Chapter 5

TRANSPORTATION

TRANSPORTATION

"Transportation is the center of the world! It is the glue of our daily lives. When it goes well, we don't see it. When it goes wrong, it negatively colors our day, makes us feel angry, curtails our possibilities". – Robin Chase

What This Element Will Do

This plan element guides transportation facility development and preservation in Belle Plaine. Transportation includes different modes, methods, and types of facilities including sidewalks, bicycle facilities, trails, freight facilities, airports, park and pools, dial-a-ride service, transit links, and roadways. This plan element charts a future course for transportation facilities aligned with overall growth and redevelopment plans.

When determining whether or not individual developments are or are not consistent with this plan element a holistic approach is required. This means individual developments will be broadly consistent with the vision, plans, and maps set forth herein although they may not be perfectly consistent with each and every sentence contained in this plan element.

What Drives This Element

We envision a safe, efficient, complete, economically-productive, and aesthetically appealing transportation system. Our local street system will provide safe and reliable access to work, schools, shopping, institutions, public facilities, and residences and have a major influence on where future growth occurs. A robust, interconnected, balanced, and complete transportation system including pedestrian, bicycle, and commuter/transit linkages will support sustainable growth and development.

This *Destination 2040* plan element depicts and describes existing and planned transportation facilities, forecast modeling, and goals/policies pertaining to transportation. The plan element is consistent with regional plans and requirements as assigned by the Metropolitan Council. Transportation modeling was completed through a cooperative agreement with other cities and Scott County.

Overview

The City of Belle Plaine is a small, free-standing community with growing suburban-style development. Its location within the regional transportation network is depicted on Figure T-1. With its close access to Hwy 169, and location mid-way between Mankato and the Twin Cities, Belle Plaine has experienced growth and is poised for additional development. Hwy 169 along with Scott County highways provide the backbone of Belle Plaine's roadway system. The City's system of collector and local road supports development and complements the highways.

The primary purpose of this Transportation chapter is provide guidance to City staff and elected officials regarding the implementation of effective, integrated transportation facilities and programs through the 2040 planning time-frame. This chapter is consistent with regional requirements for transportation as captured in the Metropolitan Council's 2040 Local Planning Handbook.

This section is organized into the following sections:

- Existing Roadway Conditions
- Summary of Relevant Transportation Projects and Studies
- Transit
- Non-Motorized Transportation

- Aviation
- Freight

Existing Roadway Conditions

This section focuses on the condition of the existing roadway network in the city, including documentation of traffic volumes and roadway capacity; see Figure T-2.

Existing Traffic Volumes and Capacity

Existing traffic volumes and roadway capacity are shown in Figure T-2. Roadway capacity was determined by calculating a ratio of the existing roadway traffic volume to the existing roadway capacity (volume/capacity, or v/c, ratio). Nearly all roads in Belle Plaine have a v/c ratio of under 0.85, which indicates that traffic in the city is free moving traffic.

Jurisdictional Classification

Roadways are classified on the basis of which level of government owns and has jurisdiction over them. Roadways in Belle Plaine are under the jurisdiction of MnDOT (US 169), Scott County (Hwy. 3/Meridian Ave, Hwy. 7/South St), or the City of Belle Plaine. Figure T-3 depicts the existing roadways by jurisdiction.

Functional Classification

Functional classification refers to how traffic distributes on a roadway network - from neighborhood streets to collector roadways, then to minor arterials, and ultimately to principal arterials on the Metropolitan Highway System. Roads are categorized based on the degree to which they provide access to adjacent land uses and lower level roadways versus providing higher-speed mobility for “through” traffic. Within this approach, roads are located and designed to perform their designated function.

The current roadway functional classification map for the City of Belle Plaine is shown on Figure T-4. The roadway system consists of five functional roadway classifications:

- Principal arterial
- “A” minor arterial, including the sub-categories: reliever, expander, and connector, and augmenter
- Major collector
- Minor collector
- Local street

The Metropolitan Council has defined four sub-categories of “A” minor arterials: reliever, expander, connector, and augmenter. These sub-categories are related to the Metropolitan Council’s allocation of federal funding for roadway improvements. The categories do not translate into specific design characteristics or requirements.

The Metropolitan Council has designation authority for arterial roadways. Local agencies may request upgrades of roadways to arterials or downgrades from arterials to collectors. These changes must be approved by the Metropolitan Council. The agency which has jurisdiction over a given collector roadway (e.g. Scott County or the City of Belle Plaine) has the authority to designate status.

1. **Principal Arterials -** Principal arterial (PA) are the highest roadway classification. Principal arterials make up the Metropolitan Highway System. PAs provide mobility for regional trips, rather than a land

access function. Principal arterials are generally constructed as limited access freeways, but may also be multiple-lane divided highways. They are intended to interconnect regional business concentrations. The only principal arterial in Belle Plaine is US 169, which connects the Twin Cities Metropolitan Area with the Mankato Area. MnDOT has identified this highway as an Interregional Corridor, indicating its importance in serving the economic interests of the state.

2. **"A" Minor Arterials -** "A" minor arterial roads connect important locations with access points to the metropolitan highway system. Arterials are intended to carry short to medium trips. While "A" minor arterials provide more access than principal arterials, their primary function is still to provide mobility rather than access to lower level roadways or adjacent land uses. "A" minor arterial roadways in Belle Plaine are listed in Table 5-1 and shown on Figure T-4:

Table 5 -1

"A" Minor Arterial Roadways			
Roadway	**From**	**To**	**Number Travel Lanes (Total)**
CR 3/Meridian St.	South City Limit	TH 25	2
Main St	CR 3/Meridian St	TH 25/Walnut St	2
TH	Main st West / CR 3	North City Limit	2

3. **Other Arterials** - Like "A" minor arterials, "other" arterial roads also serve more of a mobility function than access function. However, they may not have as much regional importance as "A" minor arterials and are not eligible for federal roadway improvement funding. "Other" arterials within Belle Plaine are identified in Table 5-2 and shown on Figure T-4.

Table 5 -2

Other Arterial Roadways			
Roadway	**From**	**To**	**Number Travel Lanes (Total)**
CR 6/State St W	West City Limit	TH 24	2
CR 7/South St	Ash St	East City Limit	2

4. **Major and Minor Collectors -** Collector roadways provide a balance of the mobility and land-use access functions. Collectors generally serve trips that remain within the city and connect neighborhoods and smaller commercial areas to the arterial network. Minor collectors generally are shorter in length than and accommodate lower volumes and lower speeds than major collectors. There are no existing major collectors in the City of Belle Plaine. Minor collectors are listed in Table 5-3 and shown on Figure T-4.

Table 5 -3

Minor Collector Roadways			
Roadway	**From**	**To**	**#Travel Lanes (Total)**
Minor Collectors			
Laredo St	South St	South City Limit	2
Main St W/CR 64	US 169	East City Limit	2-4
Hickory Blvd/CR 5	Main St w/CR 64	South St E/230th St W	2

Number of Travel Lanes

The majority of roads in Belle Plaine have two lanes (one travel lane in each direction) Four-lane roads (two lanes traveling in each direction) are shown on Figure T-5 and listed below:

- US 169 through the city
- Commerce Dr W from just East of S Elk St to S Meridian St
- Main Street East from Ash St to just East of Hickory Blvd
- Hickory Blvd from Main St. East to South St East

Relevant Transportation Projects and Studies

A summary of transportation projects that constructed since publication of the last transportation plan (in 2008) and transportation studies relevant to the City's roadway system is provided below.

Hwy 169 Enterprise Dr Overpass near Meridian St (CR 3), opened to Traffic in August 2016

Transportation Projects with Regional Significance

Several regionally significant transportation projects have been constructed in Belle Plaine the past fifteen years. Over $30 million of interregional corridor investments on or near Hwy 169 on or near Hwy 169 over the past 15 years. Hwy 169 interregional corridor investments that have been completed include:

- TH 25/Main Street interchange
- Hwy 169 Frontage road system
- Hwy. 169/Enterprise Dr overpass near Meridian St (CR 3) opened to traffic August 2016
- Hickory Blvd

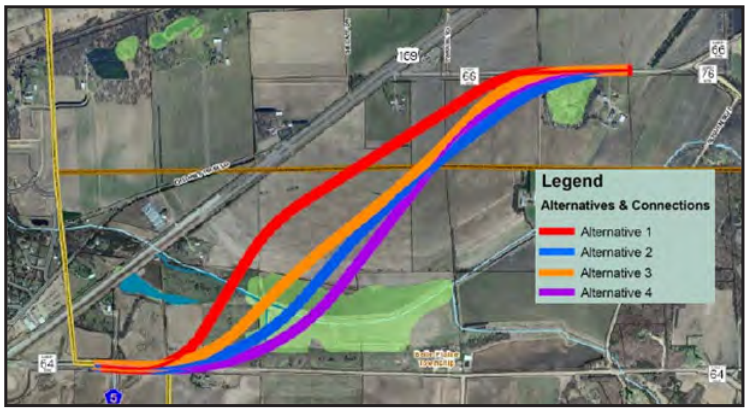
MNDOT and Metropolitan Council Studies

Hwy 169 Mankato - Twin Cities Intercity Bus Study (Task 2 of the Hwy 169 Mobility Study) - MnDOT, Scott County & Metropolitan Council studied Hwy 169 between Mankato and the Twin Cities Metro (see image to the right) to identify opportunities for transportation improvements along the Hwy 169 corridor, particularly between Mankato and northern Scott/ southern Hennepin Counties. A transit stop for a future transit route is recommended for Belle Plaine. Route scheduling and frequency would range from weekday only service to combined weekday/weekend service with multiple daily trips in each direction of Highway 169.

Hwy 169 Mankato-Twin Cities Intercity Bus Study Area

Scott County Plans and Studies

CR 66/CR 64 Corridor Preservation Study (2009) - Scott County, the City of Belle Plaine, Belle Plaine Township, and St. Lawrence Township studied a potential extensions of CR 8 between CR 66 and CR 64. The study focused on connecting CR 64 to TH 169 and CR 66 on the east side of Belle Plaine. Alternatives considered in the study are shown on the image above, along with the alternative that was recommended. At this time the CR 8 extension is not programmed for construction.



Highway 169 Mobility Study

The Minnesota Department of Transportation, Scott County, and the Metropolitan Council completed a Highway 169 Mobility Study to identify specific opportunities for transportation improvements along the corridor. The purpose of the study was to identify potential Highway 169 intercity service travel markets, needs and opportunities and develop intercity bus service options, including short and long term recommendations. A Transit Advisory Committee was established to continue the discussion on expanding service.

Roadway System Plan

Future Roadways and Functional Classification

No minor arterial or key collector roadway improvements are anticipated to be constructed by 2040 in the Belle Plaine area. Scott County has identified the need for future road extensions listed below:

- Extension of CR 8 (future principal arterial roadway) on the east side of Belle Plaine between CR 66 and CR 64 (see image above)
- Extension of Hickory Blvd (CR 5) on the south end of the city; identified in Scott County's 2040 plan

The City has also identified an extension that would connect Century St and Kittson Blvd, also on the south end of the city. These recommended improvements (shown on Figure T-6) are unprogrammed, and therefore are not been included in the 2040 network for this plan. Local roads will continue to be constructed in response to and support of future development.

Jurisdictional Changes

Scott County's 2040 Transportation Plan has identified a new alignment of Hickory Blvd (CR 5) between the southern city limits to CR 7 as a future county road. This "turn up" of a local road under the jurisdiction of the city, would involve transferring the road to the County's jurisdiction (see Figure T-6).

Assumed 2040 Roadway Network for Traffic Forecasts

Scott County entered into an agreement with cities and townships within the County - including Belle Plaine - to perform traffic forecasting using the Metropolitan Council regional forecast model. The results of this forecasting are used in this plan.

The roadway network assumed for the 2040 forecast analysis includes the existing network, plus anticipated funding-constrained improvement projects. As mentioned earlier, multiple regionally significant transportation projects occurred in Belle Plaine between 2003 and 2016. Because of these relatively recent improvements and because roadways currently have adequate capacity, there are no programmed new road or capacity expansion improvement projects within current city limits or the urban growth area (defined by the MUSA line). Therefore, the existing roadway network was used for the 2040 forecast analysis. The number of lanes on collector and arterial roadways in Belle Plaine, shown on Figure T-5, are not expected to change by 2040. Routine maintenance and preservation investments will be performed on existing highways.

Transportation Analysis Zones and 2040 Forecast Results

Traffic forecasts were generated by computer modeling using demographic and employment information for Transportation Analysis Zones (TAZs). The Metropolitan Council initially provided TAZs and baseline information by TAZ to each metro area community, for use in the 2040 comprehensive planning process. Belle Plaine coordinated with Scott County to adjust the TAZ boundaries, as well as the distribution of population and employment data assigned to each TAZ. TAZs for the City of Belle Plaine presented on Figure T-7. The distribution of socioeconomic data for years 2014 and 2040 within each TAZ is provided in Table 5-4.
The socioeconomic data, distributed into TAZs, along with anticipated land use patterns discussed in Chapter Three of this Comprehensive Plan were assumed for the 2040 transportation projections. (The 2040 land use map for Belle Plaine is presented on Map 3-2 in of the Land Use Chapter. The socioeconomic and land use data was then use to project traffic levels onto specific roadways within the City through 2040.

Table 5-4

Table 5-4 Belle Plaine 2014 & 2040 Socioeconomic Data by TAZ

	Year 2014 Socioeconomic Data					Year 2020 Socioeconomic Data					Year 2030 Socioeconomic Data					Year 2040 Socioeconomic Data					Year 2014 to Year 2040 Growth				
			Jobs					Jobs					Jobs					Jobs					Jobs		
TAZ	HHs	Pop.	Retail	Non-retail	Total	HHs	Pop.	Retail	Non-retail	Total	HHs	Pop.	Retail	Non-retail	Total	HHs	Pop.	Retail	Non-retail	Total	HHs	Pop.	Retail	Non-retail	Total
337	24	72	0	0	0	73	190	0	0	0	142	329	0	0	0	207	487	0	0	0	183	415	0	0	0
339	261	750	53	52	112	279	722	51	84	178	342	793	48	116	191	382	965	46	148	194	121	215	-7	96	69
379	1	2	0	0	0	1	2	0	0	0	1	3	0	0	0	1	3	0	0	0	0	1	0	0	0
380	1	2	0	1	4	22	53	0	12	18	51	108	0	24	27	76	167	0	35	35	75	165	0	34	31
381	1	2	0	0	0	1	2	0	0	0	1	3	0	0	0	1	3	0	0	0	0	1	0	0	0
382	7	18	0	0	0	5	17	0	0	0	5	17	0	0	0	7	20	0	0	0	0	2	0	0	0
383	1	2	0	0	0	38	98	0	0	0	88	201	0	0	0	125	313	0	0	0	124	311	0	0	0
384	1	2	0	0	0	1	2	0	0	0	1	3	0	0	0	1	3	0	0	0	0	1	0	0	0
385	6	18	0	0	0	6	17	0	0	0	7	17	0	0	0	7	20	0	0	0	1	2	0	0	0
388	92	296	0	2	2	87	286	0	1	1	99	291	0	1	1	102	313	0	0	0	10	17	0	-2	-2
389	2	6	0	1	4	52	124	0	2	6	123	251	0	2	5	177	389	0	3	3	175	383	0	2	-1
390	1	3	0	0	0	31	70	0	0	0	72	146	0	0	0	104	229	0	0	0	103	226	0	0	0
392	34	110	0	1	4	35	117	0	3	5	45	131	0	4	5	50	154	0	6	6	16	44	0	5	2
396	0	0	125	27	136	0	0	153	90	280	0	0	182	153	346	0	0	210	216	426	0	0	85	189	258
397	1	3	65	40	112	2	5	73	110	213	2	6	82	180	275	3	8	90	250	340	2	5	25	210	224
398	156	478	1	0	1	152	480	1	0	1	175	501	1	0	1	191	543	1	0	1	35	65	0	0	0
399	85	270	0	0	0	83	264	0	0	0	92	278	0	0	0	104	312	0	0	0	19	42	0	0	0
400	116	352	82	0	80	117	344	93	0	115	129	355	104	0	116	154	387	115	0	115	38	35	33	0	27
401	8	16	20	145	148	10	23	28	174	223	13	30	35	202	245	15	37	43	231	274	7	21	23	86	104
402	199	430	10	7	18	184	412	14	8	32	196	414	17	10	35	201	436	21	11	32	2	6	11	4	9
403	100	213	23	5	28	98	241	32	6	46	112	289	41	6	55	142	357	50	7	57	42	144	27	2	25
404	186	465	65	40	128	177	454	70	53	169	189	488	74	66	165	220	493	79	79	158	34	28	14	39	8
405	96	234	158	70	186	98	241	170	91	282	112	299	181	112	298	138	346	193	133	326	42	112	35	63	96
406	194	470	0	198	212	189	449	0	257	276	205	497	0	316	309	240	556	0	375	375	46	86	0	177	149
407	102	260	57	77	140	103	242	61	100	195	117	289	65	124	200	142	355	69	147	216	40	95	12	70	66
408	65	95	66	86	136	76	146	71	113	211	88	207	75	139	229	99	248	80	166	246	34	153	14	80	82
409	0	0	0	2	2	0	0	0	5	5	0	0	0	8	8	0	0	0	11	11	0	0	0	9	9
410	42	112	0	3	3	41	107	0	9	15	43	123	0	15	21	50	122	0	21	21	8	10	0	18	18
411	49	135	0	0	0	100	253	2	0	2	176	440	5	0	5	253	640	7	0	7	204	505	7	0	7
412	3	7	0	0	0	3	7	0	0	0	3	7	0	0	0	3	7	0	0	0	0	0	0	0	0
413	0	0	0	18	40	42	126	2	49	87	96	263	5	81	106	150	377	7	112	119	150	377	7	94	75
414	12	42	0	17	46	66	162	2	47	81	127	329	5	77	103	193	493	7	107	114	181	451	7	90	68
416	0	0	0	0	0	1	2	0	3	3	1	3	0	7	7	2	5	0	10	10	2	5	0	10	10
418	2	3	0	0	0	2	4	0	0	0	2	4	0	0	0	2	5	0	0	0	0	2	0	0	0
428	1	3	0	0	0	16	45	2	14	22	33	94	3	28	37	52	128	5	42	47	51	125	5	42	47
429	48	185	0	18	35	105	283	0	32	60	175	454	0	45	63	252	630	0	59	59	204	445	0	41	11
430	6	22	0	1	5	85	257	1	1	5	173	525	3	1	5	270	752	4	1	5	264	730	4	0	0
431	128	455	0	0	0	118	379	0	0	0	121	379	0	0	0	135	457	0	0	0	7	2	0	0	0
432	162	461	0	0	0	142	412	0	0	0	133	433	0	0	0	137	464	0	0	0	-25	3	0	0	0
433	1	3	0	0	0	27	62	0	0	0	56	130	0	0	0	90	181	0	0	0	89	178	0	0	0
434	0	0	0	0	0	46	101	0	0	0	96	243	0	0	0	150	392	0	0	0	150	392	0	0	0
435	164	575	0	27	28	155	528	0	52	70	157	554	0	78	91	172	583	0	103	103	8	8	0	76	61
436	0	0	0	0	0	29	73	0	0	0	63	171	0	0	0	100	220	0	0	0	100	220	0	0	0
	2,358	6,572	725	838	1,610	2,900	7,800	826	1,316	2,600	3,860	10,100	926	1,795	2,950	4,900	12,600	1,027	2,273	3,300	2,542	6,028	302	1,435	1,453

2040 Traffic Projections

The modeling work led by Scott County generated year 2040 traffic projections for arterial and collector roads, presented as average daily traffic (ADT), for two scenarios. Year 2040 projected traffic volumes for the No Build Scenario 1 are shown on Figure T-8. Figure T-9 provides the year 2040 traffic volumes for the "constrained" Scenario 2, meaning that programmed and/or planned projects are included. Because no there are no projects currently programmed in Belle Plaine, the traffic forecasts shown for the No Build (Scenario 1) and the Constrained Funding Scenario (Scenario 2) are similar.

Future Roadway Capacity Evaluation

A planning-level analysis based on 2040 traffic volumes and the 2040 roadway network was performed to identify roadway segments where capacity problems (i.e., congestion) are anticipated. Forecasted traffic volumes were taken from the 2040 projections discussed above. Typical, planning-level roadway capacities in the form of average daily traffic (ADT) were used for roadway capacities; these ADTs are shown for various types of roads in Table 5-5.

Based on the volume to capacity ratios calculated using the 2040 forecast traffic volumes and the roadway capacities shown in Table T-5, it does not appear that arterials or key collectors will experience capacity issues by 2040. The Scott County model did not forecast for all collector roadways, however, it is reasonable to assume that these roads will handle future volumes. It is notable that the capacity analysis did not include detailed consideration of intersections; separate intersection analysis may be required over the planning horizon.

Table 5 -5

Typical Traffic Capacity by Roadway Type/Configuration		
Roadway Type	**Functional Classification**	**Planning Level Capacity (ADT)**
2-Lane Local/Residential Road	Local Road	1,000
Urban 2-lane	Minor Collector	1,700
Urban 2-Lane Undivided	Major Collector, Minor Arterial, Principal Arterial	11,000
Urban 2-Lane Divided		16,000
Urban 3-Lane		22,000
Urban 4-Lane Undivided		22,000
Urban 4-Lane Divided		32,000
Urban 6-Lane Divided		49,000
4-Lane Rural Expressway	Minor Arterial, Principal Arterial	61,000
6-Lane Rural Expressway		91,000
4-Lane Urban Expressway		68,000
6-Lane Urban Expressway		102,000
4-Lane Urban Freeway	Principal Arterial	76,000
6-Lane Urban Freeway		114,000

Future Functional and Jurisdictional Classification

The City of Belle Plaine does not anticipate any changes in functional classification to roadways within city limits. The City also does anticipate that township roads will be transferred to the jurisdiction of the city as annexations occur during the 2040 planning horizon. Additionally, select roads may be "turned-up" to Scott County as they are extended (see the potential CR 5/Hickory Blvd extension on Figure T-6), however, these projects are not currently programmed.

Access Management

Access management balances the need for access to local land uses with the need for mobility on the transportation network. Proper access management can improve safety by limiting conflict points between local and through traffic on higher classification roads. Access management also preserves the capacity on arterial and collector streets. The bullets below summarize access management goals by functional classification:

- Arterials generally have limited access in the form of driveways and low volume side streets because their role in the network is to support relatively long, high speed traffic movements
- Collectors provide a greater degree of access given their combined mobility/access function
- Local streets have relatively few limits on access because their primary function is to provide access to adjacent land uses

Access density in developed communities like Belle Plaine should be inversely proportional to roadway functionality. For example, residential streets should have many more access points than arterial roads. When access management plans for arterial streets should focus on opportunities for: multiple properties to share access, right-in/right-out access, frontage/backage roads, and appropriate spacing.

Government agencies with roadway jurisdiction define access management guidelines for their roads. MnDOT, with jurisdiction over the principal arterial, Hwy 169, applies guidelines from its Access Management Manual (January 2, 2008). Scott County applies guidelines in the Highway Department Access Spacing Guidelines to county roads. MnDOT and Scott County roads are shown on Figure T-3. MnDOT and Scott County access management guidelines are provided in Appendix A.

Belle Plaine applies access standards and spacing guidelines on local roads to effectively manage existing ingress/egress onto City streets and to provide access controls for new development and redevelopment. Access standards (driveway dimensions) are based on MnDOT State-Aid design standards.

In conjunction with local land use planning, Belle Plaine requires new development to comply with MnDOT and county access management guidelines. The City works with MnDOT and Scott County to consolidate driveway and street access to collector and arterial roadways where applicable and feasible. To further the relationship of access and mobility throughout the Belle Plaine area, the City supports access management that is consistent with the roadway mobility and access relationship and supports the access spacing guidelines of other roadway jurisdictions. Tables 5-6 and T-7 present the proposed access standards and access spacing for the Belle Plaine local roadway network.

Table 5 -6

Roadway Access Standards		
Driveway Dimensions	**Residential**	**Commercial or Industrial**
Driveway Access Width	11’ - 22’, 16’ desired	16’ - 32’, 32’ desired
Min. Distance Between Driveways	20’	20’
Min. Corner Clearance from a Collector Street	60’	80’ (1)
(1) at the discretion of the City Engineer, 80’ minimum.		

Table 5 -7

Type of Access by Land Use Type	Major Collector	Minor Collector
Low & Medium Density Residential		
Private Access	Not Permitted (2)	As Needed (3)
Minimum Corner Clearance from a Collector Street	660’	300’
Commercial, Industrial or High Density Residential		
Private Access	Not Permitted (2)	As Needed (3)
Minimum Corner Clearance from a Collector Street	660’	660’
(1) These guidelines apply to City streets only. Scott County and MnDOT have access authority for roadways under their jurisdiction. Please refer to Scott County’s minimum access spacing guidelines identified in their current Transportation Plan.		
(2) Access to Major Collectors is limited to public street access. Steps should be taken to redirect private accesses on Major Collectors to other local streets. New private access to Major Collectors is not permitted unless deemed necessary.		
(3) Private access to Minor Collectors is to be evaluated by other factors. Whenever possible, residential access should be directed to non-continuous streets rather than Minor Collector roadways. Commercial/ Industrial properties are encouraged to provide common accesses with adjacent properties when access is located on the Minor Collector system. Cross-traffic between adjacent compatible properties is to be accommodated when feasible. A minimum spacing between accesses of 660’ in commercial, industrial, or high density residential areas is encouraged for the development of turn lanes and driver decision reaction areas.		

Road Design Standards and Right-of-Way Preservation

Design guidelines are an effective tool to providing safe, efficient, and consistent road networks in communities. These baseline standards help minimize design uncertainty and define right-of-way needs. They are a starting place and do not preclude consideration different design configurations to account for individual site circumstances.

Geometric design standards are directly related to a roadway’s functional classification and the amount of traffic that the roadway is designed to carry. Geometric design standards for Belle Plaine were developed based on MnDOT State-Aid standards. Standards for Minor Collector roadways are illustrated in Figures T-10. Major Collector design standards are shown on Figure T-11; though, the City of Belle Plaine does not currently have any Major Collectors. These standards are intended to achieve adequate capacity within the roadway network, as well as complement adjacent land uses. Each component identified in the typical sections is essential to a particular roadway’s ability to perform its function in the roadway network.

Right-of-way width is directly related to roadway width and the ability of the road to carry vehicular and pedestrian traffic in a safe and efficient manner. The roadway right-of-way widths identified in Figures T-10 and T-11 are the minimum required for Minor and Major Collector streets, respectively. For Minor Collector streets in residential areas, a minimum right-of-way width of 80’ is necessary for the added roadway width, as well as to provide added setback distance between the roadway and homes along the roadway.

Right-of-way widths greater than 100’ will be required on Major Collectors within commercial areas to accommodate the potential for higher traffic volumes and the need for additional lanes. All right-of-way

requirements may be increased at the discretion of the City Engineer, with approval by the City Council. Please refer to Scott County's right-of-way requirements for county roads in their current Transportation Plan. The City should obtain identified local, county, and state right-of-way through the platting process to accommodate long-term roadway and sidewalk/trail needs.

Design Speeds

Design speeds are directly related to roadway function within the transportation network. Table T-8 below presents the recommended design speed for the Belle Plaine roadway network:

Table 5 -8

Roadway Design Speed Guidelines	
Functional Classification	**Design Speed[1]**
Minor Collector	30 mph
Major Collector	35 – 40 mph
Minor Arterial	45 – 55 mph
(1) At the discretion of the City Engineer for City roadways, with approval by the City Council.	

Transit Existing Conditions and System Plan

Transit Market Area

The Metropolitan Council has defined Transit Market Areas based on the following primary factors:

- Density of population and jobs
- Interconnectedness of the local street system
- Number of autos owned by residents

In general, areas with high density of population and jobs, highly interconnected local streets, and relatively low auto ownership rates will have the greatest demand for transit services and facilities. Transit Market Areas are a tool used to guide transit planning decisions. They help ensure that the types and levels of transit service provided, in particular fixed-route bus service, match the anticipated demand for a given community or area.
Based on this analysis, the Metropolitan Council categorizes the City of Belle Plaine as Transit Market Area V. As per Metropolitan Council's 2040 Transportation Policy Plan (TPP), Transit Market Area V geographies have very low population and employment densities and tend to be primarily rural communities and agricultural uses. General public dial-a-ride service may be appropriate here, but due to the very low-intensity land uses these areas are not well-suited for fixed-route transit service.

Belle Plaine is not within the Transit Capital Levy District as included in the TPP. As such, the only transit services provided are Transit Link dial-a-ride service and various ride-sharing services. If the City is interested in additional transit services and a need for transit services can be identified, Belle Plaine would first have to agree to pay the regional transit capital levy, as defined in MN Stat. 473.446 and 473.4461.
The TPP's Transit Investment Plan does not show any transitway investments planned for Belle Plaine in the "Current Revenue Scenario".

Current and Planned Service and Facilities

The closest regular scheduled public transit option at this time is located at the Marschall Road Transit Station in Shakopee (1615 Weston Court). The Minnesota Valley Transit Authority operates commuter service Monday-Friday from 5:30 a.m. to 7p.m., fixed route service to Burnsville Transit Station and the Mall of America daily from 5:30 a.m. to 11:30 p.m., and a local circulator in Shakopee.

The current and planned transit service and facilities in the City of Belle Plaine are as follows:

Dial-a-Ride Service: SmartLink is the mobility manager for Scott County and consists of four transit services:

- Transit Link which is a contracted dial-a-ride service through the Metropolitan Council and is a shared-ride, reservation-only transit service. Fares are established by the region.
- A supplemental volunteer driver program for trips that are denied on the Transit Link system. Volunteers drive their own vehicles and donate their time to provide transportation for residents that could not be scheduled on the bus systems.
- A shared vehicle program which coordinates the use of a vehicle that allows multiple partners to use a small bus for a wide range of services and transportation options.
- SmartLink coordinates non-emergency medical transportation to provide a means of getting patients to non-emergency medical service appointments.

Land to Air: A subsidiary of Jefferson Lines, operates an inter-city bus service from Mankato to downtown Minneapolis. The inter-city transit service is subsidized by a MnDOT 5311(f) grant, which is a funding source dedicated for inter-city transit options. Known as the “169 Connection” the inter-city bus service includes two round trips daily from Mankato to downtown Minneapolis with stops at MNSU-Mankato, Gustavus Adolphus College, St. Peter, Le Sueur, Belle Plaine, Jordan, and Shakopee. This service connects to Minnesota Valley Transit Authority Route 495 at Marschall Road Transit Station, which connects to transit options at Burnsville Transit Station and Mall of America. The connection in downtown Minneapolis is the Hawthorne Transportation Center where there are statewide and national inter-city transit options.

Additional Parking: Twenty (20) park and pool parking spaces are located at the Belle Plaine Police Department (420 Main Street East). Motorists can park personal automobiles at the lot free of charge and carpool to final destinations.

Non-Motorized Transportation

Existing and Planned Facilities

Belle Plaine’s existing and planned non-motorized facilities are shown on Figure T-12. Numerous sidewalks are located in the more established sections of Belle Plaine. The City’s code notes that subdivisions developed after 2000, also include trail segments. The City’s Subdivision Ordinance (Section 1205.08, SUBD. 2. Sidewalks/Pedestrian Ways) requires that,

In those cases where the City Council deems it appropriate and as designated by the Comprehensive Plan, sidewalks of not less than five (5) feet in width shall be provided. Where a proposed plat abuts

or includes a collector street, sidewalks of not less than five (5) feet in width shall be provided on both sides of the paved surface, unless a trail is included as designated by the Comprehensive Plan. Where the proposed plat abuts or includes a collector street, sidewalks of not less than five feet in width shall be required on one side of the street. In all cases where sidewalks are provided provisions shall be made for handicapped access.

A 10' trail is recommended on both sides of county highways to accommodate pedestrian, bicycle, and non-motorized travel. To the extent possible within the downtown and early–settled areas of Belle Plaine, a 10' trail is recommended on both sides of TH 25.

Ideally, travel modes should be separated on collectors and minor arterials. The requirements for trails and sidewalks in commercial and industrial areas may vary – at the discretion of the City - to accommodate additional pedestrian and bicycle traffic to provide connectivity according to the Master Trail Plan.

In addition, Scott County currently requires bicycle and pedestrian facilities on both sides of county highways in urban areas.

Regional Bicycle Transportation Network (RBTN)

The Metropolitan Council has designated the Regional Bicycle Transportation Network (RBTN). This network consists of prioritized alignments and corridors (where alignments have not yet been established) that were adopted in the Council's 2040 Transportation Policy Plan.

On a regional basis, the Metropolitan Council has identified a potential trail along the Minnesota River, connecting a possible new regional park in the Blakeley area to the City of Belle Plaine and extending north to Jordan to connect with a larger Scott County trail system. Scott County is leading the planning process to determine the alignment of the regional trail, which is called the "Southern Scott Regional Trail." Ultimately, this is proposed as approximately 25 miles in length. The search corridor for this future regional trail is shown on Figure T-12.

Barriers to Non-Motorized Travel

The greatest barriers to non-motorized movements in Belle Plaine are Hwy 169 and TH 25. Hwy 169 carries over 20,000 vehicles per day through the City at high speeds. There are no at grade crossing of Hwy 169 for foot or bike traffic. Grade separated crossings of Hwy 169 are provided at the TH 25 interchange, Enterprise Drive Overpass, and the South Creek Trail Underpass.
Both TH 25 and CR 3 carry 3,000-5,000 vehicles per day in Belle Plaine. These roads see considerable non-motorized travelers, especially in the downtown area. These volumes may present barriers to non-motorized travelers.

Future sidewalks and trails are shown on Figure T-12. The City will continue to work with MnDOT and Scott County to evaluate pedestrian safety features along Hwy 169, TH 25, CR 3, CR 5, CR 6, CR 7 and other roads under county jurisdiction to identify opportunities to improve conditions for non-motorized travels, either as stand along projects, or in conjunction with road projects.

Aviation

The A.R.S. Sport Strip is located north of Belle Plaine northeast of Highway 25. The airstrip was originally developed in 1966. The 2,530-foot runway is attended for 40 hours per week. The average number of

operations per day varies depending on the season with a minimum of zero operations up to 100 operations per day on a weekend in the summer.

In 1998 the City adopted an Ordinance which requires an applicant who proposes the construction of any structure with a height equal to or greater than 200 feet above ground level; or the alteration of any structure to a height which is equal to or greater than 200 feet above ground level to notify the MNDOT and Federal Aviation Administration of the proposal at least 30 days prior to the City's Council's consideration of the request.

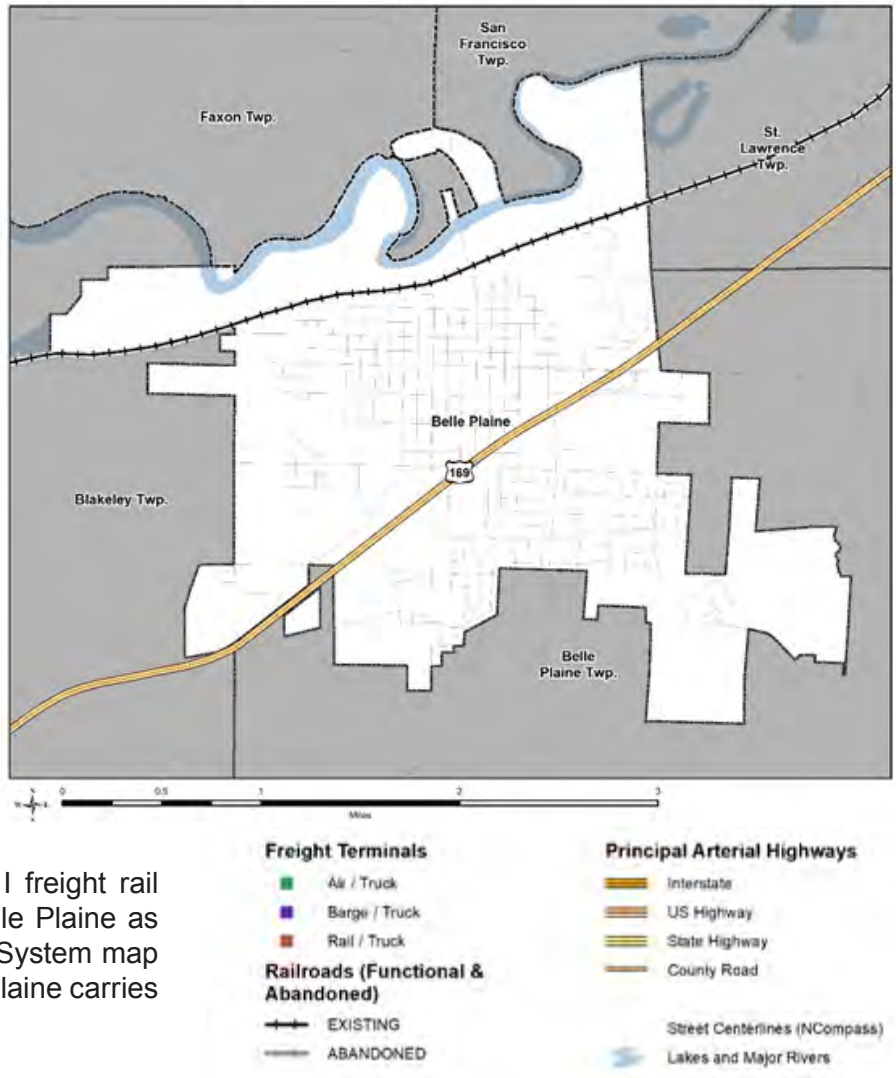
Belle Plaine is outside of the "Airport Influence Area," with Flying Cloud Airport in Eden Prairie, the closest Metropolitan Airport identified in the Metropolitan Council's Transportation Policy Plan.

Freight

As noted in the Metropolitan Council's TPP, an effective freight transportation system is essential to economic well-being. The regional freight transportation system is part of a larger freight system moving goods nationally and internationally.

Like people, freight is moved through different modes from roadways, to railways, to airways, to waterways. Unlike modes and facilities for movement of people, private entities own and operate many of freight modes and associated facilities. As such freight facilities are planned by partners external to the Metropolitan Council. The Council does work closely with those partners to ensure an effective freight system. As such, the following discussion pertaining to freight facilities in the City of Belle Plaine is provided for information purposes.

Metropolitan Freight System - City of Belle Plaine, Scott County



Union Pacific (UP) operates a Class I freight rail facility which traverses the City of Belle Plaine as illustrated on the Metropolitan Freight System map which follows. The UP facility in Belle Plaine carries an average of five trains per day.

Class I freight rail facilities are described by MnDOT as 'major railroads' with annual gross operating revenues of greater than $378.8 million.

While railways are an important component of the regional freight system, the majority of goods are moved by trucks on highways.

TH 169 through Belle Plaine carries a large volume of heavy commercial truck traffic. Daily heavy truck traffic on TH 169 in Belle Plaine is estimated at 1,800 average annual daily trips (MnDOT HCAADT, 2016). HCAADT data is included on Map T-2 included in this plan element.

Locally, a significant generator of freight movement are industrial facilities located adjacent to Enterprise and Commerce Drives. Said industrial facilities generate heavy commercial truck traffic on a regular basis.

Locally, no significant issues impacting rail operations or heavy truck traffic impacting the movement of goods have been identified. However, systemic and variable demand challenges at a broader level are noted. For example, variability in fuel prices can influence use of rail. Higher fuel prices often result in increased use of Class I rail facilities. Capacity and connectivity challenges of regional system components can influence local rail use.

Freight safety and security are of increased concern as addressed in the Scott County Multi-jurisdictional All Hazard Mitigation Plan.

Our Goals and Policies

Destination Belle Plaine 2040 envisions an interconnected, sustainable, and complete transportation system as a key contributor to quality of life and economic prosperity. To achieve our vision we are committed to the following goals and policies.

TR 1 A balanced and cost-efficient transportation system which accommodates varying modes travel safely and efficiently without a singular focus on travel by automobile. The following goals and strategies outline the City of Belle Plaine's plan for ensuring adequate infrastructure is available to support the growth anticipated within the urban growth boundary, as well as potential funding sources for completing necessary improvements.

- 1.1. The City will approach transportation in a complete and comprehensive manner by giving attention to all modes of travel and related facilities and by combining or concentrating various land use activities to reduce the need for transportation facilities.
- 1.2. When considering street design, planning, and reconstruction the City should consider the needs of all travel modes to the extent feasible.
- 1.3. When reviewing subdivisions, the City should encourage local streets locations which permit efficient plat layout while being compatible with the locale's topography, adjacent roadways, municipal utility plans, and environmental constraints.
- 1.4. When evaluating or considering transportation system performance, the City should examine all modes of travel with equal diligence as opposed to prioritizing a single mode of travel.
- 1.5. The City should continue to improve and expand the existing transportation system as necessary to meet current and future transportation needs.
- 1.6. To diminish/prevent congestion, the City should encourage alternate and/or integrated transportation methods that are less dependent on motor vehicles.
  - 1.6.1. The City should consider promoting and encouraging walking and biking as alternate transportation methods.
  - 1.6.2. The City should strive to provide park and ride facilities near Highway 169 as a means of encouraging car-pooling and ride sharing.
  - 1.6.3. As the population ages and diversifies, bus service will become an important amenity in the community and should be further studied with Scott County.
  - 1.6.4. Special attention should be given to improving pedestrian access, movement and crossings to provide both convenience and safety.

1.7. The City should continue to cooperate on a regional level in planning and development of a transportation system, including coordination among multiple jurisdictions, public and private transit providers and agencies at all government levels, while serving the functional needs of all.
1.8. The City should continue to work on a local, state, and regional level to reduce traffic congestion and safety concerns on transportation corridors.
1.9. The City should continue pursue a balanced approach to financing transportation and other community needs at the local level based on current availability of services and facilities and maintenance of existing infrastructure.
1.10. The City should continue to coordinate future road construction and reconstruction projects with all utility service providers and Scott County to ensure efficient repair/ replacement and avoid duplicate costs.
1.11. The City should continue to review non-development driven improvements and prioritize and program such improvements in the Capital Improvement Program.
1.12. The City should consider establishing a policy outlining when a traffic impact study should be conducted, including acceptable information to be contained within the study.
1.13. The City should maintain consistency among landscape and streetscape elements along roadway projects to create a more uniform approach to those items throughout the City.
1.14. The City should consider and support landscaping and streetscaping elements along major roadways connecting to the City.

TR 2. A transportation system that is well preserved and maintained so as to protect previous investments, increase efficiency, and delay the need for improvement or expansion.

2.1. The City should continue to require that new development pay for its fair share of construction costs for new and/or upgraded transportation infrastructure needed to accommodate the new development.
2.2. The City should consider operations and maintenance costs in addition to construction costs for new transportation infrastructure.
2.3. The City should require new development and redevelopment contribute to the operations and maintenance of new transportation infrastructure.
2.4. The City should require off-site improvements, including those in other jurisdictions, where the existing transportation network will be directly impacted by new development, including where the development is not immediately adjacent. This could include but is not limited to paving roads, repairing surfaces, fixing sub-standard drainage, improving sight distances, etc.
2.5. The City should continue to require all local roads to be constructed to property lines, or the corresponding amounts of money be escrowed, where stub streets are proposed to adjacent properties, but are not immediately warranted.
2.6. The City should continue to pursue infrastructure management best practices so as to extend the useful life of transportation facilities to the greatest extent practicable.

Appendix : Figures

Transportation