

MEMORANDUM

TO: Bob Fode – Office of Project Development Director
FROM: Paul Benning  Local Government Engineer
DATE: July 13, 2015
SUBJECT: Request for Decision on Project Development Activities

Project: NHU-8-010(041)939, PCN 21170 – Fargo, Main Avenue from University Drive to 2nd Street

Length: 0.83 Miles

Classification: US Highway 10 – Principal Arterial, Interregional Corridor

Cost Participation: Secondary Regional – 80.93% Federal, 9.07% State, 10% Local

Funding:	\$9,651,333	Total
	\$4,469,880	Federal
	\$707,764	State
	\$4,473,689	Local

Proposed STIP Info:

Proposed Improvement: Reconstruction
Tentative Bid Date: November 17, 2017
Construction Year: 2018

Purpose and Need Statement:

Reconstruct the roadway to address deteriorating pavement conditions.

Proposed Improvements:

The project will consist of a reconstruction of Main Avenue from University Drive to 2nd Street. The project will also consist of storm sewer, sanitary sewer, watermain, installation of a bike lane and sidewalk reconstruction. Consideration will also be given to replacing light standards, signal standards and adding turn lanes where applicable.

Decision Requested:

Please note – This project is one of two portions remaining of Main Avenue that has yet to be reconstructed through the Metro area. The other portion is adjacent and west of this project. Consideration should be given to doing one environmental document for the entire remaining corridor and build the two projects separately as funding is available.

Would the NDDOT Office of Project Development like to prepare the environmental document and design for this project, or would you recommend that a consultant be hired to do this work?

 NDDOT Office of Project Development will do this work

 X A consultant should be hired to do this work *

*** If it is a Consultant, which of the following items should be included in their contract?**

	<u>Consultant</u>	<u>NDDOT</u>	<u>N/A</u>
○ Environmental Document	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Survey	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Cultural Resources/Delineation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Wetland Delineation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Bridge Preliminary Concept	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
○ Materials and Research	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
○ Borrow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Hydraulic Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Roadway Design	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Right of Way			
▪ Title Information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Plats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Appraisals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Acquisition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▪ Relocation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ Borrow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
○ Environmental			
▪ Mitigation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Permit Application(s)
- Bridge Design
- Materials and Research
- Roadway Hydraulics
- Bridge Hydraulics

Comments:

If there are questions about the individual tasks, please contact the appropriate Division.

for *Steven R. Vallant*
Bob Fode – Office of Project Development

7-16-15
Date

Metro COG Federal-Aid Application
North Dakota Urban and Regional Roads Program
Funding Year 2017

Jurisdiction Requesting Federal-Aid:	City of Fargo		
Project Location:	Main Avenue		
Project Limits:	From: 2 nd Street	To: University Drive	
Project Description / Scoping			
<p>Main Avenue from the Red River to University Drive was originally constructed in 1908 with 4" wood block and in 1955, was built with 9" of concrete. The roadway has received multiple overlays over the years: in 1985, 1996, 1999 and 2009. The current roadway has two different typical sections, one from the Red River to approximately 3rd Street and one from 3rd Street to University Drive. The section from the Red River to 3rd Street is a 4-lane divided section. The section from 3rd Street to University Drive is a 4-lane section with turn lanes at a few locations. The widths of the lanes are approximately 11'. The pavement currently has an asphalt overlay and does have transverse cracking, bituminous patches and some rutting. In addition, the curb and gutters are falling apart.</p> <p>The existing geometry of the roadway is adequate, but some properties are located very near to the traveled way, and sight distance from some driveways is limited. There are sidewalks on both sides of the street, but they are in disrepair and have street lights located in them. They are not ADA compliant.</p> <p>Along with the reconstruction of the roadway, the storm sewer will be replaced with upgraded facilities. The sanitary sewer and water main will also be replaced with the project. The existing lighting is failing. The light poles are old, rusting and deteriorating, and the underground wiring is the direct buried type and has been failing for decades. The existing light standards are 40' tall with cobra head type fixtures. Currently, there are traffic signals located at 5 locations, at 2nd Street, 4th Street, Broadway, 7th Street, and at 8th Street. The 4-lane stretch of roadway from the Red River to University Drive has a higher than average crash rating and there is a desire to add turn lanes in the section, wherever possible.</p>			
Requested funding source:			
<input type="checkbox"/> Urban	<input checked="" type="checkbox"/> Regional	<input type="checkbox"/> Bridge	<input type="checkbox"/> County/Rural*
<p>* Application is only required if project is located within the FM Metropolitan Planning area, see www.fmmetrocog.org</p>			

Project Cost Estimate:

Item	Quantity	Unit	Unit Price	Cost
1	Clearing, Grubbing & Excav.			
2	Base and other Sub-Grade			
3	Pavement			
4	Bicycle Paths & Sidewalks			
5	Traffic Control Signals			
6	Lighting			
7	Major Roadway Items Subtotal			\$ 5,500,000
8	Drainage & Traffic Control	% of Roadway Subtotal	%	
Structures				
9	Bridge Spans			
10	Retaining Wall or Noise Wall			
11	Signs & Cantilevers			
12	Other Structural			
13	Structure Subtotal			\$ 0

14	Structural Incidentals	% of Structure Subtotal	%	
15	Construction Cost Subtotal (Lines 7 + 13)			\$ 5,500,000
16	Engineering	% of Construction Costs	%	\$
17	Contingency	% of Construction & City Utility Costs	10%	\$ 750,000
18	Right-of-Way and Other Real Estate			\$
19	Utilities	City utilities (non-participating)		\$ 2,000,000
20	Other Costs			\$
21	Total Project Cost (Current Year) (Lines 15 + 16 + 17 + 18 + 19+ 20)			\$ 8,250,000
22	Inflation Rate (Flat 4% Annual Rate)*			\$ 1,401,333
23	Total Project Cost (2017)			\$ 9,651,333

*Based on the 2009 LRTP the Total Project Cost should be inflated at a flat 4% annual rate to project the cost for the year of actual construction.

Funding Request (federal portion only):	\$ 4,469,880
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a) Referring to the map of Regionally Significant Transportation Infrastructure (Figure 2, Page 14 of the 2011 Traffic Operations Incident Management Strategy), please identify any portion of a RSTI corridor, if any, that falls within or is adjacent to the project limits as shown:

RSTI Corridor: Main Avenue	From: Glyndon	To: West Fargo

b) Does any part of this project make safety improvements at an intersection that is on the latest High Crash Location list, published by the NDDOT? If so, identify the High Crash Intersections below:

RSTI Corridor: NA	From:	To:
High Crash Intersection #1:		
North-South Corridor		
East-West Corridor		
High Crash Intersection #2:		
North-South Corridor		
East-West Corridor		
High Crash Intersection #3:		
North-South Corridor		
East-West Corridor		

c) What is the lowest pavement condition rating or International Roughness Index (IRI) rating within the project limits as identified above? IRI 150/PQI 90

d) Referring to the map of existing Levels-of-Service (map 1.12 of the LRTP), if there are any areas of LOS "D," "E," or "F" within the project limits as shown above, please identify those sections below along with the relevant LOS:

Section #1 LOS:		
Corridor:	From:	To:
Section #2 LOS:		

Corridor:	From:	To:
Section #3 LOS:		
Corridor:	From:	To:
e) Referring to the map of existing truck routes (map 1.27 of the LRTP), if any part of this project includes an identified truck route, please identify those sections below along with the relevant LOS:		
Corridor: Main Avenue	From: Glyndon	To: West Fargo

<p>f) Metro COG's Complete Streets Policy Statement says, in part, "we seek to develop public rights-of-way that fully integrate and balance the needs of all street users, including bicyclists, pedestrians, transit, commercial truck drivers, and motorists." Explain how this project meets the intent of the Complete Streets Policy Statement.</p>	
<p>The project will improve the sidewalks on both sides of the street. Today the sidewalks do not meet ADA standards in some areas as the street light or hydrant is in the middle of the sidewalk and a building is located at the edge of the sidewalk. The plan is to light the street from one side and acquire easements to set the street lights back from the sidewalk on the side that we do need to position them.</p>	
<p>g) If any bridges will be replaced or rehabilitated as part of this project, what is the bridge's current: NA</p>	
<p>Sufficiency Rating (1-100):</p>	
<p>Status (i.e., "non-deficient," "structurally deficient," or "functionally obsolete"):</p>	
<p>h) Please discuss how the project is consistent with the FM Metropolitan Traffic Operations Action Plan or the FM Metropolitan ITS Plan; discuss how features of the project assist in implementing either or both plans.</p>	
<p>When this project is complete, all the traffic signals will be tied together with fiber optic cable, will all have continuous counting loop detectors, will be monitored by surveillance cameras, and will be tied into the City of Moorhead Main Avenue intersections. This project will follow the ITS plan in a straightforward manner.</p>	
<p>i) Please discuss how the project is consistent with and is supported by any of the following locally adopted plans: City/County Comprehensive Plan, Land-Use/or Subarea Plan, or Economic Development Plan.</p>	
<p>This project is consistent with the Fargo Comprehensive Plan.</p>	
<p>j) Does this project improve roadway connections to freight warehousing, an intermodal freight hub, or business that produces large amounts of freight? If so, describe the improvement(s) and location(s) below:</p>	
<p>This corridor serves as 1 of 2 main entry points to enter the core of the city from either I-94 or I-29 (University Drive being the other entry point). Please refer to the attached zoning map that highlights the land uses adjacent to the corridor, and to the west of the corridor. General commercial zoning is directly adjacent to the corridor. There are hundreds of acres zoned either General commercial or Limited Industrial within a mile of the corridor, which both generate a large amount of freight movements. This project will include flashing yellow left and right turn arrows near the BNSF railroad tracks, and this type of phasing will improve safety for all vehicles and will allow coordination to operate much better during the peak hours of the day.</p>	
<p>k) Please describe any anticipated environmental, energy conservation or quality of life impact (positive or negative) that is a direct result of the project. Include any plans to mitigate negative impacts:</p>	
<p>This project will positively impact the quality of life for employees and residents in the immediate vicinity of the project. The existing infrastructure is old and falling apart. This project will renew the Main Avenue corridor. The sidewalks will be brought up to ADA standards and the decorative street lights will improve the look of the corridor tenfold.</p>	

ROADWAYS PROJECT ELIGIBILITY				
Project Sponsor:	West Fargo ___	Fargo <u>X</u>	Cass County ___	NDDOT <u>X</u>
Functional Classification of Roadway (Refer to most recent Metro COG approved Functional Classification map on the Metro COG web site – www.fmmetrocog.org):				
Collector ___	Minor Arterial ___	Principal Arterial <u>X</u>	County Federal Aid ___	
Metropolitan Long-Range Transportation Plan Project Number: (Project must be listed in the current LRTP to be eligible)		#14 of the Long Range Projects		
Local Match Available:		\$1,900,000 City + \$707,764 NDDOT + \$2,573,689 City Utilities (Non-participating) = \$ 5,181,453		
Total Project Cost: \$ 9,651,333 (\$ 7,077,644 Participating, \$ 2,573,689 Non-Participating)				
(Federal) \$ 4,469,880	+ (City+State) \$ 2,607,764	= (Total) \$ 9,651,333		
	+ City Non-Part \$ 2,573,689			
Local Match Percentage (Participating portion only):				
(Local) \$ 2,607,764	/ (Total) \$ 7,077,644	x 100	= 37 %	

The applicant assumes all responsibility for false, inaccurate, or misleading information contained herein. The applicant understands that completing this application does not guarantee a project will receive federal funding. Metro COG staff will sort and rank projects after receiving all project applications for the current solicitation cycle. The Metro COG Transportation Technical Committee will recommend a prioritized list of projects to the Metro COG Policy Board, which will approve the prioritized list of projects for use in development of the "Candidate List" of projects seeking inclusion in the Transportation Improvement Program (TIP) for the FM Metropolitan area. The availability of funding for any project depends upon its inclusion in the approved TIP for the FM Metropolitan area, which is developed in cooperation between Metro COG, NDDOT, Mn/DOT, and Metro Area Transit (MAT) of Fargo-Moorhead.

Cynthia Walker

Applicant's Signature

City Engineer

Applicant's Title

7/25/13

Date of Application Completion

IF SEEKING REGIONAL FUNDS:

Robert H. Waters

NDDOT District Engineer Signature

7/24/13

Date

For Metro COG Use Only:

The application has been reviewed by Metro COG and has been found to be consistent with its planning program and related eligibility requirements, as established by the Metro COG Policy Board.

Wal S. K.

Signature of Metro COG Executive Director

7/29/13

Date

PROJECT SCOPING WORKSHEET

DATE: 7/19/13

PRIORITY# RHS-2

City: Fargo

Street: Main Avenue – 2nd Street to University Drive

County: Cass

Length: 1 Mile

Proposed Improvement: Street reconstruction with water main and sanitary sewer replacement

Cost Estimates Breakdown (in \$1,000)

Alternate	PE	R/W	Utility	Constr.	Bridges	Misc.	Total
			\$ 2,573	\$ 7,077			\$ 9,650

Present Road: Surface Width? 60' on west end Surface Type? Asphalt
55' on east end

On Street Parking Allowed? Yes Present: One Side Both Sides Angle Parallel
 Yes, parallel on 1 side between 4th St and 8th St Proposed: No (One Side) Angle (Parallel)

Proposed Improvements

ADT Present: <u>18,665</u>	Yr: <u>2010</u>	Travel Way Width: <u>11' lanes</u>
ADT Design: <u>13,007</u>	Design Year <u>2035</u>	No. of Lanes: <u>5</u>
Design Speed: <u>35 mph</u>		Roadway Width: <u>TBD</u>
Maximum Curve: _____		Min. R/W Width: <u>TBD</u>
Maximum Grade: _____		

Right of Way

Will Additional ROW or easement be acquired? Yes ROW acquisition by: City (DOT)
 Has any ROW easements been acquired since 7-1-72: Yes ROW condemnation by: City (DOT)
 Est. No. of occupied family dwelling to be displaced? 0
 Est. No. business to be displaced? 0

Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): To be determined through environmental process

Will there be any taking of any right-of-way from any public parkland (4F) or schools (6F):
No

Airports: No Public Hearings: Yes

Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex

Transportation Enhancements: None anticipated

Intermodal: No

Pedestrian Needs: Sidewalks on both sides of the street

Railroads Crossings

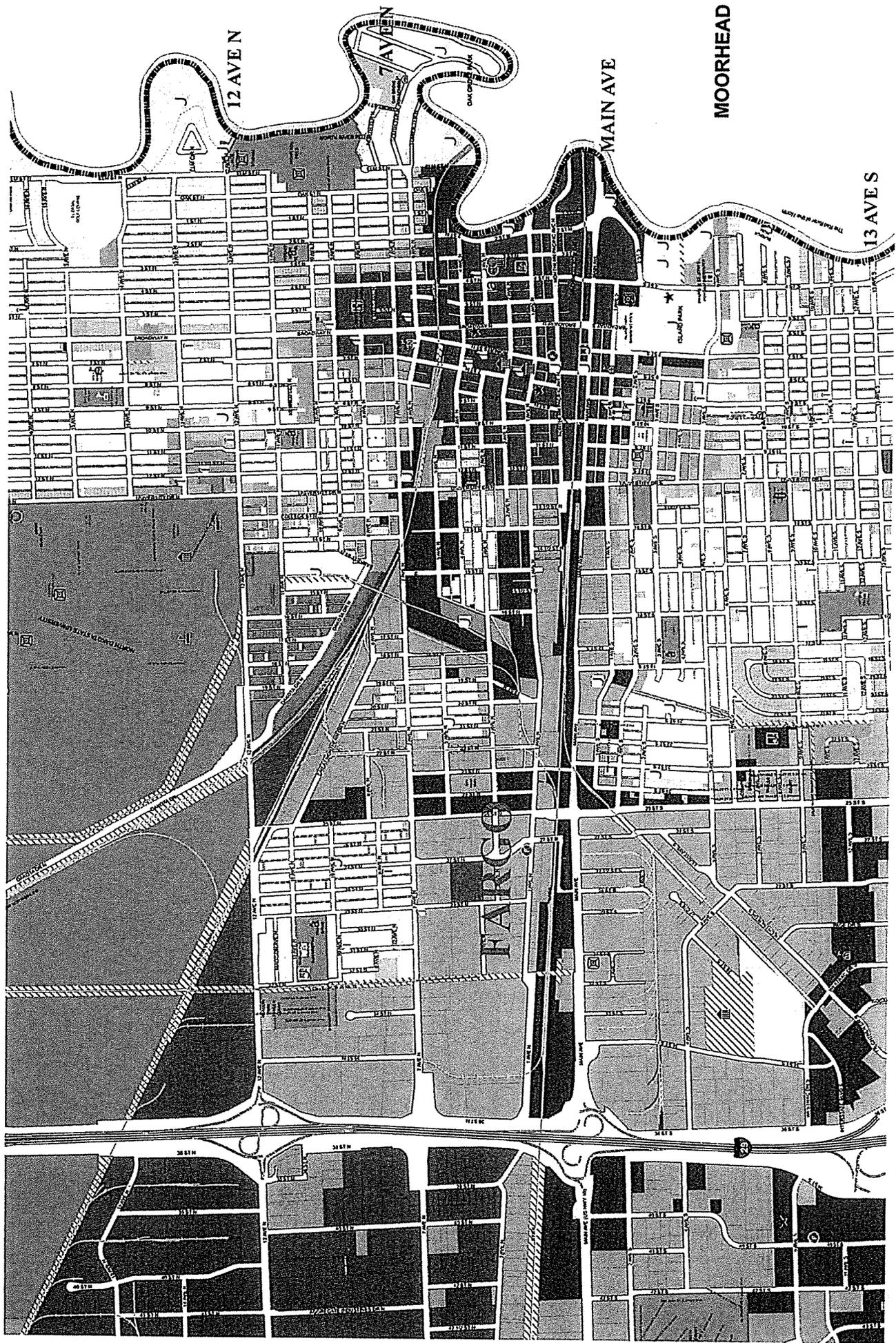
RR Name	No. Xings	No. Tracks and Type of Crossing	Daily Train Movements	Train Speed	Present Protection	Proposed Protection

Purpose and Need Statement for Regional Projects

Main Avenue from the Red River to University Drive was originally constructed in 1908 with 4" wood block and in 1955, was built with 9" of concrete. The roadway has received multiple overlays over the years: in 1985, 1996, 1999 and 2009. The current roadway has two different typical sections, one from the Red River to approximately 3rd Street and one from 3rd Street to University Drive. The section from the Red River to 3rd Street is a 4-lane divided section. The section from 3rd Street to University Drive is a 4-lane section with turn lanes at a few locations. The widths of the lanes are approximately 11'. The pavement currently has an asphalt overlay and does have transverse cracking, bituminous patches and some rutting. In addition, the curb and gutters are falling apart.

The existing geometry of the roadway is adequate, but some properties are located very near to the traveled way, and sight distance from some driveways is limited. There are sidewalks on both sides of the street, but they are in disrepair, have street lights located in them and are not ADA compliant.

Along with the reconstruction of the roadway, the storm sewer will be replaced with upgraded facilities. The sanitary sewer and water main will also be replaced with the project. The existing lighting is failing. The light poles are old, rusting and deteriorating, and the underground wiring is the direct buried type and has been failing for decades. The existing light standards are 40' tall with cobra head type fixtures. Currently, there are traffic signals located at 5 locations, at 2nd Street, 4th Street, Broadway, 7th Street, and at 8th Street. The 4-lane stretch of roadway from The Red River to University Drive has a higher than average crash rating and there is a desire to add turn lanes in the section, wherever possible.



12 AVEN

MAIN AVE

MOORHEAD

13 AVES

FARGO

Chapter D:

Development of Alternatives

The key outcome of this study is to identify, evaluate, and recommend future Main Avenue alternatives to be carried forward for further analysis in a future environmental document. In order to accomplish this task, a range of conceptual corridor alternatives were developed.

1. ALTERNATIVE DEVELOPMENT PROCESS

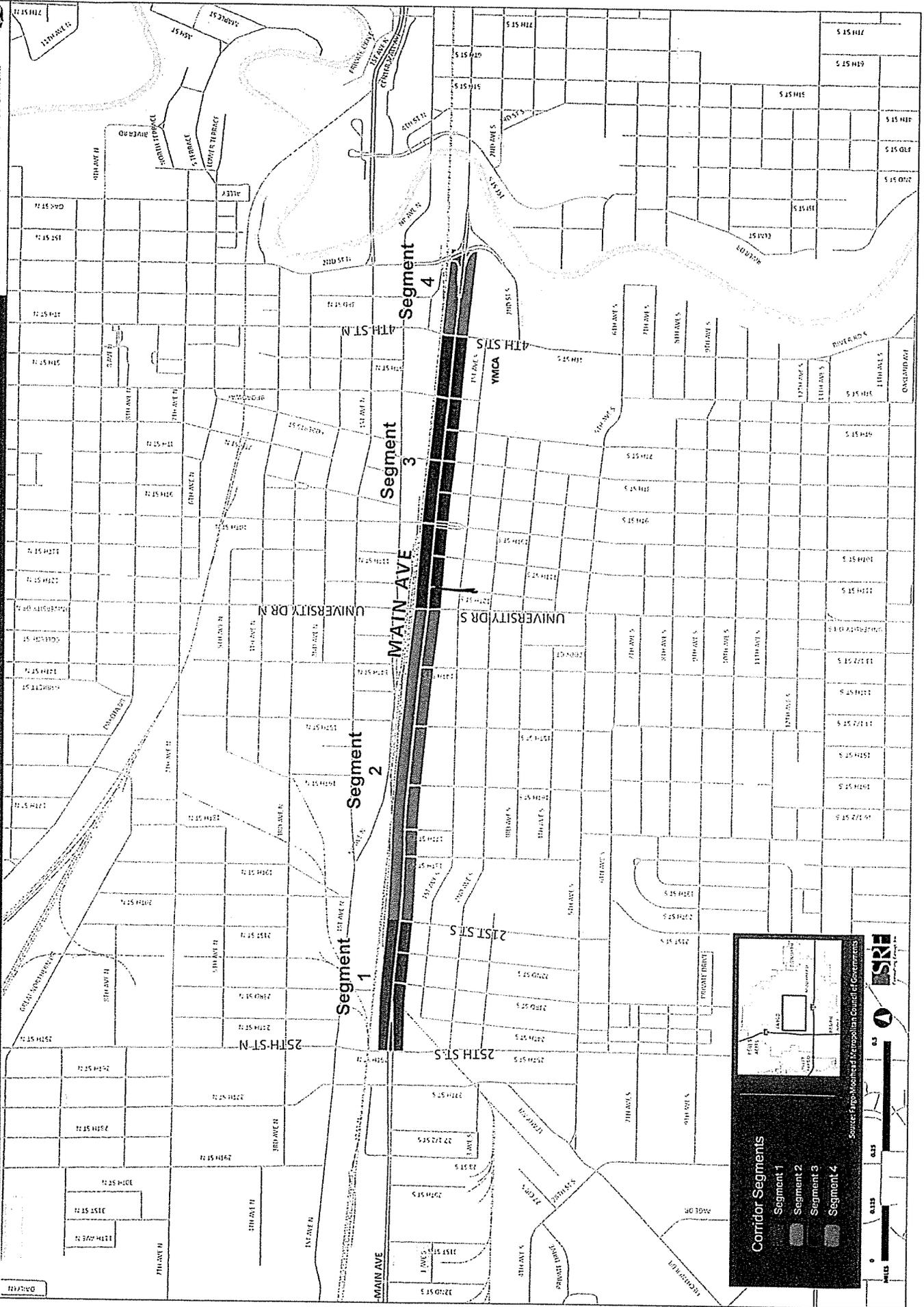
The development process was multifaceted using a range of inputs, including technical data, public comments, the purpose and need statement, the corridor vision, design parameters, and direction from the SRC. Some of the issue areas considered included:

- | | |
|--|----------------------------------|
| 1. Pavement and utility replacement | 9. Neighborhood linkages |
| 2. Traffic operations | 10. Corridor aesthetics |
| 3. Right-of-way | 11. Parking |
| 4. Access | 12. Agency/public input |
| 5. Crashes | 13. Historic/cultural resources |
| 6. Congestion | 14. Environmental justice |
| 7. Pedestrian, bicycle, and transit facilities | 15. Active living considerations |
| 8. Local plan consistency | 16. Cost |

The study team then facilitated a SRC meeting at which the committee members identified initial corridor alternatives. This meeting was a brainstorming session meant to consider virtually all potential options. Based on the alternatives developed by the SRC, the study team divided the corridor into four segments for purposes of this evaluation (see Figure 23). The four segments consist of: Segment 1 (25th Street to 21st Street), Segment 2 (21st Street to University Drive), Segment 3 (University Drive to 4th Street), and Segment 4 (4th Street to 2nd Street).

An initial screening process was employed to eliminate alternatives that could not meet the project's overall purpose or had some other fatal flaw. For instance, a three-lane roadway was one of the conceptual ideas considered for Main Avenue. However, this option would not function well because existing and 2035 traffic volumes are higher than the daily capacity ranges for three-lane facilities (14,000 to 17,000 AADT). In addition, traffic operations, safety, and side-street gaps would not be acceptable if Main Avenue were reconstructed to a three-lane roadway. Another conceptual idea was to add a median in the existing four-lane section (18th Street to University Drive), with gaps in the median at the public street intersections. However, this option was also dismissed because it would not provide adequate access to the businesses along this segment of Main Avenue, many of which currently have direct access to Main Avenue.

Corridor Segments Used for Alternative Development and Evaluation Figure 23



Overall, there were seven build alternatives and eight sub-alternatives that were developed. The sub-alternatives generated are small design changes, such as a mid-block pedestrian crossing, that are compatible with any of the build alternatives for that particular segment.

The concepts developed by the SRC were compared against the No Build Alternative in each of the four segments. The No Build Alternatives evaluated as part of this study do not make any changes or improvements to Main Avenue. However, the City of Fargo has identified that the utilities need to be replaced within the next 10 years, which will require roadway reconstruction. Access modifications or reductions were identified for each alternative. Final closures or modifications are considered a detailed design element and will be identified during the environmental documentation phase.

2. DESCRIPTION OF ALTERNATIVES

Segment 1 (25th Street to 21st Street)

No Build Alternative – Maintains the existing five-lane roadway with continuous two-way left turn lanes.

Build Alternative A (see Figure 24) – Reconstructs the current lane configuration (five lanes with continuous two-way left turn lanes) in addition to extending turn lanes at 25th Street to reduce queues and improve mobility. This also includes signage for the westbound curbside lane to improve lane utilization.

Segment 2 (21st Street to University Drive)

No Build Alternative – Maintains the existing four-lane roadway with limited left turn lanes.

Build Alternative A (see Figure 25Error! Reference source not found.) – Acquires the majority of the parcels on the north side of Main Avenue, provides for various public uses, constructs a 10-foot wide multiuse path that improves the sidewalks to ADA compliance, improves boulevard aesthetic, and reconstructs the roadway to a five-lane section with continuous two-way left-turn lanes. Significantly reduces access points to improve safety.

Build Alternative B (see Figure 26) – Acquires the majority of the parcels on the south side of Main Avenue, constructs a 10-foot wide multiuse path that improves the sidewalks to ADA compliance, improves boulevard aesthetic, and reconstructs the roadway to a five-lane section with continuous two-way left-turn lanes. Allows for redevelopment on the south side of Main Avenue and significantly reduces access points to improve safety.

Build Alternative C (see Figure 27) – Acquires the majority of the parcels on the south and north sides of Main Avenue, builds shared parking lots on the north side of the roadway with access at public street intersections, constructs a 10-foot multiuse path that improves the sidewalks to ADA compliance, improves boulevard aesthetic, and reconstructs the roadway to a five-lane section with continuous two-way left-turn lanes. Allows for redevelopment on both sides of Main Avenue and significantly reduces access points to improve safety.

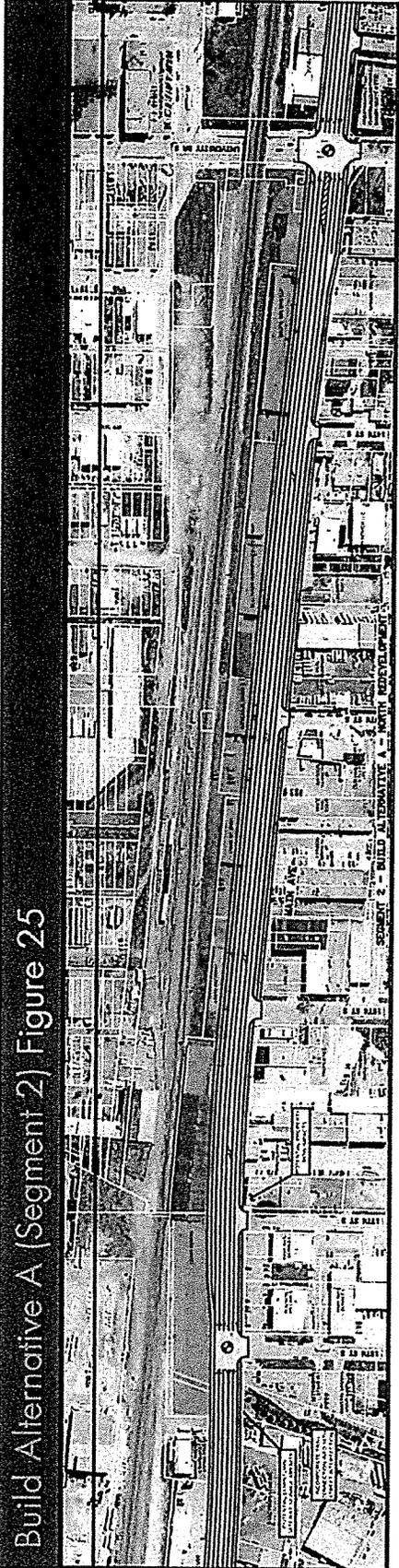


Figure 25: Build Alternative A (Segment 2)

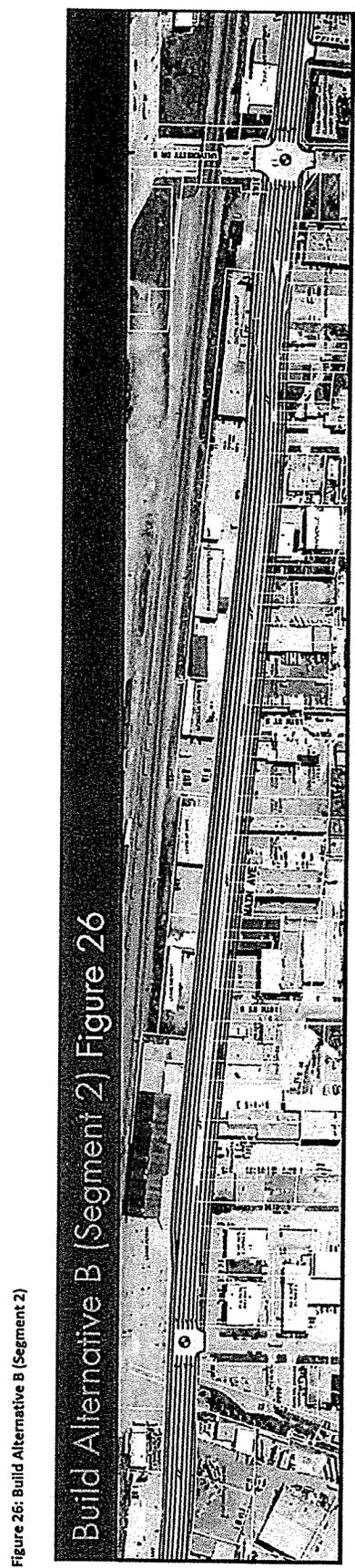


Figure 26: Build Alternative B (Segment 2)

Build Alternative D (see Figure 28) – Acquires many of the parcels on the north side of Main Avenue and reconstructs the roadway with its existing four-lane section, while improving the sidewalks to ADA compliance. Allows for redevelopment on the north side of Main Avenue and significantly reduces access points to improve safety.

Build Subalternative University Drive Counter Flow (see Figure 29) – A subalternative for each Build Alternative is to include a University Drive counter flow configuration (four southbound lanes and one northbound lane), which provides two-way access to the railroad grade underpass and improves north-south connectivity. Note the northbound lane would terminate at NP Avenue.

Segment 3 (University Drive to 4th Street)

No Build Alternative – Maintains five-lane roadway with continuous two-way left turn lanes.

Build Alternative A (see Figure 30) – Adds a raised median west and painted median east of 8th Street and removes the existing signal at 7th Street. Note that the median west of 8th Street would be eliminated if the Mexican Village access could be restricted to right-in only. This alternative reconstructs the roadway with the existing five-lane section that includes continuous two-way left-turn lanes and removes parking west of 7th Street and east of Broadway. Improved wayfinding signage is recommended to highlight access to the 10th Street underpass.

Build Subalternative Mid-Block Pedestrian Crossing (see Figure 31) – A subalternative that could be included with Build Alternative A is a mid-block pedestrian crossing between 11th Street and 9th Street.

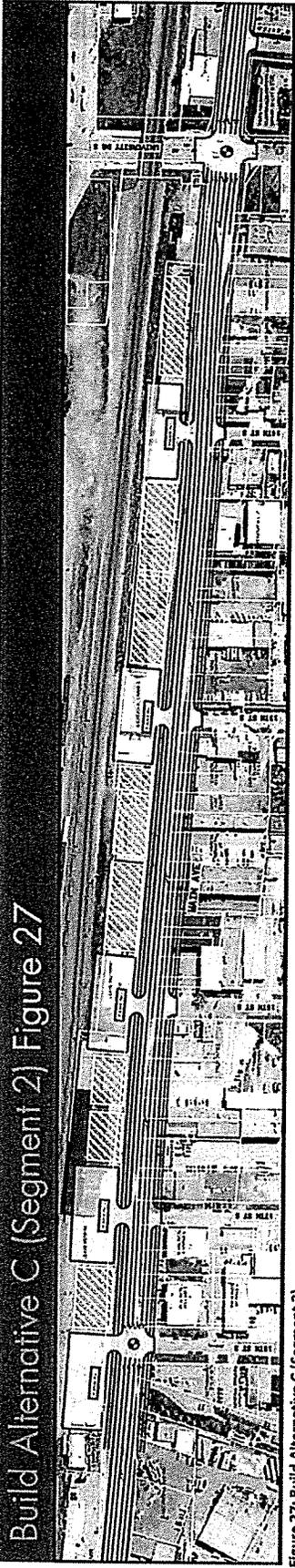
Build Subalternative Parking Addition (see Figure 31) – A subalternative that could be included with Build Alternative A is the addition of parking on the south side of Main Avenue between 8th Street and 7th Street.

Build Subalternative 7th Street Median (see Figure 31) – A subalternative that could be included with Build Alternative A is a raised median from 8th Street through the 7th Street intersection, which limits the intersection movements to right-in/right-out.

Build Subalternative Parking Removal (see Figure 31) – A subalternative that could be included with Build Alternative A is removal of parking on the south side of Main Avenue between 7th Street and Broadway.

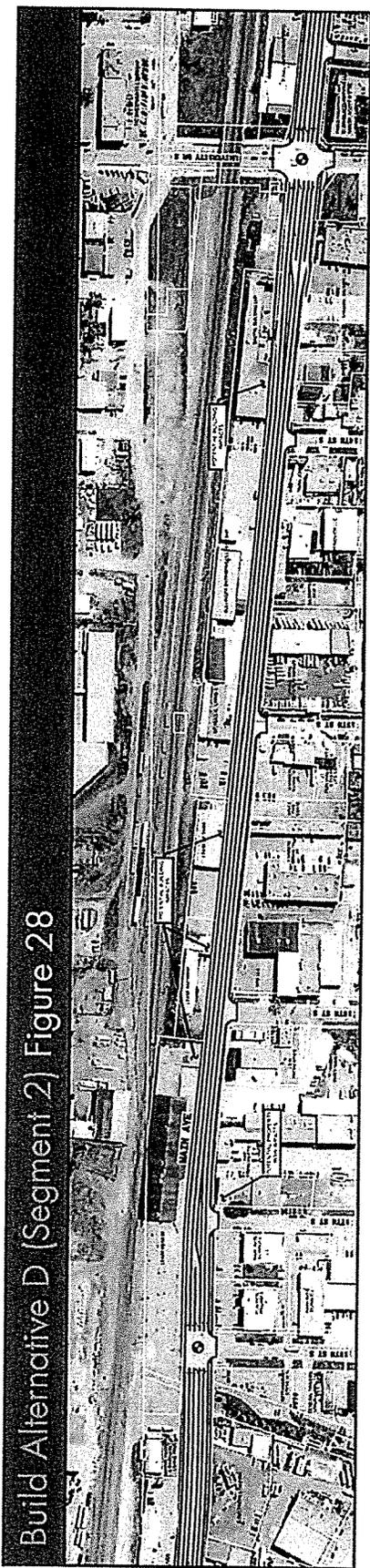
Build Subalternative Westbound Right-Turn Lane (see Figure 31) – A subalternative that could be included with Build Alternative A is a westbound right-turn lane at Broadway.

Build Subalternative Skywalk (see Figure 31) – A subalternative that could be included with Build Alternative A is a pedestrian skywalk from the structured parking ramp (just east of Broadway) that would go over Main Avenue and the BNSF Railroad and connect to the Ground Transportation Center.



Build Alternative C (Segment 2) Figure 27

Figure 27: Build Alternative C (Segment 2)



Build Alternative D (Segment 2) Figure 28

Figure 28: Build Alternative D (Segment 2)

Build Subalternative University Drive Counter Flow (Segment 2) Figure 29

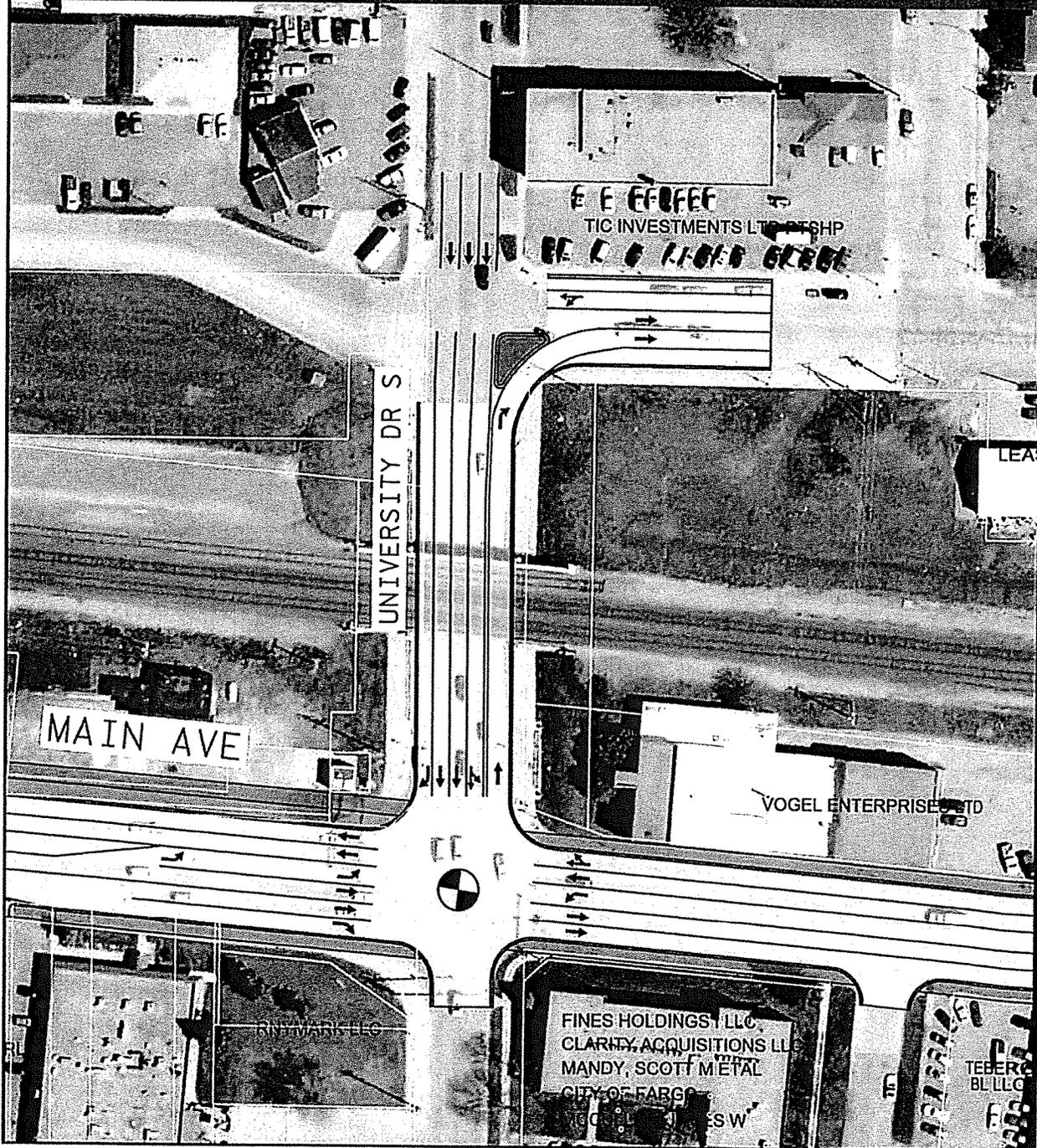


Figure 29: Build Subalternative University Drive Counter Flow (Segment 2)

Build Alternative A (Segment 3) Figure 30

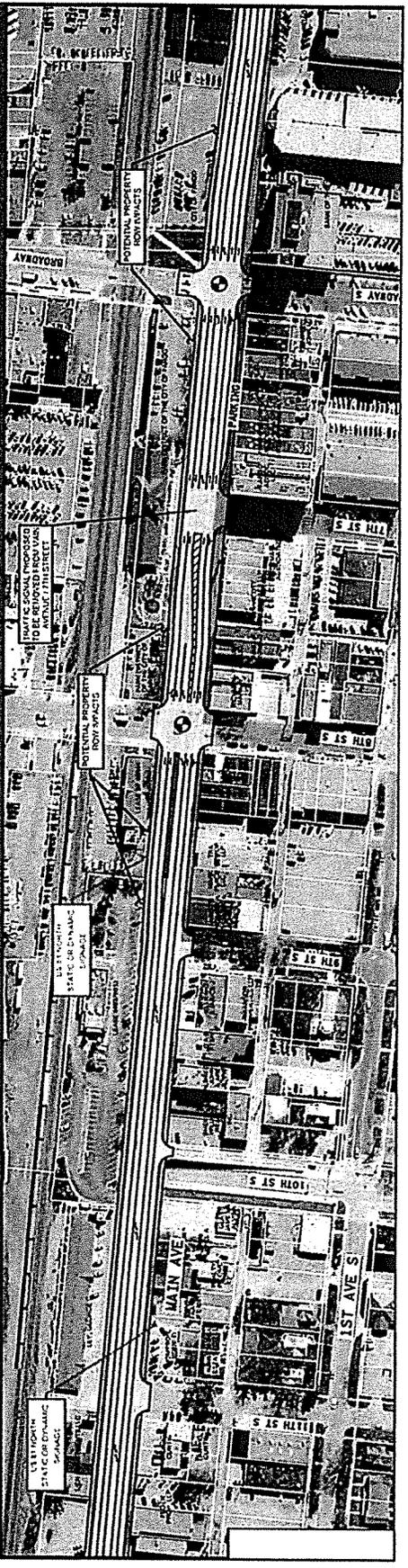


Figure 30: Build Alternative A (Segment 3)

Six Subalternatives – Mid-Block Crossing, Parking Addition, 7th Street Median, Parking Removal, West-Bound Right-Turn Lane, and Skywalk (Segment 3) Figure 31

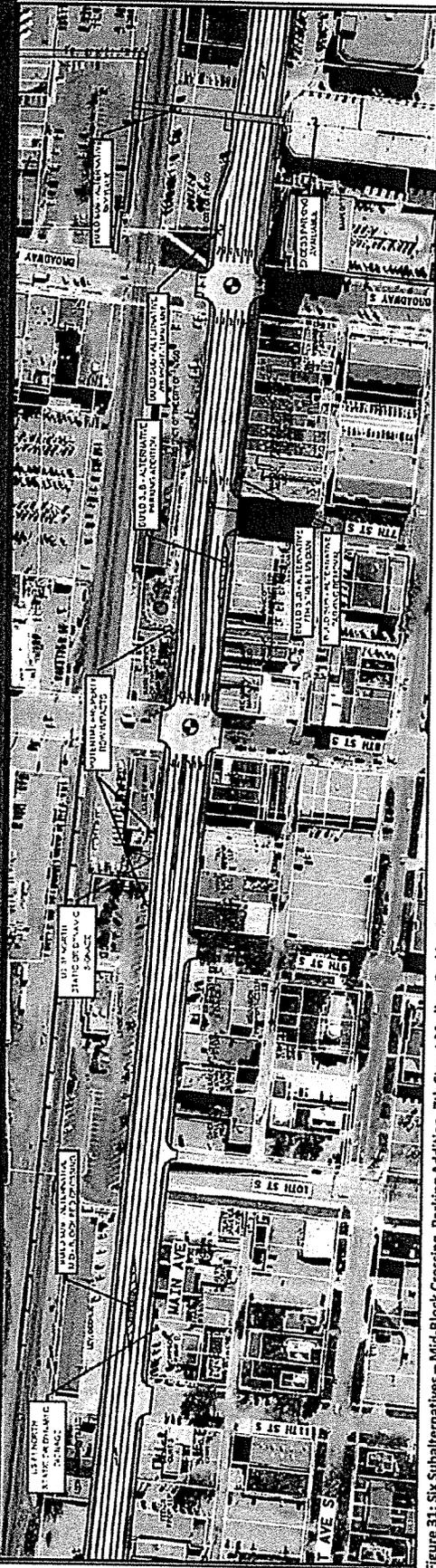


Figure 31: Six Subalternatives – Mid-Block Crossing, Parking Addition, 7th Street Median, Parking Removal, West-Bound Right-Turn Lane, and Skywalk (Segment 3)

Segment 4 (4th Street to 2nd Street)

No Build Alternative – Maintains five-lane roadway with two-way left turn lanes, except where a median is present.

Build Alternative A (see Figure 32) – Reconstructs the current lane configuration of five lanes with two-way left turn lanes, except where a median is present. In addition, sidewalks are improved to comply with ADA standards and the channelization of the 2nd Street southbound right-turn lane is improved (removing the westbound acceleration lane), and the eastbound to southbound channelized right-turn lane at 2nd Street is removed.

Build Subalternative 2nd Street (see Figure 33) – A subalternative that could be included with Build Alternative A is improvements to 2nd Street (between Main Avenue and NP Avenue) including dual southbound left-turn lanes, a median, and a widened sidewalk on the west side of 2nd Street.

3. ALTERNATIVE MODIFICATIONS / OTHER CONCEPT CONSIDERATIONS

The alternatives shown on the previous pages are modified versions of the original concepts. After the preliminary alternative layouts were developed, they were reviewed by technical staff, NDDOT, Metro COG, and the other local jurisdictions. The alternatives were revised and reviewed a number of times through the development process. The final alternative designs presented served as the basis for the evaluation, which is discussed in the next chapter.

The alternatives were also reviewed by the property owners along the corridor as part of the third small-group meeting. In addition, a letter was sent to 54 agencies requesting input as part of a solicitation of views (SOV) early notification process. While the letters were mailed prior to the development of the alternatives, responses received from these agencies affected the designs of the alternatives, as well as the evaluation of these alternatives. The SOV process and agency responses are discussed in more detail in Appendix D.

Two more significant ideas were considered, but not carried forward based on preliminary analysis and review: the 4th Street Underpass and 10th Street South improvements to US 81 North. The right-of-way impacts, geometric design considerations, and potential costs rendered the 4th Street Underpass not feasible. See Appendix E for the background related to the 4th Street assessment. The existing ease of use and network route in place for the 10th Street South connection resulted in costly improvements or consideration not being necessary, except for wayfinding.

Alternative A (Segment 4) Figure 32

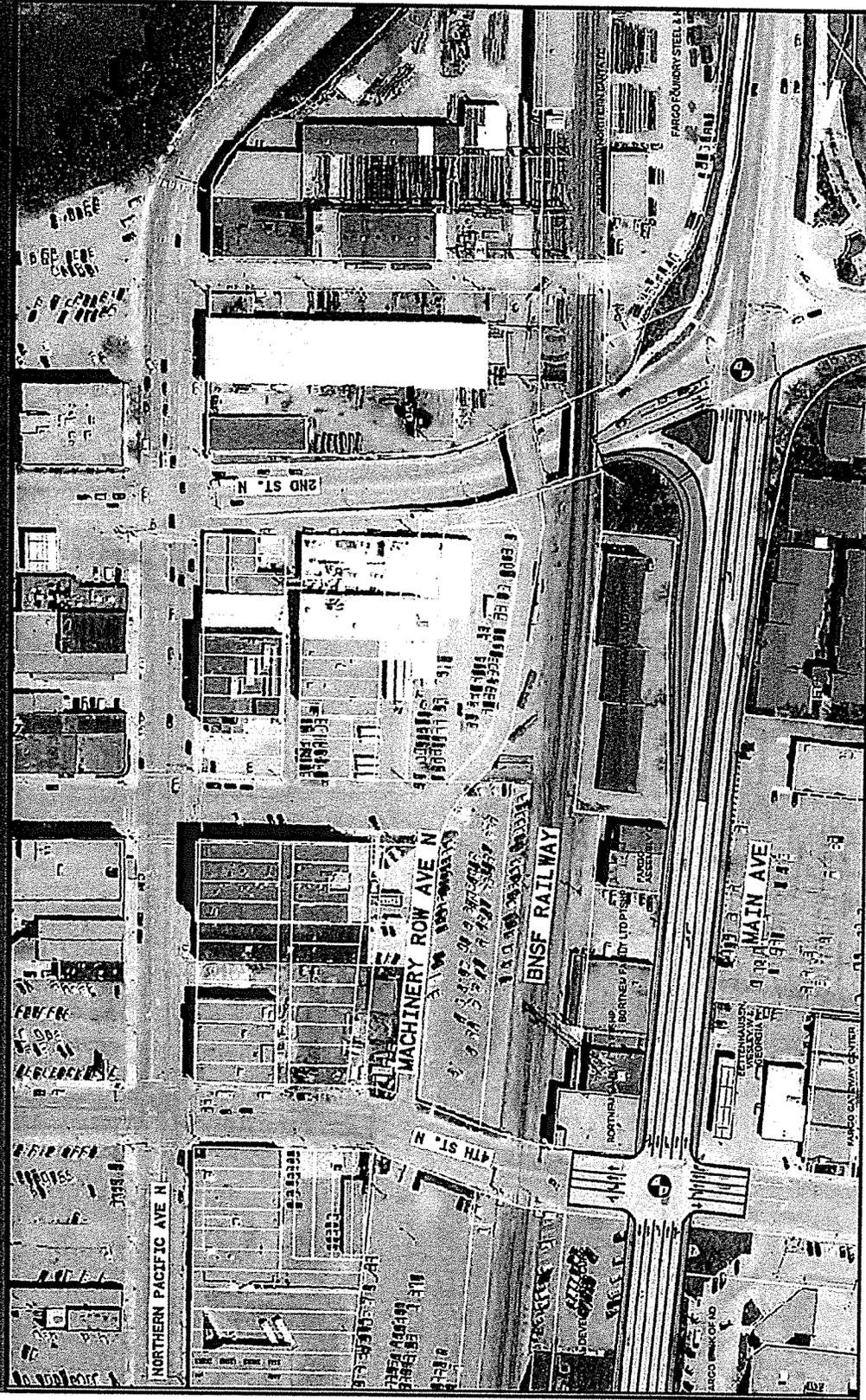


Figure 32: Build Alternative A (Segment 4)

Subalternative 2nd Street (Segment 4) Figure 33

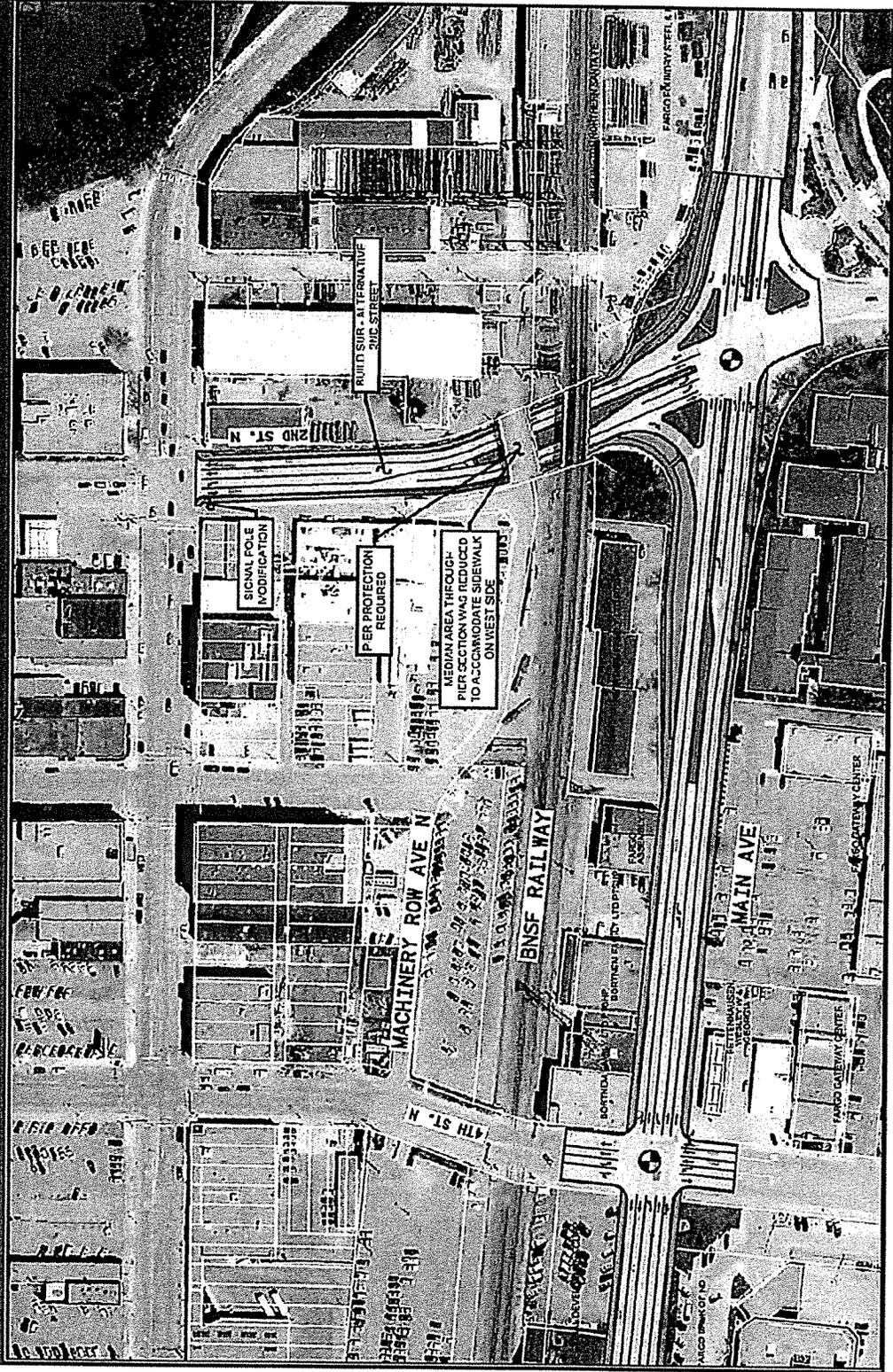


Figure 33: Subalternative 2nd Street (Segment 4)