

APPENDIX

# B

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**POPULATION PROJECTION  
METHODOLOGY**



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## *Population Projection Methodology*

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Population projections have long been used in planning to assess development prospects created by population growth. Small area population forecasts can be used to evaluate potential residential development and economic conditions, and the level of demand for public services. Businesses, schools and government frequently use

these forecasts to determine the future needs or design of public facilities.

Estimates of future growth are also valuable for establishing management techniques in order to provide for orderly growth and development.

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## **Suitability of Population Projections**

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In June 1992, the West Central Wisconsin Regional Planning Commission produced community level population projections for each of the seven counties in the region. The projections, entitled Population Projections for the West Central Wisconsin Region 1990-2020, were based on historical population change from data obtained from the Censuses.

Nearly one year later the Wisconsin Department of Administration's (DOA) Demographic Services Center produced small area population projections, entitled Official Municipal Population Projections 1990-2015, in accordance with State Statute 16.96. The DOA's projections were based on their 1992 population estimate and 1970 through 1990 Censuses.

Differences in the methodologies and assumptions between the two efforts are reflected in the differing projections of possible future population growth for the communities in Polk County. While the DOA numbers appeared to be conservative, the Commission numbers reflected their concern for the continued strong effect of the Minneapolis-St. Paul Metropolitan Area on Polk County's growth and development.

Since the completion of the DOA and Commission population projections, growth and development in Polk County has continued at a rate that appeared to be faster than projected. Consequently, it was determined that new population projections, that better reflected recent growth trends, should be developed and evaluated for this planning effort.

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## **Limitations of Population Projections**

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Population projections are based on historical trends of population growth that are extended into the future. They are based on the assumption that the historical trends, and the factors behind them, will continue to some point in time. It is certain

that not all of those factors will have the same influence on population change throughout the entire forecast period. It is also true that the closer the projection year is to the base year, the more likely the population for that projection will be close

to the true population. Hence, the margin of error in population forecasts increases the farther out in time they are from the present.

Small area population projections also have limitations. Forecasts of large area populations are more reliable. For example, projections developed at the county level can be used to distribute the county population forecasts proportionally into the individual community projections. This

"backing into" community projections from countywide forecasts is often done because the smaller the area for which a projection is produced, the greater the possibility for error.

Population projections are, at best, guides and must be used with consideration of their limitations. However, intimate knowledge of local conditions can help build the assumptions into population projections to make them more valid.

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## **Assumptions behind Population Projections**

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Generally, population growth trends do not remain constant from decade to decade. The factors that influence population change are dynamic and are often subject to the effect of larger trends from outside an area's control. The forecasting of population change requires that certain assumptions be made regarding the conditions prevailing during the forecast period. Therefore, it is important to identify the assumptions inherent in the projection. The following factors and assumptions were incorporated into the population projections developed for the Polk County Land Use Plan.

In-migration will continue to be a major impetus for population growth in Polk County. Many factors are involved in the personal and business decisions that result in migration into Polk County. One of the major factors of this migration is, of course, the proximity and easy access to the Minneapolis-St. Paul metropolitan area. The Minneapolis-St. Paul area offers numerous employment opportunities and other urban amenities. In contrast, Polk County offers a more serene, aesthetically appealing natural and rural environment.

Numerous other interrelated factors can also affect in-migration and the rate of population change. These interrelated factors include the local, regional and national economies, lifestyle preferences,

the physical and cultural setting of the county, infrastructure improvements, regulation and taxation.

The economy can have a dramatic affect on population growth. The regional economy impacting Polk County is heavily influenced by the Minneapolis-St. Paul metropolitan area. In some areas of the county there is more than 30 percent of the working population commuting there for their employment opportunities. Locally, manufacturing employment has increased dramatically, and the growing population in the county has spurred more commercial services and retail trade employment.

The lifestyle preferences of people, and the perceptions of people and business, contribute to the decision-making that influence the movement of people and businesses. Polk County is on the metropolitan fringe with its low population density, low crime, rural residences and small communities, relative to the metropolitan core. In addition, nearness to the metropolitan core gives Polk County residents access to its cultural, recreational and entertainment activities and events.

The physical setting of the county provides an aesthetic, natural beauty that continues to attract people. The natural environment combined with the cultural setting of the county's rural, small town and farm

character leaves little question about the beauty of Polk County, and its continued appeal as a place to locate a home or business.

Public services and infrastructure improvements can also influence growth and development activity. Planned transportation improvements, including the Stillwater Bridge over the St. Croix River at Houlton, the I-94 Hudson Bridge upgrade to six lanes, and an upgrade to four lanes of Highways 35 and 64 from Houlton almost all the way to New Richmond, will make Polk County more accessible and attractive. The improvement of bridges and highways to meet current demand will also create more demand as development responds to the opportunities that are provided by improved access.

The expansion of public utilities capacity can provide opportunities for continued residential, commercial and industrial development. For example, as communities in the county expand public facilities to meet anticipated demand, the capacity created can also attract development. Public utility expansion is probably ancillary to the other factors driving in-migration, and likely adds to the cumulative effect of all the factors in force.

Relative differences in taxation between the Minneapolis-St. Paul area (and other Minnesota communities) and Polk County may also have a significant effect on in-migration. Although property taxes may be slightly higher in Wisconsin than in Minnesota; personal income taxes, sales taxes and taxes related to doing business (corporate income, commercial and manufacturing property and unemployment taxes, and worker's compensation insurance) are lower in Wisconsin. These tax structures are not anticipated to change significantly during the forecast period.

Another factor that has and will influence Polk County growth and development is stricter development controls in Minnesota communities when compared to the development standards in Polk County. The growing and cumulative impacts of urban and suburban development have long been felt in the Minneapolis-St. Paul Metro area, resulting in a long tradition of land development regulations. These regulations, while addressing real impacts affecting communities, are often perceived as onerous and unnecessary and can influence location decisions.

In general it appears that the many positive influences on individuals, groups and organizations decisions to migrate to Polk County overwhelm the perceived, potential or real negative influences of high commuting, land, development and taxation costs. This is evidenced in the continued growth of Polk County since 1990, and is presumed here to be likely to continue into the forecast period of these population projections.

**POPULATION PROJECTIONS • 2000 TO 2020  
POLK COUNTY**

<b>Municipality</b>	<b>2000 Census</b>	<b>2005 Projection</b>	<b>2010 Projection</b>	<b>2015 Projection</b>	<b>2020 Projection</b>
<b>Towns:</b>					
Alden	2,615	2,825	3,036	3,246	3,456
Apple River	1,067	1,159	1,250	1,342	1,434
Balsam Lake	1,384	1,514	1,644	1,774	1,904
Beaver	753	774	795	816	837
Black Brook	1,208	1,294	1,381	1,467	1,553
Bone Lake	710	781	852	924	995
Clam Falls	547	535	522	510	498
Clayton	912	955	999	1,042	1,085
Clear Lake	800	812	823	835	847
Eureka	1,338	1,394	1,450	1,506	1,563
Farmington	1,625	1,747	1,868	1,990	2,111
Garfield	1,443	1,573	1,702	1,832	1,961
Georgetown	1,004	1,089	1,175	1,260	1,346
Johnstown	520	559	598	637	676
Laketown	918	929	940	951	962
Lincoln	2,304	2,495	2,687	2,878	3,069
Lorain	328	340	352	363	375
Luck	881	895	909	922	936
McKinley	328	329	330	331	333
Milltown	1,146	1,221	1,296	1,371	1,446
Osceola	2,085	2,368	2,650	2,933	3,216
St. Croix Falls	1,119	1,172	1,226	1,279	1,332
Sterling	724	784	845	905	965
West Sweden	731	742	754	765	777
<b>Subtotal:</b>	<b>26,490</b>	<b>28,286</b>	<b>30,084</b>	<b>31,879</b>	<b>33,677</b>
<b>Villages:</b>					
Balsam Lake	950	1,010	1,070	1,130	1,189
Centuria	865	903	942	980	1,018
Clayton	507	535	562	590	617
Clear Lake	1,051	1,102	1,153	1,204	1,254
Dresser	732	768	804	840	876
Frederic	1,262	1,323	1,385	1,446	1,507
Luck	1,210	1,279	1,348	1,418	1,487
Milltown	888	932	976	1,020	1,064
Osceola	2,421	2,619	2,817	3,016	3,214
Turtle Lake*	65	84	103	122	140
<b>Subtotal:</b>	<b>9,951</b>	<b>10,555</b>	<b>11,160</b>	<b>11,766</b>	<b>12,366</b>
<b>Cities:</b>					
Amery	2,845	2,953	3,061	3,169	3,277
St. Croix Falls	2,033	2,177	2,321	2,465	2,609
<b>Subtotal:</b>	<b>4,878</b>	<b>5,130</b>	<b>5,382</b>	<b>5,634</b>	<b>5,886</b>
<b>POLK COUNTY</b>	<b>41,319</b>	<b>43,971</b>	<b>46,626</b>	<b>49,279</b>	<b>51,929</b>

\*NOTE: Portion in Polk County.

Source: 2000 Census; West Central Wisconsin Regional Planning Commission, 2002

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## Methodology for the Population Projections

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The population projections developed for the Polk County Land Use Plan were derived from the 1970, 1980, 1990, and 2000 census

population trends. The projections were developed using the following methodology.

### AVERAGE POPULATION CHANGE:

$$G = ((( P00 - P70 ) / 30 ) + (( P00 - P80 ) / 20 ) + (( P00 - P90 ) / 10 )) / 3$$

where: *P* is population;

*G* is average annual numerical population change; and  
70, 80, 90, 00 represent the Census year population.

The population projections were then calculated by multiplying *G* times the number of years from the base year (2000)

to the projected year, and adding that to the base year population.

### POPULATION PROJECTION:

$$P2005 = P00 + ( 5 \times G )$$

$$P2015 = P00 + ( 15 \times G )$$

$$P2010 = P00 + ( 10 \times G );$$

$$P2020 = P00 + ( 20 \times G )$$

For example, the following was used to calculate the population for the year 2005 for the Town of Alden.

$$P2005 = P00 + ( 5 \times G )$$

$$P2005 = 2,615 + ( 5 \times 42 )$$

$$P2005 = 2,825$$

The Polk County Land Use Plan planning horizon is the year 2020. The population projections recognize the potential for Polk County to grow by 10,610 people in the 20 years between 2000 and 2020, a 25.7% increase. Polk County's population grew by

27.7% between the years 1980 and 2000. These projections are based upon the assumption that the same dynamics which drove past population increases in Polk County will continue to exist well into the next century.

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## Comparison to DOA Projections

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The population projections prepared for this plan differ significantly from the Wisconsin Department of Administration's 1993 projections. The primary reason for this

difference is additional and more recent population data. This information was not available to DOA when they produced their projections.

## Population Projection Comparison • 1990 to 2020 Polk County

	1990 <i>Census</i>	2000 <i>Census</i>	2005 <i>Projection</i>	2010 <i>Projection</i>	2015 <i>Projection</i>	2020 <i>Projection</i>
<b>Polk Co. Land Use Plan</b>						
Population	34,773	41,319	43,971	46,626	49,279	51,929
Population Change (No.)		6,546	2,652	2,655	2,653	2,650
Population Change (%)		18.8	6.4	6.0	5.7	5.4

	1990 <i>Census</i>	2000 <i>Projection</i>	2005 <i>Projection</i>	2010 <i>Projection</i>	2015 <i>Projection</i>	2020 <i>Projection</i>
<b>WISCONSIN DOA • 1993</b>						
Population	34,773	36,573	36,885	37,199	37,355	n/a
Population Change (No.)		1,800	312	314	156	n/a
Population Change (%)		5.2	0.9	0.9	0.4	n/a

Source: *Wisconsin Department of Administration, June 1993*  
*West Central Wisconsin Regional Planning Commission, 2002*

The DOA projected a 1990-2000 growth rate for Polk County of 5.2%. As is illustrated above, the population growth rate based on the 1990 and 2000 Census data was nearly 19%.

The DOA projections further diminish the potential for continued significant population growth in periods beyond the year 2000. The DOA projected growth rate for 2000-2010 is 1.7%. The county has not experienced a decennial rate of growth this low since the 1950's (0.1%). In addition, from 2005 to 2015, the DOA projected the county to only grow by about 1.3%, while this plan anticipates a 12.1% population growth for the same period.

Development and use of the new population projections can also be justified by comparing the projected growth rates to Polk County's historical growth rate. Indeed, from 1970 to 1990 Polk County experienced an average annual population growth rate of 1.5%. From 1990 to 2015, the DOA projects the population to have an average annual growth rate of 0.3%, while the projections for this plan estimate an average annual growth rate of 1.3% during the period from 2000 to 2020.

