APPENDIX E

Hastings Area Roadway System Study

No Difference in Roadway Rating is Similar When Rating is a Strength When Rating is a Weakness When Network Alternatives Compared to Other Alternatives Compared to Other Alternatives

PAGE 1

Evaluation Matrix

Evaluation Matrix									
	ALTERNATIVES								
	Α	В	C	D	E	F			
TECHNICALLY FEASIBLE	- 1	_	_	_	-	•			
Objective 1: Preserve and enhance the functionality of the Principal Arterial roadways in the Hastings Area (TH 55, TH 61, and TH 316).									
Evaluation Criteria									
1.1. Create Minor Arterial & Collector roadway connections that relieve travel demand on Principal Arterials by providing an efficient route alternative.	Likely (8% Reduction of Travel Demand at 4 Heavily Traveled Principal Arterial Locations in 2030)	Likely (8% Reduction of Travel Demand at 4 Heavily Traveled Principal Arterial Locations in 2030)	Likely (8% Reduction of Travel Demand at 4 Heavily Traveled Principal Arterial Locations in 2030)	Likely (9% Reduction of 2030 Travel Demand at 4 Heavily Traveled Principal Arterial Location)	Likely (7.5% Reduction of 2030 Travel Demand at 4 Heavily Traveled Principal Arterial Locations)	Likely (8% Reduction of Travel Demand at 4 Heavily Travele Principal Arterial Locations in 2030)			
Objective 2: Establish a vision for a Principal Arterial route between TH 61 and TH 316 to enhance regional mobility.	More Detailed Study Needed to Determine the Principal Arterial Route (TH 316 or TH 61/170th Street/TH 316). Other Planned Corridors Will Not be Affected by the Outcome of the Future Study		More Detailed Study Needed to Determine the Principal Arterial Route (TH 316 or TH 61/170th Street/TH 316). Other Planned Corridors Will Not be Affected by the Outcome of the Future Study	More Detailed Study Needed to Determine the Principal Arterial Route (TH 316 or TH 61/170th Street/TH 316). Other Planned Corridors Will Not be Affected by the Outcome of the Future Study		More Detailed Study Needed to Determine the Principal Arterial Route (TH 316 or TH 61/170th Street/TH 316). Other Planned Corridors Will Not be Affected by the Outcome of the Future Study			
Evaluation Criteria		·							
Provide a Principal Arterial route that could be improved to meet future travel demands between 25th Street & 170 th Street.	Likely (Minor Arterial Network results in 8% reduction of 2030 Travel Demand on TH 316, south of TH 61)	Likely (Minor Arterial Network results in 8% reduction of 2030 Travel Demand on TH 316, south of TH 61)	Likely (Minor Arterial Network results in 11% reduction of 2030 Travel Demand on TH 316, south of TH 61)	Likely (Minor Arterial Network results in 11% reduction of 2030 Travel Demand on TH 316, south of TH 61)	Most Likely (Minor Arterial Network results in 12% reduction of 2030 Travel Demand on TH 316, south of TH 61)	Likely (Minor Arterial Network results in 9% reduction of 2030 Travel Demand on TH 316, south of TH 61)			
2.2. Provide opportunity to reduce access locations to be more consistent with the targeted 1-mile spacing guidelines for improved safety & mobility of the corridor.	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives			
Provide Collector street connectivity that maintains land access while achieving Principal Arterial mobility functions.	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives	No Difference in Roadway Network Alternatives			
2.4. Provide a corridor that offers options to drivers to efficiently connect them with the locations where their trips begin & end.	Likely (6.5% Reduction of cummulative 2030 Travel Demand at Th 55, west of TH 61; and Th 316, south of TH 61)	Likely (6.5% Reduction of cummulative 2030 Travel Demand at Th 55, west of TH 61; and Th 316, south of TH 61)	Likely (4% Reduction of cummulative 2030 Travel Demand a Th 55, west of TH 61; and Th 316, south of TH 61)	t Likely (7.5% Reduction of cummulative 2030 Travel Demand at Th 55, west of TH 61; and Th 316, south of TH 61)	Likely (4% Reduction of cummulative 2030 Travel Demand at Th 55, west of TH 61; and Th 316, south of TH 61)	Likely (7.5% Reduction of cummulative 2030 Travel Demand at Th 55, west of TH 61; and Th 316, south of TH 61)			
Objective 3: Establish a Minor Arterial roadway vision that links the CSAH 47 corridor and CSAH 46 corridor to the Principal Arterial system, while allowing the development of a supportive system of collector roadways for local traffic circulation.									
Evaluation Criteria									
3.1. Create a corridor vision that can be developed to safely & efficiently meet the existing & future east-west travel demands on CSAH 46 between CSAH 47 & TH 61.		Likely (14% Increase in East-West Travel Demand Served on E-W Minor Arterials); Direct & Continous Route Maintained		Likely (20% Increase in East-West Travel Demand Served on E-W Minor Arterials); Direct & Continous Route Maintained	Served on E-W Minor Arterials); Loss of Direct Route Via	Likely (13.5% Increase in East-West Travel Demand Served on E-W Minor Arterials); Direct & Continous Route Maintained			
3.2. Create a corridor vision that can be developed to safely & efficiently meet the existing & future southwest-northeast travel demands on CSAH 47 between CSAH 46, TH 61 & TH 55.	Likely (11% Increase in Travel Demand Served on CSAH 47, Southwest of Hastings); Efficient Connectios Via Jacob Avenue, 170th Street, and CSAH 46		Not Likely (12.5% Reduction in Demand Served on CR 47, Southwest of Hastings); Loss of Direct Route	Likely (14% Increase in Travel Demand Served on CSAH 47, Southwest of Hastings); Efficient Connectios Via 170th Stree and CSAH 46	Southwest of Hastings); Efficient Connections Via 170th	Likely (5% Increase in Travel Demand Served on CSAH 47, Southwest of Hastings); Efficient Connections via 170th Street			
3.3. Identify routes for a safe & efficient intersection with	Not Likely (Primary intersection spacing on TH 55, TH 61, and	Not Likely (Primary intersection spacing on TH 55, TH 61, and	Not Likely (Primary intersection spacing on TH 55, TH 61, and	Not Likely (Primary intersection spacing on TH 55, TH 61, and	Not Likely (Primary intersection spacing on TH 55, TH 61, and	Not Likely (Primary intersection spacing on TH 55, TH 61, an			
the Principal Arterial roadway & maintain access spacing or the Principal Arterial (1 mile spacing of Primary Intersections).	Intersections would be spaced at 1/2 mile or less in many areas due to the location of collector roadways on the existing roadway network.)		TH 316 does not meet 1 mile spacing guidelines. Intersections would be spaced at 1/2 mile or less in many areas due to the location of collector roadways on the existing roadway network.)	TH 316 does not meet 1 mile spacing guidelines. Intersections would be spaced at 1/2 mile or less in many areas due to the location of collector roadways on the existing roadway network.)	TH 316 does not meet 1 mile spacing guidelines. Intersections would be spaced at 1/2 mile or less in many areas due to the location of collector roadways on the existing roadway network.)	TH 316 does not meet 1 mile spacing guidelines. Intersections would be spaced at 1/2 mile or less in many areas due to the location of collector roadways on the existing roadway network.)			
3.4. Provide a corridor vision that offers options to drivers to efficiently connect them with the locations where their trips begin & end.		Likely (14% Reduction in Travel Demand at TH 55/TH 61 Intersection); Minor Arterial Spacing of 1 to 1-1/2 mile, Direct & Continous Routes	Not Likely (7% Reduction in Travel Demand at TH 55/TH 61 Intersection); Minor Arterial Spacing greater than 1-1/2 mile Lack of Direct Routes (E-W, N-S)		Not Likely (7.5% Reduction in Travel Demand at TH 55/TH 61 Intersection); Minor Arterial Spacing greater than 1-1/2 mile, Lack of Direct Routes (E-W, N-S)				
3.5. Provide public street access & traffic controls consistent with the Dakota County Transportation Plan for Minor Arterial roadways (½ mile spacing of Primary Intersections, ¼ mile spacing of Secondary Intersections).	Likely (Primary intersection spacing guidelines of 1/2 mile and secondary intersection spacing guidelines of 1/4 mile are being met. There is an exception on TH 61 where a proposed minor arterial and two collectors are 1/4 mile apart.)	Likely (Primary intersection spacing guidelines of 1/2 mile and secondary intersection spacing guidelines of 1/4 mile are being met. There is an exception on Th 61 where a proposed minor arterial and two collectors are 1/4 mile apart.)	Not Likely (Primary intersection spacing guidelines of 1/2 mile and secondary intersection spacing guidelines of 1/4 mile are not met on CSAH 46 between General Sieben Drive and CSAH 47.	Not Likely (Primary intersection spacing guidelines of 1/2 mile and secondary intersection spacing guidelines of 1/4 mile are not met on CSAH 46 between General Sieben Drive and CSAH 47.	Likely (Primary intersection spacing guidelines of 1/2 mile and secondary intersection spacing guidelines of 1/4 mile are being met. There is an exception on Th 61 where a proposed minor arterial and two collectors are 1/4 mile apart.)	Likely (Primary intersection spacing guidelines of 1/2 mile and secondary intersection spacing guidelines of 1/4 mile are being mer. An exception exists in the downtown area where CR 54 ties in with TH 316 from the east.)			
Objective 4: Establish a vision of existing and future collector roadways to accommodate trips beginning and ending within the City of Hastings. [Evaluation Criteria									
4.1. Recognize & maintain role of existing City of Hasting collector roadways (e.g. General Sieben Drive, Pleasant Drive, 15th Street, 36th Street).					Likely (All of These Toadways Temain as Major Collectors within the Roadway System. These Collectors are Proposed to be Extended to Develop a Larger Roadway network in the future.)				
4.2. Expand Collector Street system to developing areas to promote connectivity with the City & to the Arterial Roadways (% to 1 mile spacing between Major Collector roadways).		in Hastings and Outside the City Boundary. Generally, 1/2 to	in Hastings and Outside the City Boundary. Generally, 1/2 to	in Hastings and Outside the City Boundary. Generally, 1/2 to	Likely (A Comprehensive Collector Road Network is Proposed in Hastings and Outside the City Boundary. Generally, 1/2 to 1 Mile Spacing has been Met, but there are a Few Locations with 1/4 Mile Spacing.)	in Hastings and Outside the City Boundary. Generally, 1/2 t			
Objective 5: Integrate the movement of trips in the roadway network through system continuity and connectivity.									
5.1. Provide continuity of roadways by minimizing jogs in roadways.	Likely (Arterial and collector roadways follow more of a grid pattern with minimal curves and jogs. Traffic traveling on TH 47 will encounter a jog at the intersection of TH 47/CR 89.)		and jogs when compared to other alternatives. There is less	and jogs when compared to other alternatives. There is less	Not Likely (Arterial and collector roadways have more curves and jogs when compared to other alternatives. There is less east-west connectivity on the south side of Hastings.), Lack of Direct N-S Minor Arterial Route				
5.2. Provide safe & efficient crossings of the Principal & Minor Arterial roadways.	Likely (Roadways are orientated to provide good sight lines at intersections.)		Not Likely (Minor arterials and collectors have more curvature under this alternative. Several crossings are on curves.)	Likely (Roadways are orientated to provide good sight lines at intersections.)	Not Likely (Minor arterials and collectors have more	Likely (Roadways are orientated to provide good sight lines at intersections.)			
5.3. Avoid or minimize excessively continuous local roadways (length greater than 2 miles).	Likely (There are sufficient collector roadways at 1/2 mile spacing or less to avoid lengthy local roadways.)	Likely (There are sufficient collector roadways at 1/2 mile spacing or less to avoid lengthy local roadways.)	Likely (There are sufficient collector roadways at 1/2 mile spacing or less to avoid lengthy local roadways.)	Likely (There are sufficient collector roadways at 1/2 mile spacing or less to avoid lengthy local roadways.)	Likely (There are sufficient collector roadways at 1/2 mile spacing or less to avoid lengthy local roadways.)	Likely (There are sufficient collector roadways at 1/2 mile spacing or less to avoid lengthy local roadways.)			
5.4. Identify existing and future function and jurisdictional responsibilities for each roadway in the Study area.	Likely (Principal Arterials remain under Mn/DOT, Minor Arterials remain under County, Major Collector under County or City	Likely (Principal Arterials remain under Mn/DOT, Minor Arterials remain under County, Major Collector under County or City	Likely (Principal Arterials remain under Mn/DOT, Minor Arterials remain under County, Major Collector under County or City	Likely (Principal Arterials remain under Mn/DOT, Minor Arterials remain under County, Major Collector under County or City	Likely (Principal Arterials remain under Mn/DOT, Minor Arterials remain under County, Major Collector under County or City	Likely (Principal Arterials remain under Mn/DOT, Minor Arterials remain under County, Major Collector under County or City			

Hastings Area Roadway System Study

No Difference in Roadway Rating is Similar When Rating is a Strength When Rating is a Weakness When Network Alternatives Compared to Other Alternatives Compared to Other Alternatives

PAGE 2

Evaluation Matrix

		ALTERNATIVES							
		Α	В	С	D	E	F		
ECONO	OMICALLY VIABLE								
Objectiv way cost	e 6: Minimize roadway construction and right-of- is.								
	6.1. Maximize use of existing roadway alignments, bridges & right-of-way.	Likely (2.1 miles new Minor Arterial Alignment)	Likely (1.8 miles new Minor Arterial Alignment)	Most Likely (1.7 miles new Minor Arterial Alignment)	Likely (2.0 miles new Minor Arterial Alignment)	Likely (2.0 miles new Minor Arterial Alignment)	Least Likely (2.3 miles new Minor Arterial Alignment)		
	residential relocations.	Yes. All New Roadways are Outside Urbanized Area and Would Only be Achieved When Land Use Changes / Development Occurs	Yes. All New Roadways are Outside Urbanized Area and Would Only be Achieved When Land Use Changes / Development Occurs Likely (Future roadways will encounter areas with poor	Yes. All New Roadways are Outside Urbanized Area and Would Only be Achieved When Land Use Changes / Development Occurs Not Likely (The realignment of Jacob Ave to the south will	Yes. All New Roadways are Outside Urbanized Area and Would Only be Achieved When Land Use Changes / Development Occurs Not Likely (The realignment of Jacob Ave to the south will	Yes. All New Roadways are Outside Urbanized Area and Would Only be Achieved When Land Use Changes / Development Occurs Not Likely (The realignment of Jacob Ave and extension of	Yes. All New Roadways are Outside Urbanized Area and Would Only be Achieved When Land Use Changes / Development Occurs Likely (Future roadways will encounter areas with poor		
	with soils not suitable for roadway construction or known	construction soils, but by about the same amount when compared to other alternatives.)	construction soils, but by about the same amount when compared to other alternatives.)	cause this alternative to encounter more poor soils when compared to other alternatives.)	cause this alternative to encounter more poor soils when compared to other alternatives.)		construction soils, but by about the same amount when compared to other alternatives.)		
	6.4. Minimize need for new bridges over the Vermillion River & other costly structures.	1 New Crossing of the Vermillion River at Jacob Avenue	1 New Crossing of the Vermillion River at Jacob Avenue	No new crossings of Vermillion River	No new crossings of Vermillion River	No new crossings of Vermillion River	1 New Crossing of the Vermillion River at Jacob Avenue		
	e 7: Provides an opportunity for corridors to be need through development driven initiatives.								
		Likely. Draft 2030 Land Use Plan Extends West to Jacob Avenue & South to 170th Street Alignment	Likely. Draft 2030 Land Use Plan Extends West to Jacob Avenue & South to 170th Street Alignment	Likely. Draft 2030 Land Use Plan Extends West to Jacob Avenue & South to 170th Street Alignment	Likely. Draft 2030 Land Use Plan Extends West to Jacob Avenue & South to 170th Street Alignment	Likely. Draft 2030 Land Use Plan Extends West to Jacob Avenue & South to 170th Street Alignment	Likely. Draft 2030 Land Use Plan Extends West to Jacob Avenue & South to 170th Street Alignment		
	e 8: Maintain accessibility of existing business destinations.	Vo. Efficient Calab College Charles	Van FfSiin A Crist of Call who Change	Ver Tifficiant Cold of College Constant	Ver Titisian Cid of Callante Charte	Ver Tifficiant Cold of College Character	No. of the state o		
	that efficiently connects to trip origins.	Yes. Efficient Grid of Collector Streets	Yes. Efficient Grid of Collector Streets	Yes. Efficient Grid of Collector Streets	Yes. Efficient Grid of Collector Streets	Yes. Efficient Grid of Collector Streets	Yes. Efficient Grid of Collector Streets		
	e 9: Maintain opportunity for quality ment opportunities.	Likely Mines Actorial soutes constelly follow costion lines	Likely Minor Arterial soutes generally follow costing lines	Not tillolu Curustura of CSAH 45 could make development	likely Minor Arterial router reposally follow cortica lines	Not Likely County of CSAN 45 could make development	likoly Minor Arterial router generally follows sertion lines		
	9.1. Minimize severing of large development properties.	Likely, Minor Arterial routes generally follow section lines	Likely, Minor Arterial routes generally follow section lines	Not Likely, Curvature of CSAH 46 could make development more challenging	Likely, Minor Arterial routes generally follow section lines	Not Likely, Curvature of CSAH 46 could make development more challenging	Likely, Minor Arterial routes generally follow section lines		
	e 10: Provide opportunity for continued iral operations.								
	farmlands outside of city 2030 growth boundary.	occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.		
	land irrigation systems.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.	All new roadways are outside urbanized area and would only be achieved when land use changes / development occurs.		
ENVIR	ONMENTALLY COMPATIBLE								
	e 11: Avoid or minimize impacts to								
environi		Likely (No National Wetland Inventory areas are impacted. Two 100-yr floodplain areas have new roadway crossings.)			Likely (No National Wetland Inventory areas are impacted. Two 100-yr floodplain areas have new roadway crossings.)		Likely (No National Wetland Inventory areas are impacted. Two 100-yr floodplain areas have new roadway crossings.)		
		threatened species area, but no new roadways have been proposed in this area. No quality wooded areas will be	threatened species area, but no new roadways have been proposed in this area. No quality wooded areas will be	Likely (Existing roadways west of Hastings pass through a threatened species area, but no new roadways have been proposed in this area. No quality wooded areas will be impacted, Potential impact to WMA and stream east of TH 61 equal)	Likely (Existing roadways west of Hastings pass through a threatened species area, but no new roadways have been proposed in this area. No quality wooded areas will be impacted, Potential impact to WMA and stream east of TH 61 equal)	Likely (Existing roadways west of Hastings pass through a threatened species area, but no new roadways have been proposed in this area. No quality wooded areas will be impacted, Potential impact to WMA and stream east of TH 61 equal)	Likely (Existing roadways west of Hastings pass through a threatened species area, but no new roadways have been proposed in this area. No quality wooded areas will be impacted, Potential impact to WMA and stream east of TH 61 equal)		
	11.3. Avoid or minimize new crossings of the Vermillion River.	1 New Crossing of the Vermillion River at Jacob Avenue	1 New Crossing of the Vermillion River at Jacob Avenue	No new crossings of Vermillion River	No new crossings of Vermillion River	No new crossings of Vermillion River	1 New Crossing of the Vermillion River at Jacob Avenue		
	e 12: Avoid impacts to known sensitive areas or if people.								
	12.1. Avoid roadway alignments on or near known historic properties, cemeteries, known archeological sites or groups of people.		Likely - Site identified and likely avoidable (Arch. Site SE of CSAH 46/Jacob, Archaeological Site E of CR 91 at WMA, Historical Site N of CR 89/CSAH 47	Likely - Site identified and likely avoidable (Arch. Site SE of CSAH 46/Jacob, Archaeological Site E of CR 91 at WMA, Historical Site N of CR 89/CSAH 47	Likely - Site identified and likely avoidable (Arch. Site SE of CSAH 46/Jacob, Archaeological Site E of CR 91 at WMA, Historical Site N of CR 89/CSAH 47	Likely - Site identified and likely avoidable (Arch. Site SE of CSAH 46/Jacob, Archaeological Site E of CR 91 at WMA, Historical Site N of CR 89/CSAH 47	Likely - Site identified and likely avoidable (Arch. Site SE of CSAH 46/Jacob, Archaeological Site E of CR 91 at WMA, Historical Site N of CR 89/CSAH 47		
Objectiv	e 13: Avoid or minimize impacts to parkland.								
	13.1. Avoid park & trail (Section 4f) impacts.	Likely (No park or trail impacts are anticipated.)	Likely (No park or trail impacts are anticipated.)	Likely (No park or trail impacts are anticipated.)	Likely (No park or trail impacts are anticipated.)	Likely (No park or trail impacts are anticipated.)	Likely (No park or trail impacts are anticipated.)		