



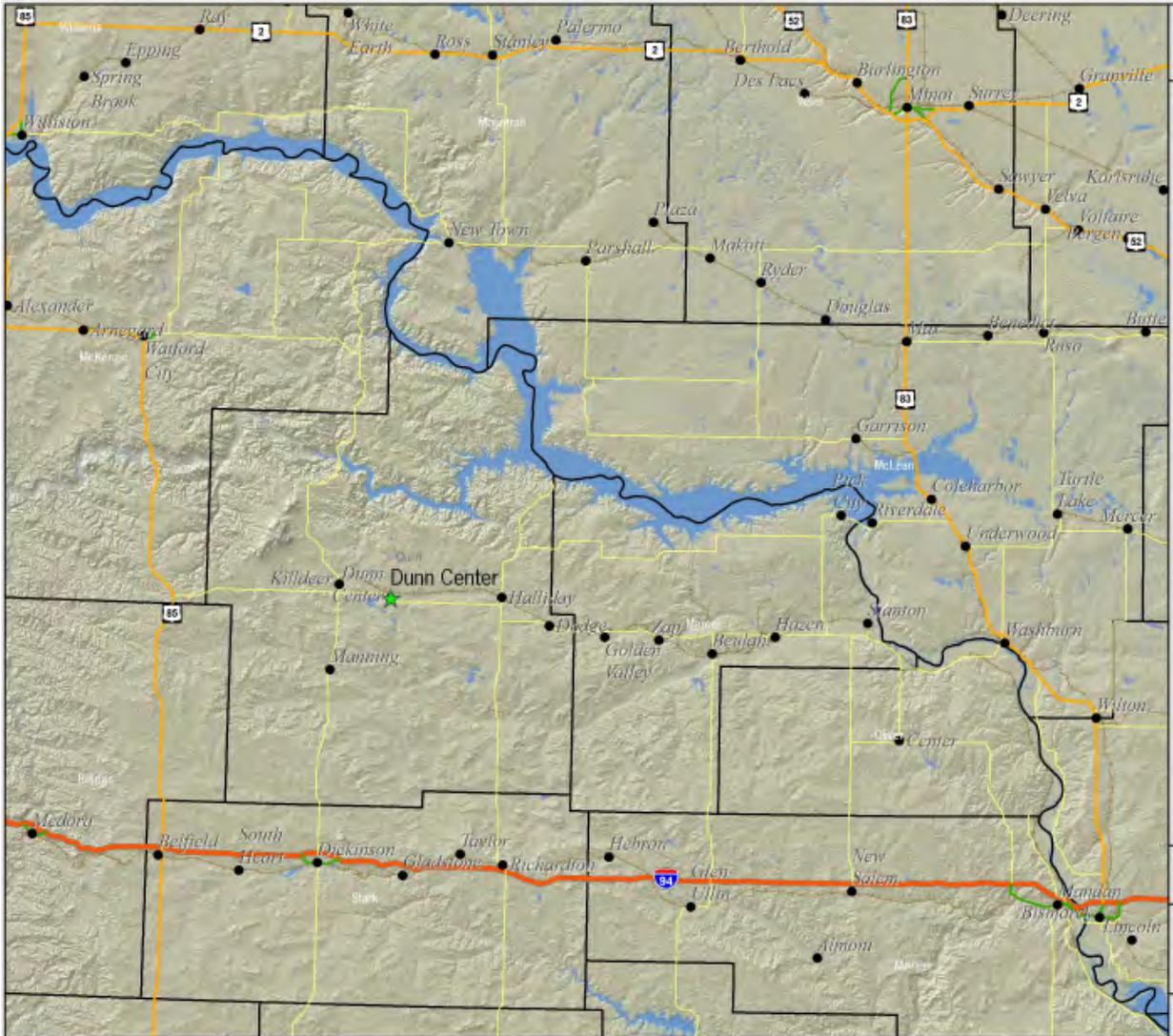
Dunn Center Comprehensive Plan

April 2011

Dunn Center Comprehensive Plan

Dunn Center is located in the heart of western North Dakota’s Missouri Plateau. It is roughly centered between four of North Dakota’s largest population centers: Williston, Minot, Dickinson, and Bismarck-Mandan (Figure 1). It is also located in the center of Dunn County, which gave reason for the city’s name when it was first formed in 1904.

Figure 1. Vicinity Map of Dunn Center

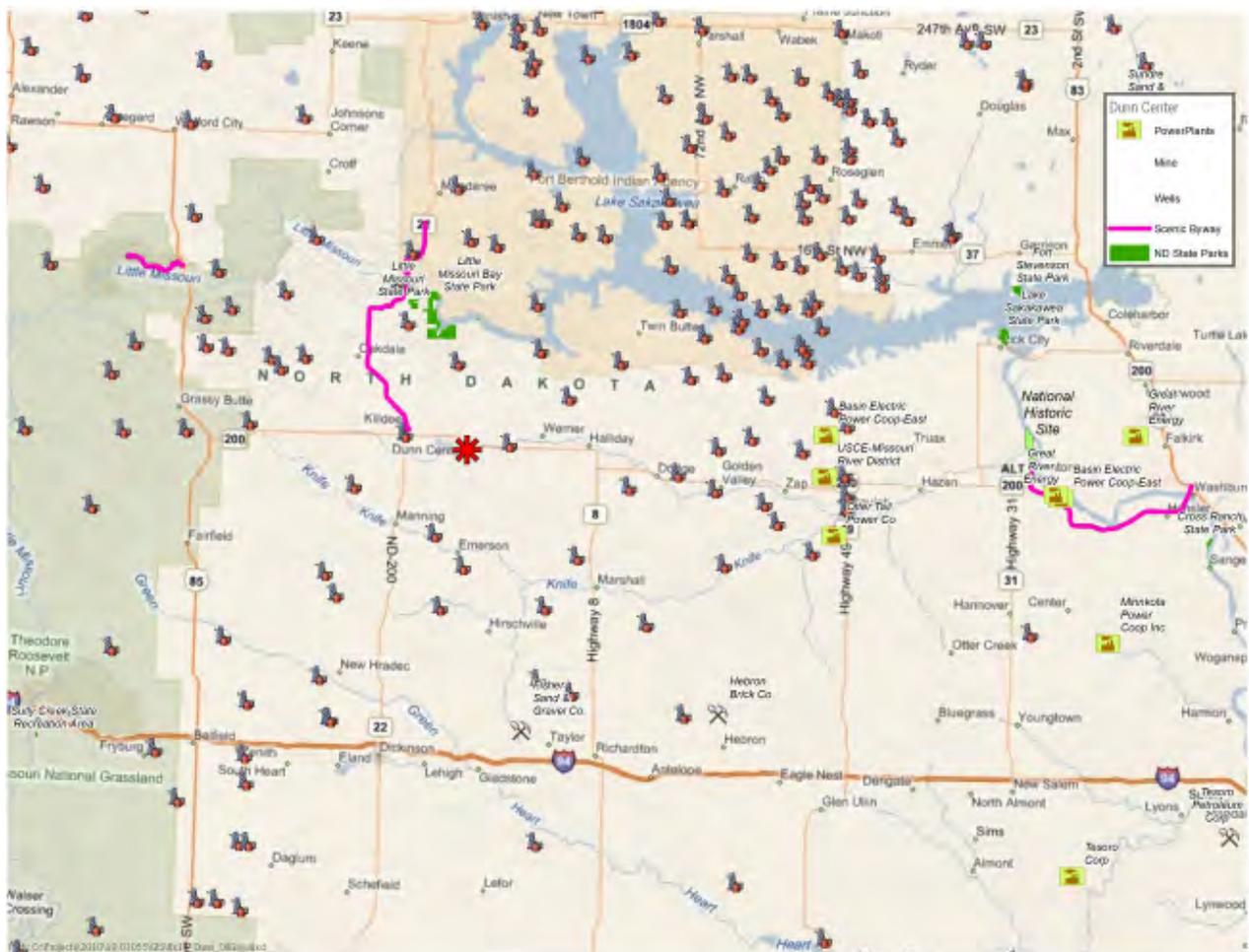


Dunn Center’s growth was primarily related to the Homestead Act of 1862. The odd numbered sections of land were given to the railroad companies. The even numbered sections became homestead land. The original settlers were farmers and ranchers. The first settlers arrived in Dunn Center in 1892 when the railroad was first extended from Bismarck along the south side of what was then the Missouri River Valley. Rails were laid in Dunn Center on October 6, 1914. Dunn Center was one of two communities that had a section house. Railroad employees and others moved to Dunn Center to live and work near

the railroad. Over the course of the next 30 years population slowly increased until the Depression. One key factor contributing to early development was the presence of coal near Dunn Center. The Hafer Coal Company acquired much of the land in the area in 1914 and rented it to individuals (ranchers and farmers). Later, much of this land was purchased by the renting parties. In 1948 Hafer Coal Company sold out all its holdings in Dunn County. This contributed to the population decline of the City during that time period.

Lake Sakakawea is located approximately 16 miles north of Dunn Center and acts as a barrier to the northern part of the State. However, Lake Sakakawea and the Badlands, located northwest of Dunn Center, are major tourism attractions for the region. The largest economic engine of the region is the energy industry. The energy industry and its spinoff or multiplier effect represent about 40% of the economy in Dunn County. Energy plants and related facilities are located in several locations to the south and east of Dunn Center (Figure 2).

Figure 2. Regional Primary Economic Production Locations



During the energy boom of the 1970's, Dunn Center experienced some increased development, but when the energy bust of the mid 1980's occurred the city began to lose residents and businesses. The current energy boom which began in 2006 has had some impact on the community. The nearest new oil

City of Dunn Center held community meetings to discuss issues and opportunities to be addressed by the comprehensive plan. The following issues were identified:

1. Identifying zoning for parcels.
2. Dealing with dilapidated structures.
3. Under-utilized land
4. Lack of policies for nuisance issues – dogs - junk
5. Addressing stormwater management and floodplain issues
6. Managing city administrative activities
7. Water hydrants that don't work
8. Street repairs
9. Locations for RV's vs locations for Man Camps
10. Equity of city services
11. Out of town property owners
12. Under-utilization of "the Grove"
13. Sewer repairs – infiltration and inflow
14. Where is it appropriate to extend city services
15. Is annexation needed
16. More law enforcement presence
17. Added or improved recreational facilities
18. Restoration of the "hall"

The following goals were also identified at this meeting:

- A. improve city image
- B. improve city procedures and administration
- C. improve the tax base
- D. maintain affordable living costs
- E. communicate the tax base income distribution

DEMOGRAPHICS AND HOUSING

Figure 4 illustrates the population of Dunn Center from 1920 to 2000. The peak census population occurred in 1930. There has been a gradual decline in population to a 2000 population of 122 with the exception of a sharp drop in 1970 and a spike in 1980 during the oil boom of that time period. Figure 5 illustrates that the surrounding Counties have experienced similar patterns of population change. Stark County is the only exception to this trend. This is due to the City of Dickinson’s growth as the regional trade center. Mercer County’s population has been sustained by energy industry growth.

Figure 4. Decennial Population of Cities in Dunn County (1920-2000)

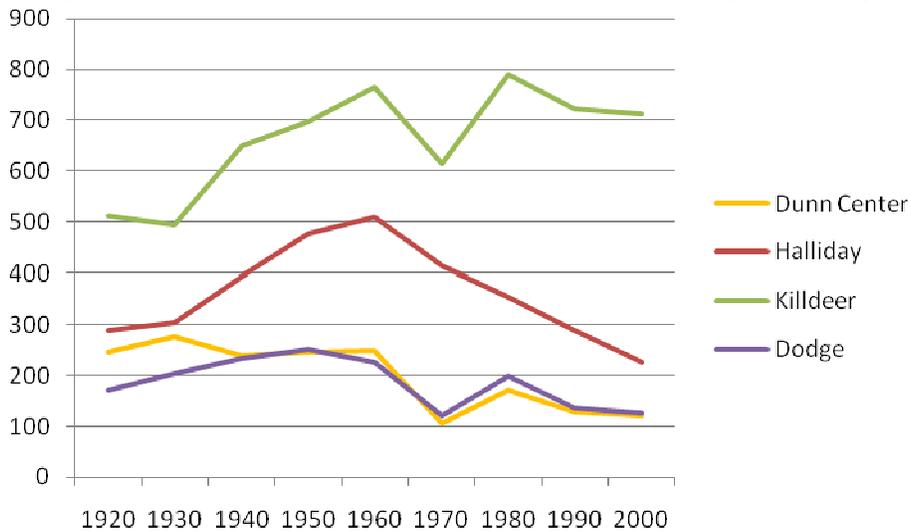
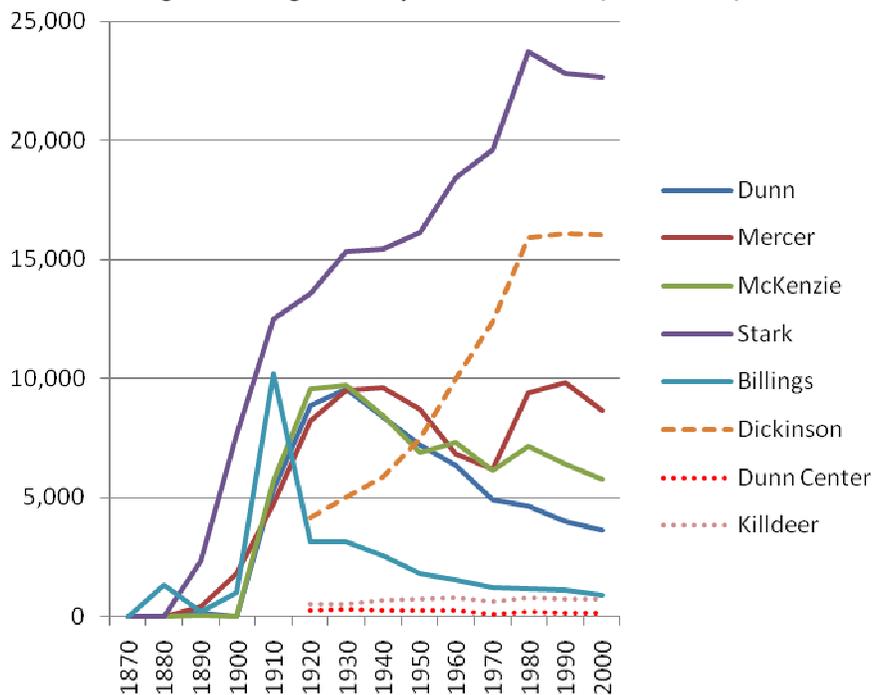


Figure 5. Regional Population Trends (1870-2000)



The overall pattern of population change in North Dakota since the 1950's has included three key characteristics:

1. There is a pattern of rural out-migration and urban concentration. Figure 6 illustrates this pattern of continuous population increase in the urban centers and continuous decline among rural places. North Dakota has seen an increasing percentage of its population located in a decreasing percentage of its cities.
2. There is a pattern of diversified household characteristics. In the 1950's and before, households were most commonly 2 parent married adults with 2 or more children. At an increasing rate over the last few decades this characterization has become a minority. Figure 7 illustrates that today less than half of all households are two parent married adults with kids. Instead the largest components of households are single parent families with kids, and single householders living alone. This general trend has increased the number of households in relationship to the size of the population. The average household size in North Dakota has decreased from 2.8 pph in 1950 to 2.24 pph in 2000. In Dunn Center these numbers are 2.7 in 1950 and 2.20 in 2000.
3. There is a pattern of increased proportion of elderly population. This is the most dominant of the three trends which characterize population change in North Dakota, especially in rural parts of the State. One reason for this change is the aging of the Baby Boomer generation (those born between 1946 and 1964). (See Figure 8.) Another reason for this is the out-migration of younger people. Generally, the change from an ag based economy which required a lot of farm labor to a information and service economy has meant the loss of jobs on an ongoing basis since the 1970's.

In the early 2000's, a North Dakota State Data Center population projection forecast an 8.8% loss in population from 3600 people in Dunn County in 2000 to 3283 in 2010. This trend was projected to continue over the next decade to 2927 in 2020 (a loss of 10.8%). Since this projection was made prior to the population increases in western North Dakota stemming from the latest oil boom, it is likely that they are under-projecting the present and near term future population. A recent independent projection suggests that in the eight key oil producing counties of North Dakota there are 27000 more people than were present in 2000. The 2010 Census counts will be available in March or April 2011 and will provide a basis for future projections.

The 2000 Census indicated there were 82 housing units of which 58 were occupied. Although no new "stick built" homes have been built since that time, 12 trailer homes and modular homes have been added to the City's housing stock. Additionally, there are 9 "man camp" units established as temporary long term housing within the City. All habitable housing units are occupied. The distribution of housing units by age at the time of the 2000 Census was as follows: 39 were built prior to 1950, 19 were built between 1950 and 1979, 16 were built during the 1980's, and the remaining 8 were built in 1990 or later.

There are currently 22 students from the City of Dunn Center attending school in the Killdeer School District.

Figure 6. Distribution of Urban and Rural Population in North Dakota (1900-2000)

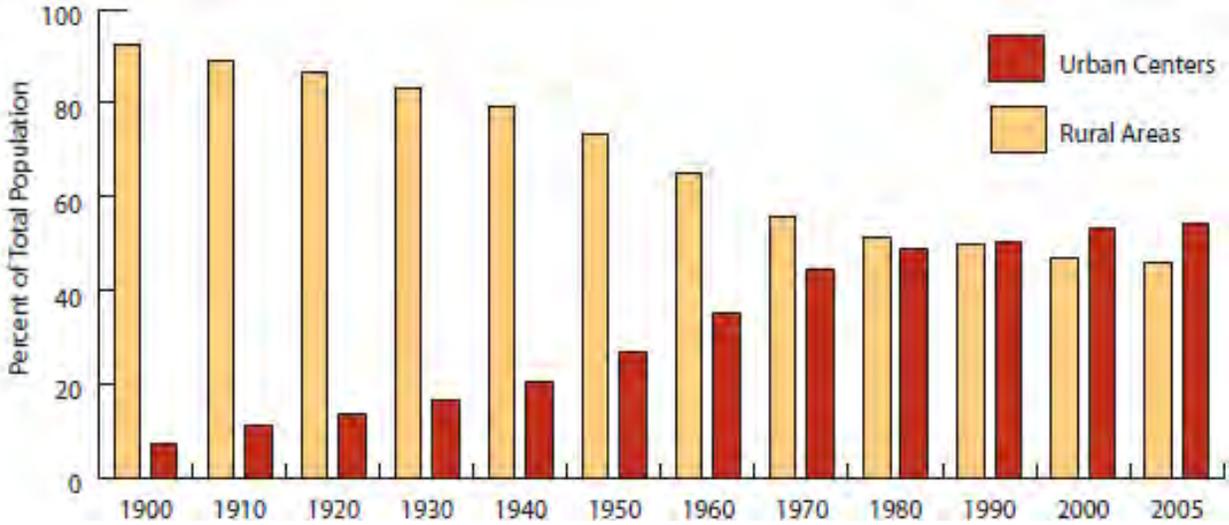


Figure 7. North Dakota Households by Type (1960-2000)

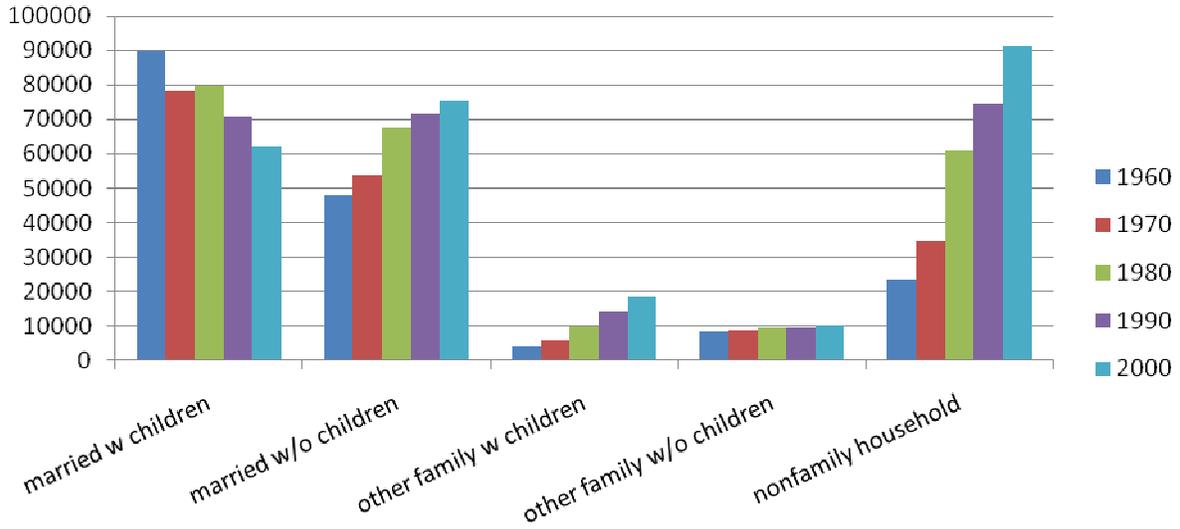
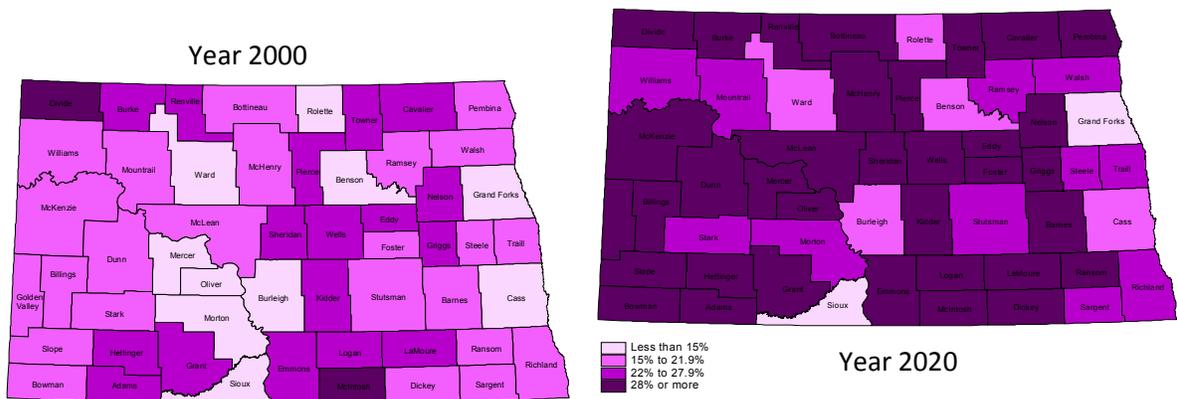


Figure 8. Persons Age 65+ as a Percent of Total Population by County (2000, 2020)



INFRASTRUCTURE

The capacity of a community's water supply and sewage collection infrastructure are an integral part of its ability to grow. Its roadway system is also a critical element in managing community growth. While the scope of this project does not include any technical analysis of community infrastructure, the following paragraphs identify what is known about water, sewer, and streets for the City of Dunn Center. They offer insights to help answer the question, "at what development threshold will capacity issues occur?"

The current average daily water usage for Dunn Center is approximately 8,300 gallons per day (gpd). This is based on a limited amount of flow data from the fourth quarter of 2009 and the first quarter of 2010. This same data indicates a peak water usage of around 21,000gpd. The city purchases water from Southwest Rural Water and the average daily water usage estimate is corroborated by the available records for 2007 to 2009 which show the average daily flow being around 8,200gpd. The public water supply limiting factor for Dunn Center is most likely the size of the clearwell/storage reservoir located beneath the water system pump house. This storage capacity is sufficient to handle the current peak water usage demands. And it is estimated that 100 households could probably be added to the community before that limiting factor is reached. The size of Dunn Center's storage facilities is so small that the flow rate from Southwest Rural Water does not need to be very large to keep water in the storage facilities. Dunn Center is likely also limited to what water Southwest Rural Water can supply to them since it does not have any water treatment capacity, and any public water supply has to meet stringent government quality standards. The limiting factor for Southwest Rural Water's ability to supply water is likely caused by its treatment and delivery capacity.

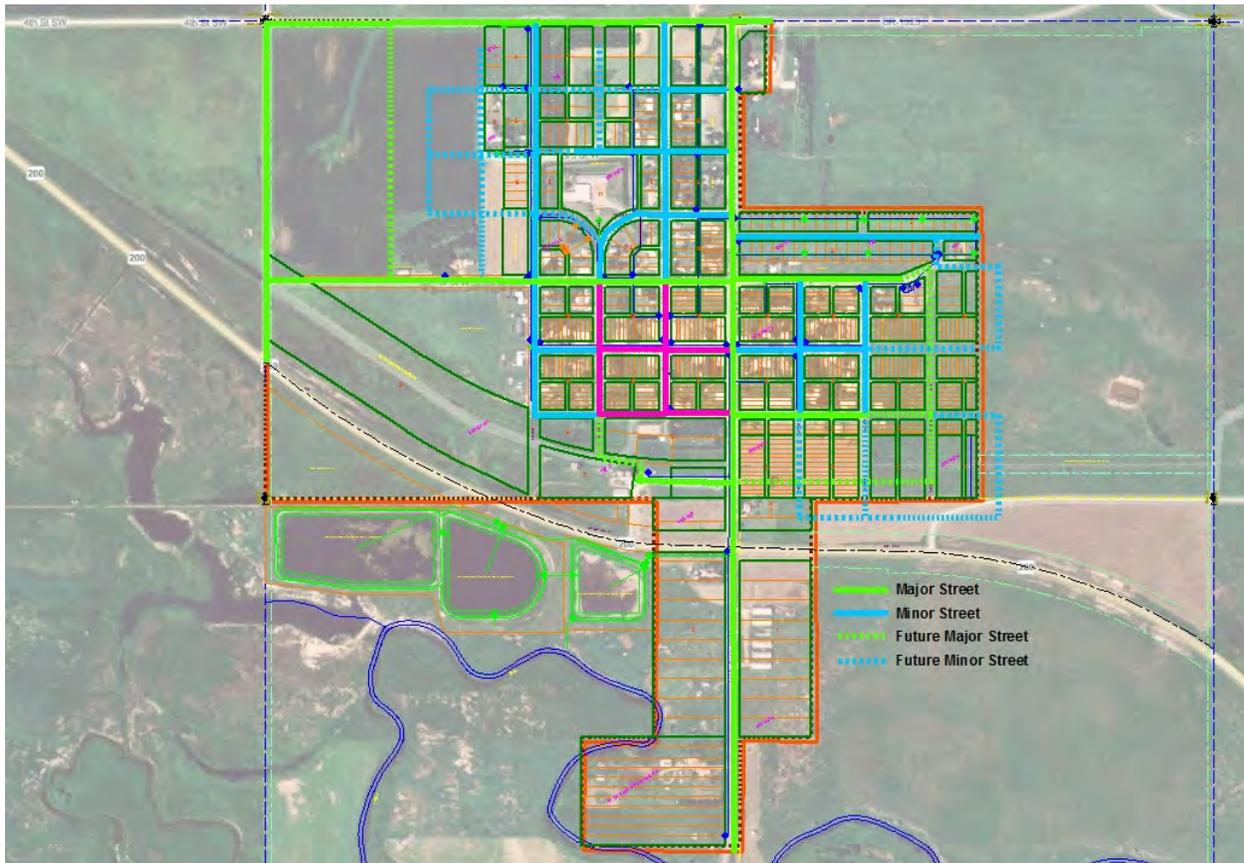
One other water supply issue which Dunn Center may need to evaluate further is that the town offers no fire protection provisions with their current infrastructure. The distribution system cannot supply fire flows nor do they have adequate delivery capacity by way of storage capacity. Due to building code requirements for fire protection, the town may be limited in its ability to grow in accordance with any future land use plan that contains a mixture of land uses typical for a small town.

The basis for estimating sewage flow rates in Dunn Center is the lift station elapsed time meters (ETM's), which when combined with the lift station pump curves can be used to estimate flows. Recent data indicates approximately 77,000 gallons per day (gpd) for an average daily flow sewage flow and a peak flow of 105,000gpd. A construction project currently underway is anticipated to eliminate a significant amount of the Infiltration and Inflow (I&I) into the sewage collection system. The City Engineer estimates that almost all of the groundwater infiltration will be eliminated and that this will result in sewage flows much closer to the water flows. The current status of the sewage collection system is in flux due to the on-going construction project. Verbal correspondence with Dunn Center's sewage system operator suggests there has already been a significant decrease in lift station run times. This decreased run time data suggests an approximate peak sewage flow going into the lagoons of 30,000gpd. The ultimate capacity of the existing lagoon system is somewhat conservatively estimated to be 90,000gpd. Assuming the accuracy of the decreased run time data, it is likely there is approximately 60,000gpd of available sewage treatment capacity. Assuming 100 gallons per person per

day (which is conservative) and 2.5 people per household, Dunn Center could probably add as many as 240 residential households (or non-residential equivalent) without any changes to the existing sewer infrastructure. The sewage collection system (as opposed to the lagoon sewage treatment system) can handle in excess of 700,000gpd, so clearly the sewage lagoon treatment capacity is the sewage limiting factor on future growth.

There are a mix of paved and gravel roads within Dunn Center’s city limits. All the roads are relatively low volume roads, but some of the roads function as major roads because they collect traffic from local streets and funnel it unto county or state highways. There are also a number of platted roadways which have not been constructed. It is important to ensure that development is organized in a way that does not preclude the future extension of existing roadways or the construction of platted roadways. In some cases, it may be advisable to replat some unconstructed roads to better address future development opportunities. Figure 9 illustrates the location of existing major roadways with green lines and existing local roads with blue lines. Recommended future roadway extensions are illustrated with dashed green lines for future major roads, and dashed blue lines for future local roads. It is especially important to identify and protect the location of future major roads since they help to ensure unnecessary traffic stays off local streets. This can be done by obtaining right of way for these future roads.

Figure 9. Existing and Recommended Future Roads



GENERAL PLAN

During the comprehensive planning meetings five key goals were identified. These five goals provided guidance to the development of a policy framework on future development in Dunn Center. These five goals are:

- A. improve city image
- B. improve city procedures and administration
- C. improve the tax base
- D. maintain affordable living costs
- E. communicate the tax base income distribution

The following specific policies are to be used by the City of Dunn Center when making decisions which address land use or development in and surrounding the City:

Land Use and Development Policies

1. Establish specific areas within or adjoining the City for potential temporary housing facilities which will not harm the long term growth of the City and which will not create nuisances for permanent residents of the City.
2. Establish specific guidelines for temporary housing facilities which will ensure their appropriate management and limit negative impacts to the City.
3. Define a specific area as a community center to enhance opportunities for synergistic development or redevelopment and to allow community investments to be more focused.
4. Establish specific areas within or adjoining the City for permanent residential development.
5. Limit the location of large animals and farm animals to areas which are set aside for long term agricultural use.
6. Establish land development regulations, including extraterritorial areas, which enact or are consistent with the Comprehensive Plan Goals and Policies.
7. Establish land development regulations and develop additional city policies, as needed, to encourage high quality development or redevelopment. If proposed development does not enhance the community image it is not desirable.
8. Establish appropriate guidelines and regulations, as needed, to protect present and future development from flooding, and to require installation of municipal facilities such as roads, sewer, and water for all new development and redevelopment.
9. Promote a community center which can enhance the level of services available to community.
10. Pursue opportunities for growing the city tax base which will not create negative impacts to the community.

11. Encourage the development of public facilities which enhance the community quality of life and attract growth and development.
12. Pursue appropriate water supply and storage sufficient to provide fire protection flows for the existing and anticipated future development area of the City.
13. All city roads should be hard surfaced roads, as funds become available.
14. Development and redevelopment will be compatible with existing land uses in the City.
15. Proposed development will not endanger the capacity of existing City facilities unless appropriate impact fees are paid to mitigate such impacts.
16. Encourage redevelopment of underutilized property in the City.

Fiscal and Administrative Policies

1. Simplify City procedures and administration to increase effectiveness and efficiency of city government.
2. Identify and implement tools to maintain affordable costs of living in Dunn Center.
3. Develop and implement communication tools which encourage widespread community involvement in community decisions.
4. Develop and maintain a Capital Improvements Plan.

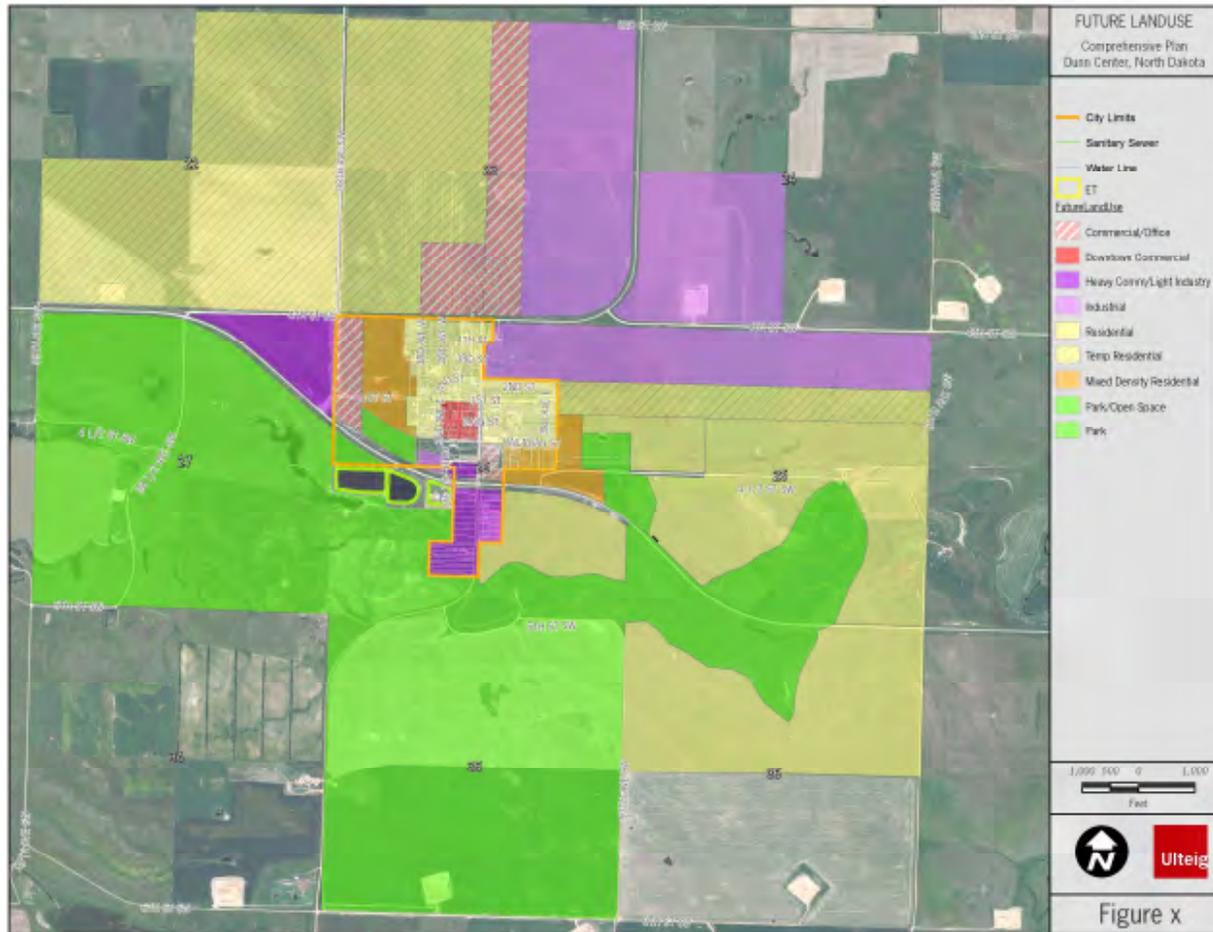
Future Land Use Plan

The main concept behind this future land use plan is to allow for the preservation and expansion of uses which are likely to be a part of the City after the oil boom is over, while defining other areas which can be used during the oil boom to meet temporary land use needs. Great care should be taken to design the expansion of infrastructure for temporary uses in a way that can serve the long term needs of the city as well. The maps on pages 12 and 15 define the general locations of uses, but are not intended to define the lot and block layout of those areas.

Single Family Residential represents the recommended core residential area. All the vacant or underutilized land in this area should be reserved for residential development that is consistent with traditional single family neighborhoods. Ideally a small neighborhood park should be a part of this contiguous permanent residential area.

Mixed Density Residential represents areas which are recommended to be primarily single family residential in character, but which may include higher density residential uses or other uses which do not conflict with residential neighborhoods. Consideration may be given to potential redevelopment of areas adjoining other land uses when such development meets market needs and does not introduce activity that adversely affects the areas' residential character. It is recommended that surrounding land

uses be carefully managed to minimize conflicts. Mobile homes located in this area must be sited on individual lots and be modified to conform to the character of site-built single family neighborhoods.



Temporary Residential represents temporary housing locations including but not limited to man camps, mobile home parks, and RV parks. One location is already planned and in use. The additional temporary residential housing areas are located at the fringe of the city where future redevelopment into other uses such as permanent residential or industrial uses can be designed without creating negative impacts to the existing core of the city. These locations should meet the need for additional space for temporary housing should it become necessary. An appropriate street network could be extended to serve those temporary uses, and after the need for temporary residential use disappears the roadway and related utilities should be positioned for future redevelopment consistent with market demands of the time.

Parks & Open Space represents areas set aside for recreation, outdoor community activities, public camping facilities, and other open space uses. These areas are intended to enhance the visual character and quality of life of Dunn Center. These areas may also be used for agriculture, floodwater storage, and stormwater management if landscaped and designed to meet the Parks & Open Space primary objectives where appropriate.

Downtown Commercial represents the heart of the City and is envisioned as the community center. This area should be developed and redeveloped to include community meeting rooms, a café, a small general store, post office and parcel delivery facilities, and other uses that are useful to support a small community. This should be the place where people gather informally to function as a community. Mixed uses where residential space is provided on upper floors while the ground floor is commercial or public use space are highly recommended for this area. This area should also contain the local government offices. If feasible, consideration should be given to a public-private partnership to provide a community facility containing an expanded fire hall, local government offices, and some of the other functions previously mentioned.

Office/Commercial represents areas located adjacent to Hwy 200 and are envisioned as office and commercial locations for commercial activities which are not a good fit for the Downtown Commercial center. Depending on the nature of proposed development related to the energy industry, these areas may function as office centers for proposed energy business uses or other commercial activities which are determined best located adjoining Hwy 200. It is preferable that those uses adjoining the existing developed part of the City be uses that will support the needs of the community even after the oil boom has ended. Locating these uses close to Hwy 200 helps to minimize the traffic impact on the remainder of the City.

Heavy Commercial/Light Industry represents areas where because of nearby residences or direct exposure to Hwy 200 or County Road xx, higher standards are required to protect or enhance the character of the community, and to enhance public safety. Uses appropriate to these areas include commercial operations, automotive repair and service, business parks, light manufacturing operations, and large regional retail stores.

Industry represents areas allocated for industrial uses because they are separated from the heart of the city and from direct exposure to Hwy 200, and will thus be less a nuisance to residents, and less likely to detract from the character of the community. Uses appropriate for this area include contractor and oil industry equipment yards, warehousing involving large scale freight operations, manufacturing, truck and heavy equipment repair and service, and wholesale/distribution operations.

Temporary Housing Strategy

Due to the opportunity for increased temporary housing in Dunn Center and the potential negative impacts of temporary housing facilities, the following guidelines are established to encourage their appropriate development:

1. All temporary housing developments must have a permanent local manager.
2. All temporary housing developments must install and improve water, sewer, and street facilities sufficient to meet the proposed density of the development and of future redevelopment into permanent development of residential or commercial uses at the following densities. (density standards to be added)

3. All temporary housing or other temporary developments will be required to post a surety bond or similar instrument in order to provide a means to pay for restoration or cleanup costs which may be necessary upon the discontinuation of the temporary uses. Such bond will be refunded to the owner of the development upon satisfactory restoration of the site upon vacation of temporary facilities.

IMPLEMENTATION

The City of Dunn Center will undertake the following activities in order to implement the Comprehensive Plan and its policies:

1. Establish a Planning Commission as an advisory body to the City Council on land use planning and zoning matters.
2. Establish a procedure for zoning administration and appoint someone as zoning administrator with the responsibility to assist applicants and city officials in zoning procedures
3. Ensure that the appointed zoning administrator receives appropriate training in zoning procedures
4. Adopt the Comprehensive Plan and use it as a guide for land use and development decisions including the administration of land development regulations
5. Prepare and enact an updated zoning ordinance which is consistent with the Comprehensive Plan
6. Provide water supply and pressure sufficient for fire flows for existing and anticipated future development.
7. Reconstruct or overlay roads with hard surfaces as funding becomes available.

