

TOWN OF ORANGE

Town Board

John A. Slama, Chair
Dale Georgeson, Supervisor
Mike Keichinger, Supervisor
Marion E. Christensen, Clerk

Planning Committee

Dale Georgeson
Lori Winkelman
Kevin Luedtke
Jeff Johnson
Harry Schwab

**Adopted
December 2006**

Photos: NCWRPC

This plan was completed with the assistance of the
North Central Wisconsin Regional Planning Commission (NCWRPC).

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DEC 6 2006

NORTH CENTRAL WISCONSIN
REGIONAL PLANNING COMMISSION

STATE OF WISCONSIN
Town of Orange, Juneau County

SECTION I – TITLE/PURPOSE

The title of this ordinance is the Town of Orange Comprehensive Plan Ordinance. The purpose of this ordinance is for the Town of Orange to lawfully adopt a comprehensive plan as required under s. 66.1001 (4) (c), Wis. stats.

SECTION II – AUTHORITY

The town board of the Town of Orange has authority under Wisconsin statutes to adopt this ordinance. The comprehensive plan of the Town of Orange must be in compliance with s. 66.1001 (4) (c), Wis. stats., in order for the town board to adopt this ordinance.

SECTION III – ADOPTION OF ORDINANCE

The town board of the Town of Orange, by this ordinance, adopted on proper notice with a quorum and roll call vote by a majority of the town board present and voting, provides the authority for the Town of Orange to adopt its comprehensive plan under s. 66.1001 (4), Wis. stats., and provides the authority for the town board to order its publication.

SECTION IV – PUBLIC PARTICIPATION

The town board of the Town of Orange has adopted written procedures designed to foster public participation in every stage of the preparation of a comprehensive plan as required by s. 66.1001 (4) (a), Wis. stats.

SECTION V – PLAN COMMISSION RECOMMENDATION

The Plan Commission of the Town of Orange, by a majority vote of the entire commission, recorded in its official minutes, has adopted a resolution recommending to the town board the adoption of the Town of Orange Comprehensive Plan, which contains all of the elements specified in s. 66.1001 (2), Wis. stats.

SECTION VI – PUBLIC HEARING

The Town of Orange, has held at least one public hearing on this ordinance, with notice in compliance with the requirements of s. 66.1001 (4) (d), Wis. stats.

SECTION VII – ADOPTION OF TOWN COMPREHENSIVE PLAN

The town board of the Town of Orange, by the enactment of this ordinance, formally adopts the document entitled Town of Orange Comprehensive Plan Ordinance under pursuant to s. 66.1001 (4) (c), Wis. stats.

SECTION VIII – SEVERABILITY

If any provision of this ordinance of its application to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of this ordinance that can be given effect without the invalid provision of application, and to this end, the provisions of this ordinance are severable.

SECTION IX – EFFECTIVE DATE

This ordinance is effective on publication or posting.

The town clerk shall properly post or publish this ordinance as required under s. 60.80, Wis. stats.

Adopted this 14th day of November, 2006.

[Signatures of town board]

Michael Kealy Supervisor
John A. Slama CHAIRMAN
Dale Longesen Supervisor

Attest: [Signature of town clerk]

Marion Christensen

66.1001 (4) (b) * Resolution by plan commission to recommend adoption of comprehensive plan.

STATE OF WISCONSIN
Town of Orange
Juneau County

The Plan Commission of the Town of Orange, Juneau County, Wisconsin, by this resolution, adopted on proper notice with a quorum and by a roll call vote of a majority of the town plan commission present and voting resolves and recommends to the Town Board of the Town of Orange as follows:

Adoption of the Town of Orange Comprehensive Plan.

The Town of Orange Plan Commission, by this resolution, further resolves and orders as follows:

All maps and other materials noted and attached as exhibits to the Town of Orange Comprehensive Plan are incorporated into and made a part of the Town of Orange Comprehensive Plan.

The vote of the town plan commission in regard to this resolution shall be recorded by the clerk of the town plan commission in the official minutes of the Town of Orange Plan Commission.

The town clerk shall properly post or publish this resolution as required under s. 60.80, Wis. stats.

Adopted this Fourteenth day of August 2006.

[Signatures of plan commission members]

Sam Wenkelman
Jeff Johnson
Chris Luettich
Harry Schuch
Dale Longerson

Attest: _____ Planning Commission Clerk

TOWN OF ORANGE

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ATTACHMENT:

- A. 2000 Census Summary
- B. Public Participation Plan

Map 1 – General Location

I. ISSUES & OPPORTUNITIES

1. Overall Plan Introduction

A. Context of the Plan

The Town of Orange is a 36-square mile town in the central part of Juneau County, on the edge between the Central Sands area of the state and the “Driftless Zone”. It is a primarily agricultural town and home to Volk Field and Camp Williams, one of the largest military installations in Wisconsin. The Village of Camp Douglas lies at the center of the Town, adjacent to Volk Field. Interstate 90/94 cut diagonally across the Town, providing excellent access. The Town does not currently exercise any land use controls.

B. Purpose of the Plan

The Town of Orange Comprehensive Plan is intended to be the will-of-the-people in writing for land use planning. When the people’s desires in this community change, so too should this document. Local officials shall use this document to save time when making land use decisions. The Plan will also assist in development and management issues of public administration by addressing short-range and long-range concerns regarding development, and preservation of the community. Numerous reasons exist for developing a comprehensive plan:

- To identify areas appropriate for development and preservation over the next 20 years;
- For recommending land uses in specific areas of the town;
- To preserve woodlands to retain forestry as a viable industry;
- To direct the appropriate mix of housing opportunities that demographics dictate;
- To guide elected officials with town derived objectives for making land use decisions.

This Comprehensive Plan was prepared under the authority granted to towns that exercise village powers in Wisconsin State Statute 60.22(3), and according to Comprehensive Planning in State Statute 66.1001 for Wisconsin.

C. Plan Process

Wisconsin’s State Statute 66.1001 requires municipalities to adopt written procedures that are designed to foster a wide range of public participation throughout the planning process. The main goal is to make all town residents aware of how and when this plan is being created, so residents can make suggestions during this process.

The Town of Orange sent out approximately 300 surveys to landowners in the town, and sixty-four were returned, a return rate of roughly 21 percent. When asked about the appropriate level of growth in the town seventy-one percent favored the present rate, and only seven percent favored a faster rate of growth. On the question of whether the Town should have a say in where growth occurs, seventy-four percent felt that it should. The kinds of development, which should be encouraged by the Town were rated by respondents. Single-family residences were favored by 22.5 percent. Cash crops and dairy farms were each favored by about sixteen percent of respondents. Roughly ten percent of respondents said business or seasonal/recreational homes should each be encouraged. Over eight percent of respondents favored elderly housing, and seven percent favored

housing for all income levels. Feed lots were favored by three percent, apartments and duplexes by less than two percent, and mobile home parks by less than one percent.

On the question of whether further growth in business is essential to the stability and improvement in the town the results were split: forty percent said yes, 47.5 percent said no and over eleven percent said they didn't know. Asked if they approved of agricultural land being rezoned for residential use 64.5 percent said no. The Town applies a three-acre minimum lot size to trailer homes only, fifty-seven percent of respondents thought this minimum should apply to permanent homes as well. When asked if a different minimum should be applied nearly sixteen percent favored ten acres, fourteen percent said three acres, just over twelve percent chose either five acres or three acres, and 3.5 percent favored two acres. Forty-two percent of respondents had no opinion. Over eighty-one percent said that the scenic beauty of the Town of Orange is important.

Respondents were also asked to rate the services provided by the Town of Orange. Using a scale from poor to excellent services were rated as follows: snow removal received the highest rating (153); followed by emergency medical service (144); police (142); fire protection (126); the use of road construction money (121); the New Lisbon schools (101); taking garbage to the county landfill (77); and the Tomah schools (68).

Meeting 1 August 23, 2004

- Overview Planning Process
- Review role of the Committee
- Establish meeting dates and timeline
- Discuss Survey and distribution process
- Review 2000 Census data
- Review base map

Meeting 2 November 15, 2004

- Present draft Issues & Opportunities Element
- Present draft Natural Resource Element
- Issue Identification and Vision
- Goal Development
- Existing Land Use Exercise

Meeting 3 February 7, 2005

- Follow-up from last meeting
- Present draft Transportation Element
- Present draft Housing Element
- Review Existing Map and discuss Land Use Issues
- Goal Development continued

Meeting 4 April 4, 2005

- Follow-up from last meeting
- Present draft Land Use Element
- Present draft Utilities and Community Facilities Element
- Present draft Economic Development Element

Meeting 5 OPEN HOUSE June 21, 2005

- Present survey results to public and display draft land use map

Meeting 6 August 14, 2006

- Follow-up from last meeting
- Follow-up on elements previously presented
- Present draft Intergovernmental Coordination Element
- Present draft Implementation recommendations
- Approve Goals, Objectives & Policies
- Committee recommends approval by Town Board

Meeting 7 PUBLIC HEARING & TOWN BOARD APPROVAL

- Present Plan and take public comment
- Town Board Approves plan.

2. Community Profile

A. Description

The following Community Profile of the Town of Orange consists of background information on the town, including population; age distribution; racial composition; educational attainment; household characteristics; employment statistics; and income levels. This serves as an introduction to the town and a starting point for developing the Town's Comprehensive Plan. In addition, the Community Profile is meant to act as a source of reference information and to be used for deriving many of the key findings and recommendations of the plan. The Community Profile is written in a manner that facilitates quick and easy reference for use during creation of this Plan and during revision of this Plan.

B. Demographics

1. Historical Population

Since peaking in 1970 the Town of Orange has decreased by more than eleven percent of its population. The rate of population decrease has been accelerating over the last three decades. The population for the county has increased during this period, growing by over twelve percent during the 1990s.

	1960	1970	1980	1990	2000	1990-2000 % Change	1990-2000 Net Change
Town of Orange	468	619	607	581	549	-6%	-32
Village of Camp Douglas	489	547	589	512	592	16%	80
Town of Clearfield	283	312	538	502	737	47%	235
Town of Cutler	246	294	369	314	282	-10%	-32
Town of Fountain	615	616	598	633	582	-8%	-51
Town of Lisbon	516	661	903	862	1,020	18%	158
Town of Oakdale, Monroe Co.	652	659	759	643	679	6%	36
Juneau County	17,490	18,455	21,037	21,650	24,316	12%	2,666

Source: U.S. Census

2. Population Projections

According to population projections prepared by the DOA, the thirty-year trend of population loss in the Town of Orange is expected to end after 2005 when the population is expected to peak at 563. Meanwhile, the county is projected to continue increasing at its current rate until 2015 when the growth rate is expected to slow to under five percent per decade.

Year	Town of Orange	Juneau County
2005	540	25,640
2010	563	27,677
2015	563	28,635
2020	561	29,449
2025	561	29,807

Source: Wisconsin Department of Administration

Figure 1
TOWN OF ORANGE
 Historic Population¹: 1960-2000
 Projected Population²: 2005-2025

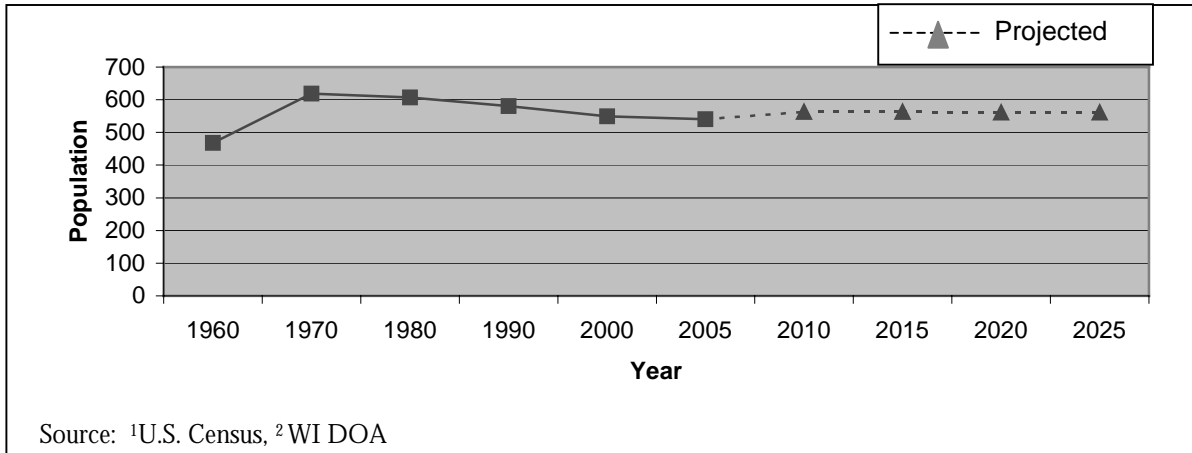


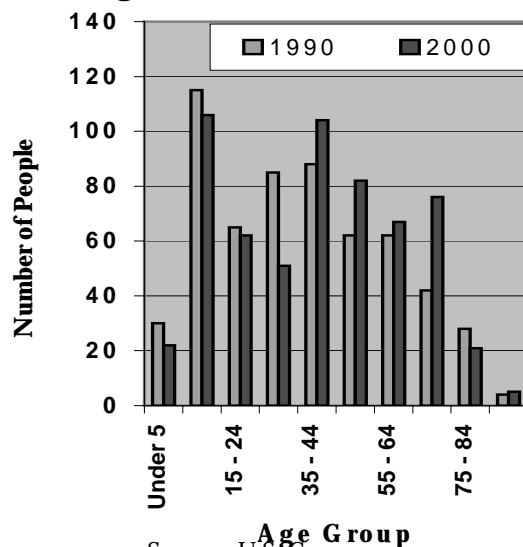
Figure 1 shows population trends in the Town of Orange over a 65-year period starting in 1960. After a sharp population rise during the decade of the 1960s, population began a slow decline that is projected to end in 2005 and to plateau until 2025 at just under 600 persons.

3. Population Characteristics

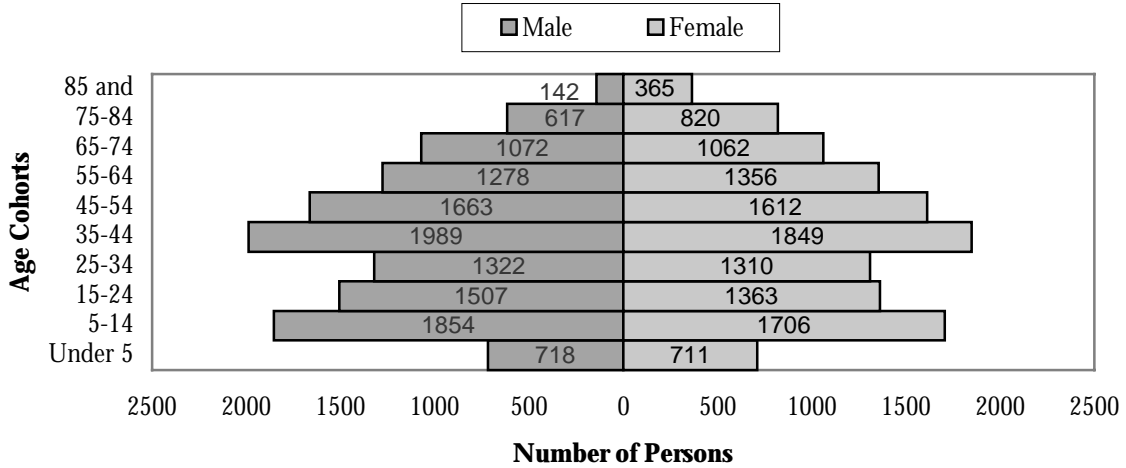
In 2000, the Town of Orange had 301 males and 295 females. Town residents reported their race in the 2000 U.S. Census as the following: White 99.6%, or some other race 0.4%. The median age of Town residents is 42 years old. In comparison, Juneau County’s median age is 39.4, while the State of Wisconsin’s median age is 36.

The dominant image that comes from comparing the numbers of people in the various age cohorts between 1990 and 2000 is the decline in the 25 to 34 age group. Although there was a slight decline in all age groups under 25, those 25 to 34 declined by nearly 30 percent. This likely indicates that a large number of town residents are leaving after receiving their education. All age cohorts between 35 and 74 increased, with those 65 to 74 nearly doubling. The overall effect of these changes is a significant aging of the population in the Town of Orange.

Figure 2
Age Distribution 1990-2000

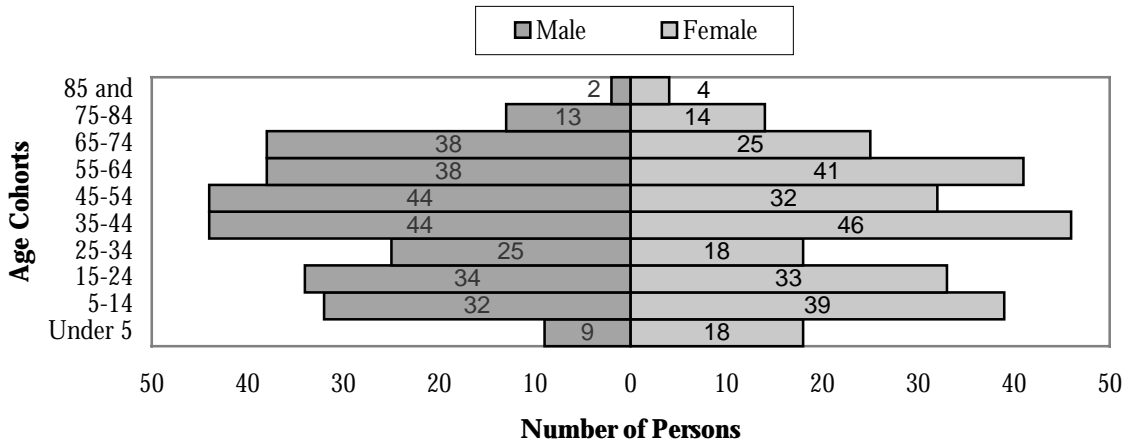


**Figure 3
Juneau County
Male & Female Age Distribution
2000**



Source: U.S. Census

**Figure 4
Town of Orange
Male & Female Age Distribution
2000**



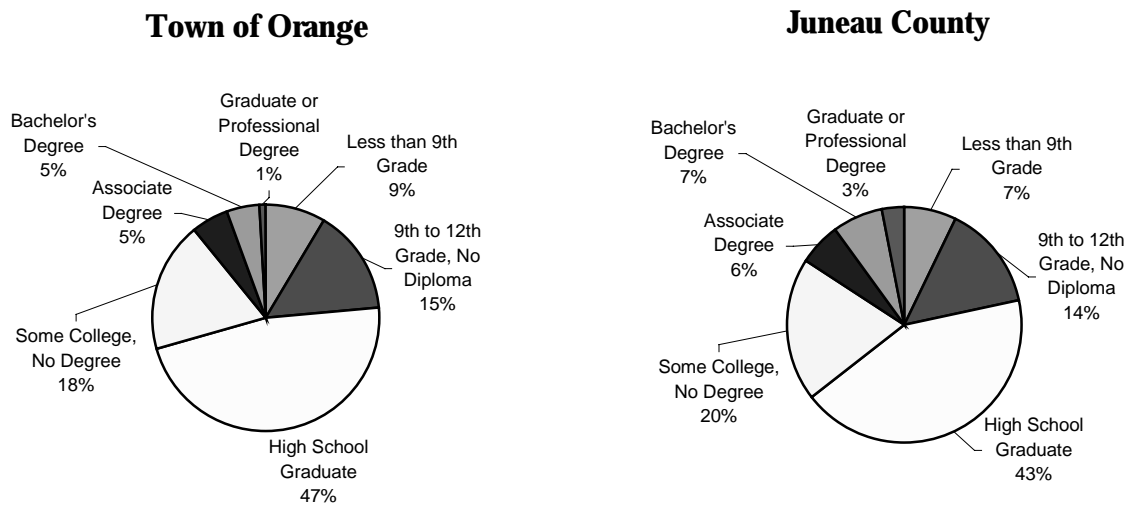
Source: U.S. Census

The population distribution of age and sex illustrated by Figure 4 shows the relatively small number of persons in the 25 to 34 age group. The most notable anomalies are the predominance of males in the 65 to 74 age group and females in the 15 to 24 age cohort.

4. Educational Attainment

Education levels in the Town of Orange are generally similar to Juneau County. Seventy-six percent of residents over 25 have completed high school, while 78.5 percent of county residents are high school graduates. The state rate is 85 percent. The disparity is more marked in those 25 or older who have four or more years of college. For the state 22.4 percent have a bachelor's degree or more, in Juneau County it's ten percent, and in the Town of Orange 5.6 percent of those over 25 have a bachelor's degree or more. This is not untypical for a rural town.

Figure 5
Educational Attainment, 2000
For Population Over 25 Years



Source: U.S. Census, SF-3

5. Household Projections

As the size of households decreases throughout the nation and in the Town of Orange it means that the number of households will increase at a higher rate than the population. The number of households is projected to increase by over ten percent in the years between 2005 and 2015, more than double the rate of increase during the 1990s. The rate of increase will slow to 4.6 percent during the 2010 to 2020 decade, before flattening out.

	Historical Household Count 1980-2000¹							Household Projections 2005-2025²	
	1980	1990	2000	2005	2010	2015	2020	2025	
Town of Orange	199	209	221	221	238	244	249	249	

Source: ¹U.S. Census 1980-2000

²WI Dept. of Administration

6. Household Characteristics

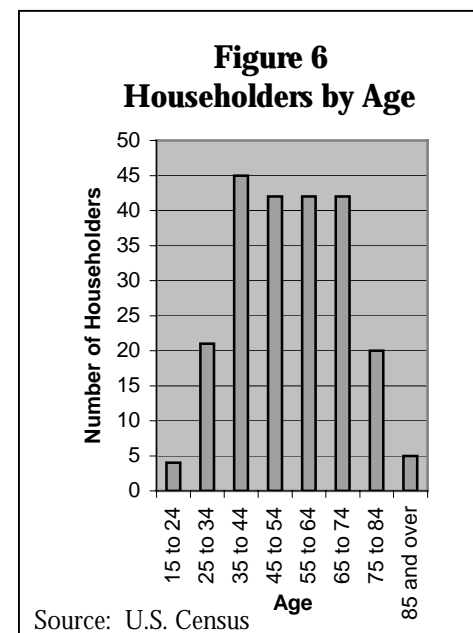
The profile of the typical household in the Town of Orange would be a married couple, between the ages of 35 and 74, with no children under 18. Married couples make up 58 percent of all households; couples with children under 18 constitute 18.6 percent of households, while single parent households are only 5.4 percent. Single person households are 23 percent of the total. Eighty-three percent of householders are between 34 and 74, with the largest concentrations being in the 35 to 44 age group (25.2%) and the 65 to 74 cohort (22.6 %).

The Town of Orange's average household size in 1990 was 2.78 persons, while in 2000 it was 2.48 persons.

	Town of Orange		
	1990	2000	Net Change
Total Households	209	221	12
1. Family households	162	155	-7
a. Married-couple family	146	130	-16
i. With own children under 18 years	75	42	-33
ii. Without own children under 18 years	61	88	27
b. Householder without spouse present	10	25	15
i. With own children under 18 years	2	12	10
ii. Without own children under 18 years	8	13	5
2. Nonfamily household	47	66	19
a. Householder living alone	40	51	11
b. Householder not living alone	7	15	8

Source: U.S. Census

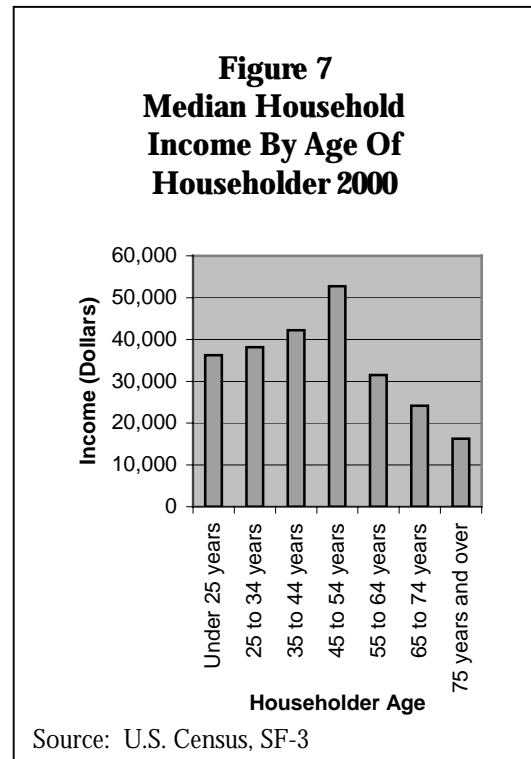
Some significant changes in the make-up of households in the Town of Orange show up in the 1990s. While family households went down by ten percent, non-family households went up by over forty percent. In 2000 single person households were twenty-three percent of the total, and had increased by 27.5 percent in the last decade. Family households with children under 18 dropped by forty-four percent during the 1990s. At the same time single parent households with children under 18 increased five-fold. It can be anticipated that the trend toward smaller and non-family household will continue. It seems likely that there will be fewer children under 18, but more of them will live in single parent households.



7. Income

In looking at the income structure of the Town of Orange some changes become apparent. There has been significant growth in the upper income groups so that in 2000 more than a third of households in the town made over \$50,000 per year. Even adjusting for inflation this is a shift from 1990, when more than seventy percent of families made less than \$50,000 (in 2000 dollars). Still nearly half of households earn less than \$35,000. The highest median income is in households headed by persons between 45 and 54 with incomes dropping sharply in the older age cohorts.

Although median household income for the Town of Orange is slightly above the median for the county it is below all the surrounding municipalities, except the Town of Clearfield. Adjusted for inflation median income in the town rose by less than five percent during the 1990s, compared to a nearly thirteen percent rise for the state and 21.5 percent for the county. That is the slowest rate of income growth in all the surrounding communities, which ranged from a 5.8 percent increase in the Town of Lisbon to a nearly forty-six percent increase in the Town of Fountain. Median income in the Town of Orange is 82 percent of the state median, and per capita income is at 83 percent of the state level.



Annual Income	1990		2000	
	Number of Households	Percent of Households	Number of Households	Percent of Households
Less than \$10,000	20	10.1%	11	4.9%
\$10,000 - \$19,999	51	25.6%	48	21.2%
\$20,000 - \$34,999	69	34.7%	50	22.1%
\$35,000 - \$49,999	34	17.1%	35	15.5%
\$50,000 - \$99,999	25	12.6%	76	33.6%
\$100,000 and over	0	0%	6	2.7%

Source: U.S. Census, SF-3

On a per capita basis Orange compares favorably to all the surrounding communities. Despite the slow growth in median income, per capita income in Orange grew faster (43.6%) than in the state (21.6%), the county (31.8%), or any of the surrounding communities. This indicates smaller households. Household incomes rose slowly in Orange, but because there were fewer people in those households to divide the income among the per capita income rose faster.

Orange was the only one of the surrounding communities where the poverty rate rose during the 1990s, going from just over ten percent to more than fifteen percent. A closer reading of Census information offers a possible explanation. The poverty rate for all families is under ten percent but for families with children under 18 it's 21.3 percent, and with children under five it goes to over twenty-six percent. As individuals, related children from 5 to 17 have a poverty rate of 32.4 percent. Although the Census shows no direct information, the five hundred percent increase in single parent families noted above may well be related to the increase in poverty.

	Per Capita Income	Median Household Income	Percent of inhabitants below poverty level
Town of Orange	\$12,385	\$34,219	10.1%
Village of Camp Douglas	\$15,412	\$31,841	7.5%
Town of Fountain	\$12,660	\$32,559	23.7%
Town of Lisbon	\$16,082	\$39,076	6.7%
Town of Clearfield	\$13,762	\$31,389	13.0%
Town of Cutler	\$14,190	\$29,880	10.1%
Town of Oakdale, Monroe Co.	\$14,557	\$41,502	15.2%
Juneau County	\$13,576	\$29,082	12.8%
Wisconsin	\$17,491	\$38,790	10.7%

Source: U.S. Census, SF-3 *Adjusted for inflation

	Per Capita Income	Median Household Income	Percent of inhabitants below poverty level
Town of Orange	\$17,788	\$35,909	15.2%
Village of Camp Douglas	\$17,919	\$39,583	2.8%
Town of Fountain	\$17,350	\$47,500	11.7%
Town of Lisbon	\$18,231	\$41,354	8.9%
Town of Clearfield	\$17,445	\$35,781	13.5%
Town of Cutler	\$17,591	\$37,813	1.5%
Town of Oakdale, Monroe Co.	\$19,199	\$47,273	7.8%
Juneau County	\$17,892	\$35,335	10.1%
Wisconsin	\$21,271	\$43,791	8.7%

Source: U.S. Census, SF-3

3. Process

A. Public Participation Plan

An important part of any planning process is public involvement. Public involvement provides the citizens of the town an opportunity to express their views, ideas, and opinions on issues that they would like addressed on the future development of their town. Local officials use this input to guide policies and decisions with greater awareness of the public's desires and consensus. See Public Participation Plan in Attachment B.

The Town of Orange conducted a community survey, held public meetings and an open house meeting to collect public input.

B. Vision Statement

Community Vision Statement

The Town of Orange boasts a safe, peaceful, country-style environment that offers a special place in which to raise a family or retire. The Town needs to ensure its strong family farming tradition, protect and conserve its valuable resources of prime agricultural and forest lands and to protect food and livestock production.

C. Smart Growth Planning Goals

Wisconsin's Comprehensive Planning legislation created 14 planning goals to coordinate holistic thinking among state, regional, and local government entities.

The 14 planning goals are listed here for reference:

1. Promotion of the redevelopment of lands with existing infrastructure and public services and the maintenance and rehabilitation of existing residential, commercial and industrial structures.
2. Encouragement of neighborhood designs that support a range of transportation choices.
3. Protection of natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces and groundwater resources.
4. Protection of economically productive areas, including farmland and forests.
5. Encouragement of land uses, densities and regulations that promote efficient development patterns and relatively low municipal, state governmental and utility costs.
6. Preservation of cultural, historic and archaeological sites.
7. Encouragement of coordination and cooperation among nearby units of government.

8. Building of community identity by revitalizing main streets and enforcing design standards.
9. Providing an adequate supply of affordable housing for individuals of all income levels throughout each community.
10. Providing adequate infrastructure and public services and an adequate supply of developable land to meet existing and future market demand for residential, commercial and industrial uses.
11. Promoting the expansion or stabilization of the current economic base and the creation of a range of employment opportunities at the state, regional and local levels.
12. Balancing individual property rights with community interests and goals.
13. Planning and development of land uses that create or preserve varied and unique urban and rural communities.
14. Providing an integrated, efficient and economical transportation system that affords mobility, convenience and safety and that meets the needs of all citizens, including transit-dependent and disabled citizens.

D. Community Goals

Housing Goals

1. Allow adequate, affordable housing for all individuals consistent with the rural character of the community.
2. Discourage residential development in unsuitable areas.

Transportation Goals

1. Encourage neighborhood designs that support a range of transportation choices.

Utility & Community Facility Goals

1. Continue to provide ambulance, volunteer fire and first responder services to residents.

Agricultural, Natural, and Cultural Resource Goals

1. Protect natural areas, including wetlands, floodplains, wildlife habitats, ponds, woodlands, open spaces and groundwater resources.
2. Protect economically productive areas, including farmland and forested areas.
3. Preserve cultural, historic and architectural sites.

Economic Development Goals

1. Discourage commercial and industrial development.

Intergovernmental Cooperation Goals

1. Encourage coordination & cooperation among nearby units of governments.

Land Use Goals

1. Balance individual property rights with community interests and goals.
2. Plan and develop land uses that create or preserve the rural community.
3. Encourage land uses, densities and regulations that promote efficient development patterns and relatively low municipal, state governmental and utility costs.
4. Promote a quiet and peaceful community with open spaces and scenic landscape.

II. NATURAL, AGRICULTURAL, & CULTURAL RESOURCES ELEMENT

1. Natural Resources

A. Physical Geography, Geology, & Non-Metallic Mining

Physical Geography & Geology

The Town of Orange is located in the Central Plain physiographic province of Wisconsin within an area known as the Great Central Wisconsin Swamp, an extensive alluvial lake plain that extends over 2000 square miles. The town is underlain by a Precambrian Crystalline bedrock complex which surface varies in elevation from approximately 760 feet above sea level. About 30 to 100 feet of late Cambrian sandstone stratum overlies the Precambrian bedrock. An occasional sandstone butte shows what bedrock exists under the Central Plain

Non-Metallic Mining

Mineral production in the area is of minor extent. At some quarries, dolomite limestone bedrock is blasted and crushed for gravel or ground for agricultural lime. Quartzite bedrock is blasted and crushed for gravel in a quarry at Necedah.

B. Climate

Winters are very cold, and the short summers are fairly warm. In winter, the average temperature is 19 degrees Fahrenheit and the average daily minimum temperature is 8 degrees. The summer average temperature is 69 degrees. Precipitation is fairly well distributed throughout the year, reaching a slight peak in summer. Total annual precipitation is about 33 inches. In two years out of ten, the rainfall in April through September is less than 18 inches. Thunderstorms occur on about 41 days each year. Snow generally covers the ground much of the time from late fall through early spring.

Growing Season Summary

Median date of last frost in the spring: May 12.

Last frost occurs on or after May 29 in 10% of years.

Median date of first frost in the fall: September 25.

First frost occurs on or before October 12 in 10% of years.

Median growing season: 139 days. Growing Season ranges from 102 to 175 days.

On a monthly or annual basis degree days are added to give a cumulative total. For example, let's assume a HDD base of 60°F. If the mean daily temperature on January 1 is 0°F, the HDD would be 60 degree days. If we assume a mean temperature of 10°F on January 2nd, the HDD for this day would be 50, and the two day cumulative HDD is 110.

Element	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Avg. Daily High °F	22.9	29.5	40.6	55.4	68.9	77.3	81.3	78.9	70.2	58.2	41.5	27.8
Avg. Daily Low °F	2.8	8.4	20.2	32.5	43.4	52.5	57.1	54.9	45.8	35.1	23.4	9.6
Heating Degree Day base 65	1616	1290	1073	633	306	85	25	54	224	569	977	1435
Cooling Degree Day base 65	0	0	0	0	31	81	155	112	14	0	0	0

Source: 1971-2000 NCDC, Station: 475164 MATHER 3 NW, WI

Degree Days are defined as the difference in the mean daily temperature (taken as the average of the maximum and the minimum) and a specified base temperature. When the mean daily temperature is *below* a given base value, it is a **Heating Degree Day (HDD)**, and if it is *above* the base value then it is a **Cooling Degree Day (CDD)**. If the mean temperature is the *same* as the base value, the difference is zero and there are no heating or cooling degree days.

C. Soils

Soils occur in a pattern that is related to the physical geography, climate, and the natural vegetation. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the landscape in an area, reviewing the soil map, and understanding what is possible with each soil type, relationships can be created to determine most productive use for an area.

Most of the soils in Juneau County formed under forest vegetation. This resulted in a light-colored soil that has a relatively low content of organic matter. Also, because tree roots intercept water at greater depths than grasses, there is more effective leaching. This leaching removes nutrients and allows clay accumulation at greater depths. In addition, there is an abundance of micro flora, such as bacteria and fungi, which play important roles in decomposing organic matter and recycling the nutrients.

Animals in the soil, including earthworms, insects, and rodents, mix the soil and contribute additional organic matter, thereby affecting soil structure, porosity, and content of nutrients. Human activity also affects soil formation by altering and accelerating natural soil processes. Draining, clearing, burning, and cultivation have altered many soils. Repeatedly removing plant cover has accelerated erosion. Over-cultivation has often contributed to the loss of organic matter and has reduced the infiltration rate. In some areas, over-cultivation and the use of heavy equipment have changed the loose, porous surface layer to clods.

The general soil map shows groups of soil types called associations. Each association has a distinctive pattern of soils, relief, and drainage. Each is a unique natural landscape. Typically, an association consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one association can occur in another association but then would exist in a

different pattern. Because of the general soil map's small scale, it is only useful for determining suitability of large areas for general land uses. Soil maps that are located in the Juneau County Soil Survey book are large scale and therefore most appropriate for deciding specific land uses at the section level and subdivision of a section.

Soil Descriptions

Soils are primarily sandy lake deposits, some with silt-loam loess caps.

1. NEWSON – MEEHAN – DAWSON association: Deep, nearly level and gently sloping, somewhat poorly drained to very poorly drained, sandy and mucky soils; on outwash plains, on stream terraces, and in basins of glacial lakes.

This association is on low flats, in drainageways and depressions, and on concave foot slopes. Most areas of this association are used as native woodland or support wetland vegetation. Many areas, which were drained and cultivated in the past, now support native vegetation or have been planted to pine. The problems in managing forest are the sandy soil texture, the water table, and competing vegetation.

A few areas have been drained and are used for crops. Some areas are used for unimproved pasture, and some are used for cranberry bogs. If these soils are drained, crop yields are limited by the low available water capacity. Frost and soil blowing are the main hazards. If used for crops, some areas of the Newson soils also require protection from flooding.

The major soils in this association are generally unsuitable as sites for residential development because of the water table, subsidence (sinking) in the Dawson soils, and flooding in some areas of the Newson soils.

2. FRIENDSHIP – PLAINFIELD association: Deep, nearly level to moderately steep, excessively drained and moderately well drained, sandy soils; on outwash plains, on stream terraces, and in basins of glacial lakes.

This association is on flats and convex side slopes. Some areas of this association are used for crops. Soil blowing is the main hazard affecting crop production. Crop yields are limited by the low available water capacity. The major soils are suited to sprinkler irrigation, which can improve productivity. Some areas are used as native woodland, and some have been planted to pine. The main problem in managing forest is the sandy soil texture.

Friendship soils are poorly suited to septic tank absorption fields and only moderately suited to dwellings with basements because of the water table. Moderately steep areas of the Plainfield soils are poorly suited to residential development because of the slope. Nearly level to sloping areas of the Plainfield soils readily absorb, but do not adequately filter the effluent in septic tank absorption fields. The poor filtering capacity can result in the pollution of ground water.

Map 2 – Soils

Map 3 – Soil Limitations

3. ALGANSEE – GLENDORA association: Deep, nearly level and gently sloping, somewhat poorly drained to very poorly drained, loamy soils; on flood plains.

Most areas of this association are used as native woodland. Some are used as unimproved pasture. The main problems in managing forest are the sandy soil texture, flooding, the water table in the Glendora soils, and competing vegetation.

The major soils in this association are generally unsuitable for crops and as sites for residential development because of flooding and the water table.

4. POYGAN – WYEVILLE – WAUTOMA association: Deep, nearly level and gently sloping, somewhat poorly drained to very poorly drained, silty soils; on stream terraces, lake terraces, and flood plains.

This association is on low flats, in drainageways, and depressions, and on concave foot slopes. It makes up about 9 percent of the county. Most areas of this association are drained and are used for crops. A few are used for unimproved pasture. If these soils are drained, crop and forage yields are limited by the low and moderate available water capacity. Soil blowing is a hazard on the Wyeville and Wautoma soils. Flooding is a hazard on the Poygan soils.

Undrained areas support native vegetation. A few of these areas are used as woodland. The main problems in managing forest are the sandy soil texture, the water table, and competing vegetation.

The major soils in this association are generally unsuitable as sites for residential development, because of the water table and the slow permeability. Poygan soils are also generally unsuitable for residential development, because of the shrink-swell potential and flooding.

5. ETTRICK – CURRAN – JACKSON association: Deep, nearly level and gently sloping, moderately well drained to very poorly drained, silty soils; on stream terraces, lake terraces, and flood plains.

This association is on low flats, in drainageways and depressions, on flood plains, on concave foot slopes, and on concave or convex side slopes. Most areas of this association are used for crops, but the cultivated areas of the Ettrick and Curran soils must be drained and protected from flooding. Some areas are undrained and support native vegetation. A few areas are used as woodland. The main problems in managing forest are the water table and competing vegetation.

The major soils in this association are poorly suited to residential development because of the water table. The Ettrick soils are unsuitable for residential development because of flooding. The areas of the Curran soils that are subject to flooding are also unsuitable.

7. URNE – LA FARGE – ROZETTA association: Moderately deep and deep, gently sloping to very steep, somewhat excessively drained to moderately well drained, loamy and silty soils; on uplands.

This association is on convex ridgetops and side slopes. Most areas of the gently sloping to moderately steep soils in this association are used for crops or pasture. Water erosion is the main hazard. Soil blowing is a hazard on the Urne soils. Crop and forage yields are limited on the Urne and La Farge soils because of the low or moderate available water capacity.

Most of the steep and very steep areas of Urne soils are used as pasture or woodland. The main problems in managing forest are slope, rooting depth, and competing vegetation.

The La Farge and Urne soils are poorly suited to septic tank absorption fields because of the depth to bedrock. The effluent can seep through cracks in the underlying sandstone. The seepage can result in the pollution of groundwater. The sloping Rozetta soils are only moderately suited to septic tank absorption fields and to dwellings with basements because of a perched water table. The moderate to steep soils are poorly suited to dwellings because of the slope.

D. Surface Water

- Surface water covers about 298 acres, which is 1.3% of the land in town.
- Floodlands covers about 2,517 acres, which is 10.9% of the land in town.
- Wetlands covers about 4,731 acres, which is 20.5% of the land in town.

The many streams, and rivers in town furnish an abundant supply of surface water. The main uses of surface water are as fish and wildlife habitat, for irrigation, and the enjoyment of anglers, boaters, hunters, and casual observers alike. Surface waters provide for drainage after heavy rains, and habitat for plants, fish, and wildlife. Part of the Little Lemonweir River is listed as a trout stream from the USH 12 bridge west to at least the town line.

E. Groundwater

For most users groundwater is the major source of supply, and is readily available in quantities adequate to meet domestic, agricultural, municipal, and industrial needs (Soil Survey).

Groundwater is at various depths, depending upon the general topography, the elevation above the permanent stream level, and the character of the underlying rock formation. It is in aquifers where water fills all pores and fissures in the bedrock or in unconsolidated material, such as sand. Wells drilled into these aquifers are the source of water for rural users.

Glacial lake and outwash deposits make up an aquifer that is the major source of ground water for private water supplies in the northern two-thirds of Juneau County. This aquifer is thickest (50-100 feet) along the Wisconsin River. In this area yields of about 500-1,000 gallons per minute can be expected. West of the Wisconsin River in a band several miles wide, yields of between 50-500 gallons per minute could be expected. In the Town of Orange this aquifer is less than 50 feet thick and generally produces yields of less than 50 gallons per minute (USGS 1971).

The quality of ground water in the county is generally good for most domestic and industrial uses. The water is relatively soft in most of the county. Local differences in the quality of ground water are caused by the composition, solubility, and surface area of particles of soil and rock through which the water moves and the length of time the water is in contact with these materials. Calcium, magnesium, and bicarbonate ions derived from dolomite are present. Minor water use problems are

caused by hardness and locally by high concentrations of iron. Iron is in localized areas and is mainly produced by reducing conditions (chemical decomposition) in marshes and swamps, although some iron is from bedrock.

F. Wetlands

Every wetland is unique. One wetland on the north edge of town may perform different functions than another on the south edge - even though they may appear at first glance to be very similar. Wetland functional values are determined by a variety of different parameters including physical, chemical, and biological components.

Wetlands in Wisconsin were defined by the State Legislature in 1978. According to this definition, a wetland is: "an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophilic (water-loving) vegetation and which has soils indicative of wet conditions." [§ 23.32(1) WI Stats.] Apart from these essential common characteristics, wetlands - and wetland function - vary. Wetland functions depend on many variables (including wetland type, size, and previous physical influences/natural or human-induced) and opportunity (including the location of the wetland in landscape and surrounding land use). Wetlands also change over time and may function differently from year to year or season to season. These are very dynamic ecosystems.

Determining Wetland Value

Standardized assessment methods are used to evaluate the extent to which a specific wetland may perform any given function. The presence or absence of specific characteristics is used to determine the importance of each functional value for the site in question.

The occurrence of various wetland plants gives important, yet subtle, clues about habitat, water quality, and biodiversity. Location of a wetland within the environment can determine water storage capacity, possible water recharge for an aquifer, value to various wildlife species, and water quality protection. The presence of springs may contribute to the maintenance of base flow in streams, rivers, and lakes. These types of observations help us evaluate a wetland's intrinsic value and overall importance to society.

Floral Diversity

Wetlands can support an abundance and variety of plants, ranging from duckweed and orchids to black ash. These plants contribute to the environment's biodiversity and provide food and shelter for many animal species at critical times during their life cycles. Many of the rare and endangered plant species in Wisconsin are found in wetlands.

The importance of floral diversity in a particular wetland is usually related to two factors. First, the more valuable wetlands usually support a greater variety of native plants (high diversity), than sites with little variety or large numbers of non-native species. Second, wetlands communities that are regionally scarce are considered particularly valuable.

Fish and Wildlife Habitat

Many animals spend their whole lives in wetlands; for others, wetlands are critical habitat for feeding, breeding, resting, nesting, escape cover or travel corridors. Wisconsin wetlands are spawning grounds for northern pike, nurseries for fish and ducklings, critical habitat for shorebirds

and songbirds and lifelong habitat for some frogs and turtles. Wetlands also provide essential habitat for smaller aquatic organisms in the food web, including crustaceans, mollusks, insects, and plankton.

Flood Protection

Due to dense vegetation and location within the landscape, wetlands are important for retaining storm water from rain and melting snow rushing toward rivers and lakes, floodwater from rising streams. Wetlands slow storm water runoff and can provide storage areas for floods, thus minimizing harm to downstream areas.

Wetlands located in the mid or lower reaches of a watershed contribute most substantially to flood control since they lie in the path of more water than their upstream counterparts. When several wetland basins perform this function within a watershed, the effect may be a staggered, moderated discharge, reducing flood peaks.

Water Quality Protection

Wetland plants and soils have the capacity to store and filter pollutants ranging from pesticides to animal wastes. Calm wetland waters, with their flat surface and flow characteristics, allow particles of toxins and nutrients to settle out of the water column. Plants take up certain nutrients from the water. Other substances can be stored or transformed to a less toxic state within wetlands. As a result, our lakes, rivers and streams are cleaner and our drinking water is safer.

Larger wetlands and those that contain dense vegetation are most effective in protecting water quality. If surrounding land uses contribute to soil runoff or introduce manure or other pollutants into a watershed, the value of this function may be especially high.

Wetlands that filter or store sediments or nutrients for extended periods may undergo fundamental changes. Sediments will eventually fill in wetlands and nutrients will eventually modify the vegetation. Such changes may result in the loss of this function over time.

Shoreline Protection

Shoreland wetlands act as buffers between land and water. They protect against erosion by absorbing the force of waves and currents and by anchoring sediments. Roots of wetland plants bind lakeshores and stream banks, providing further protection. Benefits include the protection of habitat and structures, as well as land that might otherwise be lost to erosion. This function is especially important in waterways where boat traffic, water current and/or wind cause substantial water movement that would otherwise damage the shore.

Groundwater Recharge and Discharge

Groundwater recharge is the process by which water moves into the groundwater system. Although recharge usually occurs at higher elevations, some wetlands can provide a valuable service of replenishing groundwater supplies. The filtering capacity of wetland plants and substrates may also help protect groundwater quality.

Groundwater discharge is the process by which groundwater is discharged to the surface. Groundwater discharge is a more common wetland function and can be important for stabilizing stream flows, especially during dry months. Groundwater discharge through wetlands can enhance

the quality of the aquatic life communities in downstream areas. It also can contribute toward high quality water in our lakes, rivers and streams. In some cases, groundwater discharge sites are obvious, through visible springs or by the presence of certain plant species.

Aesthetics, Recreation, Education and Science

Wetlands provide exceptional educational and scientific research opportunities because of their unique combination of terrestrial and aquatic life and physical/chemical processes. Many species of endangered and threatened plants and animals are found in wetlands.

Wetlands located within or near urban settings and those frequently visited by the public are especially valuable for the social and educational opportunities they offer. Open water, diverse vegetation, and lack of pollution also contribute to the value of specific wetlands for recreational and educational purposes and general quality of life.

G. Floodlands

The goal of Wisconsin's Floodplain Management Program is to protect people and their property from unwise floodplain development, and to protect society from the costs that are associated with developed floodplains. Through floodplain zoning, Wisconsin's counties, cities and villages are required to zone their flood-prone areas. The state has set minimum standards for local regulation, but local governments can set more restrictive standards. Floods are the most costly natural disaster. Direct costs from floods include emergency response, clean-up, rebuilding of public utilities and uninsured homes and businesses. Indirect flood costs are lost wages and sales, disruption of daily life, tax base decline if businesses relocate.



Lemonwier River

Since the floodway area can be very dangerous during a regular flood event, most development of structures is not allowed. Certain activities and uses are allowed here provided they meet strict criteria. Most activities and uses are permitted in the floodfringe, provided they meet certain development standards.

Not allowed in the floodway are all structures intended for human habitation; Storage of materials that are buoyant, flammable, explosive or injurious to human, animal, plant, fish, or other aquatic

life; Sewage systems or wells; Solid or hazardous waste disposal facilities; Wastewater treatment pond or facilities except as otherwise permitted by Wisconsin Administrative Code; Filling which would cause an obstruction to flow which is not otherwise permitted. Not allowed in the floodfringe are solid or hazardous waste disposal facilities.

H. Forests

Most of the soils in town formed under forest vegetation. Today's major species are pine and oak. These woodlands provide pulpwood, lumber, firewood, wildlife habitat, and recreation. Some areas have been planted with conifers such as Scotch pine, red pine, white pine, and several species of fir that are harvested as Christmas trees.

The majority of forestlands in town are privately owned. Some private woodlands in the county are enrolled in Managed Forest Law (MFL) and its predecessor programs. This program provides a low annual tax rate per acre and requires a management plan for the property that must include some harvesting along with allowing some public uses. When timber is harvested from MFL properties, a harvest tax is also assessed. This provides an incentive to keep woodlots in active production and allows some community access to the site in exchange for greatly reduced taxes.

Forests play a key role in the protection of environmentally sensitive areas like steep slopes, shorelands, wetlands, and flood plains. Removal of woodland cover can be detrimental to these areas in both ecological functions and visual enjoyment. The health of a forest is measured by its capacity for renewal, for recovery from a wide range of disturbances, and for retention of its ecological diversity. Specific wildlife species depend upon forests to different extents. Some types of species need large blocks of forest habitat exclusively. Other animals are called "edge" species, because they can use small clusters of trees and brush. Deer and raccoons are edge species. Aquatic species benefit from trees that shade shoreland areas of lakes and rivers. Shoreland areas are the most biologically productive areas of lakes and rivers. At the same time forests must produce timber for various consumer uses (lumber, paper, & toothpaste), and meet current and future needs of people for desired levels of values, uses, products, and services. Arguably, invasive exotic species like garlic mustard and multiflora rose present the greatest threat to the long-term health and integrity of the forests. Invasive plants present a problem for native plants as they invade natural systems, and out-compete native species for nutrients, sunlight, and space. Usually having no natural predators, invasive species alter the food web and physical environment. Invasive species like the Gypsy moth and the Asian long-horned beetle aggressively compete with native insects for habitat.

Development patterns cause disturbances in forest patterns. Land subdivision and subsequent changes in use breaks up the continuity of forest cover, which affects forest sustainability and health. Forest health is the biologic web of life that includes animals, insects, soil fungus, and tree species. Frequently, these parcels are used for seasonal housing and other recreational uses rather than for forestry or farming. Fragmentation of forest cover may become an important issue for Juneau County tourism and aesthetics in the future.

Map 4 – Water Features

I. Rare Species & Natural Communities

The Town of Orange has 15 sections with occurrences of aquatic and terrestrial plants, animals, and natural communities from common to critically endangered:

Six sections with aquatic occurrences

Six sections with terrestrial occurrences

Two sections with both aquatic and terrestrial occurrences

The Wisconsin DNR maintains records on the largest trees (Champion Trees) in the state to encourage the appreciation of Wisconsin's forests and trees. Hunting for the big trees can put you in touch with our natural resources heritage. The Town of Orange has two Champion Trees:

- Eastern Cottonwood (*Populus deltoids*), Rank #79.
- American Elm (*Ulmus Americana*), Rank #37.

Many of the Champion Tree records are quite old and out of date. Some records are incomplete. Some trees listed may now be gone or have lost branches and leaders, so they may no longer be champions.

Wisconsin's biodiversity goals are to identify, protect and manage native plants, animals, and natural communities from the very common to critically endangered for present and future generations. Knowledge, appreciation, and stewardship of Wisconsin's native species and ecosystems are critical to their survival and greater benefit to society.

Original vegetation types for the Town of Orange were marsh and sedge meadow, wet prairie, lowland shrubs, which came from a map of Finley's Original Vegetation of the Central Sand Plains.

J. Necedah National Wildlife Refuge & Central Wisconsin Conservation Area

The Necedah National Wildlife Refuge is an important wildlife viewing area and destination for nearly 150,000 visitors annually. The Refuge forms part of a sprawling 43,600-acre mix of wetlands, uplands, bottomland forests and grasslands. The refuge boasts more than 230 species of birds and some rare grassland, wetland and forest species., including the Karner blue butterflies, the massasauga rattlesnake and bald eagles. The Refuge is currently enjoying worldwide exposure for an international project is trying to establish a breeding population of whooping cranes that will migrate from Necedah to Florida.

The history of the Refuge dates back to the early 1930s when the U.S. Government acquired 114,964 acres of land in Juneau, Wood, Monroe, and Jackson County, Wisconsin, using the authority of the National Industrial Recovery Act of 1933 and the Emergency Relief Appropriation Act of 1935. The purposes for these acquisitions were to assist farmers living within the area and to develop the area for wildlife. On March 14, 1939, Franklin D. Roosevelt signed an executive order authorizing 43,696 acres of this land be set aside as the Necedah Migratory Waterfowl Refuge for the purpose of "a refuge and breeding ground for migratory birds and other wildlife..." (Executive Order 8065) and "...for use as an inviolate sanctuary, or for any other purpose, for migratory birds"

(Migratory Bird Conservation Act of 1929). One year later, the Necedah Migratory Waterfowl Refuge became formally known as the Necedah National Wildlife Refuge.

Around this same time, the management of 55,000 acres of this Federal land was transferred to the State of Wisconsin with the signing of a Cooperative and License Agreement. Today this land is known as Necedah Wildlife Management Area, which includes parts of the Central Wisconsin Conservation Area (parts of Meadow Valley State Wildlife Area, parts of Wood County Wildlife Area, and parts of Sandhill State Wildlife area) and scattered parcels in Jackson County. They are part of the National Wildlife Refuge System, but managed cooperatively with the Wisconsin Department of Natural Resources.

Historically, land in and around the refuge was once a vast peat bog with some low wooded islands and savannas. The higher sand ridges were occupied by mature stands of pines and other species. Early 20th century fires burned across the Refuge area, destroying the peat so that now the sandy subsurface is exposed or shallowly covered with silt. Wetlands cover much of the area of the Refuge and are supported by an important hydrological system comprised of natural and manmade waterways, such as the Yellow River and its tributaries. Water control structures within the Refuge regulate drainage. Water contained within certain Refuge pools provide and impact water manipulation capability on other pools. Water is generally stored in Refuge pools during spring runoff and is used to refill pools that are drained and re-flooded during the course of the summer.

Today the refuge consists of 43,696 acres of pine, oak, and aspen forests, grasslands and savannas, and wetlands and open water areas, all of which support a rich diversity of fish and wildlife. The majority (57%) of the area of the Refuge is made up of wetlands. This is the area that supports the migratory waterfowl that are the core of the mission of the Refuge. Some Refuge pools are drawn down for part of the year to promote the production of high-energy waterfowl foods such as millet, smartweed, chufa, beggar ticks, pigweed, sedges, and spikerush. Ditches and streams also provide additional wetland habitat, although to a lesser extent than Refuge pools.

Forests are the second most common habitat available in the Refuge. Currently upland forests comprise 15,047 acres, or 34.4 percent of the total area. Refuge forests provide excellent habitat for many neo-tropical migratory birds such as the scarlet tanager, eastern wood-pewee, and ovenbird.

A smaller part of the Refuge, less than 8 percent, is grasslands and savanna. Some of this land is the remains of inactive farms established early in the last century. Willow-dogwood communities are invading old farm fields and wet meadows in places where disturbance is rare. Refuge grasslands provide important nesting habitat for many migratory birds including ducks, geese, and Sandhill cranes. The savanna areas are also known as barrens, because fire and tree diseases such as oak wilt are more common in the droughty, sandy soils. These disturbances keep the trees small and scattered. Oak savanna has been defined as having at least one tree per acre, but less than 50 percent cover. Refuge savannas/barrens support massasauga rattlesnakes, phlox moths, Blandings turtles, Karner blue butterflies, and over 110 species of birds.

The publicity that the Necedah National Wildlife Refuge has received for its efforts to establish a sustainable colony of endangered whooping cranes by leading them in their migration to Florida with an ultra-light aircraft has raised the profile of the Refuge world-wide. This presents the adjacent communities with a unique opportunity to build on this international awareness of the Refuge and make the most of these natural assets to build a better future.

Map 5 – Woodlands

Map 6 – Necedah National Wildlife Preserve

2. Agricultural Resources

A. Prime Farmland, Cropland, Livestock

According to the *Wisconsin Land Use Databook*, the Town of Orange is almost 46 percent agricultural. According to this document, 27 percent of the town's total land (35 square miles) is used for row crops, 11.3 percent is used for foraging, and 7.3 percent is grassland. The report also found that 28 percent of the town was in forest cover and 22 percent is wetlands.

In terms of farming trends, the town has lost 3.6 percent of farmland acres on tax rolls between 1990 and 1997. According to the report there were 47 farms, six of which were dairy farms in 1997.

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture, and is of major importance in meeting the Nation's short and long range needs for food and fiber. Prime Farmland is the land that is best suited to food, feed, forage, fiber, and oilseed crops. It may be cultivated land, pasture, woodland, or other land, but it is not urban land or water areas. Prime farmland produces the highest yields with minimal expenditures of energy and economic resources, and farming it results in the least damage to the environment. Adequate and dependable supplies of moisture from precipitation or irrigation are available. The temperature and growing season are favorable, and the level of acidity or alkalinity is acceptable. Prime farmlands have few or no rocks and are permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The land slope on these lands ranges mainly from 0 to 6 percent.

The Town of Orange has 2,436 acres of prime farmland, which is 10.8% of the total land area in town.

B. Cranberry Industry

Because of the prevalence of wetlands the northwestern part Juneau County it has become a center of cranberry production. Wisconsin is the number one cranberry producing state in the nation. Since the 1890s the center of the industry has been in the Cranmoor area, which includes the Towns of Kingston, Cutler and parts of Orange. Conditions in this area are ideal for cranberry growing. In addition to the high water table important to constructing cranberry beds the area has the sandy, acidic soils that the crop requires.

Cranberries are a very capital-intensive crop. Cranberry beds cost \$20,000 to \$30,000 per acre to construct because of the extensive site preparation required. Overlying soils must be removed, dikes built, inlet and outlet bulkheads constructed, beds leveled to assure proper drainage, and sprinkler systems installed. Additionally, establishing cranberry beds requires approval by the Department of Natural Resources as does some types of maintenance to existing marshes.

Once the beds are prepared then the vines are planted. High-yield strains have been developed that led to per-acre yields more than doubling in recent years. It can take five to seven years before a bed will reach its maximum production, but once in production they can work for a long time. There are some bogs that have been in production for over 100 years.

Cranberries are Wisconsin's number one fruit crop. Bearing acreage in cranberries more than doubled between 1970 and 1996. Much of this was a result of an increase in cranberry consumption that occurred during the 1980s mostly as a result of research that showed the positive effect of cranberries on the urinary tract. Between the 1950s and the 1990s per capita consumption of processed cranberries in the United States went from 0.3 pounds to 1.6 pounds. This led to prices, which had been \$10-15 per barrel in the 1970s, reaching a high of \$65 per barrel in 1997. These high prices led to an increase in production capacity.

Because cranberries have a relatively high production costs, estimated at \$47 per barrel in 1995 (Jesse, 1997), a high sale price is important. During the early and mid-1990s cranberries had a farm-level value of \$150 million. Including production, processing and supporting businesses the cranberry industry supported 7,163 jobs statewide in 1997 and had a total economic impact of \$334 million. "For the southern district (which includes Juneau County) cranberry production contributes 3,743 jobs, \$48 million in personal income, \$78 million in value added and about \$147 million in industry output." (p 24) In 1997 Juneau County produced 191,966 barrels of cranberries, the fourth highest total of counties in Wisconsin and 8.4 percent of total output.

High market prices led to increasing acreage dedicated to cranberry production. Though demand had grown during the 1980s and early 1990s, by the mid-1990s it had stabilized and oversupply began to develop. Unlike many other agricultural commodities where it is relatively easy for producers to adjust production to demand cranberry growers found themselves locked into their expanded capacity.

"...growers and potential growers responded as expected to attractive prices by making large long-term investments in marsh development. In the long period between planting and full harvest, market conditions had deteriorated badly, no longer justifying the decision to plant. But the large investments represented sunk costs, and the annual cultural and harvest costs were still less than the heavily depreciated crop value. So there was no economic incentive to abandon marshes." (Jesse, 2002, p 2)

In 1998 prices fell from \$65 to \$43 per barrel, and in 1999 they fell to \$21 per barrel. Both years saw record harvests. Since then production has been somewhat curtailed. In 2000 and 2001 USDA intervened to suppress production and purchase surplus product. Overall production is down and demand is growing slowly. Working through the Cranberry Institute and the Cranberry Marketing Committee greater emphasis has been placed on health-related research to stimulate demand. Among the findings is research that rate fresh cranberries as containing double the antioxidant phenols, which have been shown to decrease the threat of cancer and heart disease, as other fruits and five times as much as broccoli.

Efforts are also underway to develop cranberry country as a tourist attraction. There is an push to create a Cranberry Highway tour west of Wisconsin Rapids through the heart of the Cranmoor area. An annual Hogs to Bogs tour, focused on motorcycle riders, coinciding with the harvest and the fall colors and particularly seeks to draw visitor to experience the unique charms of cranberry country.

Map 7 – Prime Agricultural Soils

3. Cultural Resources

A. Brief Community History

Known originally as Lone Rock, a small settlement began to develop north of the Orange Mill in about 1850. C. B. Skinner and Albert Wilcox were among the first settlers, Wilcox buying his farm in 1857 and Skinner in 1861. The Town of Orange was organized by Juneau County in 1857. In that same year the La Crosse and Milwaukee Railroad (later the Milwaukee Road) crossed the Wisconsin River at Kilbourn (now Wisconsin Dells) and began pushing through Juneau County including a stop at Orange Mill. Early settlers engaged in farming, but most of their income was earned by cutting timber for ties and fire wood that was sold to the railroad to burn in its locomotives

By 1873 Lone Rock had been settled by many families of Danish origin. One of the three schools in the town was built there. This was also the year that St. Stephen's Lutheran Church was established. In 1876 Lone Rock Baptist Church was organized. Services at both churches were conducted in Danish until around the time of World War I. The original log schoolhouse was torn down in 1891 and replaced with a newer structure. This building is the current town hall. In 1890 a cooperative cheese factory was built across the road from the school. This building was converted to a creamery in 1906. In 1920 the creamery ceased operation and was torn down. Later this site was occupied by a filling station and general store.

In 1893 the Village of Camp Douglas was incorporated from land that was originally part of the Town of Orange. The historic St Stephen's church building was moved into Camp Douglas, where it is still home to a Lutheran congregation.

B. Historical Buildings, Archeological Sites

There are no buildings or sites on the National Register of Historic Places in the Town of Orange. However there are 23 buildings on the Architectural History Inventory. Other than the Orange Mill and the J. O. Pierce Log Cabin, all of these structures are part of the historic Camp Williams complex of buildings located at Volk Field. There is also a historic marker dealing with the Wisconsin Military Reserve just off of I-94. Another historic marker, the sixteenth erected in the state, dealing with Castle Rock is half a mile east of Camp Douglas on CTH-C.

Lands in town that are adjacent to surface waters may have an abundance of cultural and archeological significance because they were often the location of Native American and early European settlements.

Nine Century Farmsteads exist within the town. A century farmstead has maintained family ownership for at least 100 years. The Wisconsin State Fair recognized the George Abbas farmstead in 1975, the Arthur & Carole Bradley farmstead in 1988, the A Christensen farmstead in 2000, the Bergitta Christensen farmstead in 1975, the Evelyn Katuin farmstead in 1973, the Arvid & Phyllis Petersen farmstead in 1994, the Maxine & Neil Peterson farmstead in 2001, the Stanley D Schroeder farmstead in 1976, the Rodney Wagenson farmstead in 1982, and Stella & Beulah Whereatt farmsteads in 1954.

Orange century farmsteads

- George Abbas on 80 acres in T17N R2E Sec 6 was settled in 1875.
- Arthur & Carole Bradley on 113 acres in T17N R2E Sec 33 was settled in 1853.
- A Christensen on 160 acres in T17N R2E Sec 11 was settled in 1900.
- Bergitta Christensen on 160 acres in T17N R2E Sec 11 was settled in 1873.
- Evelyn Katuin on 95 acres in T17N R2E Sec 23 was settled in 1873.
- Arvid & Phyllis Petersen on 40 acres in T17N R2E Sec 10 was settled in 1889.
- Maxine & Neil Peterson on 80 acres in T17N R2E Sec 5 was settled in 1882.
- Stanley D Schroeder on 117 acres in T17N R2E Sec 33 was settled in 1876.
- Rodney Wagenson on 122 acres in T17N R2E Sec 6 was settled in 1874.
- Stella & Beulah Whereatt on 50 acres in T17N R2E Sec 34 was settled in 1854.

C. Recreational Resources, Community Design

The Juneau County Outdoor Recreation Plan stresses the importance of Lone Rock Community Park. It refers to plans for a picnic shelter and new playground equipment. It is also suggested that sanitary facilities, drinking water and picnic tables be added. In a report prepared for the County by NCWRPC a system of bike paths, that in the Town of Orange follows CTH-H, which will connect Camp Douglas to the Necedah National Wildlife Refuge.



Old Orange Mill

Community design in a rural town should center on protecting the aspects of rural character that citizens find particularly attractive.

4. Goals, Objectives & Policies

Goals

1. Protect natural areas, including wetlands, floodplains, wildlife habitats, ponds, woodlands, open spaces and groundwater resources.
2. Protect economically productive areas, including farmland and forested areas.
3. Preserve cultural, historic and architectural sites.

Objectives

1. New development in the Town should not negatively impact natural resources.
2. Minimize impacts to the Town's natural resources from non-metallic mineral mining.
3. Encourage and support the preservation of natural open spaces that minimize flooding such as wetlands and floodplains.
4. Promote development that minimizes groundwater impacts from on-site septic systems and other sources.

Policies

1. New development should be discouraged from areas shown to be unsafe or unsuitable for development due to flood hazard, potential groundwater contamination, loss of farmland, highway access problems, incompatibility with neighboring uses, etc.
2. Discourage the draining or filling of wetlands.
3. Existing agricultural uses and buildings should be taken into consideration when locating new development to avoid conflicts
4. Preserve productive farmland for long-term agricultural uses.
5. Development proposals should be reviewed relative to the potential impacts to the historical and cultural resources of the Town.

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III. HOUSING ELEMENT

1. Housing Stock

A. Total Housing Units

The housing stock in the Town of Orange is generally adequate for the needs of the community. The 1990 Census indicates that there were 259 housing units in the town. All of these units had complete plumbing facilities, four lack complete kitchen facilities. In 2000, there were 264 housing units in the town, an increase of five since 1990. This contrasts to a six percent drop in population in the town. The two percent increase in Orange compares to an eight percent increase in housing units for the county during the decade.

B. Year Built

There is a split in the age of housing units in the town. Nearly a third of buildings are more than 65 years old, significantly higher than for either the county or the state. Just over ten percent were built in the 1940s or 1950s. Structures built in the 1960s and 1970s are close to the county and state percentages. Another quarter of housing units have been built since 1980, considerably less than for the county and below the state. The period of the greatest growth was in the 1970s, when sixty housing units were built.

Table 9 **Age of Structure by Jurisdiction, 2000**

Year built	Town of Orange		Town of Cutler		Juneau County		State of Wisconsin	
Before 1939	87	32.9%	48	34.5%	2,842	23.0%	543,164	23.4%
1940-1959	29	10.9%	8	5.7%	1,610	13.0%	470,862	20.3%
1960-1979	83	31.4%	37	26.6%	3,633	29.4%	667,537	28.8%
After 1980	65	24.6%	46	33.1%	4,285	34.6%	639,581	27.5%
Total	264	100%	139	100%	12,370	100%	2,321,144	100%

Source: US Census Bureau & NCWRPC

C. Building Type

Single-family dwellings are the most common type of housing units in the town. At two hundred and five, they constitute seventy-seven percent of the housing stock. Manufactured and mobile homes account for the remainder of housing units. The Census lumps the two together under the definition of “a housing unit that was originally constructed to be towed on its own chassis.” At 21 percent of the housing stock this is lower than the percentage for the county (22.3%) and more than three times the percentage for the state.

Often described as “mobile homes” or “trailer homes”, manufactured housing has been subject to regulation by the Federal Government since the implementation of the “Manufactured Home Construction and Safety Standards” or “HUD-Code” in 1976. Manufactured housing has evolved from the “travel trailer”, which is built primarily to be towed behind vehicles, they were lightweight and compact, generally metal clad, and intended to be moved repeatedly from place to place. Over time these structures became larger and often located permanently, either in a mobile-home park or on an individual lot.

The passage of the federal legislation mentioned above, which took effect June 15, 1976, established the preeminence of federal authority in the regulation of what have come to be known as manufactured housing. Under this legislation the federal government established standards and inspection mechanisms for all factory-built housing, and dictated that after its effective date all regulation of manufactured housing must conform to those standards. The inspection of the manufacturing process is meant to ensure the quality of housing built “on a chassis”. Since adoption of the HUD-Code a series of court rulings have reinforced the preeminence of the federal standards. In many rural areas manufactured housing is the best source of affordable housing.

D. Tenure

Owner occupancy is the overwhelming (84.2%) norm in the Town of Orange. This is fairly typical for a rural area, and exceeds the rate for the county (78.9%) and for the state (68.4%). There were only 35 renters in the town in 2000. Residents of Orange tend to stay in place for an extended period. More than a third of town residents have lived in the same home for more than twenty years.

Tenure	Town of Orange		Town of Cutler		Juneau County		State of Wisconsin	
Over 30 years	30	13.1%	16	14.7%	1,053	10.9%	229,063	11.0%
21 to 30 years ago	48	20.9%	20	18.3%	1,189	12.3%	222,015	10.7%
11 to 20 years ago	33	14.4%	29	26.6%	1,701	17.5%	323,813	15.5%
10 years or less	118	51.3%	44	40.4%	5,753	59.3%	1,309,653	62.8%
Total	229	100%	109	100%	9,696	100%	2,084,544	100%

Source: US Census Bureau & NCWRPC

E. Value

Median home value in the Town of Orange is slightly above the median value for the county, and in the middle range of the surrounding jurisdictions. The indication from the Census (again, based on a small sample) is that residents spend a relatively low percentage of their income on housing: two-third of those surveyed spent less than twenty percent of income on housing.

Municipality	Median home value	% of state Median value
Town of Orange	\$73,500	65.5%
Town of Cutler	\$90,000	80.2%
Town of Kingston	\$68,800	61.3%
Village of Camp Douglas	\$63,800	56.9%
Town of Necedah	\$82,900	74.0%
Town of Oakdale, Monroe Co.	\$96,500	86.0%
Town of Byron, Monroe Co.	\$84,100	74.9%
Juneau County	\$71,200	63.5%
State of Wisconsin	\$112,200	100%

Source: US Census Bureau & NCWRPC

The National Low Income Housing Coalition assembles a yearly list of estimates of the income required to afford housing using this “cost-burden” standard for localities across the country. This report focuses on rental housing, but can be broadly applied to owner-occupied housing as well. The report calculates that for the state as a whole a full-time worker must earn \$11.63 an hour in order to be able to afford a two-bedroom apartment. For the non-metro areas of the state the comparable figure is \$8.93. In Juneau County a full time worker must earn \$8.40 per hour to afford the two-bedroom apartment. For a worker earning minimum wage this means working 65 hours every week to afford that apartment.

Although, housing prices rose across the country, they rose faster in non-metropolitan than in urban areas – 59 percent compared to 39 percent. The Median home value rose by 75 percent in Juneau County during the 1990s. Generally low wage rates, the tendency for banking overhead expenses and mortgage interest rates to be marginally higher in rural areas, and the increase in housing values all combine to make housing less affordable for rural, low-income residents.

F. Vacant/Seasonal

Of 261 housing units in the town 221 were occupied, while forty (18%) were vacant. Thirty units, eleven percent, were identified as seasonal. This compares to 16.5 percent of housing units in the county being described as seasonal, and just over six percent for the state. The number of seasonal dwellings in the town has increased by two since 1990. The number of vacant houses is down from 41 in 1990.

2. Housing Demand

A. Persons Per Household

Families are getting smaller and more people are living alone, so average household size has been going down for several decades. The most obvious effect of this trend is that demand for housing units is increasing faster than population. In the Town of Orange the average household size in 2000 was 2.48 persons per household. This compares to the average of 2.47 for Juneau County and the average of 2.5 for the state as a whole.

B. Projections

Although the population of the Town of Orange has been declining for the last thirty years according to projections by the DOA it is expected to grow by 21 residents by 2025. At current household size this would lead to 8.5 new housing units in the town. Looking at building permits issued by the Town over the last five year new homes have averaged four per year, although the number of permits has declined. If this pattern continues it could lead to as many as sixty new housing units by 2025. Without a significant increase in the growth rate in the Town of Orange this seems unlikely.

3. Housing Programs

There are a number of programs available to local governments to aid those having trouble affording their housing needs. Based on the 2000 U.S. Census 14.7 percent of homeowners and 21.2 percent of renters spend more than thirty percent of their income on housing, the accepted standard for affordable housing. Below is a partial listing of programs available to localities:

- Section 502 Homeownership Direct Loan Program of the Rural Health Service (RHS) provides loans to help low-income households purchase and prepare sites or purchase, build, repair, renovate, or relocate homes.
- Section 502 Mutual Self-Help Housing Loans are designed to help very-low-income households construct their own homes. Targeted families include those who cannot buy affordable housing through conventional means. Participating families perform approximately 65 percent of the construction under qualified supervision.
- Section 504, the Very-Low-Income Housing Repair Program, provides loans and grants to low-income homeowners to repair, improve, or modernize their homes. Improvements must make the homes more safe and sanitary or remove health or safety hazards.
- Section 521 Rural Rental Assistance Program provides an additional subsidy for households with incomes too low to pay RHS-subsidized rents.
- Section 533 Rural Housing Preservation Grants are designed to assist sponsoring organizations in the repair or rehabilitation of low-income or very-low-income housing. Assistance is available for landlords or members of a cooperative.

The above programs are all available through USDA-RD to those who meet the income requirements. There are also programs through the Department of Housing and Urban Development (HUD):

- The HUD Self-Help Homeownership Opportunity Program finances land acquisition and site development associated with self-help housing for low-income families. Loans are made to the nonprofit sponsors of development projects and are interest-free. Portions of the loans are forgiven if promised units of housing are completed within a given period. These forgiven “grant conversion” funds may be used to subsidize future development projects.
- The HOME Investment Partnership Program aims to encourage the production and rehabilitation of affordable housing. HOME funds may be used for rental assistance, assistance to homebuyers, new construction, rehabilitation, or acquisition of rental housing.
- The Small Cities Development Block Grant (CDBG) program is the rural component of HUD’s Community Development Block Grant program, which is administered by state agencies. The state CDBG program provides assistance for the development of affordable housing and economic development efforts targeted to low- and moderate-income people.

The Low-Income Housing Tax Credit (LIHTC), like HOME, aims to encourage the production and rehabilitation of affordable housing. It provides an incentive for private entities to develop affordable housing. The credit reduces the federal taxes owed by an individual or corporation for an investment made in low-income rental housing. The amount of the tax deduction is tied to the proportion of low-income residents in the housing produced. The credit is paid out over 15 years to investors in the housing project. LIHTC provides funding for the construction of new buildings or the rehabilitation or conversion of existing structures. To qualify, a property must set aside a certain share of its units for low-income households.

4. Goals, Objectives & Policies

Goals

1. Allow adequate, affordable housing for all individuals consistent with the rural character of the community.
2. Discourage residential development in unsuitable areas.

Objectives

1. Ensure that local land use controls and permitting procedures do not discourage or prevent the provision of housing opportunities consistent with the rural character of the community.
2. Direct residential development away from existing agricultural uses and buildings to avoid conflicts.

IV. TRANSPORTATION ELEMENT

1. Transportation Facilities

A. Background

The transportation system includes all modes of travel. The local transportation network is an important factor for the safe movement of people and goods, as well as to the physical development of the town. There is no transit, air, or water transportation service within the township. There are no water transportation facilities in the area. The Town of Orange transportation system includes all roadways.

B. Summary of Transportation Plans

1. Corridors 2020

Corridors 2020 was designed to enhance economic development and meet Wisconsin's mobility needs well into the future. The 3,200-mile state highway network is comprised of two main elements: a multilane backbone system and a two-lane connector system. All communities over 5,000 in population are to be linked by the backbone & connector systems.

This focus on highways was altered in 1991 with the passage of the federal Intermodal Surface Transportation Efficiency Act (ISTEA), which mandated that states take a multi-modal approach to transportation planning. Now, bicycle, transit, rail, air, and other modes of travel would make up the multi-modal plan. The Wisconsin Department of Transportation's (WisDOT) response to ISTEA was the two year planning process in 1994 that created TransLinks 21.

2. TransLinks 21

WisDOT incorporated Corridors 2020 into TransLinks 21, and discussed the impacts of transportation policy decisions on land use. TransLinks 21 is a 25-year statewide multi-modal transportation plan that WisDOT completed in 1994. Within this needs-based plan are the following modal plans:

- State Highways Plan 2020
- Airport System Plan 2020
- Bicycle Transportation Plan 2020
- Wisconsin Pedestrian Policy Plan 2020
- Wisconsin Rail Issues and Opportunities Report
- No plans exists for transit or local roads.

None of the above modal plans have projects that conflict with the Town of Orange Comprehensive Plan.

3. Connections 2030

Connections 2030 will be a 25-year statewide multi-modal transportation plan that is policy-based. The policies will be tied to “tiers” of potential financing levels. One set of policy recommendations will focus on priorities that can be accomplished under current funding levels. Another will identify policy priorities that can be achieved if funding levels increase. Finally, WisDOT may also identify critical priorities that we must maintain if funding were to decrease over the planning horizon of the plan. This plan will not conflict with the Town of Orange Comprehensive Plan, because the policies are based upon the transportation needs outlined in TransLinks 21. There are no TransLinks 21 projects identified in Orange.

4. State Trails Network Plan

The Wisconsin Department of Natural Resources (DNR) created this plan in 2001, to identify a statewide network of trails and to provide guidance to the DNR for land acquisition and development. Many existing trails are developed and operated in partnership with counties. By agreement the DNR acquires the corridor and the county government(s) develop, operate, and maintain the trail.



Entrance to the Omaha Trail, Camp Douglas

The North Central Wisconsin Regional Planning Commission (NCWRPC) created this plan in 2004 to guide the development of bicycle facilities in northern Juneau County, particularly in and around the Necedah National Wildlife Refuge. The goal of this plan is to increase the mobility of people within the County and increase visitor activity by making bicycling a more viable and attractive transportation choice. The plan will strengthen the rural character of the County by connecting

natural and cultural resource destinations and by connecting communities, which also will see positive economic development from tourism.

C. Inventory of Transportation Facilities

1. Roads

In the rural town of Orange, roads play the key role in development by providing both access to land and serving to move people and goods through the area, by car, bicycle, and foot power.

The Town of Orange’s principal arterials are I-90/94, & USH 12. County Highway C & M are major collectors, County Highway H is a minor collector, and the remaining 53.51 miles of roads in the town are local.

The Town of Orange road network consists of roughly 13.5 miles of federal highways, 14.08 miles of county highways, and 34.20 miles of local roads, of which approximately five miles are unpaved. WisDOT requires all local units of government to submit road condition rating data every two years as part of the Wisconsin Information System for Local Roads (WISLR). The Pavement Surface Evaluation and Rating (PASER) program and WISLR are tools that local governments can use to manage pavements for improved decision making in budgeting and maintenance. Towns can use this information to develop better road budgets and keep track of roads that are in need of repair.

Road Classifications

Principal Arterials – serve interstate and interregional trips. These routes generally serve urban areas with 5,000 people or more.

Minor Arterials – accommodate interregional and county-to-county traffic, often in conjunction with principal arterials.

Major Collectors – provide service to moderate sized communities and other county-level traffic.

Minor Collectors – take traffic from local roads and provide links to all remaining portions of smaller communities and connect to other higher function roads listed above.

Local Roads – provide direct access to residential, commercial, and industrial developments.

**Table 12 Annual Average Daily Traffic at Recorded Sites
Town of Orange 1980-2001**

	1980	1983	1989	1995	1998	2001	% Change 1980-2001
Site 1	720	1050	370	430	460	---	-36%
Site 2	700	200	---	250	---	---	-64%
Site 3	1590	1550	1790	1500	1600	---	0.6%
Site 4	1630	1550	1960	1900	2000	2300	41%

Source: Wisconsin Highway Traffic Volume, Department of Transportation

Annual average daily traffic counts (AADT) are measured and calculated every three years by the Department of Transportation (DOT) for four areas of the town, as well as traffic on I-90/94. Monitoring these counts provides a way to gauge how traffic volume is changing in Orange. Since 1995 DOT has adjusted its monitoring policy and now conducts traffic counts on only one of the sites in the town (US-12 east of 6th Avenue). To replace monitoring on Town roads DOT has initiated traffic counts on the Camp Douglas interchange on I-90/94. This is certainly the most significant transportation facility in the Town of Orange and key to mobility and economic health

for Orange and the surrounding towns. The AADT in 2001 for the Camp Douglas interchange are as follows: westbound off-ramp 600; on-ramp 950; eastbound off-ramp 1,100; on-ramp 730.

The interrelationships between land use and the road system makes it necessary for the development of each to be balanced with the other. Types and intensities of land-uses have a direct relationship to the traffic on roadways that serve those land-uses. Intensely developed land often generates high volumes of traffic. If this traffic is not planned for safety can be seriously impaired for both local and through traffic flows.

Traffic generated and attracted by any new land-use can increase congestion on the roadway system. Even without creating new access points, changes in land-uses can alter the capacity of the roadway. The new business may generate more car traffic, or farm implement traffic. Uncontrolled division of land tends to affect highways by increasing the amount of turning traffic into and out from intersecting driveways, therefore impairing safety and impeding traffic movements.

Wisconsin recognizes that a relationship between highway operations and the use of abutting lands exists. Under Chapter 233, the Department of Transportation (WisDOT) was given the authority to establish rules to review subdivision plats abutting or adjoining state trunk highways or connecting highways. Regulations enacted by the WisDOT establish the principles of subdivision review. They require new subdivisions to: (1) have internal street systems; (2) limit direct vehicular access to the highways from individual lots; (3) establish building setbacks; and (4) establish access patterns for remaining unplatted land. This rule has recently been suspended, but the four requirements are still useful in managing traffic flow.

The entire road system in the Town of Orange is also open by state law to pedestrian and bicycle travel, although some traffic volumes may make such travel unsafe.

Juneau County Road Improvement Plan

Annual road improvement plans are created and submitted to the County Board for approval.

State of Wisconsin Six Year Highway Improvement Program

The state will coordinate roadway maintenance between 2007-2009 on I-90 between Camp Douglas and Wisconsin Dells.

2. Bicycling Opportunities

All roads except I-90/94 are available for bicycle travel. USH 12 is not recommended for bicycle travel. The Bicycle Federation of Wisconsin along with WisDOT have determined what the bicycling conditions are on all county and state highways. Roads currently suitable for bicycling and roads designated as bicycle routes in the Regional Comprehensive Plan are shown on Map 8, Transportation.

The Village of Camp Douglas is the trailhead for the Omaha State Trail. The Omaha trail leads south 13 miles through the Town of Orange to the city of Elroy. From Elroy, a bicyclist may connect with the "400" State Trail and the Hillsboro State Trail to the south, and the Elroy-Sparta State Trail to the northwest.

Map 8 Transportation

Many roads around and through the Necedah Wildlife Area have been proposed as bicycle routes in the 2004 Necedah Area Bicycle Facilities Network Plan.

3. Airports

Air Carrier/Air Cargo airports closest to Orange are the La Crosse Municipal Airport (LSE), the Chippewa Valley Regional Airport (EAU) in Eau Claire, and the Dane County Regional Airport (MSN) in Madison.

Transport/Corporate airports are intended to serve corporate jets, small passenger and cargo jet aircraft used in regional service and small airplanes (piston or turboprop) used in commuter air service. The only difference between a transport/corporate airport and a commercial airport is that the commercial airport has scheduled passenger service.

Utility airports are intended to serve virtually all small general aviation single and twin-engine aircraft, both piston and turboprop, with a maximum takeoff weight of 12,500 pounds or less. These aircraft typically seat from two to six people and are now commonly used for business and some charter flying as well as a wide variety of activities including recreational and sport flying, training, and crop dusting. Mauston has such an airport.

4. Rail

Canadian National owns several tracks nearby. Union Pacific provides commercial rail service. Canadian Pacific Railway is the track that Amtrak uses to provide passenger rail service, which has stations in Tomah and Wisconsin Dells.

5. Bus/Transit

There are few transit systems near and within Juneau County. Shared ride taxi service is provided in Mauston. Intercity bus routes exist from Tomah to: Madison; Rockford, IL; & Milwaukee; and Tomah to Eau Claire; and Minneapolis, MN.

6. Transportation Facilities for Disabled

All residents of the county age 60 and over and all ages of handicapped persons are eligible to ride free. Trip priority is given to: 1. Medical trips; 2. Nutrition sites; & 3. Grocery shopping, beauty shop, and other types of trip requests.

There are no fixed routes. Volunteer drivers provide service with their own vehicles on a demand/response basis. Drivers are available Monday through Friday, and by special arrangement on weekends and evenings. The Juneau County Aging Unit has a small bus, and a van. The bus is utilized for wheelchair accessible transportation needs. The van is used four times a week for food delivery, and is available the remaining time for passenger transport. The van has running boards for better accessibility, but is not lift-equipped.

7. Pedestrian Facilities

All roads except I-90/94 are available for pedestrian travel. Most town roads have limited shoulder areas. A motor vehicle creates a dust hazard for pedestrians on gravel roads. These conditions hamper safe pedestrian travel opportunities. Moreover, given the low-density development pattern of the town and the fact that nearly all goods and services are located several miles away in nearby cities, walking to places of work, shopping, or entertainment is not realistic for most residents. This situation is not anticipated to change over the 20-year planning period. As a result, people without access to motor vehicles must arrange for other transportation.

2. Goals, Objectives & Policies

Goals

1. Encourage neighborhood designs that support a range of transportation choices.

Objectives

1. Support and maintain a safe and efficient Town road system.

Policies

1. Utilize PASER software to inventory and rate the local roads.
2. Discourage land uses that generate heavy traffic volumes on local roads that have not been constructed or upgraded for such use.
3. Control roadway access along the existing Town road network to increase safety and preserve capacity.
4. Widen and improve existing roads before constructing new roads.

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V. UTILITIES & COMMUNITY FACILITIES ELEMENT

1. Inventory

As a small rural town relatively few utilities exist. There is no sanitary sewer, storm water systems, water supply, wastewater facilities, power plants, major transmission lines, health care facilities, or libraries. The Town is located primarily in the New Lisbon School District and most school children are bussed there, except for the northwestern quadrant of the town where children are sent to the Tomah schools.

The town contracts with the Village of Camp Douglas for fire service from the Volunteer Fire Department, which also provides first responders services, and ambulance service. Town residents are authorized to bring their garbage and recycling to the Juneau County Landfill.

Community facilities include a Town Hall, which is a converted school building, and also offers a community room that is available for rental. The Town Hall is surrounded by a community recreation area that is used by residents for everyday recreational activities and special events. There is a Town garage and shop located near the Town Hall that houses the Town's road maintenance equipment. The Town owns a flatbed truck (1989), snowplow and dump truck, a tractor (1997) with mower attachment, and a grader (1979). The Town also owns the Orange Mill School House, a historic one-room schoolhouse built in the 1920s. This facility gets only intermittent use, but the Town has installed a new roof several years ago, and there are no specific plans for the buildings future uses.



Town Hall



Town Garage

The Town owns a 400-acre parcel just east of Volk Field that is designated as open for hunting. The land was donated to the Town.

Mill Bluff State Park is located partially within the boundaries of the town. The park is an Ice Age National Scientific Reserve because of the extraordinary collection of buttes and mesas, which are the remains of islands that existed in Glacial Lake Wisconsin that occupied the area during the last Ice Age, some 12,000 years ago. The park also contains camping, swimming, and picnicking facilities, as well as numerous hiking trails.

Electric service is provided by Oakdale Electric Co-op, and phone service comes from Lemonwier Valley Telephone Co-op. See the Utilities & Community Facilities Map.

2. Goals, Objectives & Policies

Goals

1. Continue to provide ambulance, volunteer fire and first responder services to residents.

Objectives

1. Consider the potential impacts of development proposals on groundwater quality and quantity.
2. Share equipment and services across Town boundaries, where possible.

Policies

1. Work with adjoining towns, the county, the state, and individual landowners to maintain current water quality standards.
2. Encourage recycling by residents.

Map 9 – Utilities & Community Facilities

VI. ECONOMIC DEVELOPMENT ELEMENT

1. Economic Base

A. Juneau County

In looking at the prospects for economic development in a rural community it is best to place it in a larger context. It is most useful to look first at Juneau County as a whole in assessing the prospects for economic development in the Town of Orange. In recent years there has been a good deal of change in the economy of Juneau County. Most significant has been the decline in manufacturing that has occurred throughout the nation as well as in the county. In order to reinvigorate the county's economic base diversification away from the traditional reliance on manufacturing will be required in order to better position the county to compete in a changing marketplace. In order to more fully explore the options for restructuring the county's economy Juneau County engaged NCWRPC to prepare an Economic Diversification Study, which looks at the current employment base and examines ways that it can be made more competitive in the future.

Many of the communities in Juneau County are located along the Interstate 90/94 Corridor making them something of a "midpoint" between the larger cities of Madison, Eau Claire, & La Crosse. Perhaps even more important is Juneau County's position between Chicago and Minneapolis. Manufacturers seeking to serve markets in these communities have located in Juneau County. This transportation link works for both employers and employees who take advantage of the county's location to commute as well. Based on Census figures, 200 more workers leave Juneau County to work elsewhere than enter the county to work each day. Many people working in the areas of Tomah and Baraboo reside in Juneau County. Nearly 17 percent of Juneau County's resident labor force leaves the County each day to work. This is offset by the incoming labor force from surrounding counties each day, which amounts to approximately 15 percent of the county's total workforce.

Economic success often hinges on the characteristics of the population. These human resources are key to the diversification of the economy in Juneau County. A diversified community requires more employees with a wider variety of skills than a "one-industry focus" community. These workers must be adaptable to changes in the demand for labor and be capable of quickly retraining in new vocations to meet that demand. The county lags behind the state in educational attainment and the population is slightly older than the state as a whole. In spite of these factors, which could be considered handicaps to economic diversification, there has been steady job growth within the county over the last twenty years.

	1980	1990	2000	% Change 1980-2000	State 2000
Labor Force	8,853	10,143	12,068	36.32%	26.77%
Employed	8,206	9,478	11,333	38.11%	29.34%
Unemployed	647	665	735	13.60%	-9.82%
Unemployment Rate	7.31%	6.56%	6.09%	-16.69%	-28.79%
Participation Rate	42.08%	46.85%	49.63%	17.94%	11.21%

Source: U.S. Census 1980 to 2000, and NCWRPC

The labor force and participation rates in Juneau County have grown faster than the state, but the number of those employed have increased even faster, leading to a decrease in the employment rate, albeit slower than the decrease in the state unemployment rate. Though total employment has increased over the last twenty years, employment has not increased in every industry sector of the economy. Table 14 provides an inventory numbers of employees by industry in Juneau County.

Industry Name	1990	2000	% Change
Agriculture, Forestry, Fishing, and Hunting	45	106	135.6%
Construction	258	252	-2.3%
Manufacturing	2,809	3,011	7.2%
Transportation and Public Utilities	249	336	34.9%
Wholesale Trade	318	209	-34.3%
Retail Trade	1,254	1,466	16.9%
Finance, Insurance, and Real Estate	184	212	15.2%
Services	922	1,275	38.3%
Total	6,039	6,867	13.7%

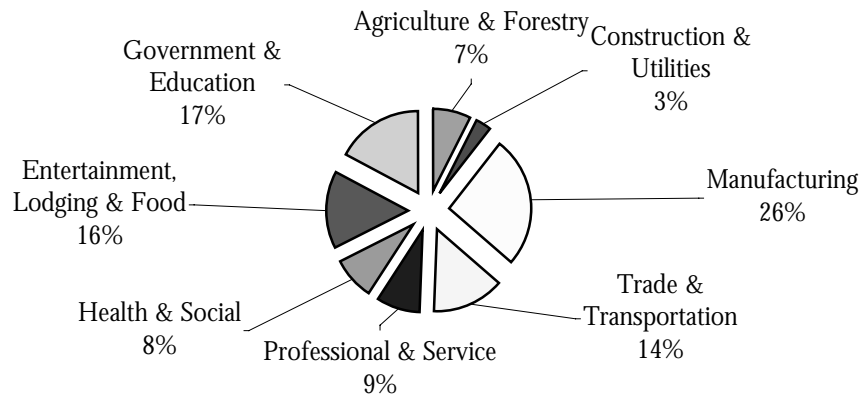
Source: Wisconsin Department of Workforce Development

Juneau County's largest source of employment is the manufacturing industry, followed by government, schools and public administration, then accommodation and food services, and retail trade. Industries showing a large number of firms are indicative of many small businesses or "one-person shops". Farming is, of course, the greatest share of one-operator businesses; construction, retail, and services show large shares of total firms as well. Figure 8 summarizes the allocation of workers in Juneau County by industry. .

Industry	County Annual Avg. Wage	State Annual Avg. Wage	% of State Avg.	1-year % Change	5-year % Change
All Industries (except mining)	\$25,053	\$30,922	81.0%	0.9%	20.1%
Agriculture, Forestry, and Fishing	\$20,756	\$22,565	92.0%	-7.3%	-38.5%
Construction	\$27,046	\$39,011	69.3%	1.6%	0.6%
Manufacturing	\$33,094	\$39,739	83.3%	-0.4%	26.5%
Transportation, Comm., and Utilities	\$26,637	\$36,639	72.7%	10.4%	28.1%
Wholesale Trade	\$24,807	\$40,521	61.2%	3.4%	21.3%
Retail Trade	\$13,444	\$14,596	92.1%	3.1%	23.8%
Finance, Insurance, and Real Estate	\$22,408	\$40,933	54.7%	2.5%	27.0%
Services	\$21,221	\$28,775	73.7%	6.4%	31.3%
Government	\$26,267	\$33,785	77.7%	3.9%	21.6%

Source: WI DWD 2002 and NCWRPC

Figure 8: Distribution of Employment by Industry Sector, Juneau County, 2000



Source: County Business Patterns, U.S. Census; and NCWRPC

How this employment mix will change over the coming years is dependent on a number of factors, but it seems likely that the dominance of manufacturing in the county will be reduced and services, health-related and knowledge-based employment will become more prominent.

B. Major Employers

As noted, manufacturing is still the largest single source of employment in Juneau County but a look at the largest employers in the county reveals how the profile of employment is changing. Of the eleven largest employers in the county only three are in manufacturing. Two are involved in health-care. The other six are some form of government enterprise. This is not to say that the trend in employment is toward more people working for the government, but that much of the private employment involves smaller enterprises. Most people are employed by small business. Much of the job growth in the future is likely to be in these industries and in these kinds of small enterprises.

Table 16 Top Employers in Juneau County, 2003

Employer Name	Product or Service	Employment Size Range
Hess Memorial Hospital	General medical & surgical hospitals	500-999
Walker Stainless Equipment	Plate work manufacturing	250-499
Sandridge Treatment Facility	Psychiatric and substance abuse hospital	250-499
County of Juneau	Executive and General Government	250-499
School Dist. of Mauston	Elementary & secondary schools	250-499
Volk Field	National security	100-249
Necedah Public School	Elementary & secondary schools	100-249
Freudenbergnok (Farnam/Meillor)	Gasket, packing, and sealing device mfg.	100-249
Parker Hannifin	Fluid power valve and hose fitting mfg.	100-249
Brunner Drilling & Mfg.	Bolt, nut, screw, rivet, and washer mfg.	100-249

Source: WI Dept. of Workforce Development, ES-202 special report, First quarter, 2003

Growth in services, health-care and information technology will affect the shape of the Juneau County economy in the years to come. Perhaps the greatest single factor in the future of economic development in the county will be the I-90/94 corridor that passes through it. There is certainly potential within the warehousing and transportation sector due to this advantageous location. The position of the county halfway between Chicago and the Twin Cities places it literally at the center of an axis of high-tech growth. This offers great potential for development within the county.

C. Volk Field

Encompassing 2,336 acres with a 9,000 foot-long landing strip Volk Field is a full service military readiness training complex. When considered along with nearby Fort McCoy and Hardwood Air to Ground Gunnery Range located in the Towns of Finley and Armenia and covering over twelve square miles Volk Field is one of the most valuable national defense training facilities in the country. Today Volk Field serves as a training site for over two hundred units per year, nearly half of the Air National Guard units. It is also base to the 128th Air Control Squadron, which extends approach control services to eight civilian airports in the area. Volk Field is also site of the Air Combat Maneuvering Instrumentation system computerized three-dimensional tracking and recording system, the most powerful training aid for combat aircrews and one of only twenty such systems in the world.

If the employees of the Department of Defense and the Wisconsin Department of Military affairs are taken together Volk Field/Camp Williams is the second largest employer in Juneau County. There are 132 civilian employees and 252 military personnel that work here. The total impact on the county's economy is estimated to be \$15 million, based on \$11.5 million annual payroll and \$10.3 in private contracts generated. Volk Field is the only Air National Guard Combat Readiness Training Center that allows for 24-hour, 7-day a week operation, because it is not located in conjunction with a commercial airport. It offers a year-round training environment for National Guard units to enhance their combat readiness.

The first military reservation was established in 1888 at a site nearby the symbolically significant Castle Rock, a butte-like formation that resembles a medieval fortress. A Log Cabin was built to house an officers club in 1896. This building currently serves as the Wisconsin National Guard Museum. By 1903 the camp had been expanded, to 800 acres, with authorization from the state legislature. It was often visited by officials from around the country, as a model training camp for National Guard units. It was from here that in 1917 the famous 32nd "Red Arrow" Division mustered for World War I. It was named Camp Williams in honor of Colonel Charles Williams, who was Chief Quartermaster until his death in 1926. The first hard surface runway was begun in 1935.

Camp Williams is the home of the United States Property & Fiscal Office for the State of Wisconsin, which is accountable for all property used by the Wisconsin National Guard, and to the Army National Guard's Consolidated State Maintenance Facility. The base has had a number of missions over the years. During the Korean War it was the site of training for units from all over the Midwest and other areas of the country. In 1957 it was named Volk Field in honor of the first Army National Guard pilot from Wisconsin killed in Korea.

Volk Field is central to the economic health of Juneau County, the Village of Camp Douglas, and the Town of Orange. With the increasing role in the national defense that has been assumed by

National Guard units in recent years and the broad range of training opportunities that this facility offers there could be increased utilization of these facilities in coming years. However, at the same time there is pressure to consolidate and restructure military forces and assets, so it is difficult to predict with any certainty what the future of Volk Field might be.

What is certain is that the Volk Field/Camp Williams complex has a number of assets that will not go away, ranging from the historic buildings of Camp Williams to the 9,000 feet of runway at Volk Field, rebuilt in 1998. The more than two thousand acres of land that make up the facility have outstanding access to I-90/94, include several spectacular geological features and a large expanse of natural areas. All of these assets have value that can be used to the benefit of the local economy.

D. Employment

The particulars of the labor force within the Town of Orange can be gleaned from the Census. The most notable fact is that most people work outside of the town. Forty-one people work in the town, and 210 (83%) workers leave the town. Sixty-nine percent leave the county for their work. This compares to the Village of Camp Douglas where 73 percent of workers leave the village and 36 percent leave the county, and the Town of Necedah, where 66 percent leave the town and over 26 percent of workers leave the county for their jobs. Forty percent of workers commute between fifteen and thirty minutes to get to their jobs. Another twenty-eight percent have a commute less than fifteen minutes and 19.5 percent travel between half an hour and an hour to get to work. Six workers travel for more than an hour to reach their jobs.

Occupation	Town of Orange		Town of Cutler		Juneau County		State of Wisconsin	
Management/professional	64	25.4%	41	31.8%	2,515	22.2%	857,205	31.3%
Service	44	17.5%	16	12.4%	2,034	17.9%	383,619	14.0%
Farming/forestry	0	0%	6	4.7%	179	1.6%	25,365	0.9%
Sales/office	51	20.2%	27	20.9%	2,494	22%	690,360	25.2%
Construction	14	5.6%	16	12.4%	1,110	9.8%	237,086	8.7%
Production/transportation	79	31.3%	23	17.8%	3,001	26.5%	540,930	19.8%
Total	252	100%	129	100%	11,333	100%	2,734,925	100%

Source: US Census Bureau & NCWRPC

Table 17, above, shows the occupation of workers in the Town of Orange and compares it with those in the Town of Cutler, Juneau County, and the state as a whole. The percentage of those in management or the professions, although slightly above the county level, is lower than Cutler and the state. More workers are in service jobs than in Cutler or the state but at nearly the same level as the county. The percentage of sales and office workers is slightly lower than the state or county. Construction workers are a lower percentage of the labor force than in the state or county, and less than half the level in Cutler. Although the percentage of production and transport workers is higher than the level for the county it is significantly higher than the level for the state or for Cutler.

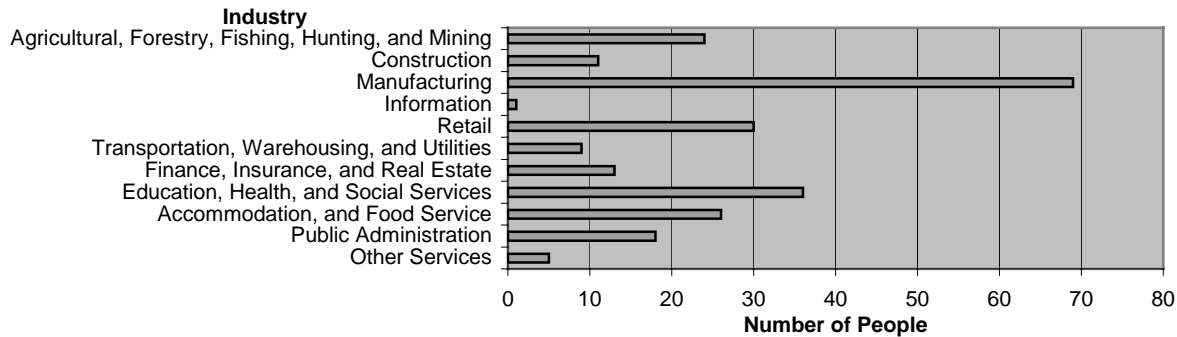
Table 18 Industry by Jurisdiction, 2000

Industry	Town of Orange		Town of Cutler		Juneau County		State of Wisconsin	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Agriculture/forestry/mining	24	9.5%	12	9.3%	602	5.3%	75,418	2.8%
Construction	11	4.4%	10	7.8%	757	6.7%	161,625	5.9%
Manufacturing	69	27.4%	19	14.7%	2,789	24.6%	606,845	22.2%
Wholesale trade			2	1.6%	258	2.3%	87,979	3.2%
Retail trade	30	11.9%	18	14.0%	1,423	12.6%	317,881	11.6%
Transport/warehouse/util.	9	3.6%	9	7.0%	623	5.5%	123,657	4.5%
Information	1	0.4%			90	0.8%	60,142	2.2%
Finance/insur./real estate	13	5.2%	4	3.1%	379	3.3%	168,060	6.1%
Professional/management	10	4.0%			393	3.5%	179,503	6.6%
Education/health/soc.serv	36	14.3%	18	14.0%	1,702	15.0%	548,111	20.0%
Arts/enter./accom/food serv.	26	10.3%	12	9.3%	1,369	12.1%	198,528	7.3%
Other service	5	2.0%			390	3.4%	111,028	4.1%
Public administration	18	7.1%	25	19.4%	558	4.9%	96,148	3.5%
Total	229	100%	129	100%	11,333	100%	2,734,925	100%

Source: US Census Bureau & NCWRPC

Manufacturing is the most common industry¹ for workers to be involved in by a wide margin, with nearly double the percentage of the next most common industry, education, health-care and social service. The percentage of workers in manufacturing is above the county and state, and nearly twice the level in Cutler. The fourteen percent of workers in education, health-care and social service work is roughly the same as the county or Cutler, but lower than the state. Retail trade occupies roughly the same percentage of the workforce as in the county and state. Arts, entertainment, accommodation and food service workers are a lower percentage of the total than the county, but are above the state level. The percentage of workers involved in public administration is double the rate for the state and above county rate. This may reflect the fact that prison guards are considered to be in public administration and it is possible than many of those who report this as their industry work at the New Lisbon prison or at Volk Field. As would be expected in a rural town employment

**Figure 9 Employment by Industry
Town of Orange, 2000**



¹ The number of employees in this table varies from the county numbers in Tables 14 and 18. The figures in Table 14 come from the Census Business Profile, which is collected directly from businesses. The other numbers are the result of individuals reporting their own occupation and industry, and are thus different from what businesses report.

in agriculture and forestry is higher than in the state or county as a whole.

E. Economic Development Programs

There are a number of economic development programs available to businesses and local governments in Juneau County. Following is a partial list of those programs.

Local

The Juneau County Economic Development Corporation (JCEDC)

A non-profit organization that promotes the economic development of Juneau County, Wisconsin, and its respective cities, villages, and towns. JCEDC is comprised of area businesspersons, citizens, local government, utility company representatives, state agencies and elected officials, educational institutions and other organizations essential to the growth of Juneau County. JCEDC is prepared to serve the needs of new businesses coming to our area as well as assist existing companies.

Juneau County Development Zone

Juneau County was recently awarded designation as a Wisconsin Development Zone in association with Adams and Marquette Counties. Known as the JAM Zone (Juneau-Adams-Marquette), Juneau County qualifies for special state incentives available to businesses that locate or expand within the Zone. Development Zone Tax Incentives for businesses locating or expanding within Juneau County. A variety of credits are available.

Juneau County Revolving Loan Fund

A Wisconsin Department of Commerce Economic Development Grant was awarded to Juneau County in 1998. This grant enabled Juneau County to establish a revolving loan fund in order to assist local businesses

Regional

North Central Wisconsin Development Corporation

The North Central Wisconsin Development Corporation (NCWDC) manages a revolving loan fund designed to address a gap in private capital markets for long-term, fixed-rate, low down payment, low interest financing. It is targeted at the timber and wood products industry, tourism and other manufacturing and service industries.

Western Wisconsin Technology Zone Tax Credits

Juneau County has been designated a Technology Zone by the Department of Commerce. The Technology Zone program brings \$5 million in income tax incentives for high-tech development to the area. The Western Wisconsin Technology Zone offers the potential for high-tech growth in knowledge-based and advanced manufacturing clusters, among others. The zone designation is designed to attract and retain skilled, high-paid workers to the area, foster regional partnerships between business and education to promote high-tech development, and to complement the area's recent regional branding project.

Northwest Wisconsin Manufacturing Outreach Center (NWMOC)

The Northwest Wisconsin Manufacturing Outreach Center provides operations assessments, technology training, and on-site assistance to help firms in western Wisconsin modernize and streamline manufacturing processes.

Alliant Energy

Alliant Energy is a regional utility company that provides technical and consultative economic development assistance to communities within its service area.

State

Rural Economic Development Program

This program administered by Wisconsin Department of Commerce provides grants and low interest loans for small business (less than 25 employees) start-ups or expansions in rural areas. Funds may be used for "soft costs" only, such as planning, engineering, and marketing assistance.

Wisconsin Small Cities Program

The Wisconsin Department of Commerce provides federal Community Development Block Grant (CDBG) funds to eligible municipalities for approved housing and/or public facility improvements and for economic development projects. Economic Development grants provide loans to businesses for such things as: acquisition of real estate, buildings, or equipment; construction, expansion or remodeling; and working capital for inventory and direct labor.

University of Wisconsin Extension Office

The Center for Community Economic Development, University of Wisconsin Extension, creates, applies and transfers multidisciplinary knowledge to help people understand community change and identify opportunities.

The Wisconsin Innovation Service Center (WISC)

This non-profit organization is located at the University of Wisconsin at Whitewater and specializes in new product and invention assessments and market expansion opportunities for innovative manufacturers, technology businesses, and independent inventors.

Wisconsin Small Business Development Center (SBDC)

The UW SBDC is partially funded by the Small Business Administration and provides a variety of programs and training seminars to assist in the creation of small business in Wisconsin.

Other State Programs

Technology Development grants and loans; Customized Labor Training grants and loans; and Major Economic Development Project grants and loans.

Transportation Economic Assistance (TEA)

This program, administered by the Wisconsin Department of Transportation, provides immediate assistance and funding for the cost of transportation improvements necessary for major economic development projects.

Federal

Economic Development Administration (EDA)

EDA offers a guaranteed loan program as well as public works grant program. These are administered through local units of government for the benefit of the local economy and, indirectly, private enterprise.

US Department of Agriculture – Rural Development (USDA – RD)

The USDA Rural Development program is committed to helping improve the economy and quality of life in all of rural America. Financial programs include support for such essential public facilities and services as water and sewer systems, housing, health clinics, emergency service facilities, and electric and telephone service. USDA-RD promotes economic development by supporting loans to businesses through banks and community-managed lending pools. The program also offers technical assistance and information to help agricultural and other cooperatives get started and improve the effectiveness of their member services.

Small Business Administration (SBA)

SBA provides business and industrial loan programs that will make or guarantee up to 90% of the principal and interest on loans to companies, individuals, or government entities for financing in rural areas. Wisconsin Business Development Finance Corporation acts as an agent for the U.S. Small Business Administration (SBA) programs that provide financing for fixed asset loans and for working capital.

2. Goals, Objectives & Policies

Goals

1. Discourage commercial and industrial development.

Objectives

1. Encourage businesses that are compatible in a rural setting.

Policies

1. Accommodate home-based businesses that do not significantly increase noise, traffic, odors, lighting, or would otherwise negatively impact the surrounding areas.

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Mill Bluff State Park

VII. LAND USE ELEMENT

1. Land Use

A. Background

The Town of Orange covers about 22,500 acres in Juneau County, and is characterized by two distinct landscape types. North of Interstate-90/94 the land is generally flat, with scattered rocky outcroppings and fairly extensive wetlands. This is the remnant of Glacial Lake Wisconsin, which occupied this area at the end of the last Ice Age, some 12,000 years ago. South of I-90/94 the landscape changes considerably. This is an unglaciated area, commonly known as the Driftless Zone, made up of numerous hills and valleys with steep slopes and small streams common. The Lemonwier River cuts diagonally across the northeast corner of the town. The river is extremely winding and has a broad floodplain. The Little Lemonwier River crosses the southeast corner of the town, straighter and with a narrower valley. The Village of Camp Douglas sits near the center of the town.

B. Existing Land Use 2005

Knowing the existing land use patterns within a town is necessary to develop a desired future land use pattern. The Existing Land Use Map was developed using air photos from a countywide flight in 2003, with updates by local residents in 2004. Woodlands dominates about forty-five percent of the area, followed by Agriculture with thirty-one percent, Governmental with ten percent, and Residential with about 3 percent. See the Existing Land Use Map.

In general, agricultural, forest lands and residential uses are scattered in a “mixed” pattern. Residential development is distributed sporadically along the road network. Public land amounts to just over fifteen percent of the town, most prominently Volk Field and Camp Williams, which is owned partially by the State of Wisconsin and the federal government. The Wisconsin DNR also owns a large tract that straddles the Monroe-Juneau County boundary, part of Mills Bluff State Park. The Town of Orange owns a large tract just east of Volk Field. There are several large private tracts as well.

C. Future Land Use 2005-2025

The Future Land Use Plan Map represents the long-term land use recommendations for all lands in the town. Although the map is advisory and does not have the authority of zoning, it is intended to reflect community desires and serve as a guide for local officials to coordinate and manage future development of the town.

The Plan groups land uses that are compatible and separates conflicting uses. To create the Plan, nine basic future land use categories were created. Again, the classifications are not zoning districts and do not have the authority of zoning.

Table 19 Existing Land Use, 2004

Land Use Type	Acres	Percent
Agriculture	7,060.35	31.4%
Commercial	99.18	0.4%
Governmental	2,254.06	10%
Industrial	19.51	0.08%
Open Grassland	1,741.53	7.7%
Outdoor Recreation	44.52	0.2%
Residential	608.63	2.7%
Cranberry Bog	52.55	0.2%
Transportation	207.58	0.9%
Water	297.32	1.3%
Woodlands	10,094.41	44.9%
Total Acres	22,479.64	100.0%

Source: NCWRPC GIS

However, the preferred land use map and classifications that are intended for use as a guide when making land use decisions.

Even though Juneau County has no general zoning, it is still useful to look at land use classifications that are similar to those generally embodied in zoning ordinances. A future land use map drawn with the broad categories that can easily be translated into zoning districts provides a starting point if the Town should choose to initiate zoning at some point in the future. Even if zoning is not adopted by the Town or the County, the vision that is embodied in the future land use map can act as a guide for whatever land use controls are implemented.

D. Land Use Classifications

A general description of each land use classification follows:

1. Residential

Identifies areas recommended for residential development typically consisting of smaller lot sizes.

2. Rural Residential

Identifies areas that are recommended for less dense residential development, consisting of larger minimum lot sizes than the residential category. These areas will also allow a mixture of residential uses, and provide a good transition from more dense development to the rural countryside.

3. Commercial

Identifies areas recommended for commercial development, as well as existing commercial establishments located throughout the Town.

4. Industrial

Identifies areas recommended for industrial development, as well as existing industrial areas located throughout the Town.

5. Governmental/Public/Institutional

Identifies existing or planned governmental/public/institutional facilities within the Town, including recreational facilities.

6. Agricultural Areas

Identifies areas to be preserved for the purpose of general crop farming or the raising of livestock.

Map 10 Existing Land Use

Map 11 Public Ownership

7. Forestry Areas

Identifies areas of large woodlands within the Town.

8. Transportation Corridors

Identifies the existing road network along with the recommendations for improved and safe traffic movement in the town, including airports and rail facilities.

9. Preservation & Open Space

Contains sensitive environmental areas, such as 100-year floodplains as defined by the Federal Emergency Management Agency, DNR wetlands, steep slopes of 12 percent or greater, and open water. This could include endangered species habitat or other significant features or areas identified by the Town.

Using these categories the Planning Commission participated in a mapping exercise to identify the desired land use. Committee members were asked to indicate their thoughts on a map by drawing shapes or circles to place these different land uses on a map. Specifically, they used their broad knowledge of the town, the series of maps that were prepared as part of the planning process, and their interpretation of the current trends. The goal was to produce a generalized land use plan map to guide the town's growth in the coming decades. The Year 2025 Land Use Plan Map represents the desired arrangement of preferred land uses for the future.

E. Future Land Use Plan Map Overview

The future land use plan map has identified approximately 5,459 acres of land for agriculture, 6,772 acres of land for forestry, 3,869 acres of land for preservation & open space, 2,225 acres of land for government/public/institutional development (including Volk Field), 424 acres in residential and 1,714 acres for rural residential development, and 109 acres in commercial use.

The changes envisioned in the Town's Future Land Use Plan are not extensive. Most existing agricultural land is expected to stay in that use, including the cranberry bog at US 12 and Belcher Road. Residential clusters are seen along North 6th Avenue near the intersection with CTH C, West 24th Street and West North Road; along CTH H; and along West 25th Street. Rural residential development is expected to grow around the residential cluster along CTH C and CTH H, and along CTH M near West 30th Street and West Hancock Road, and around the historic settlement of Lone Rock. Other rural residential areas are expected along West Jensen Road, North Keichinger Road, and West 34th Street. Rural residential is expected to stretch along US 12 east of Camp Douglas. The wayside rest at Castle Rock, and the site of the Old Orange Mill School is shown in governmental/institutional use.

The most significant change in land use is envisioned for the area west of Camp Douglas, both along US 12 and CTH C, and in the area of West Nelson Valley Road. Here current commercial and industrial uses, an existing auto salvage yard and a local excavating company, are expected to be redeveloped but because of soil contamination issues this land is likely to remain in commercial use. This should be sufficient to accommodate any future commercial demand

Table 20: Land Use Projections

	2000	2005	2010	2015	2020	2025
Residential	609	609	656	672	686	686

Source: U.S. Census, DOA, NCWRPC

Although only 425 acres are set aside for residential use in the Future Land Use Plan, the 2,138 acres of land envisioned for residential and rural residential development more than meets the projected need for residential land through the planning period. As noted above, the Town does not see any additional need for industrial or commercial land in the future, beyond the redevelopment of existing commercial operations.

The goal of this land use plan is to balance individual private property rights with the town's need to protect property values community-wide, minimize the conflicts between land uses and keep the cost of local government as low as possible. An essential characteristic of any planning program is that it be ongoing and flexible. Periodic updates to the plan are needed to maintain that it is reflective of current trends

2. Land Use Controls

A. Zoning

1. County Shoreline Jurisdiction

All counties are mandated by Wisconsin law to adopt and administer a zoning ordinance that regulates land-use in shoreland/wetland and floodplain areas for the entire area of the county outside of villages and cities. This ordinance supersedes any town ordinance, unless the town ordinance is more restrictive. The shoreland/wetland and floodplain area covered under this zoning is the area that lies within 1,000 feet of a lake and within 300 feet of a navigable stream or to the landward side of a floodplain whichever distance is greater.

2. No General Zoning (Shoreland Only)

The Town currently has no general zoning, either with the County or on its own. All water bodies in Orange are covered under the County's shoreland zoning. Those zoning regulations apply only to areas within 300 feet of a stream or river, and within 1000 feet of a pond or lake.

The Town has other tools that could be used to implement some of the recommendations from the Comprehensive Plan. Those tools include such things as purchase of land, easements or development rights; subdivision ordinance; mobile/manufactured home restrictions; nuisance regulations; design review for commercial and industrial developments, infrastructure improvements (sewer and water, utilities), road construction and maintenance, and public services, among others.

3. Join a Neighboring Town's Zoning

The Town could pass a resolution to join a neighboring Town's zoning. This alternative would involve §66.30, Wis. Stats. Intergovernmental Agreements, to contract with an adjacent Town for

zoning administration and enforcement. The advantages of this would be that a zoning map for the town would be established, and the County or adjacent Town would share the cost for administration. The disadvantage would be that the Town would need to utilize the districts within the County's or neighboring town's ordinance.

4. Create Town Zoning

The Town could draft its own zoning ordinance. The advantages of this option include providing the greatest amount of local control over zoning decisions. The zoning districts and other ordinance provisions could be tailored to best achieve the desired future conditions in each land use area. Administration of this option could be achieved in a variety of ways. The Town would fund its own administration.

The obvious disadvantage would be cost. Creating town enforced zoning would be a more expensive option, as it would require funding zoning administration and enforcement (including legal expenses) at the local level. The Town would likely need to hire at least a part time zoning administrator, and would need to establish a Board of Appeals. Any revision to the zoning ordinance would require County Board approval. There still would be some areas of overlap between the County and Town ordinances for shoreland and floodplain areas.

5. Extraterritorial Zoning

The Village of Camp Douglas has authority to provide extraterritorial review of subdivision requests in the town within one and one-half mile of their corporate limits. There is also the potential for extra-territorial zoning to be implemented within this area. To do this, however, requires a lengthy three-step process including the creation of a joint committee consisting of representatives from the Village and the Town. This joint committee prepares a proposed plan and regulations for the extraterritorial area and submits it to the Village, which may adopt it as proposed or resubmit the proposal to the joint committee for changes. In either case, the proposed regulations must receive a favorable majority vote from the joint committee before the Village can adopt them. At this time the Village has not expressed any intention to implement extra-territorial zoning authority.

6. Exclusive Agricultural Zoning

The County administers a Farmland Preservation program. Because the County doesn't have zoning all farmland preservation is administered on the basis of individual agreements. These agreements prescribe conservation practices and land uses compatible with agriculture, meant to foster the long-term viability of agriculture on the land. The agreements can run for from ten to twenty-five years, and qualifies participants to a farmland preservation tax credit, although only at eighty percent of the rate available in areas where there is exclusive agriculture zoning. There are currently eleven active farmland preservation agreements in the Town of Orange covering a total of 1,800 acres.

7. 3-Mile Airport Boundary

Restrictions exist in a three-mile radius around Volk Field where height limitations can be imposed on buildings to ensure that they do not pose a danger to aviation. Any development which meets certain criteria, mostly related to height or transmitting radio frequencies, which could have an effect

on the operation of the airport must submit an application to the Federal Aviation Administration (FAA). There are also restrictions placed in state law. The basic trigger for review is a structure of a certain height above average grade – 200 feet in federal law, and 150 feet in state law – that requires some form of permit. Any zoning changes, within the three-mile limit around the airport, must be reviewed by airport authorities and subsequent changes must be approved by a two-thirds majority of the governing body. Since there is no zoning in place in the Town of Orange at this time this provision does not apply.

B. Annexation

Because the Village of Camp Douglas is located at the center of the Town of Orange, there is the possibility that land currently in the town could be annexed by the Village. Wisconsin's annexation laws generally favors the property owner. Under current law what is called direct annexation [ss60.021(2)(a)] must be initiated by the property owner. From the Town's point of view annexation usually represents a loss of tax-base with no redeeming benefit. Many municipalities that provide sewer and water service are required by ordinance to annex any territory before this service can be extended.

C. Subdivision Ordinance

At this point The Town of Orange does not have any restrictions of land divisions within the town. The County administers a Road Access and Land Division ordinance, which requires minimum road frontage (40 feet) and a certified survey map for any newly created lot of less than fifteen acres. It also specifies road standards for any road that is to be accepted for dedication as part of any subdivision.

D. Cooperative Boundary Agreements

The only method of annexation open to a municipality is the cooperative boundary agreement. These agreements require that the city or village that wants to annex land must negotiate with the town from which the land is to be detached. A cooperative agreement must lay-out a planning period during which a schedule is established for how services will be extended to the annexed land, a timetable for when the boundary will be changed, and how such a change will serve the public interest. These agreements must be approved by the Department of Commerce and adopted as an ordinance by all participating municipalities.

E. Managed Forest Tax Law

Owners of private timberlands can participate in deferred tax programs under Wisconsin tax laws. Voluntary participation in these programs requires that private landowners follow "sound forestry practices" as prescribed in a formal management plan or, as in the case of industrially owned lands, a management commitment. Lands in the Managed Forest Law (MFL) are committed to a management period of 25 or 50 years. Participants in the program have the right to keep some land closed to public use, but most is open to hunting, fishing, cross country skiing, hiking and

sightseeing. Some activities not permitted under the law include motorized vehicles, permanent tree stands, picking berries or mushrooms and trapping. There are 2,218 acres of land in the Town of Orange that fall under the Managed Forest Tax Law. Of this total 258.5 acres are open and just less than 1,960 acres are closed.

3. Goals, Objectives & Policies

Goals

1. Balance individual property rights with community interests and goals
2. Plan and develop land uses that create or preserve the rural community.
3. Encourage land uses, densities and regulations that promote efficient development patterns and relatively low municipal, state governmental and utility costs.
4. Promote a quiet and peaceful community with open spaces and scenic landscape.

Objectives

1. Maintain orderly, planned growth which promotes the health, safety and general welfare of residents and makes efficient use of land and efficient use of public services, facilities and tax dollars.
2. New development should not negatively impact the natural environment or existing properties.
3. Provide for a mix of land uses within the Town.
4. Promote new land development that is consistent with this plan.

Policies

1. Encourage land uses and building locations that minimize both the loss of productive farmland and the potential for conflicts between existing and proposed land uses.
2. Allow conservation easements and other tools to protect environmentally sensitive or unique resources.
3. Update existing land use regulations to be consistent with this plan.
4. Continue to work with the Village of Camp Douglas to monitor “boundary” issues and to plan for the future.

Map 12 Future Land Use

Map 13 Shoreland Zoning

VIII. INTERGOVERNMENTAL COOPERATION ELEMENT

Background

Governmental relationships can best be described as “vertical” relationships, such as those between federal, state and local units (county/city/town) and are relatively well established in law. Unfortunately, there is little public policy in Wisconsin law that requires, horizontal governmental relationships such as town to town and municipality to county or town. The result is that towns, municipalities, and counties act more as adversaries than as partners.

Wisconsin Statute s.66.30, entitled "Intergovernmental Cooperation", does enable local governments to jointly do together whatever one can do alone. Typically, intergovernmental cooperation and coordination refers to the management and delivery of public services and facilities. It is also dependent upon a defined geographic area within which cooperation and coordination may be feasible. Often the area is a central city and its surrounding area, or several similar towns. It is a collection of local communities in which the citizens are interdependent in terms of their employment, residence, health, and medical care, education, recreation and culture, shopping and other experiences.

A variety of other factors, some long-standing and some of fairly recent origin, are combining to force citizens and local governments in both urban and rural area to confer, cooperate, and in some cases, to join together in a search for better ways to deliver public services in their respective areas. These factors include:

- population settlement patterns;
- local government structure, finance, and politics;
- high population mobility;
- economic and environmental interdependence; and
- high cost, capital-intensive functions.



Old Orange Mill School

Adjoining Units of Government

The Town of Orange is involved with several surrounding units of government. It contracts fire fighting services, ambulance and first responders from the Village of Camp Douglas. The children in the Town attend schools in two separate districts: in the majority of the Town children go to New Lisbon, and in the northwest section they go to Tomah, in Monroe County.

Throughout the process of creating this Plan Orange worked closely with the Town of Cutler. Virtually all of the meetings leading up to finalizing the Plan were held jointly with Cutler. This offered both Towns an opportunity to compare services, issues and approaches to problem solving. By coordinating their planning efforts the two Towns established a basis for future coordination.

Joint Service Agreements

The Town of Orange contracts with the Village of Camp Douglas for fire protection and ambulance services.

2. Goals, Objectives & Policies

Goals

1. Encourage coordination & cooperation among nearby units of governments.

Objectives

1. Promote communication with other units of government, including adjoining towns, the county, the state, and federal government.
2. Join together with other units of government to provide services in a more cost-effective manner.

Policies

1. Periodically review existing shared service agreements, and explore additional agreements.

IX IMPLEMENTATION

Background

Implementation of this plan depends on the willingness of local officials, both Town and County, to use it as a guide when making decisions that affect growth and development in the Town. It is also important that local citizens and developers become aware of the plan.

The tools and techniques recommended to implement the comprehensive plan are as follows:

The Town Board should adopt the plan and use it as a guide in decisions that affect development in the Town. The Town's Planning Commission should become very knowledgeable of the plan and use it when making recommendations to the Town Board on development issues.

The Town should develop and adopt a town road ordinance concerning minimum acceptable road construction standards as well as a public roadway buffer strip.

The Town should encourage citizen awareness of the Town's comprehensive plan by making copies available and conducting public informational meetings.

Additional tools and approaches can be utilized by the Town to achieve the goals of the plan. These include but are certainly not limited to the following: fee simple land acquisition, easements (purchased or volunteered), deed restrictions, land dedication, and ordinances or programs regulating activities such as impact fees, land division, erosion control, mobile homes, etc.

An essential characteristic of any planning program is that it be ongoing and flexible. Periodic updating of the plan is necessary for continued refinement and course correction in the planning program to insure that it reflects the desires of the Town's citizens.

State law requires that a Comprehensive Plan be updated every ten years. The Town should re-examine the Plan, at least every five years, and determine if more complete review is required to bring it into line with changed conditions or altered priorities within the Town. The release of information from the 2010 Census may provide a useful opportunity to update the data contained in the Plan and assess whether the vision and policies embodied in it are still appropriate to the Town's needs. Amendments to the Plan can be enacted as part of that process.

ATTACHMENT A
2000 CENSUS SUMMARY

ATTACHMENT B
PUBLIC PARTICIPATION PLAN