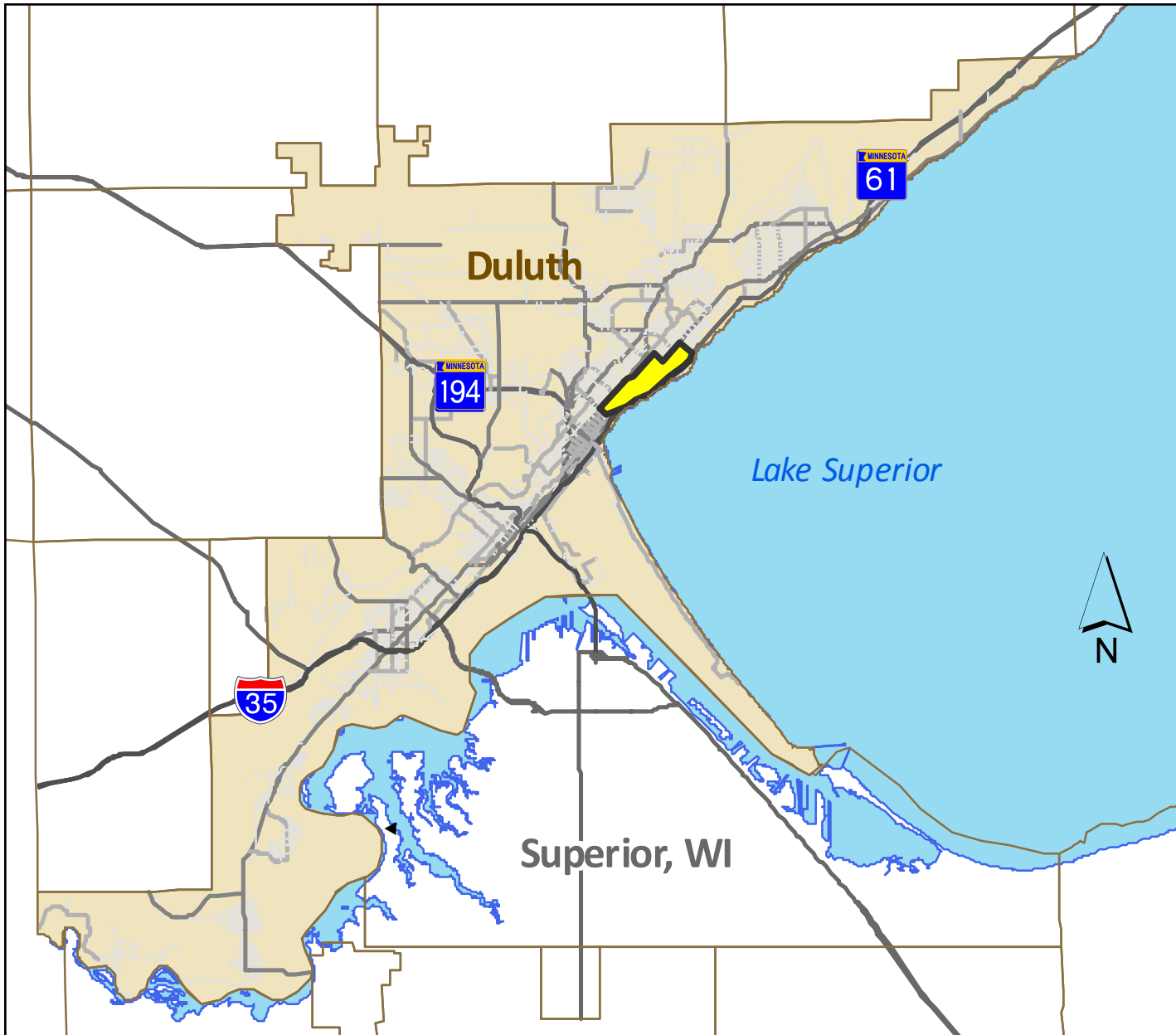


Final Endion Land Use & Transportation Plan

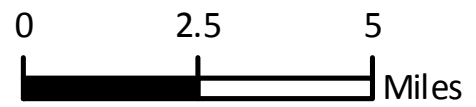


April 2008

Holly Butcher, Senior Planner



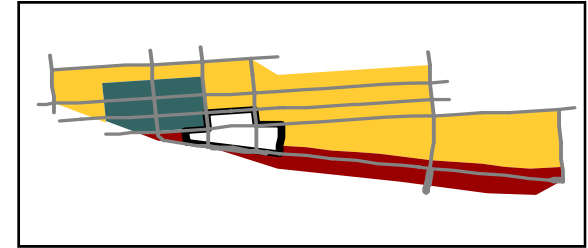
City of Duluth, MN
Study area highlighted in yellow



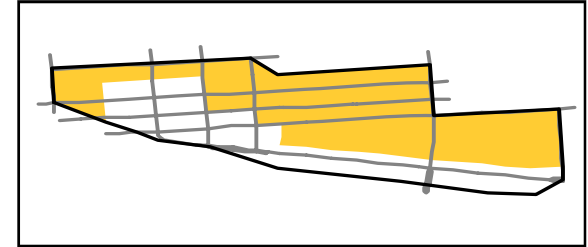
Plan Goal:

- Analyze the cumulative impacts of proposed land use development on the transportation system & vice versa, to determine the ability of the transportation system to stimulate redevelopment in a way that changes the corridor to support land use revitalization initiatives.
 - Corridor Vision
 - Neighborhood Vision
 - Redevelopment Vision

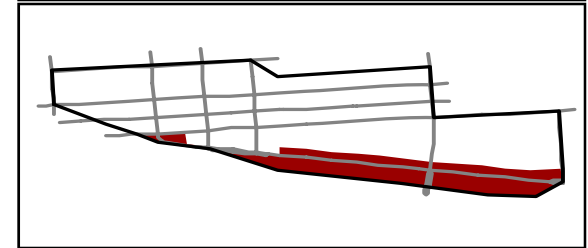
Whole Study Area



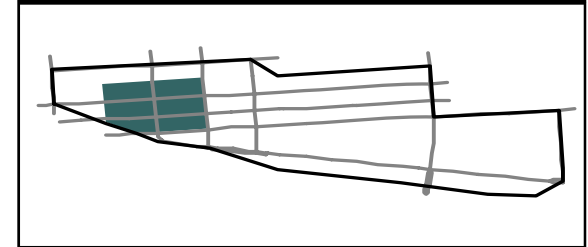
Endion/East Hillside Neighborhood



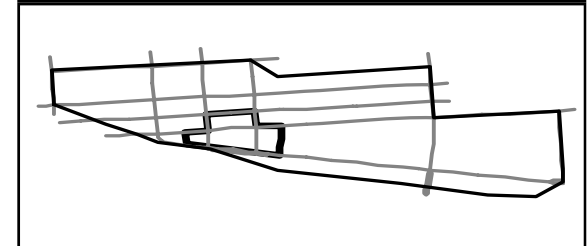
London Road



St. Luke's Medical Campus



Armory/Plaza District

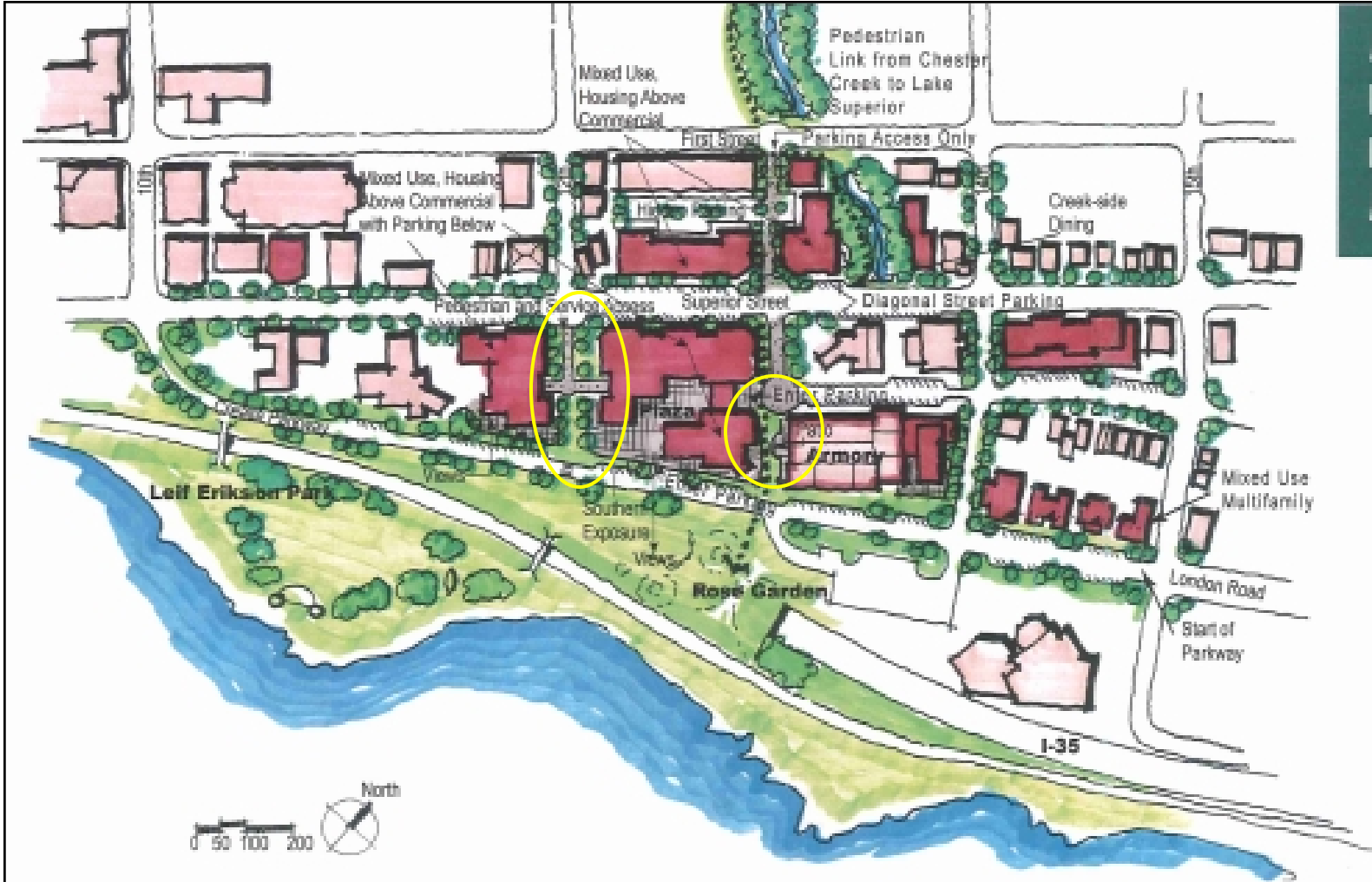


Geographical identifiers are used at the bottom of each page to orient the reader to the location being discussed.

Issues Driving this Study

- Armory/Plaza Mixed-Use Development Proposal

Armory
Plaza
Development
Association, LLC



LHB
21 W. Superior St., Ste. 500
Duluth, Minn. 55802
218-727-0440
www.LHBcorp.com
May 4, 2006

Vision Plan-
Enhanced Mixed
Use Environment

Issues Driving this Study








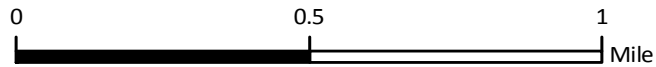
- Armory/Plaza Mixed-Use Development Proposal
- St. Luke's Hospital Expansion Needs



Issues Driving this Study






- Armory/Plaza Mixed-Use Development Proposal
- St. Luke's Hospital Expansion Needs
- Previous recommendations
 - *Duluth Comprehensive Plan (2006)*
 - *Duluth Charrette (2005)*
 - Narrow London Road, convert one-way streets, conduct analysis of the network related to evolving land use



 One-way streets	Roads  Local  Collector  Arterial  Interstate	<h3>Duluth One-way Street Network</h3>	
 Study Area			



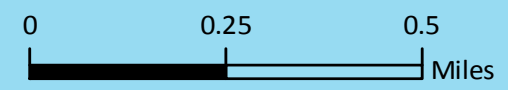
Legend

-  LakewalkConnector
-  Duluth Parks
-  Lakewalk
-  I-35 pedestrian bridge
-  Stream

London Road Corridor

Map 2.7

Plan Recommendations

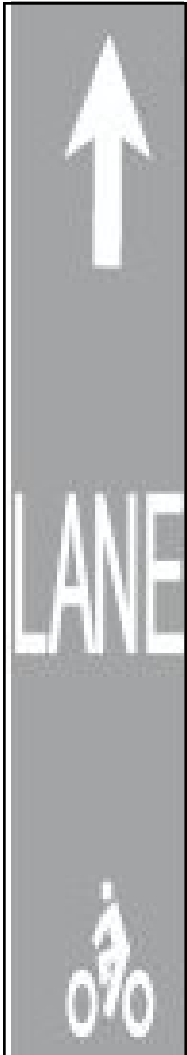


- Study Area
- Recommendation Timeframes**
- Short Range Projects 2008-2013
- Mid Range Projects 2013+
- Long Range Projects 2018+

Plan Recommendations

Table 4.1 Comparing Plan Recommendations to Previous Plans	Endion Land Use and Transportation Plan 2008	Duluth Comprehensive Plan 2006	Duluth Charrette 2005	East Hillside Transportation Study 2003	East Hillside Neighborhood Transportation Assessment 2001	Endion Waterfront Plan & Development Strategy 1995
Convert 6th Ave E to two-way between 2nd & 3rd ST	X	X	X	X	X	
Convert 12th & 14th Ave E to two-way between 4th ST & London Rd	X	X	X	X	X	
Convert 1st ST to two-way between 8th & 21st Ave E	X	X	X	X	X	
Convert 2nd ST to two-way between 6th & 24th Ave E	X	X	X	X	X	
Convert 3rd ST to two-way between 6th & 21st Ave E	X	X	X	X	X	
Convert 19th Ave E to two-way between Superior ST & London Rd	X	X	X		X	
Narrow London Road between 10th & 26th Ave E	X	X	X			X
Lower the functional classification of 2nd & 3rd ST (6th to 21st Ave E), & 12th & 14th Ave E (4th ST to London Rd) from arterial to collector	X		X		X	
Install a traffic signal at 4th ST & 10th Ave E	X <i>(if all plan changes are implemented this is not necessary)</i>				X	

General Recommendation A: Create a Network of Marked Bicycle Lanes & Routes



5-6 feet wide

- Create a network of safe bicycle routes that head into and out of downtown, establishing viable commuter routes for bicyclists.
 - Consider London Road, 12th & 14th Avenue East; 1st, 2nd & 3rd St in forming the backbone of a bicycle lane network.

General Recommendation B:

Clearly Denote Parking Restrictions near Intersections throughout the East Hillside to Improve Site Visibility & Safety

- Signage and enforcement have not been successful in resolving this issue, consider painting the curbs yellow near intersections, as is currently done in the City of Superior as a self-enforcing parking restriction tool.

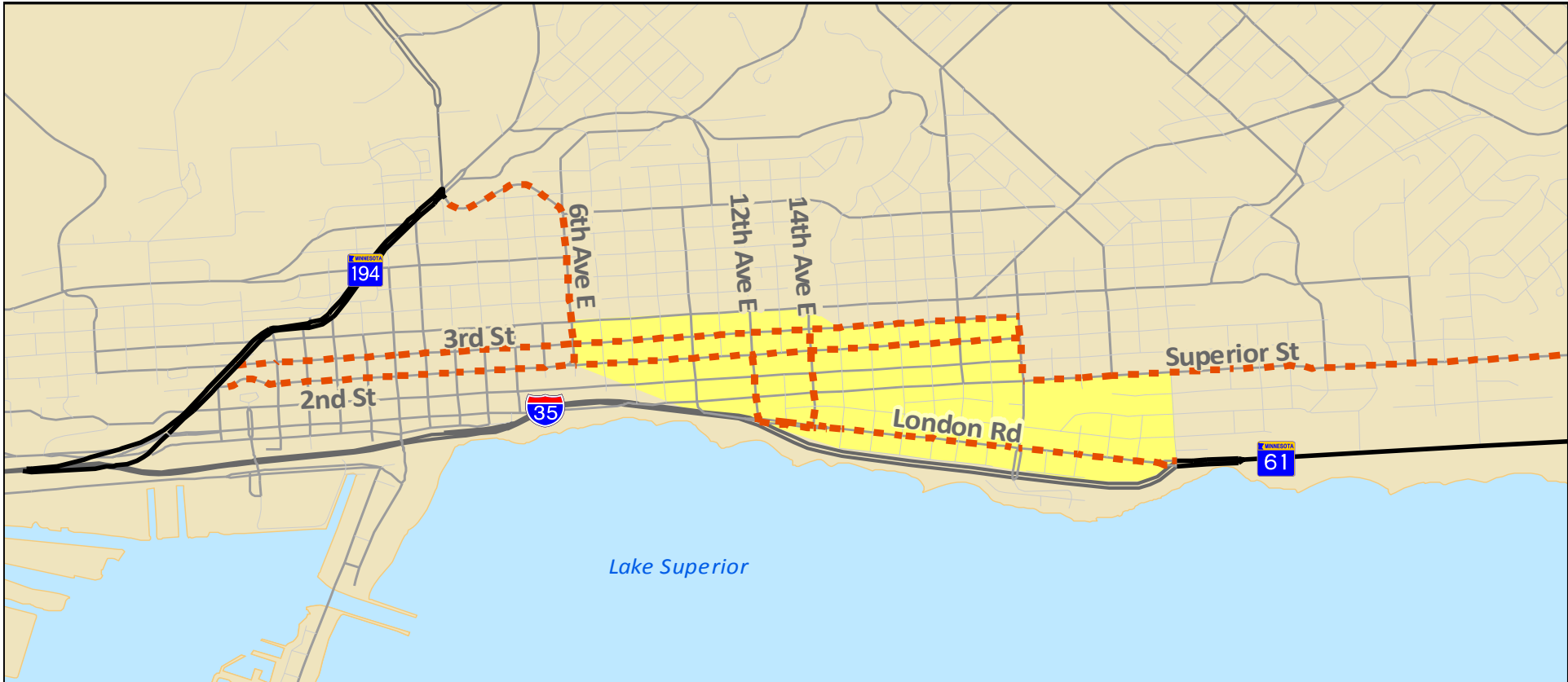


General Recommendation C:

Revisit the 2006 Proposal to Narrow 2nd St to Two Lanes from Mesaba to 6th Ave E

- 11,900 AADT
- Former T.H. 23 prior to eastern extension of I-35 (1992)
- Turned back to the city in 1995
- With I-35 complete, there is no need for 2nd St to remain three lanes wide





— New Trunk Highway

- - - Turnback roads

Study Area

Roads

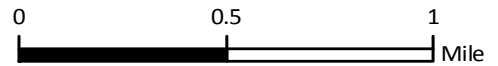
— Local

— Collector

— Arterial

— Interstate

Mn/DOT Turnback Designations



General Recommendation D: Consider a Context Sensitive Roadway Design for 6th Ave E from 2nd to 9th St

- 13,600 AADT, high speeds & pedestrian counts
- Former T.H. 194 prior to eastern extension of I-35 (1992)
- Turned back to the city in 1995
- Road abuts residential & commercial properties as it winds its way down to 2nd Street.
- Road is 50 feet, lacks turn lanes, has abutting sidewalks & two travel lanes in each direction
- Divides a neighborhood & is out of context with surrounding land uses.



**General Recommendation E:
Revive Corridor & Site Design Recommendations for
London Road from the 1995 Endion Waterfront Plan &
Development Strategy**

- Establish a new image for the corridor
- Provide a new landscape & streetscape image
- Reduce roadway width
- Encourage a broad variety of retail & commercial uses while creating buffers adjacent to residences.

Summary of Cost Estimation for Transportation Redesign and Mitigation Measures

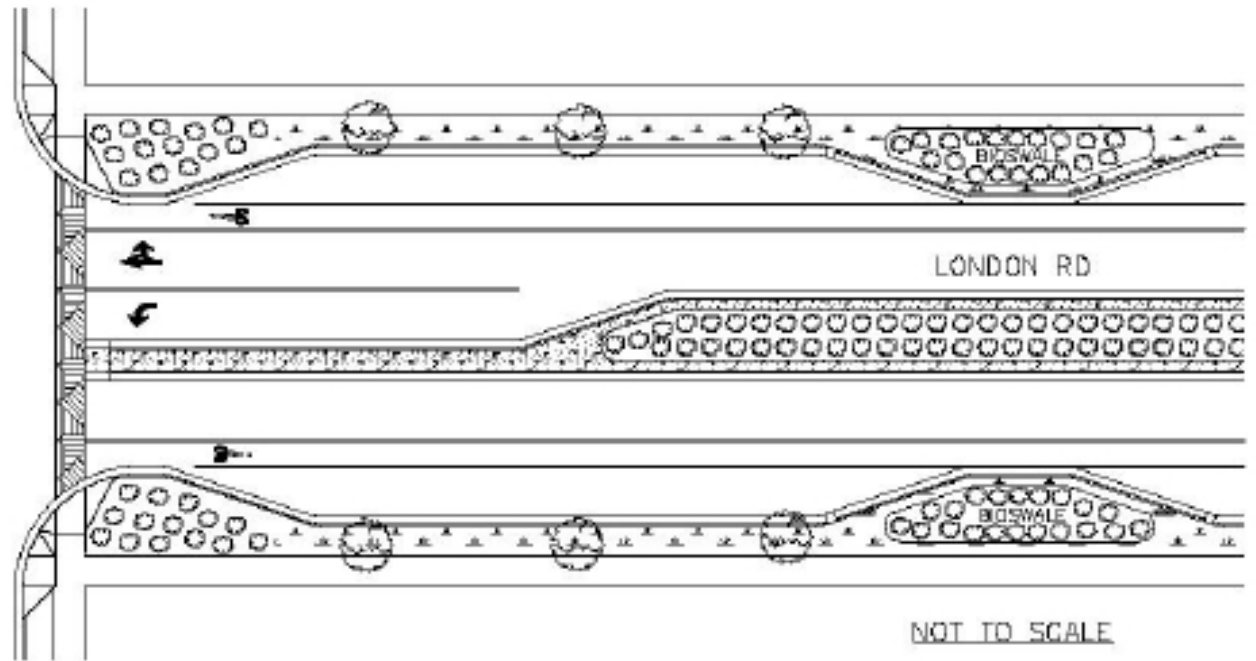
Scenario	Build	1	2	3	4	A	B	C
Description	Armory/Plaza Mixed-Use Development	North-South Pairs (12th and 14th Ave E)	St. Luke's Hospital Expansion	East-West Pairs (2nd and 3rd St)	Narrowing London Road (10th to 26th Ave E)	North-South Pairs and St. Luke's Hospital Expansion	North-South Pairs and East-West Pairs	Build All including the conversion of 1st St to two-way
Cost	\$2,700,000 ¹	\$300,000 ²	\$500,000 ²	\$900,000 ²	\$3,600,000 ^{2,3}	\$1,200,000 ²	\$900,000 ²	\$5,400,000 ^{2,3}

Notes: 2007 dollars, 1 - This includes mitigation costs detailed in Appendix B, and construction of diagonal parking on Superior St between 12th and 13th Ave (\$1.4 million), this does not include the estimated cost of \$1.2 million to provide diagonal parking along Jefferson St or London Rd (\$260,000), 2 - Excludes mitigation costs that would be incurred for the Build—Armory/Plaza base scenario, 3 - Included London Rd redesign costs as detailed in Table 5.3 and any mitigation needed above Build—Armory/Plaza base scenario, including London Road (\$260,000) diagonal parking associated with the Armory/Plaza project.



London Road 14th to 26th Avenue East Redesign Components and Costs

London Road Measure	Cost (inc. 20% design and 25% contingency)
Landscape Median, concrete and landscaped	\$ 1,850,000
Stormwater Bioswales	\$ 320,000
Boulevard Lighting and Trees	\$ 580,000
Polypreform Crossings	\$ 60,000
Two Lakewalk Arch Signs	\$ 15,000
Bulbouts	\$ 260,000
Gateway signage	\$ 11,000
	Total \$ 3.1 million



Implementation Action Matrix

Plan Recommendation	Implementation Timeframe	Cost	Agency	Potential Funding Sources (described on next page)
(1) Narrow London Road 10th to 26th Ave	Short Range (2008—2013)	\$3.1 million ¹	City of Duluth	SB, MLSCP, EN, STP, MSA
Create diagonal parking along Superior Street, Jefferson Street, and London Road to support the Armory/Plaza project	Short Range (2008—2013)	\$2.86 million	Developer	Developer / partnership with city on Superior and London
(2) Build the Armory / Plaza Mixed-Use Development (Find a Developer)	Short Range (2008—2013)	\$2.7 million	Developer	Developer
(3) Connect 6th Ave E to 2nd St	Short Range (2008—2013)	Require new signals at 2nd and 3rd St, restriping and configuration of roadway	City of Duluth Engineering Division	TB, MSA, STP
(4) Convert 1st St to two-way operation from Lake Ave to 21st Ave E	Short Range (2008—2013)	Not Available	City of Duluth and St. Luke's collaboration	MSA, STP
(5) Convert 12th and 14th Ave E (north—south pairs) to two-way operation from 4th St to London Rd	Short Range (2008—2013)	\$300,000	City of Duluth Engineering Division	MSA, STP
(6) Convert 19th Ave E to two-way operation from Superior St to London Rd	Short Range (2008—2013)	Require two-way signage (stop signs)	City of Duluth Engineering Division	Local
(7) Convert 2nd and 3rd Streets (east—west pairs) to two-way operation from 6th to 24th Ave E	Mid Range (2013+)	\$900,000	City of Duluth Engineering Division	TB, MSA, STP
(8) Expansion of St. Luke's Hospital and Medical Campus	Long Range (2018+)	\$500,000	St. Luke's Hospital	MSA, STP, St. Luke's
(A) Create a Network of Marked Bicycle Lanes and Routes	Short Range (2008—2013)	Not Available	City of Duluth, Community, MIC	EN, MSA
(B) Clearly Denote parking restrictions near intersections throughout the East Hillside to Improve Site Visibility and Safety	Short Range (2008—2013)	Not Available	City of Duluth Engineering Division	MSA
(C) Revisit the 2006 proposal to narrow 2nd Street to two lanes from Mesaba to 6th Avenue East (create onstreet parking for businesses along the upper side of the roadway)	Short Range (2008—2013)	Not Available	City of Duluth Engineering Division	MSA, STP
(D) Consider a Context Sensitive Roadway Design for 6th Avenue East from 2nd to 9th Street	Mid—Long Range (2013—2018)	Not Available	City of Duluth Engineering Division	STP, EN, MSA
(E) Revive corridor and site design recommendations from the 1995 <i>Endion Waterfront Plan & Development Strategy</i>	Mid Range (2013+)	Not Apply	City of Duluth Physical Planning	Not Apply

A background image of a street scene. In the foreground, a red pickup truck is driving towards the camera. To the left, a sidewalk runs alongside a grassy area. In the center, a 'DO NOT ENTER' sign is visible on a post. The background shows a building and trees under a clear sky.

**Big Thanks to Steering Committee
Members & MIC Staff!**

FOR APPROVAL

Questions?

Holly 529-7548

holly.butcher@ardc.org