APPENDIX A:
Central Corridor LRT National Environmental Policy Act Document List

Central Corridor LRT National Environmental Policy Act Documents

Document	Published
Alternative Analysis/Draft Environmental Impact Statement (AA/DEIS)	April 2006
Supplemental Draft Environmental Impact Statement (SDEIS)	July 2008
Final Environmental Impact Statement (FEIS)	June 2009
FTA Record of Decision (ROD)	August 2009
Draft Infill Stations Environmental Assessment (EA)	January 2010
Final Infill Stations Environmental Assessment (EA)	February 2010
Finding of No Significant Impact (FONSI)	February 2010
Draft Supplemental Environmental Assessment for Construction-Related Potential Impacts on Business Revenues (SEA)	February 2011
Final Supplemental Environmental Assessment for Construction-Related Potential Impacts on Business Revenues (SEA)	April 2011
Finding of No Significant Impact (FONSI)	April 2011
Draft Supplemental Environmental Impact Statement on Construction-Related Potential Impacts on Business Revenues (SDEIS)	December 2012

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 At 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).

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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 chose 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

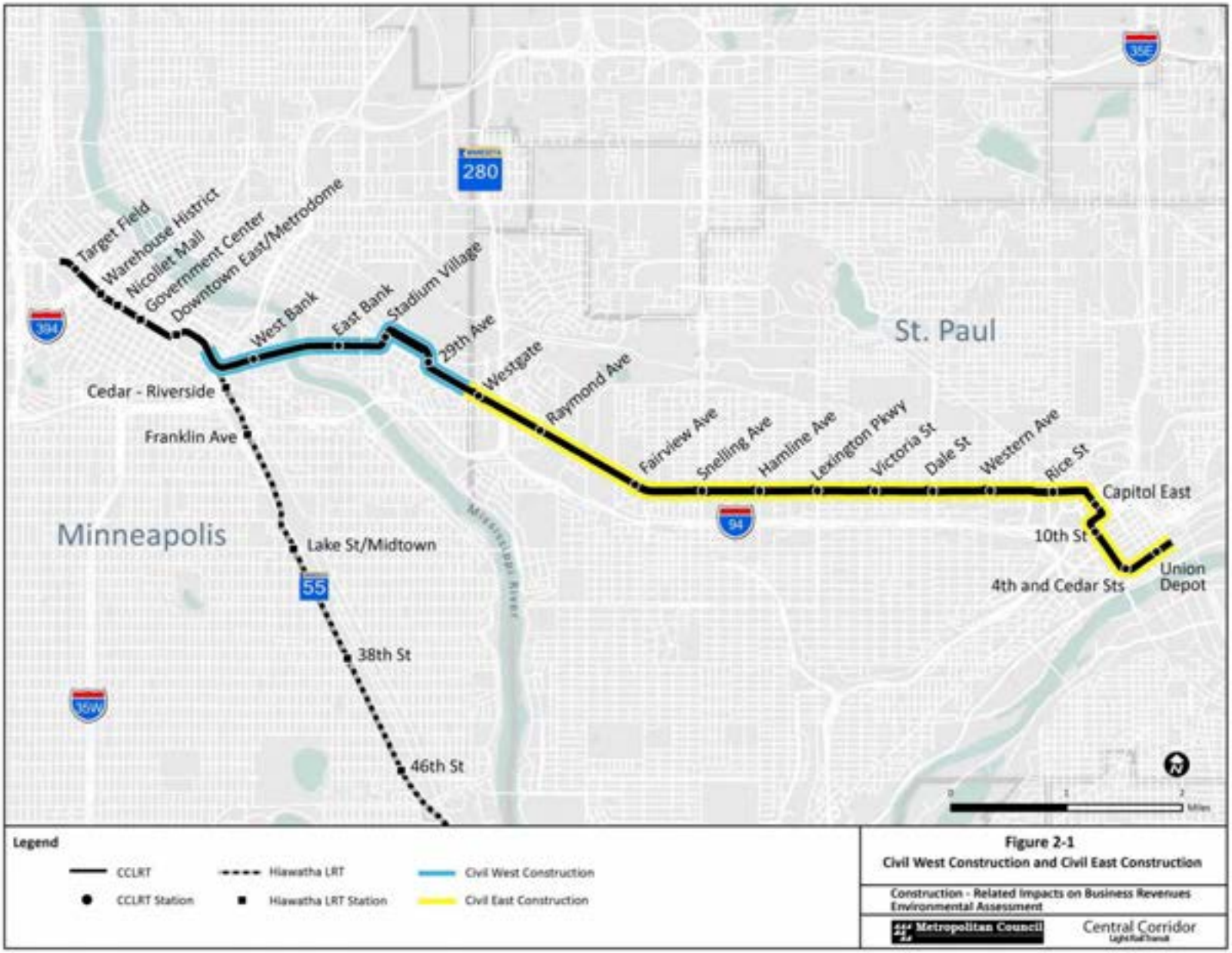
This section identifies the construction activities associated with the Project. For the purposes of this Supplemental EA, construction of the Project is being addressed in two general sections: Civil West and Civil East. The Civil West construction comprises the western three miles of the Project within 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.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Lexington Pkwy
Victoria St
Dale St
Western Ave
Rice St
Capitol East
10th St
4th and Cedar Sts
Union Depot
Cedar - Riverside
Franklin Ave
Lake St/Midtown
38th St
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Hiawatha LRT Station
Civil West Construction
Civil East Construction
Figure 2-1
Civil West Construction and Civil East Construction
Construction - Related Impacts on Business Revenues
Environmental Assessment
Metropolitan Council
Central Corridor

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.[1] 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.

[1] 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.[2] 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

[2] 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.

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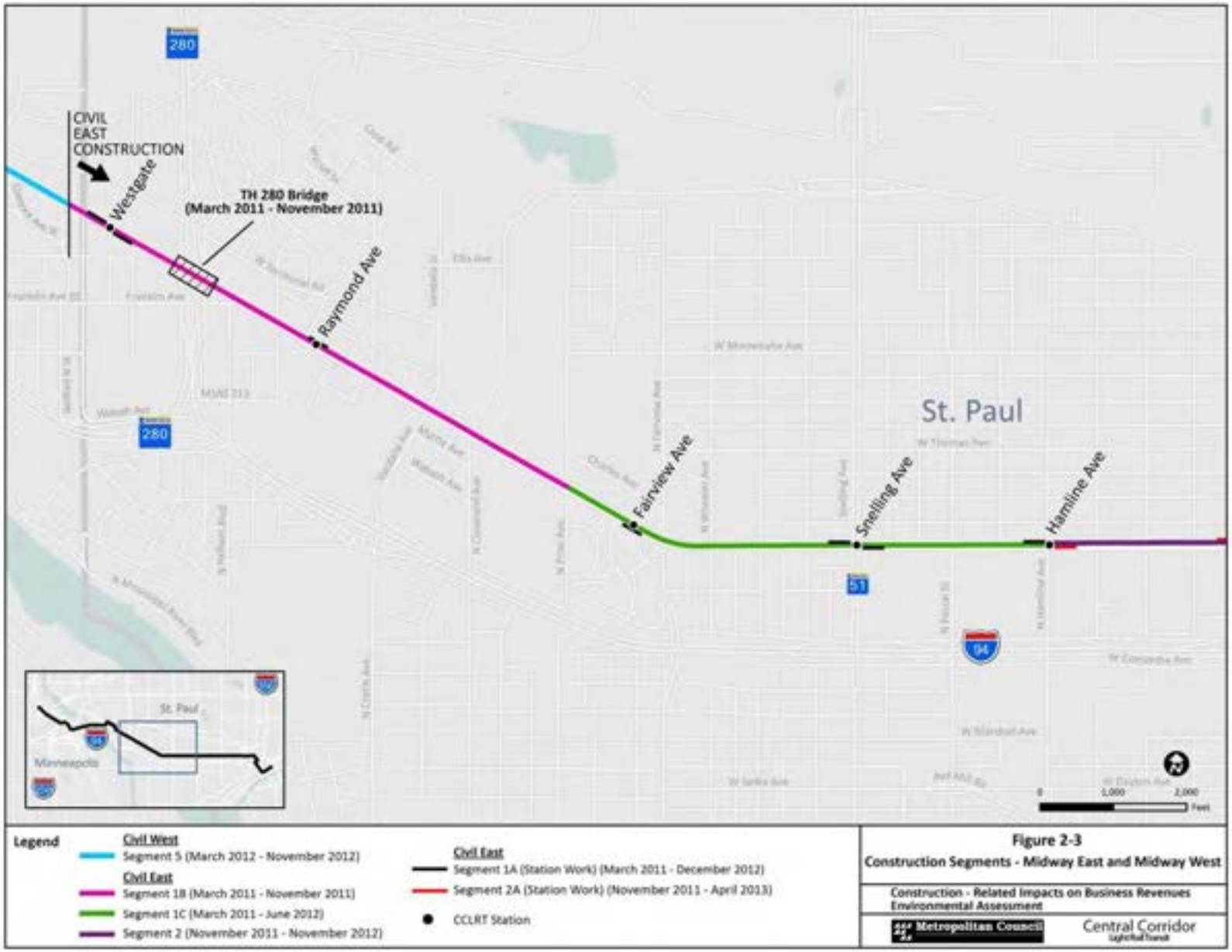
Table 2-1. Central Corridor LRT Construction Schedule Overview

Approximate Location			Construction Schedule [1]	
Segment	**From**	**To**	**Anticipated Start**	**Substantially Complete**
Civil West Construction				
Segment 1 [2]	Hiawatha LRT	I-35W	Dec. 2010	Nov. 2011
Segment 2 [3]	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
Civil East Construction				
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 [4]	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

[1] 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.
[2] Civil West, Segment 1 includes Central Corridor LRT Bridge over I-35W.
[3] Civil West, Segment 2 includes Washington Avenue Bridge over the Mississippi River, West River Road and East River Road.
[4] Civil East, Segment 4A includes demolition of former Bremer Bank building and replacement of skyway.

Downtown East / Metrodome
West Bank
East Bank
Segment 4
(May 2011 - November 2011)
Stadium Village
29th Ave
St. Paul
CIVIL
EAST
CONSTRUCTION
Westgate
CIVIL
WEST
CONSTRUCTION
Cedar - Riverside
Minneapolis
Mississippi River
Franklin Ave
TH 280 Bridge
(March 2011 - November 2011)
Legend
Civil West
Segment 1 (December 2010 - November 2011)
Segment 2 (September 2010 - November 2012)
Segment 3 (May 2011 - August 2012)
Segment 4 (May 2011 - November 2011)
Segment 5 (March 2012 - November 2012)
Civil West
Segment 5A (May 2011 - August 2011)
Civil East
Segment 1B (March 2011 - November 2011)
Segment 1A (Station Work)
(March 2011 - December 2012)
Hiawatha LRT
Hiawatha LRT Station
CCLRT Station
Figure 2-2
Construction Segments - Downtown Minneapolis and University / Prosepct Park
Construction - Related Impacts on Business Revenues
Environmental Assessment
Metropolitan Council
Central Corridor



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.)

St. Paul
Hamline Ave
Lexington Pkwy
Victoria St
Dale St
Western Ave
Rice St
Capitol East
10th St
Minneapolis
Legend
Civil East
Segment 1C (March 2011 - June 2012)
Segment 2 (November 2011 - November 2012)
Segment 3 (July 2010 - November 2011)
Segment 4 (June 2011 - November 2012)
Segment 2A (Station Work) (November 2011 - April 2013)
CCLRT Station
Figure 2-4
Construction Segments - Midway East and Capitol Area
Construction - Related Impacts on Business Revenues
Environmental Assessment
Metropolitan Council
Central Corridor

Legend

Civil East

- Segment 2 (November 2011 - November 2012)
- Segment 3 (July 2010 - November 2011)
- Segment 4 (June 2011 - November 2012)
- Segment 5 (March 2011 - November 2011)
- Segment 2A (Station Work) (November 2011 - April 2013)
- CCLRT Station

Figure 2-5
Construction Segments - Capitol Area and Downtown St. Paul

Construction - Related Impacts on Business Revenues
Environmental Assessment

Metropolitan Council
Central Corridor

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) (1)(2)	$144B	$149B	$156B	$167B	$176B	$182B	$189B	$192B	$189B
Per Capita Personal Income (2)	$37,901	$38,467	$39,534	$41,613	$42,721	$44,975	$46,870	$47,653	--
Median Household Income (3)	--	--	--	--	$65,803	$66,454	$66,352	$65,862	--
Unemployment Rate (%) (4)	3.5%	4.4%	4.7%	4.4%	3.9%	3.8%	4.3%	5.1%	7.8%

(1) Gross Domestic Product (GDP) for Metropolitan Statistical Area (MSA) in billions of current dollars.
(2) Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts.
(3) Median household income in 2008 dollars. Metropolitan Council. *MetroStats*. October 2009.
(4) 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.[3] 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 (1)								
	Minneapolis Zip Codes				St. Paul Zip Codes				TOTAL
	55415	55454	55455	55414	55114	55104	55103	55101	
Number of Establishments (2)	325	164	30	801	563	1155	340	765	4143
Establishments with 1 to 19 employees (2)	266	127	24	627	428	954	270	635	3331
Establishments with ≥ 20 employees (2)	59	37	6	174	135	201	70	130	812

(1) Does not include zip codes in downtown Minneapolis along the shared segment of the Hiawatha LRT which has already been completed.
(2) 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.[4] 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

[3] 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.
[4] Wilder Research, "Central Corridor Key Outcomes: Baseline Indicators Report," March 2011, available at http://www.wilder.org/reportsummary.0.html?tx_ttnews%5Btt_news%5D=2393.

level.[5] 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[6]. 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

[5] 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.

[6] 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.[7]"

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.[8] 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.

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

[8] 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.[9] 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

Business Type (1)	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 (Small businesses)
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 (2)	0%	713	81%	576
Total # of Businesses	--	947	82%	779

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

(2) 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

[9] 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.[10] 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.

[10] 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[11]
- Adjustments to construction phasing[11]
- Traffic management[11]
- Public relations and marketing activity[12]

In addition, the Minnesota Department of Transportation ("Mn/DOT") recommends mitigation measures as best practices for transportation projects.[13] 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.

[11] 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.
[12] 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.
[13] 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) 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 re-paved 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[14]. 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,

[14] 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 [1]	$4,000,000	Metropolitan Council
	Construction Communication Plan (Special Signage) [2]	$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 [3]	$4,000,000	City of St. Paul
	Business Improvement / Expansion Assistance	$850,000	Neighborhood Development Center
	Business Resources Collaborative [4]	$240,000	N/A
	University Avenue Business Preparation Collaborative [5]	$675,000	N/A
	Great Streets and Business Association Assistance Program	$210,000	City of Minneapolis
	Other [6]	$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
	TOTAL	$14,782,670	

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

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

(3) 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.

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

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

(6) 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."[15]

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

[15] 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)[16] 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

[16] 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

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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.

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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. USDO*T,[1] 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.[2]

[1] *NAACP, et al. v. US Department of Transportation, et. al.*, CIV 10-147 (W.D. MN, UNPUBLISHED DECISION, January 26, 2011).
[2] Business census data of the Central Corridor from the Metropolitan Council. E-mail 2/23/11 from Robin Caufman.

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.[3]

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.[4] 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.

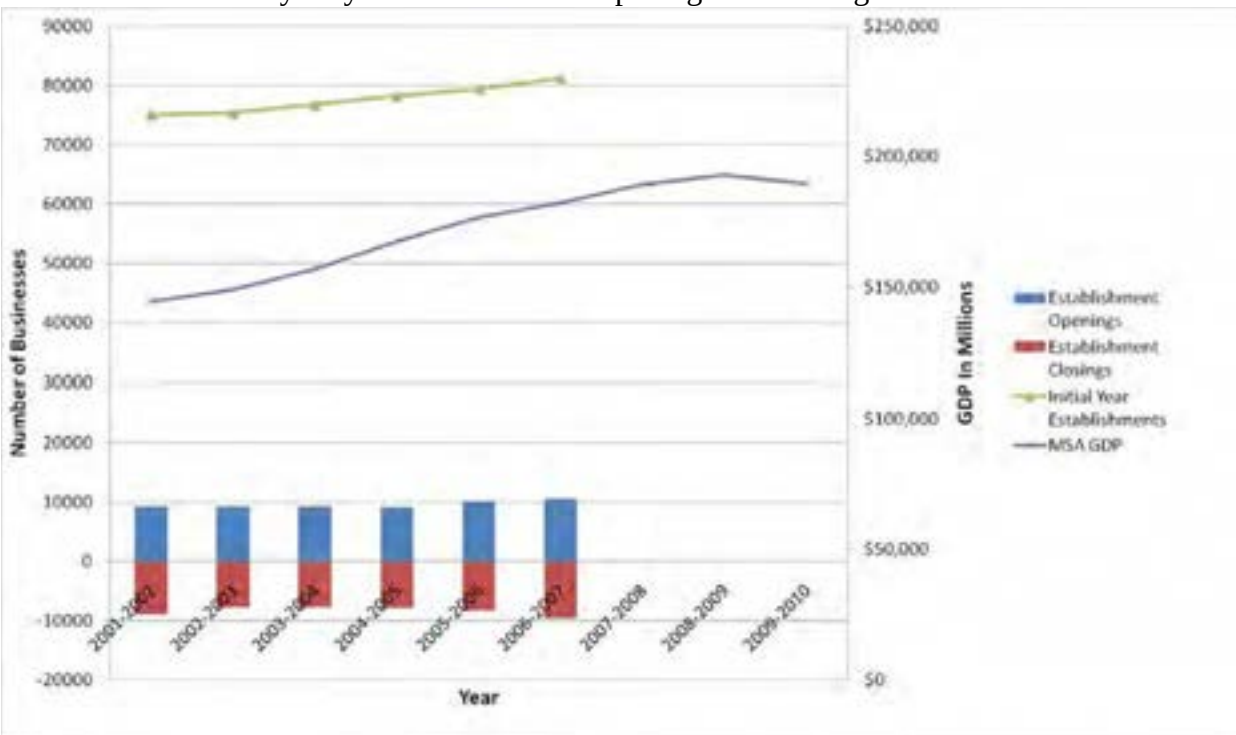

Figure 1. Business openings and closures compared to overall trends in Minneapolis-St. Paul

[3] Federal Reserve Beige Book, Region IX, March 4th, 2009 and April 15th 2009.
[4] 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.[5] 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.[6] 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 15th 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 30th, 32nd, and 37th in the country, respectively, which can have a negative effect on the likelihood of small business success.[7]

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.[8] 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,

[5] 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.
[6] Knaup, Amy E. "Survival and Longevity in the Business Employment Dynamics Database" *Monthly Labor Review*, Volume 128, Number 5 (May 2005), pp. 50-6
[7] 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
[8] 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. [9] 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.[10] 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

[9] "The Impact of Light Rail on Local Businesses," published by Houston Tomorrow, May 2006. Available at http://www.gulfcoastinstitute.org/university/LightRail_BusinessImpact.pdf.

[10] 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

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.[11]

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.[12] 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.

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[11] Collins, pg. 8

[12] 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
Buddemeyer, Young and Vander Giessen (2008)[13]	Highway reconstruction near Dubois, Wyoming on the way to Jackson Hole and Yellowstone National Park	No impact: "holding steady with minor declines"
De Solminihac and Harrison (1993)[14]	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
Wildenthal and Buffington (1996)[15]	Widening a state highway in Caldwell, TX (population	5% decrease

[13] 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.

[14] 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
	3000)	
Young, Wolffing, and Tomasini (2005)[16]	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

[15] 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.

[16] 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.[17] 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,

[17] 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.[18]

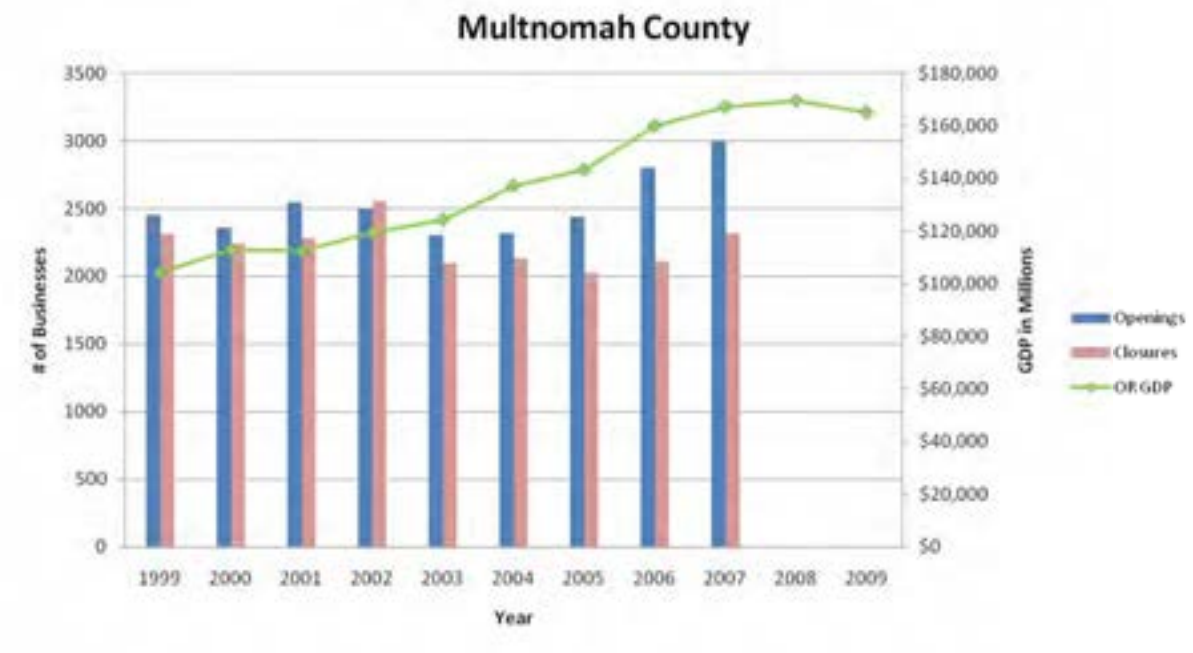


Figure 2. Business openings and closures in Portland during light rail construction

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.[19] 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.

[18] "The Impact of Light Rail on Local Businesses," published by Houston Tomorrow, May 2006. Available at http://www.gulfcoastinstitute.org/university/LightRail_BusinessImpact.pdf.
[19] "The Impact of Light Rail on Local Businesses," published by Houston Tomorrow, May 2006, page 6

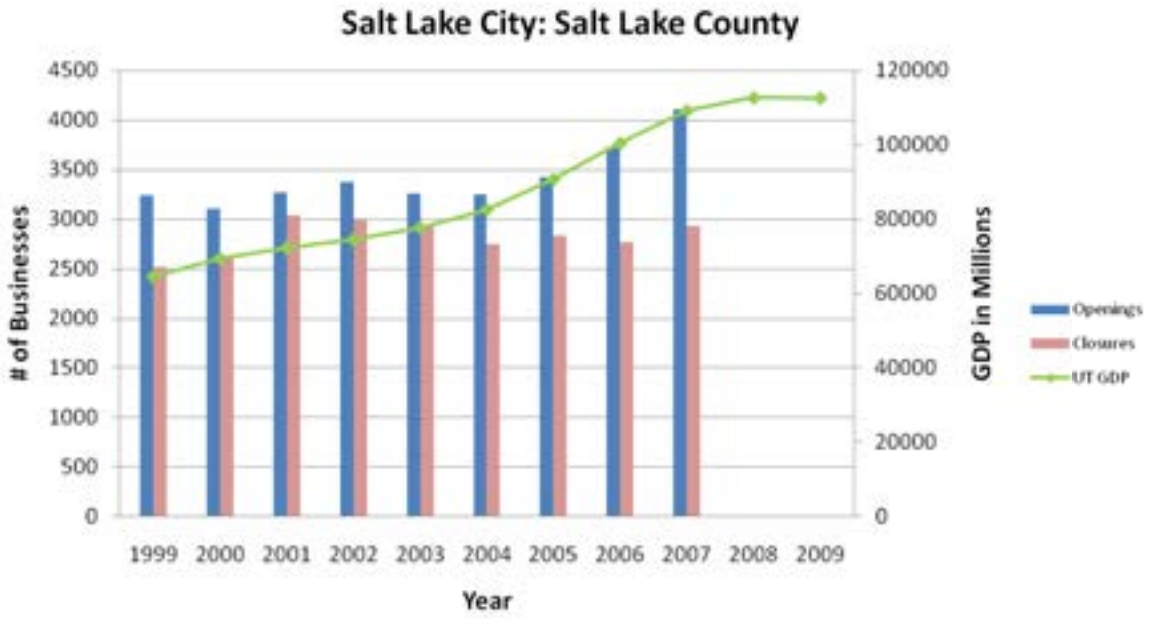


Figure 3. Business openings and closures in Salt Lake City during light rail construction

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.[20] 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.

[20] 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.

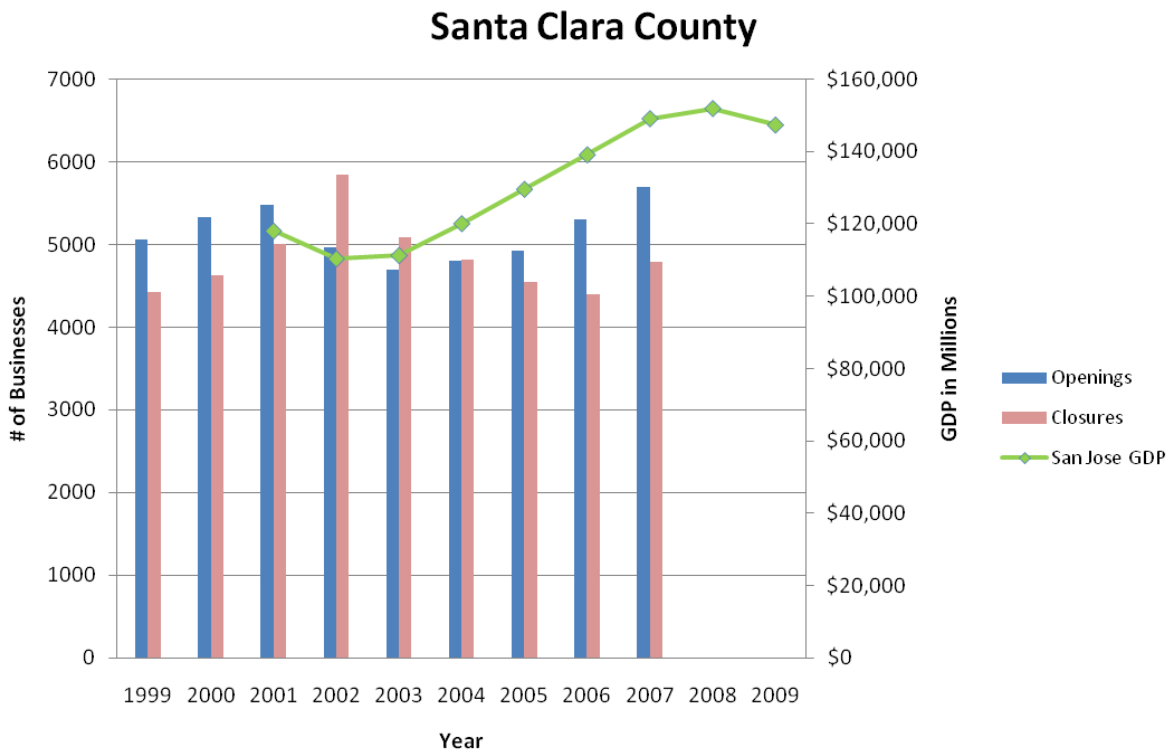


Figure 4. Business openings and closures in San Jose during light rail construction

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.[21] 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.

[21] Collins, pg. 8

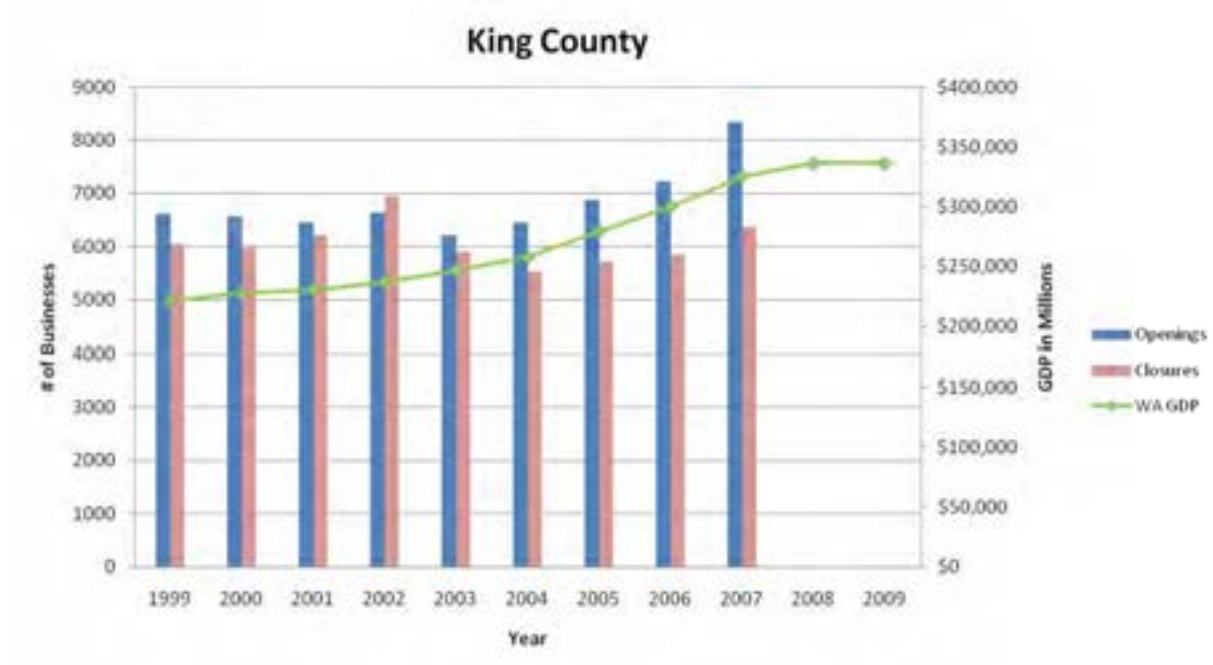


Figure 5. Business openings and closures in Seattle during light rail construction

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.[22] 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.[23]

[22] 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.

[23] 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
Total	100.00%	947	82%	779

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

Table 3. Categorization of Central Corridor businesses by the De Solminihac 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[24]	0%	713	81%	576
TOTAL BUSINESSES		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.[25] 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

[24] 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.

[25] 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.[26] 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.[27] 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

[26] 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.

[27] 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

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

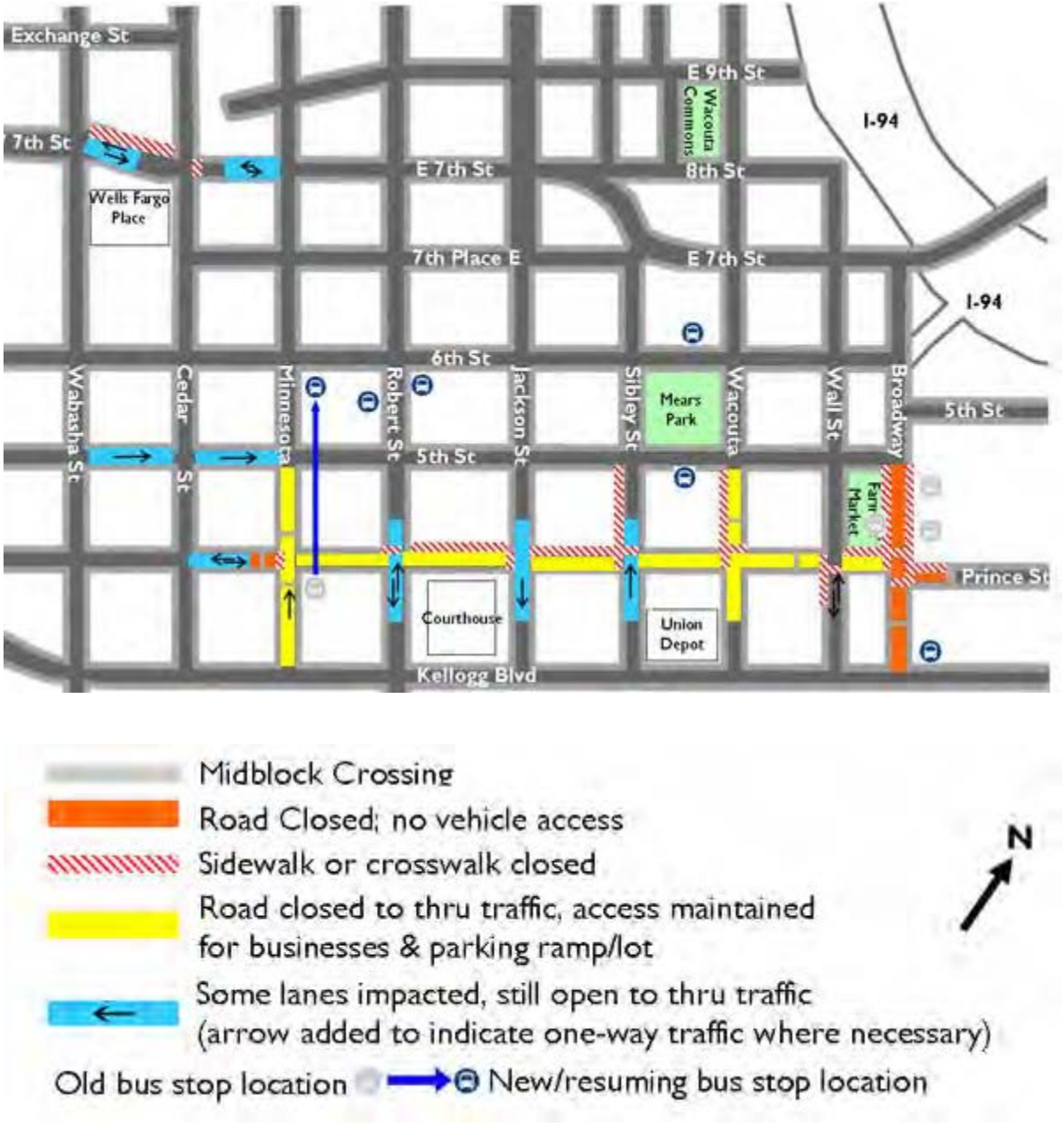
- Utility relocation and road construction is occurring on Fourth Street between Minnesota and Broadway streets in preparation for the Central Corridor Light Rail. This work includes relocating utilities, permanently removing parking meters and replacing sidewalks and light poles.When this work is complete 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 4th 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 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



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 frequently for updates.

If you have questions or concerns, please contact the Central Corridor LRT Project office at 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

For utility service questions, contact:

District Energy -
Nina Axelson
Phone: 651-925-8147
Email: nina.axelson@ever-greenenergy.com

Xcel Energy -
Shannon M. Forss
Phone: 612-720-3663
Email: shannon.m.forss@xcelenergy.com

St. Paul Public Works -
Shannon Tyree
Phone: 651-266-6063
Email: 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

Follow us on twitter

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.

Metropolitan Council

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Constant Contact
TRY IT FREE

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

Central Corridor
Light Rail Transit

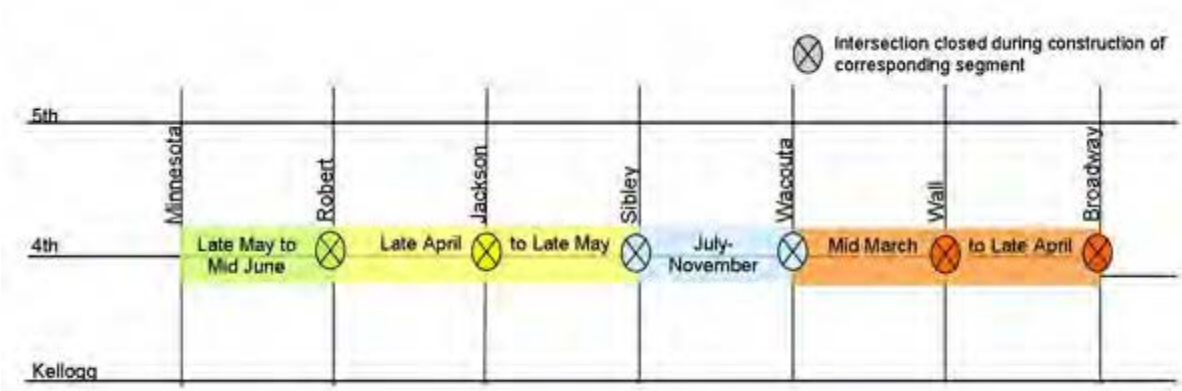
News Advisory

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

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.

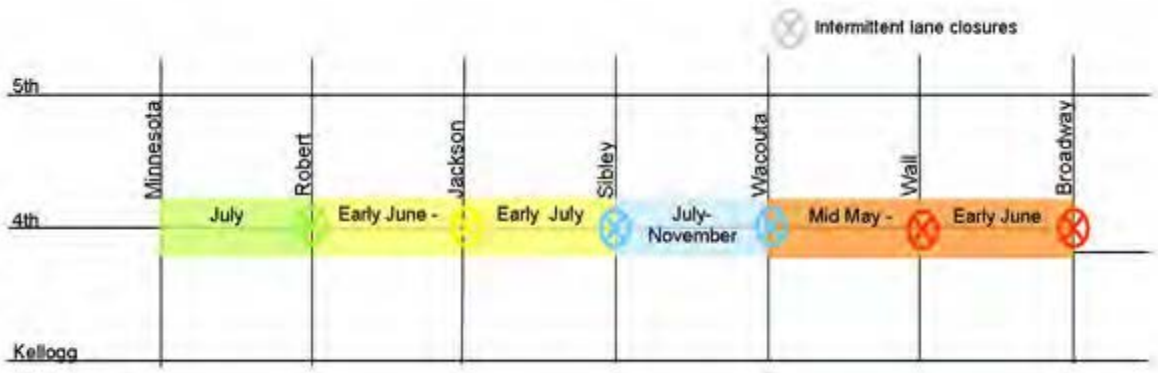
Lanes closed to through traffic.

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 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

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

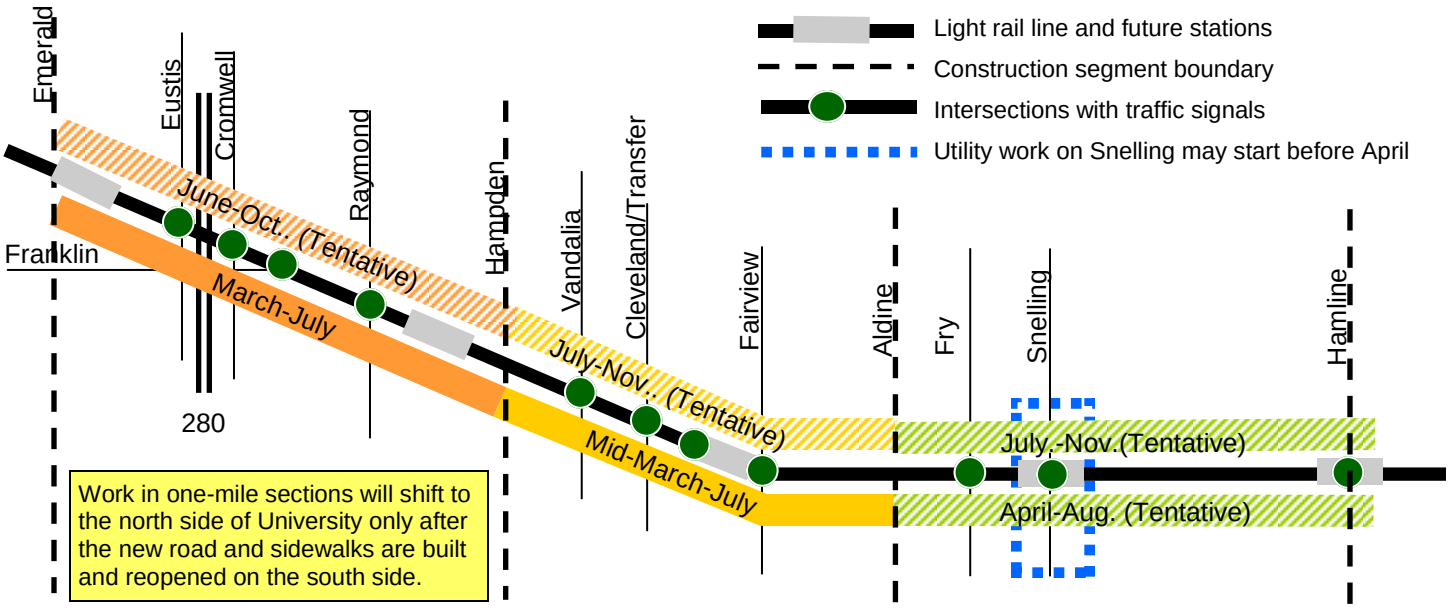
- One through lane of traffic each way on University Avenue
- Alternate vehicle access to buildings
- Temporary sidewalks, ramps over construction
- Pavement restored within 150 days, sidewalks within 15 days

www.centralcorridor.org

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 side-walks 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 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.rodriguez@metc.state.mn.us
- Joey Browner, 651-602-1953 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 homepage.
- Attend regular meetings for businesses and residents in the construction zone. To receive meeting notices, contact outreach coordinator Rita Rodriguez at rita.rodriguez@metc.state.mn.us or 651-602-1805 or the general project email address at centralcorridor@metc.state.mn.us

To get business assistance:

- Contact the Business Resources Collaborative at 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
- **Parking**
  Craig Blakely, Senior planner, (651) 266-6697, craig.blakely@ci.stpaul.mn.us
- **Public Works**
  Shannon Tyree, Public Relations Manager, (651) 266-6063, 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 frequently for updates.***

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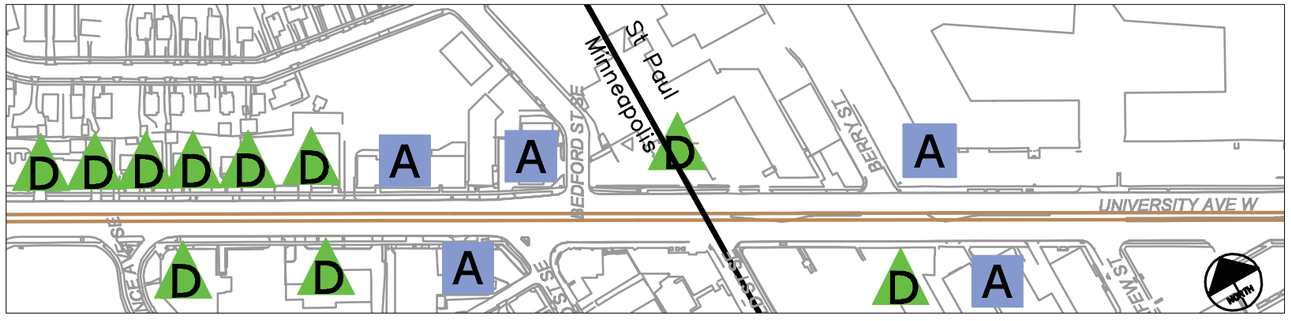
APPENDIX D

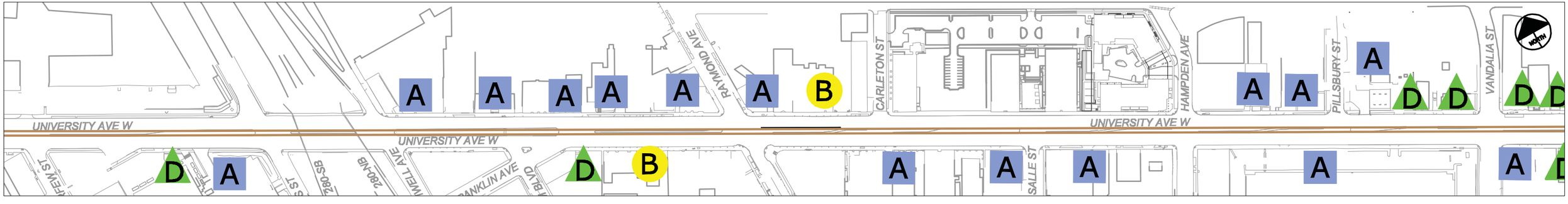
CORRIDOR ACCESS OPPORTUNITIES MAP
CE Segment 1

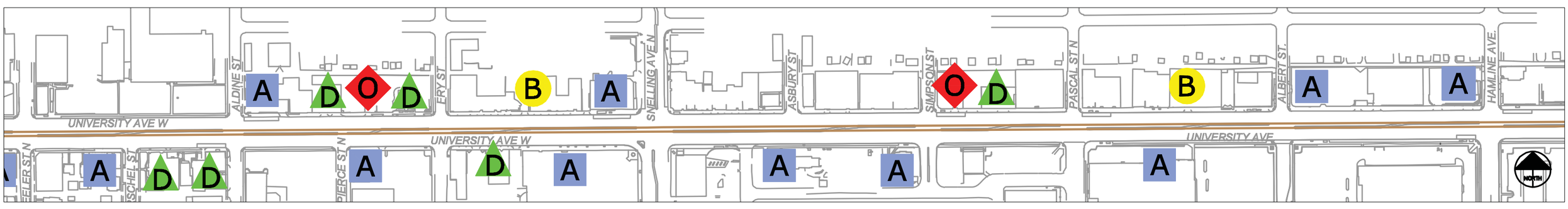
Draft 9-14-2010

LEGEND

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







CORRIDOR ACCESS OPPORTUNITIES CE SEGMENT 1

February 14, 2011

Central Corridor
Light Rail Transit

Metropolitan Council

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

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

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

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.
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LEGEND

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

ACCESS PLAN_A

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
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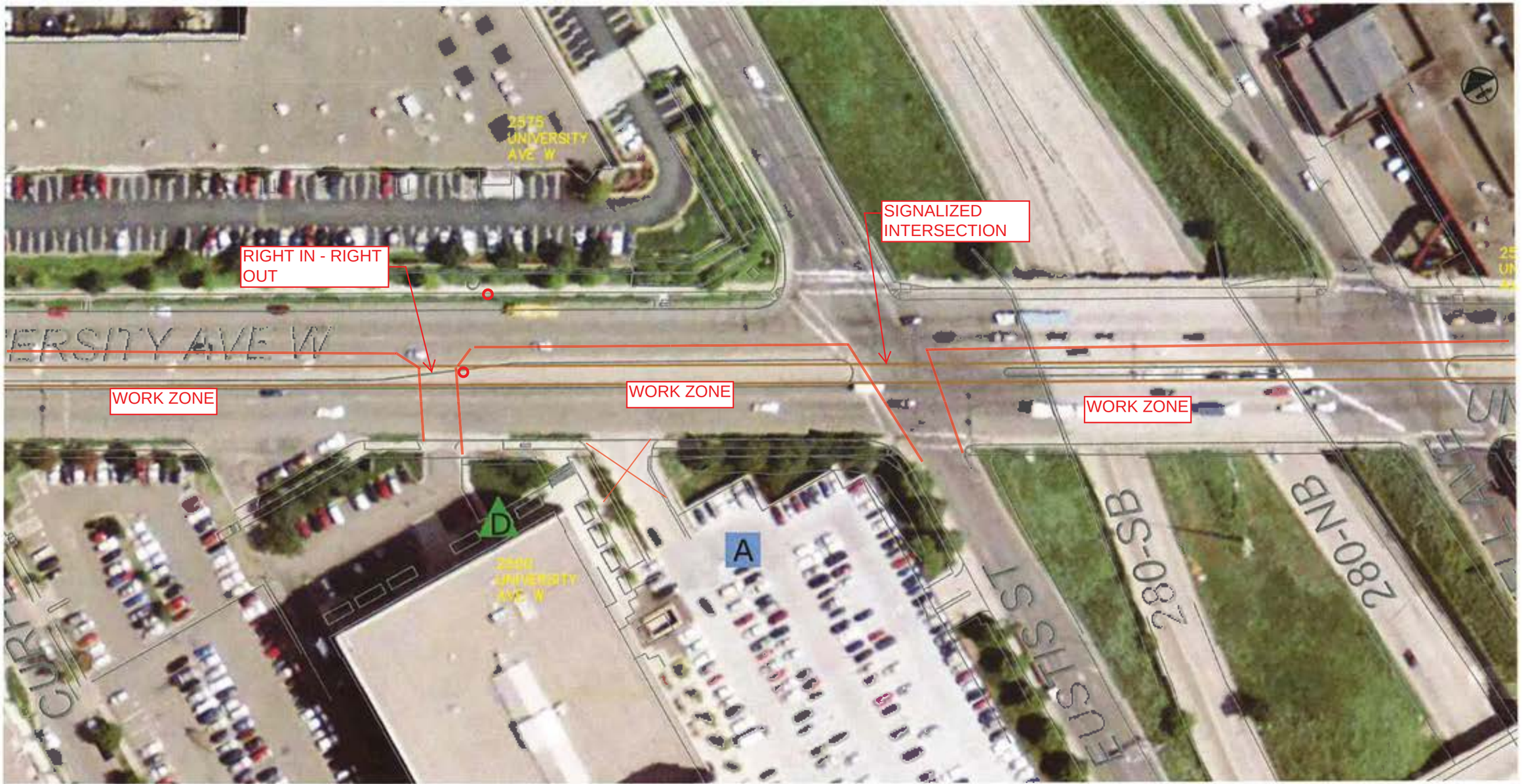
- Other
- No Left Turn

ACCESS PLAN_A

February 14, 2011



Cromwell, Franklin, Pelham, Raymond

Notes:
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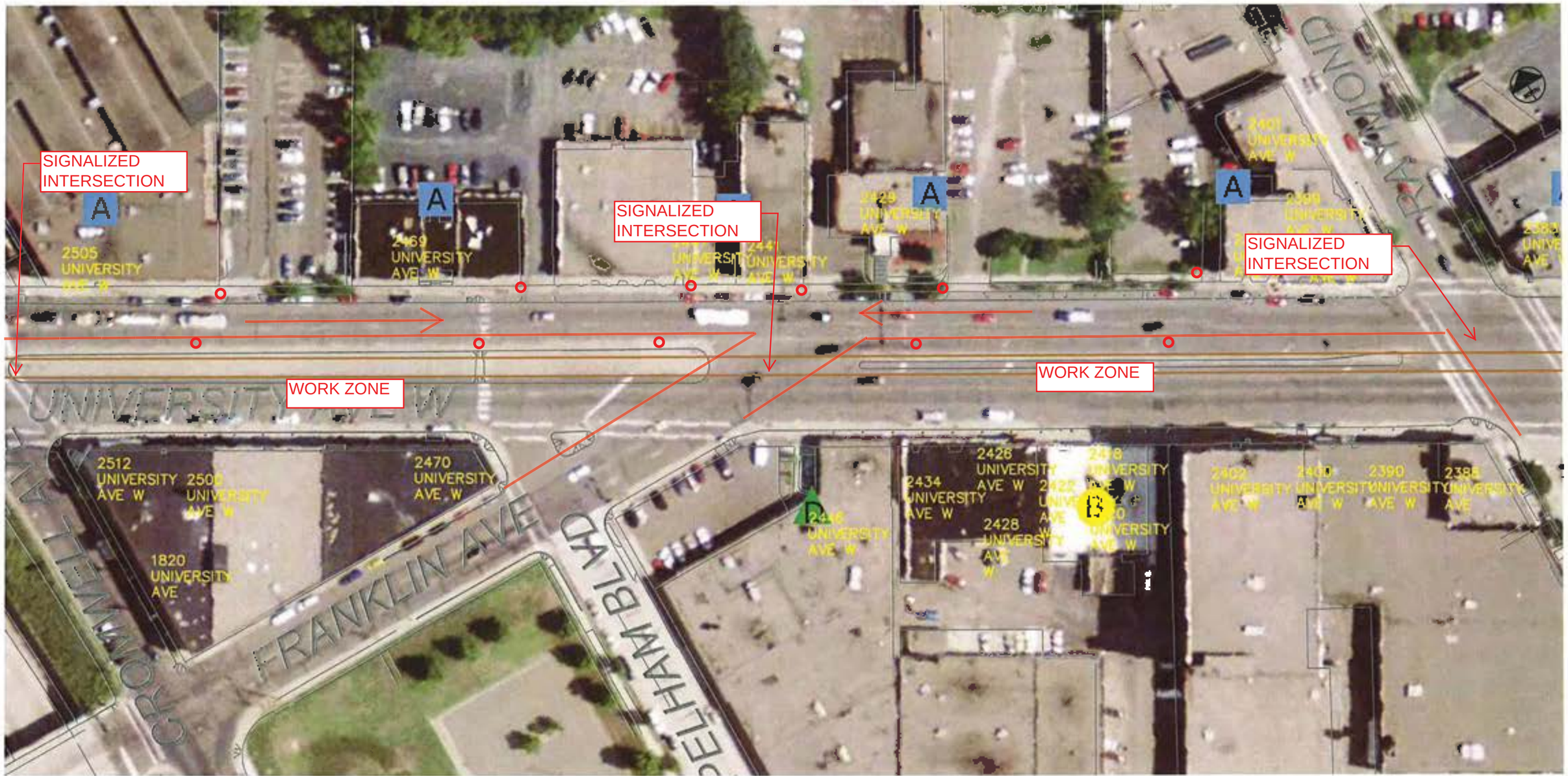
ACCESS PLAN_A

February 14, 2011



APPENDIX E

Metropolitan Council

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, 12th 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.

Metropolitan Council

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:***

	Strongly Disagree										**Strongly Agree**
1. **Maintenance of Access – 30% Weight**											
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. <u>Site Cleanliness & Organization – 15% Weight</u>

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. <u>Information Distribution – 15% Weight</u>

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:

<u>5. Responsiveness to Community Concerns – 25% Weight</u>

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
Metropolitan Council

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
• 30-day Construction Notification	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
• 72-hour Business/Commercial Utility Shutdown	Written notification by utility company of utility shutdown for businesses and commercial property.
• 48-hour Residential Utility Shutdown	Written notification by utility company of shutdown for residential property.
• Weekly Construction Updates	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
• Emergency Unforeseen Utility Disruptions, Hazardous Conditions, Traffic Signal Emergencies, Security and Loss of Access	See Section 3.3
• Road and Driveway Closures	Written notice, email or personal contact at least 72-hours in advance of closure.
• Construction Schedule	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 manger 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
PUBLIC HEARING No. 1 March 16, 2011, 8:00 a.m., Lao Family Community of Minnesota				
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.
PUBLIC HEARING No. 2 March 16, 2011, 6:00 p.m., Goodwill/Easter Seals				
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 (MICAH)	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 (MICAH)	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.
WRITTEN COMMENTS RECEIVED DURING PUBLIC COMMENT PERIOD, March 1-March 31, 2011				
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	***[Comments entered in as testimony at March 16 public hearing.]***	Please refer to the responses to comment 16.
34	Tim Holden	Corridor business owner	***[Comments received with testimony at March 16 Public Hearings.]***	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.

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			(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.

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			(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 *The St. Paul Branch of the NAACP, et al., vs. The Metropolitan Council, et al.*	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
COMMENTER 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 *The St. Paul Branch of the NAACP, et al., vs. The Metropolitan Council, et al.*
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

APPENDIX C:
Central Corridor BRT Alternative Construction Duration

SRF Consulting Group, Inc. | ENGINEERS PLANNERS DESIGNERS

SRF No. 0127829 006F

MEMORANDUM

TO: Kathryn O'Brien
Environmental Services Manager

FROM: James Gersema, PE

DATE: October 23, 2012

SUBJECT: CENTRAL CORRIDOR BRT ALTERNATIVE CONSTRUCTION DURATION

The Central Corridor Bus Rapid Transit (BRT) alternative is proposed to contain sections of dedicated guideway operation and sections of mixed traffic operation. It is assumed that both types of BRT section would require full reconstruction of the corridor to provide improved pavement strength and rideability, pedestrian facilities, and reconstructed utilities. In addition, the BRT alternative assumes that transit stations would be constructed with the same amenities as the Light Rail Transit (LRT) alternative, and that there would be similar bridge replacement and/or rehabilitation along the corridor with the exception that a new bridge over I-35W would not be needed, and that modification to the existing LRT bridge over I-35W would not be needed.

The overall construction timeline of the BRT alternative can reasonably be expected to be shorter in duration than the LRT alternative; however, the duration of the civil work activities and station construction is expected to be slightly longer. The difference in civil work activities is the result of the differing alignment alternatives through downtown Minneapolis. The LRT alternative is able to utilize the Hiawatha LRT track and stations, while the BRT alternative would be routed on 4th Street in mixed traffic. This alternate alignment adds more than an additional mile of corridor pavement rehabilitation, pedestrian facility upgrades, and station construction.

The construction timeline for the LRT alternative includes additional time dedicated to construction and testing of the train communication and power systems and the construction of the operations and maintenance facility; these are activities that would not be needed for the BRT alternative, thus, reducing the overall duration of BRT construction.

JDG/gjd

cc: Beth Bartz, SRF
Mona Elabbady, SRF

H:\Projects\7829_Correspondence\Memorandums\Memo.docx

O'Brien, Kathryn

From: Soler, Dan
Sent: Wednesday, November 14, 2012 9:16 AM
To: O'Brien, Kathryn
Subject: BRT Construction Duration
Attachments: 121023_Memo_OBrien.pdf.pdf

Kathryn,

I have reviewed the attached memo prepared by SRF regarding the proposed duration of a BRT alternative for the Central Corridor project. I concur with the analysis presented in the memorandum. I agree that the overall timeline of construction of a BRT alternative would be less due to the elimination of the systems construction and testing of the project. I also agree that the civil construction portion of the project (roadways, utilities, stations, etc.) would be at least as long or longer than the civil construction associated with the LRT project

Thanks for the opportunity to review and comment on this issue.

DAN

Daniel Soler, P.E
Director, Transit Systems Design and Construction
Central Corridor Project Office
540 N. Fairview Avenue
Saint Paul, MN 55104
Phone: 651-602-1971
Cell: 651-900-9902

APPENDIX D:
Literature Review for the Central Corridor Supplemental EIS

Literature Review for the Central Corridor Supplemental EIS

This literature review examines papers, reports, studies and other documents on

- The impacts from the construction of major transportation projects on area business revenues; and/or,
- Best practices employed to mitigate adverse construction-related impacts to businesses.

Studies that undertook quantitative analyses of impacts to **storefront businesses** were particularly sought out. Although growing as a field of research, literature on the impacts of transportation construction to area businesses is relatively scarce. The "Technical Report on the Potential Impacts on Business Revenues during Construction of the Central Corridor Light Rail Project" completed by the US Department of Transportation Volpe Center (2011) reviewed four academic and government-published studies as well as two additional studies. In addition to highlighting studies with quantitative analyses of business impacts as the Volpe report did, this literature review includes additional published reports that present qualitative findings on the topic.

Peer-Reviewed, Government or Academically Published Works

Analyzing the Effects of Highway Rehabilitation on Businesses[i]

This 1993 study by de Solminihac and Harrison on construction phase impacts to businesses from urban highway rehabilitation projects examined an 11.6-mile highway reconstruction project along the Southwest Freeway (US-59) in Houston, TX. Construction activities were broken into four segments and took place from August 1989 to December 1992.

The researchers examined sales data for businesses along the corridor and compared actual sales data during construction to predictions of sales based on pre-construction sales data. Businesses were broken down into ten categories to determine which sectors were most impacted by construction. Based on this quantitative analysis, the researchers found that negative impacts from construction were most severely felt by businesses in four retail categories: food stores (37 percent drop), automotive outlets (32 percent drop), general merchandise (28 percent drop) and home furnishings (17 percent drop).

The authors also conducted a business survey to ask managers to quantify impacts to their businesses. About 49 percent reported being considerably affected by construction and an additional 32 percent said they were somewhat affected. Of the 66 respondents, 22.7 percent said their sales either improved or did not change during construction. Another 22.7 percent reported sales dropping between 10 to 20 percent. Only 12 percent of businesses surveyed reported experiencing a sales drop of 40 percent or more during construction.

Estimated Construction Period Impact of Widening State Highway 21 in Caldwell, Texas[i]

Wildenthal and Buffington's 1996 study examined the widening of a 2.3-mile stretch of State Highway 21 in Texas. Construction on the project occurred between 1991 and 1993 in Caldwell, TX, a town of 3,000. The transportation construction project differs greatly from the CCLRT project in its location and project type. The authors surveyed managers of abutting businesses to obtain information on sales figures, number of employees and number of available parking spaces before and during construction. Survey data on sales were cross-checked with actual sales data, where available. Of the 54 survey respondents, 34 (63 percent) reported a decline in sales and 20 reported a decline of 25 percent or more. Twenty-three businesses reported actual sales data for 1990 (before construction) and 1991 (less than one year into construction). Of those 23 businesses, slightly over half experienced a decline. The aggregate sales data from these 23 businesses showed a five percent decrease in sales between 1990 and 1991. Meanwhile, gross sales data for all businesses in Caldwell (obtained from the state comptroller's office) showed a five percent increase in sales during this period. Approximately 80 percent of business managers reported no change in the number of employees during construction.

Mitigating the Adverse Impacts of the Dallas North Central Expressway Construction on Businesses

In a 1998 study, Harrison and Waldman examined the impacts to business associated with the reconstruction of an 18-mile stretch of the North Central Expressway (NCE) and the construction of an adjacent Dallas Area Rapid Transit (DART) light rail transit (LRT) in Dallas, TX. The researchers surveyed businesses along two sections of the corridor where construction had already been completed as well as businesses abutting two sections that were under construction at the time of the survey. Harrison and Waldman supplemented the business owner perceptions gained through the surveys with an analysis of more objective sales data reported to the Texas state comptroller. The research team further examined business openings and closings during construction and trends in multi-tenant real-estate market.

Based on two previous reports (WisDOT, 1989; de Solminihac and Harrison, 1993) and correlation with NCE surveys, the researchers identified the four most sensitive sectors to transportation construction work: retail, other; retail, food; retail, auto; and services. Harrison and Waldman collected sales data for the businesses within these sectors along the NCE project corridor. They then compared the data from before construction began to sales data from the construction period. They further compared sales data for businesses along the NCE construction corridor to sales data for these sectors in Dallas as a whole. Both of these comparisons yielded no significant difference in business sales. Surveys of business openings and closings along the four sections showed 60 business openings and 36 business closings occurred during construction. Finally, analysis of quarterly absorption, occupancy and rental rates for multi-tenant office buildings showed a low point from 1991 to 1992, when occupancy rates in the project area were 10 percent below the city average. However, the statistics showed a steady rise from 1992 to 1996, when occupancy in buildings of this type was 87 percent along the NCE project corridor – four percent above the city average.

Survey responses from businesses in the two completed sections primarily highlighted negative impacts to sales and driving patterns. Some also noted communication issues between the Texas Department of Transportation (TxDOT), the construction contractor and businesses. Surveys that were administered to businesses as they were experiencing frontage road reconstruction activities yielded similar results to

those in the completed sections. However, these business owners noted less adverse impacts from construction than those surveyed in the completed sections. Harrison and Waldman hypothesized that this could mean that TxDOT, the contractor and businesses had learned from the experiences from the already completed sections.

The authors highlighted five recommendations for mitigating impacts to business during the construction of large, urban transportation projects:

1. A dedicated person or group tasked with mitigating adverse impacts to area residents and businesses.
2. Expedited construction of frontage roads to minimize access issues for area businesses.
3. A survey of businesses before construction begins to identify those businesses most vulnerable to construction and to establish contacts between the businesses and the project outreach person or team.
4. Targeted outreach and mitigation measures for those types of businesses that have been determined to be more sensitive to construction activities.
5. Flexibility in communication techniques to take advantage of the best available and most effective media.

Highway Construction Impacts on Wyoming Business[i]

In a 2005 study, Young, Wolffing and Tomasini analyzed twelve highway construction projects, which were all completed in Wyoming between 1998 and 2001. One of the largest projects examined was located in Cody (population 49,644). It affected 50 businesses and cost over $8 million. Projects ranged in size and location down to an $87,000 project in Moorcroft (population 807), which affected three businesses.

The researchers used a survey to identify business managers' perceived impacts to revenue from construction. A total of 98 surveys were returned. Responses were then compared to actual tax data from the Wyoming Department of Revenue for projects with a large enough number of businesses to complete a statistical analysis. Forty-two percent of the survey responses about perceived impacts during construction were found to be more pessimistic than actual impacts to revenue. The authors found that most businesses experienced reduced positive growth as opposed to negative growth in sales during construction. The authors further classified businesses by Standard Industrial Classification (SIC) codes and examined impacts to businesses by business category. Some business categories were particularly susceptible to negative impacts during construction, namely the food-related retail, gas service and hotel service categories.

Young, Wolffing and Tomasini also sent out a survey to all fifty state Departments of Transportation (DOTs) to assemble a list of common practices implemented to address business owner concerns and to mitigate impacts to businesses during construction of transportation projects. All fifty DOTs responded. The results showed that DOTs emphasized communications to businesses through television, radio, newspapers and websites as a way of disseminating information about construction schedules, closures and other related information. State DOTs tended to emphasize maintaining access to businesses as the

primary mitigation measure employed. Special signage to denote business access was highlighted, though states were split on whether or not individual business names should be used on signs. Contractor incentives or penalties were also common measures implemented by DOTs to encourage efficient construction practices.

Development of Improved Procedures for Business Accommodation on Transportation Construction Projects

A 2005 report by Ellis and Washburn for the Florida Department of Transportation (FDOT) surveyed and interviewed businesses along four reconstruction corridors to determine their perceptions of impacts to their businesses during construction. The four projects were

- A 2-year major reconstruction of San Jose Boulevard (Jacksonville).
- A 13-month (400-day) major reconstruction of 1.6 miles of SR 121 (MacClenny).
- A 20-month major reconstruction of 1.16-mile stretch of Mahan Drive (Tallahassee).
- A major reconstruction of 3 miles of US 192 (Kissimmee).

Using information gathered from interviews and focus groups with business managers along the four corridors, Ellis and Washburn rated the construction impacts of highest concern to businesses. The highest rated concerns were related to customer access/parking and delivery access followed by business visibility and signage concerns. The prevailing perception of the business managers was that customers had a difficult time accessing their businesses. The next impacts of highest concern, according to the FDOT report, were utility outages and disruptions during construction. Construction-associated congestion and changes in traffic patterns were determined to be another set of impacts that concerned business managers. Based on information gathered from businesses on their perceptions, the report concluded that destination businesses (e.g. banks, specialty retailers, insurance agencies) were less likely to feel negative impacts on business due to traffic pattern changes than other businesses such as fast-food retailers.

The 2005 report by Ellis and Washburn for FDOT further expounded a number of accommodation strategies to address the business concerns that were identified. The authors broke down these recommendations into three areas:

1. Strategies to Improve Communication with Businesses
    - Hold a public meeting to introduce mitigation efforts and project personnel before construction starts.
    - Install a project sign that includes basic information about the project and contact information.
    - Regularly distribute information to businesses via flyers.
    - Provide project information and updates on a project website.
2. Business Signage
    - Mount signs on posts to increase visibility.
3. Business Access, Parking and Traffic Congestion

- Develop traffic control plans which take into account construction impacts to automobile traffic; other traffic including pedestrian, bicycle and bus; business access; and parking availability. The development of the plan should also include accident analysis and level of service analysis of the existing corridor, pre-construction.
- Base part of contractor incentive pay on the successful implementation of business accommodation efforts.

Improved Procedures for Business Accommodation on Transportation Construction Projects

Ellis and Agdas published an updated report in 2010. The authors noted that three-quarters of business managers surveyed along the San Jose Boulevard project and two-thirds of businesses along the Mahan Drive project reported that construction of the projects had negatively impacted their businesses. The authors further stated that reported declines in revenue were in the 5 percent to 25 percent range.

Ellis and Agdas's 2010 article further highlighted the benefits of developing a pre-construction business inventory and establishing early contact with businesses abutting the construction project, routinely visiting businesses to foster communication and coordinate utility outages with all relevant actors.

Highway Construction Related Business Impacts[i]

In a 2008 study, Buddemeyer and Young study looked at the impacts to businesses in Dubois, Wyoming, during a major reconstruction of US 26/287 over Togwotee Pass. The reconstruction was scheduled in five phases and broken into four projects to be completed over seven years. Business owners and residents in Dubois, a small rural town with a population of 926, were concerned that construction activities would cause a loss of tourism traffic to the town, as US 26/287 runs through the center of Dubois and connects it to the tourist destinations of Jackson Hole and Yellowstone National Park.

The authors compiled a list of businesses operating in the town of Dubois at the start of construction. Most of the 174 businesses on the list were highly dependent on tourist traffic; 60 percent of the businesses reported that 75 percent or more of their customers were from out of town. The authors classified the businesses by business type according to Standard Industrial Classification (SIC) codes and then used sales tax revenue data and sales tax rates for the different types of businesses to calculate revenues for each business. The researchers plotted revenue data for 110 of the 174 businesses (only those that were operating in Dubois from January 2001 to October 2007). Aggregate yearly sales figures were compared to predicted sales figures, which were calculated based on pre-construction data. The authors found that the Dubois businesses, overall, were performing close to the level expected by the predicted sales figures, with some minor declines in 2007. Tourist-based businesses, overall, also experienced growth, though it was lower than other businesses.

The researchers also conducted a survey of business owners. Only 13 of the 63 survey respondents reported that they felt their business was negatively impacted by construction activities.

Report on Mitigation of Transportation Construction Impacts. Minnesota Department of Transportation[i]

A 2009 report published by the Minnesota Department of Transportation (MnDOT) examined impacts to businesses during the construction of transportation projects. As part of its broader study, MnDOT

conducted a survey of businesses along seven transportation construction projects in the state of Minnesota to glean information about the types and extents of impacts to businesses and the effectiveness of various mitigation measures.

Three projects were located in the Twin Cities Metro:

- Major reconstruction of Highway 36 between White Bear Ave. and Hwy 120/Century Ave;
- Major reconstruction of I-35W & 54th Street/Diamond Lake Road (Minneapolis);
- Major reconstruction of Lake Street (Minneapolis).

Four projects were located outside of the metropolitan area:

- Major reconstruction of Highways 16/61 (La Crescent);
- Mill and overlay of Highway 2 West of Highway 38 intersection (Grand Rapids);
- Major reconstruction of Highway 2 East of Highway 38 (Grand Rapids);
- Major reconstruction of Highway 10 (Detroit Lakes).

In total, MnDOT sent out over 400 surveys and received responses from 95 businesses. Of the respondents, 76 percent said their business had been impacted by construction and 62 percent reported having lost business.

The 2009 MnDOT report presented a list of best practices and recommendations for implementing mitigation activities.

1. Include business outreach in a broader, more holistic public involvement program to connect different stakeholder groups in the community. Mitigation of business impacts necessarily involves communications not just to business owners but also to customers, employees and suppliers.
2. Map out key decision makers and project managers early in the project to reduce confusion when rules and policies change under new management. The benefit of the construction contractor as a direct point of contact for businesses should not be overlooked.
3. Tailor outreach and communication strategies to each specific project and allow for natural changes. The greater the impact on business impacts, the longer the lead-time a project should have in starting outreach. Corridor construction projects have the greatest impact and should have significant outreach along the corridor at least one year ahead of construction.
4. Provide businesses with an information packet that includes construction information, agency contact information, and a list of resources that can provide financing, marketing and/or technical support. A project description that lays out the reasoning behind the project may increase buy-in to the project.
5. In addition to providing project information, demonstrate responsiveness to questions and requests for further information.
6. Identify business issues early in project planning through consultations with local government units and business representatives.

7. Identify partnership opportunities with community and business organizations and with other government entities.

Mitigating Traffic Impacts During the Marquette Interchange Reconstruction Project

The Wisconsin Department of Transportation (WisDOT) developed and implemented a traffic mitigation program to manage business and community needs during the reconstruction of the Marquette Interchange in the heart of downtown Milwaukee. The Marquette Interchange, where Interstates 43, 94 and 794 intersect, is a gateway to downtown Milwaukee, which is a large population and job center with approximately 4,300 businesses. WisDOT solicited ideas for mitigation measures from local business organizations and other local agencies in four areas: public information, freeway traffic operations and safety, transit and demand management, and local road traffic operations. Based on an evaluation of the measures that were ultimately implemented as part of the traffic mitigation program, the authors identified three key success factors:

1. Good partnerships with local agencies.
2. Early identification of mitigation measures during the design and budgeting processes.
3. Strong lines of communication with the public, local agencies and construction contractors.

Assessing Neighborhood and Social Influences of Transit Corridors

Fan and Guthrie authored a 2012 study on neighborhood change during and after transit corridor development. The researchers surveyed residents and business owners along two existing Twin Cities transit corridors – the Hiawatha LRT and the Northstar commuter rail line – and two planned corridors – the Cedar Avenue Bus Rapid Transit line and the Central Corridor LRT. The authors sought to identify which businesses saw themselves as “winners” and which as “losers” in transitway development. Though the study overall was focused on longer-term impacts of transitway development, part of the survey instrument was designed to probe business owner perceptions of impacts from transitway construction. Construction on the Central Corridor and Cedar Avenue transitways had not yet begun at the time of data collection, so all construction impacts measured were actually business owner expectations of impacts.

Around 40 percent of businesses surveyed along the Central Corridor LRT perceived that transitway development had had and would continue to have somewhat negative or strongly negative impacts. Comparatively, perceptions of negative impacts from the Cedar Avenue transitway development were held by around 20 percent of the survey population. Forty percent of Central Corridor business survey respondents were very concerned by construction impacts. Only about 20 percent reported no concern. These figures compare to approximately 30 percent of businesses along Cedar Avenue that reported being very concerned and an approximately equal number of businesses that reported not being concerned at all.

The authors asked business about their level of concern over several specific impacts including customers not knowing how to reach businesses, fewer people passing by, trucks not being able to reach businesses, noise and dust impacts, and loss of parking. Along the Central Corridor, a majority of businesses noted concern about each of these potential impacts. Central Corridor business owners were

slightly more likely to be concerned about customers not knowing how to reach businesses and fewer people passing by, and a slightly less likely to be concerned about customers not knowing that businesses are open. Along the Cedar Avenue transitway corridor, business owners were primarily concerned with customers not knowing how to reach their businesses and fewer people passing. Other concerns, especially trucks not being able to reach, noise and dust, and lack of parking were not as commonly listed as concerns.

Other Published Works

The Impact of Light Rail on Local Businesses[i]

In 2006, Houston Tomorrow (formerly the Gulf Coast Institute) published a case study report on the impact of light rail projects on businesses in six cities that had recently constructed projects. As a non-profit organization, Houston Tomorrow sought to provide information to Houston residents about experiences with light rail construction in other cities. Houston Tomorrow gathered data by interviewing transit agency staff, local government officials, and representatives of the business community in Los Angeles, San Diego, Dallas, Portland, Minneapolis and Salt Lake City.

Portland's TriMet was the only agency to collect data on small businesses during construction, and several of the other cities noted how beneficial such data collection would have been in measuring the impacts of construction to businesses. The extension of Portland's LRT system along Interstate Avenue mirrored many of the characteristics of the CCLRT, running along an urban corridor with storefront businesses, about 70 percent of which were possibly dependent on impulse customers. Portland's data showed seven business closures during construction, but only one was determined to be directly related to construction. Thirteen of the original 106 businesses along the corridor moved and four changed names and ownership; two of these changes were determined to be attributable to LRT construction.

Some of the representatives from other cities surveyed provided anecdotal estimates of impacts to businesses during LRT construction, but most did not attempt to quantify overall impacts. A transit agency official estimated that no more than 10-15 percent of businesses along recent LRT construction corridors in Dallas shut down during construction; he further noted that not all closures were due to construction.

Light Rail Construction: Mitigation of Business Interruption

In another 2006 report, Houston Tomorrow surveyed methods used by six cities to mitigate business interruption during LRT construction projects to present "a toolkit of tested mitigation practices" for future projects, particularly those in the City of Houston. Data on methods used in these cities, along with mostly anecdotal appraisals of success levels, were collected via interviews with City officials, rail project officials, business community members and others involved (e.g. officials from banks or non-profit lending institutions involved). Effective methods employed in Dallas, Los Angeles, Minneapolis, Portland, Salt Lake City, and San Diego were broken down into five key areas for successful mitigation. These areas, along with the various strategies highlighted by Houston Tomorrow, are listed below.

1. Financial assistance programs:
    - Small loan programs that offer low-interest or interest-free loans
    - Loans administered by a third-party, non-profit institution
2. Community relations:
    - A single point of contact for businesses and the broader community
    - 24-hour construction hotline
3. Construction guidelines and project management:
    - Meeting with utility companies to coordinate construction schedule
    - Flexibility in design
    - Early communications with businesses about construction plans
    - Completing construction in sections
    - Maintaining vehicle access to parking and pedestrian access to business entrances
4. Contractor incentives:
    - Incentive pay determined based on appraisal of calls into the complaints hotline and on the votes of community representatives
5. Marketing:
    - Distribution of coupon books
    - Promotional mail alerting neighbors that shops are open
    - Special signage along corridor
    - Placing of ads on buses
    - Placing of full-page ads for specific geographic clusters of businesses as they were experiencing construction on their doorstep
    - Establishment of Lunch Bus program to bring project-related employees to eat at restaurants along the construction corridor

Little Mekong CCLRT Impact Study

In a 2012 study, the Asian Economic Development Association (AEDA) surveyed business owners along University Avenue between MacKubin Street and Galtier Street in Saint Paul about the impacts of light rail construction. This five-block study area contains 80 businesses, with a high percentage of Asian-owned (70 percent) and non-Asian minority-owned (13.8 percent) businesses. The majority of businesses can be classified under the restaurant, retail or service-related sectors (61.25 percent). The study gathered qualitative data through semi-structured, in-person interviews with business owners, managers or other staff at 64 of the 80 businesses in the study area. Data collection occurred from late March to July 2012.

The study includes a number of estimates provided by the survey respondents of percent loss of customers or percent loss of revenue from construction. These estimates are presented anecdotally and vary significantly, with some businesses reporting losses of 25-30 percent and others reporting losses of 70-80 percent.

One of the questions survey respondents were asked was what the “greatest challenge” posed by construction to their business was. Twenty-four said customer access, 14 said traffic and navigation, 12

said parking access and 11 said nothing. According to case study summaries of 31 of the businesses surveyed, service-based businesses were the most likely *not* to report significant negative impacts from construction. Meanwhile, all six case study restaurants reported loss of customers and business. The study concluded that businesses that rely on the physical presence of customers at their University Avenue location were more affected than businesses that do not rely on customers coming in.

Student Papers

Light Rail Transit Construction Impact Mitigation Strategies[i]

As a student at the University of Minnesota's Humphrey Institute, Reuben Collins prepared a report on mitigation of construction impacts to businesses. In this 2007 study, Collins analyzed case studies from seven US cities that had recently completed construction of LRT projects. The cities included Portland, Seattle, Salt Lake City, Phoenix, Denver, Houston and San Jose, and were selected because they had one or more key characteristics in common with the Central Corridor LRT project, namely a mid-size metropolitan area context and/or a center-running alignment on an arterial street. The author focused on mitigation strategies employed in the seven cities, but made mention of impacts to businesses in a few of the case studies. The report cited the same figures for business closures during the construction of Portland's Interstate Avenue LRT as the 2006 Houston Tomorrow report on impacts. Collins looked at business impacts from the first LRT line in Salt Lake City, which was completed in 1999 (an earlier project than the one analyzed in the Houston Tomorrow report). The report cites an anecdotal estimate that thirty percent of businesses along the corridor closed curing construction, although no formal tracking of closures was completed. In a case study of the construction of 4.3-mile at-grade stretch of Seattle's Central Link LRT, the author cited a Seattle Times news article from February 2006 that reported that 44 of 274 businesses along the corridor had closed since construction began in July 2004.

Based on the data collected in the case studies, Collins developed a table of mitigation measures implemented in the seven cities and rated each measure's effectiveness and popularity among businesses and residents. Some of the most commonly employed measures included regular communication channels such as websites, mailers, and meeting; 24-hour hotlines for complaints; "Open for Business" signage; and extra advertising for businesses. The effectiveness of these measures did not always correlate with their broad implementation. Open for business signage, advertising campaigns, business advice and counseling, contractor incentive programs, door to door canvassing, multi-lingual outreach coordinators and travel demand management were determined to be the most popular measures in the cities in which they were implemented. The programs with the highest effectiveness rankings included contractor incentive programs, the hiring of multi-lingual outreach coordinators, door to door canvassing, and the provision of business advice and counseling free of charge.

Alive! Survive! Thrive!: Outreach, Construction Mitigation and Assistance Strategies for Small Businesses Along University Avenue from Lexington to Rice

In 2007, Larry Fasching, Mary Guerra, John McCarthy and Susan Sloper completed a pre-construction study of businesses along a two-mile stretch of University Avenue as part of their course work at the University of Minnesota's Humphrey Institute. The authors' study involved a survey of 19 businesses

between Lexington Parkway and Rice Street. The purpose of the survey was to extract business manager perceptions on their existing business conditions, the potential impacts of LRT construction to their businesses and mitigation measures that might be useful. Most respondents said their businesses are destination businesses. The primary mode of customer access for most businesses was via personal vehicle and most provided off-street parking. The most prominent concerns regarding LRT construction were related to decreased customer access and a shrinking customer base due to traffic flow changes and customer avoidance of the construction zone.

Based on their survey of businesses and a literature review on business impact mitigation measures employed during other transitway construction projects, Fasching et al. identified twelve strategies to mitigate business interruption during construction of the Central Corridor LRT. The proposed medium-term strategies (to be completed before construction started) are listed below, along with the recommended agency to serve as a lead on the undertaking.

1. Designate a Mitigation Specialist to serve as a single point of contact for business owners and contractors about mitigation of impacts to local businesses. (Metropolitan Council)
2. Establish business mentoring programs to offer courses and training to area businesses, for example on how to develop a business plan. (City of St. Paul)
3. Establish construction guidelines to keep business interruption to a minimum, for instance by completing construction in segments to reduce the amount of time that construction activities are taking place in front any given business. (Metropolitan Council)
4. Disseminate a list of business resources that includes existing organizations that offer technical support, loans, etc. (City of St. Paul)

Longer-term strategies (2010-2014) to be implemented during construction include

1. Hold weekly meetings to allow business owners, project managers, contractors and city officials to have a regular forum for exchange. (City of St. Paul)
2. Create a Community Development Fund to provide grants and low-interest loans to businesses impacted by LRT construction. (City of St. Paul and non-profit organization)
3. Leverage other available private and non-profit lending resources. (Metropolitan Council)
4. Establish a parking management program to identify off-street parking availability and a plan to share these resources. (Metropolitan Council)
5. Launch an “Open for Business” campaign to encourage patronage to the area during construction. Activities may include distributing coupons for area businesses and placing advertising on local bus routes serving the area. (Metropolitan Council)
6. Provide additional signage to notify customers that businesses are open and provide specific information on alternate access to businesses. (Metropolitan Council)
7. Implement a lunch bus campaign to bring customers to a given restaurant along the corridor and/or a food court that brings University Avenue restaurants to customers somewhere off of the corridor (e.g. at State Capitol). (City of St. Paul)
8. Use contractor incentives to allow the community to control quarterly contractor bonuses. (Metropolitan Council Business Advisory Council)

Economic Indicators of the Lake Street Corridor

A 2009 report prepared by Jose Diaz, a doctoral candidate at the University of Minnesota's Applied Economics department, appraised and analyzed the changes in the economic performance of businesses along a 5-mile stretch of Lake Street, a commercial corridor in Minneapolis, MN, during major reconstruction of the street. As measures of economic performance, the study collected and used data on the number of open businesses per section of street and the sales tax revenue from each section from 2004 to 2006. Diaz then compared these figures to construction timelines, and particularly looked at the two sections which were under construction in 2005 and 2006 as well as one section in which construction was scheduled to begin in 2007. The correlative results showed negative growth in the number of businesses in the year in which those two sections experienced construction, but positive growth in years without construction. The sales tax data showed no discernible correlation with construction periods.

Impact of Light Rail Construction on Neighborhood Business Activity in the Rainier Valley, Seattle, Washington

In a 2009 master's thesis, Alexandre Krieg investigated the impacts of Central Link LRT construction on neighborhood business activity along a commercial corridor in the Rainier Valley neighborhood of Seattle, WA. This section of the Central Link LRT involved the construction of a center-aligned, at-grade track along 4.5 miles of Martin Luther King Jr. Way South, a main commercial corridor in the ethnically diverse neighborhood.

Though this analysis focused on data collected before LRT and after construction, a few of the findings presented speak to impacts on business activity during construction. According the study, 268 businesses were open a year before construction began and 57 businesses were forced to relocate due to construction. Despite these 57 relocations, 234 businesses were open in 2009, when Central Link operation began. While business turnovers did occur during the six-year study period (from 2003, a year before construction began, until 2009, when Central Link operation began), the total number of open businesses peaked during the middle of the construction period in 2006. Total revenue reported by businesses along the corridor that paid business taxes grew by 30 percent between 2001 and 2008 (adjusted for inflation). However, businesses with gross annual revenues below $50,000 during this period were tax exempt, and are thus excluded from this figure. The number of businesses above the threshold was relatively stable during construction, but the number of businesses below the threshold fluctuated and many of these businesses demonstrated losses.

Business impact mitigation measures included a Supplemental Mitigation Assistance (SMA) program, which disbursed $15.1 million in business re-establishment payments, business interruption payments and loans for business improvements. The business re-establishment payments were geared towards businesses forced to relocate off of the corridor. The business interruption payments were targeted at small businesses staying on the corridor, which were required to demonstrate losses to be eligible. One hundred sixty-eight businesses out of a universe of 310 businesses received business interruption payments.

Results of the Supplemental Mitigation Assistance Program on Businesses Impacted by Light Rail Construction in the Rainier Valley

In a second report submitted in 2009, Krieg evaluated the effects of the SMA products used during the construction of the Central Link LRT through Seattle's Rainier Valley. Based on this evaluation of success factors and obstacles, Krieg distilled three best practices and six further recommendations for future projects utilizing mitigation funding programs:

1. Ability to adapt mitigation products based on changes in construction schedule or other changes.
2. Ongoing and active engagement and follow-up with businesses by the organization managing the fund.
3. Clear goals set to establish a framework for the funding activities.
4. Collaboration and communication between various actors, including all transit agencies, construction contractors, counties, cities, funding agencies, residents and businesses involved.
5. Linkage of financial and technical assistance to help businesses receiving financial assistance also improve their business practices.
6. A single provider of technical and financial assistance to provide a one-stop-shop for businesses.
7. Long-term business outreach that begins before construction, continues during construction and is sustained after construction.
8. Preparation for the end of construction and end of the financial assistance program.
9. On-going reporting and monitoring to document program impacts in a standardized, objective manner.

The Potential Impact of Central Corridor LRT on Existing University Avenue Businesses

Agnew et al. reviewed business impacts of LRT construction and mitigation strategies employed in four US cities: Seattle, Portland, Phoenix and East Los Angeles. The student researchers also completed an inventory of University Avenue businesses between Lexington Parkway and Rice Street and classified businesses by sector. Based on a literature review, the authors identified eight factors that influence the extent of LRT construction impacts to a given business. These included, in order of importance, the financial state of the business (at the start of construction), mitigation measures taken, parking and accessibility, marketing, type of customer base, property value changes, proximity to new developments or vacancies (possible future sites for new development), and whether a business owned or leased their space. The authors then completed a sectoral analysis of businesses in this study area based on the eight factors outlined above. The researchers found that businesses in the personal care services sector, the largest sector in the study area, were not expected not to be particularly affected during construction due to their regular clientele. Full-service restaurants were expected to see impacts due to loss of walk-in business during construction. Businesses in the automotive repair and maintenance sector were expected to have relatively low survivability as compared to other sectors due to loss of accessibility during construction.

Light Rail Construction Mitigation Strategies: National Examples for the Central Corridor

In 2007, Arbit et al., students at the University of Minnesota's Humphrey Institute of Public Affairs, conducted case study research to determine recommendations for business impact mitigation during Central Corridor LRT construction. The authors examined business impact mitigation strategies employed during LRT construction in Portland, Salt Lake City, San Diego and Houston, due to the similar contexts of these LRT projects, which generally ran along median alignments in urban commercial corridors. Based on the findings from these case studies, the authors developed a number of recommendations for the agencies involved in the Central Corridor LRT project as well as recommendations for construction contractors.

Summary of recommendations to the City of Saint Paul, the Metropolitan Council and other agencies:

- Begin mitigation efforts as early as possible.
- Keep pedestrian and vehicle access to businesses open.
- Create a business directory and help promote those businesses during construction.
- Include mitigation funds in project budget.
- Hire outreach staff who have connections to the local area and do not just give out information but listen to business owners' concerns.
- Use construction incentive pay to stimulate efficient construction practices.

Summary of recommendations for construction contractors:

- Work with businesses and municipal agencies to arrange alternate access when necessary.
- Find off-street parking locations that do not compete with customer or delivery van parking for area businesses.
- Organize lunch visits to area restaurants.
- Put up detour signs that are easily seen by both vehicular and pedestrian traffic.

Summary

Apart from the studies previously reviewed in the Volpe Center's 2011 Technical Report, most of the studies that outlined impacts to businesses during the construction of transportation projects used surveys of business owners' and managers' perceptions. Very few of the studies employed other methods, such as comparative analysis of sales tax data or an assessment of business openings and closings during construction. Most studies showed at least some impact to businesses, although several of the studies utilizing survey instruments noted businesses impacts were not as bad as expected, according to subjective survey responses.

A number of the recommendations or best practices in business impact mitigation were outlined in various studies summarized above. These recommendations or best practices were by and large derived from case study reviews, which generally included subjective and anecdotal responses from interview partners involved with the various construction projects. Recommendations can be organized into five broad categories: access, communications/outreach, marketing, construction practices and the provision of technical and financial resources to businesses.

Recommendations for access included putting up clearly visible signs to direct vehicle and pedestrian traffic to alternate access routes to businesses and creating a parking plan to make best use of available parking.

Best practices for communications included starting project communications and public outreach significantly before construction; maintaining strong communication lines between agencies, local governments, businesses, residents and all other relevant actors; having a stable, single point of contact for businesses; and, being responsive and flexible in communication strategies.

Common marketing recommendations included launching an "Open for Business" campaign; sending out coupon books for area businesses; placing ads in buses and other media; and, establishing a lunch bus program.

Best practices in construction included completing construction in segments; working with businesses to maintain vehicular and pedestrian access; and, utilizing contractor incentive pay that is tied to contractor's success in accommodating businesses.

Finally, common recommendations for the provision of resources to affected businesses included developing and disseminating a list of existing technical and financial resources for businesses; providing low-interest small business loans during construction through a third-party; and, folding financial and technical support into a one-stop-shop for businesses along the corridor.

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[i] Reviewed in Volpe Center's 2011 Technical Report.

APPENDIX E:
Central Corridor Key Outcomes:
2012 Indicators

Central Corridor Key Outcomes

2012 INDICATORS

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CENTRAL CORRIDOR
FUNDERS COLLABORATIVE
INVESTING BEYOND THE RAIL

CENTRAL CORRIDOR FUNDERS COLLABORATIVE

Central Corridor Key Outcomes 2012 Indicators

April 2012

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Table of Contents

Introduction 1

Indicators and discussion by outcome area

ACCESS TO AFFORDABLE HOUSING 3

Share of households by income 3

Average housing plus transportation costs as a percentage of household income 5

STRONG LOCAL ECONOMY 7

Percentage of businesses by industry type 7

Percentage of businesses by size (number of employees) 11

Percentage of Central Corridor LRT construction work hours performed by women or minorities 14

Percentage of Central Corridor LRT contracts paid to Disadvantaged Business Enterprises (DBEs) 16

Street-level business change 18

Percentage of low- and moderate-income Corridor residents who work within a commute-shed reachable within 45 minutes by public transit 19

VIBRANT, TRANSIT-ORIENTED PLACES 20

Total number of occupied residential and commercial addresses 20

Average Walk Score® in the Central Corridor compared to Lake Street in Minneapolis and West 7th Street in Saint Paul 23

EFFECTIVE COORDINATION AND COLLABORATION 25

Perspectives of representatives of key stakeholder groups 26

Demographic context 29

Appendix 32

Data notes 33

Detailed results related to the Key Question: Do stakeholders recognize shared goals? 54

Introduction

The Central Corridor Funders Collaborative is a group of 13 grant-making organizations that are investing in the Central Corridor of Minneapolis-Saint Paul. They are investing based on the belief that the new light rail line offers an opportunity to "strengthen the regional economy and make adjacent neighborhoods better places to live and work." The Funders Collaborative envisions a Corridor that is a place of opportunity for all, where residents and businesses thrive. The Funders Collaborative pursues this vision by working with a variety of organizations, community groups, coalitions, and public agencies to create and implement corridor-wide strategies. These strategies aim to ensure that adjoining neighborhoods, residents, and businesses all share in the expected benefits resulting from Light Rail Transit (LRT).

The Funders Collaborative promotes learning so decisions affecting the Corridor are informed and far-sighted; builds shared solutions through the creation of corridor-wide strategies and goals; and invests capital through the Catalyst Fund. Through these activities it seeks to achieve the following four outcomes in the Central Corridor:

- Access to affordable housing
- Strong local economy
- Vibrant, transit-oriented places
- Effective coordination and collaboration

Tracking outcomes in the Corridor:

To assess progress on these outcomes, the Funders Collaborative has been working with Wilder Research over the past two years to develop, report on, and update measures for the desired outcomes. This report is the second report in what is now envisioned as a multi-year series tracking change along the corridor, following up on the Baseline report one year ago. As was the case last year, this report is complemented by a more concise "Central Corridor Tracker" that summarizes the more detailed information contained in this report.

Notes on methods:

Work has included identifying key questions related to the outcomes; determining indicators and data sources; gathering and analyzing data; and reporting results. Indicators were selected not only on their "goodness of fit" with the outcomes, but also with attention to whether they are straightforward to understand or interpret. Additionally, the data source for each indicator needed to be available for small geographic areas (e.g., blocks, block groups, or census tracts) and updated on a relatively timely basis, to meet the objective of tracking changes along the corridor. While the intention of this report is to track changes in the same indicators over time, new data sources are continually being developed and will be included in this report as appropriate; this has already occurred in this second version of the report.

More information on the indicators, including maps showing the areas included in the analysis, as well as detailed tables and results of a stakeholder survey, are included in the Appendix. Throughout the report the indicators are shown for each of three major "segments" of the Corridor: the West, including downtown Minneapolis and the University of Minnesota Campus; the Middle, which runs on University Avenue from the Midway area to Dale Street; and East, which includes the state capitol area as well as downtown Saint Paul. In addition, most indicators also present comparable data for the cities of Minneapolis and St. Paul combined. Note that while this report features the most recent data available for each indicator, the dates vary somewhat from indicator to indicator. We refer to the data reported in the 2010 document as "Baseline" and the data reported in this document as "Year 2." However, in some cases both Baseline and Year 2 measures are pre-construction and in other cases they are not. Detail of the source-years, indicator by indicator, can be found in the Appendix.

The Funders Collaborative intends to continue working with Wilder Research for the next several years to annually track and report on these measures as the construction goes forward, is eventually completed, and when the light rail line is fully operating.

Central Corridor Funders Collaborative members

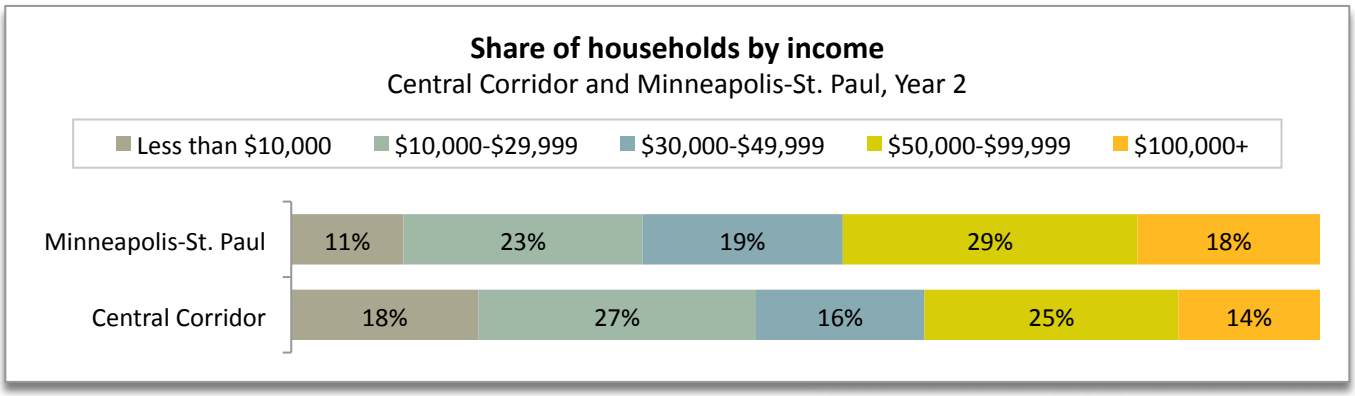
Annie E. Casey Foundation, Ford Foundation, F.R. Bigelow Foundation, John S. and James L. Knight Foundation, Living Cities, Inc., McKnight Foundation, The Minneapolis Foundation, Northwest Area Foundation, Otto Bremer Foundation, Jay and Rose Phillips Family Foundation of Minnesota, The Saint Paul Foundation, Surdna Foundation, and Travelers Foundation.

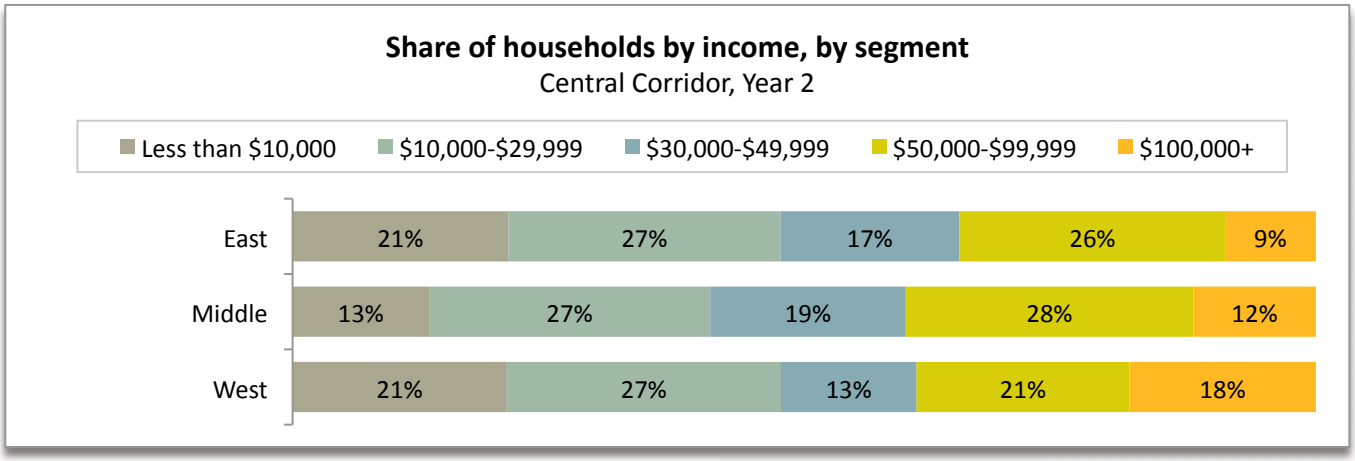
Access to affordable housing

Outcome: **Mix of household incomes**

Indicator: **Share of households by income**

Key Question: **Are low-income people still able to live near the Central Corridor?**





Source: US Census Bureau, American Community Survey 2006-10 5-year estimates.
Note: Income adjusted to 2010 dollars. See appendix for comparisons with Baseline and data source explanations.

Overall Corridor:

- From Baseline to Year 2 there was no discernible change in the income distribution along the Corridor.[1]
- Nearly half of all households in the Corridor earn less than $30,000 per year. Nearly 1 in 5 households are extremely poor, with an income of less than $10,000 per year.
- At the same time, 14 percent of Corridor households make over $100,000 and 1 in 4 Corridor households earn between $50,000 and $99,999 per year.

[1] *For methodological reasons it is highly unlikely that indicators relying on 5-year American Community Survey data will show change at this early stage in the project. See the appendix for further explanation.*

- As compared to Minneapolis-St. Paul, the Corridor has a higher share of low- to moderate-income households (households earning under $30,000 per year).

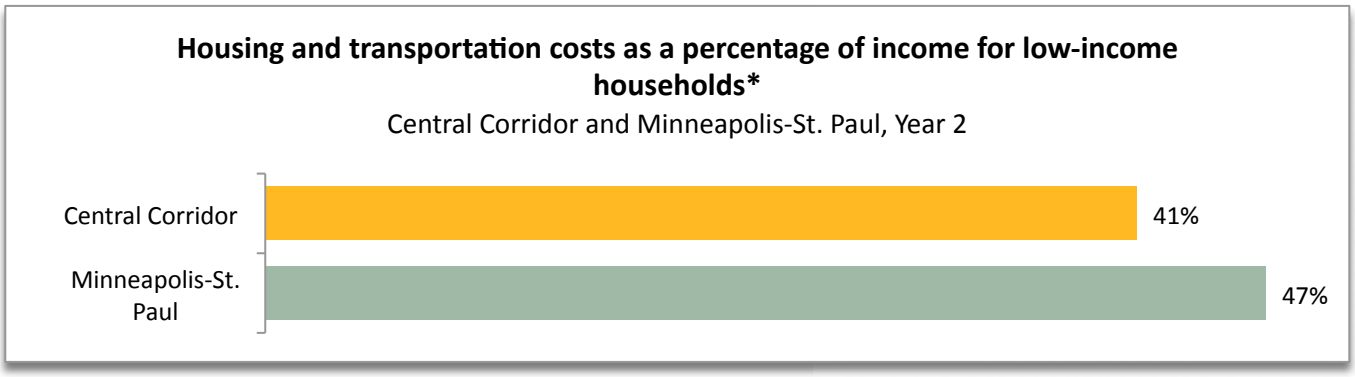
By Segment:

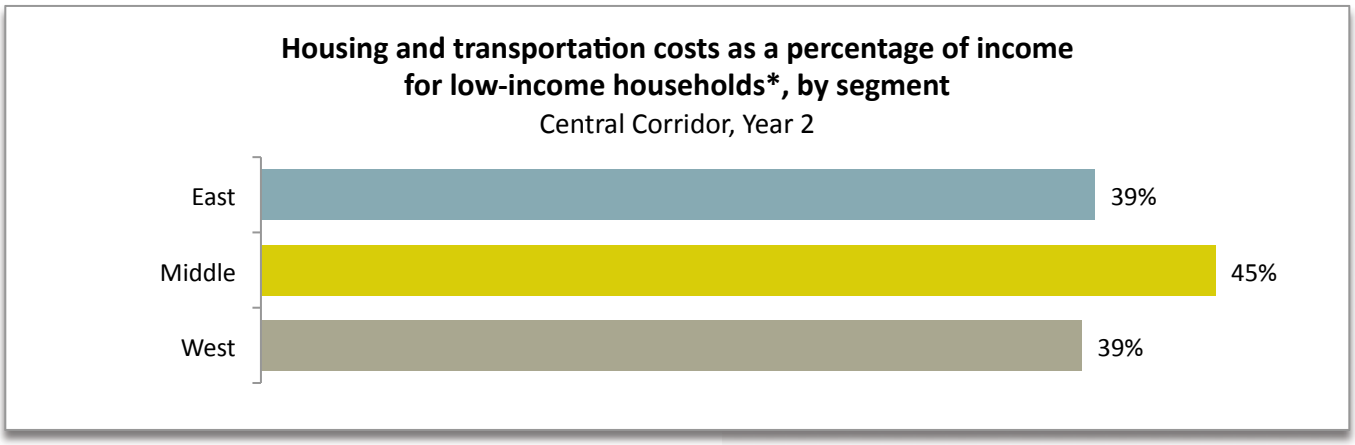
- From Baseline to Year 2 there was no discernible change in the income distribution among the three segments of the corridor.
- In both the West and East segments of the Corridor, nearly half of households earn less than $30,000 per year.
- At the same time, the West segment has the largest share of high income households; nearly 1 in 5 (over 2,500 households) earns over $100,000 per year. This is contrasted with the East segment where fewer than 1 in 10 (less than 1,000 households) earn at that level.
- The Middle segment has the smallest share of households earning less than $10,000 per year (13 percent).
- Each of the three segments has 27 percent of the households (1 in 4) who make between $10,000 and $29,999 per year (The poverty level for a family of four in 2010 was $22,314).
- The West segment is host to a relatively high percentage of very low income households as well as high income households. (See appendix map for more detail.)

Outcome: **Housing with enduring affordability is available to current and future residents**

Indicator: **Average housing plus transportation costs as a percentage of household income**

Key Question: **Is it affordable to live in the Central Corridor?**





Source: Housing + Transportation Affordability Index, online at htaindex.cnt.org. Center for Neighborhood Technology, Chicago, IL. (Data available by block group and aggregated to census tracts.)

** Low-income households are those making 60 percent of area median income. Income is in 2009 dollars. Area median income relates to the median for the nation as per CNT. Results reported in the figure assume an average household size of 2.59 people and 1.14 commuters. Median income in 2000 was $41,994 ($53,187 in 2010 dollars) and was $51,425 in 2009 ($52,288 in 2010 dollars).*

Overall Corridor:

- An H+T burden in excess of 45% is considered unaffordable. The cost of housing and transportation of living in the Central Corridor is just below this threshold for the lower-income households, indicating the Central Corridor has a higher degree of location efficiency as compared to the region.
- For households in the Corridor who earn 60 percent or less of area median income (about $31,375 in 2010 dollars), the cost of housing and transportation averaged 41 percent of household income.

- According to the H+T index, the Corridor can be considered an affordable place to live. However, it is less affordable than it was at the Baseline measure. For the Baseline, housing and transportation accounted for just 34 percent of household income along the Corridor; a few years later, those same items now take up 41 percent of household income.
- The Corridor's H+T cost increase follows those of Minneapolis-St. Paul, though the two cities are more expensive than the Corridor as a whole or any of its segments.

By Segment:

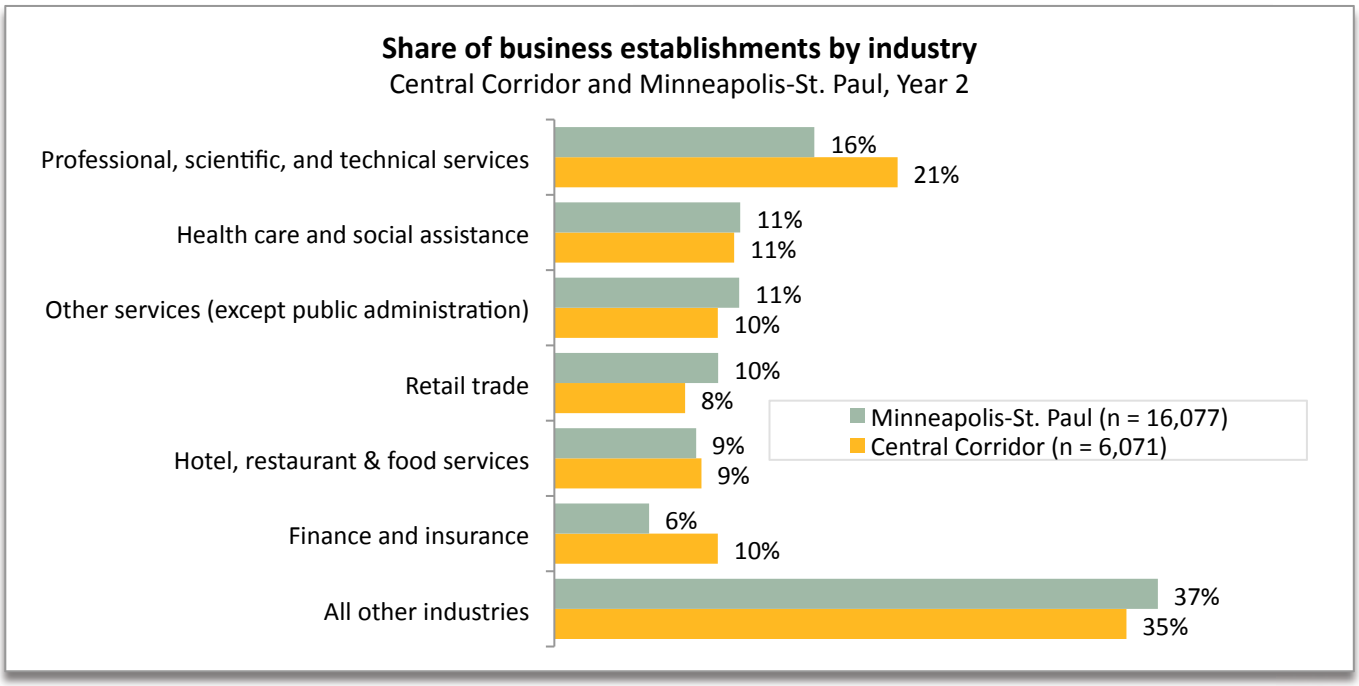
- Though the Corridor is considered affordable even for low-income households, increasing costs for housing and transportation are a reality throughout the Corridor; the West and Middle segments experienced an increase of about 7 percentage points, while the East segment saw an increase of 13 percentage points.
- The Middle segment has the highest H+T cost of the three segments; it also has the highest share of its income devoted to transportation (22 percent).

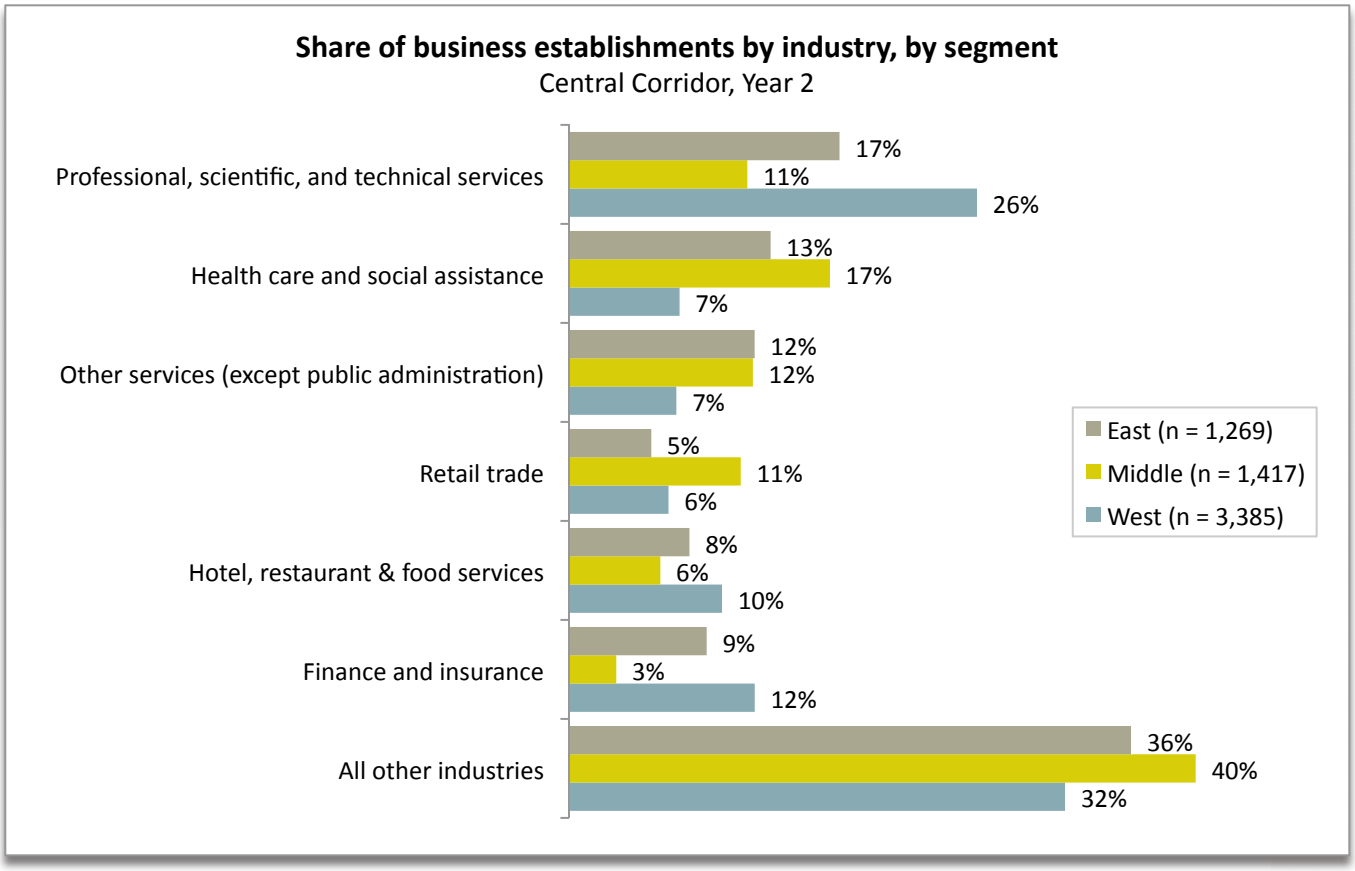
Strong local economy

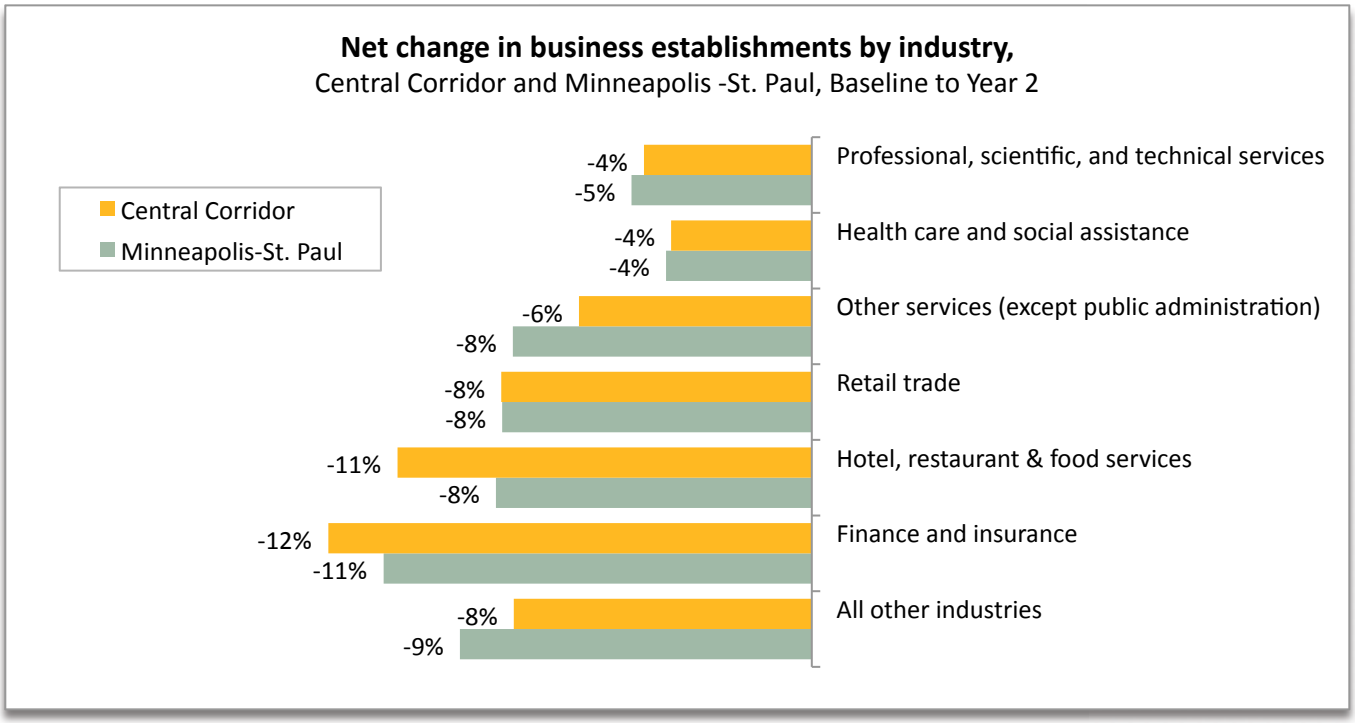
Outcome: **Mix of businesses***

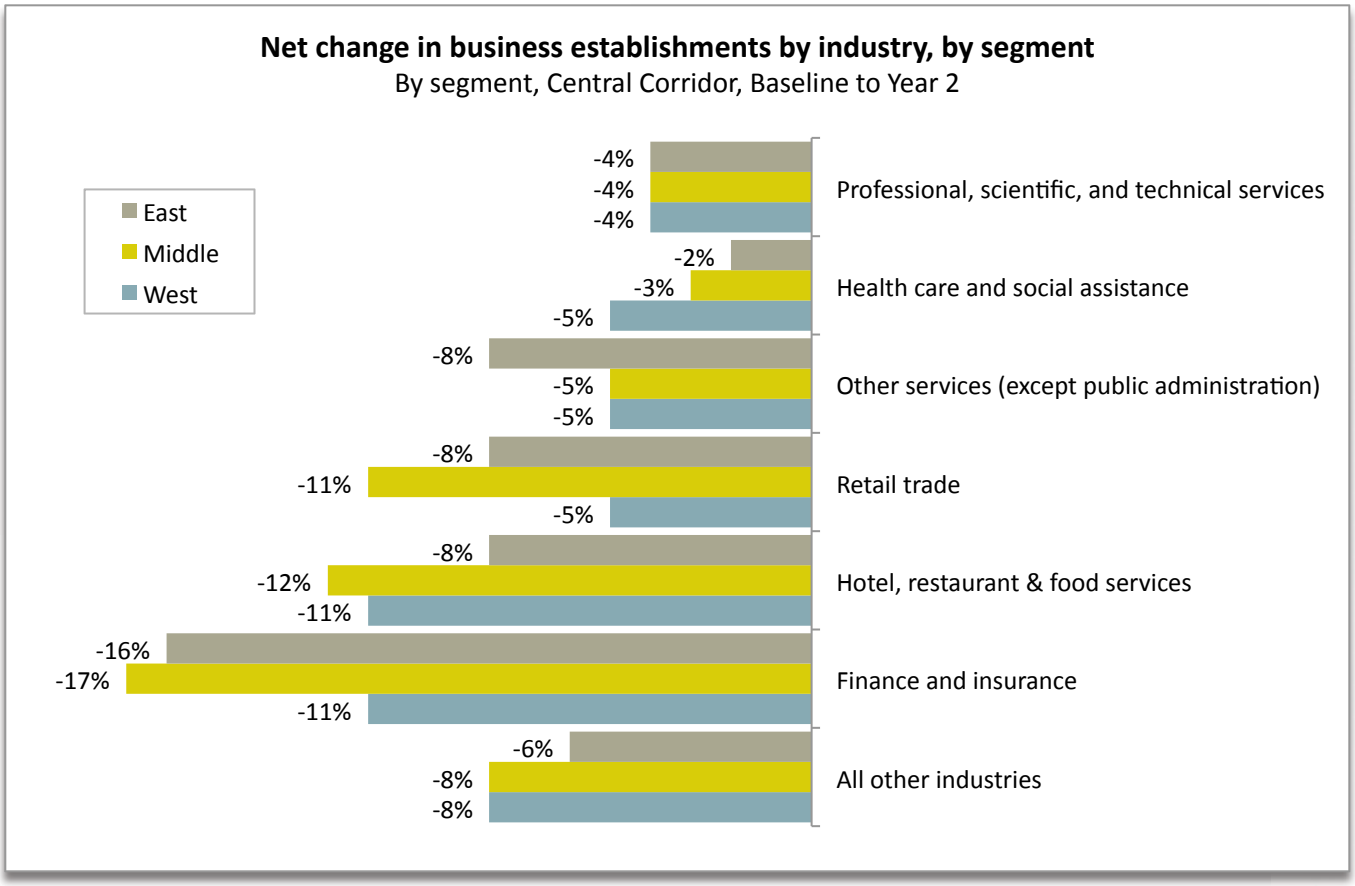
Indicator: **Percentage of businesses by industry type**

Key Question: **Does the Corridor provide a mix of services for residents?**




Share of business establishments by industry, by segment
Central Corridor, Year 2
Professional, scientific, and technical services
17%
11%
26%
Health care and social assistance
13%
17%
7%
Other services (except public administration)
12%
12%
7%
Retail trade
5%
11%
6%
Hotel, restaurant & food services
8%
6%
10%
Finance and insurance
9%
3%
12%
All other industries
36%
40%
32%
East (n = 1,269)
Middle (n = 1,417)
West (n = 3,385)


Net change in business establishments by industry,
Central Corridor and Minneapolis -St. Paul, Baseline to Year 2
Central Corridor
Minneapolis-St. Paul
Professional, scientific, and technical services
-4%
-5%
Health care and social assistance
-4%
-4%
Other services (except public administration)
-6%
-8%
Retail trade
-8%
-8%
Hotel, restaurant & food services
-11%
-8%
Finance and insurance
-12%
-11%
All other industries
-8%
-9%



Source: Metropolitan Council summary of Minnesota Depaartment of Employment and Economic Development, Quarterly Census of Employment and Wages, 2009-2010.

**Data by industry only shown for the six largest categories. See apppendix for additional notes and explantion.*

Overall Corridor:

- From Baseline to Year 2 the Central Corridor has had a net loss of businesses. However, these losses appear to have less to do with the development of the light rail line than with the continued sluggish economy, since the Corridor's business losses largely mirror those of Twin Cities as a whole and that given the timing (the data are pre-construction), very little of this could be due to construction.
- Overall, as compared to Minneapolis-St. Paul, the Corridor has a larger share of its establishments in the professional, scientific and technical industry. Many of those establishments are located in the two downtowns.
- The Central Corridor's establishment gains and losses for top industries follow closely the industry trends of Minneapolis-St. Paul with losses ranging from 4 to 12 percent in the top six corridor industries. As a share of total jobs in an industry, the Central Corridor took the largest hit in finance and insurance (12 percent net loss; 79 establishments).
- Health care and social assistance had the smallest net loss in both Minneapolis-St. Paul and the Central Corridor (net losses of 71 and 24 business establishments, respectively).
- Of all Minneapolis-St. Paul establishments in the top six industries, more than 1 in 3 is located in the Central Corridor, reflecting how much of an economic hub the Central Corridor is for the two cities.

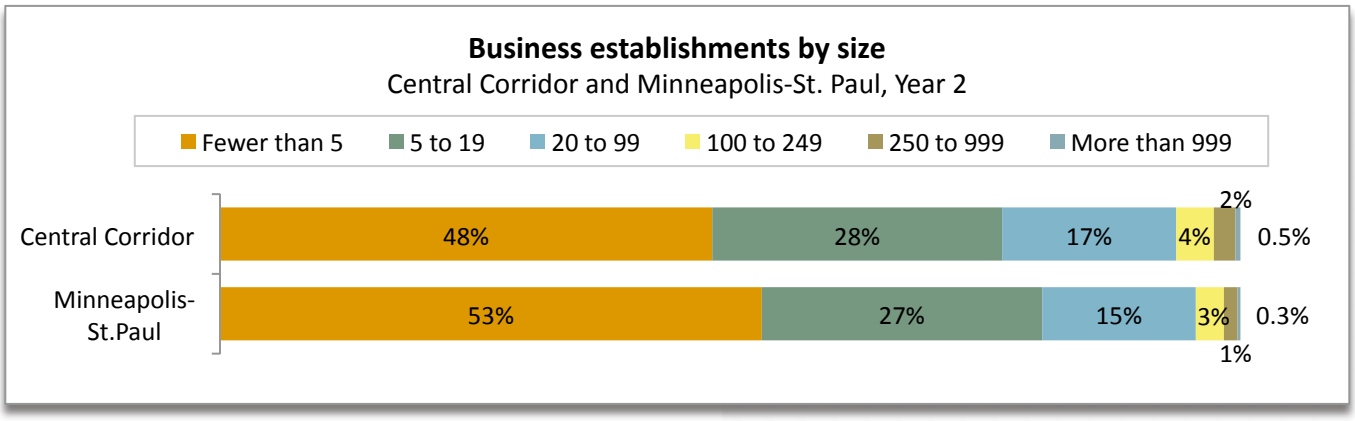
By Segment:

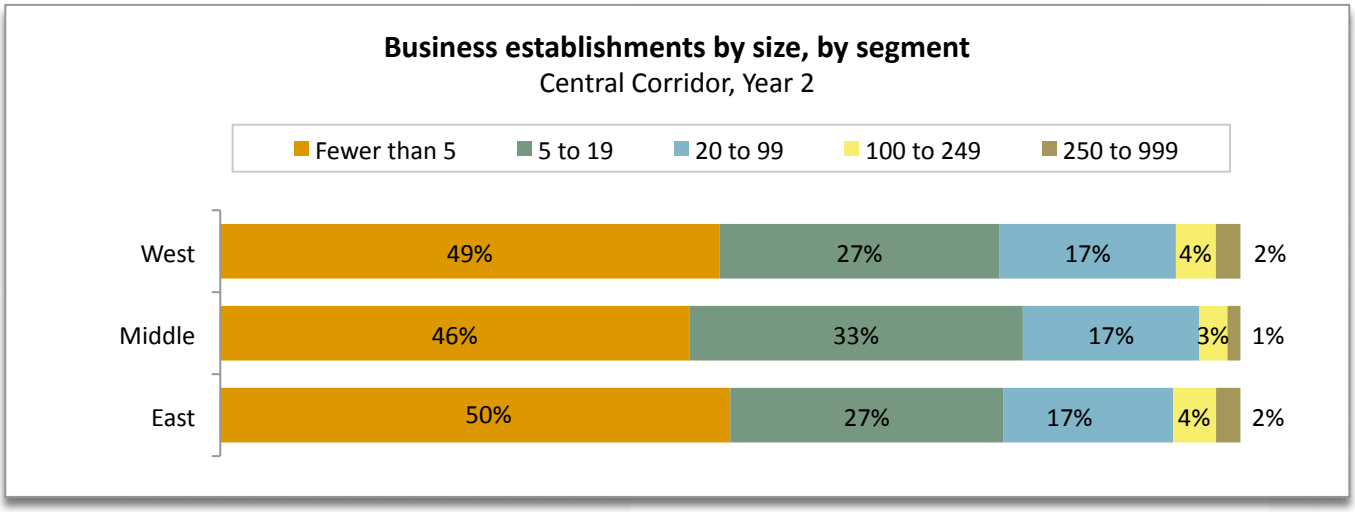
- From Baseline to Year 2 all three segments of the Central Corridor suffered a similar net loss (7 percent) of all establishments. However, in numeric terms, the West segment had the highest net loss with more than 250 business establishments during the year.
- More than 1 in 4 business establishments in the West segment is in the professional and technical services industry (926 establishments—the highest number and share of any segment or single industry).
- At 17 percent of the total number of establishments in the Central Corridor, the Middle segment has the highest share of jobs in the health care and social assistance industry (245 establishments). It also has the smallest number and share of finance and insurance jobs as compared to the other segments.
- Of all segments and industries, finance and insurance business establishments in the West segment lost the greatest number of establishments (48 establishments, 11 percent of all its Finance and insurance establishments).

Outcome: **Mix of businesses***

Indicator: **Percentage of businesses by size (number of employees)**

Key Question: **Does the Corridor provide a place for small businesses to thrive?**





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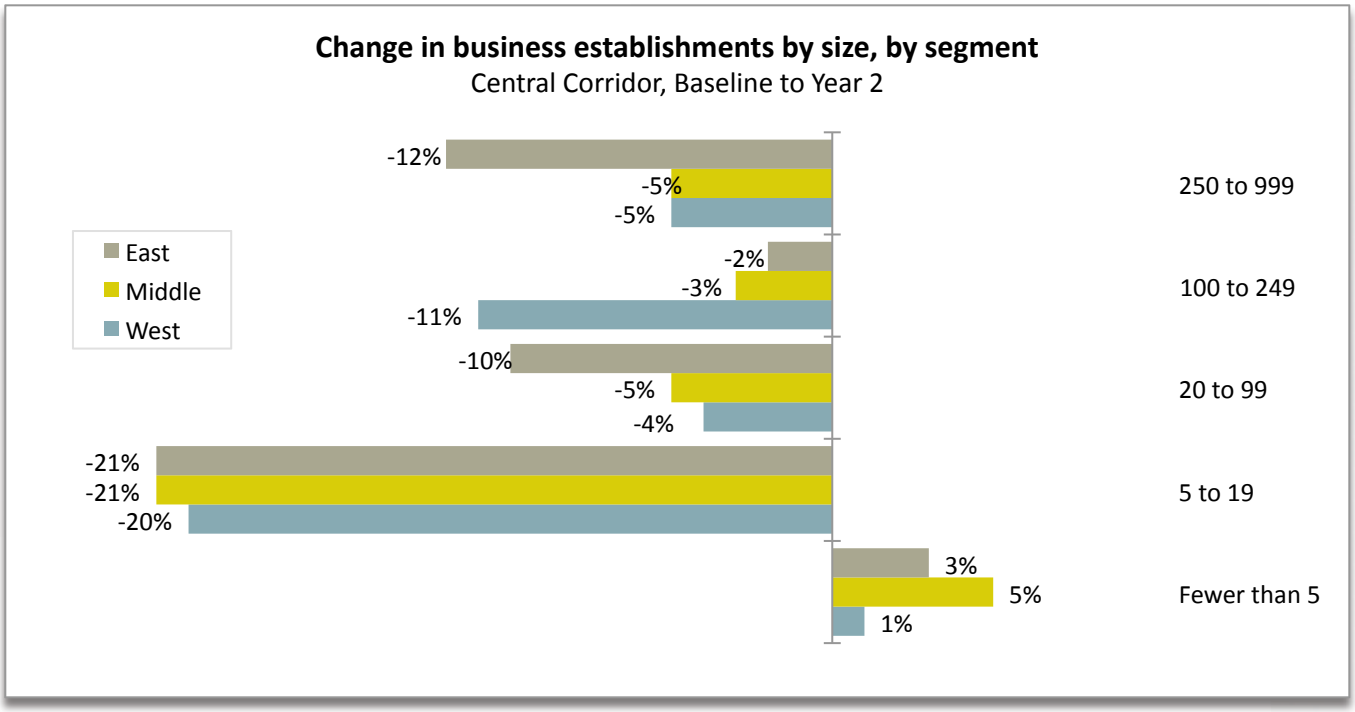


Source: Metropolitan Council summary of Minnesota Department of Employment and Economic Development, Quarterly Census of Employment and Wages, 2009 and 2010.
**Data by industry only shown for the six largest categories and suppressed at the segment-level for establishments with more than 999 employees. See appendix for additional notes and explanation.*

Overall Corridor:

- From Baseline to Year 2, the Central Corridor saw losses of establishments of all sizes, with the exception of a small gain in those with fewer than 5 employees.
- While the Central Corridor largely followed Minneapolis-St. Paul's characteristics of industry changes from the Baseline to Year 2, the Corridor losses do not follow in the same pattern for establishment size. Minneapolis-St. Paul had a net loss in very small establishments (fewer than 5 employees), but the Corridor saw a net gain of 61 very small establishments. Among other possibilities, this change could be a result of business establishments that were in the '5 to 19' category for Baseline measure reducing employee numbers, so that in Year 2 they are accounted for in the 'Fewer than 5' category by Year 2.
- Establishments that employ between 5 and 19 employees took the largest share of the total losses in the Corridor with a net loss of 438 establishments (20 percent of all businesses that size; Minneapolis-St. Paul lost 13 percent of similarly sized establishments).
- Small- to mid-size establishments have the strongest presence in the Corridor with 97 percent of all establishments employing fewer than 100 people, including nearly half which employ fewer than 5 people.

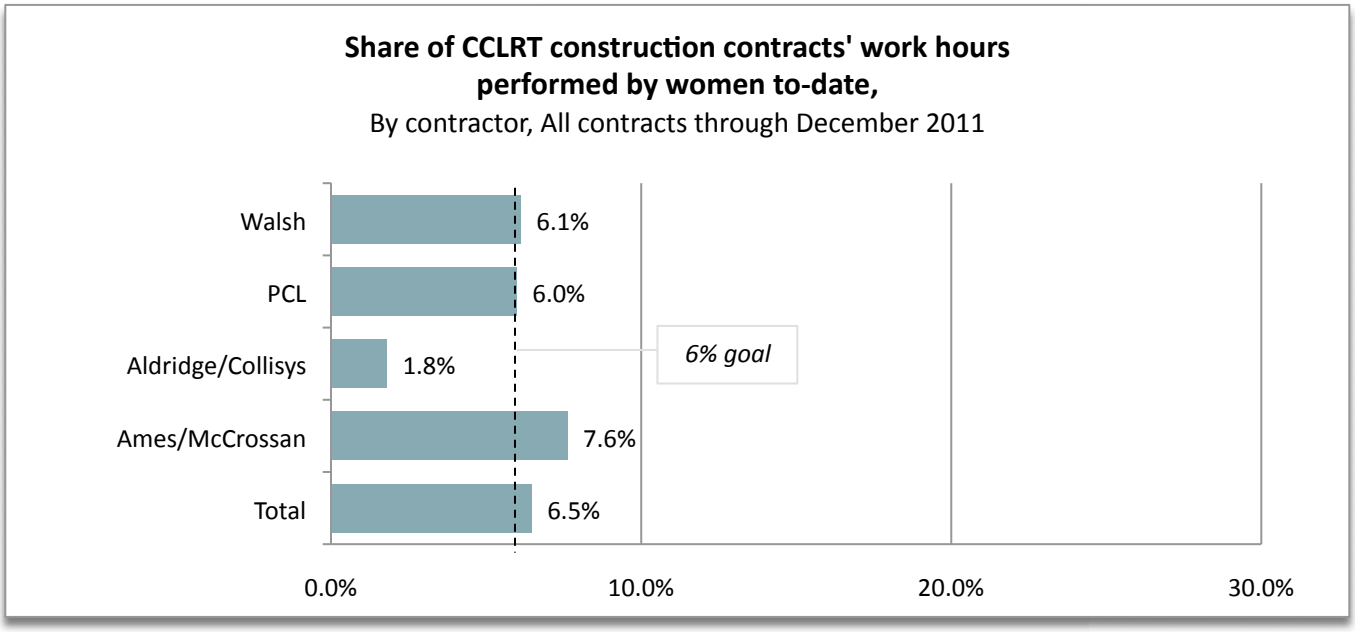
By Segment:

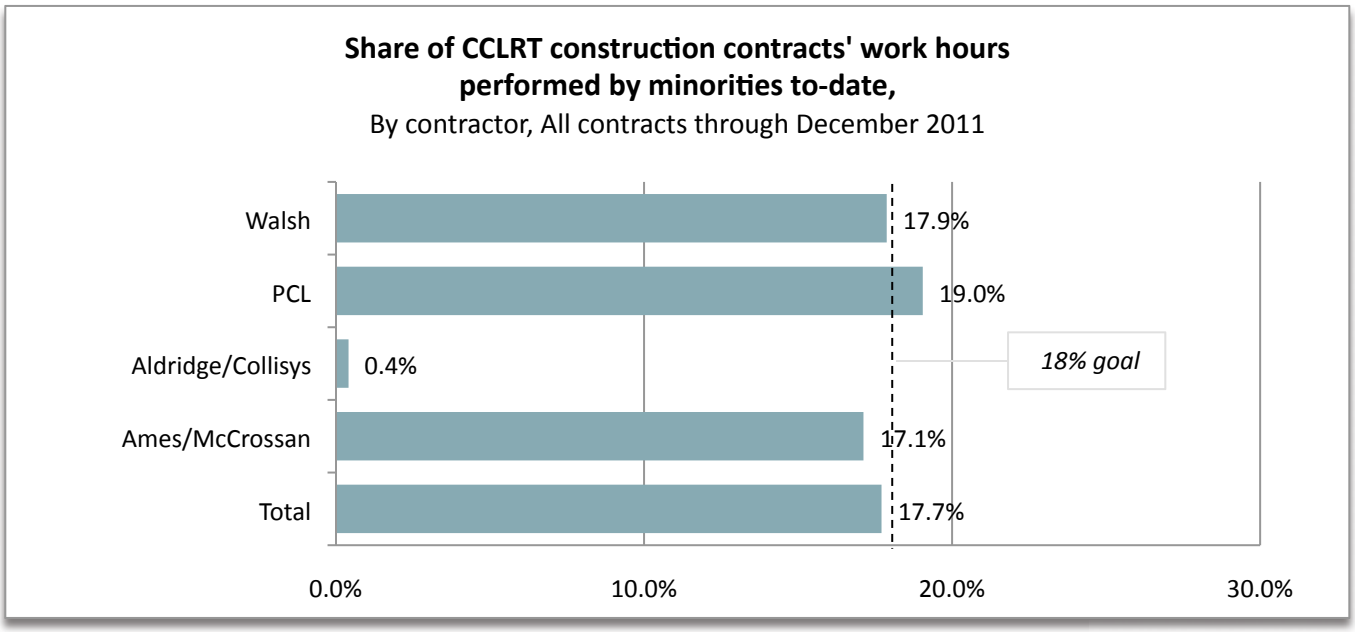
- In total, more than half of all establishments in the Central Corridor are in the West segment, which includes much of downtown Minneapolis.
- With a net gain of 29 establishments from the Baseline to Year 2, very small businesses (fewer than 5 employees) in the Middle segment fared best as compared to any other segment or business size. Half of that loss of businesses with 5-19 employees came from the West segment (net loss of 227 establishments).
- Each of the three segments has a similar breakdown of establishments by size, though the number of large establishments is concentrated in the West Segment where 85 establishments have between 250 and 999 employees.

Outcome: **New development brings opportunities for career-building and long-term employment**

Indicator: **Percentage of Central Corridor LRT construction work hours performed by women or minorities**

Key Question: **Are goals for inclusion of women and people of color in the workforce building the LRT being met?**





Source: Metropolitan Council

Overall Corridor:

- The Minnesota Department of Human Rights has established a goal of 6 percent women and 18 percent minority representation in the workforce for Central Corridor LRT construction contracts, based upon share of total work hours performed by each group.
- Summed across contractors to-date, female work participation (6.5 percent) has exceeded the goal and minority workforce participation (17.7 percent) is nearly at the goal.

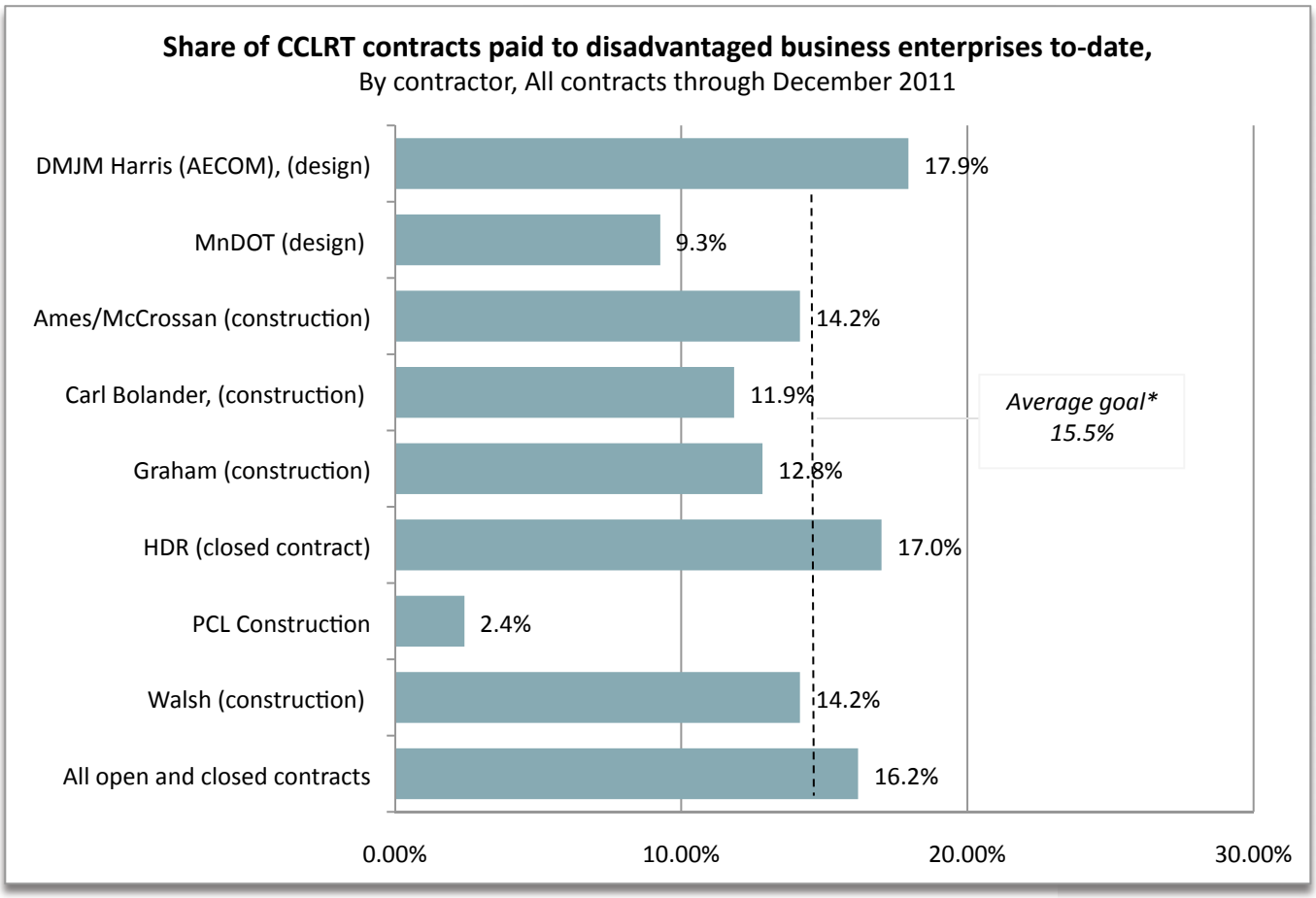
By Contractor:

- All contractors except for Aldridge/Collisys are at or near their stated goal for work participation by females and minorities. It should be noted that the Aldridge/Collisys contract is only 15 percent completed (in terms of dollars paid to contract).
- Thus far, Ames/McCrossan is the only to have exceeded the 6 percent requirement for female hours worked and is currently at 7.6 percent; PCL and Walsh came in at exactly 6 percent.
- Regarding minority participation, all contractors except Aldridge/Collisys have met or are nearly meeting the requirement for minority work hours.

Outcome: **New development brings business opportunities**

Indicator: **Percentage of Central Corridor LRT contracts paid to Disadvantaged Business Enterprises (DBEs)**

Key Question: **Is the goal for contracting with DBEs in the design and construction of the LRT being met?**



Source: Metropolitan Council, Disadvantaged Business Enterprise report

Notes: Individual contractors are at varying stages of contract goals and timelines. Therefore, these percentages represent incomplete information about the percentage of DBE dollars paid by each contractor, and should not be considered final performance. Individual contractors have different goals for DBE payments. Carl Bolander, Walsh, Ames/McCrossan and MnDOT have 15 percent goals while HDR and AECOM have 17 percent goals.

** All Central Corridor LRT contractors have a state goal for contract dollars paid to Disadvantaged Business Enterprises (DBEs), although goals differ slightly across contractors.*

Overall Corridor:

- Among all the contractors, Graham, HDR, and AECOM have met their goals for contracting with Disadvantaged Business Enterprises (DBEs), while to date the Minnesota Department of Transportation, Ames/McCrossan, Walsh, and Carl Bolander have not.
- On the whole, with over 50 percent of all the project's amended-contracts having been paid, 16.2 percent of those payments have been to DBEs. This is above the average contract goal of 15.5 percent (contract goals are 15 or 17 percent, depending on the contract).

Outcome: **Minimal economic disruption from construction**

Indicator: **Street-level business change***

Key Question: **What is the impact of construction on business openings and closings?**

Street-Level Business Change (Feb – Dec 2011)

	Feb-May-11	Jun-11	Jul-11	Aug-11	Sept-11	Oct-11	Nov-11	Dec-11	Cumulative
Openings	22	5	4	7	3	4	7	1	53
Closings	-14	-4	-4	-2	-1	-8	-9	-6	-48
Relocations Off Corridor	-3	0	-2	0	-1	-1	-1	0	-8
	Net Gain/Loss of businesses along the Corridor: Feb 2011-Dec 2011								**-3**
Relocations within Corridor	6	2	1	1	0	3	0	2	15

Source: Metropolitan Council "Status Report on the Implementation of Mitigation Measures – CCLRT Construction –Related Business Impacts," May 2011 – October 2011 reports.

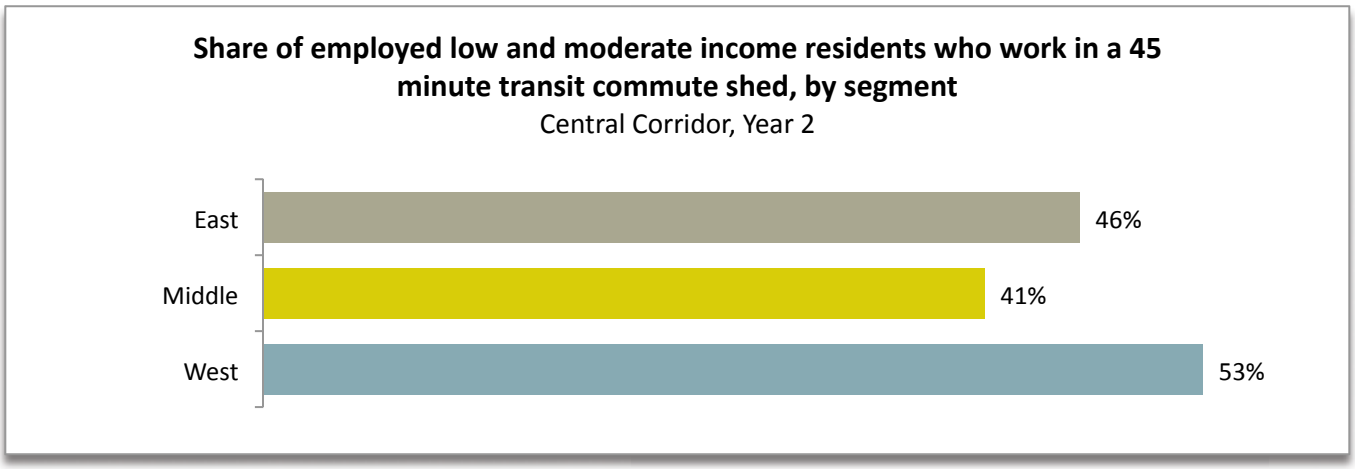
Overall Corridor:

- Overall, the Central Corridor's street-level business saw the largest month-over month business loss in November 2011 when 9 businesses closed. That same month, 7 new businesses opened in the Corridor, which along with August 2011 is the largest month over month increase.
- Business openings and closings/relocations along the Corridor nearly cancel each other out (53 new businesses opened, while 56 businesses closed or relocated off the Corridor).

Outcome: **Many residents living and working in the Corridor**

Indicator: **Percentage of low- and moderate-income* Corridor residents who work within a commute-shed reachable within 45 minutes by public transit**

Key Question: **Does the Corridor light rail provide access to employment for low- and moderate-income residents?**



Source: Local Employment Dynamics, 2009. Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.
** "Low- and moderate-income" is defined as workers earning less than $3,333 per month in 2009 $ (gross income of approximately $40,000 annually).*

Overall Corridor:

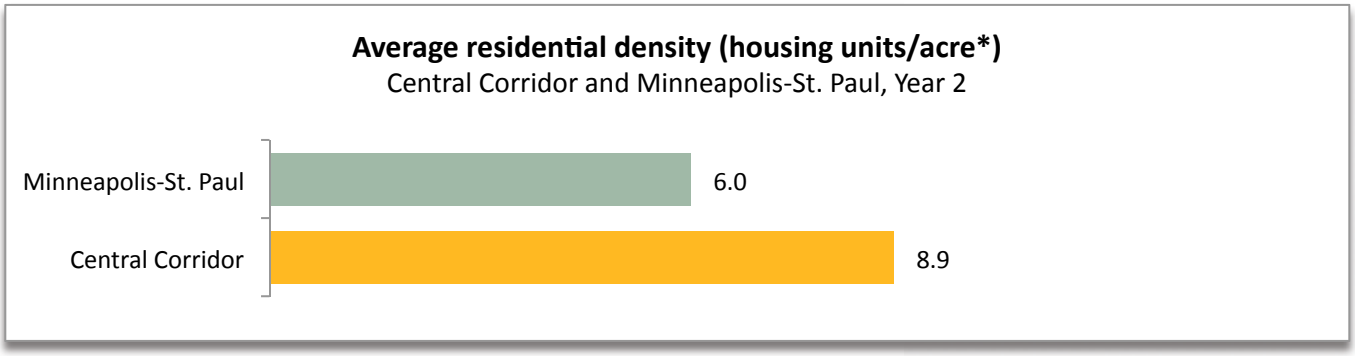
- About 21,000 low- and moderate-income employed residents lived in the Central Corridor. Of these, 62 percent worked in a transit commute-shed reachable within 60 minutes by transit (bus and/or Central Corridor light rail once operating). These figures are virtually unchanged since the Baseline measure, indicating that patterns of work and home changed very little over the year (2008-2009).
- There was also very little change in any segment in the share of employed residents who have access to their jobs within a smaller, 45 minute commute shed. It is notable that high-income employed residents are more likely to work within a 45 minute commute shed (53 percent) than their very low-income counterparts (45 percent).
- Both the West and Middle segments saw net increases in high-income employed residents, while all segments had a net loss in low- to moderate-income employed residents from the Baseline to Year 2. The East segment lost employed residents in every income level.
- Residents of the Middle segment who are in low- to moderate- income jobs are the least likely of any segment to work within their 45-minute commute-shed (41 percent). The East segment is close behind with less than half (46 percent) of low- and moderate- income residents able to reach their place of employment within 45 minutes.

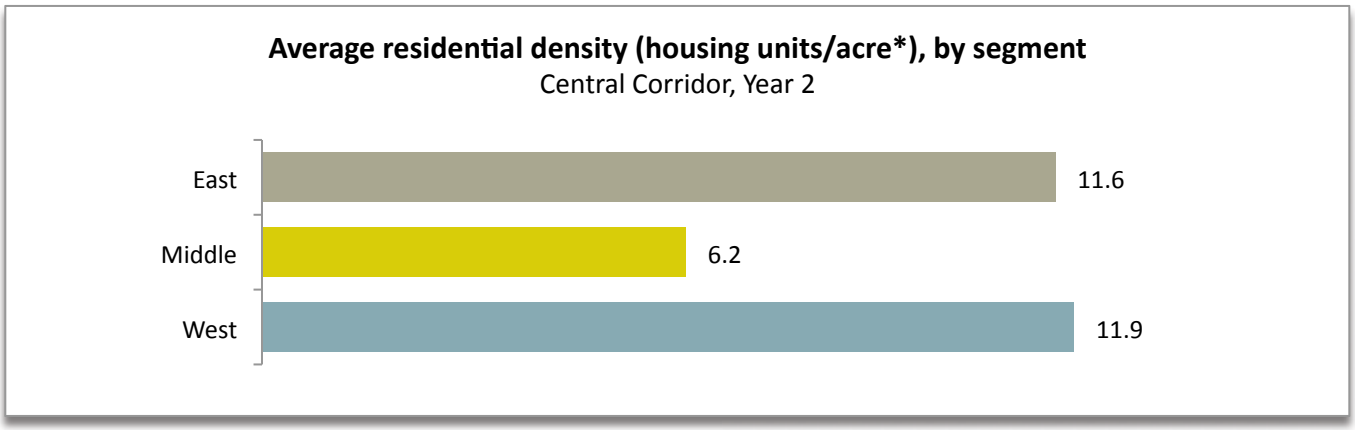
Vibrant, transit-oriented places

Outcome: Increase in housing units and business addresses (density)

Indicator: Total number of occupied residential and commercial addresses*

Key Question: Are Central Corridor neighborhoods becoming more transit-oriented?





Housing density

	West	Middle	East	Central Corridor	Minneapolis-St. Paul
Baseline (2010)					
Total housing units	17,195	15,478	10,208	42,881	299,082
Housing units/acre	11.8	6.2	11.5	8.9	6.0
Year 2 (2011)					
Residential units added in 2010	89	-	108	197	1,130
Total housing units	17,284	15,478	10,316	43,078	300,212
Housing units/acre	11.9	6.2	11.6	8.9	6.0

Source: US Census Bureau, 2010 Housing Unit counts provides the baseline figure for housing units. Additional housing units for Year 2 figures are based on Metropolitan Council's Residential Permit Survey, 2010. Demolitions and residential conversions are not reflected in these numbers. Please see appendix for more information.
**Density refers to housing units per land acre as calculated using tract-level geography, aggregated to the segment.*

Business density

	West	Middle	East	Central Corridor	Minneapolis-St. Paul
Baseline (2010)					
Total business establishments	3,508	1,526	1,365	6,300	16,794
Business establishments/acre	1.5	0.6	0.9	1.0	0.2
Year 2 (2010)					
Business establishment change	-255	-109	-96	-460	-1,297
Total business establishments	3,253	1,417	1,269	5,840	15,497
Business establishments/acre	1.4	0.5	0.8	0.9	0.2

Source: Metropolitan Council, Minnesota Department of Employment and Economic Development (DEED). See Appendix for additional information

Overall Corridor:

- The Corridor added nearly 200 residential units from the Baseline to Year 2. In addition, there were an additional 300 residential units near the U of M campus and extremely close (within one block) of the Central Corridor boundaries, which are not reflected in the Corridor totals.
- From Baseline to Year 2 the Corridor lost some business density, due to the closure of several establishments. A similar pattern metro-wide suggests that these losses were not related to the light rail line.
- Overall, residential density in the Central Corridor is much higher than that of Minneapolis-St. Paul (8 units versus 6 units per acre). Likewise, the density of businesses is higher along the Corridor.
- The Corridor added nearly 200 residential units from the Baseline to Year 2. In addition, there were an additional 300 residential units near the U of M campus and extremely close (within one block) of the Central Corridor boundaries.

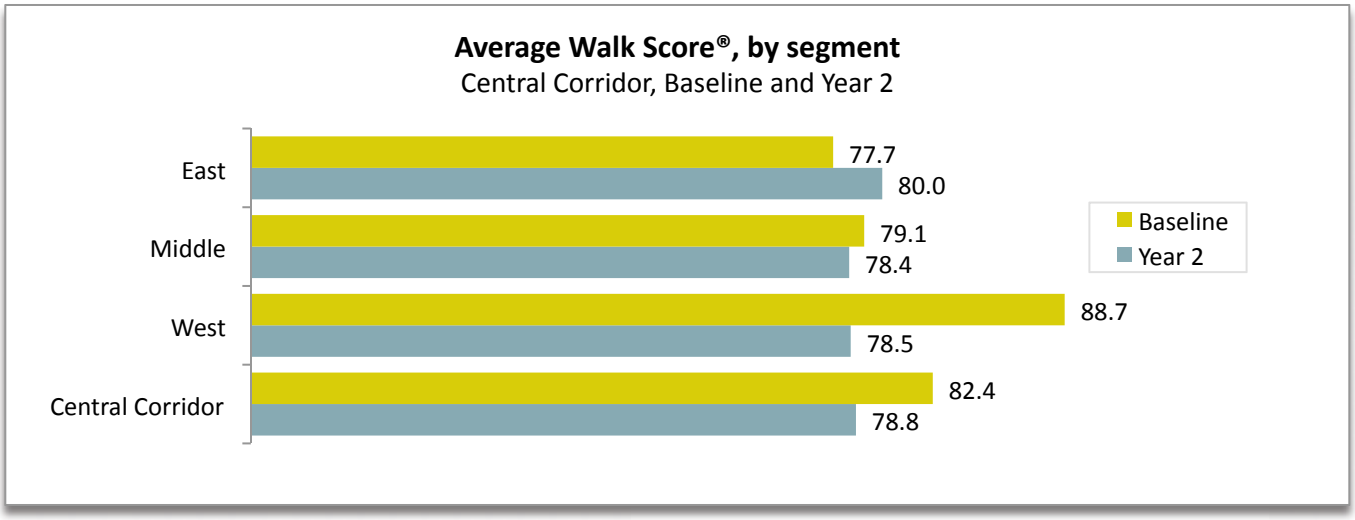
By Segment:

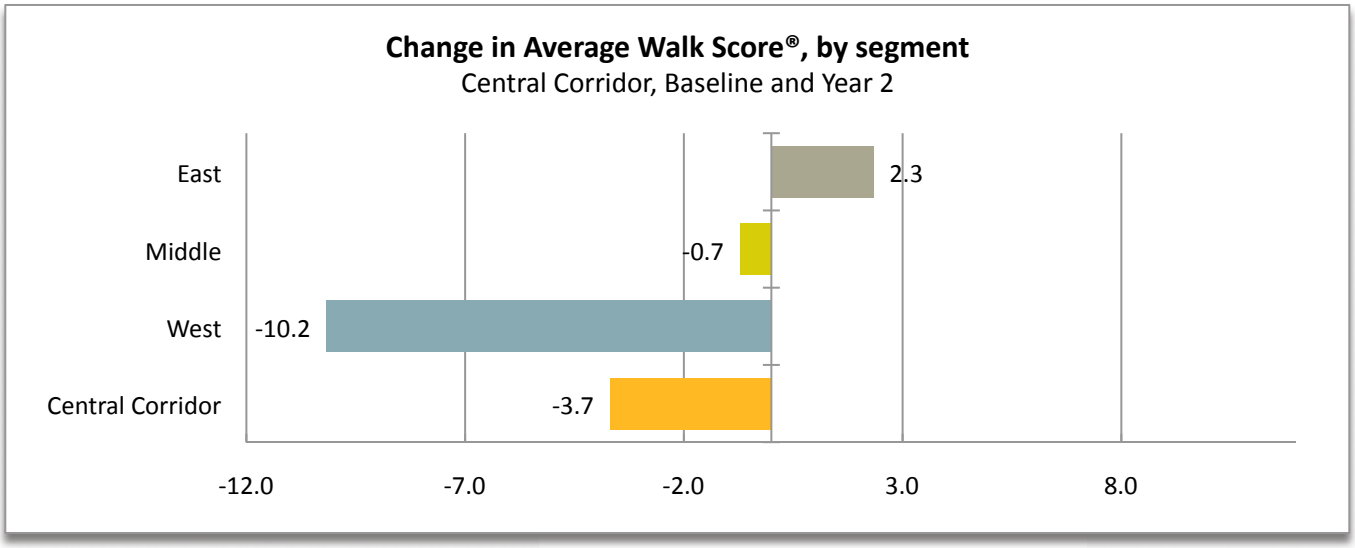
- The West segment of the Corridor has the highest residential density with 11.9 units per acre; much of this density is concentrated in the downtown area (see map). This is also true of the density in the East segment.
- The Middle segment, the least dense of the Corridor segments, is still denser than Minneapolis-St. Paul.
- These patterns follow for business density, with the Middle segment with the fewest business establishments per acre.

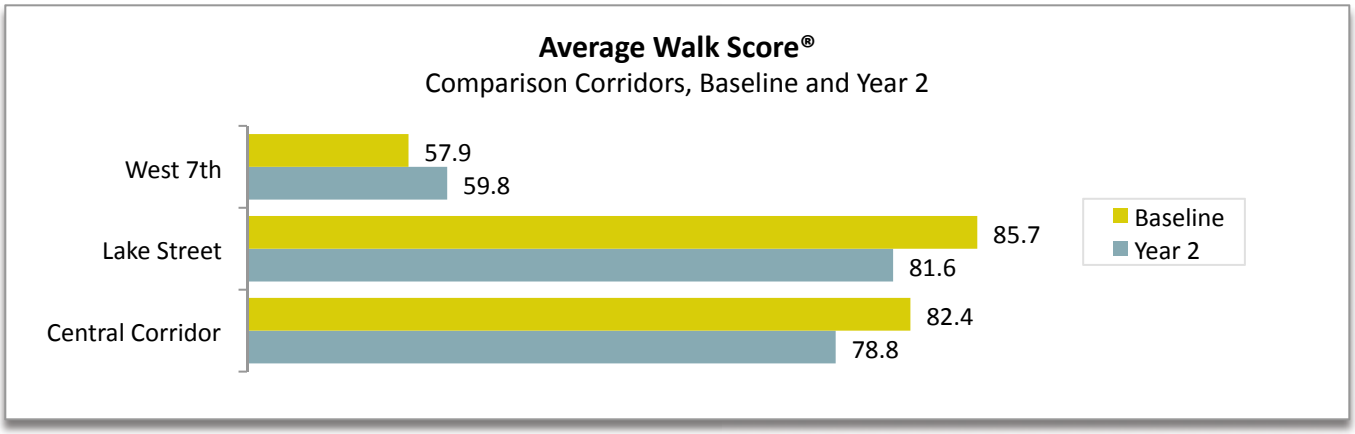
Outcome: Walk friendly

Indicator: Average Walk Score® in the Central Corridor compared to Lake Street in Minneapolis and West 7th Street in Saint Paul*

Key Question: Are Central Corridor neighborhoods becoming more transit-oriented?







Source: www.WalkScore.com, October 2010 and October 2011

Overall Corridor:

- The Central Corridor's average Walk Score® is 78.8 out of a possible 100, about 4 points lower than the year prior. While 78.8 points is considered "very walkable," the decrease in the points awarded indicates a decrease in accessibility. (Changes in the Walk Score® could be a result of a change in amenities across the Corridor or, as Walk Score® is based on Google Maps information, a change in the way Google maps classifies a particular establishment.)
- On average, all three segments are "very walkable" with the East segment the most walkable on average. Within the West Segment, the highest ranking stations are Target Field and West Bank, which receive a Walk Score® of 91, while the Prospect Park station has the lowest Walk Score® with 60 points. Prospect Park and the Westgate stations had the largest point change from the Baseline to Year 2 with 20- and 14-point declines, respectively.
- In the Middle segment, the Snelling Avenue station lost the most points (11) and in the East segment, the Capitol East station also lost 11 points, topping out Walk Score® changes for the segment.

Comparison to Central Corridor:

- The Lake Street corridor between Hennepin Avenue and West River Parkway as an average Walk Score® of 81.6; while the Walk Score® has gone down since the Baseline, it is still higher than the Central Corridor's 2011 Walk Score®.
- The West 7th Corridor between Davern Street and Smith Ave S. has an average Walk Score® of just 59.8 points, indicating that despite a two point increase from the year before, the Central Corridor continues to enjoy a higher presence of amenities than its St. Paul comparison corridor.

Effective coordination and collaboration

To gauge the effectiveness of coordination and collaboration among groups working on the Central Corridor initiative Wilder Research once again conducted telephone interviews with 50 Central Corridor stakeholders representing the following sectors: non-profit/human services; city, county, regional, and state government; neighborhood groups; advocacy groups; businesses; transit; and housing/real estate development.

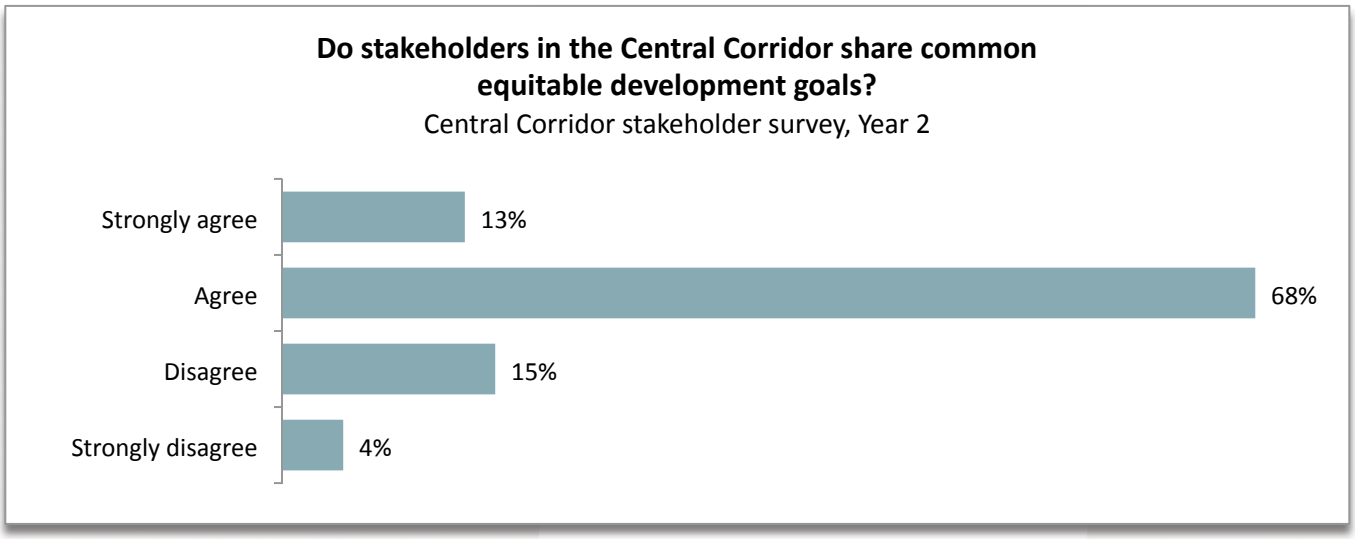
While the key informant survey done in winter 2011-2012 largely replicated the one done at baseline, year to year changes in the survey responses should not be given too much weight. This is for two reasons: first, the survey is not scientifically representative of all opinions along the Corridor. Second, a somewhat different group of stakeholders was interviewed this year as opposed to last, which means that shifts in the results could be due as much to different people answering the questions as to changes in the actual effectiveness of coordination and collaboration along the Corridor. Still, the survey does provide some insight into the current perceptions of key participants in the Corridor's development.

Overall the key informant survey suggests that the various stakeholders, and the sectors they represent, are coordinating and collaborating effectively, and that some progress has been made in this area over the past year. In addition to the results below, see the appendix for more detailed results, including quotations of some answers that key respondents gave to open-ended questions included in the survey.

Outcome: Common vision and priorities

Indicator: Perspectives of representatives of key stakeholder groups

Key Question: Do stakeholders recognize shared goals?



"HOW WOULD YOU DESCRIBE THE COMMON EQUITABLE GOALS FOR THE CENTRAL CORRIDOR?"

Central Corridor stakeholder survey, Year 2

Top five goals cited	Number of responses
Benefit/support for existing businesses	18
Benefit/support for current residents	15
Neighborhood preservation, vitalization	13
Affordable housing	11
Employment opportunities (local residents, minorities)	11
Transportation	11

Source: Stakeholder interviews conducted by Wilder Research, 2011
Note: Responses to this open-ended question were grouped into categories; responses sometime included more than one category and are reported in each. Based on responses from 50 stakeholders.

Findings:

- Thirty-nine out of 47 survey respondents either agreed or strongly agreed that Corridor stakeholders share common equitable development goals, up from just 32 out of 50 last year.
- More survey respondents this year mention benefit for existing businesses and residents as goals for equitable development. Additional goals frequently mentioned were neighborhood preservation, affordable housing, employment opportunities, and transportation.
- When respondents were asked what they thought could be done to increase Corridor stakeholder recognition of- and work toward- shared equitable development goals, similar themes to last year emerged. These included a desire for increased coordination and communication of the many

efforts; a greater inclusion of Corridor residents and grassroots groups in the planning process; and making tangible progress and establishing specific accountability for goal accomplishment.

Outcome: **Collaboration across issues and geography**

Indicator: **Perspectives of representatives of key stakeholder groups**

Key Question: **Are stakeholders working together effectively to achieve positive outcomes?**

LEVEL OF AGREEMENT ABOUT COLLABORATION ON EQUITABLE DEVELOPMENT

Central Corridor stakeholder survey, Year 2

	Strongly disagree	Disagree	Agree	Strongly agree
Central Corridor stakeholders collaborate effectively	4%	23%	64%	9%
Central Corridor collaborations and partnerships integrate efforts from multiple sectors (i.e., government, transit, business, environmental groups, etc.)	2%	4%	71%	23%
Central Corridor collaborations and partnerships integrate efforts from all geographies and jurisdictions	4%	22%	65%	9%
Central Corridor collaborations and partnerships integrate efforts across multiple issue areas	2%	13%	70%	15%

Source: Stakeholder interviews conducted by Wilder Research, 2011
Note: Based on responses of 47 to 49 stakeholders, depending on the statement.

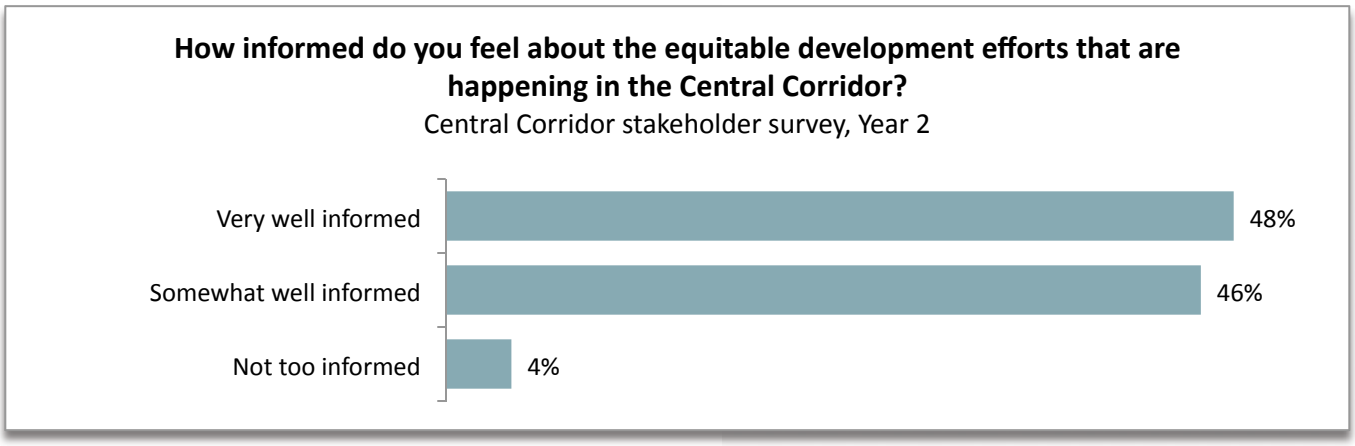
Findings:

- Nearly three-quarters (34 of 47 respondents) of this year's respondents "agreed" or "strongly agreed" that Corridor stakeholders collaborate effectively on equitable development.
- As compared to last year's survey respondents, this year's respondents "disagree" or "strongly disagree" less often when asked if stakeholders collaborate effectively (13 of 47 respondents in 2011, 18 of 49 in the 2010). Additionally, a greater number of this year's respondents "strongly agree" that stakeholders collaborate effectively (1 of 49 respondents the Baseline, 4 of 47 in Year 2).
- Among the series of questions on assessing collaboration along the Corridor, the biggest change in results from Baseline to Year 2 was an increase in the number of respondents who agreed or strongly agreed that "Central Corridor collaborations and partnerships integrate efforts from multiple sectors" (45 out of 48 respondents this year, compared with 34 out of 47 respondents last year).
- Respondents were asked to provide examples of how organizations were working together effectively to achieve equitable development goals in the Corridor. Several examples cited were: the Big Picture project and affordable housing; District Council Collaborative; the effort to add three stations to the route; and business-impact mitigation efforts.

Outcome: **Corridor redevelopment successes are shared and celebrated**

Indicator: **Perspectives of representatives of key stakeholder groups**

Key Question: **Are stakeholders informed of what is happening in the Central Corridor?**



Source: Stakeholder interviews conducted by Wilder Research, 2011
Note: Based on responses of 49 stakeholders.

"WHAT SOURCES OF INFORMATION DO YOU USE TO STAY INFORMED ABOUT WHAT IS HAPPENING IN THE CENTRAL CORRIDOR?"

Central Corridor stakeholder survey, Year 2

Meetings	39
Newspapers	28
Central Corridor Funders Collaborative website	22
Newsletters	16
Twin Cities Daily Planet	9
Other websites	14
The Line (online magazine)	13
CityScape blog on MinnPost	9

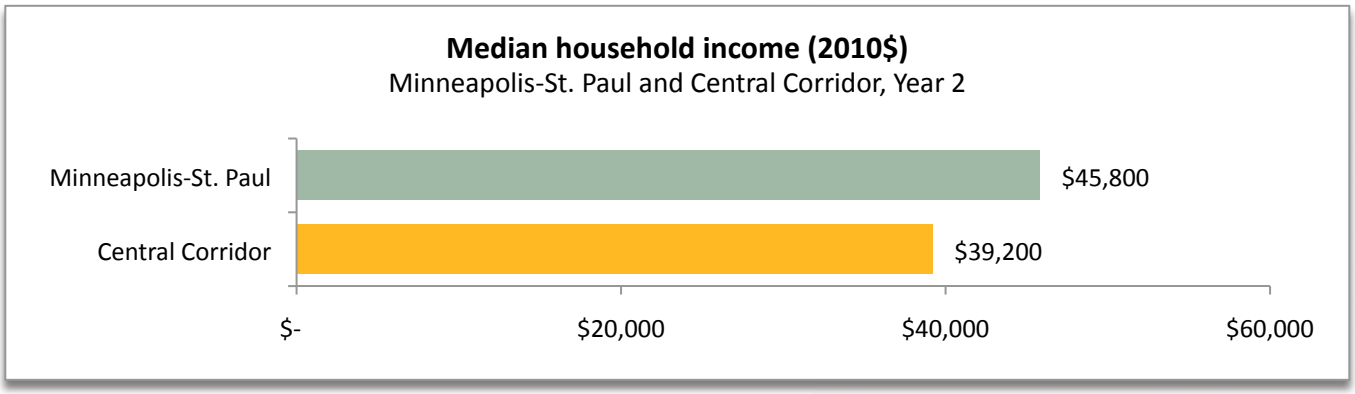
Note: Based on responses of 50 stakeholders.
Source: Stakeholder interviews conducted by Wilder Research

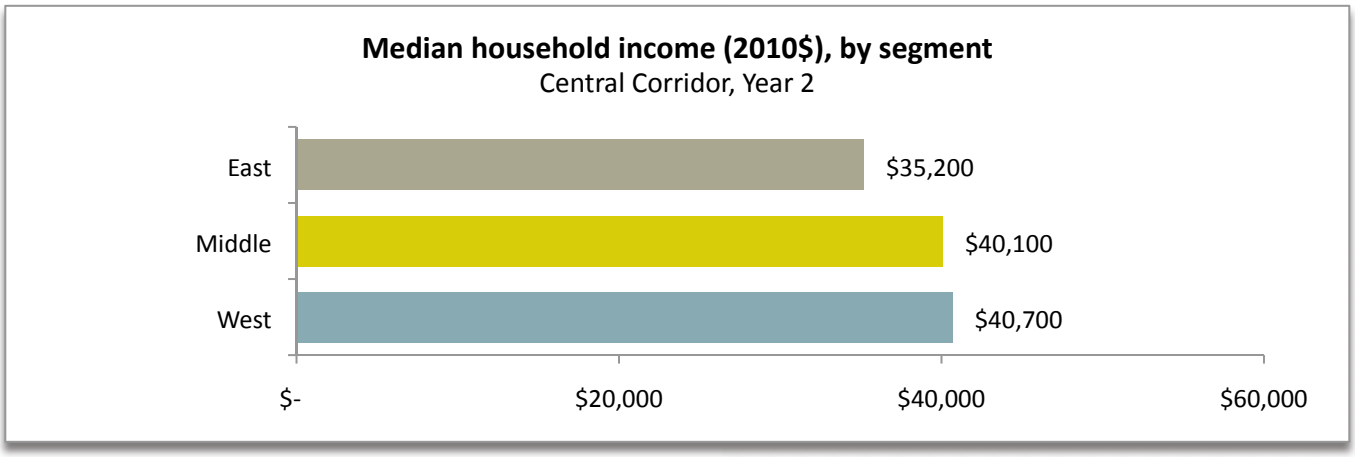
Findings:

- Overall, stakeholders are using fewer media sources than they were last year. That said, more respondents feel very well informed about what is happening in the Central Corridor, potentially indicating an improvement in information sharing or communication patterns.
- The same share of survey respondents are not well informed about what is happening in the Central Corridor (2 respondents each year).

Demographic context

Context Measure: **Median Household Income**



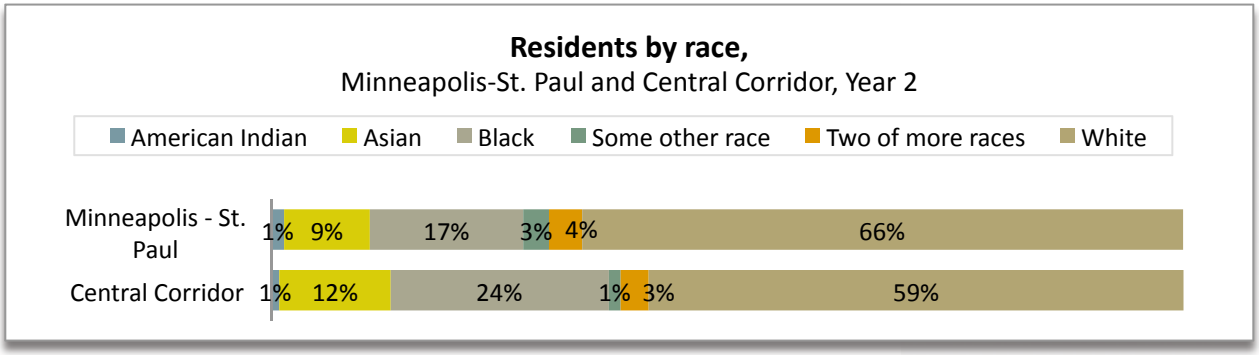


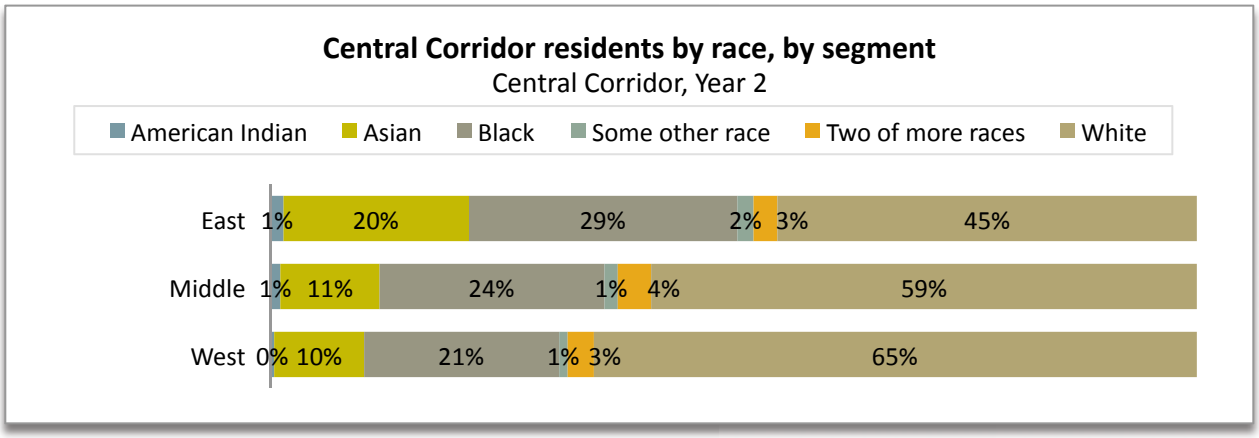
Source: US Census Bureau, American Community Survey, 2006-10

Findings:

- Median income in the Central Corridor is more than $5,000 lower than that of Minneapolis-St. Paul.
- The West segment has the highest median income, while the middle segment is fully $10,000 less than the Minneapolis-St. Paul overall median.
- Looking closer at median income in the Central Corridor, tracts with the highest median income are located in the West segment, with the highest in downtown Minneapolis.
- Of note in the Middle segment is the mix of median income near the Snelling, Lexington, and Dale stops.

Context Measure: **Population by race and ethnicity**





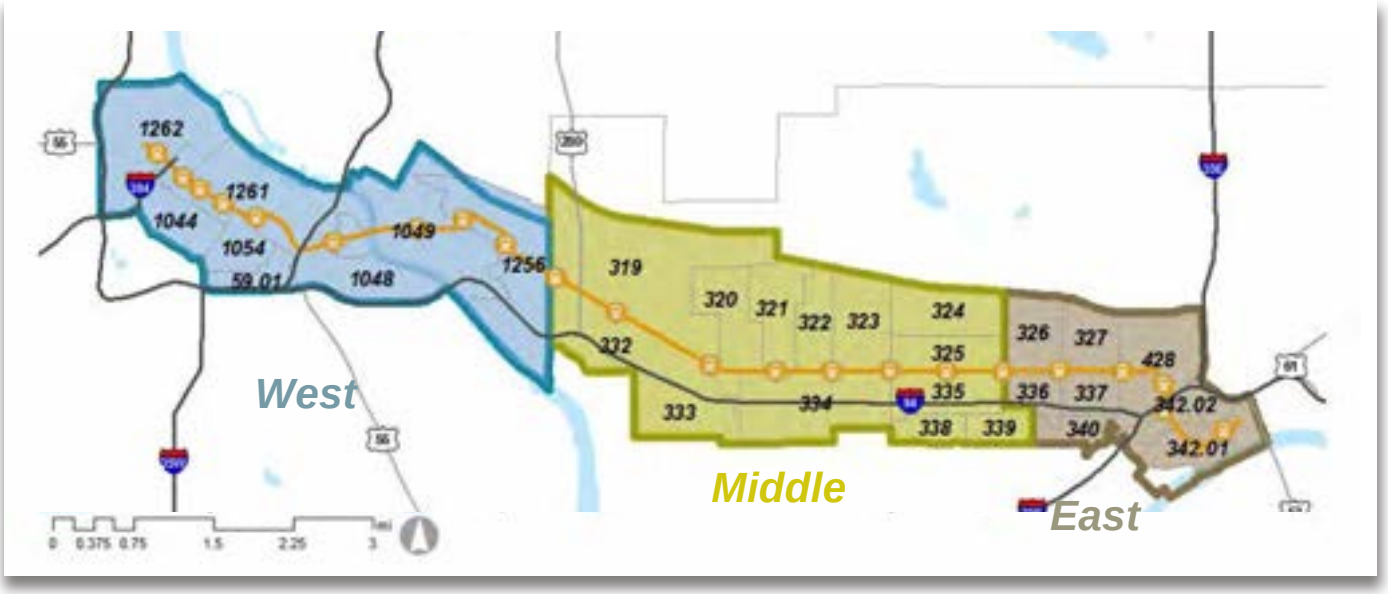
Source: US Census Bureau, American Community Survey, 2006-10
Note: Racial categories shown include residents of Hispanic ethnicity. See Findings for the share of population that is Hispanic.

Findings:

- The Central Corridor's racial and ethnic composition continues in its historical diversity. The shares of Asian and Black residents are higher than Minneapolis-St. Paul, which contribute to that diversity. Distinct from the pattern with other racial groups, the Corridor share of Hispanic residents (of any race) is smaller than that of Minneapolis-St. Paul (5% and 9%, respectively).
- The Central Corridor's population from the Baseline to Year 2 indicates stability but a possible growth trend emerging.
- Looking specifically at the racial makeup of the corridor, there are some signs of shifting composition throughout, but especially in the Middle and East segments. These segments show a slight decline in the numbers and percent of white residents and increase in residents of color (predominantly Asian and Black residents).
- The Central Corridor is uniquely diverse as compared to Minneapolis-St. Paul in that 1 of every 5 residents throughout the Corridor is foreign born. In the East segment, that increases to 1 in 4.
- The East segment has the highest share of population that is Hispanic (any race), with 6%. Five percent of the Middle segment is Hispanic (any race) and just 3 percent of the West segment is Hispanic (any race).

Appendix

CENTRAL CORRIDOR CENSUS TRACTS (2010)



Data notes

American Community Survey Data: The U.S. Census Bureau's American Community Survey (ACS) is the source of several indicators used in this report. The ACS program publishes 1-, 3-, and 5-year estimates. This report relies exclusively on the 5-year estimates, since they are the only estimates available for areas with fewer than 20,000 residents. To date the Census Bureau has made available two sets of 5-year estimates, 2005-09 and 2006-10. Note that there are four years in common between the two sets (2006, 2007, 2008, and 2009).

The ACS program does not collect data from every resident; instead the data are collected through a sample survey. Thus, there is a margin of error associated with each point estimate reported in the survey. The ACS publishes margins of error with a 90 percent confidence interval, or range in which the true value will fall if data were collected from the entire population group in question. For example, if the ACS estimates that 49 percent of the residents in a certain area are female, and reports a margin of error of +/-7 percentage points, one can be 90 percent confident that the actual percentage lies between 42 and 56 percent. This means that in many instances where point estimates appear to differ, the differences between the two estimates are not statistically significant.

The overlapping sample of the 2 sets of 5-year ACS estimates released to date, along with the margin of error associated with each reported point estimate make it extremely unlikely that any changes will be detected among the indicators that rely on the ACS in this second year of the report. However, while it may not yet be possible to draw year-to-year changes from these numbers, the ACS will be a valuable means of tracking changes that occur along the corridor over the next several years.

Indicators sourced from ACS are: household income, median household income, total population, and foreign-born as a percent of total population. Please contact Wilder Research directly for more information on the margins of error associated with the indicators in this report.

Housing + Transportation index: Due to methodological changes implemented by Center for Neighborhood Technology (CNT) between the original H+T Index (used in the Baseline report and Tracker), and the second version of the H+T index (which is used in this, Year 2 report and Tracker), the two sets of numbers are not comparable. Numbers in this report reflect a dataset created by CNT specifically to compare the original and second version of H+T index. This dataset is different from that which is on the H+T website. Please contact us with additional questions regarding H+T index.

Minnesota Department of Employment and Economic Development's summarized file of the Quarterly Census of Employment and Wages (QCEW): This dataset is summarized of second-quarter, 2010 employment data by 2010 Census Geography from DEED Quarterly Census of Employment and Wages (QCEW) Employment Data. DEED compiles quarterly counts of employees, employer reporting establishments, and aggregate wages, covered by Unemployment Insurance in Minnesota, as part of a uniform nationwide reporting effort administered in partnership with the U.S. Bureau of Labor Statistics (BLS). DEED publishes data by North American Industrial Classifications (NAICS), by 'ownership' (total government, federal government, state government, local government, private). The

original raw data is restricted. Summary data is only available for those geographies where at least three employers exist and no one employer represents 80% or more of the total employment.

Data for business establishments with more than 999 employees are not available at the segment scale. Business establishments with "Fewer than 5" employees could technically have less than one employee (one part-time employee, for example).

Street-level Business Change (Metropolitan Council): The update on number of Central Corridor business openings, closings, and relocations uses data gathered by Central Corridor Project Office Central Corridor Project Office Outreach staff. Outreach staff maintains an inventory of Central Corridor businesses, which serves as a comprehensive contact database. This inventory is a list of street-level business establishments that are found along the Central Corridor alignment from the West Bank area of Minneapolis to downtown St. Paul. Relocations within the Corridor are not counted in the cumulative change of business establishments.

Walk Score ®: Walk Score ® is a measure of walkability for a single address that uses multiple data sources (such as Google maps) in order to determine access to amenities within a walkable distance (.25-1 miles). For more information, go to www.walkscore.com/methodology.shtml.

Changes in data sources: This second-year report presents updated data for the four outcomes defined by the Collaborative, using the most recently available data. In order to increase accuracy, sensitivity, and replace datasets which are no longer available, several sources have been changed from the Baseline report. In these instances, tables with the Baseline figure are made available in this document. Changes in data sources are as follows:

Household income: Previously, household income was sourced using IRS tax-return filing data and had household breakdowns by the adjusted gross IRS. This year, in order to standardize our data sources and geographies, we have used the American Community Survey data. The Baseline data is from ACS 2005-09 and Year 2 is from ACS 2006-10.

Businesses by industry type and establishment size: Previously, we sourced business data using the U.S. Census Bureau's ZIP Code Business Pattern data. This year, in an effort to move away from ZIP-code level data toward data that more precisely matches the geographic boundaries of the Central Corridor, we use the Minnesota Department of Employment and Development (MN DEED) summarized file of the Quarterly Census of Employment and Wages (QCEW) data. These data are made available via the Metropolitan Council. This same data source is used for the business density data (see below). In order to achieve maximum coverage of establishments, the data are summarized by the six largest industries for Minneapolis-St. Paul (grouped according to NAICS code).

Residential density: Previously, we sourced residential density using the U.S. Department of Housing and Urban Development's (HUD) Aggregated United States Postal Service (USPS) Administrative Data on Address Vacancies dataset. Since that dataset is no longer available we now use Census 2010 housing units for Baseline data. Year 2 data is additive to the Baseline and depends on the Metropolitan Council's Residential Permit survey for new housing units. Additionally, we have added a density measure using land acres of occupied blocks to calculate

housing units per acre for the Central Corridor, its three segments, and Minneapolis-St. Paul. Conversions and demolitions are not currently reflected in the residential permit survey.

Business density: Previously, we sourced residential density using the U.S. Department of Housing and Urban Development's (HUD) Aggregated United States Postal Service (USPS) Administrative Data on Address Vacancies dataset. Since that dataset is no longer available we now use business data from the Minnesota Department of Employment and Economic Development's summarized file of the Quarterly Census of Employment and Wages (QCEW). These data are made available via the Metropolitan Council. This same data source is used for the businesses by industry type and establishment size (see above).

New indicator – Street level business change: One concern of many Central Corridor stakeholders is the impact of construction on businesses in the Corridor. To that end, and as a part of implementing mitigation measures, the Metropolitan Council began tracking street-level business change in the forms of business openings, closings, and relocations (on/off corridor) in the Central Corridor. Data collection began in February of 2011 and is available from February-May 2011 as one number and then monthly, thereafter. Collection is done in the Central Corridor alignment from the West Bank area of Minneapolis to downtown St. Paul and available only for street-level businesses.

Data timeline:

Indicator number	Measure	Baseline	Year 2	Source
1	Household Income	2005-09	2006-10	American Community Survey
2	H+T index	2000	2005-09	Center for Neighborhood Technology
3	Business establishments (size/type/density)	2009	2010	MN DEED via Metropolitan Council
4	Business establishments (size/type/density)	2009	2010	MN DEED via Metropolitan Council
5	Women/minority/DBE	2010	2011	Metropolitan Council
6	Women/minority/DBE	2010	2011	Metropolitan Council
7	Street-level business change	N/A	Feb-Dec 2011	Metropolitan Council
8	Commute shed for employed residents in commute shed	Projected 2014	same	University of Minnesota
8	Residents for employed residents in commute shed	2008	2009	Local Employment Household Dynamics
9	Walk Score ®	October 2010	October 2011	www.walkscore.com
10	Residential units	2010	2011	Metropolitan Council, Residential Permit Survey
10	Business establishments	2009	2010	MN DEED via Metropolitan Council
11 to 13	Stakeholder Questions (11-13)	Winter 2010	Winter 2011	Wilder Research
14	Median income	2005-09	2006-10	American Community Survey

15	Race and ethnicity	2005-09	2006-10	American Community Survey
16	Population	2005-09	2006-10	American Community Survey

Access to affordable housing

A1. Share of household by income in the past 12 months (in 2010 dollars)
Central Corridor and Minneapolis-St. Paul, 2005-09, 2006-10

	Central Corridor	Minneapolis-St Paul
2005-09		
Less than $10,000	18%	11%
$10,000-$29,999	26%	23%
$30,000-$49,999	18%	21%
$50,000-$99,999	24%	29%
$100,000+	13%	17%
Total	100%	100%
2006-10		
Less than $10,000	18%	11%
$10,000-$29,999	27%	23%
$30,000-$49,999	16%	19%
$50,000-$99,999	25%	29%
$100,000+	14%	18%
Total	100%	100%

Source: US Census Bureau American Community Survey 2005-09, 2006-10

A2. Household income (in 2010 dollars), by segment
Central Corridor, 2005-09, 2006-10

	West	Middle	East
2005-09			
Less than $10,000	21%	14%	21%
$10,000-$29,999	27%	25%	26%
$30,000-$49,999	15%	19%	19%
$50,000-$99,999	20%	29%	25%
$100,000+	17%	13%	9%
Total	100%	100%	100%
2006-10			
Less than $10,000	21%	13%	21%
$10,000-$29,999	27%	27%	27%
$30,000-$49,999	13%	19%	17%
$50,000-$99,999	21%	28%	26%

$100,000+	18%	12%	9%
Total	100%	100%	100%

Source: US Census Bureau American Community Survey 2005-09, 2006-10

A3. Median household income, by segment

Central Corridor and Minneapolis-St. Paul, 2006-10

	Corridor	West	Middle	East	Minneapolis-St. Paul
In 2010 dollars	$39,201	$40,703	$40,104	$35,166	$45,820

Source: U.S. Census Bureau, American Community Survey

A4. Housing and transportation costs as a percentage of income for households at 60 percent area median income

Central Corridor and Minneapolis-St. Paul, 2000, 2005-09

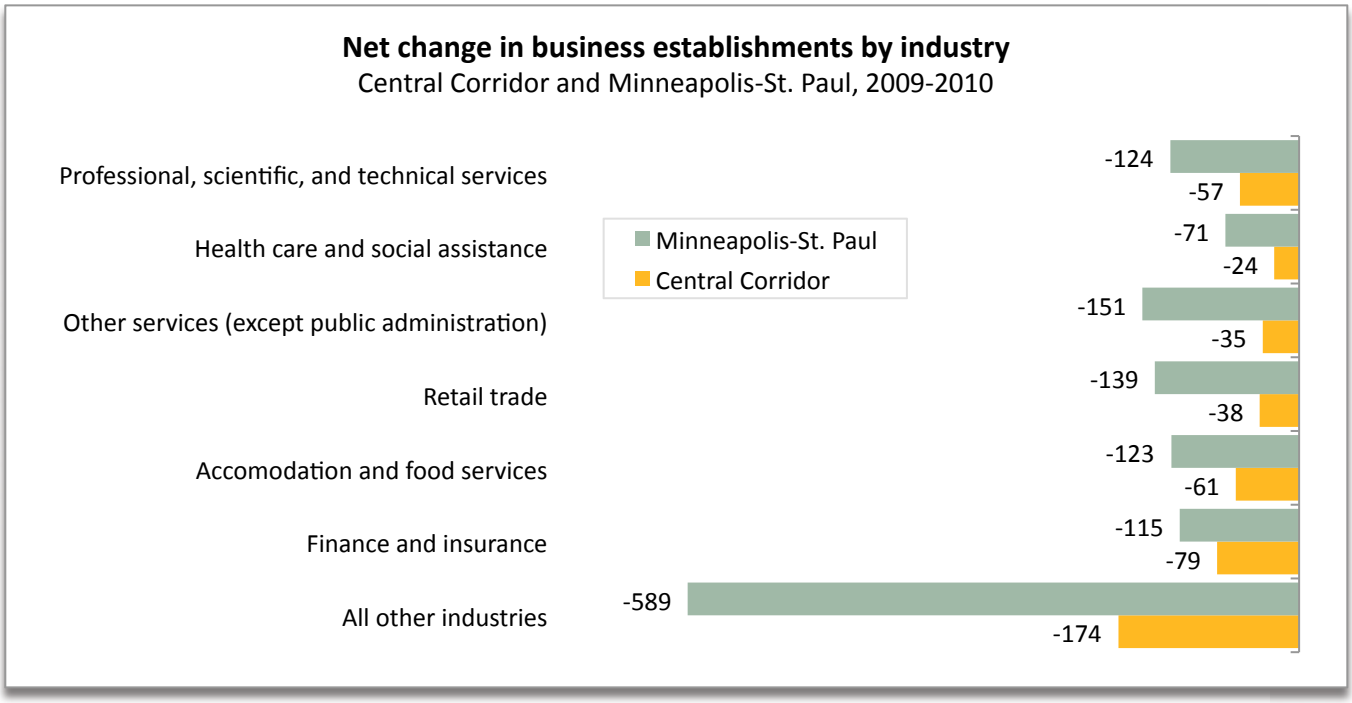
	60% of Area Median Income	
	2000	2005-09
West	33%	39%
Middle	38%	45%
East	25%	39%
Central Corridor	34%	41%
Minneapolis-St. Paul	41%	47%

Source: Housing + Transportation Affordability Index, online at htaindex.cnt.org. Center for Neighborhood Technology, Chicago, IL. (Data available by block group and aggregated to census tracts.)

Notes: Income is in 2009 dollars. Area Median Income relates to the median for the nation. Results reported in the figure assume an average household size of 2.59 people and 1.14 commuters. Sixty percent of national median income in 2000 was $31,912 (2010 dollars) and was $31,372 in 2009 (2010 dollars). Please see 'Changes in data sources' for more information.

Strong local economy

A5. Share of businesses by industry
Central Corridor, 2009-2010



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A5. Share of businesses by industry (continued)

Central Corridor, 2009-2010

	NAICS code*	Central Corridor	Minneapolis-St. Paul
2009			
Professional and technical services	54	20%	15%
Other services**	81	9%	11%
Health care and social assistance	62	10%	11%
Accommodation and food services	72	9%	9%
Finance and insurance	52	10%	6%
Retail trade	44-45	7%	10%
All other industries***	11, 21, 22, 23, 31-32, 42, 48-49, 51, 53, 55, 56, 61, 71	35%	38%
2010			
Professional and technical services	54	21%	16%
Other services**	81	9%	11%
Health care and social assistance	62	11%	11%
Accommodation and food services	72	8%	9%
Finance and insurance	52	9%	6%
Retail trade	44-45	7%	10%
All other industries***	11, 21, 22, 23, 31-32, 42, 48-49, 51, 53, 55, 56, 61, 71	35%	37%

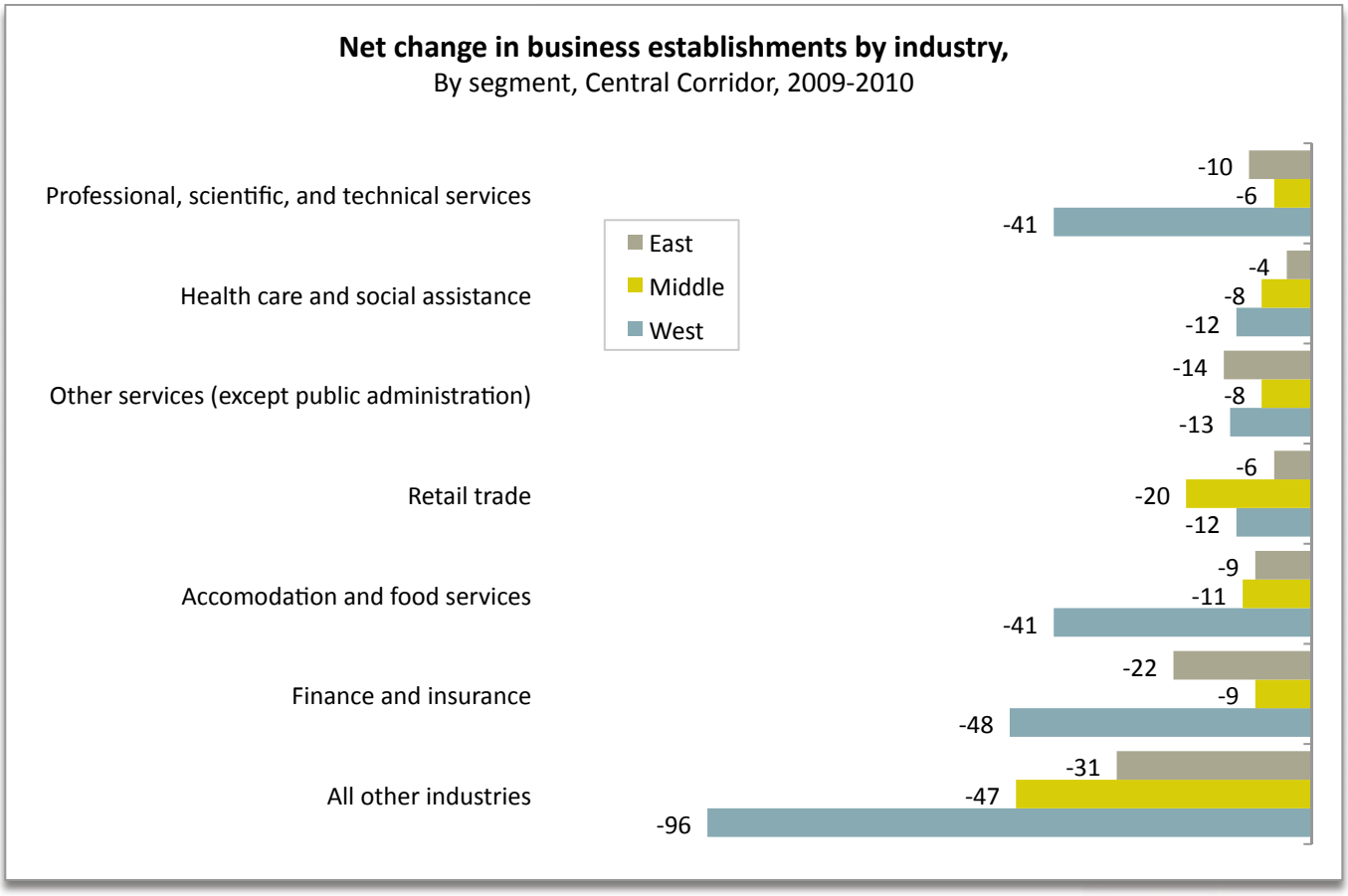
Source: Metropolitan Council summary of MN DEED/QCEW Data

**Data for six largest industries of Minneapolis-St.Paul shown in order to decrease suppression.*

*** This dataset is a summarized of second-quarter, 2010 employment data by 2010 Census Geography from DEED Quarterly Census of Employment and Wages (QCEW) Employment Data. DEED compiles quarterly counts of employees, employer reporting establishments, and aggregate wages, covered by Unemployment Insurance in Minnesota, as part of a uniform nationwide reporting effort administered in partnership with the U.S. Bureau of Labor Statistics (BLS). DEED publishes data by North American Industrial Classifications (NAICS), by 'ownership' (total government, federal government, state government, local government, private). The original raw data is restricted. Summary data is only available for those geographies where at least three employers exist and no one employer represents 80% or more of the total employment.*

A6. Share of businesses by industry, by segment (in order of rank, Corridor-wide)

Central Corridor, 2009-2010



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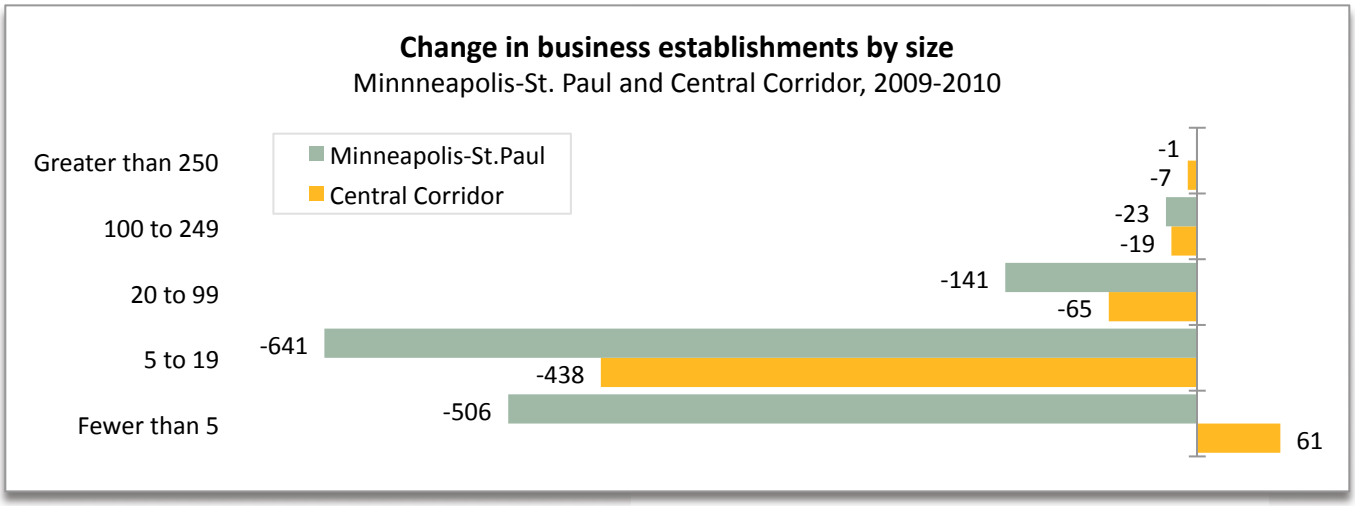
A6. Share of businesses by industry, by segment (continued)
Central Corridor, 2009-2010

	West	Middle	East
2009			
Professional and technical services	25%	11%	17%
Other services**	7%	11%	12%
Health care and social assistance	7%	16%	12%
Accommodation and food services	10%	6%	8%
Finance and insurance	12%	3%	10%
Retail trade	6%	12%	5%
All other industries***	32%	40%	36%
2010			
Professional and technical services	26%	11%	17%
Other services**	7%	12%	12%
Health care and social assistance	7%	17%	13%
Accommodation and food services	10%	6%	8%
Finance and insurance	12%	3%	9%
Retail trade	6%	11%	5%
All other industries***	32%	40%	36%

Source: Metropolitan Council summary of MN DEED/QCEW Data
**Data for six largest industries of Minneapolis-St.Paul shown in order to decrease suppression.*
*** This dataset is a summarized of second-quarter, 2010 employment data by 2010 Census Geography from DEED Quarterly Census of Employment and Wages (QCEW) Employment Data. DEED compiles quarterly counts of employees, employer reporting establishments, and aggregate wages, covered by Unemployment Insurance in Minnesota, as part of a uniform nationwide reporting effort administered in partnership with the U.S. Bureau of Labor Statistics (BLS). DEED publishes data by North American Industrial Classifications (NAICS), by 'ownership' (total government, federal government, state government, local government, private). The original raw data is restricted. Summary data is only available for those geographies where at least three employers exist and no one employer represents 80% or more of the total employment.*

A7. Share of businesses by size

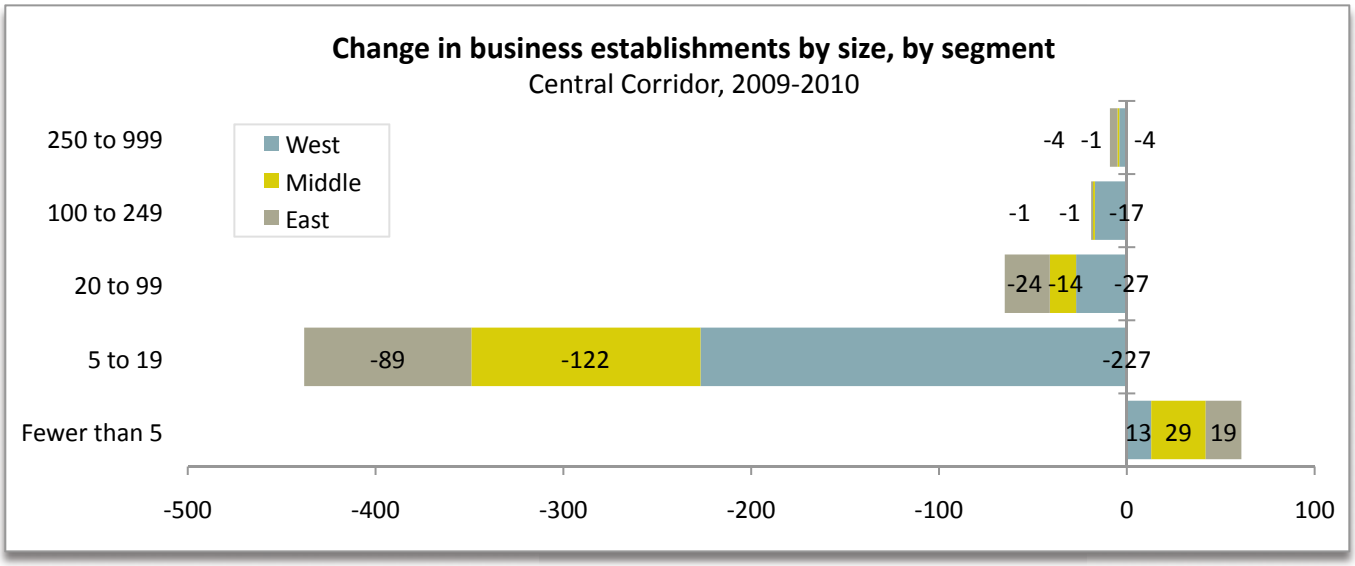
Central Corridor and Minneapolis-St. Paul, 2009-2010



	Central Corridor	Minneapolis-St Paul
2009		
Fewer than 5 employees	44%	52%
5 to 19 employees	33%	29%
20 to 99 employees	17%	15%
100 to 249 employees	4%	3%
250+ employees	3%	2%
2010		
Fewer than 5 employees	48%	53%
5 to 19 employees	28%	27%
20 to 99 employees	17%	15%
100 to 249 employees	4%	3%
250+ employees	2%	1%

Source: Metropolitan Council summary of MN DEED data.

A8. Share of businesses by size, by segment
Central Corridor, 2009-2010



	West Segment	Middle Segment	East Segment
2009			
Fewer than 5 employees	45%	41%	45%
5 to 19 employees	32%	38%	31%
20 to 99 employees	17%	17%	17%
100 to 249 employees	4%	3%	4%
250 to 999 employees	2%	1%	3%
2010			
Fewer than 5 employees	49%	46%	50%
5 to 19 employees	27%	33%	27%
20 to 99 employees	17%	17%	17%
100 to 249 employees	4%	3%	4%
250 to 999 employees	2%	1%	2%

Source: Metropolitan Council summary of MN DEED/QCEW Data

**Data for business establishments with more than 999 employees are not available at the segment scale. Business establishments with "Fewer than 5" employees could technically have less than one employee (one part-time employee, for example).*

A9. Share of CCLRT construction contracts' work hours performed by women and minorities to-date, by major contractor

	Total hours	Minority hours	Female hours	Minority work hours	Female work hours	Dates
Walsh	447,828.5	80,061.3	27,348.3	17.9%	6.1%	Aug 10-Dec 11
PCL	37,364.3	7,117.1	2,233.7	19.0%	6.0%	Mar 11-Dec 11
Aldridge/Collisys	1,843.5	7.5	33.0	0.4%	1.8%	Jan 11-Dec 11
Ames/McCrossan	160,067.5	27,407.8	12,186.8	17.1%	7.6%	Nov 10-Dec 11
Total	**647,103.8**	**114,593.7**	**41,801.7**	**17.7%**	**6.5%**	
Goal				**18.0%**	**6.0%**	

A10. Share of CCLRT contracts paid to disadvantaged business enterprises to-date, by contractor

	Amended Contract $	DBE Goal $	Total payments to-date	DBE payments to-date	% paid to-date to DBEs	DBE goal	Cumulative work done Through:
DMJM Harris (AECOM), (design)	$98,175,175	$16,689,780	$88,047,678	$15,797,939	17.94%	17%	9/30/2011
MnDOT (design)	$1,214,592	$182,189	$634,748	$58,828	9.27%	15%	6/30/2011
Ames/McCrossan (construction)	$114,740,382	$17,211,057	$42,274,071	$7,536,852	14.15%	15%	11/15/2011
Carl Bolander, (construction)	$13,768,232	$2,065,235	$13,768,202	$1,631,238	11.85%	15%	11/31/2011
Graham (construction)	$4,246,305	$636,946	$4,246,305	$545,284	12.84%	15%	11/3/2011
HDR (closed)	$3,718,345		$3,718,345	$632,119	17.00%	17%	closed
PCL (construction)	$45,786,656	$6,867,998	$11,202,199	$271,952	2.43%	15%	11/25/2011
Walsh (construction)	$216,333,334	$32,450,000	$98,813,690	$16,034,826	14.15%	15%	1/15/21012
All open and closed contracts	$497,983,021	$76,103,205	$262,705,238	$42,509,038	16.2%	15.5% (average)	

Source: Metropolitan Council

Notes: Individual contractors are at varying stages of contract goals and timelines. Therefore, these percentages represent incomplete information about the percentage of DBE dollars paid by each contractor, and should not be considered final performance. Data for Walsh Construction is through 1/15/2012.

*** Closed contract regarding environmental impact*

A11. Street-level business change

Central Corridor, February 2011-December 2011

	Feb-May-11	Jun-11	Jul-11	Aug-11	Sept-11	Oct-11	Nov-11	Dec-11	Cumulative
Openings	22	5	4	7	3	4	7	1	53
Closings	-14	-4	-4	-2	-1	-8	-9	-6	-48
Relocations Off Corridor	-3	0	-2	0	-1	-1	-1	0	-8
	Net Gain/Loss of businesses along the Corridor: Feb 2011-Dec 2011								**-3**
Relocations within Corridor	6	2	1	1	0	3	0	2	15

Source: Metropolitan Council "Status Report on the Implementation of Mitigation Measures – CCLRT Construction –Related Business Impacts," May 2011 – October 2011 reports.

**Note: The update on number of Central Corridor business openings, closings, and relocations uses data gathered by CCPO Outreach staff. Outreach staff maintains an inventory of Central Corridor businesses, which serves as a comprehensive contact database. This inventory is a list of street-level business establishments that are found along the Central Corridor alignment from the West Bank area of Minneapolis to downtown St. Paul.*

A12. Employed residents by income group, by segment

Central Corridor, 2009

	Entire Corridor	West segment	Middle segment	East segment
Low-income workers who live in this area (less than $1,250 monthly)	7,570	2,585	3,373	1,612
Moderate-income workers who live in this area ($1,250-$3,333 monthly)	12,598	3,672	6,060	2,866
High-income workers who live in this area ($3,333 monthly or more)	13,219	5,684	5,333	2,202

Source: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development (DEED).

A13. Share of employed low- and moderate-income residents who work in a 45-minute transit commute-shed, by segment

Central Corridor, 2009

	Entire Corridor	West segment	Middle segment	East segment
Low- and moderate-income workers who live in this area	20,168	6,257	9,433	4,478
Low- and moderate-income workers who live in this area and work in a 45-minute public transit commute-shed.	9,296	3,345	3,871	2,080
Share of low-and moderate-income workers who live in this area who work in a 45-minute public transit commute-shed.	46%	53%	41%	46%

Sources: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development (DEED). Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.

A14. Share of employed low- and moderate-income residents who work in a 60-minute transit commute-shed

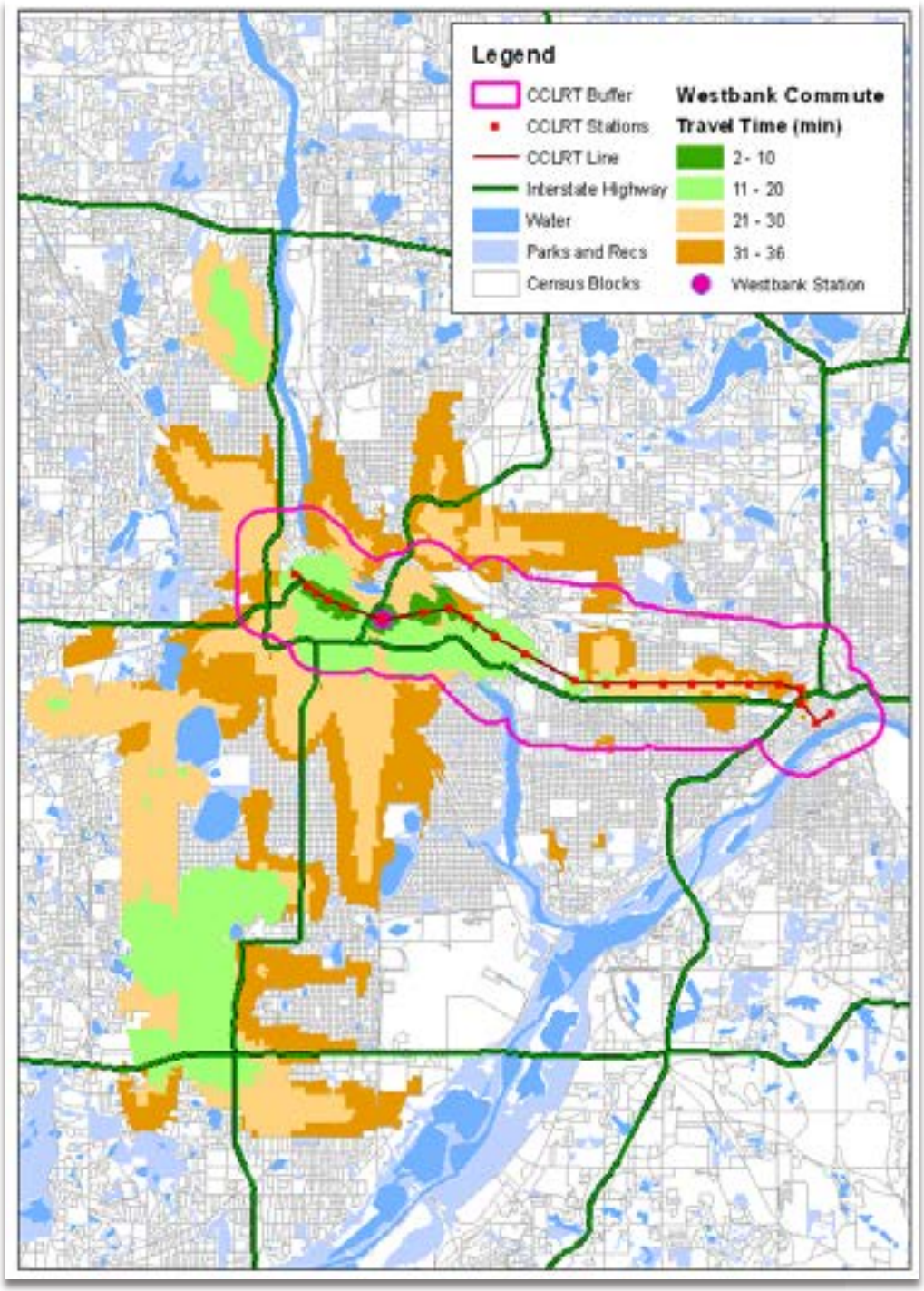
Central Corridor, 2009

	Entire Corridor
Low- and moderate-income workers who live in the Central Corridor	20,168
Low- and moderate-income workers who live in the Central Corridor and work in a 60-minute transit commute-shed	12,463
Share of low- and moderate-income workers who live in the Central Corridor who work in a 60-minute transit commute-shed	61.8%

Sources: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development (DEED). Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.

A15. Commute-shed reachable within 45 minutes by transit for residents of the West segment of the Corridor

Projected public transit system in 2014

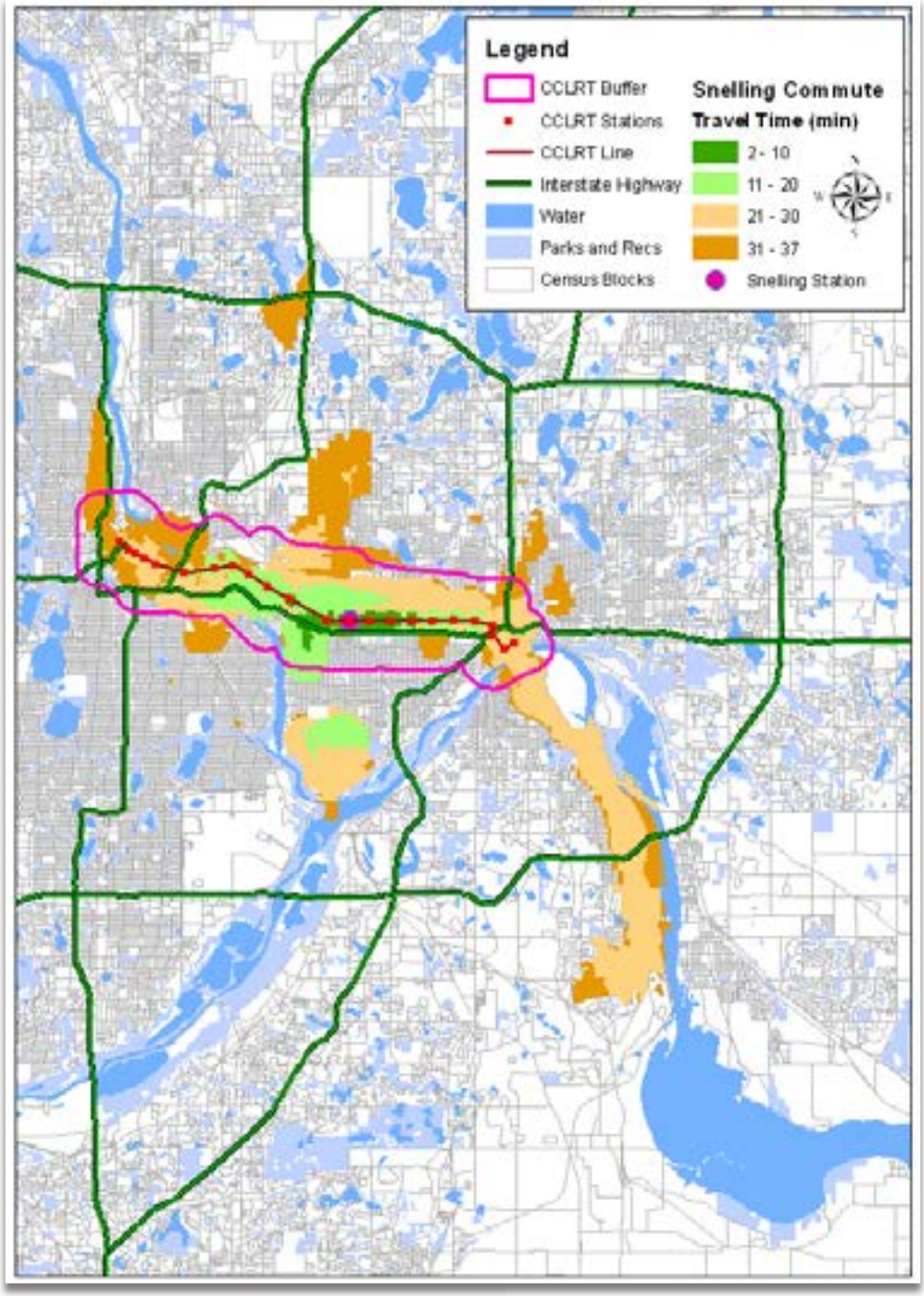


Sources: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development. Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.

Note: "Reachable by transit" refers to travel permitted by Central Corridor light rail (once operating) and/or up to two transfers by bus.

A16. Commute-shed reachable within 45 minutes by transit for residents of the Middle segment of the Corridor

Projected public transit system in 2014

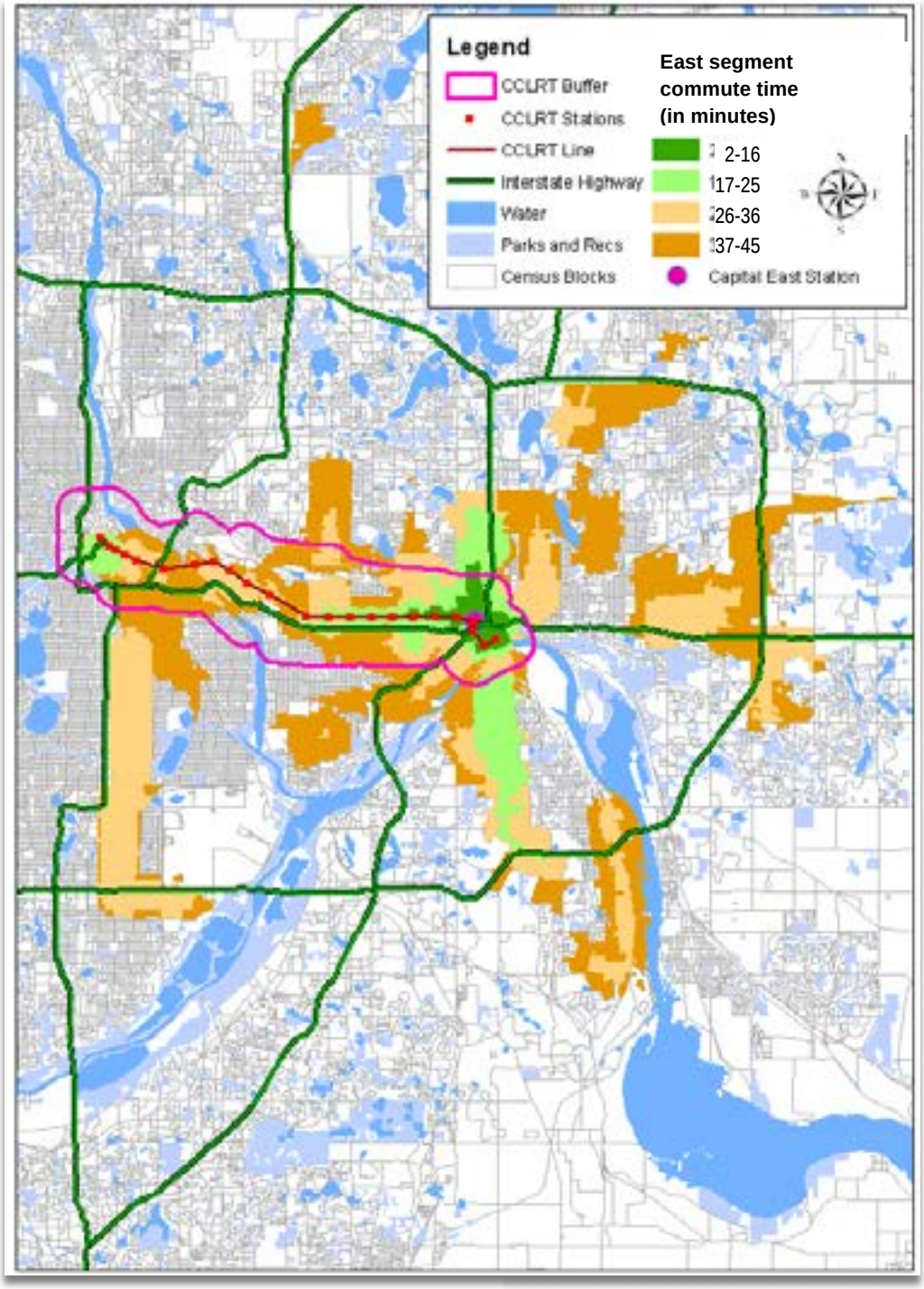


Sources: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development. Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.

Note: "Reachable by transit" refers to travel permitted by Central Corridor light rail (once operating) and/or up to two transfers by bus.

A17. Commute-shed reachable within 45 minutes by transit for residents of the East segment of the Corridor

Projected public transit system in 2014

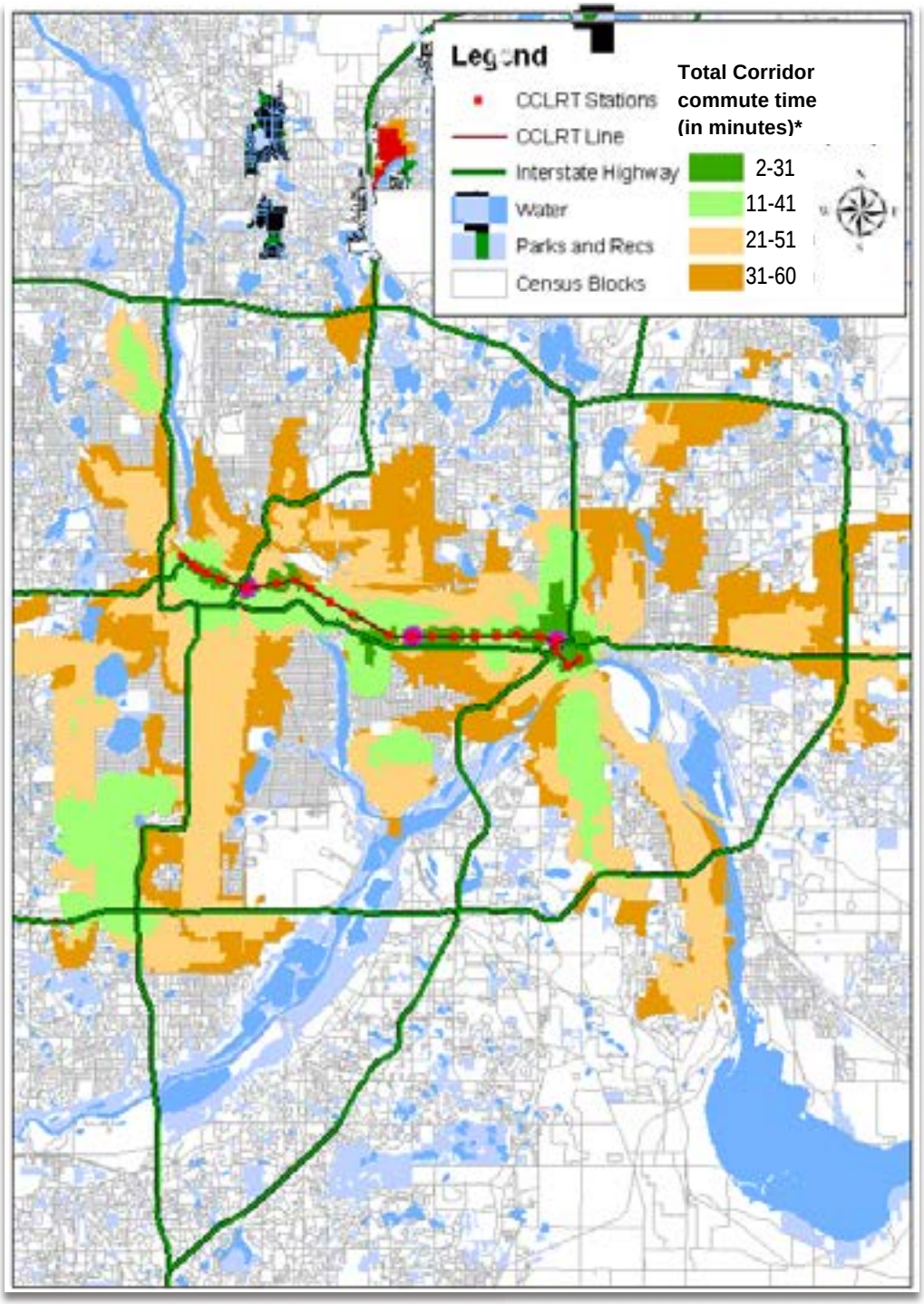


Sources: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development. Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.

Note: "Reachable by transit" refers to travel permitted by Central Corridor light rail (once operating) and/or up to two transfers by bus.

A18. Commute-shed reachable within 60 minutes by transit for residents of the entire Central Corridor

Projected public transit system in 2014



Sources: Local Employment Dynamics obtained through Minnesota Department of Employment and Economic Development. Commute-sheds prepared by Chen-Fu Liao, University of Minnesota's Center for Transportation Studies.

*Notes: *Commuting times (in minutes) overlap in the legend because this map merges three potential starting points—from the West, Middle or East segment. Therefore, the same destination requires three different commuting times. "Reachable by transit" refers to travel permitted by Central Corridor light rail (once operating) and/or up to two transfers by bus.*

Vibrant, transit-oriented places

A19. Housing density

Central Corridor and Minneapolis-St. Paul, 2010-2011

	Central Corridor	Minneapolis-St. Paul
2010		
Total housing units	42,881	299,082
Land acres of occupied blocks	4,829	49,844
Housing units/acre	8.9	6.0
2011		
Residential units added in 2010	197	1,130
Total housing units	43,078	300,212
Land acres of occupied blocks	4,829	49,844
Housing units/acre	8.9	6.0

**Density refers to housing units per land acre. To calculate density, only blocks with at least one housing unit were used.*
Source: US Census Bureau, Census 2010. Census 2010 Housing Unit counts provide the baseline figure for housing units. Additional housing units for year 2 are based on Metropolitan Council's Residential Permit Survey, 2010. The figure does not include residential conversions or demolitions which were available only as city-level counts. It is possible that some of the residential permits were issued before the April 2010 Census.

A20. Housing Density, by segment

Central Corridor, 2010-2011

	West	Middle	East
2010			
Total housing units	17,195	15,478	10,208
Land Acres of occupied blocks	1,452	2,490	887
Housing Units/Acre	11.8	6.2	11.5
2011			
Residential units added in 2010	89	-	108
Total housing units	17,284	15,478	10,316
Land Acres of occupied blocks	1,452	2,490	887
Housing Units/Acre	11.9	6.2	11.6

Source: US Census Bureau, Housing Unit counts provides the baseline figure for housing units. Additional housing units for year 2 figures are based on Metropolitan Council's Residential Permit Survey, 2010. Please see appendix for more information.

**Density refers to housing units per land acre. To calculate density, only blocks with at least one housing unit were used.*
Source: US Census Bureau, Census 2010. Census 2010 Housing Unit counts provide the baseline figure for housing units. Additional housing units for year 2 are based on Metropolitan Council's Residential Permit Survey, 2010. The figure does not include residential conversions or demolitions which were available only as city-level counts. It is possible that residential permits were issued before the April 2010 Census.

A21. Business density

Central Corridor and Minneapolis-St. Paul, 2009-2010

	Central Corridor	Minneapolis-St. Paul
2009		
Business establishments	6,300	16,791
Establishments/acre	1.0	0.2
2010		
Business establishments	5,840	15,497
Establishments/acre	0.9	0.2

Source: Metropolitan Council, Minnesota Department of Employment and Economic Development (DEED).
Note: This dataset is a summarized of second-quarter, 2010 employment data from DEED Quarterly Census of Employment and Wages (QCEW) Employment Data. DEED compiles quarterly counts of employees, employer reporting establishments, and aggregate wages, covered by Unemployment Insurance in Minnesota, as part of a uniform nationwide reporting effort administered in partnership with the U.S. Bureau of Labor Statistics (BLS). Summary data is only available for those geographies where at least three employers exist and no one employer represents 80% or more of the total employment. 'Density' refers to employment site by acre as calculated using land acres of census tracts.

A22. Business Density, by segment

Central Corridor, 2009-2010

	West	Middle	East
2009			
Business establishments	3,508	1,526	1,365
Establishments/acre	1.5	0.6	0.9
2010	**West**	**Middle**	**East**
Business establishments	3,253	1,417	1,269
Establishments/acre	1.4	0.5	0.8

Source: Metropolitan Council, Minnesota Department of Employment and Economic Development (DEED).
Note: This dataset is a summarized of second-quarter, 2010 employment data from DEED Quarterly Census of Employment and Wages (QCEW) Employment Data. DEED compiles quarterly counts of employees, employer reporting establishments, and aggregate wages, covered by Unemployment Insurance in Minnesota, as part of a uniform nationwide reporting effort administered in partnership with the U.S. Bureau of Labor Statistics (BLS). Summary data is only available for those geographies where at least three employers exist and no one employer represents 80% or more of the total employment. 'Density' refers to employment site by acre as calculated using land acres of census tracts.

A23. Average Walk Score•, by segment

Central Corridor, October 2011

	Score
West	78.5
Middle	78.4
East	80
Central Corridor	78.8

Source: www.walkscore.com

A24. Average Walk Score•, by corridor

Central Corridor, October 2011

	Score
Lake Street Corridor	81.6
West 7th Corridor	59.8
Central Corridor	78.8

Source: www.walkscore.com

Effective coordination and collaboration

Detailed results related to the Key Question: Do stakeholders recognize shared goals?

HOW MUCH DO YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENT ABOUT EQUITABLE DEVELOPMENT IN THE CENTRAL CORRIDOR? WOULD YOU SAY…

	Strongly disagree	Disagree	Agree	Strongly agree
Stakeholders in the Central Corridor share common equitable development goals	4%	15%	68%	13%

Source: Stakeholder survey conducted by Wilder Research, Winter 2012.
Note: Based on responses of 50 stakeholders.

WHAT DO YOU THINK CAN BE DONE TO INCREASE THE DEGREE TO WHICH THE CENTRAL CORRIDOR STAKEHOLDERS RECOGNIZE, AND WORK TOWARD, SHARED EQUITABLE DEVELOPMENT GOALS?

Respondents used different words to describe a desire for increased coordination and communication of the many efforts undertaken in the Central Corridor. One suggested a coordinating body; another noted that there are many opportunities to participate but there is a challenge of "plugging people in" or organizing the work so "people can see where they fit in and the progress that's being made." Still others felt that the establishment and statement of clear goals was absent from the process. Illustrations of these themes based on respondents' comments are provided below.

Making tangible progress and specific accountability for goal accomplishment. *A number of respondents wanted to see implementation move forward with accountability for results and ways to assess accomplishment of goals.*

> A goals document, or some type of mission statement for a collaborative group would be helpful- something that lays out all those goals.
>
> It would help having; if there existed; which it doesn't, a reliable go -to source for comprehensive information. It would be helpful to have a credible clearing house of what was happening along the central corridor.
>
> We need a better understanding of what equity means.
>
> Put the community agreements in writing.

Greater inclusion of community residents and community-based organizations in the process.

Some respondents saw a need for more participation of residents and grassroots groups in the planning process. This included efforts to better communicate with these groups. Comments by respondents illustrating this theme follow:

> Invest more resources in community organizing. Find strong community-based organizations along the corridor, and engage them in conversation about how to reach out. Have a clear strategy about how to surface community concerns and hopes along the corridor. It needs to be continuous-it's happened before, it's happening today, and it needs to keep happening into the future. Just because it's been done well, and is being done well now doesn't mean it should not continue into the future. The reason this is important is because the main community groups along our transit way corridors in the region are poised and ready to embrace the social and economic opportunities in these corridors, and our challenge is to figure out how to tap into that enthusiasm.
>
> More effective communication engagement, especially residents that live in Central Corridor. Voices of diverse community along Central Corridor could be better represented. Low income and immigrant tend to not be represented to the level that they should be.
>
> There could be involvement and has been from grassroots and communities partners. What we need is more involvement and integrating those groups into the formal structures. In my experience, these grassroots groups are invited to give input but tend not to be included at the decision making level... There can sometimes be a gap between well-intentioned political representatives and people on the ground. Especially for equity goals to be achieved there needs to be more of a connection.
>
> We have to find a way that politicians, technicians, professionals and other participants, including consultants can spend more time up-front in the communities involved to develop awareness of the social issues involved with equity—bring the people with the pencils and layer that with the issues—we are working on how we can do that.

WHAT WOULD YOU RECOMMEND CHANGING ABOUT THE CENTRAL CORRIDOR EQUITABLE DEVELOPMENT WORK TO IMPROVE ITS FUNCTIONING AND/OR EFFECTIVENESS?

Some of the themes emerging in response to this question were very similar to those just described above and are similar to those from 2010.

Responses to this question included the following themes:

- Having more engagement of community residents (or those most affected by the LRT project) in the process, including participation in decision-making.
- Moving forward now with implementation, clarifying responsibility for various areas of implementation, and measuring results.
- Clarifying what is meant by equitable development and holding the relevant organizations accountable for it.
- Bringing people together and better coordinating efforts across sectors and issues.

Comments illustrating some of these themes:

> I think we had a great Central Corridor Agreements group, which is gone now, due to lack of funding. [There needs to be] more of a conversation, table-talk type of thing would be very productive, where no one is up on a stage-a round table approach, where people, all people are welcome to be in on the discussions.
>
> One of the obstacles is what are the policy tools and efforts to make sure we are tapping the national resources and being willing to try new things.
>
> You have to divide it into equitable process and equitable outcomes. Equitable process is community inclusion, public outreach at the decision-making table. Equitable outcomes are projects or outcomes that are tangible; bricks and mortar, like workforce development, affordable housing, and transit—things you can see or touch. Process questions: Are we reaching enough of the people and the right ones? Outcomes questions: How are our communities benefitting? There are implications in implementation and evaluation—we could be doing better on both of those.
>
> It goes back to same things, clearer shared understanding of vocabulary.
>
> Admit that there are gentrification issues that are a real threat to current residents, homeowners and existing businesses. Admit that small businesses are being and will continue to be severely impacted and threatened during the construction season
>
> There is a need for one-on-one conversations and really listening to the people who really live and work in the Central Corridor. Paying attention to and experiencing first-hand what the Central Corridor is like during construction and how that is impacting business, residents, visitors, patrons, etc.
>
> There are many voices, residents, renters, and small businesses that are not in the process. The process is flawed and it is extremely difficult to reach those people through conventional means.
>
> Bringing alternative voices into the process that haven't been that involved, which would include funding going to these alternative types of organizations rather than what appears to be a relatively small group of organizations that seem to lock up most of the funding that is available.
>
> Because a lot of the issues I speak of are in the spaces between major policy spots, it would be nice to have a place to talk about it specifically-having a discussion straight up on a topic, in meaningful, non-self-editing way
>
> I think we need a broader public service campaign to sell the ideas to the community residents. The meetings should include staff members from organizations. Even though the values are good, we need to alleviate the disconnect between the organizations and the community residents.
>
> Earlier and more robust recognition of the negative impact that both construction and the long term reality of LRT is likely to have on the small businesses.

Additional results related to the Key Question: Are stakeholders working together effectively to achieve positive outcomes?

PLEASE BRIEFLY DESCRIBE AN EXAMPLE OF HOW ORGANIZATIONS ARE WORKING TOGETHER EFFECTIVELY TO ACHIEVE THE EQUITABLE DEVELOPMENT GOALS OF THE CENTRAL CORRIDOR

Mentioned by more than 15 respondents
Collaboration, dialogue, relationship building across sectors
Affordable housing
Mentioned by 4-7 respondents
Shared goals on equity
Business mitigation
Corridors of Opportunity
Big Picture Project (also included in affordable housing counts)
Mentioned by 2-3 respondents.
Frogtown Square
MetCouncil TOD Fund
Public/Private investment strategy
District Council Collaborative
Addition of three stops

TO DATE, HOW SUCCESSFUL DO YOU THINK CENTRAL CORRIDOR COLLABORATIONS AND PARTNERSHIPS HAVE BEEN AT MAKING PROGRESS IN EACH OF THESE GOAL AREAS? WHAT ABOUT…(N=50)

	Not at all successful	Somewhat successful	Very successful	I am unaware of the goals and/ or progress in this area/Don't know
a. Affordable housing	8%	76%	6%	10%
b. Business mitigation	8%	72%	16%	4%
c. Business development	20%	50%	0%	30%
d. Workforce and job development	24%	38%	6%	32%
e. Land use	10%	62%	12%	16%
f. Bike/pedestrian/transit connections	12%	56%	10%	22%
g. Developing cultural or historic destinations	30%	48%	2%	20%

> Respondents who believed that Central Corridor collaborations and partnerships have been somewhat/very successful in affordable housing increased by 16 percent from the last year.

> More respondents report they are unaware of the goals in business development and workforce development but the percent of respondents who feel collaborations and partnerships have been somewhat/very successful in business mitigation increased by ten percent.
>
> Respondents were most likely to say that collaborations and partnerships have not been successful at all in 'developing cultural or historic destinations.'

ARE THERE OTHER GOAL AREAS IN WHICH YOU FEEL THE CENTRAL CORRIDOR COLLABORATIONS AND PARTNERSHIPS HAVE MADE PROGRESS?

	Number	Percentage
Yes	26	56%
No	22	44%
Total	49	100%

OTHER GOAL AREAS IN WHICH YOU FEEL COLLABORATIONS AND PARTNERSHIPS HAVE MADE PROGRESS (N=28)

	Number
Business engagement/issues	6
Community/citizen engagement	4
Regionalism	3
Environment	2
Bringing in education sector	2

> Community cohesion between folks with different interests, like businesses and residential. We have come a long way but still have a ways to go to get there.
>
> I think they've made progress connecting the corridor concerns from just what impact the small community into a regional vision.
>
> They've done a good job on the planning but so far the implementation is still to come. If we develop as planned, we'd be in great shape.
>
> Alignment between two cities has been a success. Before the two cities didn't talk, particularly on affordable housing, business and land use, not just transit piece. In early planning, it was around transit issue that they came together and it expanded to include affordable housing, business and land use. Before they didn't share as broadly.
>
> They've helped neighborhoods and stakeholders come together about what kind of development should happen along the line and worked with community to create dialogue. It is too early to measure the other goals. It is not surprising that we have no affordable housing yet, it is too early in seeing housing. I think there has been a good job by Living Cities and Corridor of Opportunities as far as good resources to leverage our local money.
>
> Integration of medical and educational facilities into the dialogue has been important.

Note: Other respondents mentioned: Minneapolis and St. Paul working together, development along the Corridor, political advocacy to the State government, and storm water management.

WHAT GROUPS WOULD YOU INCLUDE THAT ARE NOT CURRENTLY REPRESENTED [IN EQUITABLE DEVELOPMENT WORK IN THE CENTRAL CORRIDOR]?[a] (N=17)

	Number
Renters/families/residents	5
Racial/ethnic minorities and immigrants	4
Community based groups	2
Real estate developers and general development investors	1
Developers	1
Legislature	1

a Respondents could list more than one group.
Note. Includes only respondents who felt there were people or organizations that should be working on equitable development in the Central Corridor who were not. Other groups mentioned were: Housing Preservation Project, District Councils collaborative, developers, and businesses.

I AM GOING TO READ TO YOU THE LIST OF SOME EQUITABLE DEVELOPMENT GOAL AREAS FOR THE CENTRAL CORRIDOR AND I'D LIKE YOU TO TELL ME THE EXTENT TO WHICH YOU HAVE BEEN INVOLVED IN WORKGROUPS THAT ARE SPECIFICALLY FOCUSED IN THESE AREAS. WHAT ABOUT… (N=50)

	No involvement	Minor involvement	Significant involvement
a. Affordable housing?	12%	44%	44%
b. Business mitigation?	22%	38%	40%
c. Business development?	32%	36%	32%
d. Workforce and job development?	34%	48%	18%
e. Land use?	16%	42%	42%
f. Bike/pedestrian/transit connections?	26%	50%	24%
g. Developing cultural or historic destinations?	34%	42%	24%

OVERALL, HAS YOUR INVOLVEMENT IN CENTRAL CORRIDOR EQUITABLE DEVELOPMENT WORK MET YOUR EXPECTATIONS? WHY OR WHY NOT? (N=50)

Yes	56%
No	34%
Don't know/not sure	<1%

Why respondents said it <u>met</u> their expectations

- We have a regional agenda instead of a city agenda.
- I started in it about 6 years ago. We had a vision of engagement and involvement. The CCFC have bought into the idea of a cross-sector network, so I think the work is getting done and getting done well.
- There is a gap in definition and a way to go on that but we have come a long way. Talking to groups on Central Corridor everyone has a different definition for equitable development and we have made great strides but still have a ways to go. I feel positive in involvement and establishing trust with all the stakeholders.
- I believe we've been able to work toward the business mitigation goals we have laid out (more specific). Before the mitigation group, there was no marketing campaign in place.
- I am impressed with the breath of the issues that the partners have tackled and the complexity of them as well. Implementing what are showcase examples across the country, it is unique and innovative implementation areas.
- The political realist says yes and the policy idealist says no…The MET Council has directed funds toward TOD projects, but for political reasons, they had to send money out to the suburbs for park & rides and high-frequency bus lines. In doing so, they weakened the plan itself. They ended up setting ranking criteria, so not a single transit stop qualifies for that TOD money. So, a program that was designed for development in the corridor can't be used in the corridor. A lot of the marks I gave it are benefit of doubt because we are in the process but we have a lot of work to do.
- The Central Corridor can be a model for how to do things right on future corridors in the areas of community engagement, affordable housing policy, workforce opportunities and transit oriented development. So while it got off to a shaky start, it is now meeting my expectations. Part of the reason is there is strong leadership by corridor management and particularly by staff at the City of Saint Paul.
- For all my crankiness about some of these issues, it is the best effort I have ever seen, bringing people to the table, listening, and responding. It has a long way to go to be ideal. I tip my hat to all parties, being engaged, responding, trying to respond in new ways and our community will be better because of it.

Why respondents said it <u>did not meet</u> their expectations

- I had unrealistically high expectations for how much coordination there could actually be. And there hasn't been much more unity. People and organizations have always broken off from the common good and moved more to individual concerns.
- Part of why it hasn't; is that funding decisions for different types of initiatives seems based more on political considerations than the merits a of particular proposal, politics is driving funding decisions rather than merit.

- We have been a little surprised at some of the obstacles … the willingness of policy makers to make equity a priority and even if it is a priority, there is hesitancy or a caution about trying new policy measures.
- I feel it is too much talking.
- The stakeholders who have the power haven't really responded to the needs of the businesses.
- The political realist says yes and the policy idealist says no…The MET Council has directed funds toward TOD projects, but for political reasons, they had to send money out to the suburbs for park & rides and high-frequency bus lines. In doing so, they weakened the plan itself. They ended up setting ranking criteria, so not a single transit stop qualifies for that TOD money. So, a program that was designed for development in the corridor can't be used in the corridor. A lot of the marks I gave it are benefit of doubt because we are in the process but we have a lot of work to do.

Demographic context

A25. Median Household Income
Central Corridor and Minneapolis-St. Paul, 2005-09, 2006-10

	West	Middle	East	Central Corridor	Minneapolis-St. Paul
2005-09	$39,239	$40,505	$34,426	$38,580	$44,300
2006-10	$40,702	$40,104	$35,116	$39,201	$45,820

Source: U.S. Census Bureau, American Community Survey, 2005-09, 2006-10.

A26. Residents by race/ethnicity and nativity, by segment
Central Corridor and Minneapolis-St. Paul, 2006-10

	West	Middle	East	Central Corridor	Minneapolis-St. Paul
American Indian	<1%	1%	1%	1%	1%
Asian	10%	11%	20%	12%	9%
Black	21%	24%	29%	24%	17%
White	65%	59%	45%	59%	66%
Some other race	1%	1%	2%	1%	1%
Two or more races	3%	4%	3%	3%	4%
Hispanic/Latino (of any race)	3%	5%	6%	5%	9%
Foreign-born (outside of U.S.)	22%	13%	26%	20%	16%
Total	**37,211**	**34,548**	**18,663**	**90,422**	**661,710**

Source: U.S. Census Bureau, American Community Survey, 2006-10.

APPENDIX F:
Change in the Number of Occupied Storefronts Along University Avenue, 1st Quarter 2011 And UABA Vacancy Report Correspondence

Report: Change in the Number of Occupied Storefronts along University Avenue, 1st Quarter 2011
University Avenue Business Association, with technical support from U-PLAN
www.universityavenuebiz.com
www.u-plan.org

Released: 4/18/2011

Executive Summary

On April 6, 2011, staff from the University Avenue Business Association (UABA) and U-PLAN conducted an inventory of the storefronts along University Avenue. The inventory draws on a comprehensive set of data on University Avenue businesses that was updated in August and December of 2010. As of December 15th, 2010, there were 429 occupied storefronts along University Avenue, with 145 between Emerald Street and Snelling Avenue, the area currently under light rail construction. By April 6th, 2011, 63 businesses left the corridor between Emerald Street and the Capitol and 13 new businesses formed, resulting in a net loss of 50 occupied storefronts when compared to December. This represents a loss of 11.7% of the businesses along the corridor that operate in storefronts in under a 4 month period. When storefronts in the construction zone are isolated, 17.2% fewer storefonts are now occupied, as compared to a reduction of 8.8% in the area not currently under construction. Moreover, 20 storefonts turned over to new businesses east of Snelling, while 3 storefronts in the construction zone turned over during this period. Most of the businesses lost were retail or professional services.

Background

Several community organizations are working to provide outreach and technical support to the Corridor's small businesses. As construction progresses, it is important to understand exactly how many businesses are operating on the Avenue, how fiscally sound they might be, and how many workers they employ, among other factors. These and other baseline items will be addressed as part of a Business Occupancy Survey, a proposal prepared through a collaboration of the Hamline University School of Business, business groups and U-PLAN community planning studio.

After five weeks of light rail construction, UABA and U-PLAN have partnered to conduct a limited census of the storefronts along the Saint Paul section of University Avenue for comparison with data collected in December, 2010

Methodology

In 2010, U-PLAN developed a data set that represents a current tally of businesses operating along the Central Corridor alignment as of July 2010, including the University of Minnesota East Bank through the Capitol area along University Avenue. Data were drawn from many sources, including Directories USA (DUSA), a data clearinghouse that sources information from direct phone calls, lists from Secretaries of State, and credit card companies, among others. A DUSA subscription was purchased by the Neighborhood Development Center of St. Paul. While this data set is likely one of the most comprehensive available, there can sometimes be a 3-month gap between the opening or closure of a business and when they are reported by DUSA. To ground-truth DUSA information, we added membership information from the University Avenue Business Association and Asian Economic Development Association. Other recently-tabulated data lists came from a capstone project at the University of Minnesota, which surveyed businesses from Lexington to Rice.

In December, 2010, U-PLAN worked with interns and UABA to update this list with business closures, new businesses and information on employees and revenues. In that data set, U-PLAN estimated that 1138 businesses were operating within the study area. Of those businesses, 438 were operating in storefronts along University Avenue in Saint Paul.

For this study, UABA sought to estimate the reduction in occupied storefronts by April 6th, 2011, or 5 weeks into light rail construction. To do this, UABA and U-PLAN utilized the following methodology:

STEP ONE: add businesses known to have been in operation prior to December 15th, 2010 to December 2010 list

STEP TWO: using updated December 2010 list, conduct inventory of corridor to identify:

Businesses operational in December 2010 that occupy storefronts **429** 	Storefronts that have closed since December 2010 **63** 	SPECIAL CASE: Businesses along the corridor that have relocated to Frogtown Square **3**
New storefront businesses that have opened since December 2010 **13** 	Storefronts that have turned over to new businesses Since December 2010 **23** 	

STEP THREE: using new information, isolate the businesses operating in storefronts between Emerald and Rice Streets. Calculate the following:

Total Number of Businesses in Storefronts, December
minus
The number of businesses in storefronts that have closed as of April 6th, 2011
plus
New businesses that have opened
equals
The net gain or drop in occupied storefronts since December

STEP FOUR: perform the calculation in step three for the construction zone (Emerald to Snelling) and non construction zone (Snelling to Rice)

Results

CORRIDOR-WIDE RESULTS (Emerald to Rice Streets)									
Storefronts, Dec. 2010	429	Closed	63	Opened	13	Net gain (loss)	(50)	% gain (loss)	(11.7%)

CONSTRUCTION ZONE vs. NON-CONSTRUCTION ZONE		
	CONSTRUCTION ZONE (Emerald to Snelling)	NON-CONSTRUCTION ZONE (Snelling to Rice)
Storefronts, Dec. 2010	145	284
Closed	25	38
New	0	13
Net gain (loss)	(25)	(25)
% gain (loss)	(17.2%)	(8.8%)
Turnover	3	20

Figure 1: Occupied Storefronts, December 2010 vs. April 2011

As shown in Figure 1, in under four months, the corridor has seen a 11.7% reduction in the number of occupied storefronts. Of the 63 businesses that have closed, a majority were clothing stores, full-service restaurants, general retail or provided a professional service (lawyers, medical providers, etc.). Further, the area under construction as of April 2011 saw a disproportionately larger reduction in the number occupied storefronts when compared to the area east of Snelling. Without additional information such as historic revenue trends, customer counts and other data directly from the businesses, it is difficult to know to what extent light rail construction was a factor. However, given that the rate of attrition in the construction zone is more than double that of the non-construction zone, it is likely that construction plays a significant factor. More information will be collected as part of a Business Occupancy Study proposed by U-PLAN and the Hamline School of Business.

More Information

For more information, contact UABA:

University Avenue Business Association
(651) 641-0334
www.universityavenuebiz.com

For questions on the technical aspects of this study, contact U-PLAN:

U-PLAN community planning studio
(651) 641-0293
www.u-plan.org

August 9, 2012

Jack McCann
UABA Board President
C/O Update Company
2380 Wycliff, #200
St. Paul, MN 55114

Dear Jack:

Here are the results of UABA's sixth quarterly storefront vacancy survey from Emerald to Rice Street conducted on August fourth and fifth, 2012.

	May	August	November	February	May	August
Occupied	312	314	308	314	311	311
Vacant	86	95	98	86	93	96
Total	398	409	406	400	404	407
Vacancy Rate	21.6%	23.3%	24.1%	21.5%	23.0%	23.6%

Some comments. From May 2012 to August 2012 my sample saw little change. An Enterprise Car Rental store opened up where the offices of Brother's Auto used to be. Work is in progress on Culver's. The segment of my sample that is malls with surface parking – 59 total storefronts – is virtually unchanged from May 2011.

What I am counting. In general terms, I am counting whatever the average person would observe to be a University Avenue storefront shop window business space.

Doing this type of field observation survey you encounter lots of variations, so establishing and refining the survey sample is important. Beginning with the first survey in May 2011, I established a fairly extensive list of inclusions and exclusions based on some basic definitions. This is what keeps the survey apples-to-apples each quarter.

Here are some examples of my protocol. I include storefronts that face University in Midway Center (Defined as the malls from Snelling to Hamline.) and Unidale.

I exclude office buildings, government, nonprofits (except where buildings owned or rented by nonprofits have private sector shops), and religious uses (where it is obvious that is the primary use).

Businesses that face streets that bisect University are not included with the exceptions of Flamingo Restaurant and 474 Hamline. Businesses in buildings with parking lots that have entrances right off of University and businesses that present as storefronts, but face perpendicularly to University are included (712 University is an example.). Buildings that require driving on a bisecting street to enter the parking lot, like Griggs Midway, are not counted. Sunrise Mercantile is not included because I decided it does not present as a storefront.

There is some flex in the survey's total sample count every quarter due to retail spaces being consolidated, sub-divided, or rehabbed and re-opened.

It is worth noting that when a building is demoed, I remove it from the sample. So, we can expect the total sample to shrink in the future; particularly when the Zimmerman Building is demolished.

Jack, I can be reached at 612-408-7418 or jandjvaugfhn@comcast.net. Thank you.

Sincerely,

John Vaughn