  
 -It is anticipated that general business way-finding signs will be needed and will be installed as directed by the CAR

ACCESS PLAN\_A

## LEGEND

- A** Side street access available
- B** Alley access available
- C** New alley access
- D** Maintain main access
- O** Other      **○** No Left Turn

February 14, 2011





# Highway 280

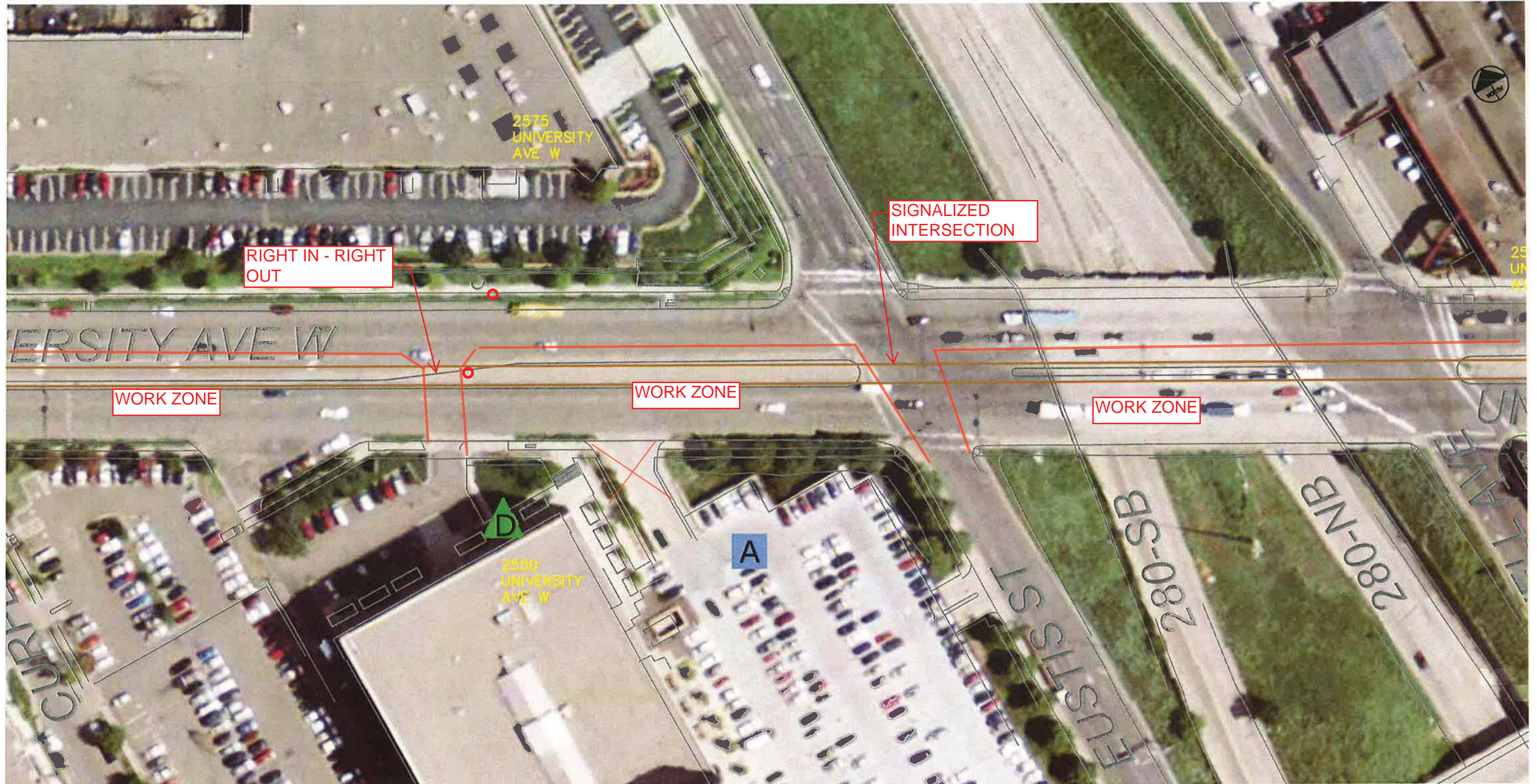
Notes:  
-Plan used to show access for properties only.  
-For traffic control and end treatment detail see traffic control plan.  
-Sign locations are approximate.  
-It is anticipated that general business way-finding signs will be needed and will be installed as directed by the CAR

## LEGEND

- A** Side street access available
- B** Alley access available
- C** New alley access
- D** Maintain main access
- Other** **O** No Left Turn

ACCESS PLAN\_A

February 14, 2011





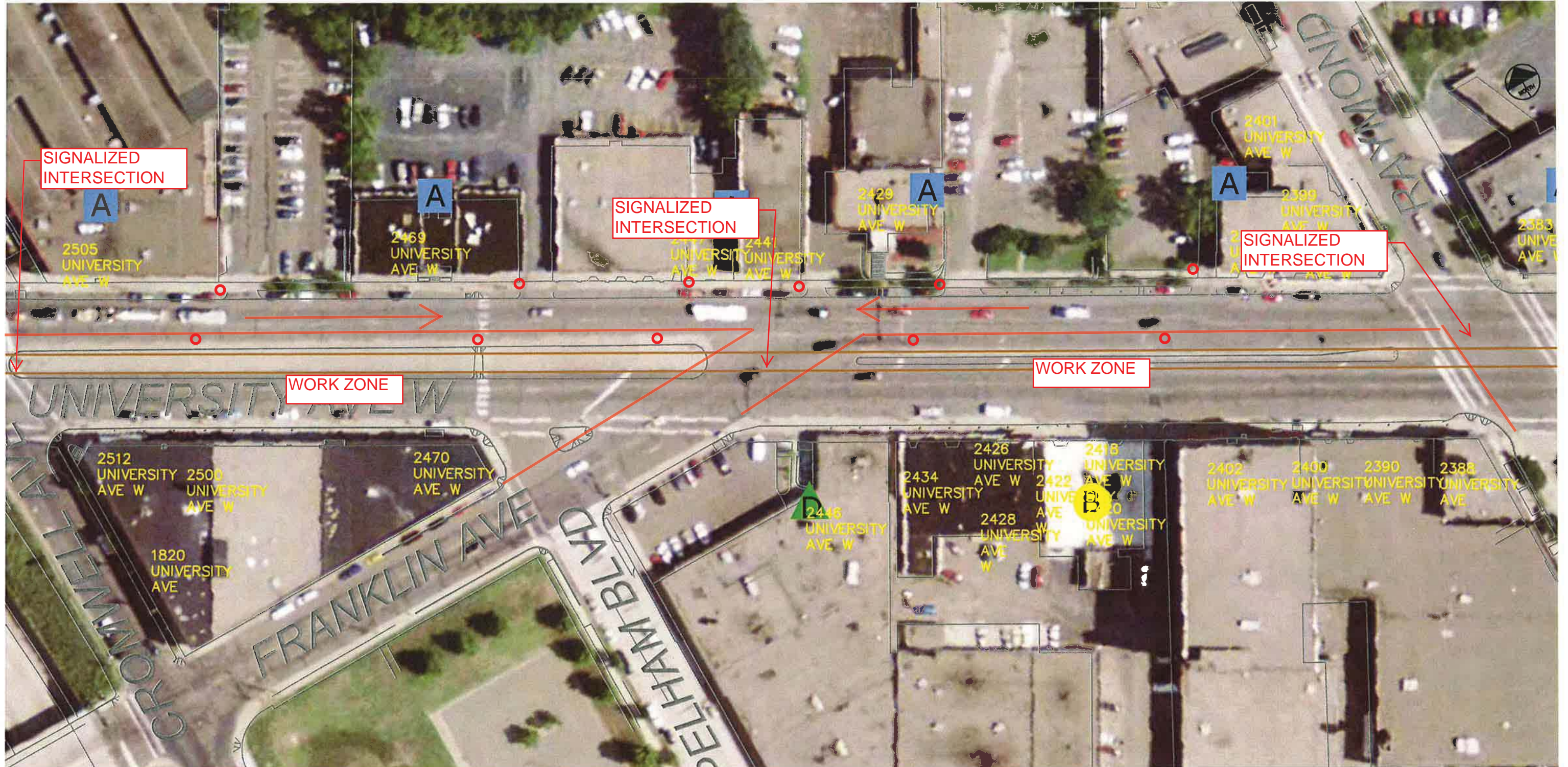
Cromwell, Franklin, Pelham, Raymond

Notes:  
 -Plan used to show access for properties only.  
 -For traffic control and end treatment detail see traffic control plan.  
 -Sign locations are approximate.  
 -It is anticipated that general business way-finding signs will be needed and will be installed as directed by the CAR

LEGEND

- A** Side street access available
- B** Alley access available
- C** New alley access
- D** Maintain main access
- Other** **No Left Turn**

February 14, 2011





## APPENDIX E

## **Charter of the Central Corridor Construction Communication Committee (CCC) for the Capitol Area**

### **INTRODUCTION**

Based on feedback from project partners, the Business Advisory Council and the Community Advisory Council, the Metropolitan Council has created a smaller geographically and community based committees to seek ongoing public input during construction. The role of the Construction Communication Committee (CCC) is generally outlined in the Construction Public Information and Communication Plan for the Saint Paul portion of the alignment which will cover utility relocation activities, and construction completed under the Civil East and Systems contracts; the communication plan provides more detail. The Capitol Area is defined as the area between University Avenue at Marion Street to Robert Street, including Robert Street, 12<sup>th</sup> Street, and Cedar St. ending at I-94.

### **PURPOSE**

The purpose of the CCC is to be proactive in communicating construction activities and addressing community concerns during construction. The CCC will provide an important vehicle for coordinating public outreach efforts that allow for two-way communication, resolving issues raised by the community and ensuring compliance with standards outlined in the Construction Public Information and Communication Plans.

### **RESPONSIBILITIES**

The CCC is responsible for:

- Assisting with implementation of a coordinated, proactive communications effort that supports the Central Corridor LRT project.
- Advising the Central Corridor Project Office (CCPO) on communications and access during construction.
- Facilitating public participation and input into the construction process.
- Coordinating the dissemination of information to the public and identifying opportunities to leverage existing communications vehicles about the Central Corridor LRT project.
- Reviewing construction activities to ensure compliance with standards outlined in the Construction Public Information and Communication Plan.
- Participating in periodic assessments of the communications effort and providing feedback to adjust the communications plan as needed.
- Convening on a quarterly basis with other CCC's in the Civil East construction zone to evaluate the contractor's performance and adherence to set standards and make a recommendation for allocation of the contractor incentive.



Each committee member is responsible for:

- Attending scheduled CCC meetings,
- Contributing to the discussion of issues and concerns,
- Listening to and respecting the viewpoints of others,
- Participating in the development of solutions,
- Accepting the outcome of past decisions,
- Informing represented organizations of meeting discussions and outcomes,
- Following established communications protocol for responding to media contacts, and
- Delivering consistent key messages in all communications about the Central Corridor LRT project.

The Central Corridor Project Office and its staff are responsible for staffing the committee; developing construction plans that balance the project budget, timeline, access and community concerns; and seeking public input in the development of those plans.

## **MEMBERSHIP**

Members of the CCC include community representatives, CCPO staff, public works staff from partner agencies, and representatives from utilities with work in the area. The community stakeholders will be the only one eligible to evaluate contractor performance and make recommendations for the contractor incentive program.

Community Stakeholders:

- Jim Aleckson, Minnesota State Department of Administration employee
- Rick Huston, Regions Hospital
- Tony Luna, Emma Norton Residence
- Margot Imdieke, ADA
- Kou Vang, business owner, District 7 Planning Council
- TBD, District 7/Capitol Heights resident

Technical Staff:

- Shoua Lee, CCPO, Outreach Coordinator (Chair)
- Mike Pretel, CCPO, Assistance Construction Manager, Civil East
- Greg Sorensen CCPO, Principal Engineer, Civil East
- TBD, Contractor Representative
- John Maczko or Shannon Tyree, City of St. Paul Public Works
- Ken Haider, Ramsey County,
- Nina Axelson or Brian Connolly, District Energy
- Shannon Forss, Xcel Energy, Project Manager
- Jerry Strauss, St. Paul Regional Water Services

## **TIMELINE**

Each CCC will meet twice a month during construction or less depending on construction activity starting August 2010 and will continue to meet until Civil East work is complete.

## **Contractor Incentive Evaluation Process**

### **INTRODUCTION**

The contractor incentive program was created based on feedback from the community and project partners. The program was incorporated into the construction specifications for both the Civil East and Civil West contracts. Civil East has \$600,000 and Civil West has \$250,000 available as incentive pay. Neighborhood and business representatives developed the evaluation form to rate the contractors' work in five different areas: information distribution, responsiveness to community concerns, maintenance of access, safety, and site cleanliness.

### **PURPOSE**

The purpose of the contractor incentive program is to allow the community to take ownership of the project and provide some accountability between the contractor and the businesses and neighborhoods.

### **RESPONSIBILITIES**

The active Construction Communication Committees for the Civil East and Civil West contracts are responsible for convening separately on a quarterly basis in their respective construction zones to evaluate the contractor's performance and adherence to set standards and make a recommendation for allocation of the contractor incentive.

### **TIMELINE**

The first evaluation will be completed early 2011. All subsequent quarterly evaluations will be completed in the first 2 weeks of the month following the end of each quarter. Third quarter 2013 will be the last construction period to be evaluated.

### **RATING PROCESS**

With the exception of the initial evaluation, all other evaluations will be special meetings to accommodate the Civil East CCC's and Civil West CCC's to meet and rate the contractors in a large group setting. CCC members are encouraged to complete the evaluation form prior to the meeting with feedback from the group(s) they represent. CCPO staff will provide a copy of comments received on that contract during the three month period as reference material. The meeting will break into three parts:

- CCC members complete their evaluation forms
- CCPO staff tally results and share them with the group
- CCC members reach a consensus on recommendation

The contractor will not participate in this evaluation process. Written comments from the CCC's will be forwarded to contractor and time will be set aside at the following regular CCC meetings for community stakeholders to give feedback to the contractor.

The recommendation will be forwarded to the Project Director for the final decision.

## **MEMBERSHIP**

Community stakeholders of active CCC's are eligible to evaluate contractor performance and make recommendations for the contractor incentive program.

### Civil East

- Capitol Area
- Downtown St. Paul
- University Avenue West
- University Avenue East

### Civil West

- Prospect Park/Stadium Village
- East Bank/Stadium Village
- West Bank

## **ATTACHMENTS**

- Evaluation form
- Incentive program schedule



# Contractor Evaluation Form

Name \_\_\_\_\_

Please review and rate the contractor's work on the following items from 0 to 10 with 0 meaning "strongly disagree" and 10 meaning "strongly agree." **IN THE PAST QUARTER, DID THE CONTRACTOR:**

	<b>Strongly Disagree</b>	<b>Strongly Agree</b>
<b>1. Maintenance of Access – 30% Weight</b>		
a. Maintain vehicle and pedestrian access to businesses, parking lots & driveways	0 1 2 3 4 5 6 7 8 9 10	
b. Implement and maintain effective and highly visible directional signage	0 1 2 3 4 5 6 7 8 9 10	
c. Minimize impacts from public utility & other construction-related disruptions	0 1 2 3 4 5 6 7 8 9 10	

**Comments:**

**2. Safety – 15% Weight**

a. Maintain ADA compliant pedestrian access that is well- marked, multi-lingual, free of debris and detectable by low and no vision population	0 1 2 3 4 5 6 7 8 9 10
b. Ensure construction site is safe & secure at all times, including at the end of each day	0 1 2 3 4 5 6 7 8 9 10
c. Install and maintain appropriate safety barriers to construction site	0 1 2 3 4 5 6 7 8 9 10

**Comments:**

**3. Site Cleanliness & Organization – 15% Weight**

- a. Dispose of trash & waste as required in proper containers to avoid overflowing - no littering 0 1 2 3 4 5 6 7 8 9 10
- b. Appropriate placement & maintenance of temporary sanitary facilities 0 1 2 3 4 5 6 7 8 9 10
- c. Minimize use of space for construction-related equipment, personal & construction vehicles and materials 0 1 2 3 4 5 6 7 8 9 10

**Comments:**

**4. Information Distribution – 15% Weight**

- a. Clearly identify a contractor point person and make them readily available 0 1 2 3 4 5 6 7 8 9 10
- b. Adhere to all notification requirements 0 1 2 3 4 5 6 7 8 9 10
- c. Make sure that weekly construction updates accurately reflects work performed in the field 0 1 2 3 4 5 6 7 8 9 10

**Comments:**

**5. Responsiveness to Community Concerns – 25% Weight**

- a. Provide a contractor point person that participates in meetings with the community, listens to concerns and implements timely solutions 0 1 2 3 4 5 6 7 8 9 10
- b. Respond to community concerns with courtesy and respect within allotted time (or sooner) based on classification of urgency 0 1 2 3 4 5 6 7 8 9 10

**Comments:**

## APPENDIX F

**Central Corridor  
Light Rail Transit**



**CONSTRUCTION PUBLIC INFORMATION AND  
COMMUNICATION PLAN  
Capitol Area**

**August 2010**

**Submitted by  
The Central Corridor Project Office**

**On behalf of  
The Metropolitan Council**



**TABLE OF CONTENTS**

1.0 INTRODUCTION ..... 3

2.0 ROLES AND RESPONSIBILITIES ..... 3

2.1 Central Corridor Project Office ..... 3

2.2 Construction Communication Committees ..... 4

2.3 Contractor ..... 5

3.0 PUBLIC INFORMATION AND COMMUNICATION PLAN ..... 5

3.1 Schedule Milestones ..... 5

3.2 Public Interaction ..... 5

3.2.1 Public Notifications ..... 6

3.2.2 24-Hour Hotline ..... 6

3.2.3 Database ..... 7

3.2.4 Complaint/Comment Forms..... 7

3.2.5 Construction Schedule/Maintenance of Traffic and Access ..... 8

3.3 Emergency Response ..... 8

3.3.1 Telephone Trees ..... 9

3.3.2 Documentation ..... 9

3.4 Business and Residential Impact Mitigation..... 9

3.4.1 Access Maps ..... 9

3.4.2 Changes to Access ..... 9

3.4.3 Signage..... 9

3.5 Public Meetings ..... 9

3.6 Media Relations ..... 10

## **1.0 INTRODUCTION**

This Central Corridor LRT Communications and Public Involvement Plan is critical to the success of CCLRT. The objectives of the Plan are to:

- Build broad public awareness of, and support for, the project as an essential means to improve our transportation system and maintain regional competitiveness
- Identify key community, business, racial and ethnic groups within the corridor to maximize opportunities for public involvement and communication during the design and construction process to promote public ownership of the project
- Prepare project-area residents, businesses, property owners and commuters for realistic expectations during construction, listen to their concerns, and develop plans to minimize harmful or disruptive effects

This Construction Communication and Public Information Plan for the Capitol Area construction is a key component in the efforts to minimize impacts to businesses, properties, residents, students, Capitol Area facilities and staff. The purpose of this plan is to guide the Metropolitan Council, Contractor and project partners in involving the public and maintaining positive community relations during construction of the Central Corridor LRT Line. The Metropolitan Council, through the Central Corridor Project Office (CCPO) will be prepared to respond to the public's comment and concerns related to construction of Central Corridor LRT.

## **2.0 ROLES AND RESPONSIBILITIES**

The Public Information and Communications Plan for the construction phase of the Central Corridor LRT project involves three entities:

- Central Corridor Project Office (CCPO)
- Construction Communication Committees (CCC)
- Contractor

This plan outlines the roles and responsibilities of each of these entities.

### **2.1 Central Corridor Project Office**

The CCPO will have primary responsibility to assure that the activities specified herein are communicated to the public. The CCPO will be responsible for day-to-day public information and communications activities. The CCPO's public information activities will be directed by the Manager of Public Involvement and will include the following:

- Community Outreach Coordinator
- Communications Manager
- Engineering staff
- Construction staff

In addition to day to day activities, CCPO responsibilities include:

- Implementing the Public Involvement and Communications Strategic Plan
- Responding to media requests and inquiries
- Complying with the public information requirements outlined in this document
- Supporting the CCC
- Conducting CCPO-sponsored public information and community relation's activities
- Seeking public feedback on effectiveness of the public involvement and communications activities

## **2.2 Construction Communication Committees**

The CCPO will create a Construction Communication Committee for each of the construction areas. Each CCC will have community representation:

- Resident
- Business
- Transit user
- Accessibility

And technical staff:

- CCPO community outreach coordinator
- CCPO construction staff
- CCPO engineering staff
- Contractor
- City public works designated staff
- County public works designated staff

The responsibilities of each of the CCC include:

- Assisting with implementation of a coordinated, proactive communications effort that supports the Central Corridor LRT project.
- Advising the Central Corridor Project Office (CCPO) on communications and access during construction.
- Facilitating public participation and input into the construction process.
- Coordinating the dissemination of information to the public and identifying opportunities to leverage existing communications vehicles about the Central Corridor LRT project.
- Reviewing construction activities to ensure compliance with standards outlined in the Construction Public Information and Communication Plan.
- Participating in periodic assessments of the communications effort and providing feedback to adjust the communications plan as needed.
- Convening on a quarterly basis with other CCC's in the Civil East construction zone to evaluate the contractor's performance and adherence to set standards and make a recommendation for allocation of the contractor incentive.

## **2.3 Contractor**

The Contractor will designate a Community Relations Point person to work with the CCPO outreach, engineering and construction staff. That person will be responsible for supporting the flow of public information and communication efforts:

- Be one of the Contractors key personnel that can commit the contractor to action
- Have “real time” access to all project details that the contractor is currently engaged in
- Be a member of the CCC and attend all meetings
- Attend regularly scheduled construction update meetings
- Provide information to CCPO
- Support CCPO public information and communication efforts
- Ensure that the contractor responds to community concerns
- Provide adequate access for all snow and garbage removal
- Provide and maintaining signage as described in Section 3.3.4.

Contractor responsibilities established in this section will be subject to Contractor performance requirements identified in the contract General Conditions.

## **3.0 PUBLIC INFORMATION AND COMMUNICATION PLAN**

### **3.1 Schedule Milestones**

Within 15 days of award, the Contractor will complete and submit to the CCPO, its anticipated Schedule of Milestones. The Contractor will update and submit its schedule to the CCPO at least monthly. A copy of each update will be submitted to CCC.

### **3.2 Public Interaction**

The CCPO is the first and preferred point of contact for residents, businesses or other member of the public with questions or comments on the Project. The CCPO and the contractor will take necessary steps to foster these contacts, including continuous interaction with the public and community.

### 3.2.1 Public Notifications

The CCPO will notify affected businesses, affected properties, affected residents and general public of construction progress, upcoming events and specific notifications, as shown in table 3.2-1. Notification of directly affected businesses and residents will be through personal contact and other communication strategies.

**Table 3.2-1  
Notifications**

Notice	Requirement
<ul style="list-style-type: none"> <li>• 30-day Construction Notification</li> </ul>	Written notification of construction will be given 30 days prior to construction. Access maps will be provided per the Maintenance of Traffic and Access plan
<ul style="list-style-type: none"> <li>• 72-hour Business/Commercial Utility Shutdown</li> </ul>	Written notification by utility company of utility shutdown for businesses and commercial property.
<ul style="list-style-type: none"> <li>• 48-hour Residential Utility Shutdown</li> </ul>	Written notification by utility company of shutdown for residential property.
<ul style="list-style-type: none"> <li>• Weekly Construction Updates</li> </ul>	A construction update will be provided to each business or resident fronting a Construction Zone. The update will be a personal visit, email or letter based on business or resident's preference
<ul style="list-style-type: none"> <li>• Emergency Unforeseen Utility Disruptions, Hazardous Conditions, Traffic Signal Emergencies, Security and Loss of Access</li> </ul>	See <a href="#">Section 3.3</a>
<ul style="list-style-type: none"> <li>• Road and Driveway Closures</li> </ul>	Written notice, email or personal contact at least 72-hours in advance of closure.
<ul style="list-style-type: none"> <li>• Construction Schedule</li> </ul>	One (1) month prior to start of construction

### 3.2.2 24-Hour Hotline

The CCPO established a 24-hour hotline that is staffed by a call center. The CCPO will provide the call center with instructions to guide personnel in responding to call and ensuring it is forwarded to the appropriate CCPO staff. The CCPO will develop procedures for addressing, responding to and documenting all calls to the hotline as well as emergency phone procedures. These procedures will be updated on a quarterly basis so that information contained therein is current.

Calls will be classified and addressed accordingly,

- Emergency call relating to risk to life, limb will be responded to according to emergency procedures
- Urgent construction related issue that requires response within a hour such as loss of access
- Non urgent issue or complaint that requires a response or resolution within 1 business day
- Comments or questions that require follow up from outreach or appropriate CCPO staff within 5 days

The CCPO will acknowledge receipt of complaint and indicate estimated time to resolve the complaint. The CCPO will review all complaints received and resolution or response of the issue to the CCC meetings. If the CCPO or Contractor is unable to resolve a complaint regarding Contractor's response to a complaint or concern within two (2) days, the Contractor will notify the Project Director. The Contractor will provide necessary information, staff support and representation to assist in resolving the issue.

### **3.2.3 Database**

All calls and contacts from the general public regarding construction will be logged onto a form supplied by the CCPO. The CCPO will create a database to document contacts with individuals with construction comments or concerns:

- Contact name
- Business name, if applicable
- Address
- Phone number including business, mobile and home phone for emergencies
- Information about the contact including date, time, method of contact and a brief description of the nature of the contact,
- A brief description of handouts and a document control number that identifies a hardcopy of the contact information.

The CCPO will develop a standardized form to log contact information. This form will become the hard copy of all contacts. Handouts will be attached to this form. The contact information will include the information provided for the database as well as a description of what was discussed. The database will document all contact with the public and to be able to recreate what transpired during the Project.

The CCPO will provide contact forms for the Contractor's use in documenting contacts consistent with the database. The Contractor will provide all contact information to the CCPO within 24 hours.

All mass communications, emails or letters will be archived using the Central Corridor Project Office Document Management system.

### **3.2.4 Complaint/Comment Forms**

The CCPO will provide on online complaint/comment forms to businesses and residents along the Project as a method for the public to express Project concerns. These forms will provide all information needed for entry into the database. The CCPO will also make paper complaint/comment forms available to the public. The forms will indicate the address and fax number where the forms can be sent and show the 24-hour hotline number.

### **3.2.5 Construction Schedule/Maintenance of Traffic and Access**

The CCPO will notify properties, businesses and residents along the Project and will publicize commencement of construction prior to the beginning of construction in any area of the Project. This notification will publicize the projected dates for the construction by individual notices to stakeholders, community groups, businesses, and residents along the corridor, in the neighborhoods surrounding the construction including Capitol Heights and Mt. Airy, as well as along alternative routes. The Contractor will provide all relevant information concerning the construction schedule to CCPO who will then publicize the information.

The advertisements and notices will address:

- Road and lane changes
- Sidewalk and crosswalk closures
- Alternative routes
- Any other impacts such as street parking

Construction in any area will be constrained by the requirements of Contract. Each area where active construction is being conducted will be treated as a distinct entity in all notification activities.

Information regarding Project design and construction will be readily available in a form that can be quickly disseminated to the public.

### **3.3 Emergency Response**

The Contractor will provide immediate response to emergencies by trained personnel from an incident response team within 30 minutes of receiving notification from CCPO, Utility Owner and/or affected business(es) and/or resident(s). Emergencies include, but are not limited to:

- Unforeseen utility disruptions
- Hazardous conditions
- Traffic signal emergencies
- Security concerns
- Loss of access notifications

All emergency and/or unforeseen disruptions will be explained to the public immediately by a personal contact from the CCPO. The person making the contact will provide to the affected party(ies) information such as:

- Cause of disruption (i.e., whether it is construction oriented or not);

- Actions being taken to alleviate the problem; and
- Anticipated duration of the disruption.

### **3.3.1 Telephone Trees**

The CCPO and Contractor will establish and manage an emergency response telephone tree. All appropriate CCPO, project partner and Contractor personnel will be included on this telephone tree for immediate response in the event of an emergency. The telephone tree will be divided into areas of expertise so the proper people are called for specific emergency situations.

### **3.3.2 Documentation**

All Emergencies will be logged into the construction issues database including contact information, reason for the emergency and response.

## **3.4 Business and Residential Impact Mitigation**

The CCPO, CCC and Contractor will take steps to mitigate the impacts of construction by providing frequent and accurate information to businesses and residents based on project milestones.

### **3.4.1 Access Maps**

The Contractor with the CCPO will develop access plans with businesses and residents on each block and will provide maps showing existing and planned patron and delivery and residential access during any construction period. The map(s) will identify times of business operation and deliveries.

### **3.4.2 Changes to Access**

The CCPO will inform businesses and residents in writing or by personal contact, of any changes to access that may impact them, at least 2 weeks prior to start of construction. Contractor will submit a new access map to the CCPO Construction manager at least 2 weeks prior to construction for a written statement of no objection.

The Contractor will provide adequate access for all snow and garbage removal.

### **3.4.3 Signage**

The Contractor will maintain public information and warning signage throughout the Project at each construction site consistent with the construction contract provisions.

## **3.5 Public Meetings**

The CCPO will host a variety of public meetings and forums to provide construction information and listen to concerns including:



- Construction tours
- Neighborhood monthly meetings
- Business organizations
- Quarterly information sessions
- Small block

The Contractor's Community Outreach Liaison will attend these meetings. CCPO representatives will include the Project Resident Engineer and Community Outreach Coordinator.

The CCPO outreach staff will evaluate the effectiveness of these meetings and make adjustments based on community feedback.

### **3.6 Media Relations**

An ongoing media relations campaign will occur and be managed by CCPO's Communications Manager. The Contractor will assist in giving timely information to CCPO's Communications Manager regarding construction activities for use in media events.

The CCPO's Communication Manager is responsible for conducting all media interviews and responding to inquiries. The Contractor, their Subcontractor and their employees will not conduct or participate in media events, radio or television broadcasts, without the written consent of CCPO, except in emergencies. In emergency situations, the Contractor will immediately notify CCPO's Public Involvement Manager and Communications Manager of any situations that may involve the media.

## APPENDIX G

## CENTRAL CORRIDOR CONSTRUCTION-RELATED POTENTIAL IMPACTS ON BUSINESS REVENUES COMMENTS AND RESPONSES

FTA received comments from 73 individuals or organizations and those comments are contained verbatim in Appendix H to the final Supplemental Environmental Assessment, along with complete copies of the transcript from the two public hearings held on March 16, 2011. Below is a summary by topic of comments addressing issues raised in the *Supplemental Environmental Assessment Construction-Related Potential Impacts on Business Revenues*. Comments that were outside the scope of the Supplemental Environmental Assessment were not addressed in the Response to Comments, but complete copies of those comments are available in Appendix H. In addition, in Section 5.2 of the final Supplemental Environmental Assessment, FTA included detailed responses to comments on the following subjects: NEPA EA process, adequacy of technical report analysis methodology, comparison of analysis methodology/mitigation identification to other similar projects (Lake Street and Seattle projects), adequacy of mitigation measures, and public participation.

No.	Commenter	Group/ Affiliation	Comment	Response
<b>PUBLIC HEARING No. 1 March 16, 2011, 8:00 a.m., Lao Family Community of Minnesota</b>				
1	James Segal	Corridor business owner	Comments included the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) Draft SEA does not identify appropriate mitigation measures.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(3) Draft SEA does not identify all construction impacts.	Please see discussion in Section 4.2 and Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(4) Communication of information regarding construction has been inadequate.	Please see Section 2.2 of the final Supplemental EA, which includes a construction schedule overview, and Section 4.3, which details Metropolitan Council's mitigation measures related to communication. Additionally, FTA will monitor Metropolitan Council's compliance with the mitigation measures identified in the final Supplemental EA.
2	Mike Baca	Corridor business owner	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and sufficiency of the business mitigation fund.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) Businesses should be entitled to relocation expenses under the Uniform Relocation Act.	The Uniform Relocation Assistance and Real Property Acquisition Policies Act ("URA") applies to all projects receiving federal funds where real property is acquired or persons are displaced as a direct result of acquisition, demolition, or rehabilitation of real property. The URA provides the process for acquisition of real property and relocation benefits, if the person is being displaced. See 49 C.F.R. Part 24. Any business owners who believe that they qualify as "displaced persons" under the URA may submit a claim under the act to the Metropolitan Council. Metropolitan Council has prepared a Real Estate Acquisition Management Plan ("RAMP"), which sets forth the process for the acquisition of real estate for this Project and for claiming relocation benefits. In addition, any person who believes Metropolitan Council has failed to properly consider the person's application or claim for payments or assistance under the URA may file a written appeal with the local agency. Persons who believe they may have such a claim, should contact the Central Corridor Project Office at 651-602-1930 and ask for Victoria Nill or email victoria.nill@metc.state.mn.us.

No.	Commenter	Group/ Affiliation	Comment	Response
3	Tim Holden	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and timely provision of signage announcing construction activities.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures regarding parking and providing adequate and timely signage are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
4	Diane Pietro	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and timely provision of signage announcing construction activities.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures regarding parking and providing adequate and timely signage are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
5	Jack McCann	University Avenue Betterment Association (UABA)	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and construction impacts on traffic.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures regarding parking and providing adequate and timely signage are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment. Section 6.2 of the FEIS discusses impacts to local and regional traffic, and traffic mitigation measures during construction.
6	Steve Bernick	Corridor business owner	Comments included the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) Draft SEA does not identify appropriate mitigation measures.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(3) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
7	Marilyn Porter	University Avenue Business Corporation Collaborative (U7)	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction, access to businesses, and potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
8	Frank Lorenz	Business owner	Comments included the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) Draft SEA does not identify appropriate mitigation measures.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.

No.	Commenter	Group/ Affiliation	Comment	Response
			(3) Businesses should be entitled to relocation expenses under the Uniform Relocation Act.	The Uniform Relocation Assistance and Real Property Acquisition Policies Act ("URA") applies to all projects receiving federal funds where real property is acquired or persons are displaced as a direct result of acquisition, demolition, or rehabilitation of real property. The URA provides the process for acquisition of real property and relocation benefits, if the person is being displaced. See 49 C.F.R. Part 24. Any business owners who believe that they qualify as "displaced persons" under the URA may submit a claim under the act to the Metropolitan Council. Metropolitan Council has prepared a Real Estate Acquisition Management Plan ("RAMP"), which sets forth the process for the acquisition of real estate for this Project and for claiming relocation benefits. In addition, any person who believes Metropolitan Council has failed to properly consider the person's application or claim for payments or assistance under the URA may file a written appeal with the local agency. Persons who believe they may have such a claim, should contact the Central Corridor Project Office at 651-602-1930 and ask for Victoria Nill or email victoria.nill@metc.state.mn.us.
9	James Segal	Corridor business owner	Comments included the following subject: adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
10	Diane Pietro	Corridor business owner	Comment raised subject of adequacy of mitigation measures.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. Additionally, FTA will monitor Metropolitan Council's compliance with the mitigation measures identified in the final Supplemental EA.
<b>PUBLIC HEARING No. 2 March 16, 2011, 6:00 p.m., Goodwill/Easter Seals</b>				
11	Scott Walker	Metropolitan Business Council	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to a business mitigation fund.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
12	Larry Peterson	University Avenue Betterment Association	Comments raised the following subjects: (1) use of comments from the February 17, 2011 Town Hall meetings.	Please see Section 5.2 of the final Supplemental EA, "Public Participation," for FTA's response to this comment.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(3) particularly with regards to adequacy of measures to address parking impacts during construction, access to businesses, and potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. Additionally, FTA will monitor Metropolitan Council's compliance with the mitigation measures identified in the final Supplemental EA.
			(4) Lake Street study and Seattle study are better examples of impacts caused by construction projects and should be considered in the SEA and Technical Report.	Please see Section 5.2 of the final Supplemental EA, "Comparison of Analysis Methodology/Mitigation Identification to other similar projects," for FTA's response to this comment.
13	Tim Holden	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction, access to businesses, and potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
14	Mary Leonard	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
15	Benita Warns	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction, access to businesses, and potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.

No.	Commenter	Group/ Affiliation	Comment	Response
16	Karen Inman	District Councils Collaborative of St. Paul and Minneapolis	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
17	Patricia O'Keefe	Corridor resident	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and access to businesses, particularly for persons with disabilities.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA).
18	Jamie Delton	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and access to businesses, traffic plans during construction to address reduced lanes on University Avenue, emergency evacuations, snow removal, access for persons with disabilities.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. The Metropolitan Council has and will continue to work with local police, fire and medical service providers to address emergency services. See also Section 3.7 of the FEIS regarding safety and security. Snow and snow removal will continue to be managed as is currently is by responsible agencies. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
19	Eva Ng	Capitol City Business Council	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
20	James Segal	Corridor business owner	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
21	John Slade	Metropolitan Interfaith Council on Affordable Housing (MICAHA)	Comments raised the following subjects: (1) use of comments from the February 17, 2011 Town Hall meetings.	Please see Section 5.2 of the final Supplemental EA, "Public Participation," for FTA's response to this comment.
			(2) adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(3) Lake Street study is better example of impacts caused by construction projects and should be considered in the SEA and Technical Report.	Please see Section 5.2 of the final Supplemental EA, "Comparison of Analysis Methodology/Mitigation Identification to other similar projects," for FTA's response to this comment.
			(4) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
22	Andy Singer	St. Paul Bicycle Coalition	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to relocation of utilities and impact of pedestrians during construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS addresses potential impacts to pedestrians. All mitigation measures committed to in the FEIS will be implemented.

No.	Commenter	Group/ Affiliation	Comment	Response
23	Mike Madden	Citizen	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.3 of the FEIS addresses parking impacts.
24	La Shella Sims	Metropolitan Interfaith Council on Affordable Housing (MICAHA)	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
25	Jennette Gudgel	Capitol City Business Council	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
26	Jack McCann	University Avenue Business Association	Comments raised the following subject: use of comments from the February 17, 2011 Town Hall meetings.	Please see Section 5.2 of the final Supplemental EA, "Public Participation," for FTA's response to this comment.
27	Jeffrey Zrust	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
<b>WRITTEN COMMENTS RECEIVED DURING PUBLIC COMMENT PERIOD, March 1-March 31, 2011</b>				
28	Harry Kent	Citizen	Comments included the following subject: adequacy and completeness of the Technical Report, including the quantitative studies on which it is based.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
29	Jack McCann, Va-Megn Thoj	University Avenue Business Association (UABA), Asian Economic Development Association (AEDA)	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and construction impacts on traffic and pedestrians, and loss of business revenues.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures regarding parking and providing adequate and timely signage are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment. Section 6.2 of the FEIS discusses impacts to local and regional traffic, and traffic mitigation measures during construction.
			(2) Businesses should be entitled to relocation expenses under the Uniform Relocation Act.	The Uniform Relocation Assistance and Real Property Acquisition Policies Act ("URA") applies to all projects receiving federal funds where real property is acquired or persons are displaced as a direct result of acquisition, demolition, or rehabilitation of real property. The URA provides the process for acquisition of real property and relocation benefits, if the person is being displaced. See 49 C.F.R. Part 24. Any business owners who believe that they qualify as "displaced persons" under the URA may submit a claim under the act to the Metropolitan Council. Metropolitan Council has prepared a Real Estate Acquisition Management Plan ("RAMP"), which sets forth the process for the acquisition of real estate for this Project and for claiming relocation benefits. In addition, any person who believes Metropolitan Council has failed to properly consider the person's application or claim for payments or assistance under the URA may file a written appeal with the local agency. Persons who believe they may have such a claim, should contact the Central Corridor Project Office at 651-602-1930 and ask for Victoria Nill or email victoria.nill@metc.state.mn.us.
30	Nikolai Alenov	Corridor business owner	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.

No.	Commenter	Group/ Affiliation	Comment	Response
			(2) Property taxes should be held in abeyance during construction for businesses impacted by the construction.	Property taxation policies are the responsibility of the cities of Minneapolis and St. Paul are more properly addressed to those entities.
31	Vic Rosenthal, Andrea Lubov	Jewish Community Action	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and construction impacts on traffic and pedestrians, and loss of business revenues.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures regarding parking and providing adequate and timely signage are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment. Section 6.2 of the FEIS discusses impacts to local and regional traffic, and traffic mitigation measures during construction.
			(2) construction impacts that contribute to reduction in revenues include such things as reduced access, disruptions in traffic patterns, temporary closures of sidewalks, disruptions in bus service, temporary reductions in the number of bus stops, interruption of electricity and utility services, and the very presence of construction activity with its noise, trucks, large equipment, dust, and visual obstructions.	Section 4.2 of the final Supplemental EA sets forth a detailed discussion of the potential construction-related impacts on business revenues. Section 4.3 of the final Supplemental EA details the mitigation measures undertaken by Metropolitan Council to avoid or mitigate those impacts. Finally, please see discussion in Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(3) the Supplemental EA should consider a study on economic indicators for the corridor recently released by the Wilder Foundation (Wilder Research, "Central Corridor Key Outcomes: Baseline Indicators Report," March 2011).	The final Supplemental EA considers the Wilder report referenced by the commentator and cites that report in Section 3.1 of the final Supplemental EA.
			(4) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(5) small businesses owned by Environmental Justice populations should be studied as a subset to determine whether or not they will sustain different and disproportionate impacts.	The Metropolitan Council conducted a survey of businesses along the alignment to determine whether the businesses were owned by members of minority groups. FTA analyzed that data and found that the survey established that the businesses directly on the alignment contain 162 Asian owned businesses (15.1%), 51 Black or African American owned businesses (4.8%) and 4 Hispanic or Latino owned businesses (0.4%), representing slightly over 20% in minority owned businesses compared to the alignment area minority population of 46%. Therefore, there is no disparate or disproportionate impact to minority owned businesses along the corridor.
32	Matt Kramer	St. Paul Area Chamber of Commerce	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(3) requests that status of mitigation measures for businesses be reported to the community on a regular basis.	FTA will monitor Metropolitan Council's compliance with the mitigation measures identified in the final Supplemental EA.
33	Karen Inman	District Council Collaboratives of St. Paul and Minneapolis	<b>[Comments entered in as testimony at March 16 public hearing.]</b>	Please refer to the responses to comment 16.
34	Tim Holden	Corridor business owner	<b>[Comments received with testimony at March 16 Public Hearings.]</b>	Please refer to the responses to comment 13.
35	Andy Singer	St. Paul Bicycle Coalition	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.



No.	Commenter	Group/ Affiliation	Comment	Response
36	Leah Carr	Corridor resident	Comments raised that following subject: adequacy of mitigation measures, particularly with regards to providing access to businesses during construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
37	Molly Park	Citizen	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
38	Jamie Delton	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and access to businesses, traffic plans during construction to address reduced lanes on University Avenue, emergency evacuations, snow removal, access for persons with disabilities.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. The Metropolitan Council has and will continue to work with local police, fire and medical service providers to address emergency services. See also Section 3.7 of the FEIS regarding safety and security. Snow and snow removal will continue to be managed as is currently is by responsible agencies. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
39	Russ Batisto	Corridor business owner	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and construction impacts on traffic and pedestrians.	Details regarding Metropolitan Council's mitigation regarding short-term parking during construction are addressed in Section 6.3.5 of the FEIS. Additional parking mitigation measures regarding parking and providing adequate and timely signage are described in Section 4.3.1 of the final Supplemental EA. Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment. Section 6.2 of the FEIS discusses impacts to local and regional traffic, and traffic mitigation measures during construction.
40	Sheldon Gitis	Citizen	Comments raised the following subject: adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
41	Jay Cherner	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and access to businesses for persons with disabilities.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
42	Sidney Applebaum	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and access to businesses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
43	City Council of the City of St. Paul (Resolution 11-576)	City of St. Paul	The Neighborhood Commercial Parking Program is incorrectly described on page 20 of the Draft Supplemental EA as being financed by the Metropolitan Council. All of the program funds come from the City of Saint Paul. The Business Mitigation Fund, itemized on page 22 will be administered by the City of Saint Paul, but will be financed by the Metropolitan Council and the Central Corridor Funders Collaborative.	The description of the Neighborhood Commercial Parking Program has been corrected in the final Supplemental EA as noted. Administration and financing for the Business Support Fund has also been clarified in the final Supplemental EA as noted. See Section 4.3.2 and Section 4.3.3 of the final Supplemental EA.

No.	Commenter	Group/ Affiliation	Comment	Response
44	Russ Batisto	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to providing access to businesses during construction and parking.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
45	Sowa Unora	Citizen	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to parking during construction and the possibility that contractors may block parking before it is actually needed.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. Additionally, FTA will monitor Metropolitan Council's compliance with the mitigation measures identified in the final Supplemental EA. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
46	David Barnhart	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to parking during construction, access to businesses, dust and noise during construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
47	Gen Fujioka	National Coalition for Asian Pacific American Community Development	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) small businesses owned by Environmental Justice populations should be studied as a subset to determine whether or not they will sustain different and disproportionate impacts.	The Metropolitan Council conducted a survey of businesses along the alignment to determine whether the businesses were owned by members of minority groups. FTA analyzed that data and found that the survey established that the businesses directly on the alignment contain 162 Asian owned businesses (15.1%), 51 Black or African American owned businesses (4.8%) and 4 Hispanic or Latino owned businesses (0.4%), representing slightly over 20% in minority owned businesses compared to the alignment area minority population of 46%. Therefore, there is no disparate or disproportionate impact to minority owned businesses along the corridor.
48	Anne White	Corridor resident	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and business revenue losses caused by construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.3 of the FEIS addresses parking impacts.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
49	Benita Warns	Corridor business owner	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.

No.	Commenter	Group/ Affiliation	Comment	Response
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
50	Tom and Kathy Stransky	Corridor business owners	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(3) adequacy of mitigation measures, particularly with regards to adequacy of measures to address potential revenue losses.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
51	Michael Warns	Corridor business owner	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
52	Roy Hunn	Corridor business owner	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
53	Ardis Hafdahl	Corridor business owner	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
54	Carol Swenson	District Councils Collaborative of St. Paul and Minneapolis	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.

No.	Commenter	Group/ Affiliation	Comment	Response
			(2) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
55	Chris Ferguson	Corridor business owner	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report , including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
56	Thomas F. DeVincke	Bonner & Borhart, LLP, representing plaintiffs in pending civil action entitled <i>The St. Paul Branch of the NAACP, et al., vs. The Metropolitan Council, et al.</i>	Comments raised the following subjects: (1) adequacy and completeness of the Technical Report , including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(2) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
			(3) Seattle study is better example of impacts caused by construction projects and should be considered in the SEA and Technical Report.	Please see Section 5.2 of the final Supplemental EA, "Comparison of Analysis Methodology/Mitigation Identification to other similar projects," for FTA's response to this comment.
57	Va-Megn Thoj	Asian Economic Development Association	Comments raised the following subjects: (1) The supplemental EA process did not provide adequate time for the public to provide comments.	Public participation is a requirement of the National Environmental Policy Act (NEPA) for preparation of environmental documents. Consistent with FTA regulations a 30-day time period was provided for the public to comment. Two public hearings were also held, at which members of the public could submit comments on the EA. FTA finds that this comment period was adequate under the circumstances.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(3) Lake Street study and Seattle study are better examples of impacts caused by construction projects and should be considered in the SEA and Technical Report.	Please see Section 5.2 of the final Supplemental EA, "Comparison of Analysis Methodology/Mitigation Identification to other similar projects," for FTA's response to this comment.

No.	Commenter	Group/ Affiliation	Comment	Response
			(4) small businesses owned by Environmental Justice populations should be studied as a subset to determine whether or not they will sustain different and disproportionate impacts.	The Metropolitan Council conducted a survey of businesses along the alignment to determine whether the businesses were owned by members of minority groups. FTA analyzed that data and found that the survey established that the businesses directly on the alignment contain 162 Asian owned businesses (15.1%), 51 Black or African American owned businesses (4.8%) and 4 Hispanic or Latino owned businesses (0.4%), representing slightly over 20% in minority owned businesses compared to the alignment area minority population of 46%. Therefore, there is no disparate or disproportionate impact to minority owned businesses along the corridor.
			(5) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues, and responses to disruptions to business caused by utility shut offs, noise, dust and debris.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
58	Skip and Heidi Brist	Corridor business owners	Comments raised the following subject: adequacy of mitigation measures, particularly with regards to addressing loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
59	Jennette Gudgel	Citizen	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
			(2) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(3) Seattle study is better example of impacts caused by construction projects and should be considered in the SEA and Technical Report.	Please see Section 5.2 of the final Supplemental EA, "Comparison of Analysis Methodology/Mitigation Identification to other similar projects," for FTA's response to this comment.
60	N/A	University Avenue Betterment Association (UABA)	Comments raised the following subjects: (1) environmental review process should have been a supplemental EIS.	Please see Section 5.2 of the final Supplemental EA, "NEPA Process" for FTA's response to this comment.
			(2) identification of the construction impacts on the loss of business revenues.	Please see discussion in Section 4.2 and Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(3)adequacy of all of the proposed mitigation measures.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment.
			(4) use of comments from the February 17, 2011 Town Hall meetings.	Please see Section 5.2 of the final Supplemental EA, "Public Participation," for FTA's response to this comment.
			(5) environmental documents should be concise, no longer than absolutely necessary, and include a robust discussion of impacts and alternatives. alternative considerations to agency decisions.	FTA has revised the Draft Supplemental EA extensively in order to remove repetitive information, increase readability and provide additional detail and discussion on issues identified during the comment period.

No.	Commenter	Group/ Affiliation	Comment	Response
			(6) Businesses should be entitled to relocation expenses under the Uniform Relocation Act.	The Uniform Relocation Assistance and Real Property Acquisition Policies Act ("URA") applies to all projects receiving federal funds where real property is acquired or persons are displaced as a direct result of acquisition, demolition, or rehabilitation of real property. The URA provides the process for acquisition of real property and relocation benefits, if the person is being displaced. See 49 C.F.R. Part 24. Any business owners who believe that they qualify as "displaced persons" under the URA may submit a claim under the act to the Metropolitan Council. Metropolitan Council has prepared a Real Estate Acquisition Management Plan ("RAMP"), which sets forth the process for the acquisition of real estate for this Project and for claiming relocation benefits. In addition, any person who believes Metropolitan Council has failed to properly consider the person's application or claim for payments or assistance under the URA may file a written appeal with the local agency. Persons who believe they may have such a claim, should contact the Central Corridor Project Office at 651-602-1930 and ask for Victoria Nill or email victoria.nill@metc.state.mn.us.
			(7) adequacy and completeness of the Technical Report, including the quantitative studies on which it is based, the methodology used and the conclusions reached.	Please see Section 5.2 of the final Supplemental EA, "Adequacy of Technical Report Analysis and Methodology" for FTA's response to this comment.
			(8) Lake Street study and Seattle study are better examples of impacts caused by construction projects and should be considered in the SEA and Technical Report.	Please see Section 5.2 of the final Supplemental EA, "Comparison of Analysis Methodology/Mitigation Identification to other similar projects," for FTA's response to this comment.
61	Gerry McInerney	Corridor business owner	Comments included the following subject: information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
62	Jim Golden	Corridor business owner	Comments included the following subjects: (1) information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
			(2)adequacy of mitigation measures, particularly with regards to providing access to businesses during construction, parking and providing measures to address loss of business revenues.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
63	Mary Leonard	Corridor business owner	Comments included the following subjects: (1) information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.

No.	Commenter	Group/ Affiliation	Comment	Response
			(2)adequacy of mitigation measures, particularly with regards to providing access to businesses during construction and off street parking.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.
64	Roger Nielsen	Corridor business owner	Comments included the following subject: information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
65	Sara Remke	Corridor business owner	Comments included the following subject: information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date, construction impacts experienced to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
66	Tim Holden	Corridor business owner	Comments included the following subject: information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date, construction impacts experienced to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
67	Habtamu Market Grocery Store	Corridor business	Comments included the following subject: information regarding vehicle access to business and parking, expected loss in revenues for business.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
68	Korey Niesen	Corridor business owner	Comments included the following subject: information regarding vehicle access to business and parking, expected loss in revenues for business, job losses/layoffs.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
69	Michael and Jean Hafner	Corridor business owners	Comments included the following subjects: (1) information regarding business signage/directional, construction timeliness, and street closures/openings, concerns regarding communications with Metropolitan Council staff, business owner's experience of loss of revenue to date.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
			(2) adequacy of mitigation measures, particularly with regards to providing access to businesses during construction and off street parking.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.4 of the FEIS, which addresses need for temporary pedestrian walkways and sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA); Section 6.2 of the FEIS, which addresses the effect of the project on regional and local roadways. Section 6.3 of the FEIS addresses parking impacts. Section 6.4 of the FEIS addresses accessibility.

No.	Commenter	Group/ Affiliation	Comment	Response
70	Midway Liquor Store	Corridor business	Comments included the following subject: information regarding decrease in sales and business activity and expected lost income. Information regarding business relocation and job losses/layoffs.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
71	Roger Fuerstenberg	Corridor business owner	Comments included the following subject: information regarding lost business revenue, expected lost income and estimates of rental income losses. Information regarding business relocation and job losses/layoffs.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
72	Tom and Kathy Stransky	Corridor business owners	Comments included the following subject: information about business access during construction (Snelling Avenue and University Avenue under construction at the same time). Information regarding expected lost income and job losses/layoffs.	FTA appreciates the comments from individual business owners providing information regarding their experiences to date with the construction of the project. FTA has considered these comments in developing the final Supplemental EA, particularly in FTA's requirement that Metropolitan Council provide monthly reports regarding the status of business mitigation measures as set forth in the FONSI being issued.
73	Frank Lorenz	Business owner	Comments raised the following subjects: (1) adequacy of mitigation measures, particularly with regards to adequacy of measures to address parking impacts during construction and business revenue losses caused by construction.	Please see discussion in Section 4.3 and Section 5.2 of the final Supplemental EA, "Adequacy of Mitigation Measures," for FTA's response to this comment. See also Section 6.3 of the FEIS addresses parking impacts.
			(2) small businesses owned by Environmental Justice populations should be studied as a subset to determine whether or not they will sustain different and disproportionate impacts.	The Metropolitan Council conducted a survey of businesses along the alignment to determine whether the businesses were owned by members of minority groups. FTA analyzed that data and found that the survey established that the businesses directly on the alignment contain 162 Asian owned businesses (15.1%), 51 Black or African American owned businesses (4.8%) and 4 Hispanic or Latino owned businesses (0.4%), representing slightly over 20% in minority owned businesses compared to the alignment area minority population of 46%. Therefore, there is no disparate or disproportionate impact to minority owned businesses along the corridor.



## CENTRAL CORRIDOR CONSTRUCTION-RELATED POTENTIAL IMPACTS ON BUSINESS REVENUES COMMENTS INDEX

Below is a listing of individuals and organizations that provided comments on the Draft Supplemental Environmental Assessment.

No.	Commenter	Group/ Affiliation
1	James Segal	Corridor business owner
2	Mike Baca	Corridor business owner
3	Tim Holden	Corridor business owner
4	Diane Pietro	Corridor business owner
5	Jack McCann	University Avenue Betterment Association (UABA)
6	Steve Bernick	Corridor business owner
7	Donald Dickerson	Citizen
8	Marilyn Porter	University Avenue Business Corporation Collaborative (U7)
9	Frank Lorenz	Business owner
10	Scott Walker	Metropolitan Business Council
11	Larry Peterson	University Avenue Betterment Association (UABA)
12	Don Smith	Corridor resident
13	Mary Leonard	Corridor business owner
14	Tim Nolan	Citizen
15	Benita Warns	Corridor business owner
16	Karen Inman	District Councils Collaborative of St. Paul and Minneapolis
17	Patricia O'Keefe	Corridor resident
18	Jamie Delton	Corridor business owner
19	Inna Valin	Citizen
20	Eva Ng	Capitol City Business Council
21	Greg Copeland	Citizen
22	Carl Gelbart	Citizen
23	John Slade	Metropolitan Interfaith Council on Affordable Housing (MICAH)
24	Andy Singer	St. Paul Bicycle Coalition
25	Mike Madden	Citizen
26	La Shella Sims	Metropolitan Interfaith Council on Affordable Housing (MICAH)
27	Colin Wilkinson	Citizen
28	Jennette Gudgel	Capitol City Business Council
29	Richard Bold	Citizen
30	Jeffrey Zrust	Corridor business owner
31	Harry Kent	Citizen
32	Jack McCann, Va-Megn Thoj	University Avenue Business Association (UABA), Asian Economic Development Association (AEDA)
33	Nikolai Alenov	Corridor business owner
34	Vic Rosenthal, Andrea Lubov	Jewish Community Action
35	Kari Canfield	Midway Chamber of Commerce
36	Matt Kramer	St. Paul Area Chamber of Commerce
37	Margaret Beegle	Member of Citizens for Personal Rapid Transit
38	Marianne Mersch	Citizen
39	Gary Hukriede	Citizen
40	Leah Carr	Corridor resident
41	Molly Park	Citizen
42	Russ Batisto	Corridor business owner
43	Sheldon Gitis	Citizen
44	Jay Cherner	Corridor business owner
45	Sidney Applebaum	Corridor business owner
46	City Council of the City of St. Paul (Resolution 11-576)	City of St. Paul
47	Sowa Unora	Citizen
48	Monica Millsap Rasmussen	Corridor resident
49	David Barnhart	Corridor business owner

No.	Commenter	Group/ Affiliation
50	Gen Fujioka	National Coalition for Asian Pacific American Community Development
51	Anne White	Corridor resident
52	David Markle	Citizen
53	Tom and Kathy Stransky	Corridor business owners
54	Michael Warns	Corridor business owner
55	Roy Hunn	Corridor business owner
56	Ardis Hafdahl	Corridor business owner
57	Carol Swenson	District Councils Collaborative of St. Paul and Minneapolis
58	Chris Ferguson	Corridor business owner
59	Thomas F. DeVincke	Bonner & Borhart, LLP, representing plaintiffs in pending civil action entitled <i>The St. Paul Branch of the NAACP, et al., vs. The Metropolitan Council, et al.</i>
60	Va-Megn Thoj	Asian Economic Development Association
61	Thea Johansen	Corridor resident
62	Skip and Heidi Brist	Corridor business owners
63	N/A	University Avenue Betterment Association (UABA)
64	Gerry McInerney	Corridor business owner
65	Jim Golden	Corridor business owner
66	Roger Nielsen	Corridor business owner
67	Sara Remke	Corridor business owner
68	Tina Lehman	Corridor business owner
69	Habtamu Market Grocery Store	Corridor business
70	Korey Niesen	Corridor business owner
71	Michael and Jean Hafner	Corridor business owners
72	Midway Liquor Store	Corridor business
73	Roger Fuerstenberg	Corridor business owner