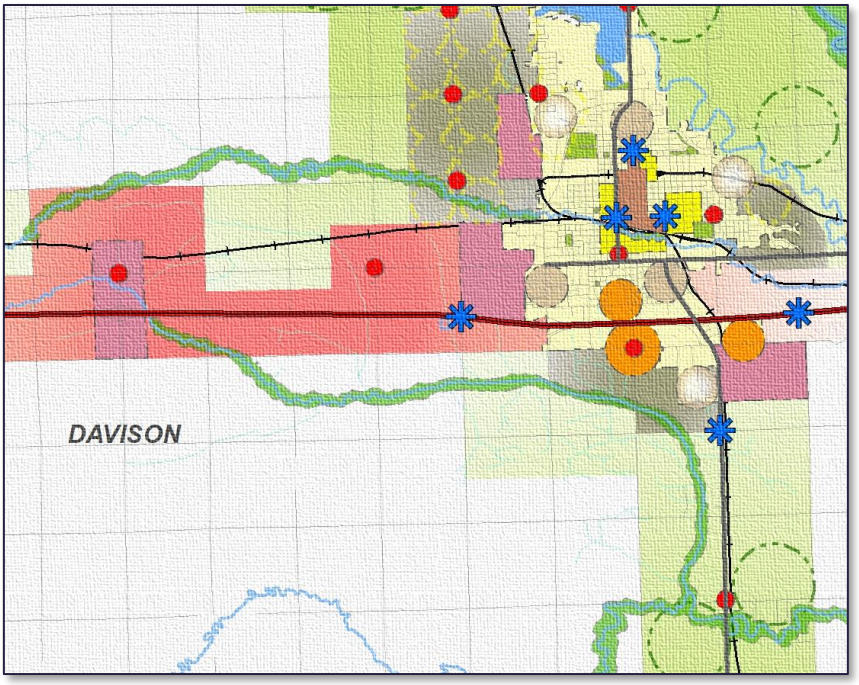


Land Use

CHAPTER 8

Davison County Comprehensive Plan

DAVISON COUNTY PLANNING PARTNERSHIP | 2021-2040

The intent of this chapter is to identify, map, and analyze the various land use patterns and issues within the County. Chapter one also identified five primary issues facing Davison County:

- The investment of public and private capital in real estate and infrastructure.
- Orderly growth of a variety of housing types.
- Preservation of the current agricultural practices as viable economic activities.
- Environmental protection; and
- Balancing the cost-benefit ratio in providing government services.

The land use plan will balance these five primary issues with generally acceptable land use guidelines. This balance was considered in the text of this chapter as well as in preparing current and future land use maps. The final section on land use will focus upon two planning principles, which were considered in developing future land use policies.

A baseline of data was utilized by the Planning and County Commissions to formulate the current and future land use maps. The baseline included the existing transportation network and locations of rural residences and farms within the County as, prepared by Planning and Development District III. District III, in conjunction with the South Dakota Department of Transportation conducted a land use survey as part of an ongoing road inventory and updating agreement.

Existing Land Use

Davison County is unique in that the development of property was not regulated for any significant period. The lack of regulations guiding development has resulted in the following situation:

- A mixture of land uses within relatively small areas.
- Scattered home sites or rural residences within agricultural areas; and
- A high concentration of homes on half acre lots within large rural subdivisions.

Earlier chapters provided statistics and maps illustrating these issues within the County. A thorough review of the current situation was undertaken by the Planning Commission prior to forwarding the Plan for County Commission consideration. The Commission reviewed volumes of statistics and numerous illustrations including:

- Existing structures.
- Soils and slope.
- Flood plains.
- Transportation.
- Utilities; and
- Population densities.

A review of the information led to the establishment of general land use categories:

- Agriculture.
- Commercial.
- Public; and
- Residential.

Table 8.1 shows that the predominant land use is agriculture, constituting nearly 247,000 of the 276,000 acres or 89% of the land in the County. Industry and commercial uses occupy the smallest amount of land. Of the land uses that are considered "urban," residential uses consume over 60% of land in Ethan, Mitchell, and Mount Vernon.

While the County has not restricted development there remains a level of natural gravitation for all four of the identified categories. Agriculture is difficult to quantify due to progression of these lands from agricultural uses to accommodate the remaining three uses. Rural residential properties are most predominant near the City of Mitchell, either near the James River or Firesteel Creek or along hard surfaced roads.

The commercial uses are adjacent to South Dakota Highways 37 and Interstate 90. Public lands include property along scattered sites throughout the County. The four identified uses have been incorporated with the existing uses on the ground and are presented as the "Current Land Use Map" in **Figure 8.1**.

Table 8.1 – Existing Land Use

	Total		Urban	
Agriculture-Open Land	246,716	89.3%	0	0.0%
Rural Residential	13,583	4.9%	0	0.0%
Low Density Residential	6,977	2.5%	6,977	44.2%
Medium Density Residential	2,408	0.9%	2,408	15.2%
High Density Residential	217	0.1%	217	1.4%
Parks, Schools, Public Uses	2,169	0.8%	2,169	13.7%
Water	780	0.3%	780	4.9%
Rural Business	308	0.1%	0	0.0%
Highway Business	1,317	0.5%	1,317	8.3%
Neighborhood Commercial	42	0.02%	42	0.3%
Central Business Districts	95	0.03%	95	0.6%
Warehousing, Transportation	1,138	0.4%	1,138	7.2%
Industry	657	0.2%	657	4.2%
Total	276,407		15,800	

FIGURE 8.1
Current Land Use

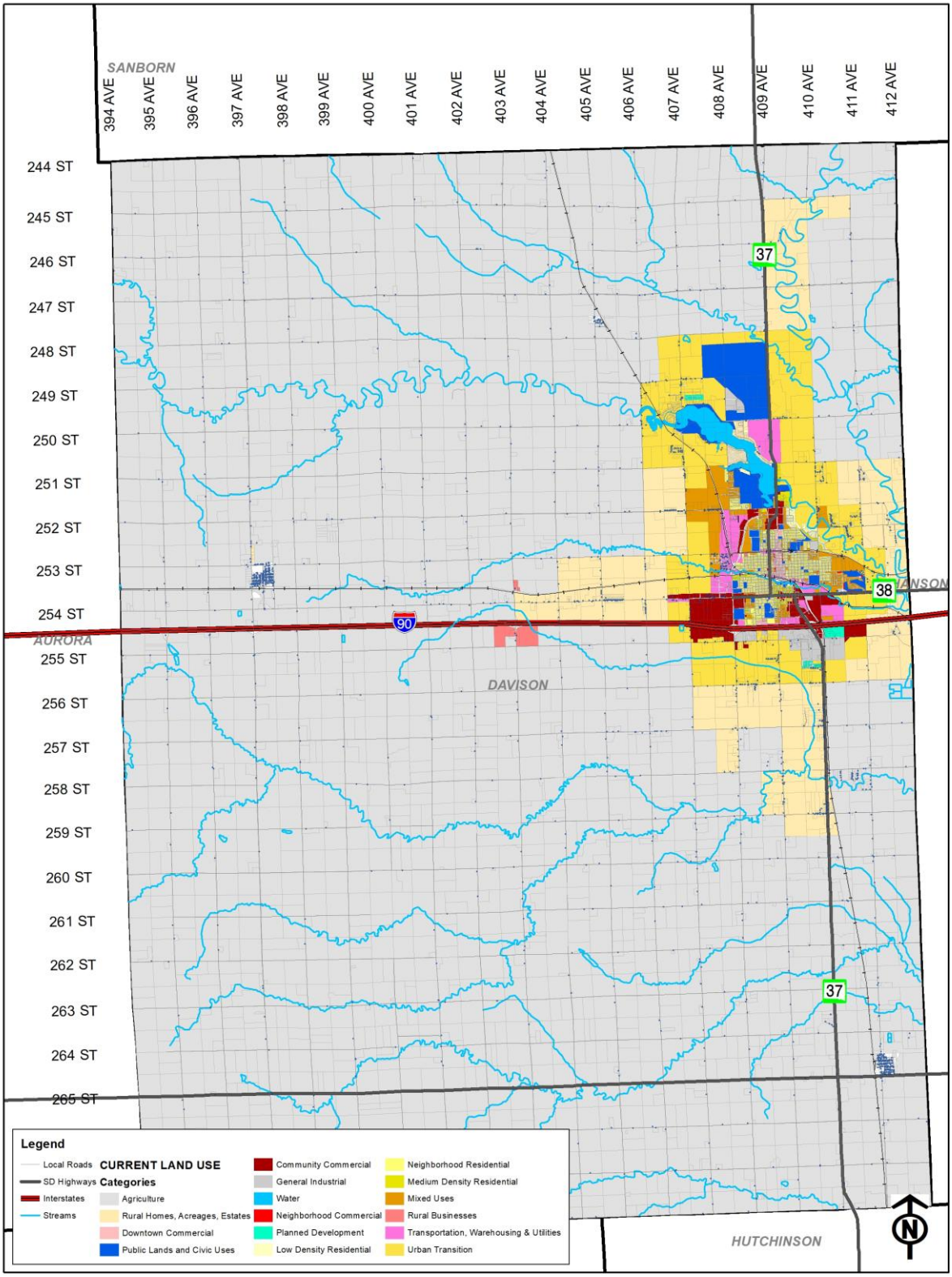
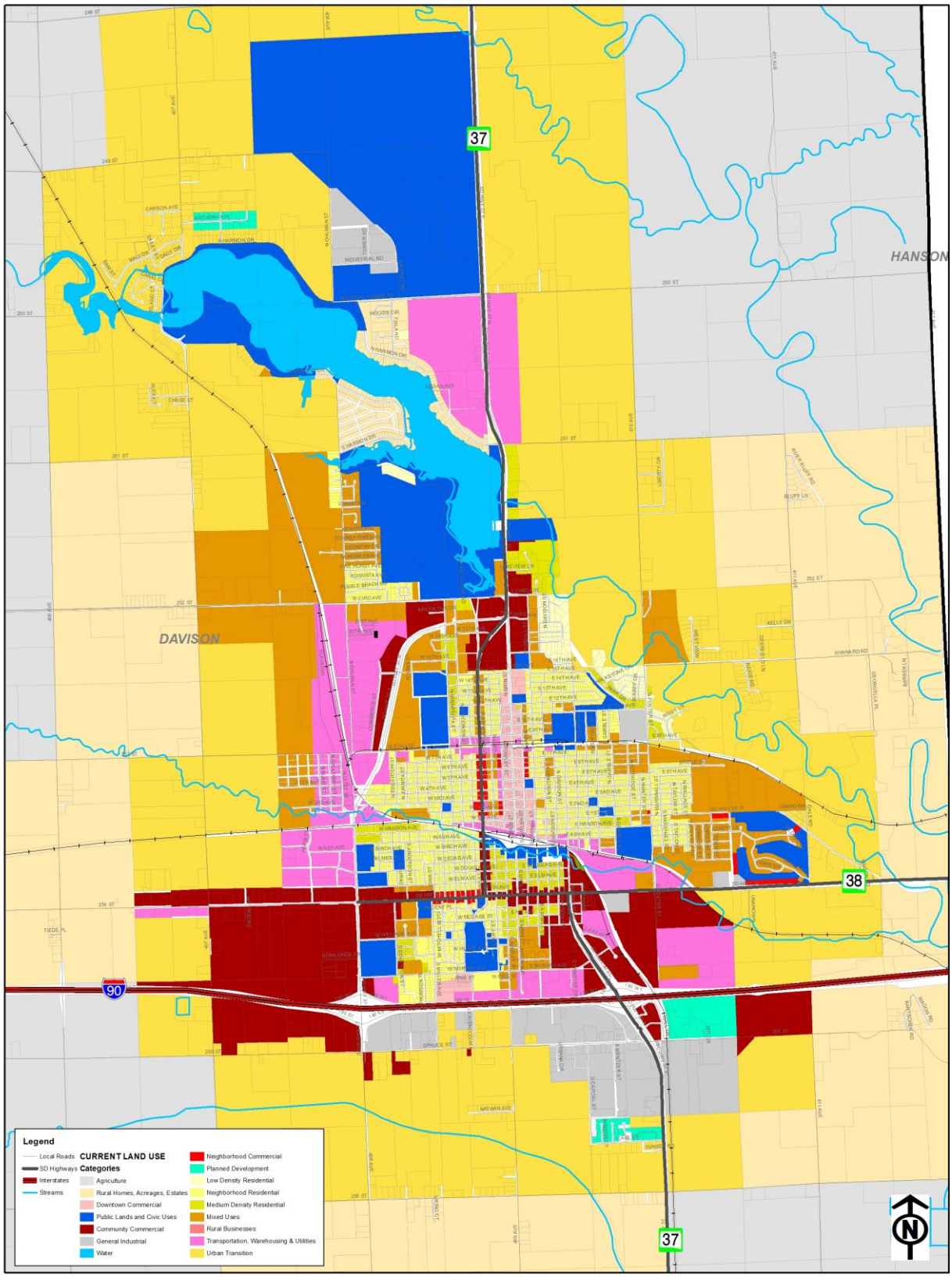


FIGURE 8.2 - LAND USE: MITCHELL AREA



Land Use Demand Estimates

Residential Land Use Demand

Tables 8.2 through 8.5 lay out the detailed acreage that will be needed to accommodate the housing units projected for each of the towns and the balance of the County. If growth in the County and the subsequent towns follows the projected population and housing units, over 675 acres of land will be needed for residential development. The projections were based on the following densities and assumptions:

In Towns:

- Single family units at 2.5 units/acre
- Multi family units at 8 units/acre
- Manufactured homes at 6 units/acre
- 30% markup for all residential land to account for infrastructure and reserve market demand.

In Rural Areas:

- Single family units at 1 unit/acre
- Multi family units at 4 units/acre
- Manufactured homes at 4 units/acre
- 30% markup for all residential land to account for infrastructure and reserve market demand.

The total number of new housing units projected in the Mitchell area is 972 units. Applying the unit type and density assumptions conclude that there will be 240 net acres of land in demand for residential use in the Mitchell area. A 30% markup in demand for land is used to account for roads, rights of way, and reserve market demand, so the total amount of land needed to accommodate future residential is approximately 310 acres. The main assumption with infill/replacement units for all areas is that land is already used or available for infill development. Therefore, land consumption demand is not considered for these units. **Table 8.2** provides a detailed breakdown of unit types and residential land needed over the planning period in Mitchell.

Table 8.2: Mitchell's Share of Units

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Projected Units	233	240	246	253	**972**
Net Acres Needed	57.45	58.98	60.55	62.17	**239.16**
30 % Markup (roads, market, etc.)	17.24	17.69	18.17	18.65	**71.75**
Total Acres Needed	**74.69**	**76.68**	**78.72**	**80.82**	**310.90**

The total number of new housing units projected in Ethan is 23 units. Applying the unit type and density assumptions conclude that there will be 7.5 net acres of land in demand for residential use in Ethan. A 30% markup in demand for land is used to account for roads, rights of way, and reserve market demand, so the total amount of land needed to accommodate future residential is approximately 10 acres. **Table 8.3** provides a detailed breakdown of unit types and residential land needed over the planning period in Ethan.

Table 8.3: Ethan's Share of Units

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Projected Units	5	6	6	6	**23**
Net Acres Needed	1.81	1.86	1.91	1.97	**7.55**
30 % Markup (roads, market, etc.)	0.54	0.56	0.57	0.59	**2.27**
Total Acres Needed	**2.35**	**2.42**	**2.49**	**2.56**	**9.82**

The total number of new housing units projected in Mount Vernon is 31 units. Applying the unit type and density assumptions conclude that there will be 8.5 net acres of land in demand for residential use in Mount Vernon. A 30% markup in demand for land is used to account for roads, rights of way, and reserve market demand, so the total amount of land needed to accommodate future residential is approximately 11 acres. **Table 8.4** provides a detailed breakdown of unit types and residential land needed over the planning period in Mount Vernon.

Table 8.4: Mount Vernon's Share of Units

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Projected Units	8	8	8	8	**31**
Net Acres Needed	2.05	2.11	2.16	2.22	**8.54**
30 % Markup (roads, market, etc.)	0.62	0.63	0.65	0.67	**2.56**
Total Acres Needed	**2.67**	**2.74**	**2.81**	**2.88**	**11.10**

The total number of new housing units projected in the rural areas of Davison County is 31 units. Applying the unit type and density assumptions conclude that there will be 230 net acres of land in demand for residential use in rural Davison County. A 30% markup in demand for land is used to account for roads, rights of way, and reserve market demand, so the total amount of land needed to accommodate future residential is approximately 300 acres. **Table 8.5** provides a detailed breakdown of unit types and residential land needed over the planning period in rural Davison County.

Table 8.5: Units in the Balance of Davison County

	2021-2025	2026-2030	2031-2035	2036-2040	Total
Projected Units	50	51	52	54	**237**
Net Acres Needed	48.30	49.59	50.92	52.28	**229.51**
30 % Markup (roads, market, etc.)	14.49	14.88	15.27	15.68	**68.85**
Total Acres Needed	**62.79**	**64.47**	**66.19**	**67.96**	**298.37**

Employment Land Use Demand

If employment in a particular sector is expected to grow, the amount of land needed to support those extra jobs can be calculated using planning standards for different types of industries. In **Table 8.6**, the acres needed to accommodate the projected jobs by 2038 are listed. Only industries that were projected to increase in employment were analyzed. Therefore, industries such as Mining, Wholesale Trade and Retail were not included in future growth analysis. It should be noted, however, that even though employment may not increase in industries such trade and retail, growth in those industries should be accommodated by existing properties in Mitchell, Mount Vernon, and Ethan.

A substantial amount of land will be needed in the next twenty years to accommodate the growth in employment in the Construction sector. A base acreage of 485 acres will be needed for future employment in construction. A 20% market adjustment is added to account for additional growth. A 25% markup is added to account for roads, easements, and rights of way.

In total, the Construction sector may need over 700 acres of land over the planning period. Other sectors that will need several acres of land include Manufacturing (187 acres), Utilities (211 acres), and Other Services (143 acres). Other Services may include repair and maintenance, personal care, dental care, dry cleaning, and religious & civic organizations.

Table 8.6
Total New Acres Needed, 2021 - 2040

Industry Sector	Calculated Acres	Market Adjustment	Roads, ROW	New Acres Needed
		(20%)	(25%)	
Agriculture/Fish/For	-	-	-	-
Mining/Extraction	-	-	-	-
Construction	485.97	97.19	121.49	**704.65**
Manufacturing	129.45	25.89	32.36	**187.71**
Transportation/Communication	55.18	11.04	13.80	**80.02**
Utilities	145.73	29.15	36.43	**211.30**
Information	5.63	1.13	1.41	**8.17**
Wholesale Trade	-	-	-	-
Retail Trade	-	-	-	-
Finance & Insurance	-	-	-	-
Real Estate & Leasing	9.57	1.91	2.39	**13.87**
Professional, Scientific Services	1.09	0.22	0.27	**1.58**
Management of Companies	-	-	-	-
Admin Support/Waste Management	-	-	-	-
Education	7.66	1.53	1.92	**11.11**
Health Care/Social Assistance	-	-	-	-
Arts Entertainment	-	-	-	-
Accommodation/Food Services	-	-	-	-
Other Services	98.83	19.77	24.71	**143.30**
Government	38.65	7.73	9.66	**56.04**
Totals	**977.75**	**195.55**	**244.44**	**1,417.74**

Development Considerations

The costs of extending water and sewer services and the provision of future wastewater treatment systems are the primary considerations in designating future growth. However, other factors must also be considered which includes capacity of the transportation system, anticipated growth, and environmental suitability.

A. Water Services Expansion and Constraints

Growth in the county will depend on the availability and cost of water. If water supplies are tight, the cost of water will increase, and growth will be slow. The contracted amount of water from the B-Y Water District is less than the City's usage during high use periods (summer months). The B-Y Water District has supplied the additional water to date, but there is no guarantee that will continue indefinitely.

The water treatment plant has only produced water on one day in the last 13 years. While the operators exercised the equipment on a weekly basis to keep it operable, the water treatment facility, in its current state, cannot be relied upon to supplement or replace the B-Y Water District supply. It should be noted that all discussions related to the current and estimated future water usage are based on past and expected trends. As such, there is no inclusion for the potential of an industry with a large water demand to locate in the City.

Davison County Rural Water System can provide service to new rural residential, commercial, and industrial users. The system can support large industrial and commercial users with upgrade. Currently the system is exploring some options for upgrading as the City of Mitchell and is growing and needing more water.

Many domestic wells are located within a five-mile radius of Mitchell. Therefore, Davison County must consider the development allowed on or near domestic, industrial, and city well-fields to ensure the quality of water is not diminished. It is anticipated that Mitchell will eventually annex rural residential developments when they reach a certain build-out level. The B-Y Water System was extended to Mitchell to ensure that there is adequate water available for Mitchell.

B. Sewer Services Expansion and Constraints

Many locations in southern Davison County have observation wells to monitor ground water levels and quality. The soils within a significant portion of Davison County, particularly Lisbon and Tobin Townships, have limitations for septic tanks. Therefore, Davison County should discourage development that creates a high density of septic tanks use in these areas.

Currently, there are no rural sanitary districts within Davison County. Davison County will stress the importance of economies of scale for future development and encourage wastewater systems designed to service existing and future county residents with wastewater treatment facilities. In addition, Davison County communities must plan for future expansion of their sanitary sewer system, including the location of lagoon facilities.

C. Transportation Capacities, Expansion and Constraints

Within Mitchell and Prosper Townships, there are some township and county roads that are nearing capacity. Significant improvements are needed on SD Highway 37, 274th Street (West Havens), West 23rd Avenue/252nd Street, and other roads within the Mitchell urban growth area also need significant improvements.

Each urban growth area should have proper transportation facilities with the capacity to serve proposed new developments. All rural area transportation routes should provide efficient access between communities and existing developments with few interruptions. However, the county cannot afford to construct, maintain, or improve additional rural arterial and collector roads if it does not benefit from an increased tax base.

D. Environmental Constraints

Some soil in Davison County has severe limitations for development. A map showing the general suitability of soils and land for development in Davison County is shown in **Figure 8.3.** Green shades indicate soils that are more suitable for general development while orange-to-red hues show soils with limited development potential. Development should be limited in those areas impacted by high water tables, poor drainage, and unsuitable soils.

Poor surface drainage causes storm drainage and street maintenance problems, while the high-water tables create problems with basement sumps and septic drain fields. A map of the septic tank soil limitations is located on **Figure 8.4A**. The map indicates that portions of Davison County have limitations for septic tanks.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches

is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas. Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Rating class terms indicate the extent to which the soils are limited by all the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

There is a large swath of territory where shallow aquifers present a concern for land use planning. Within these areas, limited development should be considered to protect the water supply.

For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification of the soil. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments. The suitability of dwellings with basements and small commercial buildings is shown in **Figure 8.4B.**

Rating class terms indicate the extent to which the soils are limited by all the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Figure 8.3 - General Suitability

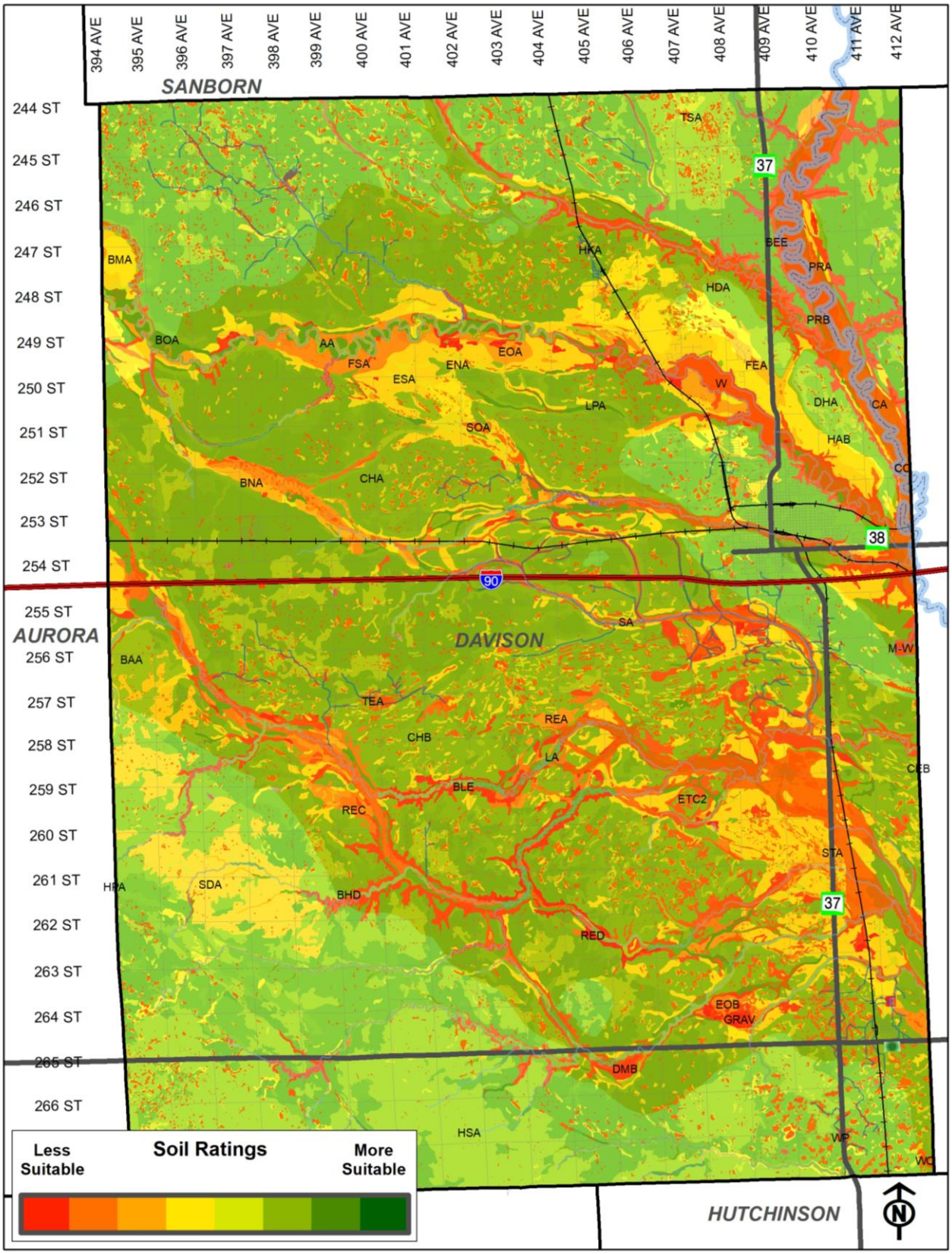
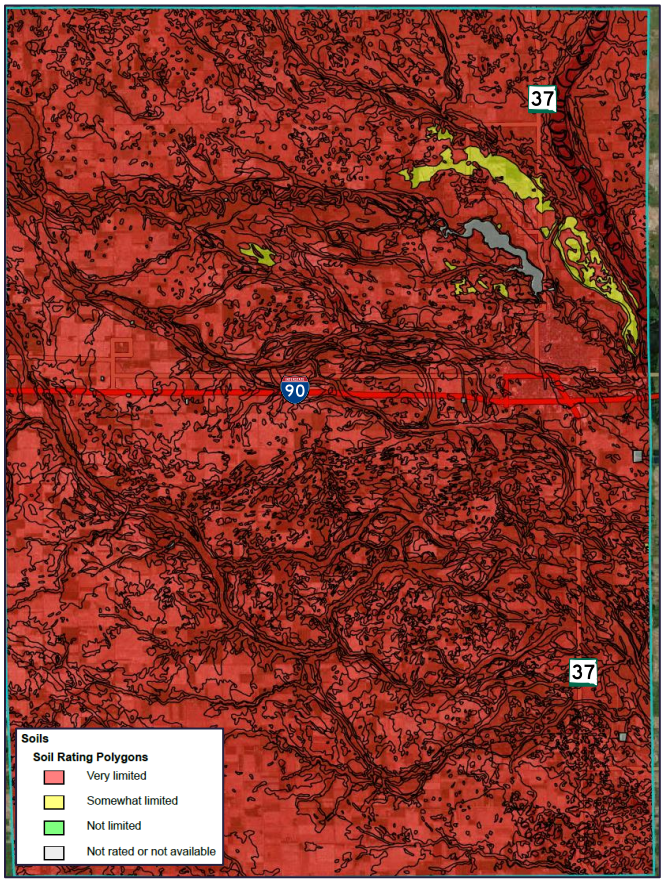


Figure 8.4 Soil Limitations

A. Septic Tank Absorption Field Limitations



B. Dwellings with Basements and Small Commercial Buildings

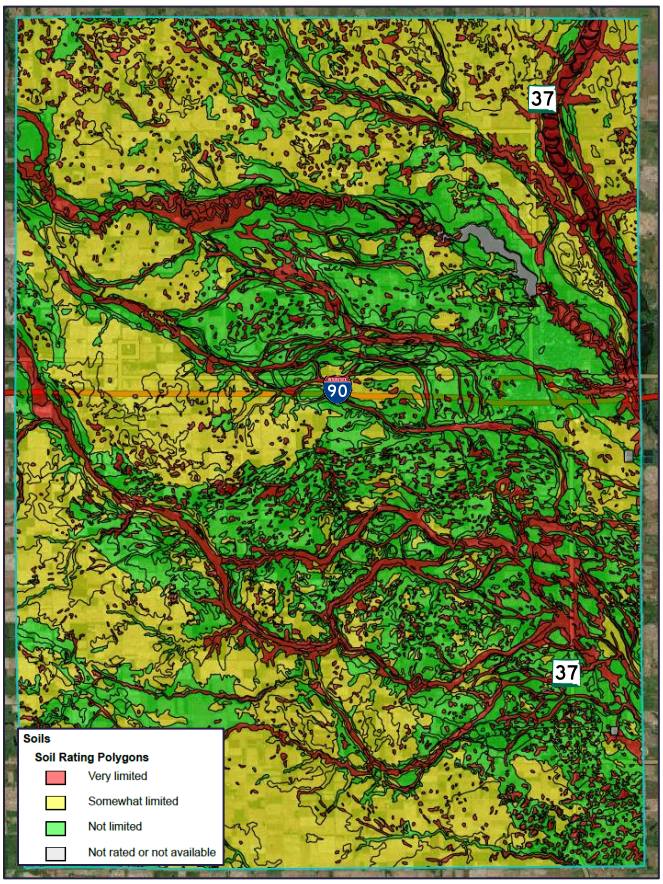
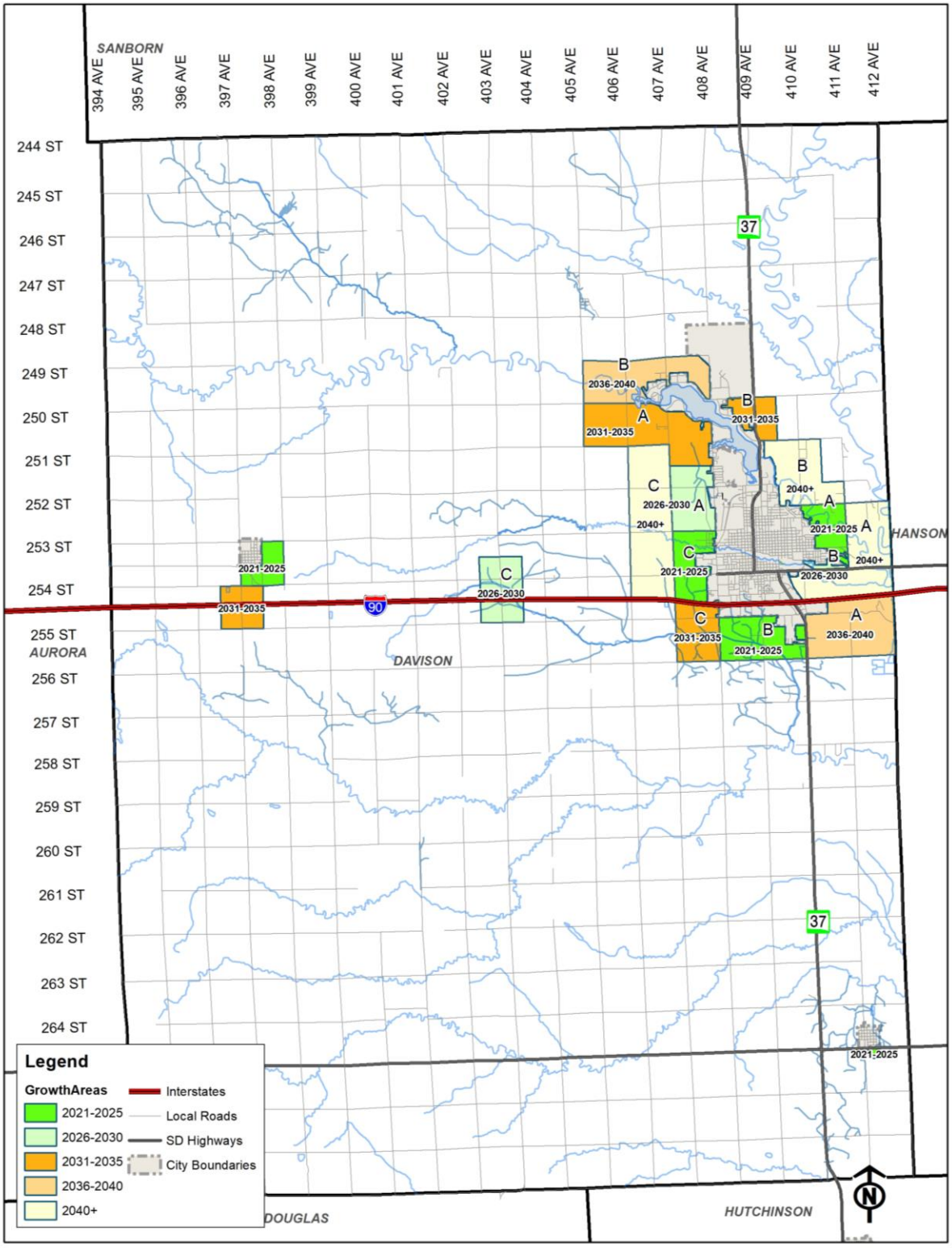


Figure 8.5 – Growth Areas: 2020 – 2040+



Growth Area Capacities 2021-2040+

Employment Capacity

The projected future employment and employment land use demand in Davison County calculated in Chapter Seven (Economy) can be compared to future growth areas to determine whether future employment growth can be accommodated. The number of jobs projected by 2038 through shift-share analysis for Davison County is 5,662. Additional employment in sectors that are projected to grow will create a demand for a net 977 acres of land. Adding in market adjustments and infrastructure, a total of 1,417 acres of land will be needed.

Table 8.7 and **Figure 8.6** lays out the land and employment capacities for the future growth areas in Davison County. The growth areas identified by the planning team are areas that are suitable for future development. The timing of various growth phases is determined by each area's proximity to existing development, local infrastructure, and community services.

Each area was measured with consideration given to any limitations (wetlands, slope, etc.) and land that has already been developed. Land for road rights of way and other public easements are deducted from the gross amount which leaves the net acres available for land uses such as construction, manufacturing, and offices.

2021-2025

Subareas B and C in this period are in the south and west areas of Mitchell. These areas contain nearly over 270 acres of land that could accommodate development of various types of employment (**Subarea A** is an area primarily targeted for residential development).

The growth area on the east side of Mount Vernon contains over 50 acres of land suitable for employment which, when added to the areas near Mitchell, over 320 acres is available in the immediate term. Using standards for calculating the number of employees that each area could accommodate, this growth phase could accommodate nearly 4,100 jobs.

2026-2030

Table 8.7 shows that growth areas **A and C** in be able to accommodate nearly 3,200 employees and nearly 400 net acres of employment by 2030.

Subarea A is on the western edge of Mitchell and includes the CHS Farmer's Alliance Elevator. This area could see a mix of industrial and office uses. Future residential land use is factored into this area.

Subarea C is located at the intersection of Interstate 90, Betts Road (403rd Ave), and Old Highway 16 approximately 5 miles west of Mitchell. Central Electric has its headquarters in this area, which has enormous potential for future economic growth.

2031-2035

There are no subareas in the Mitchell area in this phase that are targeted for economic development. This is primarily due to these areas being more suitable for residential land uses or there are enough environmental limitations to make the development of employment areas difficult.

There is a large tract of land which straddles Interstate 90 near Mount Vernon that is suitable for economic development and could accommodate over 1,000 jobs. This area has a similar advantage to the Betts Road Area as the land is well served by transportation infrastructure (railroad and highways). The only limitation in this area is the lack of utilities.

2036-2040

Subarea A in this phase is in the southeast portion of Mitchell and includes the Schlaffman Farm (the location of the annual DakotaFest Farm Show). 100 acres of the 689-acre area is suitable for economic development, which would yield approximately 1,200 jobs.

2040 and Beyond

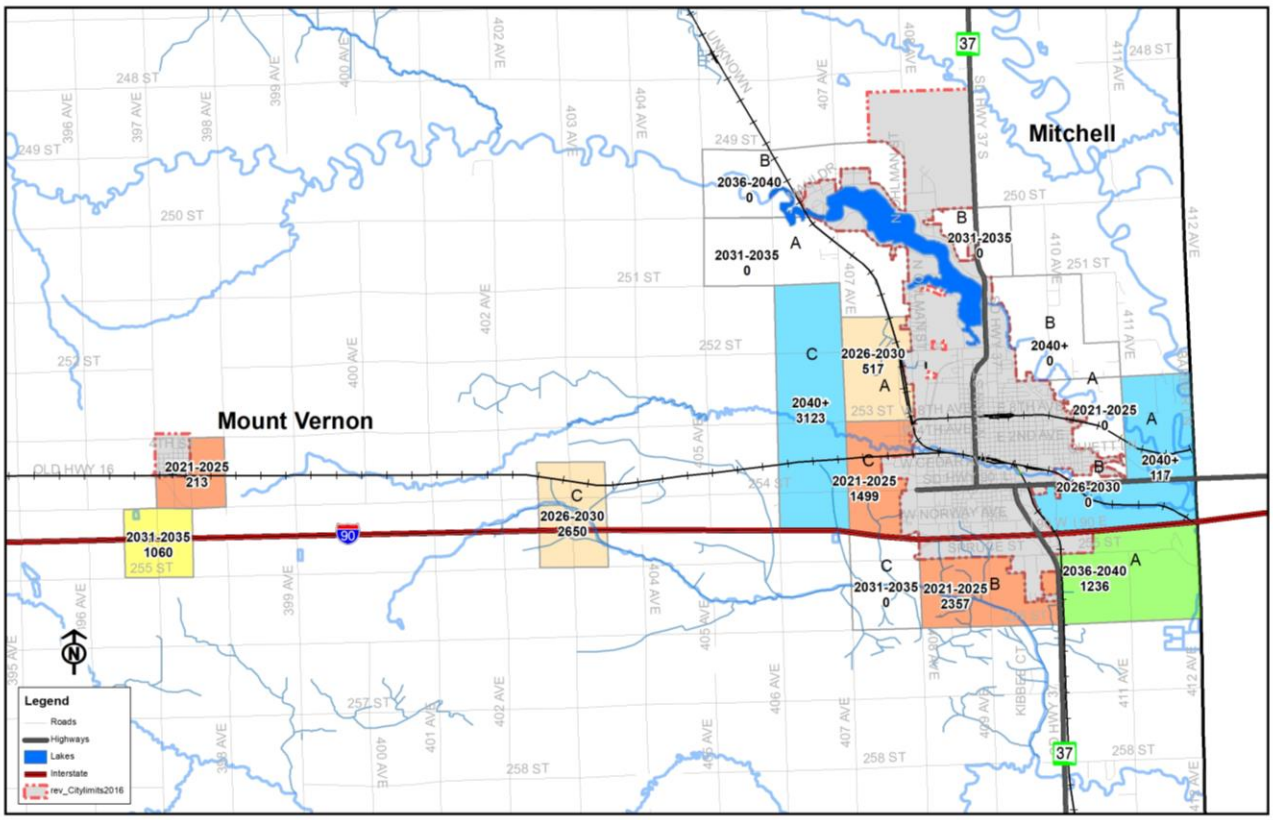
There are two subareas identified as potential employment areas for long term development. An area on the east side of Mitchell has several environmental concerns which limits the area's employment capacity.

A large area west of Mitchell, bounded by Interstate 90, 406th Ave, 407th Ave and 251st St has much potential for long term urban development. Of the 2,200 acres in the area, 700 gross acres are suitable for industrial uses while the remainder of the land is geared toward rural residential development.

Table 8.7
Growth Area Employment Capacities

Growth Phases	2021-2025			2026-2030			2031-2035			2036-2040		Mount Vernon	Mount Vernon	
Employment Areas	A	B	C	A	B	C	A	B	C	A	B	2021-2025	2031-2035	Totals
Gross Site Area in Acres		443.0	485.0	268.0		955.0				689.0		165.0	624.0	3,629.0
Land Use Concerns		41.0	54.0	15.0		160.0				0.0		0.0	40.0	310.0
Developed Acres		100.0	178.0	108.0		225.0				379.0		64.0	140.0	1,194.0
ROW, Easements		132.9	145.5	170.4		238.7				206.7		49.5	187.2	1,040.9
Net Acres		169.1	107.5	64.6		331.3				103.3		51.5	256.8	1,084.1
Employee Capacity		2,357	1,499	517		2,650				1,236		213	1,060	9,532

Figure 8.6 – Employment Capacity in Future Growth Areas



Residential Capacity

The following table shows the areas and housing capacities for the growth areas around Mitchell, Ethan, and Mount Vernon. The growth areas are listed in 5-year increments and include the subareas found in each time. Each column shows the size of each area in gross acres, the net developable acres (once limitations, current development and rights of way are factored), and net unit capacity. Population projections for each area are based on household size assumptions.

The projected housing units and residential land use demand in Davison County calculated in Chapter Five (Housing) can be compared to future growth areas to determine whether future employment growth can be accommodated. Through trend and growth rate analysis an additional 1,263 housing units are projected by 2040 for Davison County. Adding in market adjustments and infrastructure, a total of 675 acres of land would be needed to accommodate the projected demand.

Tables 8.8 and 8.9 lay out the land and residential capacities for the future growth areas in Davison County, Mitchell, Mount Vernon, and Ethan. The growth areas identified by the planning team are areas that are suitable for future development. The timing of various growth phases is determined by each area's proximity to existing development, local infrastructure, and community services.

Table 8.8 - Growth Area Residential Capacities (Mitchell)

	2021-2025			2026-2030			2031-2035			2036-2040		2040+		
RESIDENTIAL AREAS	A	B	C	A	B	C	A	B	C	A	B	A	B	C
Gross Acres	583.0	645.0	328.0	638.0	80.0	0.0	1,884.0	522.0	871.0	933.0	1,428.0	1,734.0	1,232.0	1,485.0
Limitations (Acres)	109.0	46.0	64.0	33.0	22.0	0.0	38.0	10.0	157.0	148.0	279.0	574.0	167.0	136.0
Developed Acres	140.0	263.0	126.0	65.0	32.0	0.0	437.0	137.0	248.0	142.0	498.0	475.0	378.0	243.0
Developable Acres	334.0	336.0	138.0	540.0	26.0	0.0	1,409.0	375.0	466.0	643.0	651.0	685.0	687.0	1,106.0
% ROW, Public, Etc.	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	40.0%
Net Acres	233.8	235.2	96.6	378.0	18.2	0.0	915.9	243.8	302.9	418.0	423.2	445.3	446.6	663.6
Unit Density Assumption	2.5	2.5	2.5	2.5	2.5	2.5	0.8	0.8	0.8	0.5	0.5	0.5	0.5	2.0
Unit Capacity	584.0	588.0	241.0	945.0	45.0	0.0	686.0	182.0	227.0	208.0	211.0	222.0	223.0	1,327.0
Units/Lots Sold-Built	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0
Net Unit Capacity	584.0	588.0	241.0	945.0	45.0	0.0	686.0	182.0	227.0	208.0	181.0	222.0	223.0	1,327.0

Table 8.9 - Growth Area Residential Capacities (Ethan and Mount Vernon)

	Ethan	Mount Vernon
Gross Acres	39.0	322.0
Limitations (Acres)	0.0	17.0
Developed Acres	0.0	20.0
Developable Acres	39.0	285.0
% ROW, Public, Etc.	35.0%	35.0%
Net Acres	25.4	185.3
Unit Density	2.0	1.0
Unit Capacity	50.0	185.0
Units/Lots Sold-Built	0.0	0.0
Net Unit Capacity	50.0	185.0

The growth areas are illustrated in **Figure 8.7**. Each subarea is labeled with the number of housing units that could be accommodated Each area was measured with consideration given to any limitations (wetlands, slope, etc.) and land that has already been developed. Land for road rights of way and other public easements are deducted from the gross amount which leaves the net acres available for land uses such as urban and rural housing.

2021-2025

Subareas A, B and C in this period are in the east, south and west areas of Mitchell. These areas are adjacent to the Mitchell City boundaries and contain 566 net acres of land that could accommodate development of various types of residential uses. Area C is suitable primarily for economic development, so 97 of the 328 acres in the growth area could be planned for housing.

The growth area on the south/east side of Mount Vernon contains 185 net acres of land suitable for housing development which could yield 185 units at a low density. The area south of Ethan could accommodate approximately 50 units at a more conventional density.

2026-2030

Table 8.8 shows that growth areas **A and B** can accommodate nearly 990 housing units on about 396 acres.

Subarea A is on the western edge of Mitchell and includes the CHS Farmer's Alliance Elevator. The net acres available for housing in this area represents an important goal for long term residential development.

Subarea B is a small area on the eastern edge of Mitchell near Wild Oak Golf Club. The area would not yield many housing units, but it is readily served by water, sewer, and streets.

Subarea C is located at the intersection of Interstate 90, Betts Road (403rd Ave), and Old Highway 16 approximately 5 miles west of Mitchell. Central Electric has its headquarters in this area, which has enormous potential for future economic growth. Because of this employment possibility, housing development would not be a high priority.

2031-2035

The subareas in this phase are primarily suited for residential development. This is due to these areas being adjacent to low density residential development on the outskirts of Mitchell and are a greater distance from business-serving infrastructure.

Subarea A is a large area located south and west of Lake Mitchell containing over 900 net acres. It would provide several years' worth of rural housing development with a capacity of about 690 units.

Subarea B is located on the northern edge of Mitchell near the intersection of SD Highway 37 and the access road to the Mitchell Airport. There are about 250 developable acres in the area that could be developed at lower density and accommodate 182 units. Neighborhood services would also be suitable along Highway 37 in this area.

Subarea C is located on the southwest edge of Mitchell near Trail King Industries. Of the 870 gross acres in this area, 300 acres are suitable for housing when development concerns, existing development and infrastructure are considered.

2036-2040

Subarea A in this phase is in the southeast portion of Mitchell south of Mitchell Technical Institute (MTI). There are 643 developable acres in this area. When infrastructure and rights of way are factored, there are 418 acres remaining that could be used for housing. It is recommended that housing be developed at a rural density in this area. The area could accommodate about 200 units at a lower density.

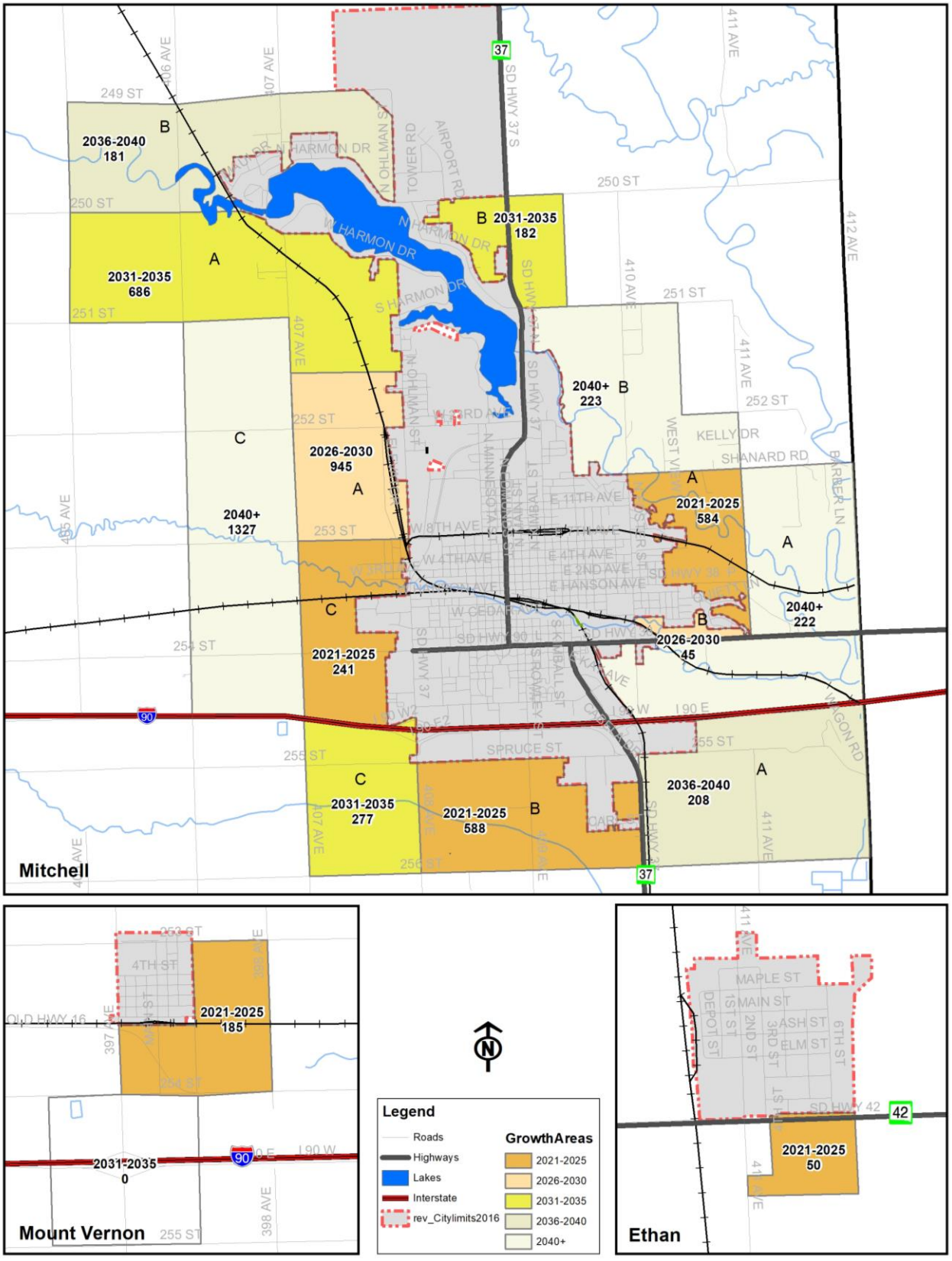
Subarea B is a large area located west and north of Lake Mitchell containing over 400 net acres. It would provide several years' worth of rural housing development with a capacity of about 180 units.

2040 and Beyond

There are three subareas identified as potential areas for long term development. These represent places where urban infrastructure and services are not readily available. The areas (**Subareas A and B**) which lay east of Mitchell would be more suitable for residential development at a rural density.

Subarea C is large area west of Mitchell, bounded by Interstate 90, 406th Ave, 407th Ave and 251st St and has much potential for long term urban development. Of the total acres in the area, 663 net acres are suitable for residential development at a more urban density.

Figure 8.7 – Residential Capacity in Future Growth Areas



Countywide Land Use Design

The data presented in earlier chapters supports the expectation of continued growth within the county. The impact of growth can be controlled through clearly established goals and policies with regards to future development. These goals must balance individual property rights with the public good thus mitigating the potential of negative impacts.

Policies and regulations may be viewed as "restrictive," yet it is as important to provide language in a positive, "prescriptive" manner. These types of objectives are evident when discussing preservation issues or elements including agricultural lands, road rights-of-way, utility corridors, and new development.

Davison County's role in influencing development must be guided by the phrase, "in the best interest of the public" and not that of individuals or selective groups. It is important to concentrate "on the whole" prior to moving forward with additional planning documents. **Table 8.10** explains the land use policy areas for the County in greater detail.

Table 8.10 - Countywide Land Use Design Policies

Land Use Design Area	Purpose	Characteristics	Objectives
Urban-Developed	To provide for protection of existing neighborhoods.	Stable; appropriately developed with full infrastructure, community facilities, and services	Protective regulations and protection of public spaces.
Neighborhood Preservation	To provide for infill opportunities to assist the area reach its full development potential.	Infrastructure is feasible if not provided; full range of community services.	Flexible regulations and reassignment of underused properties
Downtown	To provide for a mix of consumer-oriented uses with business offices and civic activities	Several uses located in a concentrated area consiting of narrow lots and buildings as well as monumental civic structures	Promote private investment in the central business district through incentives. Public investment includes streetscape improvements and public spaces.
Service Nodes	To provide for land uses which serve adjacent neighborhoods and development	Neighborhood shopping areas and convenience centers located at the intersection of arterial and collector roads	Provide infrastructure, community facilities and services, supporting regulations, annexation if needed.
Community Gateways	To provide for visible nodes which engage travelers to explore other areas of the community	Areas which include themed commercial development, highway-commercial services and/or landmarks	Flexible regulations and dedication of areas for landmark-level development and buildings
Urban Character Areas	To provide for future intensive urban development on lands suitable for delivery of infrastructure and services	Lands assigned for near term development, generally contiguous to "developed" areas, having the capacity for immediate infrastructure service	Provide infrastructure, community facilities and services, supporting regulations, annexation if needed
Rural Character Areas	To provide for areas where urban services are not required and natural resources will not be impaired; to encourage preservation of scenic resources	Land identified as high potential for rural land uses such as acreages, estates, small farms and recreation that do not require urban services, but septic tanks and wells	Regulations covering septic tanks and rural clustering with rural level services (e.g., fire and EMT)
Economic Corridor	To provide for businesses where urban services are not required and natural resources will not be impaired; to encourage preservation of scenic resources and guard against the unreasonable alteration of natural resources	Land identified as high potential for economic development such as rural industry, small farms, workshops and tourism that do not need to rely on urban services, but septic tanks and wells	Regulations covering septic tanks and rural clustering with rural level services (e.g., fire and EMT)
Emerging Neighborhoods	To provide for the smooth transition of un(under)developed land to neighborhoods containing homes, parks, and services	Land located adjacent to, or within city boundaries near existing infrastructure where neighborhood development is already proposed or is imminent.	Provide infrastructure, community facilities and services, supporting regulations, annexation if needed
Reimagined Neighborhoods	To provide redevelopment opportunities to assist the area reach its full development potential	Stable; appropriately developed with full infrastructure, community facilities, and services	Adaptable regulations to spur investment and priority given to public spaces and walkable environments.
Innovation District	To attract investment by entrepreneurs, startups, business incubators, generally with the aim of concentrating innovative businesses	An employment area specializing in technology, medicine and/or arts. A completed innovation district includes; economic, physical and networking assets	Promote private investment in the district through incentives. Public investment includes infrastructure
New Neighborhoods	To provide for future urban development on lands suitable for delivery of infrastructure and services	Lands assigned for development to accommodate a mix of land uses including; housing, parks, schools & neighborhood services and having the capacity for immediate infrastructure service	Provide infrastructure, community facilities and services, supporting regulations, annexation if needed
Rural Neigborhoods	To provide areas for residences on larger parcels of land giving natural resource protection high priority	Land identified as high potential for rural housing such as acreages, herb farms and estates that do not require urban services, but septic tanks and wells	Regulations covering septic tanks and rural clustering with rural level services (e.g., fire and EMT)
Employment Areas	To provide for the creation and/or expansion of businesses and jobs to maintain or increase economic base activities	Land identified as opportunity for economic development and include industrial, office and business support services	Provide utility infrastructure and ensure major transportation connections are accessible
Conservation - Agriculture and Preservation	To provide for effective long-term management of lands with limited or irreplaceable natural, recreational, or scenic resources and lands with high agricultural value	Lands that contain major wetlands, wildlife habitats, watersheds and aquifers, and significant natural amenities; also lands that contain significant commercial agricultural production	Very strict development controls; withhold infrastructure; acquisition of land and development rights.

All of the land use design policy areas were developed and assigned to the map according to the following principles:

Urban Developed, Urban Character and Neighborhood Preservation Areas

- Areas where infrastructure is in good condition, with sufficient capacity to absorb additional urban development,
- Areas containing a supply of vacant buildable land,
- Areas with sufficient other community services to support additional development; and
- Areas that are not in hazardous areas

Emerging Neighborhoods

- Lands should not be subject to substantial natural hazards; thus flood-hazards and steep slopes should be avoided,
- Lands should avoid vulnerable environmental areas such as wildlife habitats and wetlands,
- Lands should have public water and sewer systems and transportation already available or be situated so that extension of infrastructure is economical,
- Lands with better access to employment and shopping are more suitable,
- Lands with planned transportation investments may be more suitable for growth,
- Locations should not be in strong contradiction to land market trends, and
- Lands especially well-suited to commercial agriculture or forestry should be avoided.

Rural Neighborhoods, Rural Development and Economic Corridor Areas

- Locations on or near the regional highway network are more suitable than locations away from the network,
- Areas within prime agricultural or forest lands especially viable for commercial-scale management should be avoided,
- Areas with soils suitable for septic tank systems are more suitable, and
- Enhancement and expansion of existing rural community centers in an area should have priority over establishing a new center.

Conservation – Agriculture and Preservation Districts

- Utilize the watershed approach in planning conservation areas,
- Preserve and manage vegetative cover, especially on steeper slopes,
- Preserve a few large areas rather than many small ones,
- Allocate only those uses that are low density, low impact in environmentally sensitive areas,
- Give highest preservation priority to those areas with the rarest natural amenities such as slopes, certain types of habitats, wetlands, streams, etc., and
- Use natural amenities to help shape the urban form, such as taking advantage of open space adjacent to the community, significant views, and elevations.

Employment Areas

- Terrain: Reasonably level and well-drained land outside the floodplain. It should have less than a 5% slope. Sites that slope more than 5%, provided the parcel is large enough, may be appropriate for office parks or other low-density business parks.
- Range of Locations: Where and whenever possible, the Town should offer a number of modest sized employment sites, distributed evenly in space, and offer choices for employers and developers with good accessibility to employees as opposed to very few large sites.
- Adequately Sized Sites: Employment centers need to be large enough to accommodate expansive one story buildings and accessory storage, loading, and parking areas. Sites should range in size between 2 acres to 10 acres or more.
- Access to Transportation: The desired transportation mode and type of access to each mode will be different for each type of employment land use. For most employment areas in the County, direct access to trucking routes and other transportation modes will be the highest priority. Sites along the highway should have adequate depth from the road. In some cases, access or service roads may provide sufficient access for delivery vehicles and employees.
- Access to Labor Force: Depending on the type of employment offered by the particular land use, proximity to blue-collar, professional, and clerical labor forces need to be considered in site selection.
- Visibility: Some businesses need prominent highway sites for public relations purposes.
- Utilities: In addition to water, sewer, gas, and electricity, the City should be aware of special utility needs of some businesses. In some cases,

separate wells may need to be drilled and septic systems need to be installed.
- Compatibility: Industries that deal in noxious activities such as noise, glare, odor, smoke, traffic, and other emissions need to be carefully considered in terms of site selection.

Service Nodes and Downtowns
- Access: Accessibility to the market area and direct access to traffic is critical for commercial areas.
- Terrain: Sites should be reasonably level, well-drained, and outside floodplains.
- Adequately Sized Sites: Sites should be large enough to accommodate the quantity of retail, office, and commercial space to make the center work as well as the accessory uses of parking and loading. Sites should range from 1 acre to 10 acres or more in size.
- Utilities: Water and sewer are critical, especially in outlying areas not yet served by infrastructure.

New and Reimagined Neighborhoods
- The planning process is not so much concerned with "location" principles for residential areas as much as it is with "design" principles for neighborhoods in Ethan, Mitchell and Mount Vernon. Neighborhoods need to be arranged into a pattern that makes up a communitywide design to accommodate the residential functions that extend beyond the immediate neighborhood. In general, neighborhoods should:

    - Be a combination of dwellings, residential-supporting land uses (stores, café, bank, etc.), local community facilities (schools, day cares, etc.), transportation facilities, and open space (parks, greenways, etc.)
    - Contain a range of housing types, sizes, and tenures suitable for many stages of the household life cycle for a range of incomes.
    - Be designed for human scale. This implies being walkable and planned for people first, cars second; in every detail. A human scaled neighborhood will generally have a park or public space in the core area, surrounded by higher density dwellings, then lower density housing towards the edge. The general distance from the core to the edge is usually between one quarter and one half mile. The neighborhood should also have a strong sense of place; meaning that a neighborhood has a focus. The core should be centrally located. The neighborhood should strive to maintain a balance of civic, social, and commercial uses (if the neighborhood can support them).
    - Have excellent connection to the communitywide transportation system, but also protected from the intrusion of heavy traffic. It should also realize that streets are the center of the public environment and are multipurpose public spaces for both cars and people.
    - Be comprehensively designed to incorporate a public space system consisting of streets and other path systems and open spaces such as plazas, greens, and so forth. It should also include private open spaces such as yards and gardens, and not overlook the need for commons, playgrounds, parkways, and greenways which can lead to the edge of the neighborhood.
    - Adapt over time to changing conditions and inhabitants.

Figure 8.8 illustrates how the countywide land use design policies can prescribe the general development patterns in Davison County.

Figures 8.9 and **8.10** show the major streets and roads plan in the County. The street and road designations would be based on the timing and location of future growth and development.

Figure 8.8 – Countywide Land Use Design Policies

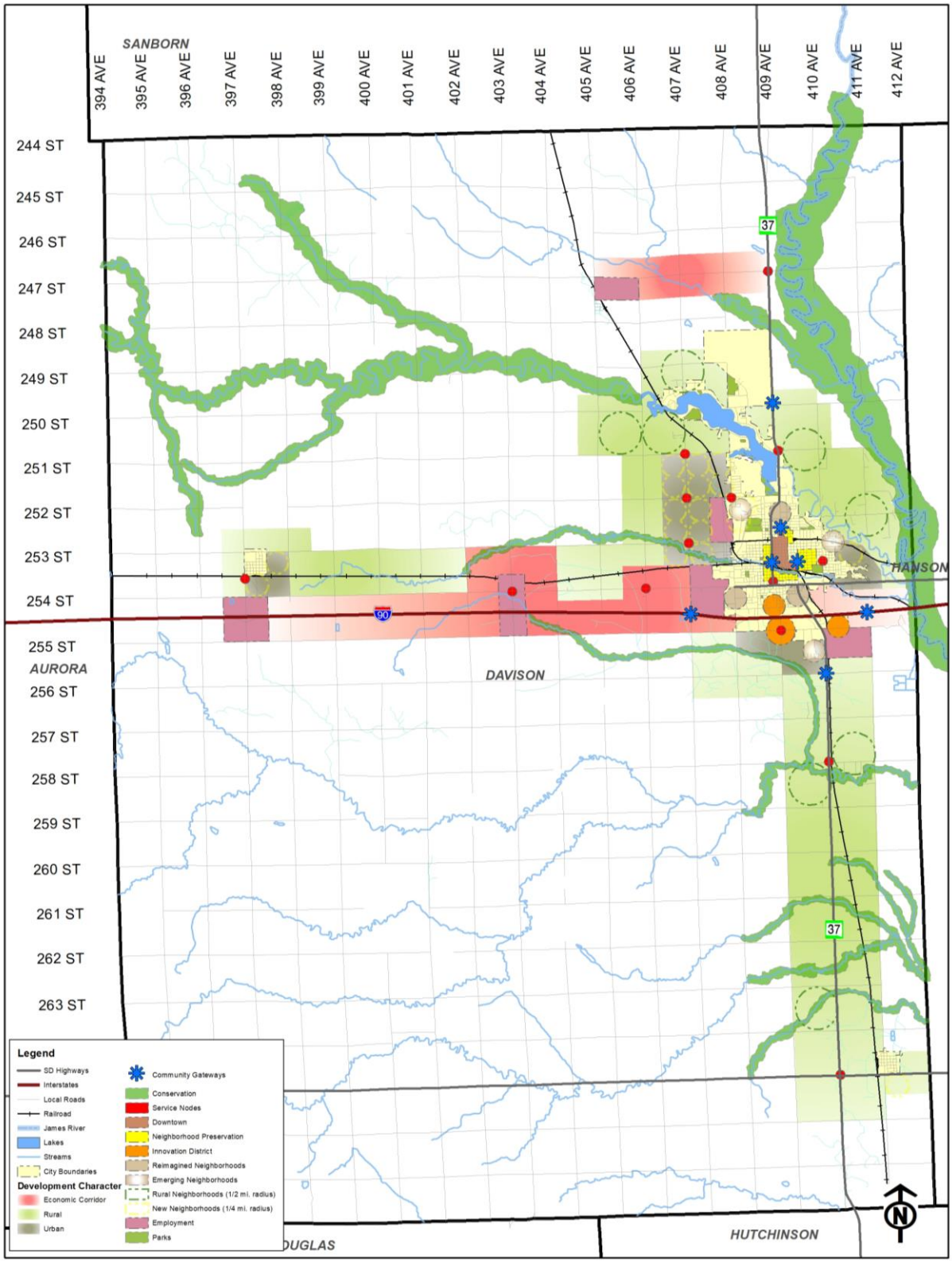


Figure 8.9 – Growth Areas and Major Street Plan

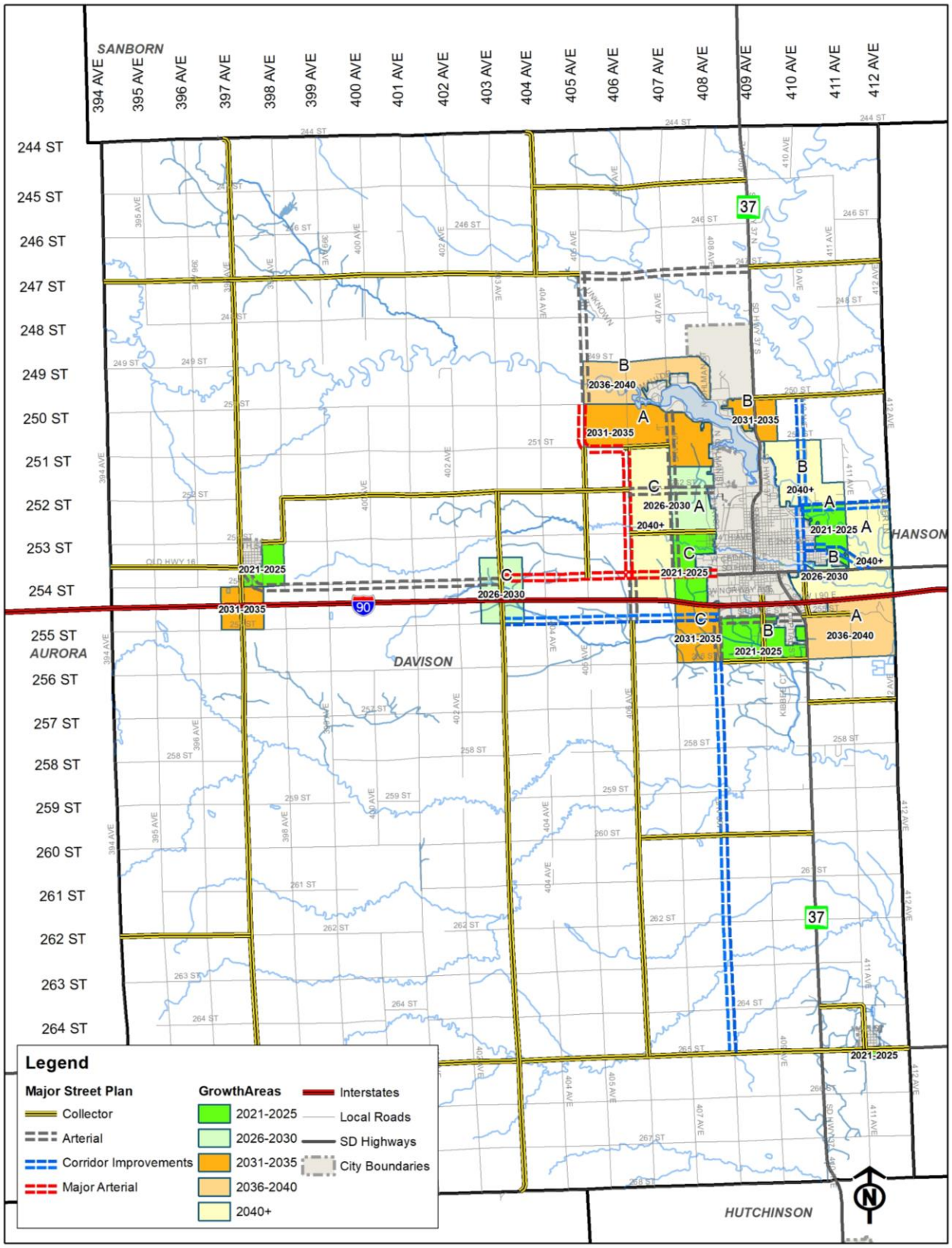
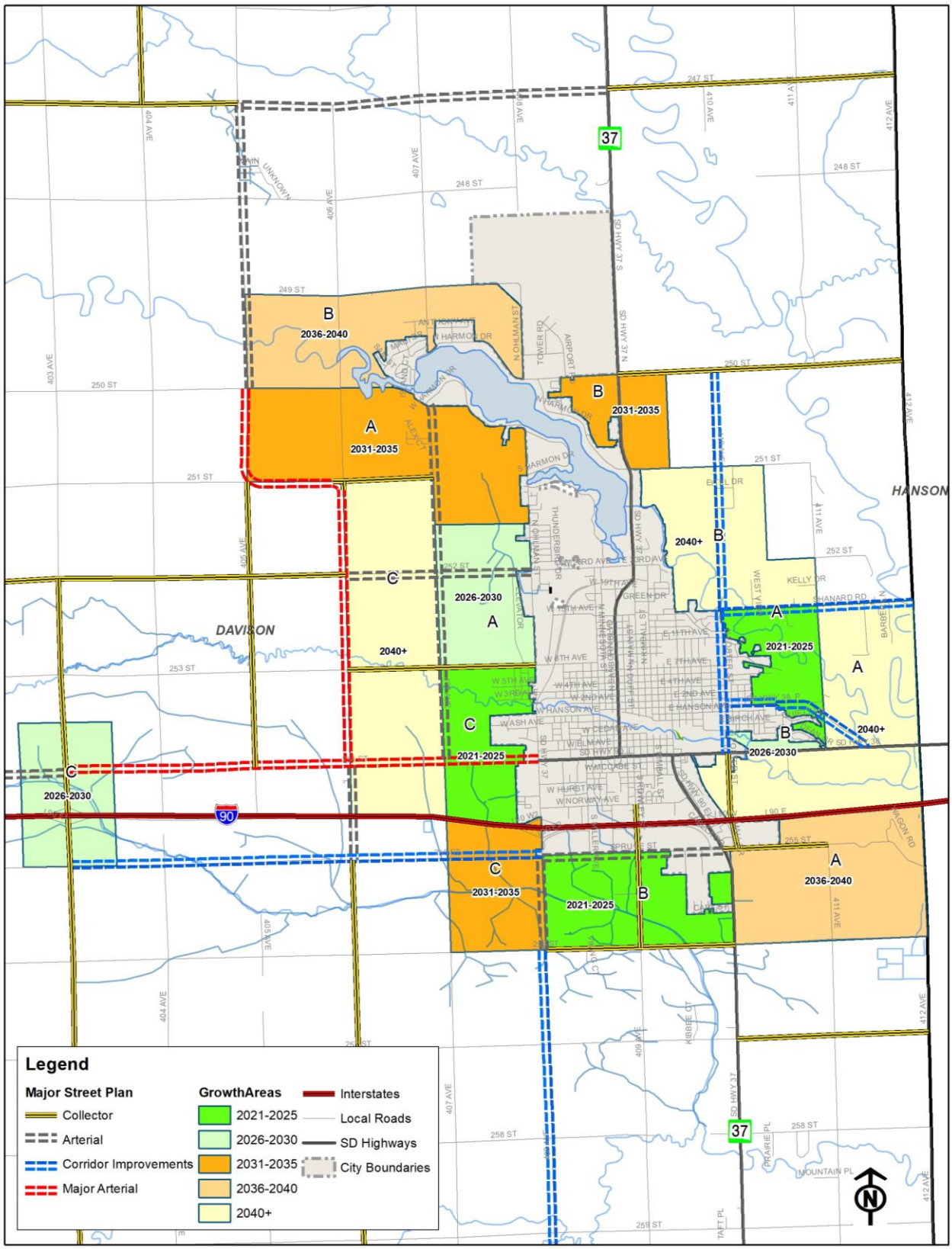


Figure 8.10 – Growth Areas and Major Street Plan (Mitchell Area)



Future Land Use Map

The final piece of a Comprehensive Plan is development of a "Future Land Use Map". This map is generally based upon numerous factors including:

- Infrastructure.
- Existing development patterns.
- Future growth needs.
- Countywide Land Use Design; and

The purpose of a future land use map is to provide a reference guide for development. The various land use boundaries are defined by the factors noted above along with other external influences. The intent is to not prepare the "future" map in a vacuum but to look past what has occurred and plan what should reasonably be expected to happen in the next 10 to 20 years. While this map is a guide it may also be utilized as a reference document in support of future land use decisions.

The Future Land Use Map is presented in **Figures 8.11 and 8.12.** The illustrations emphasize development activity within the same three townships. This map is intended to be a guide upon which a zoning map is prepared.

- Agriculture;
- Green Corridor;
- Parks-Rec-Conservation
- Rural Residential;
- Low Density Residential;
- Medium Density Residential;
- Mixed Use Center;
- Mixed Use;
- Employment Area; and
- Heavy Commercial

There are transitional uses that are found in the City of Mitchell's extraterritorial jurisdictional area (ETJ). The ETJ extends one mile beyond the City boundaries in each direction. The Mitchell Zoning Ordinance delineates this area an "Urban Development (UD)" district.

FIGURE 8.11
Future Land Use Map - Davison County

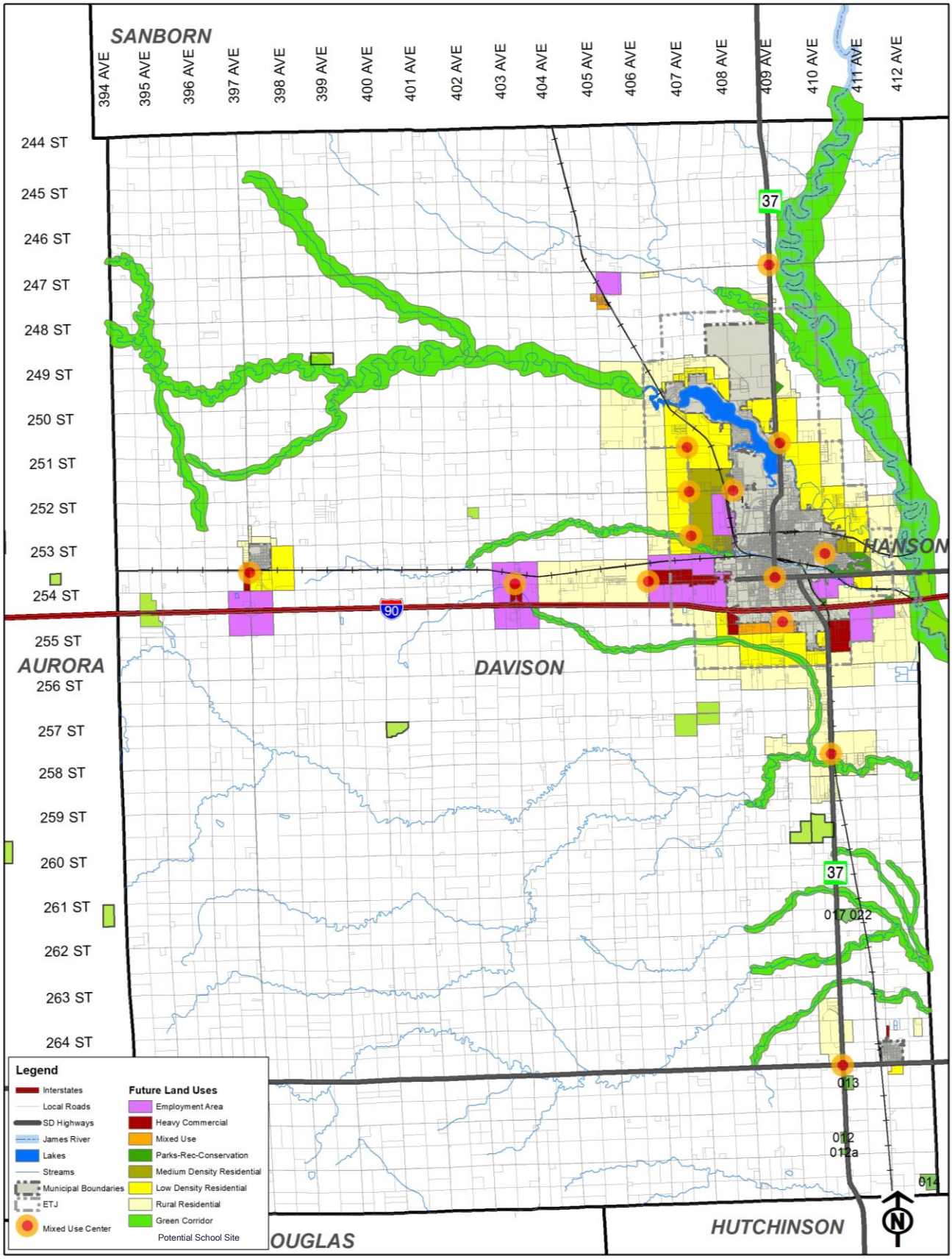
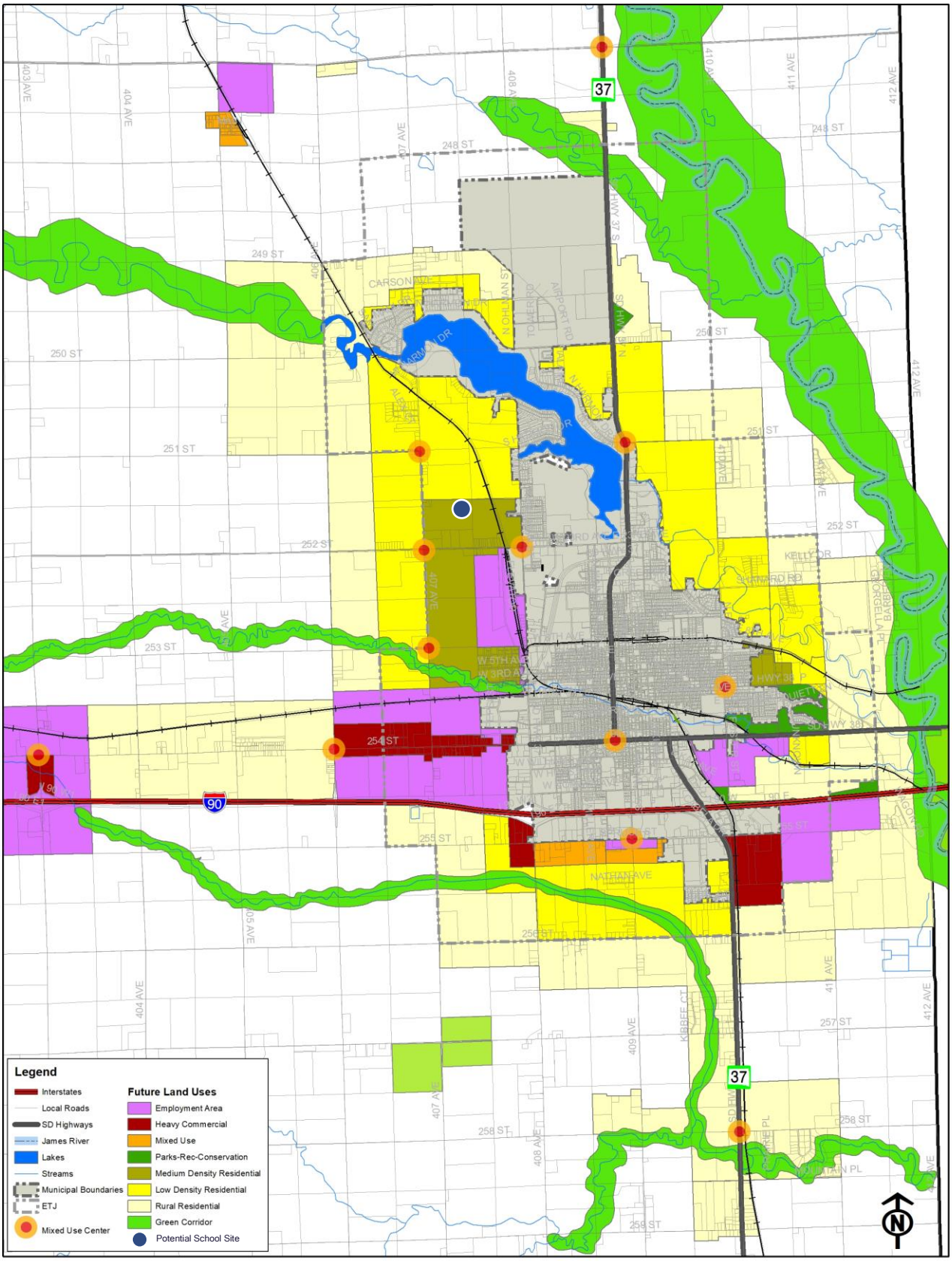
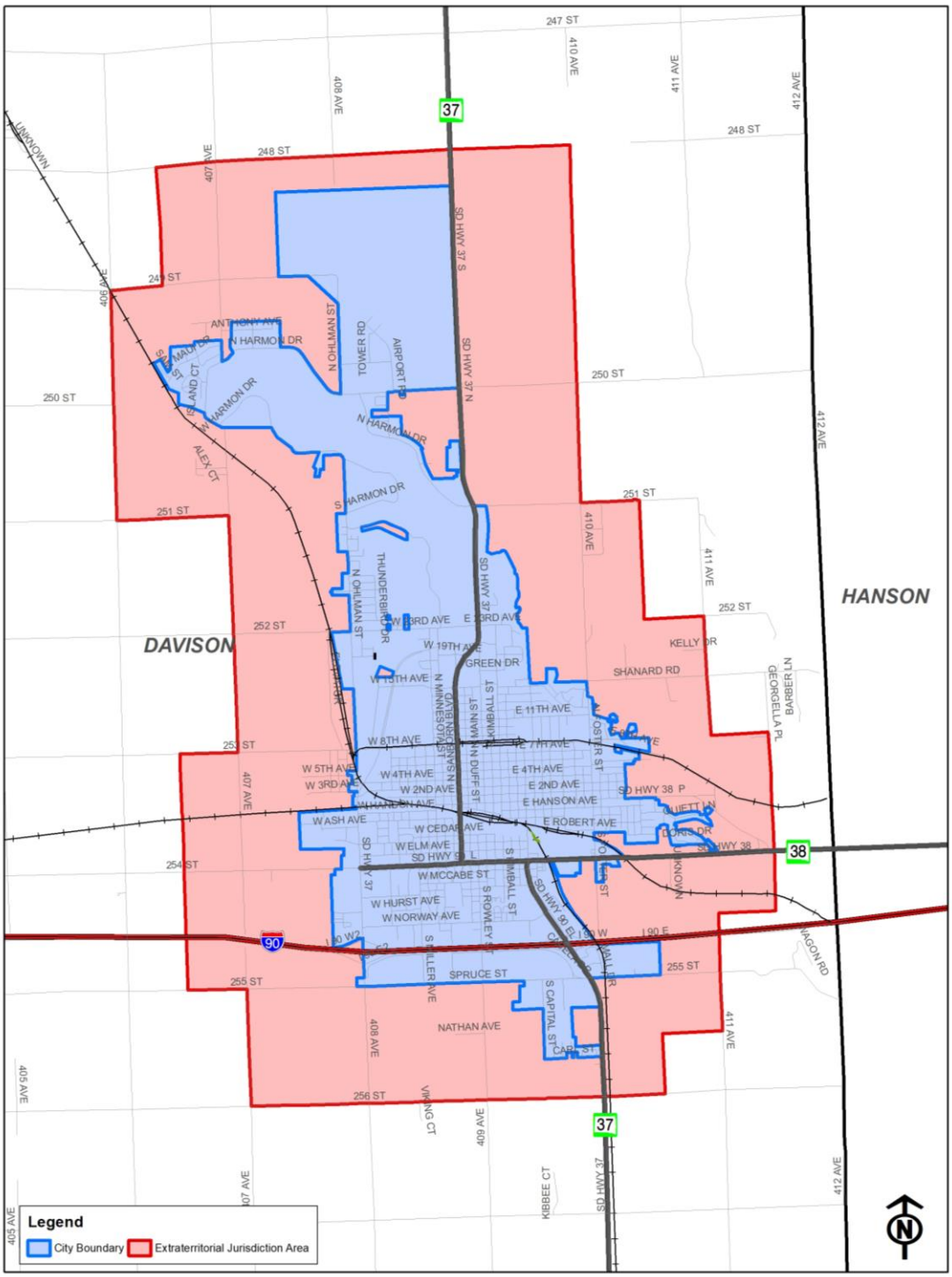


FIGURE 8.12
Future Land Use Map - Mitchell Area



Earlier, the County's land use planning jurisdictional area was defined as Davison County except the incorporated municipalities. This is an accurate description with the exception of an Extra-Territorial Jurisdictional (ETJ) area abutting the City of Mitchell. The ETJ area was granted to the City by the County Commission for the purpose of regulating land uses on properties lying outside the corporate limits, as illustrated within **Figure** 8.**13**.

FIGURE 8.13
City of Mitchell Extraterritorial Jurisdiction Area



Important Issues for Consideration

Animal Feeding Operations

The specialization and industrialization of American agriculture during the past several decades has resulted in an increased number of agricultural facilities that house and feed a large number of animals in a confined area. These facilities, known as concentrated animal feeding operations (CAFOs), offer a more efficient system to feed and house animals through specialization, increased facility size and close confinement of animals.

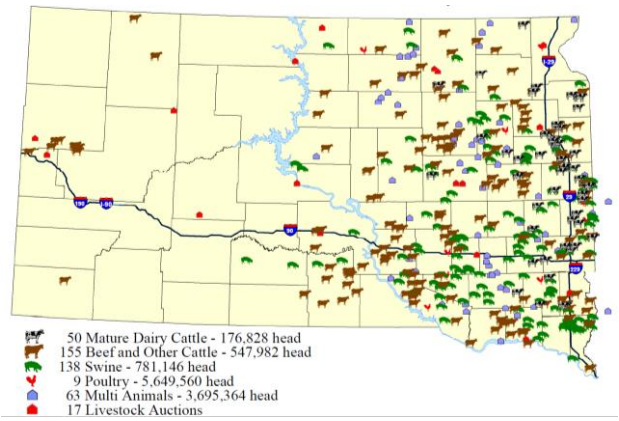
They also pose increased environmental and health problems for neighboring properties and communities. Because more waste is generated in CAFOs than other less-dense animal farm facilities, the potential for greater air, water and land pollution increases in nearby areas. The U.S. Environmental Protection Agency (EPA) projected that the nation's animal feeding operations annually produced more than 1.1 billion tons of manure. EPA estimated that CAFOs accounted for more than half of this amount.

When appropriately applied to soil, animal manure can fertilize crops and restore nutrients to the land. When improperly managed, however, animal wastes

can pose a threat to human health and the environment. Potential pollutants associated with animal wastes include nutrients (such as ammonia, nitrogen and phosphorus), organic matter, solids, pathogens, antibiotics, odorous or volatile compounds, and trace elements (such as arsenic and copper). According to the Centers for Disease Control and Prevention, these pollutants can directly affect human health and can encourage the growth and development of potentially harmful plants and organisms.

Due to the increased occupational, environmental and community hazards posed by CAFOs, state, local and federal authorities regulate them. The federal Clean Water Act prohibits discharges of pollutants from point sources into U.S. waters without a permit. Section 502 of the act specifically includes CAFOs in the definition of "point source." Therefore, CAFOs that discharge wastes into waterways must obtain a National Pollutant Discharge Elimination System (NPDES) permit, which limits the amount and types of pollutants that can be released.

There are 15 animal feeding operations in Davison County which handle cattle and hogs, totaling nearly 50,000 animals.



A study of suitable sites for more intensive agricultural uses in Davison County was conducted in 2016. The study revealed that there were **27** sites within Davison County which met the minimum standards for inclusion as potential Concentrated Animal Feeding Operation (CAFO) sites and **8** sites met the minimum standards for Agriculturally-related Industrial Development (AID).

Wind Energy Systems

Wind is a renewable energy source. Overall, using wind to produce energy has fewer effects on the environment than many other energy sources. Wind turbines do not release emissions that can pollute the air or water (with rare exceptions), and they do not require water for cooling. Wind turbines may also reduce the amount of electricity generation from fossil fuels, which results in lower total air pollution and carbon dioxide emissions.

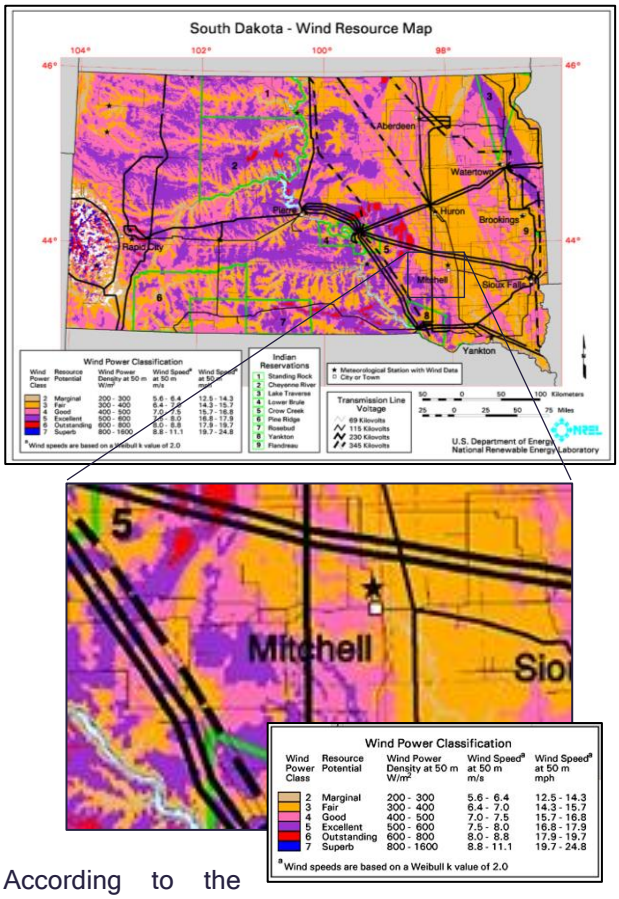
An individual wind turbine has a relatively small physical footprint. Groups of wind turbines, sometimes called wind farms, are located on open land, on ridges, or offshore in lakes or the ocean.

Modern wind turbines can be very large machines, and they may visually affect the landscape. A small number of wind turbines have also caught fire, and some have leaked lubricating fluids, but these occurrences are rare. Some people do not like the sound that wind turbine blades make as they turn in the wind. Some types of wind turbines and wind projects cause bird deaths. These deaths may contribute to declines in the population of species also affected by other human-related impacts. The wind energy industry and the U.S. government are researching ways to reduce the effect of wind turbines on birds.

Most wind power projects on land require service roads that add to the physical effects on the environment. Producing the metals and other materials used to make wind turbine components has impacts on the environment, and fossil fuels may have been used to produce the materials.

Operating a wind power plant is more complex than simply erecting wind turbines in a windy area. Wind power plant owners must carefully plan where to position wind turbines and must consider how fast and how often the wind blows at the site.

Good places for wind turbines are where the annual average wind speed is at least 9 miles per hour (mph)—or 4 meters per second (m/s)—for small wind turbines and 13 mph (5.8 m/s) for utility-scale turbines. Favorable sites include the tops of smooth, rounded hills; open plains and water; and mountain gaps that funnel and intensify wind. Wind resources are generally more favorable for electricity generation at higher elevations above the earth's surface. Large wind turbines are placed on towers that range from about 500 feet to as much as 900 feet tall.

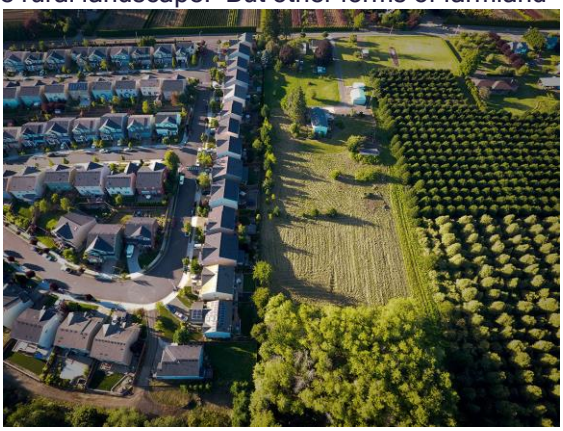


According to the U.S. Department of Energy, Davison County presents good to excellent potential for wind power production in the graphic above.

Other wind projects have been established in the region. The Crow Lake project in northwest Aurora County has 101 turbines and a total capacity of 87 megawatts of electricity. Two projects in western Aurora County and eastern Brule County have a total of 18 turbines and nearly 42 megawatts of generation capacity.

Rural Residential Development

Sprawling residential, commercial and industrial development certainly has a detrimental effect on the rural landscape. But other forms of farmland



use have equally devastating effects, though it may take longer for the effects to surface. Repeated production of the same crop can deplete soils and nutrients when managed improperly, rendering highly productive land much less productive over time.

Hobby farms, purchased primarily as residences operate as micro-scale crop or livestock production facilities, private recreational amenities or simply 'rural lifestyle' homesteads. Other than the sale and development of the property, they rarely contribute to the economic viability of the agricultural community and serve to break up much larger tracts of previously productive land. This prevents true

investment in agricultural production and often allows for the eventual removal of the property to development.

These alternative land use forms have their effect on the farming community by raising the price of open land, breaking up open land and taking open land out of the market. The rural lifestyle can be strongly affected by the refusal of new or large-scale landowners, as well as new owners of hobby or mini-farms, to allow access to trails and open space across their lands.

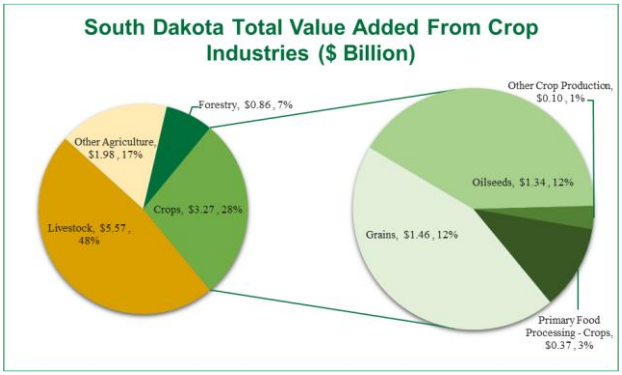
Many municipalities and counties have sought to slow the spread of rural sprawl by requiring larger residential building lots – at least 1 acre and in some areas five acres or larger. Unfortunately, this

approach has generally resulted in a new form of clustered sprawl, often with huge houses and rural subdivisions eating up open land and leaving fragmented natural areas and wildlife corridors. Natural habitat size is also reduced to the point where the native species populations cannot be sustained.

Value Added Agriculture

A study conducted in 2021[1] detailed the contribution that the agriculture, ethanol, and forestry industries made to South Dakota's economy. The study showed the state level results by four major categories: 1) Crops, 2) Livestock 3) Other Agriculture and 4) Forestry. The Crops category includes industries such as grain and oilseed farming, as well as crop food processing industries.

Total value added contributed to the South Dakota economy from crops was $3.27 billion. Grain and oilseed farming together make up 86% of this contribution at $1.46 billion and $1.34 billion in value added, respectively.

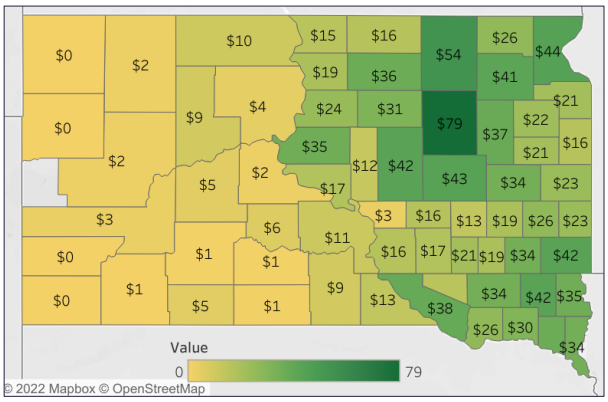


[1] 2021 Economic Contribution Study of South Dakota Agriculture, Ethanol and Forestry, July 2021, Decision Innovation Solutions.

Crop production and related economic activity in South Dakota also accounted for 30,817 jobs, $7.91 billion in output, and $3.34 billion in household income. In addition to crop production, the 'Primary Food Processing – Crops' category was a major contributor in this area. This category includes items such as wet corn milling, flour milling, and soybean processing.

The **Figure 8.14** below shows that Davison County's oilseed production added $21 million in value to the economy in 2021.

Figure 8.14
Value Added From Oilseed Crops, 2021



In 2022, the South Dakota Soybean Processors plans to construct a multi-seed processing plant near Mitchell. The plant will have the capacity to process 35 million bushels of soybeans annually or the equivalent 1.0 million tons of hi-oilseed crops.

According to Soybean Processors officials, "The increasing demand for vegetable oil is driving the expansion of soybean processing in the United States. A plant with the ability to also process hi-oilseed crops such as sunflowers (which can produce twice as much oil per acre than soybeans) significantly reduces the risk of the project and puts the plant in a much better position for long-term success.

The Mitchell site provides a unique set of advantages over other locations. In addition to being near an abundant supply of soybeans, the plant's western location is tributary to the western side of the state, an area well-suited for the production of hi-oilseed crops such as sunflowers and camelina.

It is notable, too, that the Mitchell area is experiencing significant growth in hog and dairy production, and these factors will help provide an increasing demand for soybean and sunflower meal. Further, the plant will be located on BNSF railway, and as SDSP has already established a strong relationship with them, we are looking forward to a partnership on this project."[2]

Figure 8.15
Land Cover by Acreage in Davison County, 2021

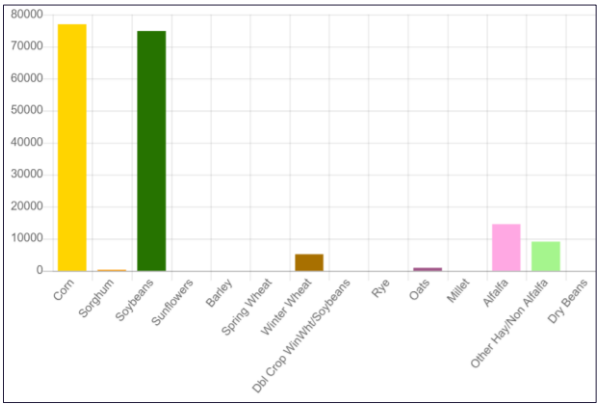
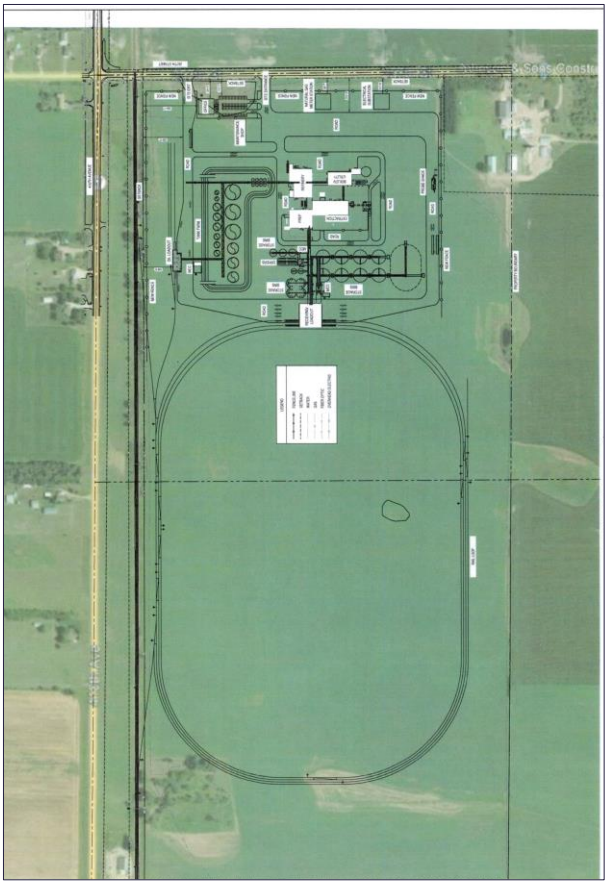


Figure 8.16
Proposed Soybean Processing Facility



[2] South Dakota Soybean Processors, Press Release, February 9, 2022

Firesteel Creek and Lake Mitchell Water Quality

Lake Mitchell is a man-made reservoir that was built in 1928 to serve as a drinking water supply and recreation center for the City of Mitchell and surrounding area. While used and enjoyed by generations of families over the years, a steady decline in water quality has also occurred over time.

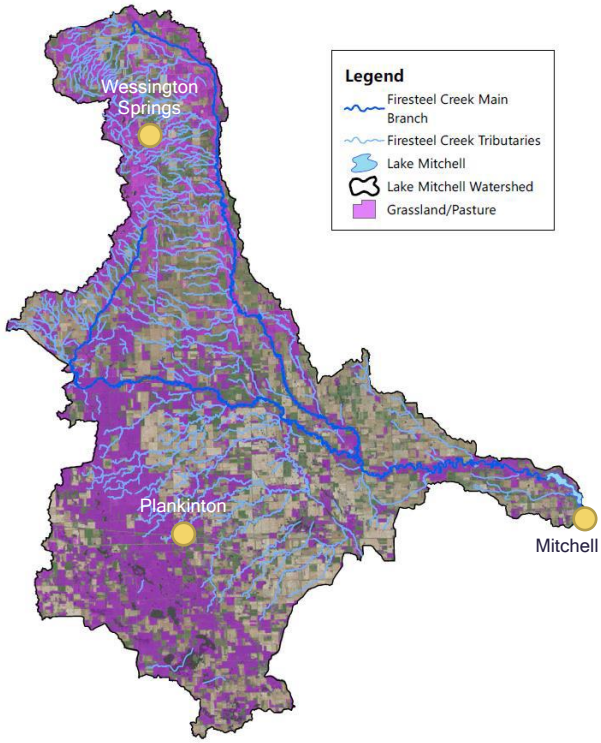
Studies of Lake Mitchell reach back to 1966 where investigations of a supplemental water supply were performed. Water quality issues of pollutant loading and algae blooms were published in 1985, and numerous studies followed to address the water quality concerns.

A water quality assessment study was completed in 1997, and has since resulted in an implementation project designed to reduce the sediment and nutrient loading that enters the lake. While no longer Mitchell's sole source for drinking water, Lake Mitchell continues to provide area residents and visitors with a variety of outdoor recreational opportunities.

The Firesteel/Lake Mitchell Watershed Project is designed to reduce the nutrient load entering Lake Mitchell from Firesteel Creek by installing Best Management Practices (BMPs) throughout the watershed. The goal is to reduce the phosphorus concentration by 50% by 2015 from its pre-assessment study levels in order to decrease lake productivity and ease the intensity and duration of the lake's annual algae blooms. Information dissemination and educational outreach has also played an important role in the continuing effort to reach this goal.

BMPs are methods that have been determined to be the most effective and practical means of preventing or reducing the movement of sediment, nutrients, or other pollutants from the land to surface or ground water.

Figure 8.17
Firesteel Creek Watershed Map



While most BMPs are targeted towards rural resource concerns, urban residents also share a responsibility to do their part towards improving and protecting the water quality of Lake Mitchell. Some of the BMPs that have been applied within the Firesteel Creek Watershed Project include the following.

1. Riparian Areas
2. Feedlot Improvements & Nutrient Management Planning
3. Urban Lawns & Landscapes

Future Development

This section contains the development "vision" for Davison County. It is expressed through goals and policies. A definition for each term is presented below.

- Goal: A general statement that reflects ideals, ambitions or hopes.
- Policy: A statement concerning an action or position taken to achieve an objective.

Goals

The goals of guiding development within Davison County are as follows:

- Provide for orderly, efficient and economical development;
- To enhance communication among townships, municipalities, and service providers who have the potential to impact and influence development patterns;
- To maintain a viable agricultural economy and preserve the rural quality of life;
- To provide a choice of living environments for county residents;
- To achieve the maximum efficiency in the provision of public services and facilities;
- To promote aesthetically attractive development in rural areas;
- To preserve environmental, historical and cultural resources; and
- To provide a transportation system that promotes the safe and efficient movement of people, goods, and services.

Policies

Goals are general statements drafted to assist in identifying policies whereas policies are implemented via regulations such as a zoning ordinance. Davison County has established the following policies regarding the development of lands within the jurisdictional area defined herein. The policies have been divided into the five categories reflected within the current and future land use maps.

Agriculture Development Policies

- Preserve and protect the agricultural productivity of rural land by regulating the development of non-farm residential sites;
- The premature development of agricultural land should be discouraged;
- Protect the rural area from uses which interfere and are not compatible with general farming practices; and
- Regulate concentrated animal feeding and processing operations to protect environmental quality and minimize conflicts with human activities.

Commercial Development Policies

- Coordinate the siting of commercial and industrial activities with the municipalities;
- Coordinate the siting of agriculture related activities with the customer base;
- Locate commercial activities in close proximity to the necessary infrastructure;
- Regulate strip development along major transportation routes; and
- Preserve the environmental quality with regards to economic development.

Public Properties Development Policies

- Foster communication between the numerous public land holders;
- Apply zoning regulations to public entities whenever possible;
- Weigh proposed public activities against the rights of affected property owners;
- Mitigate potential conflicting land uses; and
- Promote additional public green space within the county.

Residential Development Policies

- Encourage new residential construction to locate on platted lots of record and other parcels which already qualify as building sites;
- Restrict premature development of residential areas before proper infrastructure needs can be developed;
- Limit rural densities so that current service levels are not exceeded, thereby avoiding the creation of special purpose districts (i.e. sanitary, water and road districts);
- Restrict development in areas where unsuitable soils and other physical limitations are present; and
- Discourage strip development along roadways, particularly those which serve as gateways to the

municipalities, rural subdivisions, and major activity centers.

- Transitional Development Policies

- Encourage new residential construction to locate on platted lots of record and other parcels which already qualify as building sites;
- Control development of transition areas so infrastructure improvements are not needed before they can be economically developed;
- Limit rural densities so that current service levels are not exceeded, thereby avoiding the creation of special purpose districts (i.e. sanitary, water and road districts);
- Restrict development in areas where unsuitable soils and other physical limitations are present; and
- Regulate strip development along roadways, particularly those which serve as gateways to the municipalities, rural subdivisions, and major activity centers.

Summation

Future development should be regulated through land use controls, most likely a zoning ordinance. Any land use regulations incorporated by the County should be designed according to these six basic principles.

- Compatibility of land uses;
- Promotion of in-fill;
- Reuse of vacant sites within the appropriate districts;
- Utilization of existing public infrastructure and road systems;
- Protection of the public health, safety and the general welfare; and
- Balancing of private citizen rights and the public interest.

Any development proposals, which do not follow these principles, nor are proposed in the appropriate district, should be carefully evaluated before being implemented or approved.

Rural Growth and Urban Development Concepts

Reimagined Neighborhoods

Redevelopment occurs when real estate in a neighborhood or city is enhanced through new construction on previously occupied land or through substantial renovation of existing structures. Frequently the process begins with demolition of a building or several buildings that the developer perceives as obsolete, or too expensive or complicated to rehabilitate.

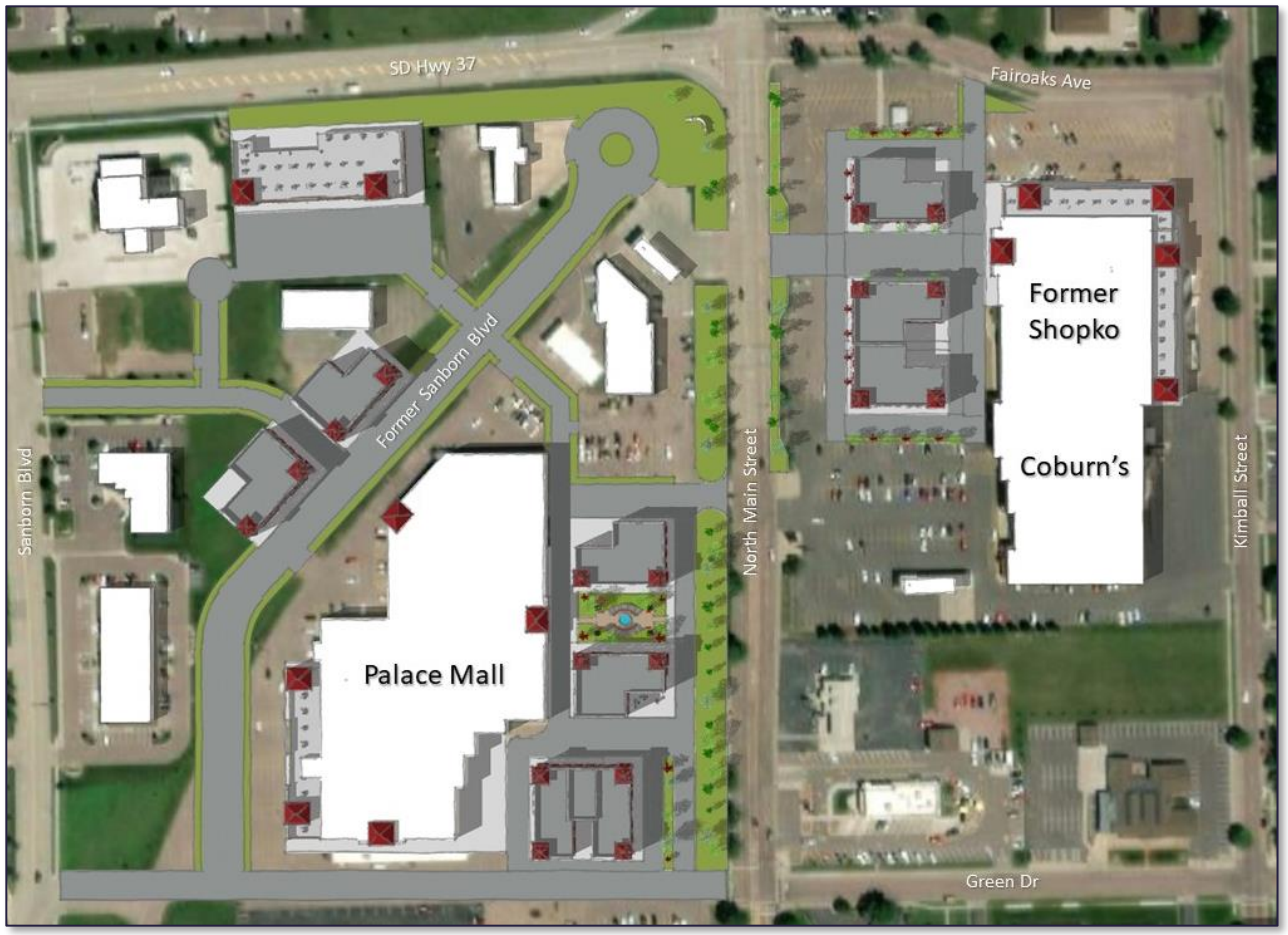
Redevelopment might mean a new mixed-use project involving demolition or vacant land where demolition occurred previously. Such projects reduce traffic congestion and give the neighborhood a boost. Or it might be a gradual downtown revitalization program consisting of both rehabilitation of existing properties and addition of new infill buildings to renew prosperity for the entire community.

Strip mall redevelopment should be on the agenda for almost every local government. Strip retail centers oriented primarily parallel to major streets or highways, with parking in the front, are the ultimate in automobile-oriented retailing. Strip shopping centers may consist of a series of small convenience retail storefronts, such as the one shown above. Typically uses such as dry cleaners, beauty salons or barber shops, pizza joints, sandwich shops, or maybe a tiny locally owned pharmacy would occupy 1500-2000 square feet each.

Larger developments may include one or more anchor tenants, the most common being a grocery store. A chain drug store or even a smaller version of what is typically a big box, such as a Target or Walmart, might be included in the largest of this type.

There are several reasons for the decline of commercial strips:

1. Many now have succeeded too well. As traffic clogs major arterial streets, it becomes less and less convenient to enter and exit from these strip centers. The convenience factor melts away.
2. Rents in strip centers in many parts of the U.S. are decreasing not only because of traffic congestion, but also because of changing shopping habits. The major shift toward online shopping is a huge obstacle to physical retail space.
3. The recession of 2008-2012 also weeded out many of the retailers who had occupied strip center spaces. This included both failed national or regional chain stores and local mom and pop stores that once were successful. Add in the pandemic problems, and demand for space is fairly low is evident.
4. Overbuilding of such space also is another factor in the over-supply that is clear to both citizen and professional observers in most areas. There may be five to six times as much of this type of retail space as is needed.
5. Larger retailers and fast food chains now have some experience with alternative layouts and facades that are more compatible with a traditional downtown setting. These operators often occupy outlots on the edges of larger strip centers. If millennials prefer to live in or near core neighborhoods, the anchor retailers may not be as motivated to remain in edge locations in the current configuration.
6. Developers may lack focus, building too much space to fill up with the small mom-and-pop type uses, or a center that is too deep or too shallow, or too much satellite space as compared to anchor store square footage, or parking that is not directly adjacent to storefronts.
7. Personal tastes and community preferences are slowly changing, with people realizing that a large expanse of parking lot does not contribute to a community's appearance. The four rows of parking in front of the typical small strip shopping center may have worked in the past, but customers are demanding better performance and design.

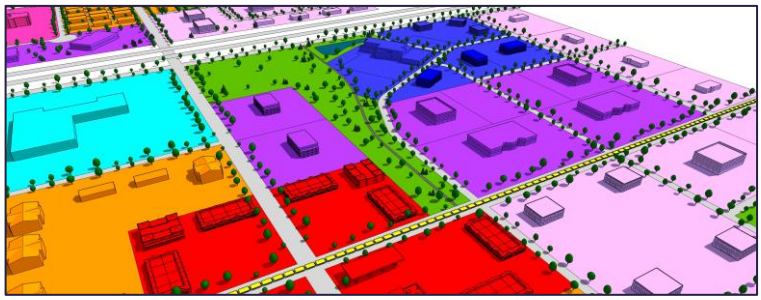


Hospital Oriented Development (HOD) and Innovation Districts

Compact, mixed-use, walkable communities have been revolutionizing the land use and real estate development paradigm in the Unites States over the past 30-years. Transit-oriented development, innovation districts, university town centers, main street retail, "healthy communities," and revitalized downtowns are in high demand by office tenants seeking to attract the best employees, by residents desiring quality of life, by retailers seeking experiential settings, and by municipalities promoting economic development. But there is another community asset that cities and towns have most often failed to fully leverage that has the potential to further revolutionize the land use and real estate paradigm–the hospital.

Hospitals are most often one of the largest employers in a community. Hospitals in the US employ more than 6.7 million people, generate over $900 billion in revenue, comprise close to 5 percent of the US economy, and are often the largest single employer in a community. The outsized impact of hospitals presents an outsized opportunity, but the typical hospital and accompanying land use policies fail to leverage the unique characteristics of this valuable asset. We can leverage this asset to be an even greater economic engine, to attract the best

employees, to increase real estate value and tax revenue, to improve quality of life, and even to improve the health of the community.



Innovation District overview near Avera Grasslands campus.

Research, office, and retail development near Grasslands.

Research, office, and housing development near DWU campus.

Rural Conservation Subdivision

Conservation subdivisions (CSDs) are a design strategy that attempts to preserve undivided, buildable tracts of land as communal open space for residents. In a conservation subdivision, ideally 50 to 70 percent of the buildable land is set aside as open space by grouping homes on the developed portions of the land. The process promoted by Randall Arendt begins by identifying land to be conserved and ends with drawing in lot lines for the planned homes (Arendt). These design steps occur in an order opposite that of conventional subdivisions.[i]

Example of rural sprawl and CSD alternative

Overview of rural conservation subdivision along SD Highway 37.

[1] Conservation Subdivision Handbook, North Carolina State University

Rural Agri-Industrial Development

Agri-Industrial Complex is a term that exists to identify combination of several sectors of economy that provide mass production of food and consumer goods. The term is more common in countries of command economy, particularly the former Soviet Union where the term appeared in 1970s. Beside regular farming and agriculture it also encompasses such industries like forestry, fishing and others.

The complex includes four main fields of interest:

- Agriculture, the basis (nucleus) of the Agro-Industrial Complex includes horticulture, animal husbandry, industrial farming, individual farming and so on
- Supporting industries and services that provide support to agriculture by means of production and material resources such as manufacturing of farming equipment including agricultural machinery as well as tools, production of fertilizers and other chemicals including pesticides, etc
- Industries that process agricultural basic goods such as food industry or industries that process agricultural basic goods for light industry

- Infrastructural section of the Agro-Industrial Complex includes productions that are involved in provision, transportation, safekeeping, trading of agricultural materials, training of human resources, construction

Overview of Betts Road area, looking north.

Agricultural visitor center, farmer's markets, production barns, and workforce housing.