

# APPENDICES

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## APPENDIX A - ISSUES IDENTIFIED BY PUBLIC AGENCIES

# APPENDIX A – ISSUES IDENTIFIED BY PUBLIC PROCESS

## 1.0 ISSUES FROM AGENCY CHARRETTE

A charrette was held with agency representatives (city and township engineers, city planners, etc.) within Sherburne County on November 13, 2017. Most of the communities within the county had at least one representative in attendance at the charrette. Following a presentation summarizing existing conditions as they pertain to the county's transportation system, agency representatives were asked to provide feedback regarding existing issues and priorities for improvements. Responses are summarized below by geographic area:

### Elk River Area:

- Lack of north-south connection between CR 40 and TH 10
- Lack of north-south connection between CSAH 13 and TH 10
- Lack of east-west connection south of CSAH 12
- County system dead end along CSAH 12 east of TH 10
- Safety issues along CSAH 13
- Additional future traffic in the CSAH 13/CSAH 12 area
- Intersection study at CSAH 12/CR 40 intersection
- Intersection study at CSAH 13/CR 40 intersection
- Intersection study at CSAH 13/Line Avenue intersection
- Potential realignment/extension of Viking Boulevard to connect to CSAH 33
- Potential realignment of CSAH 33 to remove junction with Proctor Road
- Inconsistent county system between CSAH 30 and CR 30
- County system dead end at CR 30
- Intersection study at TH 10 and CSAH 1
- Congestion along TH 10 and TH 169 corridors
- Signal optimization on TH 169

### Big Lake Area:

- Pedestrian safety concerns for crossings at TH 10 and TH 25
- Safety concerns regarding turns into development areas along TH 10 between CSAH 11 and TH 25
- Lack of trail connection along CR 75 from CSAH 5 to CSAH 10
- Lack of trail connection along CR 73 from CR 81 to 185th Avenue
- Lack of trail connection along TH 25
- County system dead end at CR 68; potential turnback of CR 68
- Area study north of TH 25 between CR 50 and CSAH 17
- CSAH 11 functions as a regional connection (between TH 10 and I-94), congestion issues
- Congestion and potential future interchange at intersection of TH 10 and CSAH 11

- Pavement condition issues (rutting) along CSAH 5 north of Glenwood Avenue
- Potential intersection improvement at CSAH 5 and Hiawatha Avenue
- Lack of north-south county connection between CSAH 4 and CR 73
- Lack of east-west county connection north of CR 35 between CSAH 5 and CR 32 (consider 209th Avenue)
- Lack of east-west county connection between CR 73 and CSAH 5 (consider Highline Drive)
- Potential turnback of CR 79
- Potential turnback of CR 51

#### **Becker Area:**

- New river crossing west of TH 25
- TH 10/TH 25/CSAH 8 intersection study and potential CSAH 8/TH 25 realignment
- Safety issues along TH 10 through Becker
- Potential turnback of CSAH 8 (following realignment)
- Potential turnback of CSAH 24 west of CSAH 23
- Development area south of TH 10: Sherco Power Plant, Northern Metals, and other industrial development
- Lack of connectivity along the south side of TH 10
- Lack of trail along CSAH 23 between TH 10 and CSAH 4
- Lack of east-west connection between CSAH 4 and TH 10

#### **Clear Lake Area:**

- Capacity issues on TH 24 (potential expansion to four lanes)
- County system dead ends at CSAH 20, CR 76, CR 58, and CR 55
- Potential turnback of CR 55
- Potential realignment of CR 76 to address curve west of 70th Avenue
- Lack of local road network northeast of City of Clear Lake, potential turnbacks of CR 53, CR 54, CR 55, and CR 56

#### **St. Cloud Area:**

- Potential turnback of CR 63
- Lack of pedestrian facilities along CR 63
- Potential realignment of CSAH 16 to remove “T” intersections with 45th Avenue
- Extension of rail transit between St. Cloud and Big Lake

#### **Palmer Township Area:**

- Safety concerns regarding curves and sight distance along CSAH 16 west of CR 53
- Lack of east-west connection between CR 48 and CR 61
- Potential realignment of CSAH 6 to eliminate “T” intersections with CSAH 16

### Sherburne National Wildlife Refuge Area:

- Lack of east-west connectivity along CSAH 4, “T” intersections with CSAH 5
- Lack of east-west connectivity between CSAH 9 and CSAH 16
- Potential Realignment of CSAH 3 to eliminate “T” intersection with CSAH 22
- Potential turnbacks of CR 70, CR 85, and CR 86

### Princeton Area:

- Safety concerns regarding TH 169 curve
- Intersection safety at CR 45 and CR 29
- Lack of north-south connection east of the airport
- Proposed roundabout along CR 45
- Park and pool lot improvements
- Role of CSAH 29 as frontage road along TH 169; potential turnback

### Zimmerman Area:

- Offset intersections at Main Street and 3rd Street
- Potential expansion/reconstruction along CSAH 4
- Lack of trail connection to Grams Regional Park; constrained ROW along CSAH 4
- Lack of pedestrian facilities/crossings along CSAH 4 west of CR 45
- Lack of east-west county connection between CSAH 1 and CR 45 south of CR 87
- Potential turnback of CR 87
- Potential realignment of CR 32 to connect to CSAH 25 at junction with CSAH 1 (and eliminate “T” intersection)
- Potential realignment of CSAH 25 or CSAH 19 to eliminate “T” intersections at TH 169
- Potential turnback of CR 74
- Lack of north-south county connection between CSAH 19 and CR 121

### Multiple Areas or Countywide Issues:

- Corridor aesthetics along TH 10
- Safety along TH 10 corridor, including bicycle and pedestrian crossings
- Lack of connectivity
- “Dead ends” on state aid system
- Number of “T” intersections
- Jurisdictional issues
- Intersection signalization
- Completion of the Great Northern Trail
- East-west trail throughout entire county (potentially along CR 65, CR 61, CSAH 9 corridors)
- Lack of trails to connect communities
- Impacts on agricultural operations and irrigation systems

APPENDIX B - HISTORIC AND FORECASTED 2040 TRAFFIC VOLUMES

Table B-1: Sherburne County Historic and Forecasted 2040 Traffic Volumes and V/C Ratios

Segment				Existing Characteristics					Existing Volumes and V/C Ratios			2040 Forecast Volumes and V/C Ratios					
Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
CR 121	CSAH 33	0.4 mi N 207th Ave	1	LOCAL	0.73	55	2	R1	14,000	660	0.05	924	0.07	1,135	0.08	1,342	0.10
CR 121	0.4 mi N 207th Ave	East Co Line	2	LOCAL	2.94	55	2	R1	14,000	700	0.05	980	0.07	1,204	0.09	1,423	0.10
CR 127	CSAH 23	82nd St	1	LOCAL	0.36	55	2	R1	14,000	780	0.06	1,092	0.08	1,342	0.10	1,586	0.11
CR 127	82nd St	1.0 mi S CSAH 3	2	LOCAL	1.65	55	2	R1	14,000	780	0.06	1,092	0.08	1,342	0.10	1,586	0.11
CR 127	1.0 mi S CSAH 3	CSAH 3	3	LOCAL	1.03	55	2	R1	14,000	780	0.06	1,092	0.08	1,342	0.10	1,586	0.11
CR 30	Joplin St	Orono Rd	1	URBAN COLLECTOR	0.80	30	2	U3	10,000	3,000	0.30	4,200	0.42	5,160	0.52	6,098	0.61
CR 30	Waco St	Joplin St	2	URBAN COLLECTOR	1.00	30	2	U3	10,000	860	0.09	1,204	0.12	1,479	0.15	1,748	0.17
CR 32	CSAH 1 (S Junc)	CR 72	1	URBAN COLLECTOR	1.45	30	2	U3	10,000	1,650	0.17	2,310	0.23	2,838	0.28	3,354	0.34
CR 32	CR 72	CR 33	2	URBAN COLLECTOR	1.56	55	2	R1	14,000	1,050	0.08	1,470	0.11	1,806	0.13	2,134	0.15
CR 32	CR 33	CR 79	3	URBAN COLLECTOR	0.51	55	2	R1	14,000	1,050	0.08	1,470	0.11	1,806	0.13	2,134	0.15
CR 32	CR 79	0.2 mi N 227th Ave	4	URBAN COLLECTOR	1.03	55	2	R1	14,000	660	0.05	924	0.07	1,135	0.08	1,342	0.10
CR 32	0.2 mi N 227th Ave	142nd St	5	MINOR COLLECTOR	1.12	55	2	R1	14,000	660	0.05	924	0.07	1,135	0.08	1,342	0.10
CR 32	142nd St	CSAH 1	6	MINOR COLLECTOR	1.12	55	2	R1	14,000	660	0.05	924	0.07	1,135	0.08	1,342	0.10
CR 33	CR 32	CSAH 1	1	URBAN COLLECTOR	1.36	55	2	R1	14,000	1,100	0.08	1,540	0.11	1,892	0.14	2,236	0.16
CR 34	CSAH 13	East Co Line	1	LOCAL	0.46	55	2	R1	14,000	255	0.02	357	0.03	439	0.03	518	0.04
CR 35	CSAH 15	CR 72 (N Junc)	1	MINOR COLLECTOR	2.50	55	2	R1	14,000	1,017	0.07	1,424	0.10	1,749	0.12	2,067	0.15
CR 35	CR 72 (N Junc)	CR 72 (S Junc)	2	URBAN COLLECTOR	0.29	55	2	R1	14,000	1,017	0.07	1,424	0.10	1,749	0.12	2,067	0.15
CR 35	CR 72 (S Junc)	CR 44	3	URBAN COLLECTOR	1.81	30	2	U3	10,000	2,350	0.24	3,290	0.33	4,042	0.40	4,777	0.48
CR 37	North Co Line	East Co Line	1	LOCAL	2.44	55	2	R1	14,000	110	0.01	154	0.01	189	0.01	224	0.02
CR 38	US 169	CSAH 19	1	LOCAL	1.98	55	2	R1	14,000	996	0.07	1,394	0.10	1,713	0.12	2,025	0.14
CR 38	CSAH 19	East Co Line	2	LOCAL	1.50	55	2	R1	14,000	477	0.03	668	0.05	820	0.06	970	0.07
CR 39	CSAH 4	269th Ave	1	LOCAL	0.99	55	2	R1	14,000	1,072	0.08	1,501	0.11	1,844	0.13	2,179	0.16
CR 39	269th Ave	276th Ave	2	LOCAL	1.45	55	2	R1	14,000	458	0.03	641	0.05	788	0.06	931	0.07
CR 39	276th Ave	CSAH 9	3	LOCAL	2.05	55	2	R1	14,000	458	0.03	641	0.05	788	0.06	931	0.07
CR 40	CSAH 12	CSAH 13	1	MAJOR COLLECTOR	1.60	55	2	R1	14,000	820	0.06	1,148	0.08	1,410	0.10	1,667	0.12
CR 42	CSAH 1 (S Junc)	CSAH 9	1	LOCAL	2.32	55	2	R1	14,000	363	0.03	508	0.04	624	0.04	738	0.05
CR 42	CSAH 9	CSAH 1 (N Junc)	2	LOCAL	3.00	55	2	R1	14,000	363	0.03	508	0.04	624	0.04	738	0.05
CR 42	CSAH 1 (N Junc)	CR 45	3	LOCAL	2.17	55	2	R1	14,000	1,900	0.14	2,660	0.19	3,268	0.23	3,862	0.28
CR 43	US 10	205th Ave	1	MINOR ARTERIAL	0.74	40	3	U3	18,000	6,312	0.35	8,837	0.49	10,857	0.60	12,831	0.71
CR 43	205th Ave	Elk River Bridge	2	MINOR ARTERIAL	0.38	40	3	U3	18,000	6,312	0.35	8,837	0.49	10,857	0.60	12,831	0.71
CR 43	Elk River Bridge	CR 83	3	MINOR ARTERIAL	1.64	55	2	R1	14,000	2,942	0.21	4,119	0.29	5,060	0.36	5,980	0.43
CR 43	CR 83	CSAH 15	4	MINOR ARTERIAL	2.18	55	2	R1	14,000	2,942	0.21	4,119	0.29	5,060	0.36	5,980	0.43
CR 44	US 10	CR 35	1	URBAN COLLECTOR	0.90	30	2	U3	10,000	3,400	0.34	4,760	0.48	5,848	0.58	6,911	0.69
CR 44	CR 35	CSAH 1	2	URBAN COLLECTOR	0.51	30	2	U3	10,000	2,100	0.21	2,940	0.29	3,612	0.36	4,269	0.43
CR 45	CSAH 25	6th Ave	1	MAJOR COLLECTOR	1.84	55	2	R1	14,000	3,000	0.21	4,200	0.30	5,160	0.37	6,098	0.44
CR 45	6th Ave	CSAH 4	2	MAJOR COLLECTOR	0.41	35	3	U3	18,000	3,000	0.17	4,200	0.23	5,160	0.29	6,098	0.34
CR 45	CSAH 4	0.6 mi N CSAH 4	3	MAJOR COLLECTOR	0.65	35	3	U3	18,000	3,350	0.19	4,690	0.26	5,762	0.32	6,810	0.38
CR 45	0.6 mi N CSAH 4	CSAH 9	4	MAJOR COLLECTOR	3.38	55	2	R1	14,000	2,568	0.18	3,595	0.26	4,417	0.32	5,220	0.37
CR 45	CSAH 9	CR 42	5	MAJOR COLLECTOR	2.71	55	2	R1	14,000	2,568	0.18	3,595	0.26	4,417	0.32	5,220	0.37
CR 45	CR 42	14th Ave	6	MAJOR COLLECTOR	0.75	55	2	R1	14,000	2,568	0.18	3,595	0.26	4,417	0.32	5,220	0.37
CR 45	14th Ave	US 169	7	MAJOR COLLECTOR	0.46	55	2	R1	14,000	8,800	0.63	12,320	0.88	15,136	1.08	17,889	1.28

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Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
CR 46	CSAH 1	CSAH 4	1	MINOR COLLECTOR	2.59	55	2	R1	14,000	1,550	0.11	2,170	0.16	2,666	0.19	3,151	0.23
CR 48	CSAH 6	CSAH 23	1	LOCAL	4.54	55	2	R1	14,000	455	0.03	637	0.05	783	0.06	925	0.07
CR 48	CSAH 23	CSAH 11	2	LOCAL	1.50	55	2	R1	14,000	410	0.03	574	0.04	705	0.05	833	0.06
CR 50	CSAH 11	US 10	1	LOCAL	1.88	55	2	R1	14,000	1,350	0.10	1,890	0.14	2,322	0.17	2,744	0.20
CR 51	CSAH 11	CSAH 4	1	LOCAL	2.69	55	2	R1	14,000	550	0.04	770	0.06	946	0.07	1,118	0.08
CR 52	CSAH 8	Hwy 10	1	LOCAL	0.54	55	2	R1	14,000	280	0.02	392	0.03	482	0.03	569	0.04
CR 53	115th Ave	CSAH 8	1	LOCAL	1.43	55	2	R1	14,000	149	0.01	209	0.01	256	0.02	303	0.02
CR 53	CSAH 8	US 10	2	LOCAL	1.45	55	2	R1	14,000	149	0.01	209	0.01	256	0.02	303	0.02
CR 53	US 10	CR 54	3	LOCAL	2.62	55	2	R1	14,000	259	0.02	363	0.03	445	0.03	526	0.04
CR 53	CR 54	77th Street	4	LOCAL	1.18	55	2	R1	14,000	344	0.02	482	0.03	592	0.04	699	0.05
CR 53	77th Street	CSAH 16	5	LOCAL	1.94	55	2	R1	14,000	344	0.02	482	0.03	592	0.04	699	0.05
CR 54	US 10	CR 55	1	LOCAL	1.63	55	2	R1	14,000	193	0.01	270	0.02	332	0.02	392	0.03
CR 54	CR 55	CR 56	2	LOCAL	1.00	55	2	R1	14,000	124	0.01	174	0.01	213	0.02	252	0.02
CR 54	CR 56	CR 53	3	LOCAL	1.28	55	2	R1	14,000	124	0.01	174	0.01	213	0.02	252	0.02
CR 55	Moorhouse Ave	US 10	1	LOCAL	1.54	55	2	R1	14,000	207	0.01	290	0.02	356	0.03	421	0.03
CR 55	US 10	CSAH 16	2	LOCAL	3.01	55	2	R1	14,000	315	0.02	441	0.03	542	0.04	640	0.05
CR 56	US 10	CR 53	1	LOCAL	2.12	55	2	R1	14,000	66	0.00	92	0.01	114	0.01	134	0.01
CR 56	87th St	CR 54	2	LOCAL	0.51	55	2	R1	14,000	125	0.01	175	0.01	215	0.02	254	0.02
CR 58	CSAH 8	Church St	1	LOCAL	2.17	55	2	R1	14,000	200	0.01	280	0.02	344	0.02	407	0.03
CR 59	CSAH 3	North Co Line	1	LOCAL	1.54	55	2	R1	14,000	105	0.01	147	0.01	181	0.01	213	0.02
CR 59	135th Ave	CSAH 23	2	LOCAL	1.47	55	2	R1	14,000	105	0.01	147	0.01	181	0.01	213	0.02
CR 61	US 10	CSAH 20	1	LOCAL	2.68	55	2	R1	14,000	180	0.01	252	0.02	310	0.02	366	0.03
CR 61	CSAH 20	90th Ave	2	LOCAL	1.54	55	2	R1	14,000	180	0.01	252	0.02	310	0.02	366	0.03
CR 61	90th Ave	CSAH 3	3	LOCAL	2.48	55	2	R1	14,000	140	0.01	196	0.01	241	0.02	285	0.02
CR 62	North Co Line	CSAH 20	1	MINOR COLLECTOR	2.94	55	2	R1	14,000	630	0.05	882	0.06	1,084	0.08	1,281	0.09
CR 62	CSAH 20	CSAH 6	2	LOCAL	3.26	55	2	R1	14,000	210	0.02	294	0.02	361	0.03	427	0.03
CR 63	CSAH 8	Park and Ride	1	LOCAL	0.37	30	2	U3	10,000	773	0.08	1,082	0.11	1,330	0.13	1,571	0.16
CR 65	CSAH 8	US 10	1	LOCAL	2.48	55	2	R1	14,000	282	0.02	395	0.03	485	0.03	573	0.04
CR 65	US 10	CSAH 3	2	MAJOR COLLECTOR	1.09	55	2	R1	14,000	495	0.04	693	0.05	851	0.06	1,006	0.07
CR 67	CSAH 24	102nd St	1	LOCAL	1.66	55	2	R1	14,000	340	0.02	476	0.03	585	0.04	691	0.05
CR 67	102nd St	CSAH 4	2	LOCAL	0.95	55	2	R1	14,000	340	0.02	476	0.03	585	0.04	691	0.05
CR 68	CSAH 14	S Limits Big Lake	1	LOCAL	0.74	55	2	R1	14,000	668	0.05	935	0.07	1,149	0.08	1,358	0.10
CR 70	CSAH 3	North Co Line	1	LOCAL	1.03	55	2	R1	14,000	130	0.01	182	0.01	224	0.02	264	0.02
CR 70	CSAH 3 (W Junc)	CSAH 3 (E Junc)	2	LOCAL	2.15	55	2	R1	14,000	25	0.00	35	0.00	43	0.00	51	0.00
CR 72	CR 35	CR 32	1	LOCAL	1.45	55	2	R1	14,000	327	0.02	458	0.03	562	0.04	665	0.05
CR 73	CR 81 (S Junc)	Manitou St	1	URBAN COLLECTOR	0.36	30	2	U3	10,000	3,900	0.39	5,460	0.55	6,708	0.67	7,928	0.79
CR 73	Manitou St	Highline Dr	2	URBAN COLLECTOR	0.48	30	2	U3	10,000	3,900	0.39	5,460	0.55	6,708	0.67	7,928	0.79
CR 73	Highline Dr	CR 81 (N Junc)	3	MAJOR COLLECTOR	1.64	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CR 73	CR 81 (N Junc)	Elk River Bridge	4	MAJOR COLLECTOR	0.51	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CR 73	Elk River Bridge	185th Ave	5	MAJOR COLLECTOR	0.46	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CR 73	185th Ave	CSAH 11	6	MINOR COLLECTOR	2.00	55	2	R1	14,000	890	0.06	1,246	0.09	1,531	0.11	1,809	0.13



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CR 74	US 169	108th St	1	LOCAL	1.20	55	2	R1	14,000	475	0.03	665	0.05	817	0.06	966	0.07
CR 74	237th Ave	CSAH 19	2	LOCAL	1.02	55	2	R1	14,000	401	0.03	561	0.04	690	0.05	815	0.06
CR 75	CSAH 5	CSAH 4	1	LOCAL	4.01	55	2	R1	14,000	1,253	0.09	1,754	0.13	2,155	0.15	2,547	0.18
CR 76	CSAH 8	State St	1	LOCAL	3.84	55	2	R1	14,000	95	0.01	133	0.01	163	0.01	193	0.01
CR 78	CSAH 3	CR 62	1	LOCAL	1.11	55	2	R1	14,000	130	0.01	182	0.01	224	0.02	264	0.02
CR 79	CSAH 15	CR 32	1	MINOR COLLECTOR	3.80	55	2	R1	14,000	240	0.02	336	0.02	413	0.03	488	0.03
CR 80	CSAH 5	172nd St	1	LOCAL	1.50	55	2	R1	14,000	200	0.01	280	0.02	344	0.02	407	0.03
CR 80	172nd St	CSAH 3	2	LOCAL	1.36	55	2	R1	14,000	200	0.01	280	0.02	344	0.02	407	0.03
CR 81	US 10	CR 73 (S Junc)	1	MAJOR COLLECTOR	0.67	50	3	U3	18,000	1,539	0.09	2,155	0.12	2,647	0.15	3,128	0.17
CR 81	CR 73 (S Junc)	W Limits Big Lake	2	LOCAL	0.33	55	2	R1	14,000	478	0.03	669	0.05	822	0.06	972	0.07
CR 81	W Limits Big Lake	217th Ave	3	LOCAL	1.59	55	2	R1	14,000	478	0.03	669	0.05	822	0.06	972	0.07
CR 81	217th Ave	CR 73 (N Junc)	4	LOCAL	1.23	55	2	R1	14,000	478	0.03	669	0.05	822	0.06	972	0.07
CR 83	CR 43	CSAH 15	1	MINOR COLLECTOR	2.32	55	2	R1	14,000	1,539	0.11	2,155	0.15	2,647	0.19	3,128	0.22
CR 85	CSAH 16	CSAH 11	1	LOCAL	1.41	55	2	R1	14,000	60	0.00	84	0.01	103	0.01	122	0.01
CR 86	CSAH 23	CSAH 11	1	LOCAL	1.72	55	2	R1	14,000	120	0.01	168	0.01	206	0.01	244	0.02
CR 87	CSAH 1	Elk Lake Rd	1	LOCAL	0.67	55	2	R1	14,000	434	0.03	608	0.04	746	0.05	882	0.06
CR 87	Elk Lake Rd	CR 45	2	LOCAL	1.60	55	2	R1	14,000	434	0.03	608	0.04	746	0.05	882	0.06
CR 93	CSAH 4	CSAH 16	1	LOCAL	2.26	55	2	R1	14,000	900	0.06	1,260	0.09	1,548	0.11	1,830	0.13
CSAH 1	US 10	Proctor Rd	1	MINOR ARTERIAL	0.56	30	4	U2	24,000	13,400	0.56	18,760	0.78	23,048	0.96	27,239	1.13
CSAH 1	Proctor Rd	CR 32 (S Junc)	2	MINOR ARTERIAL	2.09	30	4	U2	24,000	5,700	0.24	7,980	0.33	9,804	0.41	11,587	0.48
CSAH 1	CR 32 (S Junc)	N Limits Elk River	3	MINOR ARTERIAL	3.76	55	2	R1	14,000	3,300	0.24	4,620	0.33	5,676	0.41	6,708	0.48
CSAH 1	N Limits Elk River	CR 32 (N Junc)	4	MAJOR COLLECTOR	0.26	55	2	R1	14,000	3,300	0.24	4,620	0.33	5,676	0.41	6,708	0.48
CSAH 1	CR 32 (N Junc)	CSAH 4	5	MAJOR COLLECTOR	4.39	55	2	R1	14,000	1,600	0.11	2,240	0.16	2,752	0.20	3,252	0.23
CSAH 1	CSAH 4	CR 87	6	MAJOR COLLECTOR	2.35	55	2	R1	14,000	1,750	0.13	2,450	0.18	3,010	0.22	3,557	0.25
CSAH 1	CR 87	CR 42 (S Junc)	7	MAJOR COLLECTOR	0.38	55	2	R1	14,000	1,200	0.09	1,680	0.12	2,064	0.15	2,439	0.17
CSAH 1	CR 42 (S Junc)	283rd Ave	8	MAJOR COLLECTOR	0.31	55	2	R1	14,000	1,200	0.09	1,680	0.12	2,064	0.15	2,439	0.17
CSAH 1	283rd Ave	CSAH 9	9	MAJOR COLLECTOR	1.25	55	2	R1	14,000	1,200	0.09	1,680	0.12	2,064	0.15	2,439	0.17
CSAH 1	CSAH 9	North Co Line	10	MAJOR COLLECTOR	4.03	55	2	R1	14,000	1,450	0.10	2,030	0.15	2,494	0.18	2,948	0.21
CSAH 10	CSAH 5	CSAH 15	1	MINOR COLLECTOR	2.42	55	2	R1	14,000	940	0.07	1,316	0.09	1,617	0.12	1,911	0.14
CSAH 11	TH 25	E Limits Becker	1	MINOR ARTERIAL	2.21	55	2	R1	14,000	12,400	0.89	17,360	1.24	21,328	1.52	25,207	1.80
CSAH 11	E Limits Becker	157th Ave	2	MINOR ARTERIAL	0.74	55	2	R1	14,000	11,200	0.80	15,680	1.12	19,264	1.38	22,767	1.63
CSAH 11	157th Ave	US 10	3	MINOR ARTERIAL	0.88	55	2	R1	14,000	11,200	0.80	15,680	1.12	19,264	1.38	22,767	1.63
CSAH 11	US 10	CSAH 24	4	MAJOR COLLECTOR	3.03	55	2	R1	14,000	4,000	0.29	5,600	0.40	6,880	0.49	8,131	0.58
CSAH 11	CSAH 24	CSAH 4	5	MAJOR COLLECTOR	2.00	55	2	R1	14,000	3,300	0.24	4,620	0.33	5,676	0.41	6,708	0.48
CSAH 11	CSAH 4	CSAH 16	6	MAJOR COLLECTOR	3.93	55	2	R1	14,000	2,550	0.18	3,570	0.26	4,386	0.31	5,184	0.37
CSAH 11	CSAH 16	CSAH 3	7	MAJOR COLLECTOR	3.65	55	2	R1	14,000	1,250	0.09	1,750	0.13	2,150	0.15	2,541	0.18
CSAH 11	CSAH 3	North Co Line	8	MAJOR COLLECTOR	1.43	55	2	R1	14,000	1,250	0.09	1,750	0.13	2,150	0.15	2,541	0.18
CSAH 12	Zane St	Nixon St	1	MINOR ARTERIAL	1.16	30	4	U2	24,000	10,700	0.45	14,980	0.62	18,404	0.77	21,751	0.91
CSAH 12	Nixon St	East Co Line	2	MINOR ARTERIAL	1.04	55	2	R1	14,000	7,300	0.52	10,220	0.73	12,556	0.90	14,839	1.06
CSAH 13	CSAH 12	187th Ave	1	MINOR ARTERIAL	1.33	40	4	U2	24,000	3,500	0.15	4,900	0.20	6,020	0.25	7,115	0.30
CSAH 13	187th Ave	Tyler St	2	MINOR ARTERIAL	0.57	55	2	R1	14,000	6,900	0.49	9,660	0.69	11,868	0.85	14,026	1.00

Table B-1: Sherburne County Historic and Forecasted 2040 Traffic Volumes and V/C Ratios

Segment				Existing Characteristics					Existing Volumes and V/C Ratios			2040 Forecast Volumes and V/C Ratios					
Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
CSAH 13	Tyler St	Lincoln St	3	MINOR ARTERIAL	0.64	55	2	R1	14,000	5,500	0.39	7,700	0.55	9,460	0.68	11,180	0.80
CSAH 13	Lincoln St	CSAH 33 (S Junc)	4	MINOR ARTERIAL	0.91	55	2	R1	14,000	6,100	0.44	8,540	0.61	10,492	0.75	12,400	0.89
CSAH 13	CSAH 33 (S Junc)	East Co Line	5	MINOR ARTERIAL	2.13	55	2	R1	14,000	2,400	0.17	3,360	0.24	4,128	0.29	4,879	0.35
CSAH 14	TH 25	Providence Dr	1	MINOR ARTERIAL	0.73	55	2	R1	14,000	2,750	0.20	3,850	0.28	4,730	0.34	5,590	0.40
CSAH 14	Providence Dr	CSAH 43	2	MINOR ARTERIAL	2.29	55	2	R1	14,000	2,750	0.20	3,850	0.28	4,730	0.34	5,590	0.40
CSAH 14	CSAH 43	US 10	3	MINOR ARTERIAL	3.74	55	2	R1	14,000	2,750	0.20	3,850	0.28	4,730	0.34	5,590	0.40
CSAH 15	US 10	CR 79	1	MINOR ARTERIAL	2.52	55	2	R1	14,000	3,550	0.25	4,970	0.36	6,106	0.44	7,216	0.52
CSAH 15	CR 79	233rd Ave	2	MINOR ARTERIAL	3.06	55	2	R1	14,000	3,400	0.24	4,760	0.34	5,848	0.42	6,911	0.49
CSAH 15	233rd Ave	CSAH 4	3	MINOR ARTERIAL	3.54	55	2	R1	14,000	1,800	0.13	2,520	0.18	3,096	0.22	3,659	0.26
CSAH 16	CSAH 8	US 10	1	MINOR COLLECTOR	3.53	55	2	R1	14,000	430	0.03	602	0.04	740	0.05	874	0.06
CSAH 16	US 10	CSAH 6 (E Junc)	2	MAJOR COLLECTOR	3.99	55	2	R1	14,000	2,150	0.15	3,010	0.22	3,698	0.26	4,371	0.31
CSAH 16	CSAH 6 (E Junc)	CR 53	3	MAJOR COLLECTOR	1.86	55	2	R1	14,000	2,150	0.15	3,010	0.22	3,698	0.26	4,371	0.31
CSAH 16	CR 53	CSAH 11	4	MAJOR COLLECTOR	5.02	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CSAH 16	CSAH 11	CR 93	5	MINOR COLLECTOR	3.54	55	2	R1	14,000	800	0.06	1,120	0.08	1,376	0.10	1,626	0.12
CSAH 16	CR 93	CSAH 5	6	MINOR COLLECTOR	2.07	55	2	R1	14,000	750	0.05	1,050	0.08	1,290	0.09	1,525	0.11
CSAH 17	TH 25	0.25 mi S US 10	1	MAJOR COLLECTOR	1.37	55	2	R1	14,000	4,400	0.31	6,160	0.44	7,568	0.54	8,944	0.64
CSAH 17	0.25 mi S US 10	US 10	2	MAJOR COLLECTOR	0.22	55	2	R1	14,000	4,400	0.31	6,160	0.44	7,568	0.54	8,944	0.64
CSAH 18	North Co Line	East Co Line	1	MINOR COLLECTOR	1.01	55	2	R1	14,000	560	0.04	784	0.06	963	0.07	1,138	0.08
CSAH 19	US 169	104th St	1	MAJOR COLLECTOR	1.70	55	2	R1	14,000	1,700	0.12	2,380	0.17	2,924	0.21	3,456	0.25
CSAH 19	245th Ave	CSAH 4	2	MAJOR COLLECTOR	2.49	55	2	R1	14,000	2,250	0.16	3,150	0.23	3,870	0.28	4,574	0.33
CSAH 19	CSAH 4	CSAH 9	3	MAJOR COLLECTOR	4.37	55	2	R1	14,000	2,250	0.16	3,150	0.23	3,870	0.28	4,574	0.33
CSAH 19	CSAH 9	CSAH 2	4	MAJOR COLLECTOR	2.50	55	2	R1	14,000	1,150	0.08	1,610	0.12	1,978	0.14	2,338	0.17
CSAH 2	US 169	317th Ave	1	MAJOR COLLECTOR	1.49	55	2	R1	14,000	3,350	0.24	4,690	0.34	5,762	0.41	6,810	0.49
CSAH 2	317th Ave	CSAH 29	2	MAJOR COLLECTOR	1.49	55	2	R1	14,000	3,350	0.24	4,690	0.34	5,762	0.41	6,810	0.49
CSAH 2	124th St	East Co Line	3	MAJOR COLLECTOR	3.71	55	2	R1	14,000	2,100	0.15	2,940	0.21	3,612	0.26	4,269	0.30
CSAH 20	US 10	N Limits Clear Lake	1	MINOR COLLECTOR	0.04	55	2	R1	14,000	495	0.04	693	0.05	851	0.06	1,006	0.07
CSAH 20	N Limits Clear Lake	CSAH 16	2	MAJOR COLLECTOR	2.21	55	2	R1	14,000	495	0.04	693	0.05	851	0.06	1,006	0.07
CSAH 20	CSAH 16	CSAH 3	3	MAJOR COLLECTOR	3.01	55	2	R1	14,000	500	0.04	700	0.05	860	0.06	1,016	0.07
CSAH 20	CSAH 3	North Co Line	4	MAJOR COLLECTOR	2.01	55	2	R1	14,000	500	0.04	700	0.05	860	0.06	1,016	0.07
CSAH 22	CSAH 3	North Co Line	1	MINOR COLLECTOR	1.18	55	2	R1	14,000	195	0.01	273	0.02	335	0.02	396	0.03
CSAH 23	US 10	Hancock St	1	MINOR ARTERIAL	0.69	30	2	U3	10,000	4,450	0.45	6,230	0.62	7,654	0.77	9,046	0.90
CSAH 23	Hancock St	Edgewood St	2	MINOR ARTERIAL	0.64	30	2	U3	10,000	5,700	0.57	7,980	0.80	9,804	0.98	11,587	1.16
CSAH 23	Edgewood St	107th St	3	MINOR ARTERIAL	0.51	55	2	R1	14,000	4,000	0.29	5,600	0.40	6,880	0.49	8,131	0.58
CSAH 23	107th St	CSAH 4	4	MINOR ARTERIAL	1.06	55	2	R1	14,000	4,000	0.29	5,600	0.40	6,880	0.49	8,131	0.58
CSAH 23	CSAH 4	CSAH 16	5	MINOR COLLECTOR	4.76	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CSAH 23	CSAH 16	CSAH 3	6	MINOR COLLECTOR	4.03	55	2	R1	14,000	720	0.05	1,008	0.07	1,238	0.09	1,464	0.10
CSAH 23	CSAH 3	North Co Line	7	MINOR COLLECTOR	1.06	55	2	R1	14,000	720	0.05	1,008	0.07	1,238	0.09	1,464	0.10
CSAH 24	Hancock St	CSAH 23	1	MAJOR COLLECTOR	0.35	30	2	U3	10,000	920	0.09	1,288	0.13	1,582	0.16	1,870	0.19
CSAH 24	CSAH 23	Riley Ave	2	MAJOR COLLECTOR	0.25	30	2	U3	10,000	1,850	0.19	2,590	0.26	3,182	0.32	3,761	0.38
CSAH 24	Riley Ave	Elk River Bridge	3	MAJOR COLLECTOR	0.60	30	2	U3	10,000	1,850	0.19	2,590	0.26	3,182	0.32	3,761	0.38
CSAH 24	Elk River Bridge	120th St	4	MAJOR COLLECTOR	0.29	55	2	R1	14,000	1,850	0.13	2,590	0.19	3,182	0.23	3,761	0.27

Table B-1: Sherburne County Historic and Forecasted 2040 Traffic Volumes and V/C Ratios

Segment				Existing Characteristics					Existing Volumes and V/C Ratios			2040 Forecast Volumes and V/C Ratios					
Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
CSAH 24	120th St	150th Ave	5	MAJOR COLLECTOR	0.10	55	2	R1	14,000	1,850	0.13	2,590	0.19	3,182	0.23	3,761	0.27
CSAH 24	150th Ave	E Limits Becker	6	MAJOR COLLECTOR	0.59	55	2	R1	14,000	1,850	0.13	2,590	0.19	3,182	0.23	3,761	0.27
CSAH 24	E Limits Becker	CSAH 11	7	MAJOR COLLECTOR	1.00	55	2	R1	14,000	1,850	0.13	2,590	0.19	3,182	0.23	3,761	0.27
CSAH 25	CSAH 1	CR 45	1	MINOR COLLECTOR	1.56	55	2	R1	14,000	690	0.05	966	0.07	1,187	0.08	1,403	0.10
CSAH 25	CR 45	US 169	2	MAJOR COLLECTOR	1.29	55	2	R1	14,000	2,050	0.15	2,870	0.21	3,526	0.25	4,167	0.30
CSAH 28	CSAH 19	East Co Line	1	MINOR COLLECTOR	1.07	55	2	R1	14,000	1,100	0.08	1,540	0.11	1,892	0.14	2,236	0.16
CSAH 29	US 169	CSAH 2	1	MAJOR COLLECTOR	0.20	55	2	R1	14,000	14,100	1.01	19,740	1.41	24,252	1.73	28,662	2.05
CSAH 29	CSAH 2	North Co Line	2	MAJOR COLLECTOR	0.19	55	2	R1	14,000	14,100	1.01	19,740	1.41	24,252	1.73	28,662	2.05
CSAH 3	US 10	CSAH 20	1	MAJOR COLLECTOR	4.24	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CSAH 3	CSAH 20	CSAH 6	2	MAJOR COLLECTOR	3.09	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CSAH 3	CSAH 6	CSAH 23	3	MAJOR COLLECTOR	4.92	55	2	R1	14,000	630	0.05	882	0.06	1,084	0.08	1,281	0.09
CSAH 3	CSAH 23	CSAH 11	4	MAJOR COLLECTOR	1.65	55	2	R1	14,000	560	0.04	784	0.06	963	0.07	1,138	0.08
CSAH 3	CSAH 11	CSAH 5	5	MAJOR COLLECTOR	4.44	55	2	R1	14,000	340	0.02	476	0.03	585	0.04	691	0.05
CSAH 3	CSAH 5	CR 80	6	MAJOR COLLECTOR	3.15	55	2	R1	14,000	380	0.03	532	0.04	654	0.05	772	0.06
CSAH 3	CR 80	North Co Line	7	MAJOR COLLECTOR	3.79	55	2	R1	14,000	1,100	0.08	1,540	0.11	1,892	0.14	2,236	0.16
CSAH 30	CSAH 14	Waco St	1	URBAN COLLECTOR	2.89	55	2	R1	14,000	900	0.06	1,260	0.09	1,548	0.11	1,830	0.13
CSAH 33	CSAH 1	York St	1	URBAN COLLECTOR	0.75	55	2	R1	14,000	2,050	0.15	2,870	0.21	3,526	0.25	4,167	0.30
CSAH 33	York St	Proctor Ave	2	URBAN COLLECTOR	1.27	55	2	R1	14,000	3,000	0.21	4,200	0.30	5,160	0.37	6,098	0.44
CSAH 33	Proctor Ave	US 169	3	URBAN COLLECTOR	0.85	55	2	R1	14,000	4,050	0.29	5,670	0.41	6,966	0.50	8,233	0.59
CSAH 33	US 169	Smith St	4	URBAN COLLECTOR	1.00	55	2	R1	14,000	2,050	0.15	2,870	0.21	3,526	0.25	4,167	0.30
CSAH 33	Smith St	#54 St	5	URBAN COLLECTOR	0.17	55	2	R1	14,000	2,050	0.15	2,870	0.21	3,526	0.25	4,167	0.30
CSAH 33	#54 St	CSAH 13 (N Junc)	6	URBAN COLLECTOR	1.38	55	2	R1	14,000	1,700	0.12	2,380	0.17	2,924	0.21	3,456	0.25
CSAH 33	CSAH 13 (S Junc)	East Co Line	7	MINOR ARTERIAL	0.50	55	2	R1	14,000	4,350	0.31	6,090	0.44	7,482	0.53	8,843	0.63
CSAH 4	CSAH 23	102nd St	1	MINOR ARTERIAL	0.77	55	2	R1	14,000	1,600	0.11	2,240	0.16	2,752	0.20	3,252	0.23
CSAH 4	102nd St	CSAH 11	2	MINOR ARTERIAL	2.02	55	2	R1	14,000	1,600	0.11	2,240	0.16	2,752	0.20	3,252	0.23
CSAH 4	CSAH 11	CSAH 5 (S Junc)	3	MINOR ARTERIAL	4.11	55	2	R1	14,000	1,600	0.11	2,240	0.16	2,752	0.20	3,252	0.23
CSAH 4	CSAH 5 (N Junc)	CSAH 15	4	MINOR ARTERIAL	2.86	55	2	R1	14,000	2,300	0.16	3,220	0.23	3,956	0.28	4,675	0.33
CSAH 4	CSAH 15	CSAH 1	5	MINOR ARTERIAL	2.08	55	2	R1	14,000	5,500	0.39	7,700	0.55	9,460	0.68	11,180	0.80
CSAH 4	CSAH 1	W Limits Zimmerman	6	MINOR ARTERIAL	0.59	55	2	R1	14,000	5,500	0.39	7,700	0.55	9,460	0.68	11,180	0.80
CSAH 4	W Limits Zimmerman	CR 46	7	MINOR ARTERIAL	0.51	55	2	R1	14,000	5,500	0.39	7,700	0.55	9,460	0.68	11,180	0.80
CSAH 4	CR 46	CR 45	8	MINOR ARTERIAL	1.00	30	2	U3	10,000	7,100	0.71	9,940	0.99	12,212	1.22	14,433	1.44
CSAH 4	CR 45	Main St	9	MINOR ARTERIAL	0.24	30	2	U3	10,000	11,300	1.13	15,820	1.58	19,436	1.94	22,971	2.30
CSAH 4	Main St	US 169	10	MINOR ARTERIAL	0.21	30	3	U3	18,000	11,200	0.62	15,680	0.87	19,264	1.07	22,767	1.26
CSAH 4	US 169	Fremont Dr	11	MINOR ARTERIAL	0.17	30	2	U3	10,000	8,600	0.86	12,040	1.20	14,792	1.48	17,482	1.75
CSAH 4	Fremont Dr	120th St	12	MINOR ARTERIAL	0.38	55	2	R1	14,000	8,600	0.61	12,040	0.86	14,792	1.06	17,482	1.25
CSAH 4	120th St	0.3 mi W CR 39	13	MINOR ARTERIAL	0.67	55	2	R1	14,000	6,300	0.45	8,820	0.63	10,836	0.77	12,807	0.91
CSAH 4	0.3 mi W CR 39	East Co Line	14	MINOR ARTERIAL	2.35	55	2	R1	14,000	3,650	0.26	5,110	0.37	6,278	0.45	7,420	0.53
CSAH 43	CSAH 14	US 10	1	MAJOR COLLECTOR	1.75	55	2	R1	14,000	1,150	0.08	1,610	0.12	1,978	0.14	2,338	0.17
CSAH 5	US 10	Glenwood Ave	1	URBAN COLLECTOR	0.74	30	3	U3	18,000	7,800	0.43	10,920	0.61	13,416	0.75	15,856	0.88
CSAH 5	Glenwood Ave	Hiawatha Ave	2	MAJOR COLLECTOR	0.50	55	2	R1	14,000	9,400	0.67	13,160	0.94	16,168	1.15	19,108	1.36
CSAH 5	Hiawatha Ave	Elk River Bridge	3	MAJOR COLLECTOR	0.99	55	2	R1	14,000	7,500	0.54	10,500	0.75	12,900	0.92	15,246	1.09

Table B-1: Sherburne County Historic and Forecasted 2040 Traffic Volumes and V/C Ratios

Segment				Existing Characteristics					Existing Volumes and V/C Ratios			2040 Forecast Volumes and V/C Ratios					
Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
CSAH 5	Elk River Bridge	CR 75	4	MAJOR COLLECTOR	0.75	55	2	R1	14,000	7,500	0.54	10,500	0.75	12,900	0.92	15,246	1.09
CSAH 5	CR 75	CSAH 4 (S Junc)	5	MAJOR COLLECTOR	4.32	55	2	R1	14,000	2,300	0.16	3,220	0.23	3,956	0.28	4,675	0.33
CSAH 5	CSAH 4 (S Junc)	CSAH 4 (N Junc)	6	MINOR ARTERIAL	1.25	55	2	R1	14,000	2,300	0.16	3,220	0.23	3,956	0.28	4,675	0.33
CSAH 5	CSAH 4 (N Junc)	CSAH 9	7	MAJOR COLLECTOR	3.23	55	2	R1	14,000	960	0.07	1,344	0.10	1,651	0.12	1,951	0.14
CSAH 5	CSAH 9	CSAH 3	8	MAJOR COLLECTOR	3.00	55	2	R1	14,000	960	0.07	1,344	0.10	1,651	0.12	1,951	0.14
CSAH 5	CSAH 3	North Co Line	9	MAJOR COLLECTOR	1.51	55	2	R1	14,000	960	0.07	1,344	0.10	1,651	0.12	1,951	0.14
CSAH 6	US 10	N Limits Clear Lake	1	MAJOR COLLECTOR	0.83	55	2	R1	14,000	1,950	0.14	2,730	0.20	3,354	0.24	3,964	0.28
CSAH 6	N Limits Clear Lake	CSAH 16	2	MAJOR COLLECTOR	2.83	55	2	R1	14,000	1,400	0.10	1,960	0.14	2,408	0.17	2,846	0.20
CSAH 6	CSAH 16	CSAH 3	3	MAJOR COLLECTOR	3.10	55	2	R1	14,000	1,250	0.09	1,750	0.13	2,150	0.15	2,541	0.18
CSAH 6	CSAH 3	North Co Line	4	MINOR COLLECTOR	2.43	55	2	R1	14,000	350	0.03	490	0.04	602	0.04	711	0.05
CSAH 7	US 10	40th Ave	1	MAJOR COLLECTOR	2.05	55	2	R1	14,000	1,300	0.09	1,820	0.13	2,236	0.16	2,643	0.19
CSAH 7	40th Ave	45th Ave	2	MAJOR COLLECTOR	0.63	55	2	R1	14,000	760	0.05	1,064	0.08	1,307	0.09	1,545	0.11
CSAH 7	45th Ave	CSAH 3	3	MAJOR COLLECTOR	1.67	55	2	R1	14,000	610	0.04	854	0.06	1,049	0.07	1,240	0.09
CSAH 8	US 10	CR 63	1	MINOR ARTERIAL	0.25	30	2	U3	10,000	6,100	0.61	8,540	0.85	10,492	1.05	12,400	1.24
CSAH 8	CR 63	University Dr	2	MINOR ARTERIAL	0.46	30	2	U3	10,000	8,600	0.86	12,040	1.20	14,792	1.48	17,482	1.75
CSAH 8	University Dr	TH 301	3	MINOR ARTERIAL	0.43	30	2	U3	10,000	3,550	0.36	4,970	0.50	6,106	0.61	7,216	0.72
CSAH 8	TH 301	9th Ave	4	MINOR ARTERIAL	0.40	30	2	U3	10,000	1,950	0.20	2,730	0.27	3,354	0.34	3,964	0.40
CSAH 8	Minnesota Blvd	9th Ave	5	MINOR ARTERIAL	0.36	55	2	R1	14,000	3,300	0.24	4,620	0.33	5,676	0.41	6,708	0.48
CSAH 8	9th Ave	24th St	6	MINOR ARTERIAL	0.21	55	2	R1	14,000	3,300	0.24	4,620	0.33	5,676	0.41	6,708	0.48
CSAH 8	24th St	S Limits St. Cloud	7	MINOR ARTERIAL	0.66	55	2	R1	14,000	3,300	0.24	4,620	0.33	5,676	0.41	6,708	0.48
CSAH 8	S Limits St. Cloud	37th St	8	MINOR ARTERIAL	0.81	55	2	R1	14,000	2,650	0.19	3,710	0.27	4,558	0.33	5,387	0.38
CSAH 8	37th St	CR 65	9	MINOR ARTERIAL	0.55	55	2	R1	14,000	2,650	0.19	3,710	0.27	4,558	0.33	5,387	0.38
CSAH 8	CR 65	CSAH 16	10	MINOR ARTERIAL	1.64	55	2	R1	14,000	2,250	0.16	3,150	0.23	3,870	0.28	4,574	0.33
CSAH 8	CSAH 16	TH 24	11	MINOR ARTERIAL	5.97	55	2	R1	14,000	1,950	0.14	2,730	0.20	3,354	0.24	3,964	0.28
CSAH 8	TH 24	CR 52	12	MINOR ARTERIAL	6.57	55	2	R1	14,000	2,600	0.19	3,640	0.26	4,472	0.32	5,285	0.38
CSAH 8	CR 52	US 10	13	MINOR ARTERIAL	0.59	55	2	R1	14,000	2,600	0.19	3,640	0.26	4,472	0.32	5,285	0.38
CSAH 9	CSAH 5	301st Ave	1	MINOR COLLECTOR	3.60	55	2	R1	14,000	870	0.06	1,218	0.09	1,496	0.11	1,769	0.13
CSAH 9	301st Ave	CSAH 1	2	MINOR COLLECTOR	1.50	55	2	R1	14,000	1,100	0.08	1,540	0.11	1,892	0.14	2,236	0.16
CSAH 9	CSAH 1	US 169	3	MAJOR COLLECTOR	2.50	55	2	R1	14,000	2,400	0.17	3,360	0.24	4,128	0.29	4,879	0.35
CSAH 9	US 169	CSAH 19	4	MAJOR COLLECTOR	1.96	55	2	R1	14,000	1,650	0.12	2,310	0.17	2,838	0.20	3,354	0.24
TH 10	North Co Line	CSAH 8 (W Junc)	1	PRINCIPAL ARTERIAL	0.06	50	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 10	CSAH 8 (W Junc)	CSAH 7	2	PRINCIPAL ARTERIAL	0.62	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 10	CSAH 7	E Limits St. Cloud	3	PRINCIPAL ARTERIAL	0.85	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 10	E Limits St. Cloud	CSAH 3	4	PRINCIPAL ARTERIAL	1.73	65	4	R3	45,000	24,800	0.55	34,720	0.77	42,656	0.95	50,413	1.12
TH 10	CSAH 3	CR 65	5	PRINCIPAL ARTERIAL	1.31	65	4	R3	45,000	24,800	0.55	34,720	0.77	42,656	0.95	50,413	1.12
TH 10	CR 65	CSAH 16	6	PRINCIPAL ARTERIAL	2.29	65	4	R3	45,000	24,800	0.55	34,720	0.77	42,656	0.95	50,413	1.12
TH 10	CSAH 16	W Limits Clear Lake	7	PRINCIPAL ARTERIAL	2.58	65	4	R3	45,000	24,800	0.55	34,720	0.77	42,656	0.95	50,413	1.12
TH 10	W Limits Clear Lake	TH 24	8	PRINCIPAL ARTERIAL	0.72	65	4	R3	45,000	20,400	0.45	28,560	0.63	35,088	0.78	41,469	0.92
TH 10	TH 24	E Limits Clear Lake	9	PRINCIPAL ARTERIAL	0.44	60	4	R3	45,000	14,500	0.32	20,300	0.45	24,940	0.55	29,476	0.66
TH 10	E Limits Clear Lake	W Limits Becker	10	PRINCIPAL ARTERIAL	4.97	65	4	R3	45,000	13,900	0.31	19,460	0.43	23,908	0.53	28,256	0.63
TH 10	W Limits Becker	CSAH 8 (E Junc)	11	PRINCIPAL ARTERIAL	0.80	65	4	R3	45,000	16,400	0.36	22,960	0.51	28,208	0.63	33,338	0.74

Table B-1: Sherburne County Historic and Forecasted 2040 Traffic Volumes and V/C Ratios

Segment				Existing Characteristics					Existing Volumes and V/C Ratios			2040 Forecast Volumes and V/C Ratios					
Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
TH 10	CSAH 8 (E Junc)	CSAH 24	12	PRINCIPAL ARTERIAL	0.81	65	4	R3	45,000	17,700	0.39	24,780	0.55	30,444	0.68	35,980	0.80
TH 10	CSAH 24	CSAH 23	13	PRINCIPAL ARTERIAL	0.45	65	4	R3	45,000	17,700	0.39	24,780	0.55	30,444	0.68	35,980	0.80
TH 10	CSAH 23	E Limits Becker	14	PRINCIPAL ARTERIAL	0.67	65	4	R3	45,000	19,300	0.43	27,020	0.60	33,196	0.74	39,233	0.87
TH 10	E Limits Becker	CSAH 11	15	PRINCIPAL ARTERIAL	2.65	65	4	R3	45,000	19,300	0.43	27,020	0.60	33,196	0.74	39,233	0.87
TH 10	CSAH 11	CR 50	16	PRINCIPAL ARTERIAL	1.34	65	4	R3	45,000	13,300	0.30	18,620	0.41	22,876	0.51	27,036	0.60
TH 10	CR 50	0.25 mi W CSAH 17	17	PRINCIPAL ARTERIAL	1.17	65	4	R3	45,000	13,300	0.30	18,620	0.41	22,876	0.51	27,036	0.60
TH 10	0.25 mi W CSAH 17	W Limits Big Lake	18	PRINCIPAL ARTERIAL	0.50	65	4	R3	45,000	13,300	0.30	18,620	0.41	22,876	0.51	27,036	0.60
TH 10	W Limits Big Lake	TH 25 (E Junc)	19	PRINCIPAL ARTERIAL	1.12	35	5	U6	35,000	16,300	0.47	22,820	0.65	28,036	0.80	33,135	0.95
TH 10	TH 25 (E Junc)	CSAH 5	20	PRINCIPAL ARTERIAL	0.18	35	5	U6	35,000	22,300	0.64	31,220	0.89	38,356	1.10	45,331	1.30
TH 10	CSAH 5	CSAH 43	21	PRINCIPAL ARTERIAL	0.51	35	4	U6	35,000	21,400	0.61	29,960	0.86	36,808	1.05	43,502	1.24
TH 10	CSAH 43	S Limits Big Lake	22	PRINCIPAL ARTERIAL	2.63	65	4	R3	45,000	18,400	0.41	25,760	0.57	31,648	0.70	37,403	0.83
TH 10	S Limits Big Lake	0.6 mi W CSAH 15	23	PRINCIPAL ARTERIAL	0.47	65	4	R3	45,000	18,400	0.41	25,760	0.57	31,648	0.70	37,403	0.83
TH 10	0.6 mi W CSAH 15	CSAH 15	24	PRINCIPAL ARTERIAL	0.61	65	4	R3	45,000	18,400	0.41	25,760	0.57	31,648	0.70	37,403	0.83
TH 10	CSAH 15	W Limits Elk River	25	PRINCIPAL ARTERIAL	1.64	65	4	R3	45,000	27,000	0.60	37,800	0.84	46,440	1.03	54,885	1.22
TH 10	W Limits Elk River	CR 44	26	PRINCIPAL ARTERIAL	2.48	55	4	R3	45,000	27,000	0.60	37,800	0.84	46,440	1.03	54,885	1.22
TH 10	CR 44	CSAH 1	27	PRINCIPAL ARTERIAL	0.41	45	4	U6	35,000	31,000	0.89	43,400	1.24	53,320	1.52	63,017	1.80
TH 10	CSAH 1	Main St	28	PRINCIPAL ARTERIAL	0.72	30	4	U6	35,000	31,000	0.89	43,400	1.24	53,320	1.52	63,017	1.80
TH 10	Main St	US 169	29	PRINCIPAL ARTERIAL	0.93	60	4	R3	45,000	29,000	0.64	40,600	0.90	49,880	1.11	58,951	1.31
TH 10	US 169	East Co Line	30	PRINCIPAL ARTERIAL	3.59	60	4	R3	45,000	35,500	0.79	49,700	1.10	61,060	1.36	72,164	1.60
TH 101	South Co Line	US 10	1	PRINCIPAL ARTERIAL	0.22	50	4	R3	45,000	52,000	1.16	72,800	1.62	89,440	1.99	105,705	2.35
TH 169	US 10	Main St	1	PRINCIPAL ARTERIAL	0.85	55	4	R3	45,000	47,500	1.06	66,500	1.48	81,700	1.82	96,558	2.15
TH 169	Main St	193rd Ave	2	PRINCIPAL ARTERIAL	1.32	55	4	R3	45,000	37,500	0.83	52,500	1.17	64,500	1.43	76,230	1.69
TH 169	193rd Ave	CSAH 33	3	PRINCIPAL ARTERIAL	1.48	65	4	R3	45,000	34,000	0.76	47,600	1.06	58,480	1.30	69,115	1.54
TH 169	CSAH 33	N Limits Elk River	4	PRINCIPAL ARTERIAL	3.04	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 169	N Limits Elk River	CSAH 25	5	PRINCIPAL ARTERIAL	1.82	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 169	CSAH 25	CSAH 19	6	PRINCIPAL ARTERIAL	0.25	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 169	CSAH 19	S Limits Zimmerman	7	PRINCIPAL ARTERIAL	1.68	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 169	S Limits Zimmerman	CSAH 4	8	PRINCIPAL ARTERIAL	0.53	65	4	R3	45,000	25,000	0.56	35,000	0.78	43,000	0.96	50,820	1.13
TH 169	CSAH 4	N Limits Zimmerman	9	PRINCIPAL ARTERIAL	0.76	65	4	R3	45,000	18,900	0.42	26,460	0.59	32,508	0.72	38,420	0.85
TH 169	N Limits Zimmerman	CSAH 9	10	PRINCIPAL ARTERIAL	3.28	65	4	R3	45,000	18,900	0.42	26,460	0.59	32,508	0.72	38,420	0.85
TH 169	CSAH 9	CSAH 2	11	PRINCIPAL ARTERIAL	2.48	65	4	R3	45,000	18,900	0.42	26,460	0.59	32,508	0.72	38,420	0.85
TH 169	CSAH 2	CSAH 29	12	PRINCIPAL ARTERIAL	1.14	65	4	R3	45,000	18,900	0.42	26,460	0.59	32,508	0.72	38,420	0.85
TH 169	CSAH 29	North Co Line	13	PRINCIPAL ARTERIAL	0.60	65	4	R3	45,000	18,900	0.42	26,460	0.59	32,508	0.72	38,420	0.85
TH 24	South Co Line	CSAH 8	1	PRINCIPAL ARTERIAL	0.95	55	2	R1	14,000	15,600	1.11	21,840	1.56	26,832	1.92	31,712	2.27
TH 24	CSAH 8	S Limits Clear Lake	2	PRINCIPAL ARTERIAL	1.41	55	2	R1	14,000	11,700	0.84	16,380	1.17	20,124	1.44	23,784	1.70
TH 24	S Limits Clear Lake	US 10	3	PRINCIPAL ARTERIAL	0.70	30	2	U1	8,000	10,500	1.31	14,700	1.84	18,060	2.26	21,344	2.67
TH 25	South Co Line	CSAH 11/CSAH 14	1	PRINCIPAL ARTERIAL	0.18	30	4	U5	24,000	36,500	1.52	51,100	2.13	62,780	2.62	74,197	3.09
TH 25	CSAH 11/CSAH 14	CSAH 17	2	PRINCIPAL ARTERIAL	0.50	55	2	R1	14,000	16,100	1.15	22,540	1.61	27,692	1.98	32,728	2.34
TH 25	CSAH 17	0.25 mi N CSAH 17	3	PRINCIPAL ARTERIAL	0.24	55	2	R1	14,000	9,900	0.71	13,860	0.99	17,028	1.22	20,125	1.44
TH 25	0.25 mi N CSAH 17	W Limits Big Lake	4	PRINCIPAL ARTERIAL	1.00	55	2	R1	14,000	9,900	0.71	13,860	0.99	17,028	1.22	20,125	1.44
TH 25	W Limits Big Lake	US 10	5	PRINCIPAL ARTERIAL	0.93	30	3	U1	18,000	9,900	0.55	13,860	0.77	17,028	0.95	20,125	1.12

**Table B-1: Sherburne County Historic and Forecasted 2040 Traffic Volumes and V/C Ratios**

Segment				Existing Characteristics					Existing Volumes and V/C Ratios			2040 Forecast Volumes and V/C Ratios					
Roadway	From	To	Segment Number	Functional Classification	Length (mi)	Posted Speed	Number of Lanes	Design Type	Volume Threshold	Recent Volume	Existing V/C Ratio	MnDOT 20-yr Growth Factor (1.4)	V/C Ratio	Annual 3.0%/year (24 years)	V/C Ratio	Compound 3.0%/year (24 years)	V/C Ratio
TH 25	US 10	CSAH 16	6	MINOR ARTERIAL	5.39	55	2	R1	14,000	3,650	0.26	5,110	0.37	6,278	0.45	7,420	0.53
TH 25	CSAH 16	CSAH 3	7	MINOR ARTERIAL	2.88	55	2	R1	14,000	2,800	0.20	3,920	0.28	4,816	0.34	5,692	0.41
TH 25	CSAH 3	North Co Line	8	MINOR ARTERIAL	2.29	55	2	R1	14,000	2,450	0.18	3,430	0.25	4,214	0.30	4,980	0.36
TH 301	CSAH 8	0.5 mi W US 10	1	MINOR ARTERIAL	0.54	35	2	U1	8,000	4,450	0.56	6,230	0.78	7,654	0.96	9,046	1.13
TH 301	0.5 mi W US 10	US 10	2	MINOR ARTERIAL	0.52	40	2	U1	8,000	2,750	0.34	3,850	0.48	4,730	0.59	5,590	0.70

**Trunk Highway System Facility Design Types**

Code	Definition
U-1	Urban two-lane at-grade local urban street at 30-45 mph
U-5	Four-lane at-grade at 30 mph
U-6	Urban expressway at 35-45 mph
U-7	Three-lane undivided
R-1	Rural two-lane at-grade at 55 mph
R-3	Rural expressway at 50-65 mph

**County System Facility Design Types**

Code	Definition
U-2	Four-lane at-grade at 40 mph
U-3	Two-lane at-grade urban arterial street at 30 mph
U-4	Three-lane facilities
U-5	Four-lane at-grade at 30 mph
R-1	Rural two-lane at-grade at 55 mph

## APPENDIX C - LIST OF PRELIMINARY LONG-RANGE PROJECTS

**Table C-1: Long-Range Project List**

	Roadway	Termini	Type of Improvement (current condition/status)	Notes/Other Proposed Changes	Length (mi. for roadways, ft. for bridges)	Construction Cost Estimate	Right of Way Cost Estimate <sup>7</sup>	Project Cost Estimate
<b>Higher Priority Projects</b>								
<b>Pavement Projects<sup>1, 2, 7</sup></b>								
	CSAH 13	Tyler Street to Lincoln Street	Pavement Condition (poor)	Trail project, additional 0.9 mi. covered by capacity project (#87)	1.2	\$936,000	\$421,200	\$1,357,200
	CSAH 4	CSAH 5 to CSAH 15	Pavement Condition (fair)		2.9	\$1,615,900	\$363,578	\$1,979,478
	CSAH 5	TH 10 to CR 75	Pavement Condition (fair)	Future capacity project (#84), trail project (partial)	3.0	[covered by capacity project]		
	CSAH 7	TH 10 to St. Cloud W. City Limits	Pavement Condition (fair)		2.1	\$1,158,250	\$260,606	\$1,418,856
	CSAH 8	37th Street to CSAH 16	Pavement Condition (fair)	Trail project	2.2	\$1,700,400	\$382,590	\$2,082,990
	CSAH 9	TH 169 to CSAH 19	Pavement Condition (fair)		2.0	\$1,536,600	\$345,735	\$1,882,335
	CSAH 13	CSAH 12 to Twin Lakes Road	Pavement Condition (fair)	Trail project	0.6	\$655,200	\$294,840	\$950,040
	CSAH 18	104th Street to E. County Boundary	Pavement Condition (fair)		1.0	\$787,800	\$177,255	\$965,055
	CSAH 19	CSAH 4 to CSAH 9	Pavement Condition (fair)		4.4	\$2,469,050	\$555,536	\$3,024,586
	CSAH 29	TH 169 to N. County Boundary	Pavement Condition (fair)	Existing capacity project (#40)	0.4	[covered by capacity project]		
	CSAH 33	CSAH 13 (S. Junction) to E. County Boundary	Pavement Condition (fair)		0.5	\$390,000	\$175,500	\$565,500
	CR 37	N. County Boundary to E. County Boundary	Pavement Condition (fair)	Potential turnback	2.4	\$1,903,200	\$428,220	\$2,331,420
	CR 43	TH 10 to Elk River Bridge	Pavement Condition (fair)	Proposed urban collector (from minor arterial), additional 3.8 mi. covered by future capacity project (#89)	1.1	\$1,287,000	\$579,150	\$1,866,150
	CR 44	TH 10 to CSAH 1	Pavement Condition (fair)	Potential turnback (partial)	1.4	\$1,107,600	\$498,420	\$1,606,020
	CR 45	6th Avenue to CSAH 4	Pavement Condition (fair)		0.4	\$339,000	\$152,550	\$491,550
	CR 53	Becker N. City Limits to CSAH 16	Pavement Condition (fair)	County system dead end, proposed minor collector (partial)	7.4	\$5,779,800	\$1,300,455	\$7,080,255
	CR 54	TH 10 to CR 53	Pavement Condition (fair)	Proposed minor collector	3.9	\$3,057,600	\$687,960	\$3,745,560
	CR 80	CSAH 5 to CSAH 3	Pavement Condition (fair)	Potential turnback	2.9	\$2,262,000	\$508,950	\$2,770,950
	CR 83	CR 43 to CSAH 15	Pavement Condition (fair)	Potential turnback	2.3	\$1,809,600	\$814,320	\$2,623,920
	CR 127	CSAH 23 to CSAH 16	Pavement Condition (fair)	Potential turnback	3.0	\$2,340,000	\$526,500	\$2,866,500
<b>Bridge Projects<sup>3</sup></b>								
	CSAH 4	Bridge 71505 over St. Francis River	Bridge Replacement (fair/load posted)	0-10 yr priority, TIMB Beam Span, trail project	120	\$1,060,000	NA	\$1,060,000
	CSAH 11	Bridge 71506 over Elk River	Bridge Replacement (fair/load posted)	0-10 yr priority, TIMB Beam Span, proposed minor arterial	136	\$1,305,000	NA	\$1,305,000
	CSAH 15	Bridge 71504 over Elk River	Bridge Replacement (fair/load posted)	0-10 yr priority, TIMB Beam Span	160	\$1,430,000	NA	\$1,430,000
	CSAH 15	Bridge 71509 over St. Francis River	Bridge Replacement (load posted)	10-20 yr priority, TIMB Beam Span	138	\$1,215,000	NA	\$1,215,000
	CSAH 16	Bridge 71511 over Elk River	Bridge Replacement (fair/load posted)	10-20 yr priority, TIMB Beam Span	105	\$1,000,000	NA	\$1,000,000
	CSAH 16	Bridge 71510 over Rice Creek	Bridge Replacement (load posted)	10-20 yr priority, TIMB Slab Span	78	\$905,000	NA	\$905,000
	CSAH 16	Bridge 71507 over Stream	Bridge Replacement (load posted)	10-20 yr priority, TIMB Slab Span	78	\$815,000	NA	\$815,000
	CSAH 16	Bridge 71508 over Lily Creek	Bridge Replacement (load posted)	10-20 yr priority, TIMB Slab Span	78	\$805,000	NA	\$805,000
	CR 62	Bridge 71513 over Elk River	Bridge Replacement (load posted)	10-20 yr priority, TIMB Slab Span	114	\$692,550	NA	\$692,550
<b>Freight Projects<sup>1, 2, 7</sup></b>								
	CSAH 6	CSAH 16 to CSAH 3	Upgrade to 10 ton (7 ton)	Pavement resurfacing programmed, trail project (partial)	3.1	\$2,418,000	\$544,050	\$2,962,050
	CSAH 16	CR 93 to CSAH 5	Upgrade to 10 ton (7 ton)		2.1	\$1,638,000	\$368,550	\$2,006,550
	CSAH 22	CSAH 3 to N. County Boundary	Upgrade to 10 ton (7 ton)	Pavement resurfacing programmed	1.0	\$780,000	\$175,500	\$955,500



Table C-1: Long-Range Project List

	Roadway	Termini	Type of Improvement (current condition/status)	Notes/Other Proposed Changes	Length (mi. for roadways, ft. for bridges)	Construction Cost Estimate	Right of Way Cost Estimate <sup>7</sup>	Project Cost Estimate
<b>Volume/Capacity Projects (Existing and Connected Future Segments based on 3% Growth Projection)<sup>1, 4, 7</sup></b>								
	CSAH 4	CR 46 to US 169	Capacity	Trail project	1.4	\$6,750,000	\$3,037,500	\$9,787,500
	CSAH 4	TH 169 to 0.3 mi W CR 39	Capacity	Trail project	1.3	\$3,825,000	\$1,721,250	\$5,546,250
	CSAH 8	US 10 to University Drive	Capacity		0.8	\$2,550,000	\$1,147,500	\$3,697,500
	CSAH 11	US 10 to TH 25	Capacity	Trail project	3.8	\$7,600,000	\$3,420,000	\$11,020,000
	CSAH 29	TH 169 to N. County Boundary	Capacity	Pavement project	0.4	\$1,500,000	\$375,000	\$1,875,000
<b>New County Connections<sup>5, 7</sup></b>								
	TH 25 New River Crossing		Connectivity	Proposed new river crossing				
	CSAH 8 realignment <sup>10</sup>	CR 53 to TH 10	Connectivity	Proposed grade separation at TH 25/TH 10, proposed minor arterial, trail project	1.4	\$19,025,000	\$19,025,000	\$38,050,000
	CSAH 33 realignment	Smith Street to CSAH 13	Connectivity	Proposed minor arterial, trail project	0.8	\$2,865,000	\$1,289,250	\$4,154,250
<b>County Trail Projects<sup>6, 7</sup></b>								
	Great Northern Trail	CSAH 9 to TH 169 near Rum River Dr	Proposed county trail		3.8	\$1,805,760	NA	\$1,805,760
	Great Northern Trail	CSAH 9 to CSAH 4	Proposed county trail		4.0	\$1,900,800	NA	\$1,900,800
	CSAH 5	237th Ave NW to CSAH 4	Proposed county trail		1.9	\$902,880	\$225,720	\$1,128,600
	CSAH 5	CSAH 4 to CSAH 9	Proposed county trail		4.5	\$2,138,400	\$534,600	\$2,673,000
	CSAH 5/CR 75	Alliance Park to CSAH 5 near 237th Ave NW	Proposed county trail	Pavement project (partial), future capacity project (partial, #84)	3.3	\$1,568,160	\$392,040	\$1,960,200
	CSAH 9	CSAH 5 to Great Northern Trail	Proposed county trail		7.1	\$3,373,920	\$843,480	\$4,217,400
	CSAH 4/120th St	Great Northern Trail to Grams Regional Park	Proposed county trail	Non-county ROW; partially covered by urban capacity projects (#36 and #37)	1.1	\$522,720	\$235,224	\$757,944
<b>Traffic Control Modification Projects<sup>7, 11</sup></b>								
	TH 10	CSAH 16	Traffic control modification project		NA	\$500,000	\$125,000	\$625,000
	TH 25	CSAH 17	Traffic control modification project		NA	\$500,000	\$125,000	\$625,000
	CSAH 1	CSAH 4	Traffic control modification project		NA	\$500,000	\$125,000	\$625,000
	TH 169	CSAH 25/CSAH 19	Traffic control modification project	Potential temporary signal, new county connection project	NA	\$500,000	\$125,000	\$625,000
	CSAH 4	CSAH 19	Traffic control modification project	Pavement project	NA	\$500,000	\$125,000	\$625,000
	TH 10	CR 50	Traffic control modification project		NA	\$500,000	\$125,000	\$625,000
	TH 10	CSAH 7	Traffic control modification project	Pavement project	NA	\$500,000	\$250,000	\$750,000
<b>Jurisdictional Transfer Projects<sup>1, 2, 12</sup></b>								
	Various (see separate tab)	Various (see separate tab)	Pavement project prior to turnback		20.5	\$20,631,000	NA	\$20,631,000
<b>Safety Projects<sup>13</sup></b>								
	Various	Various	Intersection improvements, signing, shoulders, rumble strips, striping, etc.		Unknown	\$7,311,780	NA	\$7,311,780
<b>Additional Projects</b>								
<b>Pavement Projects<sup>1, 2, 7</sup></b>								
	CSAH 1	CR 32 (N. junction) to CSAH 4	Future Pavement Condition		8.5	\$6,630,000	\$1,491,750	\$8,121,750
	CSAH 1	CSAH 9 to N. County Boundary	Future Pavement Condition		4.0	\$3,120,000	\$702,000	\$3,822,000
	CSAH 3	CSAH 6 to CSAH 23	Future Pavement Condition		5.0	\$2,825,000	\$635,625	\$3,460,625
	CSAH 4	.8 mi. east of CSAH 23 to CSAH 11	Future Pavement Condition		2.0	\$1,560,000	\$351,000	\$1,911,000
	CSAH 4	CSAH 19 to E. County Boundary	Future Pavement Condition		1.0	\$565,000	\$127,125	\$692,125
	CSAH 13	CSAH 33 (S. junction) to E. County Boundary	Future Pavement Condition		2.2	\$1,716,000	\$772,200	\$2,488,200
	CSAH 14	CSAH 30 to TH 10	Future Pavement Condition		1.1	\$621,500	\$139,838	\$761,338
	CSAH 16	CR 93 to CSAH 5	Future Pavement Condition		2.1	\$1,638,000	\$368,550	\$2,006,550

Table C-1: Long-Range Project List

	Roadway	Termini	Type of Improvement (current condition/status)	Notes/Other Proposed Changes	Length (mi. for roadways, ft. for bridges)	Construction Cost Estimate	Right of Way Cost Estimate <sup>7</sup>	Project Cost Estimate
	CSAH 17	TH 25 to CR 81	Future Pavement Condition		2.2	\$1,243,000	\$279,675	\$1,522,675
	CSAH 23	N. Becker City Limits to N. County Boundary	Future Pavement Condition		11.2	\$8,736,000	\$1,965,600	\$10,701,600
	CSAH 24	CR 67 to CSAH 11	Future Pavement Condition		1.6	\$904,000	\$203,400	\$1,107,400
	CSAH 30	CSAH 14 to CR 30	Future Pavement Condition		2.9	\$2,262,000	\$508,950	\$2,770,950
	CSAH 33	CSAH 1 to TH 169	Future Pavement Condition		2.9	\$1,638,500	\$737,325	\$2,375,825
	CR 32	CSAH 1 to N. Elk River City Limits	Future Pavement Condition		4.6	\$3,588,000	\$1,614,600	\$5,202,600
	CR 39	1.0 mi. north of CSAH 4 to CSAH 9	Future Pavement Condition		3.5	\$2,730,000	\$614,250	\$3,344,250
	CR 40	CSAH 12 to CSAH 13	Future Pavement Condition		1.6	\$1,248,000	\$561,600	\$1,809,600
	CR 45	CSAH 25 to 6th Avenue	Future Pavement Condition		1.8	\$1,017,000	\$254,250	\$1,271,250
	CR 45	CSAH 4 to CSAH 9	Future Pavement Condition		4.0	\$3,120,000	\$780,000	\$3,900,000
	CR 46	CSAH 1 to CSAH 4	Future Pavement Condition		2.6	\$2,028,000	\$608,400	\$2,636,400
	CR 62	CSAH 20 to CSAH 6	Future Pavement Condition		3.3	\$1,864,500	\$419,513	\$2,284,013
	CR 76	CSAH 8 to TH 10	Future Pavement Condition		3.9	\$3,042,000	\$684,450	\$3,726,450
<b>Bridge Projects<sup>3</sup></b>								
	CR 75	Bridge 1960 over Eagle Lake Outlet	Culvert Replacement (usable service life)	10-20 yr priority, Concrete Box Culvert	28	\$150,000	NA	\$150,000
<b>Volume/Capacity Projects (Future based on 3% Growth Projection)<sup>1, 4, 7</sup></b>								
	CSAH 1	US 10 to Proctor Rd.	Capacity	Trail project	0.6	\$2,400,000	\$1,080,000	\$3,480,000
	CSAH 5	US 10 to CR 75	Capacity	Pavement project, trail project (partial)	2.9	\$10,750,000	\$3,932,500	\$14,682,500
	CSAH 12	Zane St. to E. County Boundary	Capacity		2.2	\$6,600,000	\$2,970,000	\$9,570,000
	CSAH 13	187th Ave. to Tyler St.	Capacity		0.6	\$2,400,000	\$600,000	\$3,000,000
	CSAH 13	Lincoln St. to CSAH 33 (S. Junction)	Capacity	Pavement project, trail project	0.9	\$2,925,000	\$731,250	\$3,656,250
	CSAH 23	US 10 to Edgewood St.	Capacity	Trail project	1.3	\$4,225,000	\$1,056,250	\$5,281,250
	CR 45	14th Avenue to TH 169	Capacity	Pavement project	0.5	\$1,625,000	\$406,250	\$2,031,250
<b>New County Connections<sup>5, 7</sup></b>								
	CSAH 8/CSAH 11 extension	CSAH 8 near 100th Avenue to CSAH 11 near 166th Street	Connectivity	Proposed minor arterial, trail project	8.3	\$12,420,000	\$12,420,000	\$24,840,000
	CSAH 3 extension <sup>8</sup>	CSAH 8 to TH 10	Connectivity	Proposed major collector	2.2	\$3,300,000	\$3,300,000	\$6,600,000
	CSAH 4 extension <sup>8, 9</sup>	97th Street to intersection of CSAH 4/CSAH 23	Connectivity	Proposed minor arterial, trail project	1.3	\$6,187,500	\$2,784,375	\$8,971,875
	CSAH 4 extension <sup>8</sup>	TH 10 to 97th Street	Connectivity	Proposed minor arterial	2.0	\$2,700,000	\$2,700,000	\$5,400,000
	CSAH 4 interchange <sup>15</sup>	At TH 169	Connectivity/Mobility	Proposed interchange	0.8	See total	See total	\$22,500,000
	CSAH 19 extension	South terminus of 104th Street to E. County Boundary	Connectivity	Proposed minor arterial	2.4	\$4,235,000	\$4,235,000	\$8,470,000
	CSAH 19/CSAH 25 connection	Great Northern Trail to 114th Avenue	Connectivity	Proposed grade separation	0.6	\$9,500,000	\$1,500,000	\$11,000,000
	CSAH 2/CR 42 connection	315th Avenue to 317th Avenue	Connectivity	Proposed overpass at TH 169	1.3	\$5,500,000	\$3,000,000	\$8,500,000
	CR 32 realignment	North Elk River city limits to intersection of CSAH 1/CSAH 25	Connectivity	Proposed major collector	1.1	\$3,855,000	\$1,734,750	\$5,589,750
<b>County Trail Projects<sup>6, 7</sup></b>								
	TH 10/MRT	CSAH 8 to CSAH 11	Proposed county trail	Interim alignment, non-county ROW	4.6	\$2,185,920	NA	\$2,185,920
	TH 10/MRT	CSAH 1 to SE County Boundary	Proposed county trail	Non-county ROW	5.6	\$2,661,120	NA	\$2,661,120
	TH 25	CSAH 11/CSAH 14 to TH 10	Proposed county trail	Non-county ROW	2.7	\$1,283,040	NA	\$1,283,040
	CSAH 1	Great Northern Trail near Upland St NW to CSAH 33	Proposed county trail		3.3	\$1,568,160	\$392,040	\$1,960,200
	CSAH 4	CSAH 23 to CSAH 5	Proposed county trail		6.9	\$3,278,880	\$819,720	\$4,098,600
	CSAH 4	CSAH 5 to Great Northern Trail	Proposed county trail	Bridge project, additional 2.7 mi. covered by existing and future urban capacity projects (#36 and #37)	3.1	\$1,473,120	\$368,280	\$1,841,400
	CSAH 6	TH 10 to 42nd St SE	Proposed county trail	Freight project (partial)	5.7	\$2,708,640	\$677,160	\$3,385,800
	CSAH 8/MRT	21st St SE to 27th St SE/S. St. Cloud Boundary	Proposed county trail		0.7	\$332,640	\$83,160	\$415,800
	CSAH 8/MRT	27th St SE/S. St. Cloud Boundary to CR 58	Proposed county trail	Pavement project (partial)	11.2	\$5,322,240	\$1,330,560	\$6,652,800

**Table C-1: Long-Range Project List**

	Roadway	Termini	Type of Improvement (current condition/status)	Notes/Other Proposed Changes	Length (mi. for roadways, ft. for bridges)	Construction Cost Estimate	Right of Way Cost Estimate <sup>7</sup>	Project Cost Estimate
	CSAH 8 realignment	CR 53 to TH 10	Proposed county trail	Future county ROW, proposed new connection	1.4	\$665,280	\$166,320	\$831,600
	CSAH 8/MRT	CR 58 to TH 10	Proposed county trail	Interim alignment	5.2	\$2,471,040	\$617,760	\$3,088,800
	CSAH 8/CSAH 11 extension/MRT	CSAH 8 near 100th Avenue to CSAH 11 near 166th Street	Proposed county trail	Final alignment, future county ROW, proposed new connection	8.3	\$3,944,160	\$986,040	\$4,930,200
	CSAH 11/MRT	TH 10 to TH 25	Proposed county trail	Existing capacity project, future capacity project	3.8	\$1,805,760	\$451,440	\$2,257,200
	CSAH 13	CSAH 12 to Lincoln Street	Proposed county trail	Pavement project, additional 1.5 mi. covered by future urban capacity projects (#86 and #87)	1.9	\$902,880	\$225,720	\$1,128,600
	CSAH 14/MRT	TH 25 to CSAH 30	Proposed county trail		5.8	\$2,756,160	\$689,040	\$3,445,200
	CSAH 23	TH 10 to CSAH 4	Proposed county trail	Additional 1.3 mi. covered by future urban capacity project (#88)	1.6	\$760,320	\$190,080	\$950,400
	CSAH 30/CR 30/MRT	CSAH 14 to Orono Rd.	Proposed county trail	Potential jurisdictional transfer (partial)	4.7	\$2,233,440	\$558,360	\$2,791,800
	CSAH 33	CSAH 1 to Smith St NW	Proposed county trail		3.9	\$1,853,280	\$463,320	\$2,316,600
	CSAH 33 realignment	Smith St NW to CSAH 13	Proposed county trail	Future county ROW, proposed new connection	0.8	\$380,160	\$95,040	\$475,200
	CR 58	CR 8 to S. Clear Lake Boundary	Proposed county trail		2.0	\$950,400	\$237,600	\$1,188,000
	Main St./Proctor Ave./MRT	Orono Rd to TH 10	Proposed county trail	Non-county ROW	1.1	\$522,720	\$235,224	\$757,944
	Oak Savanna Park Trail	TH 10 to Elk River near 97th St	Proposed county trail	Non-county ROW	1.0	\$475,200	\$213,840	\$689,040
	Oak Savanna Park Trail	Oak Savanna Park to future CSAH 4 alignment	Proposed county trail	Non-county ROW	0.6	\$285,120	\$128,304	\$413,424
	Riverside Park Trail	CSAH 8 to NW County Boundary near University Drive SE	Proposed county trail	Non-county ROW	0.9	\$427,680	\$192,456	\$620,136
	Twin Lakes Rd/171st Ave.	MRT Trail to CSAH 12	Proposed county trail	Non-county ROW	2.0	\$950,400	\$427,680	\$1,378,080
<b>Traffic Control Modification Projects<sup>7,11</sup></b>								
	CSAH 8	TH 301	Traffic control modification project		NA	\$500,000	\$250,000	\$750,000
	CSAH 11	CSAH 24	Traffic control modification project		NA	\$500,000	\$125,000	\$625,000
	CSAH 15	CR 43	Traffic control modification project	Capacity project, pavement	NA	\$500,000	\$125,000	\$625,000
	CSAH 25	CR 45	Traffic control modification project	Pavement project	NA	\$500,000	\$125,000	\$625,000
	CSAH 12	CSAH 13	Traffic control modification project		NA	\$500,000	\$125,000	\$625,000
	CSAH 33	CSAH 33/Proctor Road	Traffic control modification project		NA	\$500,000	\$250,000	\$750,000
	CSAH 29	Northland Boulevard	Signal replacement project		NA	\$250,000	NA	\$250,000
	CSAH 4	CR 45	Signal replacement project		NA	\$250,000	NA	\$250,000
	CSAH 5	CSAH 75	Traffic control modification project	Pavement project, future capacity project, trail project (partial)	NA	\$500,000	\$125,000	\$625,000
	CSAH 11	CR 50	Traffic control modification project	Capacity project	NA	\$500,000	\$125,000	\$625,000
<b>Jurisdictional Transfer Projects<sup>1, 2, 12</sup></b>								
	Various (see separate tab)	Various (see separate tab)	Pavement project prior to turnback		43.3	\$19,874,571	NA	\$19,874,571
<b>Crack Sealing Projects<sup>14</sup></b>								
	Various	Various	Crack sealing projects on new or reconstructed segments		Unknown	\$5,400,000	NA	\$5,400,000

<b>Higher Priority Project Cost, 2023-2040 (2018 Dollars):</b>	\$132,968,970	\$42,808,029	\$175,776,999
<b>Total Project Cost, 2023-2040 (2018 Dollars):</b>	\$335,810,301	\$109,877,648	\$468,187,949
<b>Total Projected Funding, 2023-2040 (2018 Dollars):</b>			\$244,391,815
<b>Projected Funding Gap, 2023-2040 (2018 Dollars):</b>			\$223,796,134

**NOTES/ASSUMPTIONS:**

## Table C-1: Long-Range Project List

1. All project costs/limits have been adjusted to avoid double counting. For example, urban capacity projects are assumed to include trails, so any additional costs associated with trail projects for these segments have been excluded.
2. For pavement projects on <10 ton roadways, a per mile reconstruction cost of \$780,000 was used based on county data. For pavement projects on 10 ton roadways, a per mile reconditioning costs of \$565,000 was used based on county data.
3. For bridge projects where a specific cost estimate was not available, \$175/sq. ft. was used for beam span bridges and \$135/sq. ft. was used for slab span bridges, based on MnDOT cost reports. A 25% multiplier was added for approach work.
4. For capacity projects, a conversion to a 4-lane divided roadway was assumed. A per mile cost estimate of \$1.5-2 million was used for rural projects and \$4 million was used for urban projects (which assume addition of sidewalk and/or trail).
5. For new county connection projects, a per mile cost estimate of \$1.5 million was used for rural projects and \$1.75 million was used for urban projects.
6. For trail projects, a per linear foot cost estimate of \$90 was used, assuming that some of the projects would be completed in conjunction with a roadway project.
7. For reconstruction, capacity, and traffic control projects, ROW costs were estimated at 40-50% of construction costs in urban areas and 20-25% of construction costs in rural areas. For new county connection projects, ROW costs were estimated to be equal to construction costs. For trail projects along county highways, ROW costs were estimated at 25% of construction costs. Trail projects along MnDOT highways and county-owned corridors (i.e. the abandoned railroad corridor for the Great Northern Trail) were assumed not to require additional ROW. For other trail projects, ROW costs were estimated at 45% of construction costs.
8. Limits extended and costs included to upgrade existing township roads to CSAH standards.
9. Cost premium added based on difficulty crossing Elk River in this location.
10. Assumes construction of an interchange at TH 10/TH25.
11. For traffic control modification projects, \$500,000 was used as an estimated cost based on the cost for installing a signal system (\$250,000) and constructing associated turn lanes (\$250,000). Costs will vary based on location and type of modification.
12. Assumes one pavement project per year with an average annual cost of \$842,203 (see separate tab).
13. Assumes \$300,000 per year (in 2018 dollars) for safety projects, matching trend in HSIP funding.
14. Assumes \$150,000 per year (in 2018 dollars); cost assumed to double by 2023 due to contracting this work out. Future costs assumed to increase with inflation.
15. Cost estimate for this project based on EA/EAW for TH 169 from Elk River to Zimmerman, Appendix B, Technical Memorandum 5: Alternatives Development, Evaluation and Selection of Preferred Alternative.