



TECHNICAL MEMORANDUM 1: EXISTING & FUTURE LAND USES

SURROUNDING THE

BARABOO-WISCONSIN DELLS MUNICIPAL AIRPORT
SAUK COUNTY, WISCONSIN



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1.0 SUMMARY

This memorandum includes information about existing and future land uses within and surrounding the Baraboo-Wisconsin Dells Municipal Airport. This information is intended to supplement and guide the creation of the airport overlay-zoning ordinance.

1.1 EXISTING LAND USE PATTERNS

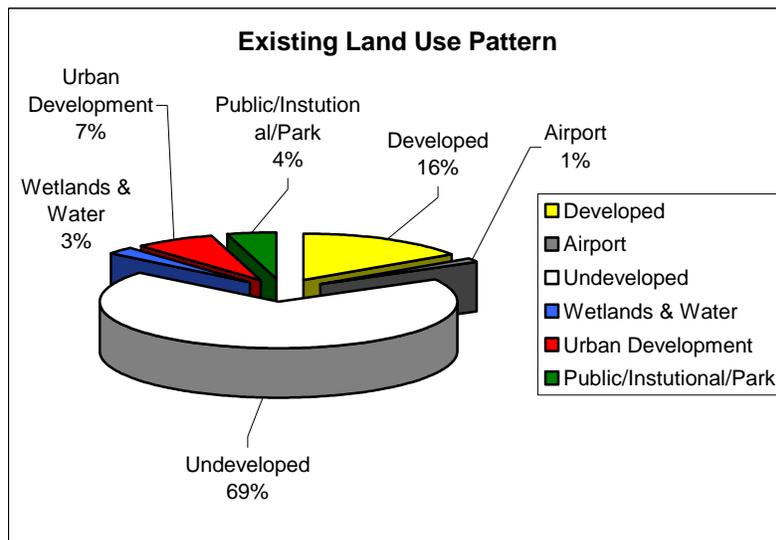
Table 1.1 – Existing Land Uses

Existing Land Use Planning Area	Acres	Percentage
Quarry	263.3	1.13%
Agriculture	9,200.2	39.59%
Farmstead	270.6	1.16%
Residential	2,682.0	11.54%
Commercial	442.0	1.90%
Recreational Commercial	220.1	0.95%
Public/Institutional	657.3	2.83%
Open Space/Pasture	876.4	3.77%
State Park	381.6	1.64%
Woodland	5,641.5	24.28%
Wetlands	550.2	2.37%
Surface Water	46.6	0.20%
Airport	331.6	1.43%
Urban Development	1,676.2	7.21%
Total	23,240	100.0%

Source: MSA, observed from 2005 NAIP

Prior to developing an airport overlay zoning ordinance it is important to review the existing land use pattern within the planning area. Table 1.1 approximates the existing land uses in the planning area as of year 2005. The planning area generally encompasses those lands that are within three miles of the airport. The planning area also represents the boundary of the airport’s existing height limitations ordinance (refer to section 1.3). The majority of the land within the planning area is undeveloped. Encroachment from the City of Baraboo, Village of West Baraboo, and the Village of Lake Delton continues; however, urban development only accounts for 7.2% of the planning area. In addition, only a small portion of the planning area (2.6%) is made up of wetlands or water bodies, which tend to attract birds that can become a hazard for aviation. Figure 1.1 summarizes the existing land use pattern by grouping several classifications together. A composite Existing Land Use Map is attached to the end of this memorandum.

Figure 1.1 – Existing Land Use Pattern



Urban Development – includes land with a municipality.

Developed – includes residential, commercial, recreational commercial.

Undeveloped – includes quarry, agriculture, open space/pasture, woodland.

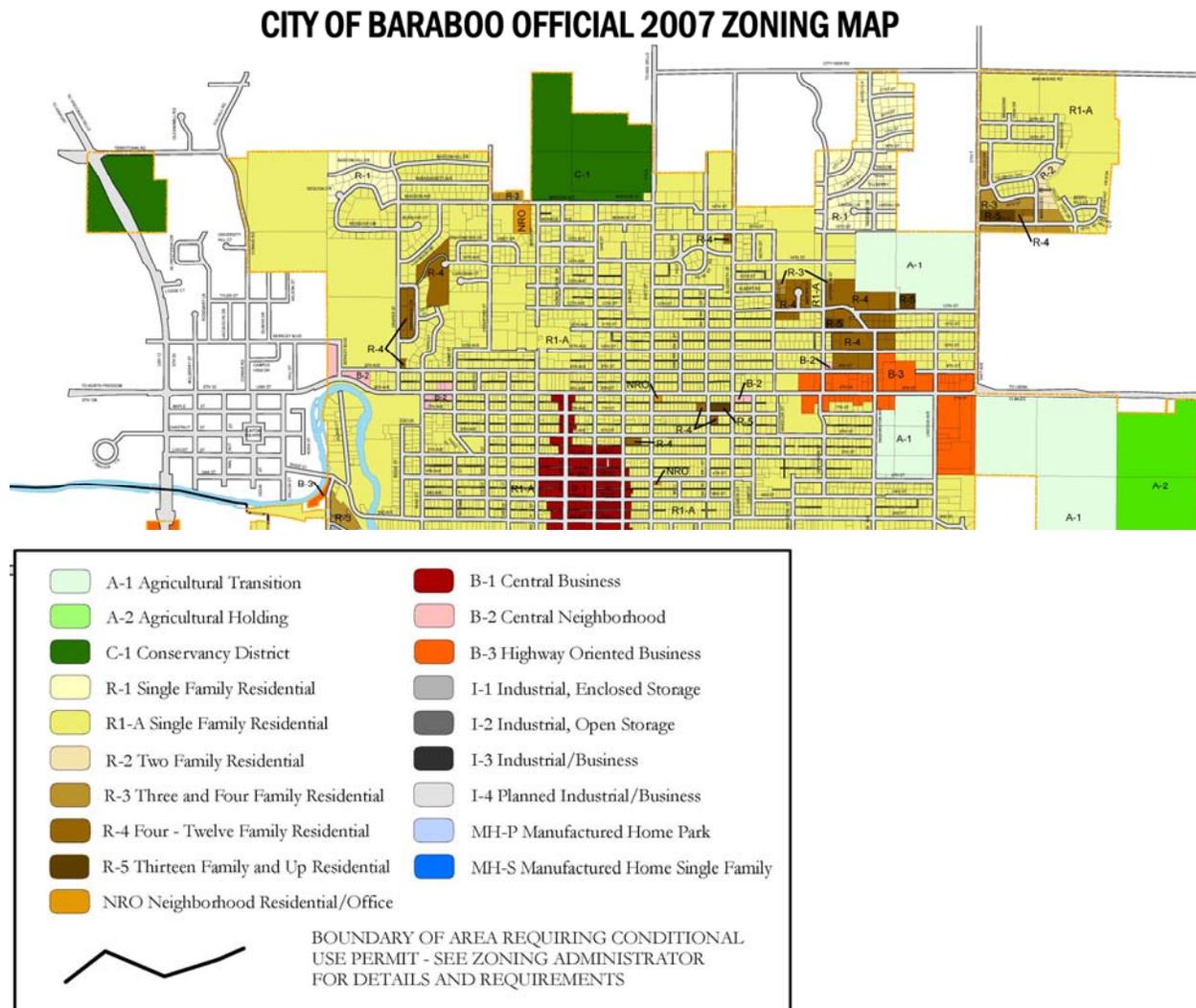
1.2 Overview of County & Other Local Zoning Ordinances

The land within the planning area falls within the zoning authority of six municipalities: City of Baraboo, Village of West Baraboo, Village of Lake Delton, Town of Delton, Town of Fairfield, and Sauk County. The airport overlay zoning ordinance will not change the underlying zoning classifications of parcels or the authority of each community to regulate their underlying zoning ordinance. The purpose of this project is to develop an additional floating, or overlay, zoning districts to properties within the airport's planning area to be administered by the City of Baraboo. Prior to developing the airport overlay zoning ordinance it is first useful to review the underlying zoning regulations within the planning area.

City of Baraboo

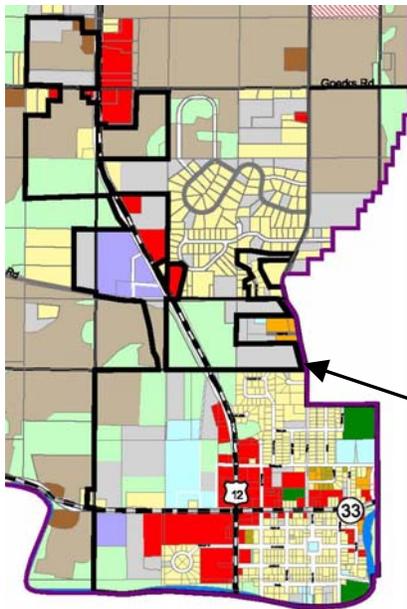
Within the City of Baraboo most of the land within the airport planning area is zoned for residential development as either R-1 or R-1A.

Figure 1.2 – City of Baraboo Zoning Map, 2007



Village of West Baraboo

Figure 1.3 – Village of West Baraboo Existing Land Use Map, 2004



Within the Village of West Baraboo existing land uses within the airport planning area are split between undeveloped uses such as woodland or agriculture, or business development.

[An official zoning map for the Village of West Baraboo was not available prior to the completion of this draft memorandum; therefore, a copy of the existing land use map has been substituted in its place.]

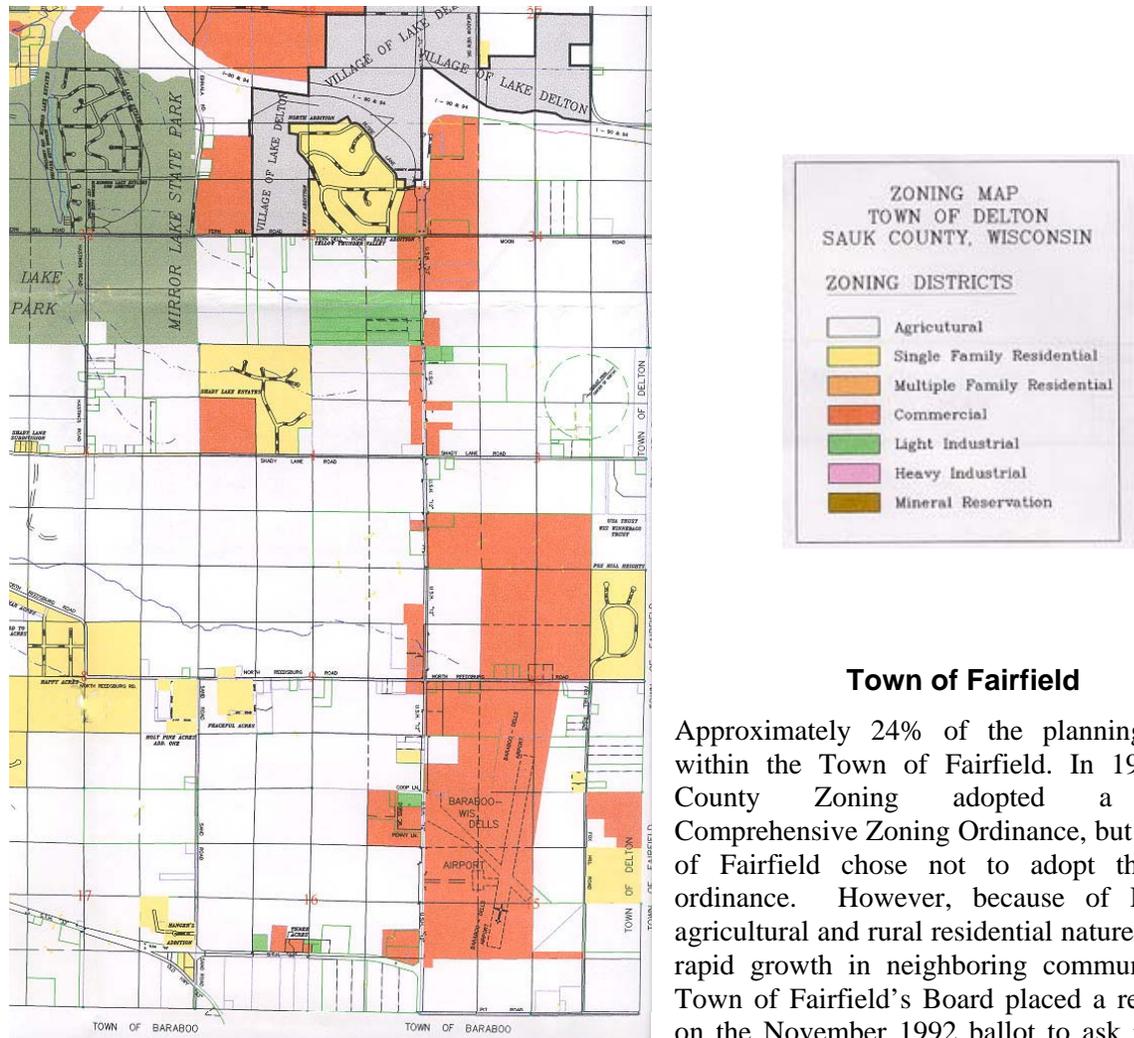
Village boundary in black

Town of Delton

The majority of the land within the airport planning area falls within the Town of Delton (approximately 42% of the planning area). The Town of Delton adopted its own zoning ordinance in 1982. Most of the land within the Town is zoned as Agricultural, which according to the Zoning Ordinance permits uses including those associated with general farming operations including animal feed operations, raising of grain, greenhouses, and nurseries. Only one single family dwelling is permitted per parcel, except that there may be up to two per farm operation for the farm operators parents or children of the farm operator; or hired persons deriving at least fifty percent of their income from the farm operation.

The minimum lot size for residential dwellings in the Single Family Residential District is one acre for lots not served by public sewer and 8,000 square feet with public sewer. Two family dwellings and mobile home parks are allowed as conditional uses. The Commercial District permits establishments principally engaged in retail sales of merchandise and/or services and includes the airport. The Light Industrial District permits establishments principally engaged in wholesale trade, light manufacturing, assembly, and storage.

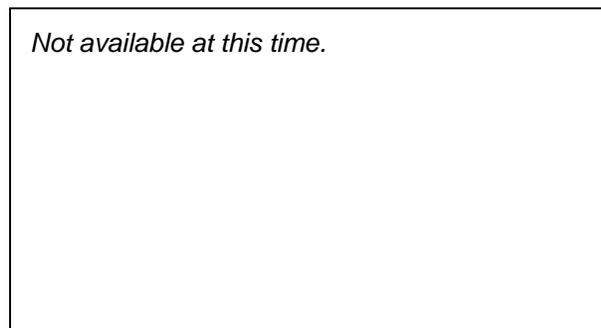
Figure 1.4 – Town of Delton Zoning Map, 2006



Town of Fairfield

Approximately 24% of the planning area is within the Town of Fairfield. In 1963, Sauk County Zoning adopted a County Comprehensive Zoning Ordinance, but the Town of Fairfield chose not to adopt the zoning ordinance. However, because of Fairfield’s agricultural and rural residential nature, and with rapid growth in neighboring communities, the Town of Fairfield’s Board placed a referendum on the November 1992 ballot to ask if citizens wanted to adopt a zoning plan. The citizens of Fairfield voted to adopt their own zoning and development plan and the planning commission began working on the plan in 1993 and adopted the plan in 1995. (Source: Town of Fairfield Comprehensive Plan, 2006)

Figure 1.5 – Town of Fairfield Zoning Map



The Town of Fairfield 1995 Development Plan consists of three planning and zoning districts:

- ❖ Agricultural Conservancy – which allows development only on existing lots of record
- ❖ Residential – which allows one home per five acres
- ❖ Subdivision Residential – which allows one home per two acres

It should be noted that planning and zoning districts are the same in Fairfield.

Town of Greenfield

Figure 1.6 – Town of Greenfield Zoning Map, 2006



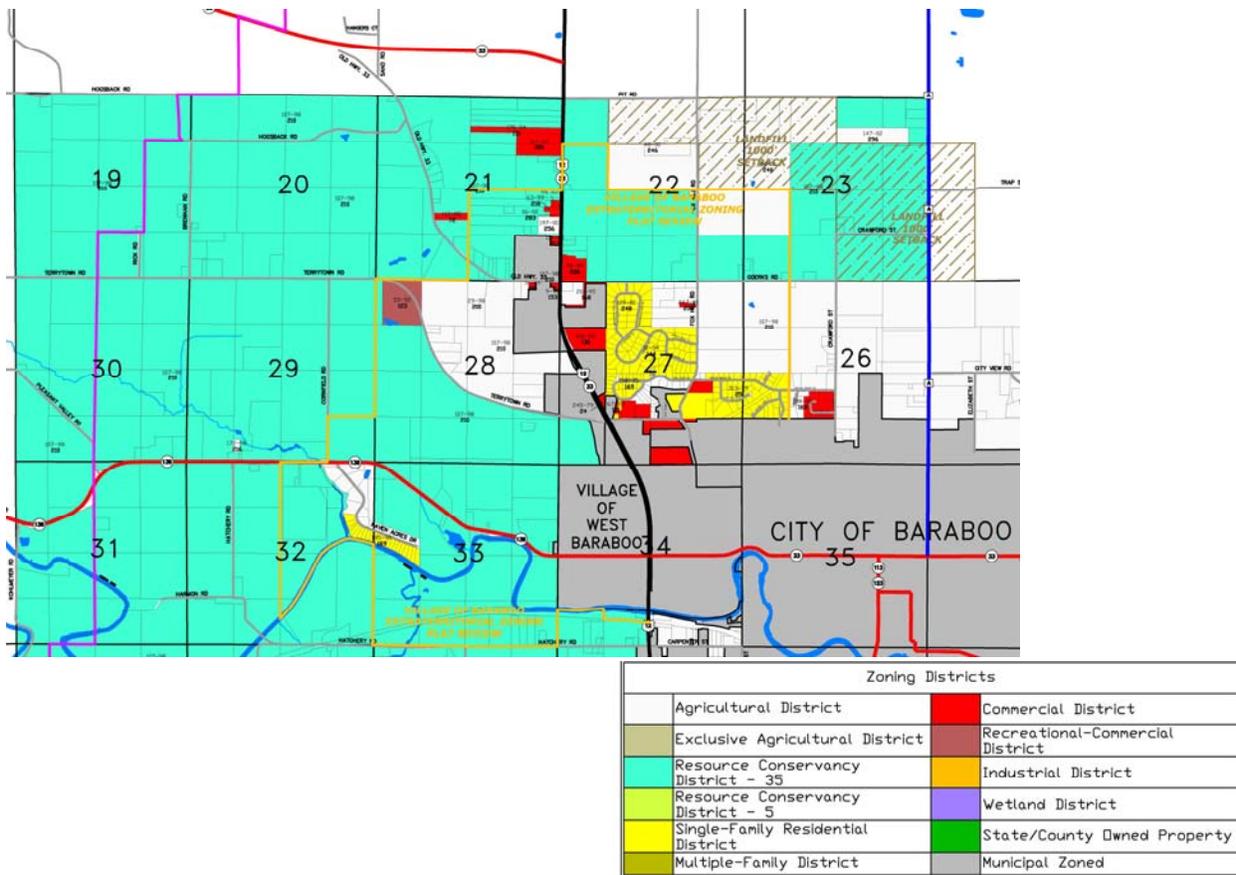
Only a small percentage (approximately 1.3%) of the planning area is within the Town of Greenfield. This land is located in Section 30 of the Town, east of CTH T. Greenfield is zoned under the authority of the Sauk County Zoning Code. The zoning for this area is Resource Conservancy District – 35, which allows one single-family dwelling for the owner of a lot or parcel over 35 acres.

Town of Baraboo

Approximately 25% of the planning area is within the Town of Baraboo, which is zoned under the authority of the Sauk County Zoning Code. The majority of the land within the planning area is zoned as Resource Conservancy District - 35, which allows one single-family dwelling for the owner of a lot or parcel over 35 acres. In addition, a few commercially zoned properties are located along USH 12 and Old STH 33. There is a significant amount of residential development in section 27 & 26. These lands are zoned as Single Family Residential, but allow for two family or mobile home parks as conditional uses. The minimum lot size within this District is 1.5 acres, as established by the Town’s Land Division Ordinance. There is one parcel zoned for Recreational-Commercial along Terrytown Road.

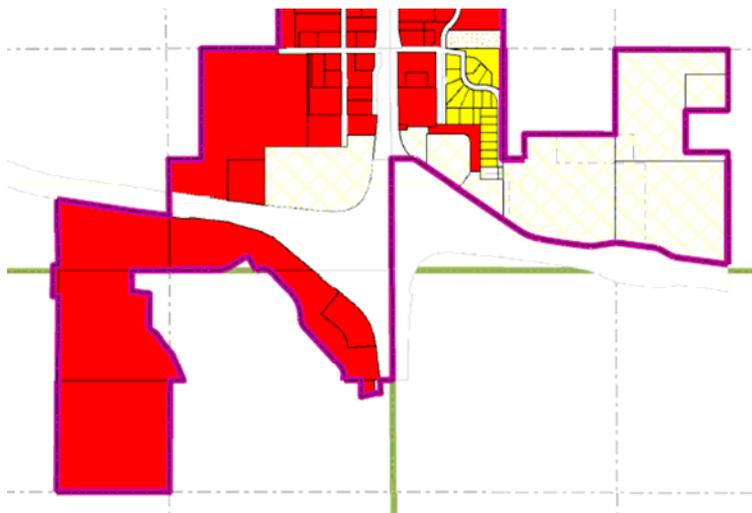
27 & 26. These lands are zoned as Single Family Residential, but allow for two family or mobile home parks as conditional uses. The minimum lot size within this District is 1.5 acres, as established by the Town’s Land Division Ordinance. There is one parcel zoned for Recreational-Commercial along Terrytown Road.

Figure 1.7 – Town of Baraboo Zoning Map, 2005



Village of Lake Delton

Figure 1.8 – Village of Lake Delton Zoning Map, 2005



Within the Village of Lake Delton, land within the planning area is either zoned as Commercial (red) or Planned Unit Development (yellow hatching). The existing land uses within this area includes several hotel and water resorts.

1.3 Height Limitations

The FAA (Federal Aviation Administration) requires public airports to adopt and impose limitations for the height of buildings and vegetation within the vicinity of an airport. The purpose of the ordinance is to reduce the potential for aviation crashes and property damage near an airport. The Wisconsin Bureau of Aeronautics (BOA) created the original height limitations map for the airport. The attached Baraboo-Dells Airport Height Limitations District Map displays the maximum permitted elevation of buildings & vegetation within the planning area. Additional information can be found under Chapter 26 of the City of Baraboo Zoning Code. The height provisions in a height limitation zoning ordinance (HLZO) supersede zoning in every municipality within three miles of the airport.

At the request of the City of Baraboo Administration Committee, MSA overlaid contour data to the Height Limitations Map to verify what the general permitted height of buildings & vegetation is within the planning area. According to the BOA, the airport has an elevation of 979 feet. According to the HLZO, properties immediately adjacent to the airport have a maximum building and vegetation height ranging from 1,011-1,039 feet. Therefore, it appears that the smallest maximum permitted height adjacent to the airport is between 32-60 feet, depending on the proximity to the end of runways. The maximum permitted height of buildings and vegetation generally expands the further a property is from the airport, in some cases exceeds 300 feet near the outer edge of the planning area. These numbers represent rough guidelines, the maximum permitted height of buildings and vegetation on a parcel of land should be determined by comparing a survey of the property to the HLZO. Due to the scale of the planning area, it was not feasible to display the contour data on the Height Limitation District Map.

1.4 Future Land Use Plans

The land within the planning area falls within the jurisdiction of eight communities, City of Baraboo, Village of West Baraboo, Village of Lake Delton, Town of Baraboo, Town of Delton, Town of Fairfield, Town of Greenfield, and Sauk County. Since each of these communities regulates land use planning within their jurisdiction, it is important to review and consider any future land use plans before developing the airport overlay ordinance. The following section provides a brief description of the growth pressures facing each community and a review of each community's future land use plan (per an updated local comprehensive plan) for land which falls within the airport's planning area.

Table 1.2 - Population Statistics & Projections

Population	City of Baraboo	Village of West Baraboo	Village of Lake Delton	Town of Baraboo	Town of Delton	Town of Fairfield	Town of Greenfield	Sauk County
Total Population (1970)	7,931	563	1,059	1,158	846	658	741	39,057
Total Population (1980)	8,081	846	1,158	1,545	1,426	819	719	43,469
Total Population (1990)	9,203	1,021	1,466	1,503	1,599	826	758	46,975
Total Population (2000)	10,711	1,248	1,982	1,828	2,024	1,023	911	55,225
Percent Growth (1970-2000)	35.05%	121.67%	87.16%	57.86%	139.24%	55.47%	22.94%	41.40%
Total Population (2010)	11,536	1,373	2,639	2,019	2,395	1,115	1,017	60,930
Total Population (2020)	12,224	1,472	3,232	2,193	2,728	1,193	1,112	65,821
Total Population (2030)**	12,926	1,565	3,619	2,343	2,973	1,267	1,192	70,185
Projected Growth (2000-2030)	20.7%	25.4%	82.6%	28.2%	46.9%	23.9%	30.8%	27.1%

Source: US Census, Projection WIDOA, **MSA Projection for Municipalities

Table 1.3 estimates the number of new households each community is projected to add in order to accommodate the growth in population.

Table 1.3 – Household Statistics & Projections

Households	City of Baraboo	Village of West Baraboo	Village of Lake Delton	Town of Baraboo	Town of Delton	Town of Fairfield	Town of Greenfield	Sauk County
Total Households (2000)	4,467	477	897	685	747	388	351	21,644
Total Households (2010)	4,964	542	1,232	781	913	436	404	24,689
Total Households (2020)	5,432	601	1,560	877	1,075	483	457	27,582
Total Households (2030)**	5,857	651	1,780	958	1,199	526	502	30,082
New Housing Starts (2000-2030)	1,390	174	883	273	452	138	151	8,438

Source: US Census, Projection WIDOA, **MSA Projection for Municipalities

It should be noted that the Wisconsin Department of Administration (DOA) projection methodology tends to rely heavily on past population trends. Given recent market conditions, it may be likely that the true amount of growth falls below this figures. In addition, the WIDOA states that...

“Local geophysical conditions, environmental concerns, current comprehensive land use plans, existing zoning restrictions, taxation, and other policies influence business and residential location. These and other

similar factors can govern the course of local development and have a profound effect on future population change were not taken into consideration in the development of these projections.”

Estimating precisely how much of the projected growth is likely to occur within the airport’s planning area is difficult. However, some assumption can be drawn by reviewing the future land use plans of local comprehensive plans.

Many of Wisconsin’s municipalities have completed, or are in the process of completing, comprehensive plans to meet the requirements of s. 66.1001. Under the Comprehensive Planning legislation [s. 66.1001 Wis. Stats.], adopted by the State in October of 1999 and also known as “Smart Growth,” beginning on January 1, 2010 if a community engages in any of the actions listed below, those actions shall be consistent with its comprehensive plan:

- Official mapping established or amended under s. 62.23 (6)
- Local subdivision regulations under s. 236.45 or 236.46
- County zoning ordinances enacted or amended under s. 62.23 (7)
- Town, Village, or City zoning ordinances enacted or amended under s. 60.61, 60.62, 60.23 (7)
- Zoning of shorelands or wetlands in shorelands under s. 59.692, 61.351 or 62.231

Once completed these comprehensive plans will guide future land use decisions for communities. The following is a review of the future land use plans from the communities who have land within the airport planning area.

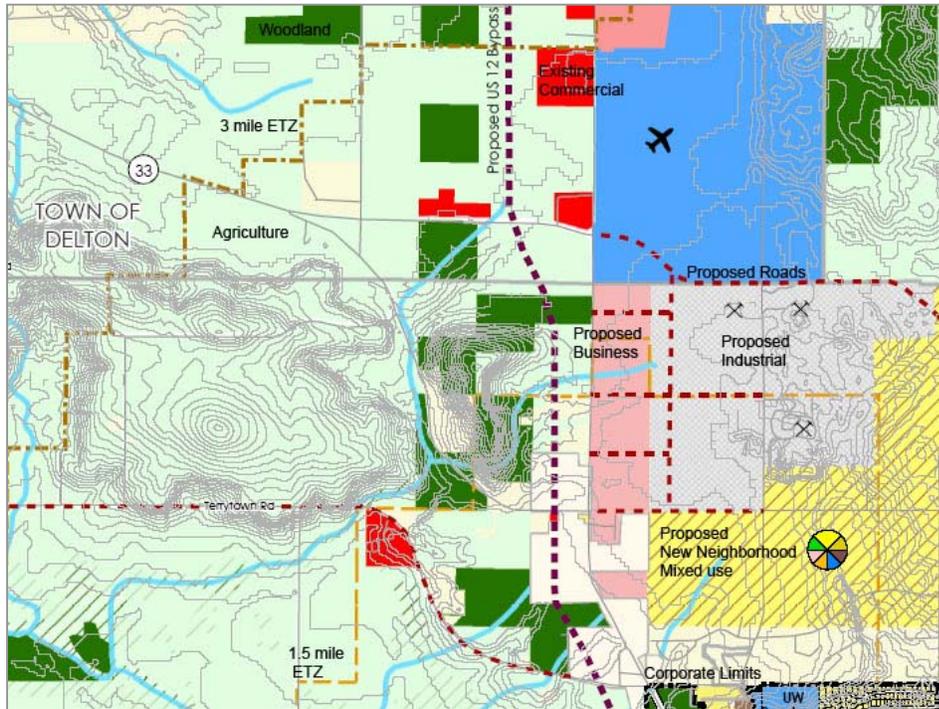
City of Baraboo

The City of Baraboo completed their comprehensive plan in 2005. The Plan provides planned land uses extending 3 miles from the corporate limits. Most of the land outside of the City’s corporate limits is planned for Agriculture/Rural/Vacant, which recommends continued agricultural uses and densities not to exceed one home per 35 acres. Other highlights include:

- ❖ Planned business growth along USH 12 from Old STH 33 to the southern boundary of the airport.
- ❖ Planned industrial growth south of Pit Road and north of Goerks Road.
- ❖ Planned neighborhood development between the existing corporate limits and the planned industrial area. Within the planned neighborhood designation, the Plan recommends approximately 70% of the dwelling units be single-family, 10% be two-family, and 20% be multi-family units.

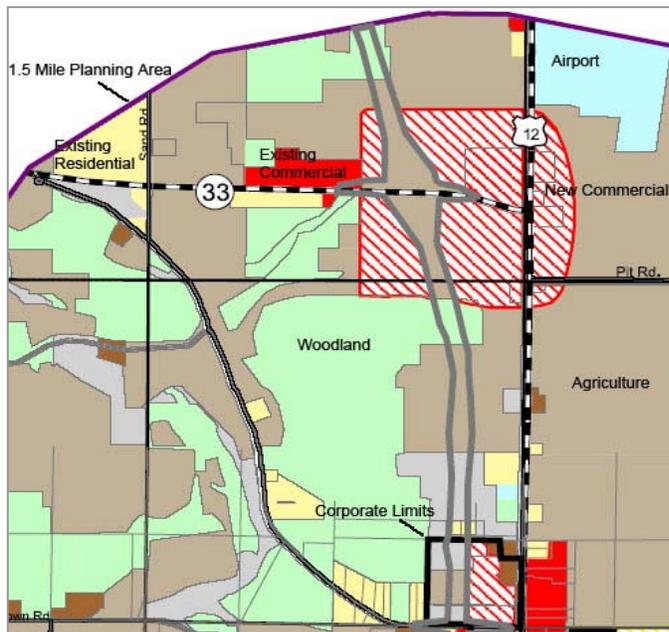
In general, the City’s Planned Land Use Map minimizes future land use conflicts with the airport by proposing either agricultural or business uses adjacent to the airport, while keeping away residential development at a comfortable distance.

Figure 1.9 – City of Baraboo Planned Land Use Map, 2005



Village of West Baraboo

Figure 1.10 – Village of West Baraboo Proposed Land Use Map, 2004



The Village of West Baraboo completed their comprehensive plan in 2004. The Plan provides proposed land uses extending 1.5 miles from the corporate limits. Most of the land outside of the Village’s corporate limits is planned for Agriculture, which recommends continued agricultural uses and densities not to exceed one home per 20 acres. Other highlights include planned commercial development at the intersection of STH 33 & USH 12. In general, the Village’s map corresponds well with the City of Baraboo’s regarding keeping business development along USH 12 and limiting residential development near the airport.

Town of Delton

Figure 1.11 – Town of Delton Future Land Use Map, 2008



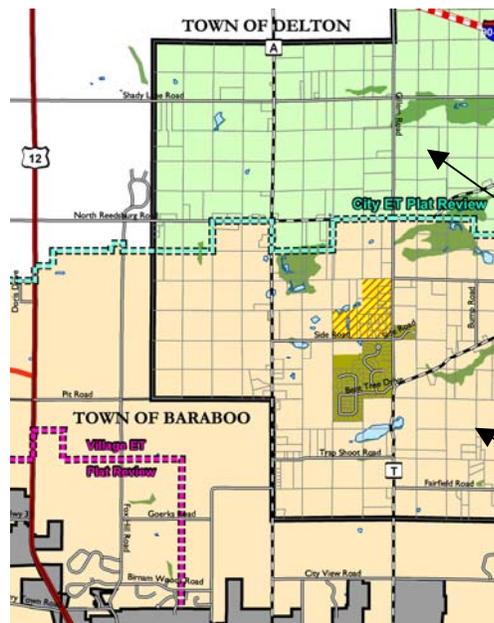
The Town of Delton is in the process of completing their comprehensive plan, which should be completed by the summer of 2008. Before beginning, the process the Town adopted a moratorium on new subdivisions until the plan is completed. Although the plan is not complete, local officials anticipate the future land use plan will allow commercial development along USH 12. The demand for commercial development is likely to

increase after the construction of the new USH 12 bypass (refer to section 1.5). However, local officials did not know of any business development plans or proposals for this area to date.

Local officials noted there are approximately 50 vacant platted residential lots off Mirror Lake Road in the Buckhorn, Delton Woods, and Hunters Glen subdivisions. The Town also indicated that there is approximately 100 acres, owned by Thomas Webb, which has the potential to develop as a southern expansion to the Hunters Glen subdivision. (Source: Interview with Town Officials November 2007)

Town of Fairfield

Figure 1.12 – Town of Fairfield Planned Land Use Map, 2006



The Town of Fairfield adopted their comprehensive plan in January of 2006. Outside of the existing subdivision along CTH T & Side Road, the airport planning area is divided into one of two planned land use categories: Agricultural Conservancy or Extraterritorial Planning District.



The policies for these districts are as follows:

- ❖ Agricultural Conservancy – Continue to enforce the Town’s adopted policy to allow one home per existing tax parcel. Evaluate changes to this policy and zoning that will allow for clustered housing to provide additional flexibility while maintaining agricultural resources. Rezoning for subdivisions is not allowed within this district.
- ❖ Extraterritorial District – Planned uses and densities will be coordinated with the City of Baraboo’s Comprehensive Plan, one home per 35 acres, with the a recommendation to allow for clustering of homes, without exceeding the overall density.

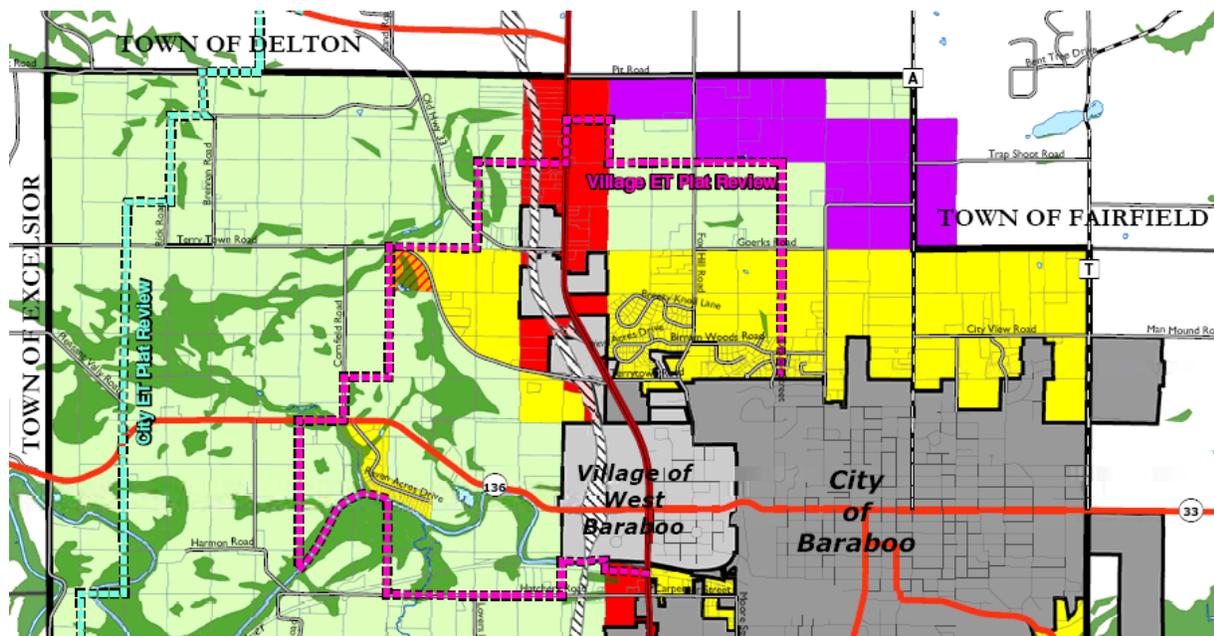
In general, the Town’s Planned Land Use Map minimizes future land use conflicts with the airport by proposing either agricultural or low-density residential uses within the vicinity of the airport. However, it is unclear exactly how the Town defines the “one home per existing tax parcel.” The comprehensive plan recommends the Town further define this policy.

Town of Greenfield

The Town of Greenfield adopted their comprehensive plan in January of 2006. The small portion of the airport planning area located in the Town falls within their Agriculture Preservation planned land use district. The Agriculture Preservation District seeks to limit conflicts between development and viable agricultural lands and operations. The plan and supporting ordinances provide standards and buffers to limit conflicts. The plan recommends the use of conservation principles to limit residential encroachment upon agricultural lands. Clustered housing and density-based zoning options are preferred implementing tools to support this district. The Town’s plan does not pose any conflicts with the airport.

Town of Baraboo

Figure 1.13 – Town of Baraboo Land Use Plan, 2006



Land Use Plan

Legend

Land Use Districts

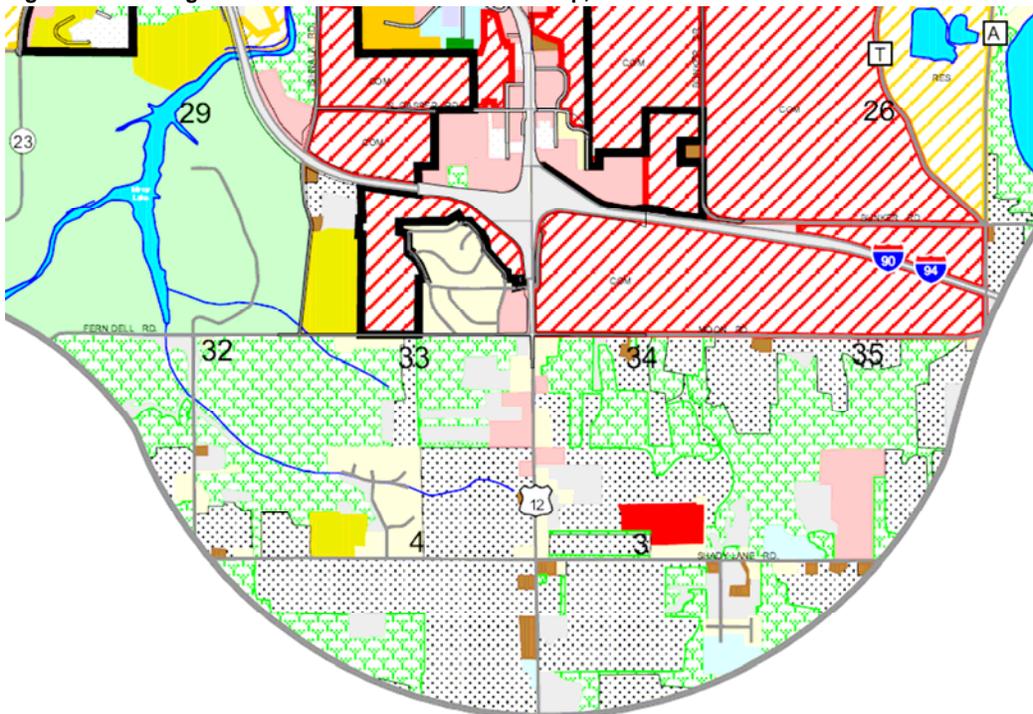
- Agricultural Resource Conservation
- Commercial
- Landfill 1200' Setback
- Park / Public Property
- Limited Recreation - Commercial
- Sanitary District Mixed Use
- Residential
- Environmental Conservancy District
- C. Baraboo Extraterritorial Plat Review
- W. Baraboo Extraterritorial Plat Review
- Potential US 12 Realignment

The Town of Baraboo adopted their comprehensive plan in August of 2005. The Planned Land Use Districts generally correspond to the Sauk County Zoning Districts. The comprehensive plan calls for additional residential growth north of the City of Baraboo and Village of West Baraboo to Terrytown Road & Goerks Road. Per the Town’s Land Division Ordinance the minimum lot size is 1.5 acres, with the potential to reduce the minimum lot size for conservation subdivisions. This area generally corresponds to the same areas planned for residential growth by the City and Village, although at different densities. Other similarities with the City & Village comprehensive plans include planned commercial development along USH 12.

The remaining portion of the airport planning area in the Town of Baraboo is planned for Agricultural Resource Conservation (ARC). In general, the plan does not allow rezoning of an agricultural zoning district within the ARC unless the land is identified on the plan map for such purpose. Subdivisions within this area (defined as three or more lots) are not permitted unless there is a change in the plan map. Cluster development is encouraged.

Village of Lake Delton

Figure 1.14 – Village of Lake Delton Future Land Use Map, 2003



The Village completed their comprehensive plan in 2003. The plan proposes continued commercial development around the intersection of I-94/90 and USH 12. The plan does not propose any new future land uses for the portion of the airport planning area south of Moon Road/Fern Dell Road. This land use pattern does not pose immediate problems for the airport since the area planned by the Village for future commercial development is more than 2.5 miles from the airport. However, the continued development of large electronic billboards and additional building lighting could pose a conflict with pilots' ability to see runway lights during night landings.

1.5 Other Notable Land Uses within the Planning Area

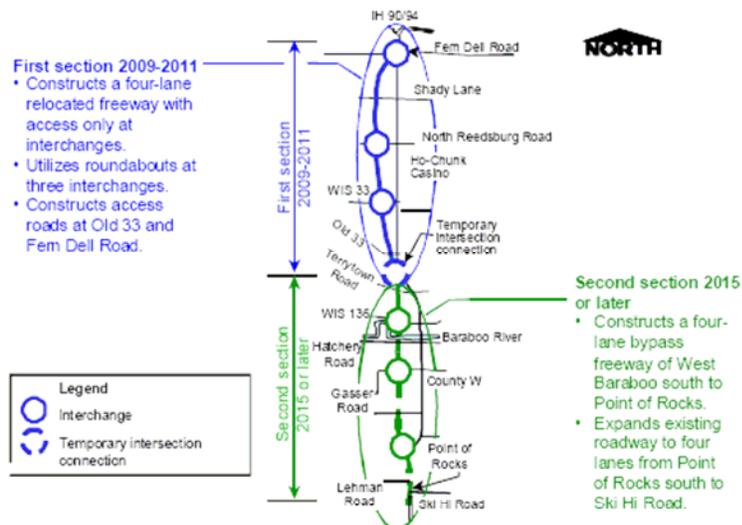
Three other notable land uses within the airport planning area include the proposed USH 12 Bypass, the Ho-Chunk Hotel & Casino, and the International Crane Foundation.

Proposed USH 12 Bypass



Many of the proceeding comprehensive plans take into account the proposed USH 12 Bypass. The Wisconsin Department of Transportation (DOT) has proposed to construct a new limited access US 12 bypass from I-94/90 to the City of Middleton. In 2003, the Highway 12 Local Planning Assistance Advisory Committee, comprised of Sauk County, local governments along USH 12, and the Ho-Chunk Nation developed a set of recommendations in a document called the Highway 12 Corridor Growth Management Plan. The Growth Management Plan provides a vision and detailed recommendations regarding areas for development, preservation of natural areas and farms, protecting community appearance and views, promoting appropriate economic development, and making the most of transportation improvements.

Figure 1.15 – Proposed USH 12 Bypass, I-94/90 to Ski Road



Plans call for the construction of a four-lane relocated freeway from Fern Dell Road to Terrytown Road during between 2009-2011. A section phase of construction would begin after 2015 and would construct a four-lane bypass freeway of West Baraboo south to Ski Hi Road.

Source: WisDOT USH 12 Spring 2006 Newsletter

In the summer 2003, the Advisory Committee and the governing bodies of eight of the ten participating communities adopted or endorsed the

Plan. On October 21, 2003, the Sauk County Board of Supervisors adopted the *Growth Management Plan*. Although only discussed briefly here, the Growth Management Plan will remain as an important resource during the development of the airport overlay zoning ordinance.

Ho-Chunk Hotel & Casino

Adjacent to the airport the Ho-Chunk Nation own and operate a hotel, casino, and convention center.

[Note future site plans for the hotel and casino still needs to be verified with representatives from the Ho-Chunk Nation.]



International Crane Foundation



Approximately 1-½ miles north of the paved runway is the headquarters for the International Crane Foundation. The International Crane Foundation (ICF) works worldwide to conserve cranes and the wetland and grassland ecosystems on which they depend. The roughly 225-acre property contains approximately 150 captive cranes and is the only place in the world where a visitor can see all 15 species of cranes. The property offers a number of indoor and outdoor exhibits. The captive cranes are non-migratory birds and are kept in open-air exhibits with covered netting. Dave Jeski, Site Manager, noted that while the birds at the ICF can not leave the property they do tend to attract wild cranes to the area. Information from the BOA regarding the airport advises pilots to avoid flying over this area. Mr. Jeski has been working with the ICF for twenty years and could not recall any accidents caused by wild cranes interfering with aviation operations.

The ICF completed a Master Plan for their facilities in 2005. According to Jeski, the ICF does not have any immediate plans to expand operations; however, the ICF is interested in purchasing adjacent properties in order to minimize the potential for incompatible development locating near the crane habitat.

1.6 Baraboo-Wisconsin Dells Municipal, Airport Layout Plan

The development of the airport overlay-zoning ordinance should consider the ultimate land use needs of the airport. The FAA requires the airport to maintain an Airport Layout Plan (ALP), which is a 20-year planning document that guides the growth and development of an airport and is used by decision makers when evaluating projects close to the airport to ensure compatible land uses for the ultimate airport development. The Baraboo-Dells ALP was last updated in 1990. Potential projects include:

- ❖ Primary Runway – extend from 4,800’ to 5,350’ and widen from 75’ to 100’
- ❖ Turf Runway – extend from 2,715’ to 3,000’, narrow from 100’ to 75’ and pave
- ❖ Expand associated aprons and taxiways

Both runway projects are listed within the BOA’s five-year Airport Improvement Program (AIP) for construction in 2011. Inclusion in the AIP does not guarantee the Baraboo-Dells Airport will receive funding for the project, or that local matching dollars will be available. The AIP lists, at best, an estimate as to when these projects could take place. Additional environmental studies and approvals would have to occur before construction could take place. Neither runway expansion will necessitate vacating North Reedsburg, Fox Hill, or Pit Roads.

A copy of the ALP is attached to the end of this memorandum.