

Chapter 5—Land Use

Introduction

Land use is at the core of the topics covered in a Comprehensive Plan. It defines a primary way of thinking about the physical growth of the community. It also is essential to the function of zoning because it provides the strategy upon which zoning should be based.

Existing Land Use

The existing land use pattern for the City of Madison includes a strong central business district surrounded by residential development, with industrial development located along the railroad that runs east and west through the entire city south of the central business district. Other key elements of the distribution of land uses in Madison include:

- The Dakota University campus is located north of the central business district.
- The Madison Municipal Airport is located along the eastern perimeter of the City.
- A relatively new industrial park is located along the southern edge of the City.
- An older mix of industrial uses including agricultural warehousing and manufacturing are located along the western edge of the City.
- Several newer community facilities are located along the northern perimeter of the City. These include the new elementary school, the middle school, the high school, and a community recreational building.

Figure 5.1 illustrates the existing land use pattern.

Constraints and Opportunities. A number of constraints and opportunities which should influence how future land uses are organized in and around the City of Madison are illustrated in Figure 5.2. The constraints include:

- Need to preserve land for future urban density development
- Need for areas of stormwater retention and detention.
- Wetlands and areas prone to flooding
- Need to protect the vitality of the central business district
- Need to protect areas around the airport from inappropriate levels of development
- Railroads
- Areas where there are conflicts or potential conflicts between existing land uses
- Need to prepare for anticipated demographic and housing market changes.

One of the key uses of a comprehensive plan is to identify an overall pattern of appropriate land uses for infill areas and for new development areas. It is essential that land around the existing city limits be reserved for future urban development. If this is not done:

- Appropriate infrastructure planning cannot be done to ensure future services have the capacity to meet future development needs.
- The potential for conflicting land uses is likely to be much higher.
- Opportunities for efficient future development patterns will be lost.

A related constraint is the existing distribution of industrial land. While most land uses can adjoin each other if care is taken to provide landscaping buffers or mitigate the off-site impacts by other means, it is often more difficult to mitigate the impacts of industrial uses. Currently, the City has industrial development located in the southwest, through

FIGURE 5.1

Madison Comprehensive Plan
EXISTING LAND USE

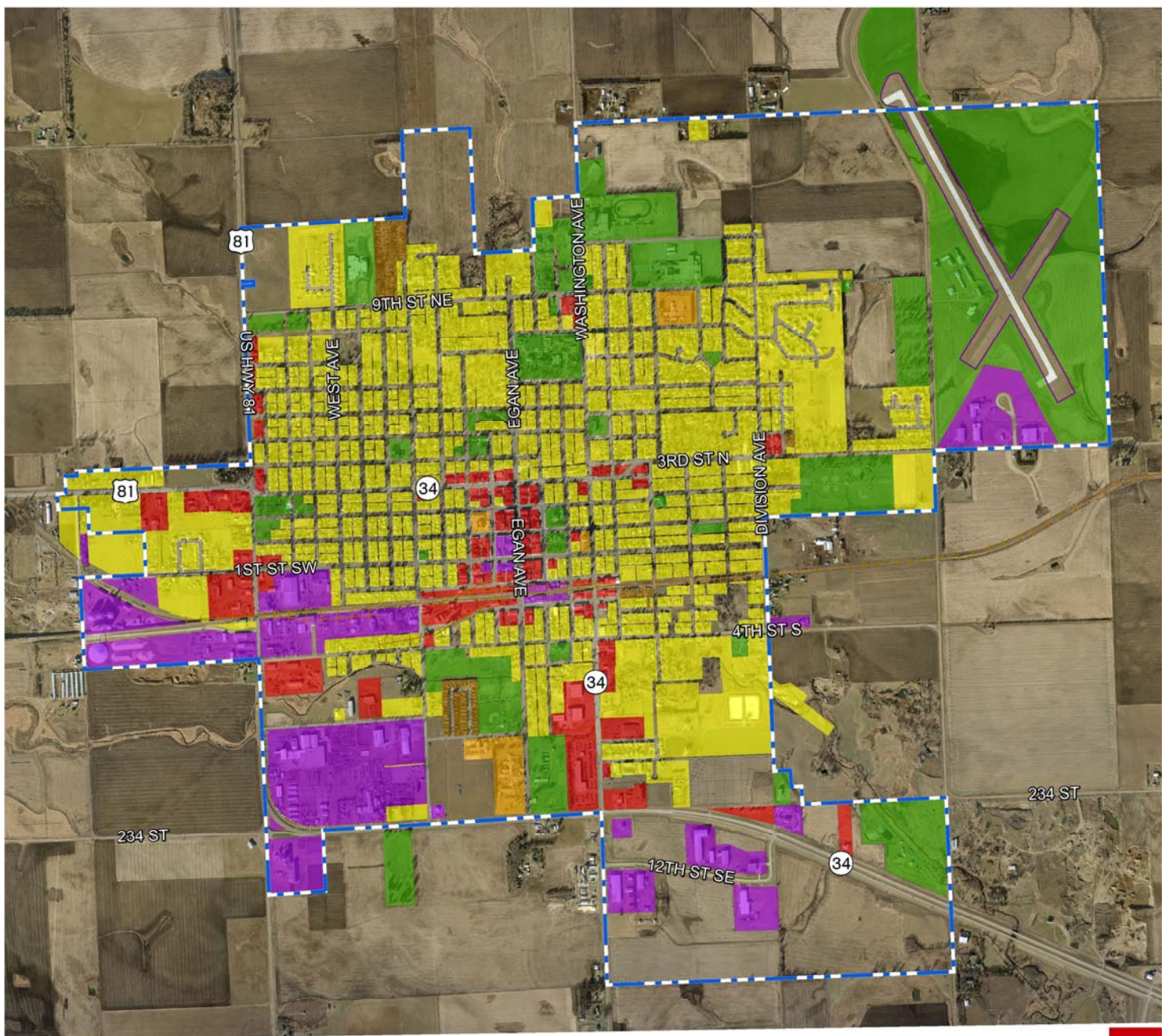
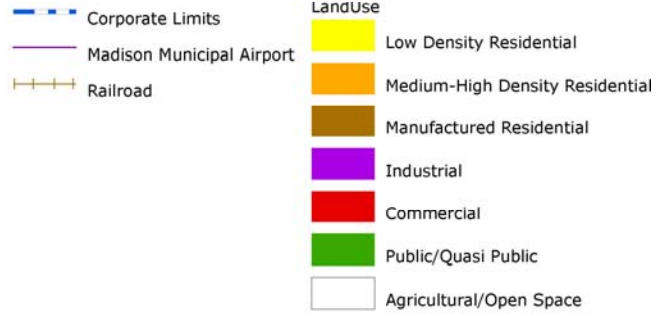
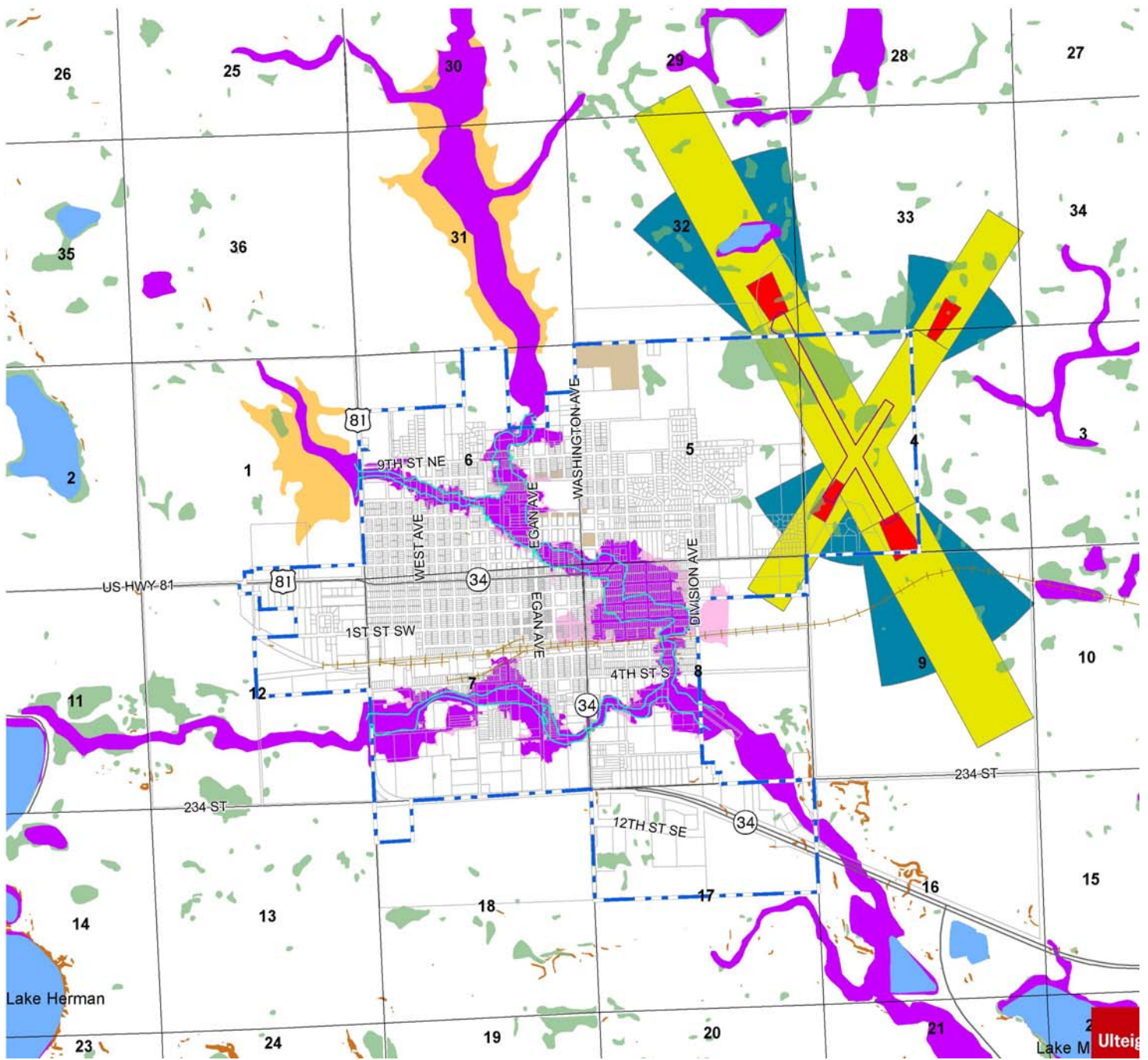


FIGURE 5.2

DEVELOPMENT CONSTRAINTS
Madison Comprehensive Plan



*Madison Airport Working Papers - KL&J (2008)
 **DSU Campus Planning Study - Koch Hazard Baltzer (1994)
 ***Lake Cnty DFIRM - ICON Engineering (2008 draft)
 ****Drainage Basin Storage and Soil Erosion Prevention Study
 Banner Engineering (1995)



the middle of the city, along the south edge and along the east edge.

As urban density development occurs in and around Madison, there will be changes in the drainage patterns which could affect other land in the vicinity. In order to mitigate these potential impacts, it is essential that appropriate locations be reserved for future stormwater management. As further discussed in the Utilities Chapter, a master plan for stormwater management and flood control should be prepared and incorporated into the future land use plan.

The draft Lake County DFIRM defines areas in and around the City of Madison which have a 1 percent chance of being flooded in any given year. This 1% chance flood area could have significant impacts on development in and around the City. Efforts should be made to coordinate land use with the existing terrain and especially areas anticipated to be located within the 1% chance floodplain.

Airports have specific areas of risk where development restrictions are appropriate. As a rule of thumb, the closer property is to the end of a runway, the lower the intensity of land use which should be allowed. Figure 5.2 identifies areas around the airport called “airport safety zones” for which the intensity of development should be limited. Table 5.1 describes these zones. Zone 1 is located just off the end of the runways and since it has the highest levels of risk, it needs the greatest level of restriction on the intensity of land use. Zone 2 also has relatively high levels of risk and should have a high restriction level. Zone 3 has more moderate risk levels and may therefore have lesser development restrictions.

Table 5.1. Airport safety zone descriptions and risk levels (KLJ 2008)

Compatibility Zone Recommendations					
Zone	Residential Density	Other Uses People per Acre		Additional Criteria	
		Average	Single Acre	Unaccepted Uses	Other Conditions
1	0	0	0	No structures except ones with location set by aeronautical function	<ul style="list-style-type: none"> ■ No assemblages of people for any purpose or duration of time
2	Rural areas: maintain density Suburban: 1 dwelling per 10-20 acres	25	50	Uses involving of large concentrations of children, elderly, or involving hazards	<ul style="list-style-type: none"> ■ Locate structures maximum distance from extended runway centerline ■ No critical community infrastructure ■ Avigation easement dedications
3	Rural areas: maintain density Suburban: 1 dwelling per 2-5 acres	80	160	Uses involving of large concentrations of children, elderly, or involving hazards	<ul style="list-style-type: none"> ■ No critical community infrastructure ■ Avigation easement dedications

Railroads were often the key factor in initial development of cities in the Dakotas. Since they were a primary means of freight hauling during the settlement period, central business districts were often developed next to the railroad. This is the case in Madison. Over time industrial uses developed along side the railroad so that there is a thin strip of industrial development running along the railroad through the center of the City. Ideally there would be one or two grade separated crossings to allow free flowing road traffic at all times. Despite the low rail traffic, there are inevitable conflicts between rail and road traffic. Since the railroad dead ends in Madison, it is not subject to as much train traffic as many communities. The railroad also is an opportunity because there is potential for additional rail spurs to be developed to serve future industrial development on the east side of Madison.

Gateway appearance was another significant land use issue identified during the comprehensive plan development. The City's image consists of impressions and visual representations called to mind when the City of Madison is mentioned. It is in the City's best interest to cultivate and maintain a strongly positive image, which is shared by a majority of its residents, neighbors, and visitors. The community features that contribute to Madison's image are historic public architecture like the library and some of the DSU campus buildings, Lakes Herman and Madison, city parks, trails, and recreation areas, public facilities, and the consistently well-maintained downtown storefronts. First impressions are of great importance for a positive community image. The entry points into the City of Madison need to convey an attractive, welcoming appeal. Nuisance enforcement and development standards should be used to ensure that community entrances are attractive. Development standards that encourage landscaping, aesthetic building and parking lot design, consolidation of driveways, and sign requirements are also needed.

Future Land Use Strategy

Based on natural features, existing land use patterns, potential future primary road system, potential stormwater and floodplain management solutions, and the constraints and opportunities previously noted the following future land use strategy was designed. This land use strategy addresses proposed areas for development and redevelopment in and around the City of Madison.

Industrial Land Use. Over time, the existing sprawl of industrial land use locations should be consolidated, and especially in the heart of the city, turned into higher intensity uses such as multi-family dwellings and mixed uses. The existing LAIC Industrial Park should be fully utilized, but plans for additional industrial growth areas should be made now. The primary future industrial land should be sited adjoining the airport. This area is readily served by the existing 457 Avenue. The existing agricultural industrial area on the southwestern edge of the City should be reserved for future agricultural industrial expansion. Keeping these uses at this edge of the City maximizes the distance of bird attractants from the airport.

Low Intensity Industrial Land Use. Areas inside the airport safety zones should be managed with an airport safety zone overlay district to limit usage intensity to appropriate levels.

Residential Land Use. Based on the available utility infrastructure data, it appears that the largest areas where additional urban development can occur with the least utility investment are located at the northern and northwestern edges of the City. These areas are

where most recent residential development has occurred. The proximity to schools is another reason to encourage short term residential growth in these areas. The whole north side of Madison should not be assumed as available for development due to the constraints posed by the airport safety zones and the reservation of land for future stormwater management as illustrated in Figure 5.2. The outlook for housing demand as discussed in the 2007 Madison Area Housing Study suggests that the total housing demand from 2008 through 2015 will include:

- approximately 96 new single family residences at market rates,
- approximately 40 homes in the affordable home category,
- approximately 30 units of market rate rental housing, and
- approximately 24 units of replacement rental housing with moderate rents.

All of these housing units could possibly be constructed on new development lots at the perimeter of the City. Based on conservative calculations, there may be room for up to 279 new lots in the northwestern edge of the City alone. The northeastern edge of the City should be allowed to develop with market rate single family housing without any incentives.

Medium Density Residential Land Use. If a detailed utility analysis concurs with the apparent least cost investment being the north and northwest side of Madison, the northwestern and north central edge of the City should be targeted as an area for affordable housing. The anticipated minimum utility investment will provide a good start to reducing lot costs and keeping overall housing costs affordable. Depending on the strategies utilized, it may be feasible to mix in some of the new market rate single family and rental housing, as well.

Central Business District. Madison has a thriving central business district. In order to maintain this favorable condition Madison must manage the type and location of commercial development in the community. A common problem is inattention to commercial development patterns that causes new commercial growth on the fringe of the city at the expense of the central business district. This can result in loss of local businesses and reduction in property values in the central business district.

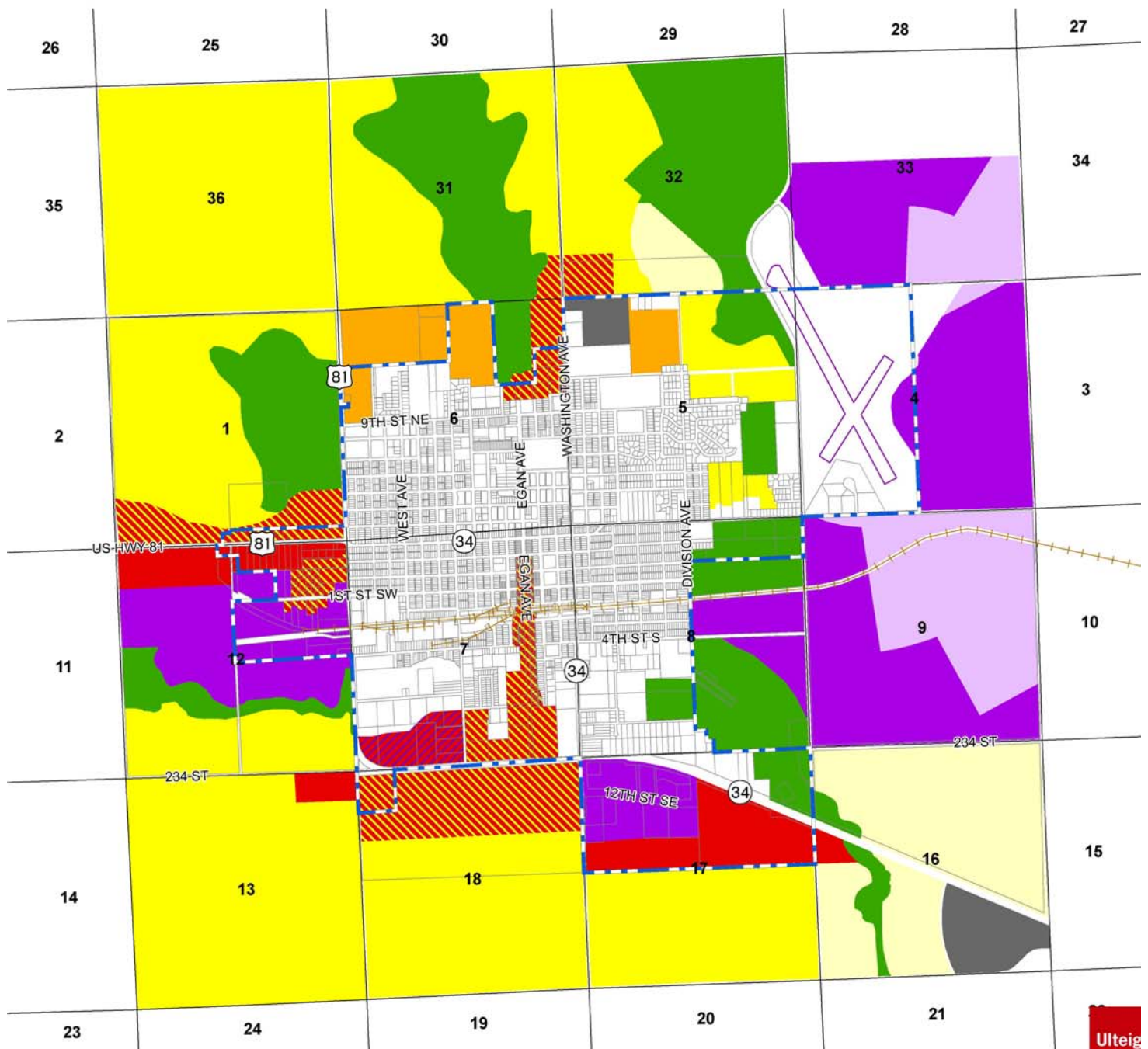
Downtowns in many parts of the U.S. have been experiencing resurgence in recent years. While downtowns were originally built as mixed use centers which included residential uses, since the 1970's they have been largely centers for commerce and entertainment. However, the high downtown vacancy rates of recent years have actually pointed to new opportunities. The demographics of city dwellers are changing and a large segment of the urban population is interested in the housing options which downtowns can provide. It is only when downtowns start to add more residential opportunities that they will be able to function as mixed uses. Future land use patterns should be designed to protect the integrity of this vital area in the community.

The potential for turning old industrial development in the heart of the City into new mixed use and multi-family development should be strongly encouraged. Opportunities to create a higher density corridor of uses along Egan Street should be carefully explored.

Commercial Land Use. As noted previously care must be taken to avoid damaging the healthy central business district by indiscriminate fringe area commercial growth. Required lot size is one way to help differentiate land uses which may be best located at the perimeter of the City. Large lot commercial development such as vehicle sales lots and

FIGURE 5.3

FUTURE LAND USE
Madison Comprehensive Plan



agricultural equipment dealerships should be located in areas designated for commercial use along the southern and southeastern edge of the City as illustrated in Figure 5.3. The commercial types of uses are intended to act as a buffer between future residential development further to the south and industrial land uses which may not be good neighbors for residential land use. However, some commercial uses can create just as much conflict as industrial uses. Therefore, additional buffering may be required to mitigate such impacts.

Mixed Land Use. Mixed use development refers to intermingled residential and commercial uses, especially where the upper floors of multistory structures are used for residential purposes and the ground floor for commercial purposes. In order to respond to the growing trend for housing alternatives especially among empty nesters and young seniors, mixed use developments which are amenity rich should be provided. Egan Avenue is a prime location for redevelopment into this kind of mixed use activity. Creating this higher density use along Egan Avenue will support the central business district by drawing activity to a direct link all the way from the perimeter of the City to the heart of downtown. The following pictures illustrate some of the varieties of mixed use development.

Parks/Open Space. The City has a wealth of green space and open space due to the waterways flowing through the community and to existing parks and recreational areas. Madison should build on the opportunity presented by the need for stormwater retention and detention, as well as those areas which are prone to flooding to create an expanded trails, parks and open space system which rejuvenates some of the residential areas which are in decline. The stormwater detention areas designated by 1995 Drainage Basin Storage and Soil Erosion Prevention Study are primary areas to reserve for future parks/open



Mixed Use Developments

Activates urban areas during more hours of the day. A mix of uses eliminates the problems of residential areas that are unpopulated during the day and commercial areas that are desolate after business hours. Mixed-use areas have populations and activities around the clock, making them more vibrant and safe.

Increases housing options for diverse household types. Mixed-use areas often have higher density housing types, such as apartments and townhouses, close to amenities that provide greater housing options for the increasingly diverse household types that populate the United States. Pictures 1 and 3 illustrate diverse housing options.

Reduces auto dependence. Mixed-use areas provide a variety of services and activities within a walkable distance of housing, allowing residents to conduct more of their daily activities without depending on automobiles. Reduced auto dependence especially provides greater independence for seniors and children who are otherwise often trapped in suburban, auto-dependent locations. Pictures 2 and 4 illustrate pedestrian accessible stores and services to the surrounding residential neighborhoods.

Increases travel options. Mixed-use areas, if well designed, can comfortably support pedestrian, bicycle, transit, and automobile traffic.

Creates a local sense of place. Although difficult to quantify, mixed-use areas can create a vibrant sense of local place and community. They support pedestrian movement and, with more people on the street, provide increased opportunities for neighbors to meet and interact. Pictures 2 and 4 illustrates a sense of place which creates inertia for more activity and ultimately a stable and higher tax base.

space. They should not have permanent structures located in them, but could have bike trails, picnic shelters, and other amenities related to parks and open space constructed along their perimeter. As detailed in the Parks, Recreation and Public Facilities Chapter, efforts should be made to develop a contiguous greenway along the waterways inside existing city limits.

Semi-Public. There are two semi-public land areas in Figure 5.3. One is land intended for future DSU expansion. The other is land containing wastewater treatment ponds which is unlikely to be developed into any other private or public uses. Urban development adjoining the ponds may not be a good fit due to nuisance characteristics.

Extraterritorial Area Management.

The future land use map identifies land uses outside the city limits in order to address long term land use needs. A city's authority to regulate land outside its municipal boundary is called "extraterritorial authority" and the area to which this authority applies is called "extraterritorial jurisdiction." In South Dakota, a city may unilaterally regulate the division of land (platting) up to three miles beyond its municipal boundary. However, a city may not regulate the land use (zoning) outside its municipal boundary unless it participates in a joint zoning jurisdiction with the applicable county or the county relinquishes its zoning authority to the city. The maximum area of extraterritorial zoning jurisdiction is 6 miles beyond municipal boundaries. Madison already exercises its extraterritorial platting authority. In order to protect the future land use needs of the City, Madison should seek one of two options with Lake County:

- A joint zoning jurisdiction with Lake County, or
- Request the County to change its zoning to protect land for future urbanization

In either case the ideal future development category for this land should be "Urban Reserve." This category should allow existing agricultural cropping and grazing operations, but should not allow rural residential development. Animal feeding operations or other activities which pose a nuisance or health hazard to residents of the City should also not be allowed. When development consistent with the City's future land use plan is proposed, the City should annex the proposed urban development area and provide services as any other part of the City. It cannot be over-emphasized that the wrong development in the right place at the perimeter of the City can foil the most reasonable and financially sound future growth of the City.



Future Land Use Recommendations. The previously described future land use strategy requires the following actions in order to implement the strategy:

- Initiate efforts to provide affordable housing in accordance with the 2007 Madison Area Housing Study and the Future Land Use Strategy
- Protect the gateways to Madison by enacting appropriate development standards and nuisance controls, and investing in landscaping at key locations
- Revise the Zoning Ordinance to provide an Airport Safety Zone Overlay District establishing appropriate development intensities
- Revise the Zoning Ordinance to provide for mixed use and medium density residential development in accordance with the Future Land Use Strategy
- Develop a Greenway Plan which helps manage the 100 year floodplain, reduce risk of property damage, and position the City to develop a contiguous greenway
- Work with Lake County to develop appropriate zoning control over the areas outside City limits and inside the City's future land use map.