Dane County

Land Use & Transportation Plan

VISION 2020

Planning for Our Future...

Dane County Regional Planning Commission

DANE COUNTY

LAND USE AND TRANSPORTATION PLAN

A Part of the Regional Master Plan
for
Dane County

Adopted

June 26, 1997

by the

Dane County Regional Planning Commission
217 South Hamilton Street, Suite 403
Madison, Wisconsin 53703

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The preparation of this document has been financially aided in part by funds from the Wisconsin Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration.

Resolution RPC No. 814

ADOPTING THE DANE COUNTY LAND USE AND TRANSPORTATION PLAN

WHEREAS, the Dane County Regional Planning Commission has the function and duty of developing and adopting a master plan for the physical development of the region; and

WHEREAS, this Dane County Land Use and Transportation Plan was prepared to both update and supersede the previously adopted Regional Development Guide and Regional Transportation Plan; and

WHEREAS, this Land Use and Transportation Plan provides a framework for guiding and accomplishing a coordinated development of the region; and for continuing comprehensive areawide planning for the county and the Madison urbanizing area to guide improvements over the next several years as well as the long-range period;

NOW, THEREFORE, BE IT RESOLVED, by the Dane County Regional Planning Commission that the Commission approves and adopts the Dane County Land Use and Transportation Plan including maps and explanatory matter contained therein as provided for by §66.945(10) of the Wisconsin Statutes, as a part of the official Master Plan for Dane County, to serve as a guide for land use developments, and transportation system development, and as a basis for the Commission's review of proposed projects; and

BE IT FURTHER RESOLVED, that in accordance with §66.945(10) of the Wisconsin Statutes, the Commission transmits this plan to the county and all local units of government, as well as appropriate state and federal agencies, and recommends consideration of adoption as a guide for development and transportation implementation and improvements.

June 26, 1997
Date Adopted

Philip Salkin, Secretary

Helen J. Johnson, Chair

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Dane County Land Use & Transportation Plan Summary

June 1997

The Dane County Land Use and Transportation Plan has been a product of the Vision 2020 cooperative planning process. This countywide plan will provide a framework for development, preservation, and transportation decisions in Dane County through the year 2020. Cooperating agencies include the Dane County Regional Planning Commission (RPC), Dane County, the City of Madison, and the Wisconsin Department of Transportation. Residents of Dane County have provided extensive input throughout this process.

This is a summary of the *Dane County Land Use and Transportation Plan.*

Vision Statement

In the year 2020, Dane County will continue to offer a quality of life unmatched in the nation. That quality will be enhanced by thoughtfully planned and designed development, an integrated multimodal transportation network, vigorous business and job growth, and preservation of treasured natural resources.

11 Goals

Eleven goals were developed to expand upon this vision and provide basic guidance for the *Plan.* These can be summarized as follows:

- Promote **balanced communities** with a mix of different types of development.
- Promote **compact urban development**, redevelopment, and infill.
- Promote **visually distinct communities** and neighborhoods with a mix of uses.
- Provide a range of **affordable housing** throughout the county.
- Provide **an integrated all-mode transportation** system.
- Concentrate **employment and activity centers** along public transit corridors.
- Maintain **downtown Madison** as the region's major activity center.
- Provide **employment opportunities** and a diversified economic base.
- Protect **agricultural lands**, in part by limiting non-farm development in agricultural areas.
- Protect **environmental, cultural and historic resources.**
- Develop **a countywide system of open space corridors** to preserve environmental and scenic values, and recreational opportunities.

Process of Plan Development

This plan has been developed over the past two and one-half years through a public process in which a broad range of growth alternatives was considered.

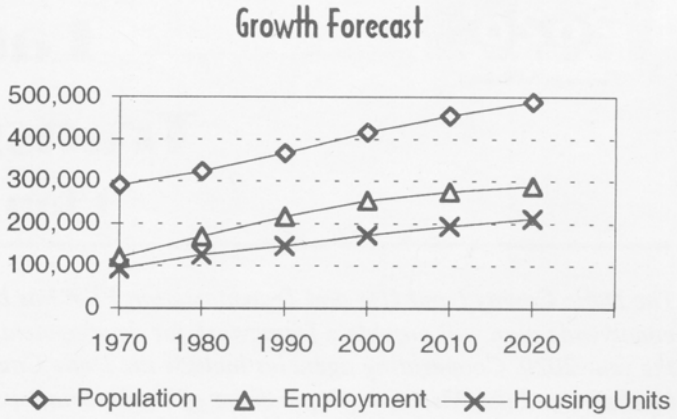
Based on public guidance and technical analysis of the alternatives, a single Land Use and Transportation Plan was prepared. This plan combines desired components of several alternatives.

The planning process sought public guidance through numerous public meetings, several focus groups, and a statistically valid telephone survey of residents. The purpose of the public involvement effort has been to create a plan which best reflects the vision, goals, and wishes of the Dane County community. This plan responds to the goals identified in the public involvement process.

Growth Forecasts

An underlying assumption of the plan is that Dane County's population and employment will grow significantly. Forecasts indicate that between 1995 and 2020 Dane County's population will increase by about 100,000 to over 488,000 persons, dwelling units will increase by over 40,000 dwellings to a total of 212,000, and the job base by about 57,000 to a total of 288,000 employees. Forecasts also suggest that smaller cities and villages will accommodate an increasing proportion of Dane County's growth.

The question is not *whether* the county will grow, but *how* it will grow. Long-range planning is necessary to ensure that new growth happens according to our vision and goals.



Summary of Plan Features

A primary recommendation of the plan is that most forecast population, housing and employment growth should be located in Dane County's urban areas. Urban areas are existing communities where a broad range of public services exist. Urban service areas are delineated around existing urban areas indicating where communities can extend public services to accommodate growth. The regional development plan map illustrating urban service areas provides a basis for the transportation plan by suggesting where transportation improvements may be necessary to support the development pattern.

The plan shows generally where growth should occur, but does not attempt to predict development on a parcel-by-parcel basis. This will remain the role of local governments working with landowners and developers.

The overall features of this Land Use and Transportation Plan include:

A **policy framework plan** to **guide development** throughout Dane County

Urban service areas which delineate areas for planned urban development

Open space and **environmental corridors** which illustrate areas to be protected from development

Rural lands including farmland preservation areas and areas for limited rural development

Transportation improvements which may be necessary to serve the planned development patterns

Implementation actions by local units of government through use of their existing land use and other decision-making authority as well as county and state agency actions

URBAN AREA RECOMMENDATIONS

- Locate new urban development where a full range of urban services can be efficiently provided while protecting environmental corridors.
- Promote a full range of business and job development within all urban communities.
- Encourage all urban communities to provide a full range of housing opportunities, including homes on smaller lots and a share of duplexes and apartments.
- Promote infill development and redevelopment, particularly in Madison's expanded Isthmus area, to maintain the vitality of its neighborhoods and downtown.
- Assist local communities in planning redevelopment and new development projects consistent with the objectives of this plan.
- Locate large-scale activity centers--like shopping malls and office parks--along transit routes.
- Design and build new neighborhoods with a mix of housing types, and integrate small-scale shops and services.
- Adopt neighborhood development plans for areas experiencing growth pressure before extending services. Require that development proposals comply with plans.
- Designate urban transitional areas at the urban-rural fringe where premature development would be limited.

RURAL AREA RECOMMENDATIONS

- Preserve the majority of rural areas as agricultural preservation areas where development opportunities would be limited.
- Provide landowners in agricultural preservation areas flexibility in the use of their property and allow them to benefit from countywide growth without developing their land.
- Designate rural development areas planned for development with private well and onsite wastewater systems, preferably in "cluster" designs.
- Adopt neighborhood development plans for rural development areas. Require that development proposals comply with plans.
- Develop design guidelines to promote clustering of rural housing, thereby minimizing its impact on productive farmland, and facilitate future provision of public services where possible.
- Preserve lands which provide community separation, protect open space corridors, and maintain scenic views.

Transportation Plan Element

The transportation element of the plan serves the development patterns reflected in the land use plan. It forms the basis for major transit, roadway, bikeway, and pedestrian projects over the next 25 years. Projects must be identified in the transportation plan to be eligible for federal funding.

A major east-west transit corridor extending (at a minimum) from the Middleton or West Towne area through the Isthmus to the East Towne area is a primary recommendation of this plan. However, even with an aggressive public transit effort, studies indicate that some consideration of increasing roadway capacity will be required by 2020 given projected congestion levels and concerns for safety.

THE EAST-WEST TRANSIT CORRIDOR

The central part of the Madison urbanizing area has a land use pattern with well defined anchors (West Towne, Downtown, East Towne) connected by the intensively developed and traveled East Washington and University Avenues. The plan recommends further development in that corridor. Recent studies suggest that a light rail system (like a trolley), commuter rail system (like a train), or buses in special bus lanes may be feasible to provide expanded transit service within the corridor.

A central recommendation of the transportation plan is to **do a Major Investment Study** (MIS) **of the feasibility of constructing one of these expanded transit systems** within the east-west corridor. An MIS is required for all costly transportation projects which need federal funding. The study will look closely at each type of system in terms of projected ridership, land availability, environmental impacts, and costs. In any case, the system would be supported by feeder bus routes and would not replace the Metro bus system. The MIS should begin by mid-1998.

OTHER TRANSPORTATION OPTIONS

The plan includes several other recommendations for alternative modes of transportation:

- Expand ridesharing through commuter vanpool and carpool services.
- Explore the potential for commuter bus and van service to central Madison from other cities and villages.
- Provide transit service to central Madison from park-ride lots.
- Develop alternatives to all-day commuter parking in central Madison and at the University through travel demand management (e.g. carpooling).
- Promote bicycling as a means of transportation through a continuous system of bikeways in the Madison area, with connections to other communities.
- Continue to include bike lanes with urban street improvements, construct off-street bikeways, and pave shoulders on county highways.
- Consider ordinances to require sidewalks in urban developments for safe pedestrian movement.
- Preserve rail corridors for current and potential future transportation and recreation use.

POTENTIAL ROADWAY IMPROVEMENTS

Project staff first modeled aggressive transit and travel demand management systems and then determined where roadway congestion remained. This model showed that an expanded public transit system in the east-west corridor would have a positive impact on roadway congestion levels in the Isthmus.

However, even with major enhancements to transit, the automobile will remain the way most residents travel. Thus, as Dane County grows, more cars will use our roadways. Congestion levels will increase if some roadway improvements are not made, particularly in areas not served by public transit. Further, some improvements are needed to support efficient movement of freight, local buses, and intercity bus.

The transportation maps show where congestion levels suggest that capacity improvements, mainly through intersection improvements and adding lanes, may be necessary by 2020. The probability that these projects would be completed within this time frame is subject to funding availability and later decisions on whether to include them in short-range improvement programs. Further detailed studies on potential roadway improvements will be necessary.

Implementation Strategies

The vision of Dane County to the year 2020 can be achieved if this plan is implemented. The plan recommends the following general implementation strategies:

- The plan should be adopted by Dane County and local units of government as the countywide development framework.
- Existing countywide plans, local plans, and zoning and subdivision regulations should be revised to be consistent with this plan.
- Day-to-day decisions, such as rezonings and urban service area amendments, should be consistent with this and other revised plans.
- Creative tools such as Purchase of Development Rights or Transfer of Development Rights programs should be explored and put into place, where appropriate.
- Planning assistance should be provided to local governments to carry out detailed planning consistent with this plan.
- A Major Investment Study should be completed for the east-west transit corridor, and considered for the potential expansion of Highway 51 between Milwaukee Street and the South Beltline, and the West Beltline from Verona Road to Mineral Point Road.

Preparation of this document has been financially aided by funds from the Wisconsin Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration.

For more information contact:

Dane County Regional Planning Commission
217 S. Hamilton St. Suite 403
Madison, WI. 53703
Phone 266-4137 Fax 266-9117
E-Mail dcrpcadm@execpc.com

CHAPTER 1

The Vision 2020 Process

Introduction

The Vision 2020 process began in the fall of 1993 with the appointment of a four-person steering committee representing the sponsors of the project. The intent of the process was to develop a series of alternatives to guide the future growth of Dane County, and to give the public an opportunity for involvement in selecting the alternative which best fit its collective vision of the future. In May 1994, the actual planning process began with the selection of the consulting team to work with the staffs of the four sponsoring agencies.

The Vision 2020 planning process was created to prepare a unified land use and transportation plan for Dane County to the year 2020. This process was initiated in May 1994 as a follow-up to the Dane 2020 strategic planning effort undertaken in 1991-92. Vision 2020 represents a unique collaboration between the Dane County Regional Planning Commission (RPC), Dane County, the City of Madison, and the Wisconsin Department of Transportation.

This planning process was unique. It was different than previous efforts in Dane County in that it employed two computer models to evaluate the alternative scenarios created for both area land use and the transportation system needed to serve it. The SAVES model evaluated land use development patterns and then its output was used in the multi-modal transportation model, TRANPLAN.

The Vision 2020 process also worked in conjunction with three other related and ongoing planning efforts that are described below. These were undertaken to analyze areas of special concern to specific segments of the Dane County community.

The Wisconsin Department of Administration prepared the official population projections for Dane County which are based on birth rates, death rates, and assumptions about migration patterns. Those projections indicate that Dane County will grow by approximately 100,000 new residents by the year 2020. The staff of the Regional Planning Commission estimates this will create a need for over 40,000 new homes and apartments and approximately 57,000 new jobs in the county. The task before the community is to accommodate that growth while maintaining the high quality of life Dane County residents expect.

The Vision 2020 process was developed to meet two perceived needs. First was to prepare a strategy for successfully incorporating the land use and transportation system needs of the population growth of Dane County by the year 2020. Second was to meet the requirements of the 1991 federal Intermodal Surface Transportation Efficiency Act (ISTEA), which instructs all Metropolitan Planning Organizations (MPOs) to prepare a transportation plan update that takes into account several planning factors, including the impacts of transportation improvements on land use. These planning requirements are incorporated in the Appendices volume of the plan.

This plan has been developed as a county-wide land use and transportation plan building on the goals and objectives of prior planning efforts, and validated by a broad public involvement process. It is recognized that there is often a difficult balancing act that must occur between the rights of the individual property owners and what is best for the greater community. This plan replaces the RPC's Regional Development Guide and the Regional Transportation Plan. It guides public expenditures for transportation improvements for all modes, not just roadways and transit. It also advises local communities on the larger framework for the growth and development of the county, putting local planning initiatives in a larger context. It serves as a guide for the Dane County Regional Planning Commission, the Dane County Board of Supervisors, and local units of government, as they make decisions affecting future land uses and transportation.

> ***...there is often a difficult balancing act that must occur between the rights of the individual property owners and what is best for the greater community...***

As a land use plan, it is advisory to county and municipal decision-makers, acting as a guide in their review of development and infrastructure extension proposals. As a transportation plan, it provides guidance on future transportation investments to be included in the Transportation Improvement Program (TIP). The TIP is a programming document and includes a list of projects eligible for funding under federal aid programs, both as earmarked projects and as part of any general aid programs using state funds. The Wisconsin Department of Transportation consults the

MPO plan prior to making project funding approvals. Therefore, the plan has a substantive role in the implementation of transportation improvements, including both roadways and transit.

The Vision 2020 Plan has been created with these two different functions in mind. Its primary goal is to create a framework for the future, supported by a transportation plan, that anticipates future growth and directs it to the most appropriate locations where it can be efficiently served by public services.

Isthmus 2020

Isthmus 2020, a separate study sponsored by the City of Madison, examined planning issues within the central area of the City of Madison. A task force of citizens studied the planning issues in the Isthmus 2020 study area which was defined from Glenway on the west to State Trunk Highway (STH) 30 and Starkweather Creek on the east. At the conclusion of its study, the Isthmus 2020 Committee recommended that 4,500 new dwelling units and 14,000 new jobs be allocated to this study area from the total allocation for the central urban service area. These recommendations were consistent with those of Vision 2020 and have been incorporated into this plan.

North Ring Corridor Committee

A committee comprised of members of the Dane County Board of Supervisors and local officials was charged with studying the feasibility and potential impacts of the development of a transportation connection around the north side of Lake Mendota connecting the I-90/94 corridor with the USH 12 corridor. Dane County Regional Planning Commission (RPC) staff has provided this committee with information and analysis. This committee recommended official mapping to preserve corridors in this area, some intersection improvements and further study before any major corridor improvements. Vision 2020 has also examined the impact of the corridor in regards to transportation and land use, and has analyzed the costs and impacts of future congestion levels on building or not building the new corridor. That analysis has been incorporated into this plan.

Dane County Committee to Evaluate Commuter Rail Implementation

In 1995 and 1996, a separate County Board-sponsored committee studied the feasibility of commuter rail in Dane County. The study concluded that commuter rail appeared feasible in the east-west transit corridor from the Village of Mazomanie, through the City of Madison to the City of Sun Prairie and further study of the corridor was warranted. Vision 2020 has incorporated the results of this analysis in its recommendations.

CHAPTER 2

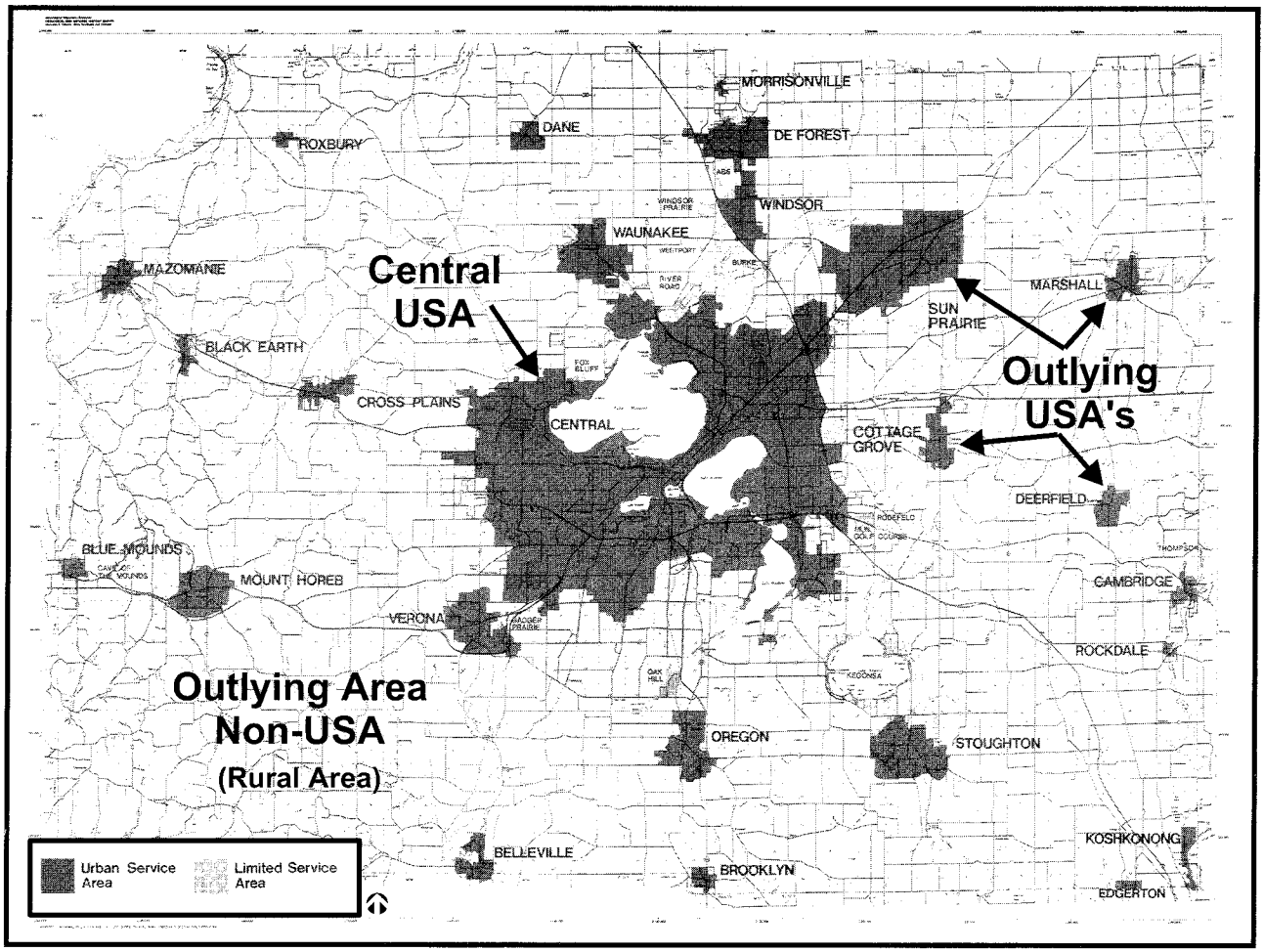
Existing Conditions and Trends

Introduction

Existing data forms the baseline condition from which policies and plans can be developed to guide the future of Dane County. The major elements of population, households, and employment are the bases upon which future plans are developed. This chapter summarizes historical trends and existing conditions of Dane County. For additional annual demographic trends, the Dane County Regional Planning Commission (RPC) produces a "Regional Trends" report that documents growth and development in the county.

The Urban Service Areas (USAs) within Dane County are those areas within and around existing communities which are most suitable for urban development. See Exhibit 2-1. These areas are considered capable of providing a full range of urban services to support urban development. The City of Madison and areas immediately adjacent to the City are classified as the central urban service area (CUSA). Outlying urban service areas (OUSAs) are the smaller scale urban communities. The remainder of the County is classified as non-USA, rural areas.

Exhibit 2-1
Urban Service Areas
Dane County, Wisconsin



Overall Trends

Continued population, housing and employment growth creates pressure for land use change and supporting infrastructure improvements. Table 2-1 outlines the 1970-2020 Dane County historic and projected trends for the key growth variables.

Table 2-1
Dane County Trends

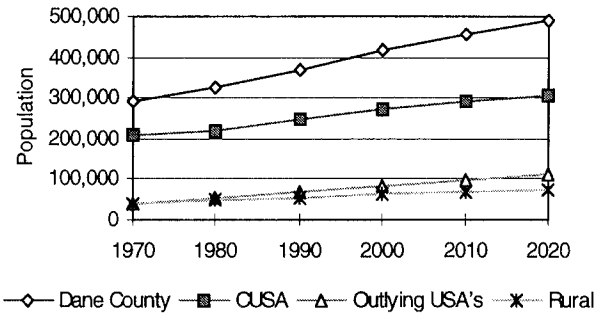
	1970	1980	1990	1995	2000	2010	2020
Population	290,292	323,545	367,085	393,857	416,088	454,699	488,515
Labor Force	126,911	178,136	214,866	230,400	245,936	273,896	287,064
Employment	120,600	170,000	215,983	243,100	253,536	275,328	288,565
Housing Units	91,880	125,593	147,851	164,539	173,370	193,489	21,399

Source: U.S. Bureau of the Census, Wisconsin Dept. of Administration and Dane County Regional Planning Commission

POPULATION TRENDS

The Wisconsin Department of Administration estimated the 1996 Dane County population was 398,233, an 8.5% population increase from 1990. Exhibit 2-2 tracks Dane County's population from 1970 to 2020, showing that the county's population is expected to reach 488,515 by the year 2020, a 33% increase from 1990.

Exhibit 2-2
Dane County Population Trends
1970 to 2020

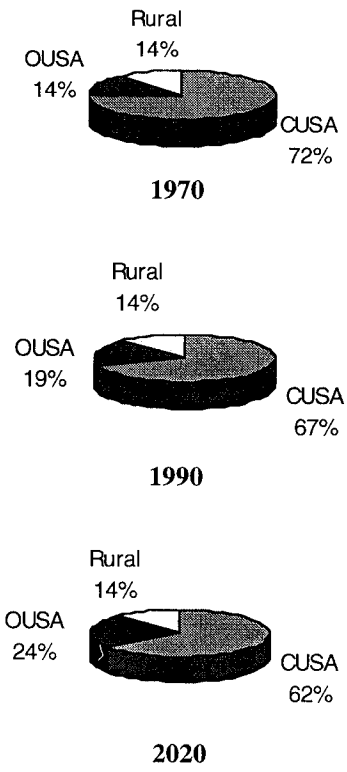


Source: U.S. Bureau of the Census, Dane County Regional Planning Commission

POPULATION DISTRIBUTION

Gradually, between the years 1970 and 1990, the percentage of the population growth in the outlying USAs was slightly higher than the percentage of growth in the CUSA although both populations continue to grow, as shown in Exhibit 2-3. This trend is expected to continue in the future with the OUSAs accounting for 24% of the county's population by 2020.

Exhibit 2-3
Dane County Population Distribution

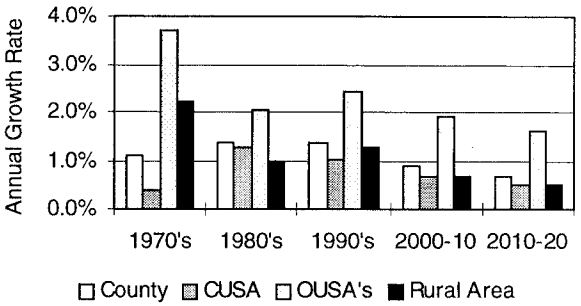


Source: U.S. Bureau of the Census, Dane County Regional Planning Commission

POPULATION GROWTH RATES

The historical and projected growth rates for Dane County and for the CUSA, OUSAs and the rural area are shown in Exhibit 2-4. Overall, the fastest growth rates are expected to occur during the decade of the 1990s and then gradually taper off between 2000 and 2020.

Exhibit 2-4
Dane County Annual Growth Rates Per Decade by Area



Source: Dane County Regional Planning Commission

AGE COMPOSITION

The age composition of the county's population changed significantly during the 1980s. Five age groups gained population, while two lost population. The most significant changes included:

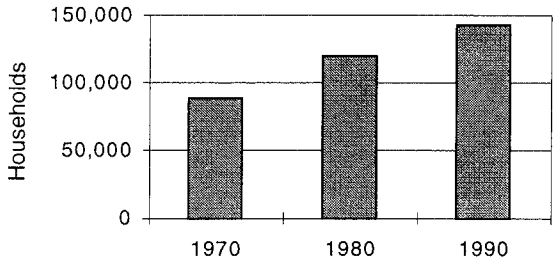
- over a 26% increase in the number of preschool age children;
- a substantial increase of 72% in adults between 35 and 44; and
- an increase of almost 26% in older adults age 65 and over.

This relatively young population, with a corresponding increase in the number of young children, will affect various elements of all plans including housing patterns and the provision of local facilities such as schools, parks, and emergency services.

HOUSEHOLDS

Since the 1970s, declining household size has resulted in a household growth rate that has increased faster than population growth rate. From 1970 to 1990, the number of households in Dane County grew by 61%, while population grew by 26% (shown in Exhibit 2-5). A direct correlation can be drawn between this phenomenon and the amount of land devoted to residential land uses.

Exhibit 2-5
Household Growth In Dane County, 1970-1990



Source: Dane County Regional Planning Commission

HOUSING UNITS

Dane County experienced a net increase of 55,971 housing units from 1970 to 1990. Between 1990 and 2020, the county is expected to add 64,548 new units to its housing stock, with the majority located within urban service areas. (See Table 2-2.)

This plan reflects market trends. It projects a 2020 distribution of single family housing units to multi-family units in the outlying USAs of 59% to 41%, if the trend since 1980 continues. In 1970, single family units made up 74% of housing in outlying USAs. By 1977, single family units made up 65% of all housing units in outlying USAs. Single family units made up 60% of all housing constructed during the last 26 years.

Table 2-2
Housing Units: 1970-2020

	1970	1980	1990	2000	2010	2020	% Change 1990-2020
Total Units	91,880	125,593	147,851	173,370	193,489	212,399	43.7%
CUSA	69,233	89,828	103,681	118,482	129,346	138,801	33.9%
Outlying USAs	12,548	20,601	25,826	33,482	40,322	47,508	84.0%
Rural	10,099	15,164	18,344	21,406	23,821	26,090	42.2%

Source: Dane County Regional Planning Commission, derived from DOA Population Projections

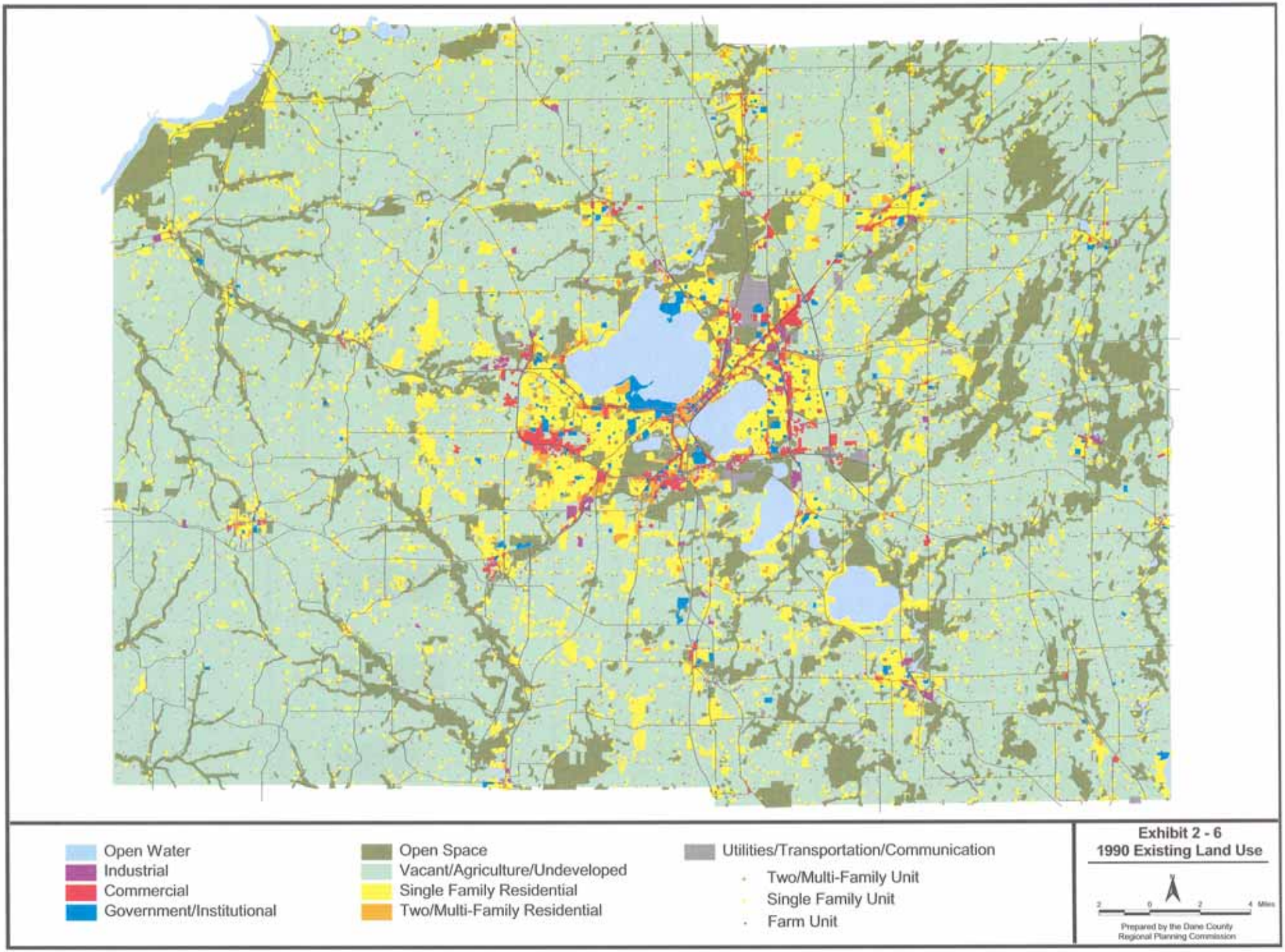
EMPLOYMENT

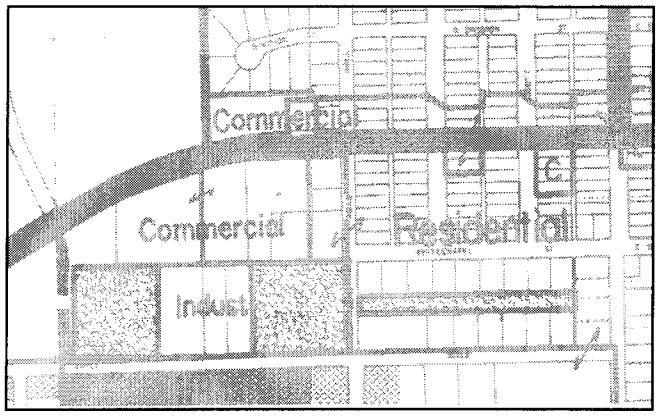
The availability of jobs in a variety of industrial, manufacturing, retail and service sectors provides stability for a growing population. Since 1970, 95,383 jobs have been added to the Dane County economy and by 2020, an additional 72,582 jobs are expected. (See Table 2-3.)

Table 2-3
Dane County Labor Force and Employment: 1970-2020

	1970	1980	1990	2000	2010	2020	% Change 1990-2020
Labor Force	126,911	178,136	214,866	245,936	273,896	287,064	33.6%
Employment	120,600	170,000	215,983	253,536	275,328	288,565	33.6%

Source: Dane County Regional Planning Commission


Open Water
Industrial
Commercial
Government/Institutional
Open Space
Vacant/Agriculture/Undeveloped
Single Family Residential
Two/Multi-Family Residential
Utilities/Transportation/Communication
Two/Multi-Family Unit
Single Family Unit
Farm Unit
Exhibit 2 - 6
1990 Existing Land Use
2
0
2
4 Miles
Prepared by the Dane County
Regional Planning Commission



Existing Land Use

Successful planning for future development starts with a realistic understanding of the land use patterns that exist in today's environment. Table 2-4 presents a summary of the 1970 and 1990 major land acreages. The 1990 existing land use is shown in Exhibit 2-6. The most significant trends are highlighted below.

- The greatest amount of land in Dane County is agricultural and undeveloped land at 674,160 acres in 1990, or over 85% of the total acreage. Conversion of agricultural land is taking place in Dane County. According to the Wisconsin Department of Agriculture, Trade and Consumer Protection, between 1970 and 1990 in Dane County, 27,207 acres of agricultural land were converted to other uses. These were primarily residential, industrial and commercial land uses.

- Residential land uses account for the second largest classification of use (6.1% in 1990) within Dane County. Residential land use covered 48,001 acres in 1990, an increase of 18,155 acres since 1970.

- Commercial land use has also increased significantly since 1970. Almost all commercial land use in the county, 95%, is located within the incorporated communities of Dane County.

- The amount of land devoted to industrial uses has more than doubled since 1970. New industrial development has occurred primarily in cities and villages where public services are easily accessible.

- Institutional and governmental land uses have remained relatively constant over time. Land uses within this classification are hospitals, schools, public buildings, churches, and cemeteries.

Table 2-4
Dane County Land Uses: 1970 and 1990

Land Use Classification	1970 Percent of Total Land Area			1990 Percent of Total Land Area		
	Towns (%)	Cities & Villages (%)	County (%)	Towns (%)	Cities & Villages (%)	County (%)
Residential	2.4	14.3	3.8	3.9	21.2	6.1
Industrial	0.1	1.2	0.2	0.4	2.5	0.7
Transportation	3	9.6	3.6	3.4	13.6	4.8
Communications & Utilities	0.3	3.3	0.7	0.1	0.8	0.2
Commercial	0.1	2.1	0.3	0.2	3.6	0.6
Institutional & Government	0.2	4.8	0.7	0.2	3.6	0.6
Recreation	1.3	3.1	1.5	0.9	4.9	1.4
Agriculture & Undeveloped	92.7	61.6	89.2	91.0	49.8	85.7
Total Developed Acres	50,870	34,445	85,315	61,640	51,021	112,661
Total Area	697,064	89,757	786,821	685,252	101,569	786,821
Total Developed Area as % of Total Area	7.3	38.4	10.8	9	50.2	14.3

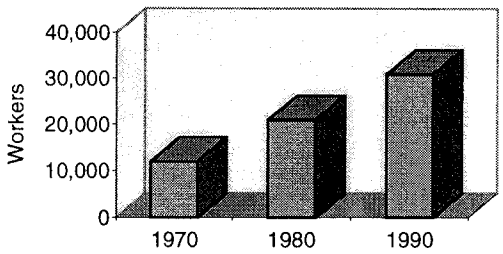
Source: Dane County Regional Planning Commission

Transportation

ROADWAYS

Population growth, employment growth and the distribution of that growth throughout the region have contributed to an increasing demand for travel on the county's arterial roadway system. From 1970 to 1990, the number of people from outlying communities commuting to work to the City of Madison increased from 12,000 to 31,000 (See Exhibit 2-7). In addition, according to the 1990 Census, 17,527 workers who reside outside of Dane County commute to work sites within Dane County, while another 9,232 Dane County residents commute to work sites outside of Dane County. Exhibit 2-8 shows 1970-1990 average daily traffic growth for roadways outside of the Central Urban Area and Exhibit 2-9 displays 1995 congestion levels for roadways within the Central Urban Area.

Exhibit 2-7
Commuting to Madison from Outlying Dane County



Source: U.S. Bureau of the Census

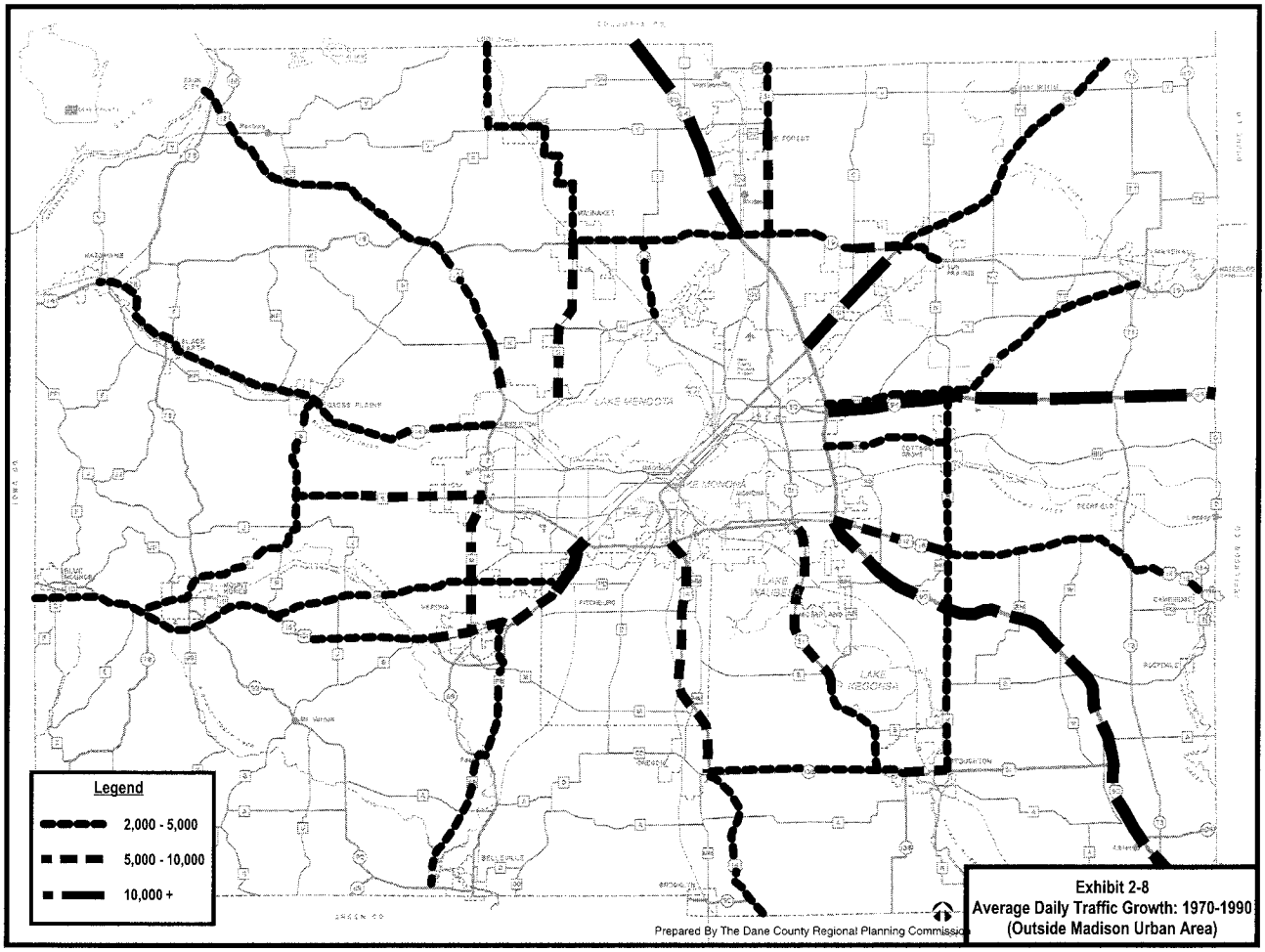


Exhibit 2-8
Average Daily Traffic Growth: 1970-1990
(Outside Madison Urban Area)

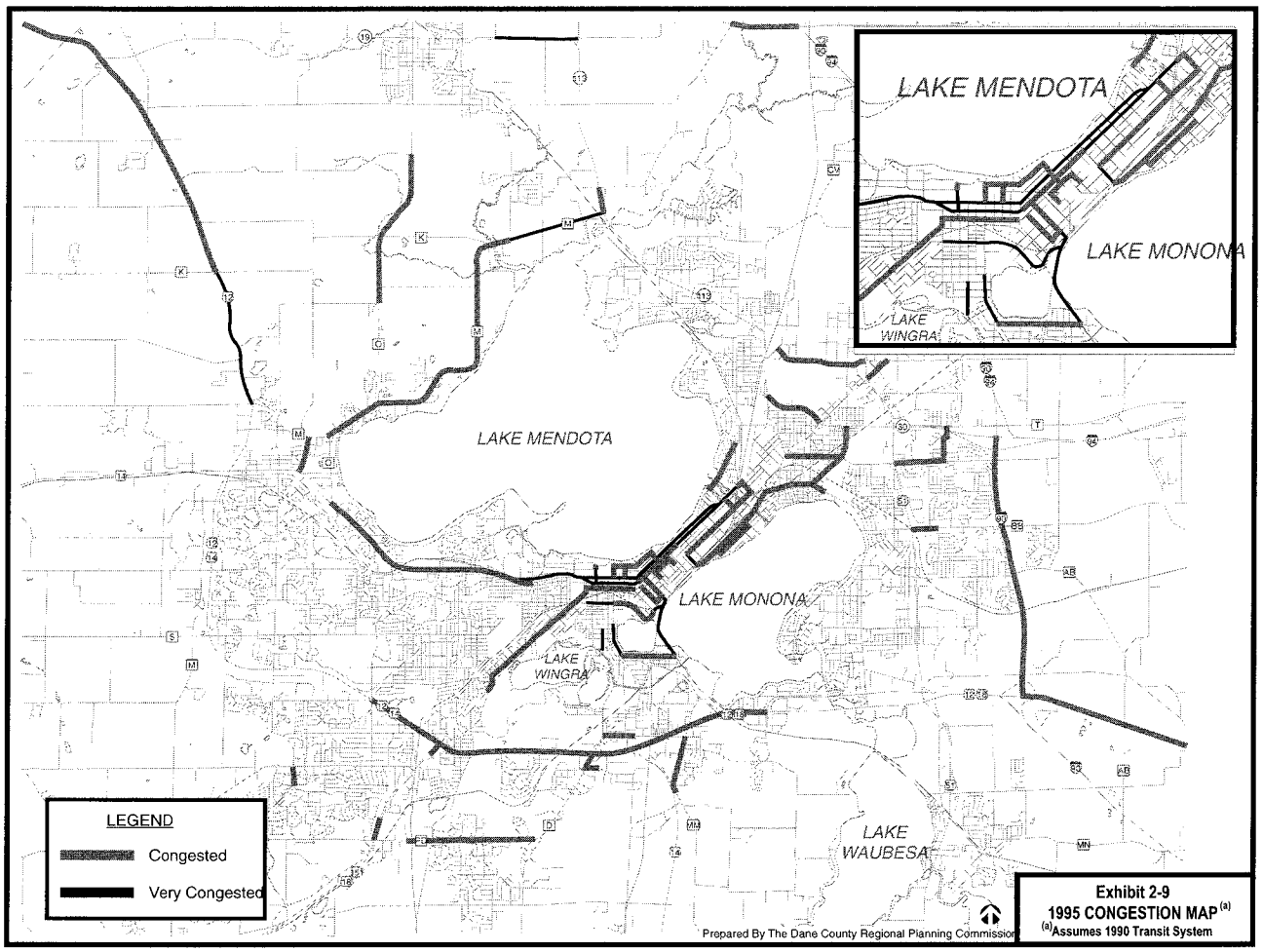
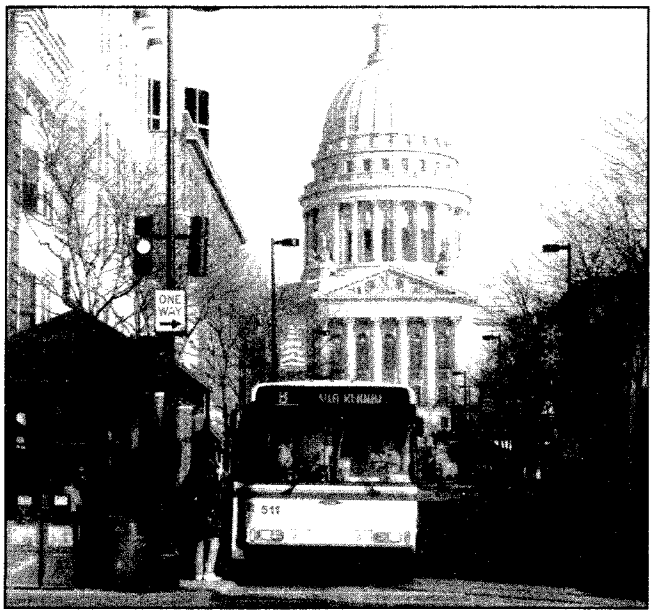


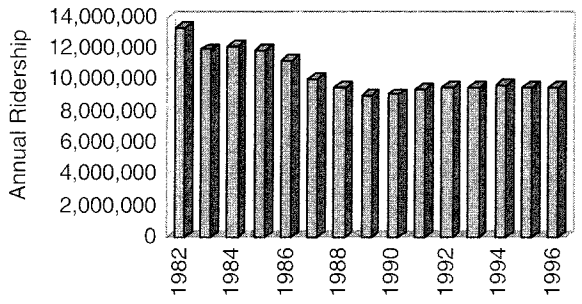
Exhibit 2-9
1995 CONGESTION MAP [a]
[a] Assumes 1990 Transit System



TRANSIT

Bus ridership in the urban area decreased substantially from the late 1970s until 1990. Since 1990, however, transit ridership has stabilized. (See Exhibit 2-10). Major reasons for the decline in ridership include Madison Area Technical College's (MATC) relocation from the central business district (CBD) to the east side, the location of major residential and commercial developments in outlying areas of the city, off-peak service reductions, fare increases, a work stoppage in 1990, ample fuel supplies, increased downtown parking (especially private long term parking) and generally low driving costs. Madison Metro is currently taking steps to improve service to its core ridership groups, while trying to reach out and extend into new markets. The 1997 transfer point routing structure will make trips from the periphery to the CBD more appealing by reducing overall trip times for many people.

Exhibit 2-10
Transit Ridership: 1982 to 1996

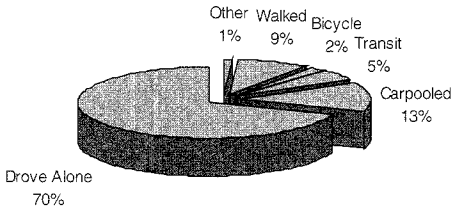


Source: Madison Metro

PARATRANSIT (SPECIALIZED TRANSPORTATION)

Specialized Transportation involves the provision of transit services to those segments of the population that require more accessible vehicles and more "enhanced" and flexible routing than is available with fixed-route, mainline transit services. As the elderly population grows in size and the disabled population becomes more mobile, the number of persons requesting specialized transportation will increase. Increasing demand, rising costs, limited funding, and the need for alternate providers are the emerging issues that will need to be addressed in the coming years.

Exhibit 2-11
1990 Dane County Mode Splits for Work Trips



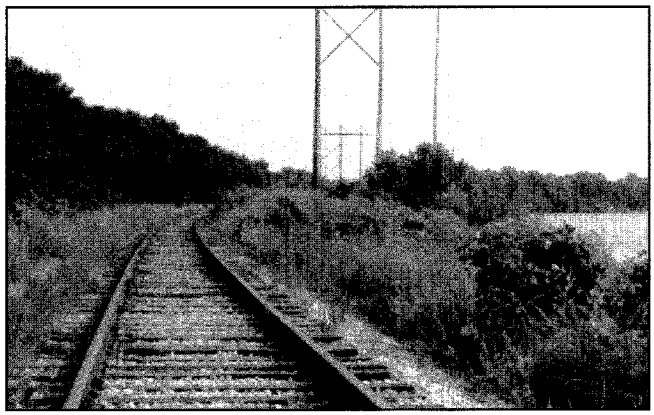
Source: U.S. Bureau of the Census

PEDESTRIANS

Pedestrian movements and facilities are an important part of this plan as an essential part of most trips is walking. According to the 1990 Census, 16,860 persons, or 9% of all workers indicated they walked to work. (See Exhibit 2-11.) Communities and neighborhoods throughout the county continue to express concern for safe and convenient pedestrian travel. Pedestrians are also an important part of Madison's transportation planning which is evident by the recently drafted Pedestrian Transportation Plan. In the Madison urban area, pedestrian overpasses or underpasses have been constructed across such major roadways as Stoughton Road, Verona Road and the South and West Beltlines. In addition, the City has incorporated techniques such as traffic calming and priority pedestrian corridors into its planning and implementation efforts.

BICYCLES

Over the past 25 years, bicycling has become an increasingly important mode of transportation and recreational activity in Dane County. According to the 1990 Census, 2% of all Dane County workers, or approximately 3,970 persons, use a bicycle as their primary mode of transportation to work. (See Exhibit 2-11.) Bikeway facility improvements in the Madison urban area are currently guided by the *Bicycle Transportation Plan for Madison and Dane County*, adopted in 1991. Major projects developed from this plan include the recently constructed Isthmus Bike Path, segments of the Capital City State Trail, and the Wingra



Creek and Starkweather Creek paths.

RAIL TRANSPORTATION

The county's rail corridors are located in a "hub-and-spoke" pattern with Madison serving as the principal focal point. Over the years, automobile, truck and airplane travel have, to a large extent, displaced rail service. The future status of private railroad operations in Dane County is difficult to predict. Increasingly frequent rail service abandonments and consolidations by area rail companies have fostered increased public involvement in rail corridor preservation activities for future restoration of rail service or for alternative uses such as bicycle or hiking trails.

AIR TRANSPORTATION

Dane County contains one commercial service airport and five basic utility airports. In 1991, a Master Plan for the Dane County Regional Airport was completed. A Master Plan for Morey Field has also been completed and consideration of Blackhawk Airport for reliever status is currently underway. Morey Field is under consideration for redevelopment as an industrial park.

PARKING

The most critical parking situation in Dane County occurs in Madison. Current local policy is directed toward ensuring adequate, but not abundant, parking in new developments. The public parking system is designed to favor carpoolers while meeting the needs of the short-term parker. Transit use for the long-term, work trip user who does not require the use of an automobile during the day is also strongly encouraged. The City of Madison, UW-Madison and the private sector are currently providing additional parking in the central Madison area in part to replace backyard and other small off-street spaces. Support remains strong, however, to retain on-street parking in neighborhood business districts.

Summary of Land Use and Transportation Alternatives

Numerous alternatives were created, evaluated and tested with the public in the course of developing this land use and transportation plan. These alternatives have been described in detail and can be found in the Appendices volume of the plan.

The process began with the creation of a group of ten possible regional scenarios representing a wide variety of growth options for the county. These were refined to five alternatives which were reviewed with the public and further refined into three alternatives. The three alternatives were classified as representing a dispersed growth pattern, a compact growth pattern, and a reflection of the combined adopted local land use plans from around the county. These were fully developed and evaluated for both land use and transportation components.

The three alternatives were taken to the public in a series of public meetings. Following receipt of public comments on these alternatives, a single draft plan alternative was prepared and presented to the community in the form of public meetings as well as a draft plan report. Public hearings on this draft plan were held in January 1997.

CHAPTER 3

Vision Statement and Goals

The Vision 2020 planning process was intended to create a land use and transportation plan for Dane County that will serve as a foundation on which development decisions can be based into the next century.

As a first step, a Vision Statement and a set of eleven broad goals was created based upon comments and preferences expressed by the community during public involvement meetings, a public opinion survey and previous planning efforts and goal setting exercises over the past several years. They now serve as the general framework for the plan.

Public input included a preference survey conducted during the May and June 1996 public involvement meetings. The survey asked those in attendance to rate their support for the various planning elements or goals. The goals were further validated through a public opinion survey of 400 Dane County residents conducted in November 1996. Support for goals such as environmental protection, farmland preservation, separation of communities, and balanced communities was confirmed.

Vision Statement

In the year 2020, Dane County will continue to offer a quality of life unmatched in the nation. That quality will be enhanced by thoughtfully planned and designed development, an integrated multi-modal transportation network, vigorous business and job growth, and preservation of treasured natural resources.

Existing communities, neighborhoods, and commercial centers will be preserved in character and new investment and selective redevelopment will ensure that these areas remain both functional and desirable. Most new growth will be accommodated in and adjacent to existing communities and be developed at urban, rather than rural, densities. Within these communities, growth will be focused along and near transportation corridors.

An emphasis on carefully designed, diverse neighborhoods will emerge. Most new homes in the cities and villages will be within walking or biking distance of parks, shops, and transit stops and stations. Neighborhoods will contain a mix of housing types with different rent and price levels to reflect the needs of a diverse population. Scattered rural non-farm development will decrease as efforts to preserve agricultural land and the county's rural character are successful. Significant rural, non-farm development impairs widely-held goals of balanced, compact communities and efficiently served neighborhoods, and increases the cost of investments necessary to maintain the transportation system. Nevertheless, some new rural housing will remain available to ensure that a full range of housing choices is available in the county.

Future investments in the transportation system will emphasize the maintenance and improvement of existing roadway facilities including intersection improvements and turn lanes. Transportation system investments will give priority to safety improvements which do not expand capacity.

In the year 2020, Dane County will continue to offer a quality of life unmatched in the nation. That quality will be enhanced by thoughtfully planned and designed development, an integrated multi-modal transportation network, vigorous business and job growth, and preservation of treasured natural resources...

Expansions to the existing roadway facilities will be carefully considered when shown to be necessary. New components within the development of this county-wide regional transportation system will support community development and environmental goals. These components will include enhancing the existing transit system in order to more efficiently move people around the Madison area as well as bring commuters to Madison from surrounding communities. Although the bus will continue to be the key component of any transit system, systems which incorporate commuter and light rail along key corridors may also be developed. Even though auto travel will become more costly, it will remain the principal mode of travel for many residents. Thus, roadway improvements that correspond with careful, planned growth will continue to be necessary.

Dane County will continue to serve as a large educational, governmental and commercial service center, but will also feature a continually diversifying industrial base where unemployment will remain among the lowest in the nation. Large-scale economic development will occur mainly in business centers along major transportation corridors in urban areas. Additional businesses will be promoted in smaller cities and villages to facilitate a "jobs-housing balance" in those communities. Central Madison will continue to maintain its vitality as the region's dominant civic, cultural, educational, and employment center. Dane County's high quality of life will continue to be a principal factor in the retention and attraction of new business development.

The quality of Dane County's numerous lakes, rivers, natural areas, and environmental corridors will be preserved and improved. The county's rich farm soils will continue to produce food for both local and distant markets. Protection of these resources will remain an overriding consideration as the county continues to grow.

Goals Discussion

The following goal statements were reviewed and accepted by the Regional Planning Commission as a framework for development of the year 2020 plan. Preference exercises conducted in the May and June 1996 public meetings and a public opinion survey conducted in November 1996 documented overwhelming support for these goals. The selected land use and transportation plan was designed to best satisfy these eleven goals. The numbered listing of the following goals does not indicate an order of importance.

1 Promote the development of balanced communities throughout the county with sufficient commercial, industrial, residential, and open space land to meet the needs of existing and future residents.

- A balanced community not only includes residential land uses but also commercial, industrial, institutional, and recreational land uses. The combination of these land uses creates a relatively self-contained community where residents can live, work, recreate, and shop.

- Planning for balanced communities within urban service areas provides both housing and employment options for residents of Dane County. People living in outlying urban service areas will also have greater opportunities for working within the communities where they reside, thus potentially reducing roadway congestion.

- This goal was strongly supported by 85% of those attendees at the May/June 1996 public meetings and 81% of the November 1996 survey respondents.

2 Promote compact urban development in new areas adjacent to existing urban areas and in the redevelopment or infill development of existing neighborhoods.

- Compact urban development refers to new development using the least amount of vacant land possible as communities expand. Developers will be encouraged to use traditional neighborhood patterns in new subdivisions rather than the sweeping curvilinear layouts prevalent over the past fifty years. Developers will also be encouraged to locate development as close to existing development as possible to minimize the costs of providing public services.

- Vacant, underused, or poorly used urban areas contribute to an overall decline in the character and fabric of a community. Redevelopment of these areas adds tax base to a community, increases the number of residential and commercial opportunities in local neighborhoods, and reduces the amount of rural land needed for new development. The development and reuse of these infill areas, some of which may involve "brownfield" recovery is critical to the future of the county's urban areas.

- Almost 70% of the survey respondents felt it was important that cities and villages should develop their vacant lands before expanding into new areas. This goal also received support through the May/June public meetings.

3 **Promote the development of functionally and visually distinct communities encouraging compact, mixed-use neighborhoods and the efficient provision of a full range of public services.**

- Preservation of functionally and visually distinct communities, neighborhood development patterns, the integration of land uses, and the efficient provision of public services are the goal's key components. This goal supports the desire of individual communities to retain their distinct identities rather than merging to become a single, amorphous urban form.

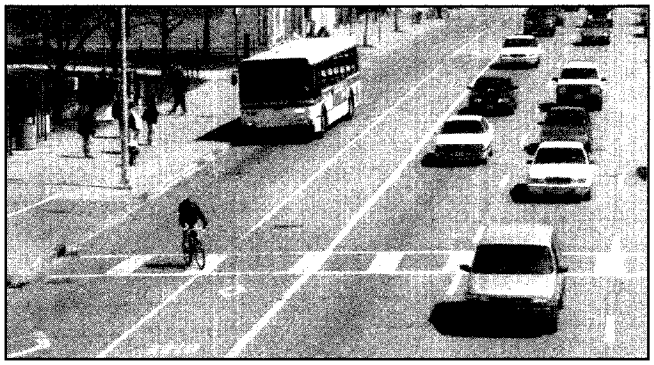
- Farmland and other greenspace should be preserved between the urban communities to create a buffer between the urban uses and rural uses. Neighborhoods with distinct identities and boundaries should be promoted to the extent possible. Neighborhoods should include small scale retail, service, and job opportunities.

- About 81% of the attendants of the May/June public meetings supported "community separation" as an important element to the county plan. The public opinion survey respondents indicated a 75% support for community separation.

4 **Provide a full range of safe and affordable housing opportunities and choices for all residents throughout the county.**

- Affordable housing, including both single-family and multi-family options, should be available in all Dane County communities. Dane County residents of all income levels and family sizes should have a full range of locational choices for residences.

- The preference survey and the public opinion survey showed a great deal of support for the goal. For example, approximately 79% of those responding to the public opinion survey felt it was important that all communities should provide some housing for people with incomes below the median level.

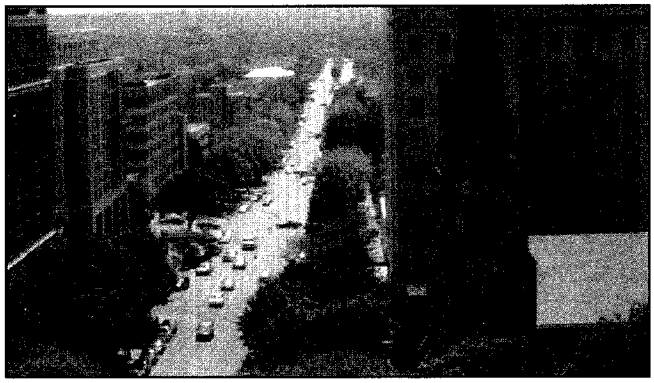


5 **Provide an integrated, all-mode transportation system which offers the efficient, effective and safe movement of people and goods, and provides mode choice wherever possible while enhancing and, where relevant, preserving the character and livability of the neighborhoods and residential areas where transportation facilities are located.**

- The existing transit system and potential expansions including commuter rail, light rail and enhanced bus systems were tested. Transportation needs in the remainder of the outlying areas of the county were also examined for peak hour express bus service and incorporated into the overall county plan. Roadway system improvements, including existing roadway capacity improvements, as well as any new facilities contemplated were identified only after an expanded transit system had been included in the proposed network, and were considered in light of their overall effects on the surrounding community.

- All modes of transportation, including both bus and rail passenger transit, rail freight, trucks and automobiles, air traffic, bicycles, and pedestrian circulation have been examined in this planning process. For example, the bicycle plan prepared for Madison and Dane County and enhanced transit options have been incorporated directly into the plan.

- Strong support for this goal was expressed in the public survey and the public involvement meetings. For example, 80% of the survey respondents agreed that the county government should actively pursue a regional transit system for Dane County which may include light rail, commuter rail or buses in dedicated bus lanes.



6 **Encourage concentration of employment and activity centers at nodes and along transit corridors to maximize the efficiency of the existing and future transportation system.**

- This goal concentrates new development in areas served by transit, giving people choices and allowing access by the transit dependent. Concentrating new development along transit corridors also allows transit service to operate as efficiently as possible. This land use configuration also serves many other goals which call for the efficient provision of public services, compact communities, and mixed use development.
- 61% of the public involvement respondents agreed that transit oriented development should be encouraged, and 80% of the survey respondents supported this approach.

7 **Support and maintain downtown Madison as the region's major activity center and seek greater diversity and vitality in that area.**

- The vitality of downtown Madison has a profound effect on the entire county. It contains the highest job concentration in the county and the densest neighborhoods. It is the civic, cultural, educational, medical, and entertainment center of the region, and the governmental center of the entire state. This goal will help maintain the economic vitality of Madison's downtown and preserve the Isthmus as the location of some of Madison's premier neighborhoods.
- Isthmus 2020 recommendations for downtown Madison and surrounding neighborhoods have been incorporated into the land use and transportation plan. One recommendation encourages a significant amount of new housing and jobs in the expanded Isthmus area to help achieve the critical mass necessary for the successful introduction of expanded mass transit. Growth accommodated in the expanded Isthmus area will help reduce land consumption county-wide.
- Over 80% of the survey respondents agreed that it is important to maintain central Madison as the region's cultural center.

8 **Promote an economic development strategy that will provide suitable employment opportunities and a stable and diversified economic base.**

- Projections indicate 57,000 new jobs in the county by the year 2020. The location of these jobs will have a profound effect on land use patterns as well as the transportation system needed to serve those land uses.
- A guiding principle of the plan is to provide a wide variety of job opportunities throughout the county. A large proportion of Dane County employment is found in governmental agencies, related businesses and services, and institutions. The plan should promote other types of jobs to ensure that the economy of Dane County remains strong and diversified.

9 **Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.**

- All of the goals related to urban development have, as an outcome, the protection of farmland from conversion. The plan also includes design recommendations for those areas where conversion cannot be avoided. Preserving farms and farming as a viable occupation is a difficult and complicated issue. Increasing and making urban area options more attractive for developers could decrease the demand for farmland conversion.

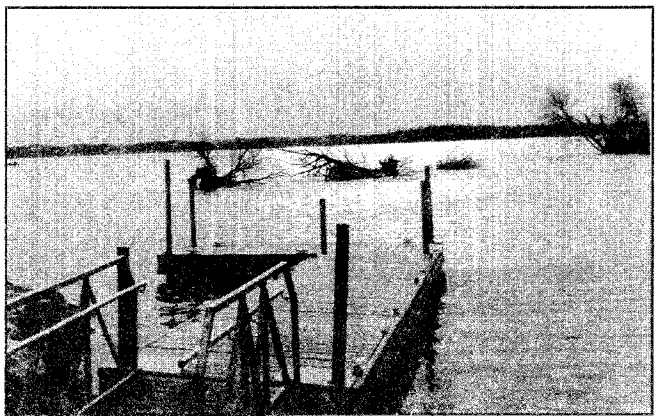
- This goal also promotes the preservation of the visual and aesthetic character of Dane County's rural areas. These areas are considered an important scenic resource worthy of preservation.

- Of the survey respondents, 92% believe that protection of agricultural production is a key issue in the future of Dane County. Four out of five public involvement meeting respondents agreed that farmland and farms should be preserved.

10 **Promote planning and design that preserves environmental functions and protects important environmental, cultural and historic resources.**

- Careful planning should minimize the effect of new development on key natural areas, wetlands, watercourses, shorelands and floodplains, upland buffers, visual resources, and historic and cultural resources. Although individual site development decisions are the prerogative of local communities, those decisions should reflect the basic goals and objectives of this plan.

- 97% of the respondents in the May/June meetings agreed that environmental resources including land and water should be preserved. The public opinion survey showed that about 79% of the respondents disagreed that existing environmental regulations should be relaxed to allow new development near environmentally sensitive areas.



11 **Develop and promote a county-wide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities.**

- All identified environmental corridors have been considered in the planning process and protected from new development. The recently updated and adopted County Parks and Open Space Plan has been incorporated into this plan by reference.

CHAPTER

The Land Use and Transportation Plan

The result of the Vision 2020 process is a land use and transportation plan that will guide growth in the county through the year 2020. It was built with two years of research, analysis, and modeling and a framework of goals derived from the community's collective view of its desired future.

BASIS FOR THE PLAN

The plan is not one of the alternatives studied and described in the Appendices volume, but rather, a combination of elements from several of the scenarios based on public input through several forums. The public responses to the three alternatives and goals presented in the May and June 1996 meetings clearly pointed toward the concentrated growth end of the scale with an aggressive program of mass transit. Various options were tested, and it was determined that the existing infrastructure and transportation system would function best if growth was slightly less concentrated in the central area than this alternative would suggest. This led to a proposed land use pattern somewhere between the Concentrated Growth and Adopted Plans alternatives. The transportation plan, however, is based on a much higher level of transit service than is available today.

The plan is guided by the goals identified during the public involvement process and confirmed by a county-wide public opinion survey. The plan also makes several primary recommendations about the desired character of development in the county.

PLAN ELEMENTS AND STRUCTURE

The plan is composed of two primary elements—a Land Use Plan element, and a Transportation Plan element. These plan elements were developed together in an integrated approach, even though they are presented separately in the report.

The following discussion begins with describing the overall regional development patterns and distribution that form the core of the future vision for Dane County. This overall framework outline is followed by a description of the Land Use Plan element, outlining specific objectives and implementation strategies. The Transportation Plan element, designed to provide an integrated all-mode transportation system to serve the future land use and development envisioned, is then presented with specific objectives and implementation proposals.

The two primary plan elements are intergrated and designed to reinforce each other–the Transportation Plan, by providing residents with the desired mobility, access, and choice and by locating transportation facilities and improvements to help achieve the desired land use patterns; and the Land Use Plan, by promoting land use patterns which support and reinforce a reliable all-mode transportation system which offers residents convenient and economical alternatives to automobile usage.

The plan is guided by the goals identified during the public involvement process and confirmed by a county-wide public opinion survey...

The Land Use Plan

The land use plan is designed to serve the projected needs of the community to accommodate new growth and development anticipated through the year 2020. This plan is based upon the community goals discussed previously. The transportation plan which follows is based upon this land use plan and reinforces those same goals.

This land use plan is intended to be a framework for development, recognizing that each individual community will continue to create its own plans and implement local land use changes through local ordinances. The plan is intended to provide guidance to those local communities and link their individual efforts to a regional perspective.

The following description of the land use plan element is divided into three main areas of discussion:

1. Overall regional growth and development patterns and distribution;
2. Urban development areas, including the central urban area as well as outlying communities; and
3. Rural land use and development.

In addition, two basic underlying strategies or approaches are essential to pursuing the overall plan goals: 1) more efficiently utilizing the region's finite land resources and 2) improving the efficiency of travel by increasing transit and ride-sharing opportunities.

Land Use Plan Concepts

The Regional Development Plan Map illustrates the framework for making decisions relative to growth and development throughout the region. (See Exhibit 4-1) It is intended to be a broad representation of desired development patterns throughout the county. Specific land uses for particular parcels are not illustrated on the map, but are developed through local city, village, and town plans within the framework of the Regional Development Plan. It is not intended to represent land use recommended for specific parcels.

The main elements shown on the map consist of: 1) the areas of planned urban development (Urban Service Areas); 2) the rural development and farmland preservation areas (Rural Areas); and 3) the identification of critical natural areas and environmental resources intended to be protected from development (Open Space Corridors).

Urban Service Areas: Urban service areas (USAs) are those areas in and around existing communities which are most suitable for urban development and capable of being provided with a full range of services. Urban services are public services normally provided or needed in urban areas, including: public water supply and distribution systems; sanitary sewerage systems; higher levels of police and fire protection; solid waste collection; urban storm drainage systems; streets with curbs and gutters; street lighting; neighborhood facilities such as parks and schools; and urban transportation facilities such as sidewalks and mass transit.

Urban service areas represent the extent of planned urban growth over the planning period. Since the urban service areas are intended to accommodate 20-25 years of future growth, they are not fixed boundaries, but are periodically reviewed and expanded to reflect growth and development that has occurred and the relevant future planning period. Short-term staging boundaries can be developed to indicate where urban development should occur and services be extended over the near-term future (up to 10 years), to assist in logical staging of the growth and extension of services anticipated in the plan.

The Regional Development Plan Map also shows limited service areas–where only one or a few limited services, such as sanitary sewer service, are provided to accommodate special or unique areas (remote park facilities, sanitary landfills, etc.) or areas of existing development experiencing sewage disposal problems. These areas are not intended to receive a full range of urban services or additional urban development. For more information on urban service areas and limited service areas, see the Appendix.

Rural Areas: Rural areas, as shown on the Regional Development Plan Map, are the areas outside of urban service areas intended to remain predominately rural in character. These areas include both farmland preservation lands as well as rural non-farm development which is consistent with the adopted County Farmland Preservation Plan and local town plans.

This plan recommends that agricultural lands are looked at for their importance as a community-wide resource and suggests two tools which can help focus development activities in those areas where it best serves the community. Agricultural Preservation Areas would delineate those areas with the highest quality agricultural lands and preserve them for agricultural purposes. These areas would be similar to those already delineated in the county's Farmland Preservation Plan. Rural Development Areas would delineate those areas in each town where development should be focused. Using local planning and zoning authority and new tools such as the transfer or purchase of development rights, the towns could focus growth where it best serves the needs of the entire community. Agricultural Preservation Areas and Rural Development Areas are not specifically designated on the Regional Development Plan Map, but are identified in the county Farmland Preservation Plan which incorporates local town plans.

...the plan is intended to provide guidance to those local communities and link their individual efforts to a regional perspective...

Open Space Corridors: The open space corridors shown on the Regional Development Plan Map include two distinct components: 1) Urban Environmental Corridors within USAs; and 2) Rural Resource Protection Areas in rural areas. Urban environmental corridors are a continuous open space system based on natural features and environmentally important lands such as streams, lakes, shorelands, floodplains, wetlands, steep slopes, woodlands, and parks and other publicly owned lands. Rural resource protection areas are based primarily on floodplains, wetlands, and shoreland areas (land protected through zoning or other regulations), together with existing or proposed publicly owned or controlled lands. The plan recommends that no new development be allowed within these corridors.

Exhibit 4-1
Regional Development Plan Map

Urban Service Area
Limited Service Area

Open Space Corridors
Open Water
Rural Area

Note to User:
This map is a general representation of the adopted Urban Service Areas and Open Space Corridors effective the date indicated. The map user should consult the official detailed up-to-date maps maintained by the RPC for specific interpretation of these delineations.

Dane County, Wisconsin

June, 1997

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Environmental Protection Framework for the Plan

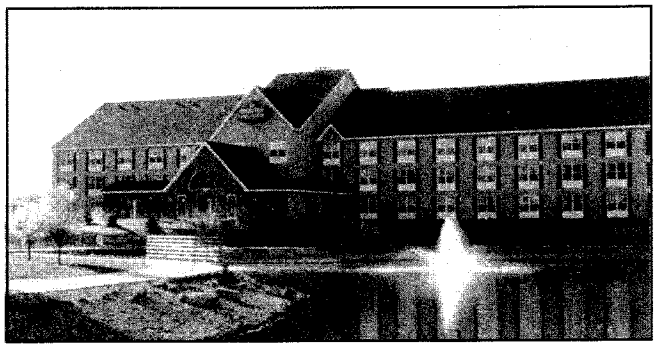
BACKGROUND AND APPROACH

The beauty of the Dane County landscape is one of the region's strongest assets. From the wooded hillsides and picturesque stream valleys of the Driftless Area in the western part of the county, to the rolling glacial marsh and drumlin topography in eastern Dane County, the region includes a wide range of representative Wisconsin landforms and natural resources. In the center, the Yahara River chain of lakes provides a spectacular setting for the state capital. In nearly every survey of public opinion, the scenic beauty and quality of Dane County's environmental and natural resources is one of the most important elements in the high "quality of life" rating of the region. Accordingly, Dane County residents place high priority on protection of environmental quality and scenic and natural resources.

Environmental protection planning for the region is based on a two-pronged strategy that incorporates both pollution control and resource protection, recognizing that either approach alone would not be sufficient.

Pollution control, as reflected in regional plans, is not limited to waste treatment facilities or technology such as emission control devices. Land design and management is recognized as one of the most effective and important approaches to preventing and controlling pollution. Appropriate location and siting of development and of waste treatment and disposal facilities, vegetation management, erosion control, utilization of natural drainage systems, and buffer areas are all approaches that can go far in protecting our environment if they are used consistently and in concert with resource protection.

Resource protection recognizes that land and natural resources perform critical environmental functions such as groundwater recharge and discharge, water quality improvement, erosion control, storage of floodwaters, wildlife habitat, and scenic beauty. Some lands are particularly vulnerable in urban and developing areas. It is important that these critical and vulnerable lands and resources be identified and their environmental functions protected.



The resource protection strategy reflected in this plan recognizes the inter-relatedness of adjacent landscape types and the importance of protecting valuable ecological units and linkages. The approach to resource protection is based primarily on a county-wide system of continuous open space corridors, which recognizes that many of the lands and resources performing critical environmental functions and most needing protection are associated with stream valleys and water features. The corridors also emphasize the importance of continuity of environmental systems and protection of the land/water edge.

GOALS:

The primary goals directly related to environmental protection include:

10. *Promote planning and design that preserves environmental functions and protects important environmental, cultural, and historic resources.*

11. *Develop and promote a county-wide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities.*

The more specific and detailed objectives, policies, and recommendations necessary to pursue these broad goals are outlined in other adopted regional plans, including, but not limited to, the Dane County Water Quality Plan, Parks and Open Space Plan, Farmland Preservation Plan, Solid Waste and Recycling Plan, Lakes and Watershed Plans, and Priority Watershed Plans as well as in many local city, village and town plans and ordinances.

...the beauty of the Dane County landscape is one of the region's strongest assets...

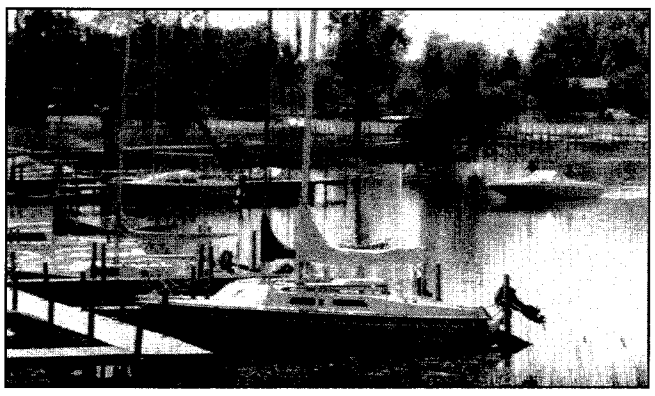
OBJECTIVES:

The primary specific environmental protection objectives and policies that are included in this county-wide framework land use and transportation plan include the following:

- Recognize that the natural environment is an integrated system of interacting land, water and air resources; and to protect the health and stability of this resource system.

- Provide a safe, healthful and visually pleasing environment to enhance the quality of life for all Dane County residents.

- Protect shoreland, floodplain, and wetland areas through the county, and emphasize their value as focal points of natural beauty and recreation.



- Preserve the role of wetlands and woodlands as essential components of the hydrologic system as well as valuable wildlife habitat, and restore or improve degraded wetland and woodland resources where possible.

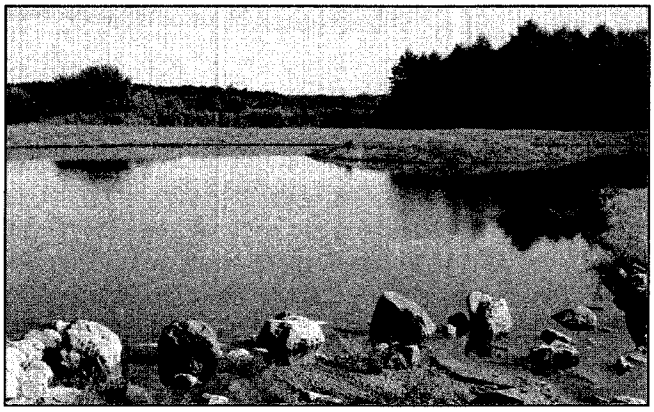
- Recognize the inter-relationship of adjacent landscape types, and avoid dividing natural units or breaking important linkages.

- Minimize adverse impacts of necessary encroachment of utilities and transportation facilities into open space corridors by: (a) avoiding encroachment when reasonable alternatives are available; (b) where encroachment is necessary, select routes which minimize environmental impacts, and avoid dividing natural units; and (c) incorporating design considerations which minimize impacts and contribute to compatibility with the corridor functions.

- Protect the quality and supply of groundwater as the principal source of water supply in Dane County.

- Guide urban and rural development to those locations where adverse impacts on ground and surface water quality are minimized.

- Incorporate in the design of urban development natural drainage patterns and measures to minimize or entrap pollutants before they enter surface waters.

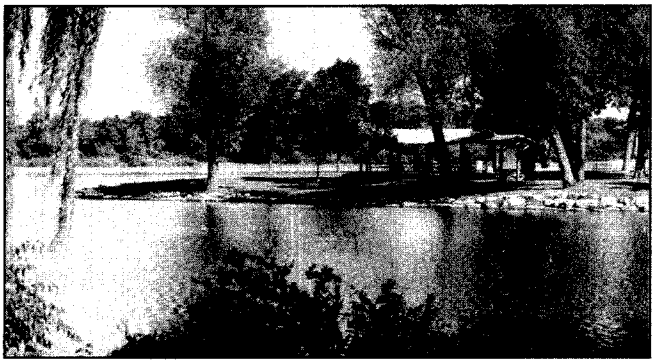


- Incorporate stormwater management practices, such as detention and infiltration, in urban development to maintain groundwater recharge and avoid increases in runoff.

- Guide urban development to areas where soils are suitable for such development.

- Protect the scenic values of the Dane County landscape by preserving and enhancing vegetative cover, particularly on steep, wooded slopes and stream and lake shorelands.

- Protect and maximize public enjoyment of the scenic qualities of Dane County by preserving views of landmarks, including high promontories or viewpoints, assessing the visual impact of proposed developments and facilities, and improving public access to scenic areas and views, particularly urban lake and stream shorelines.



- Minimize production of waste for disposal by supporting programs for reducing consumption, and recycling and reuse of waste materials.

- Locate and design waste disposal sites and facilities to minimize environmental impacts and health hazards, and to utilize natural or organic processes to the extent possible.

- Return resource extraction and waste disposal sites to productive use through final site design and reclamation.

- Support programs to improve air quality and control the emission of air pollutants in the region.

- Support programs to protect communities and neighborhoods from excessive noise levels.

Regional Development Patterns and Distribution

GOALS:

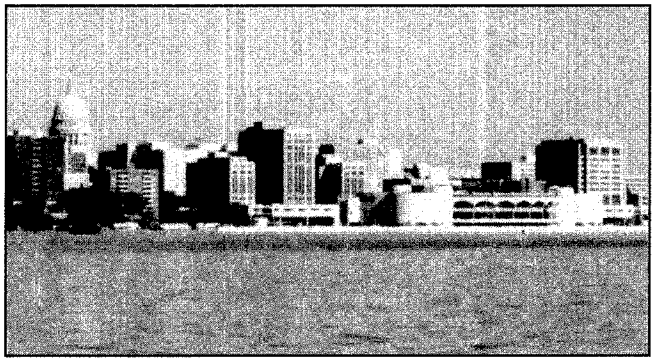
The primary goals related to the pattern and distribution of growth and development throughout the region include:

1. *Promote the development of balanced communities throughout the county with sufficient commercial, industrial, residential, and open space land to meet the needs of existing and future residents.*

3. *Promote the development of functionally and visually distinct communities, encouraging compact, mixed-use neighborhoods, and the efficient provision of a full range of public services.*

4. *Provide a full range of safe and affordable housing opportunities for all residents throughout the county*

7. *Support and maintain downtown Madison as the region's major activity center and seek greater diversity and vitality in that area.*



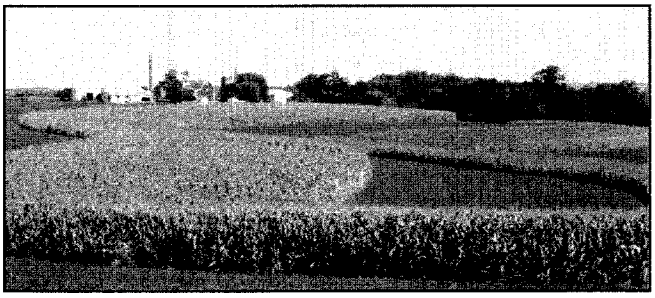
8. *Promote an economic development strategy that will provide suitable employment opportunities and a stable and diversified economic base.*

10. *Promote planning and design that preserves environmental functions and protects important environmental, cultural, and historic resources.*

11. *Develop and promote a county-wide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities*

The *Land Use and Transportation Plan* proposes that most of the region's projected population, housing, and employment growth should be located within Dane County's urban communities with only a small percentage of the expected growth accommodated in rural areas. This recommendation recognizes the desires expressed by residents for balanced communities with a variety of land uses that include a choice of living environments, diverse employment opportunities, and a full range of public facilities and services necessary to meet the needs of a large and growing population and desire for growth to occur in a cost-effective, environmentally sensitive manner.

The recommendation to concentrate most of the region's growth in the urban areas also acknowledges that only modest amounts of carefully-located, non-farm development can be accommodated in the rural areas if the functional and visual distinction between urban and rural communities is to be maintained. Dane County residents have consistently identified this distinction, and the beauty of the rural/agricultural countryside, as among the region's most valuable attributes.



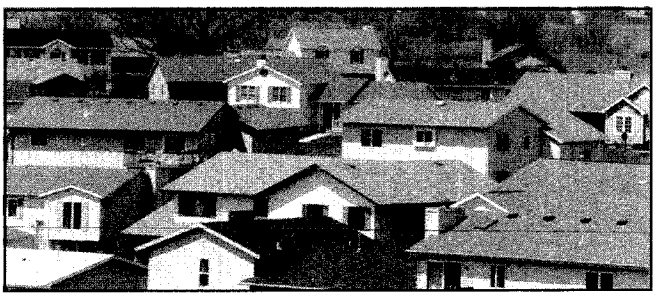
OBJECTIVES:

The specific objectives proposed to pursue these goals through year 2020 include:

- Directing 34% of the new dwelling units to the Outlying Urban Service Areas (OUSAs), planning for rural non-farm development as described on page 36 and directing the balance of new dwelling units to the Central Urban Service Area (CUSA). Currently, about 70% of the dwelling units are in the central urban service area; 17% in the outlying USAs; and 13% in the rural areas. This recommended development scenario is somewhat denser than proposed in the Adopted Plans scenario but less dense than proposed in the Concentrated Growth scenario as described in the Appendices volume.

- Create balanced communities with a variety of economic and housing opportunities. By reducing the proportion of new growth in the CUSA and correspondingly increasing it in the outlying USAs, the plan moves to create the balance called for by the goals. This reflects a shift from 1990 existing conditions where 70% of the residential units were located in the CUSA, 17% in the outlying USAs, and 13% in the rural areas. If this goal can be achieved, it would result in about a 3% shift in housing to the outlying USAs by year 2020 from the CUSA. This shift would help attain the goal for balanced, distinct communities in the outlying USAs. This shift in housing would correspond with efforts to create job opportunities in these same communities which could accommodate some portion of these new residents.

- Focus the approximately 57,000 new jobs into areas of the county where they can be served by public utilities as well as enhance the use of transit. To accomplish this, the plan recommends 74% of new non-agricultural job growth be located in the CUSA and 25% in the outlying USAs. This compares to the CUSA's 83% of total county employment in 1990. The allocation of these additional jobs to these outlying USAs is an attempt to create local employment options rather than making it necessary for most residents to commute to the CUSA. This recommendation concentrates somewhat more on job creation in the outlying communities than proposed in the Adopted Plans alternative, and less concentrated than proposed in the Concentrated Growth alternative. If this goal is realized, it would result in an increase in percentage of total jobs to outlying USAs of about 2% from the CUSA. Rural, non-agricultural jobs would remain about the same proportion of total jobs in the county.



- Provide a broad range of housing opportunities throughout the county with a slight shift in the locations of single-family and multi-family housing. Trends suggest a need for more duplex and multi-family housing in the county. This objective attempts to spread that housing out somewhat to provide a variety of housing types and styles in all communities. This will offer residents a number of choices in where and how they live. Under this plan, the county-wide goal for new construction in urban areas would decrease the average net single-family residential lot size from 11,000 square feet to 9,500 square feet. Similarly, the average density for multi-family units would increase from 12 to 16 dwelling units per acre. Recognizing the local diversity of current housing patterns, the plan encour-

ages local communities to consider contributing toward these county-wide goals. This concept was supported by 79% of the community in the public opinion survey mentioned above.

- Provide a more balanced mix of housing types throughout the county. In 1990, the ratio of single-family units to multi-family units in the county was about 55 percent single family and 45 percent multi-family. In the CUSA, this ratio was closer to 50/50, while in the outlying communities, this ratio was about 70/30. Outlying communities should provide more duplex and multi-family units in order to provide a variety of housing types for a stable, balanced community providing for the diverse needs of residents. Multi-family housing refers to all housing that is not detached single-family. It implies nothing about the ownership of the units, and can occur at a variety of densities and costs. Examples of multi-family housing include rental apartments and duplexes, owner-occupied condominiums, and owner-occupied townhouses. It should be noted that it is not necessarily the single family to multi-family mix that is most important but also the owner/renter mix.

The Land Use and Transportation Plan proposes that most of the region's projected population, housing, and employment growth should be located within Dane County's urban communities with only a small percentage of the expected growth accommodated in rural areas...

- Communities should provide a range of housing options which will meet the anticipated needs of their residents and families. Providing a diversity of housing types allows people of different ages, life situations, and incomes to live together in the community. This plan projects a 2020 distribution of single-family units to multi-family units in the outlying urban service areas of 59% to 41%, if trends since 1980 continue.

- Provide a slightly greater share of the County's duplex and multi-family units in the outlying USAs to achieve a more balanced regional distribution of housing types, as well as a wider range of housing opportunities in the outlying communities. A strong majority of respondents to the November 1996 phone survey of Dane County residents felt that all communities throughout Dane County should provide a variety of housing choices.

IMPLEMENTATION:

The following implementation strategies are recommended to pursue the goals and specific objectives to achieve the recommended regional development pattern:

- Encourage and assist all local communities in developing detailed local comprehensive plans consistent with balanced community and neighborhood planning concepts.

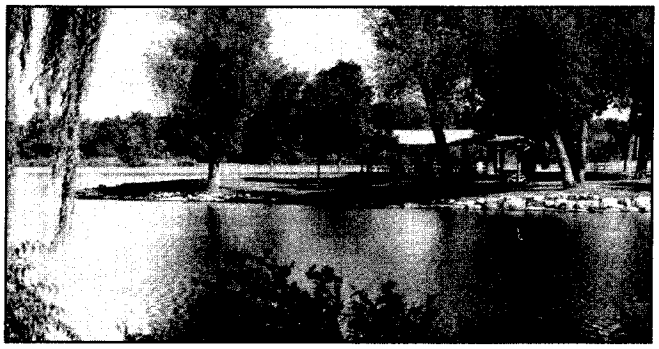
- Review local and county land use, zoning, subdivision, and siting decisions as well as proposed urban service area expansions for consistency with adopted local and county-wide plans and policies.

- Assist outlying urban service areas in promoting job creation and economic development that will enable them to move toward diverse employment and community balance.

- Review and encourage the revision of county and local land use and zoning regulations and ordinances to remove barriers to balanced community development, diversity of housing choice, and traditional neighborhood planning approaches which encourage mixed uses.

- Encourage the revision of local plans and zoning ordinances to allow smaller lot sizes and in some cases, narrower neighborhood streets.

- Promote the redevelopment of underutilized or unused parcels within urban service areas to reduce the pace of expansion into undeveloped open space or agricultural lands.



Urban Area Recommendations

URBAN FORM AND DESIGN

GOALS:

The primary goals related to urban form and design throughout the region include:

2. *Promote compact urban development in new areas adjacent to existing urban areas and in the redevelopment or infill development of existing neighborhoods.*

3. *Promote the development of functionally and visually distinct communities, encouraging compact, mixed-use neighborhoods and the efficient provision of a full range of public services.*

4. *Provide a full range of safe and affordable housing opportunities and choices for all residents throughout the county.*

6. *Encourage concentration of employment and activity centers at nodes and along transit corridors to maximize the efficiency of the existing and future transportation system.*

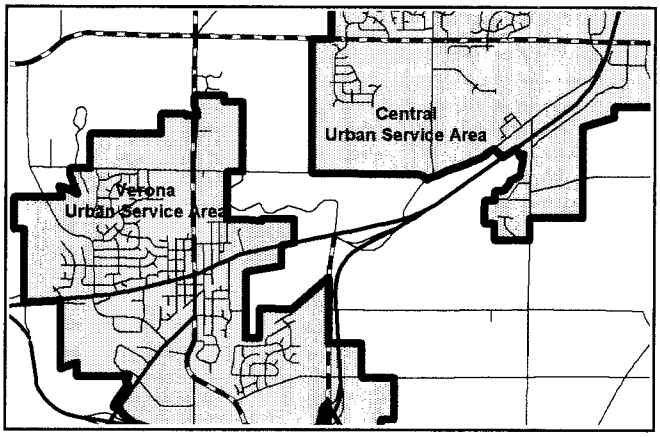
10. *Promote planning and design that preserves environmental functions and protects important environmental, cultural and historic resources.*

11. *Develop and promote a county-wide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities.*

While there are many differences in size and character among Dane County's urban communities, the *Land Use and Transportation Plan* includes broad objectives and recommendations that are applicable to all. Individual communities may address the issues covered by the recommendations differently, and it is expected that each may seek to carry out the recommendations in somewhat different ways based on local situations, preferences, and styles.

The overall recommendation for urban development is to create urban communities that are relatively compact, that can be efficiently provided with the full range of urban services, and within which land uses and activities are arranged to facilitate use of several alternative means of transportation, including automobiles, transit, bicycling, and walking. This compact, walkable urban form is characterized by concentrated activity centers where a mixture of complementary land uses exist in close proximity at relatively high densities. Often these mixed-use activity nodes are also located on relatively high-capacity roadways, along public transportation corridors, and in neighborhood business districts.

The related goals of maintaining visual separation between urban communities and visual and functional separation between urban and rural communities respond both to the "growing together" of expanding cities and villages, and to the "blurring" of the urban/rural distinction. This loss of separation and distinction is created not only by city and village urban growth, but also by continued non-farm development (primarily residential development) in the countryside, and by premature, often relatively low-density development at the urban fringe, often without the full range of urban services.



Realizing this goal of urban separation will require expanding cities and villages to develop plans and methods for maintaining a permanent physical separation between themselves. There have been some encouraging steps in this direction by some communities, but this objective is complicated by other conflicts at the urban edge. Maintaining distinctive rural/agricultural communities within these separation areas requires limitations on the amount of non-farm development and careful siting and design for the development that does occur.

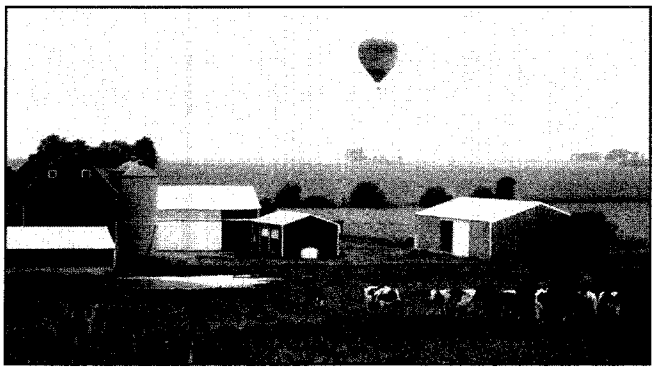
Planning for urban development also needs to recognize and respect important environmental interrelationships and functions, and protect important environmental, cultural, and historic resources. Sometimes this is best achieved by directing urban development away from sensitive or valuable resources or locations. In other situations, well planned and designed urban development can preserve and even enhance the enjoyment of valued natural and cultural features within the context of an urban environment.

OBJECTIVES AND IMPLEMENTATION:

- Locate new urban development in communities where a full range of urban services are provided and at locations within the community where these services can be provided most efficiently.

  The urban service area concept was introduced by the Dane County Regional Planning Commission in the 1973 Land Use Plan. Urban service areas are areas in and around existing urban communities which have been identified as most suitable for future urban expansion and capable of being provided with urban services. Location within an urban service area is a pre-requisite for approval of public sanitary sewer service extensions to serve new development.

- Identify and preserve in agricultural or other open space uses those lands which can provide a permanent visual and physical separation between urban communities.



- Designate as Urban Transitional Areas lands at the fringes of urban areas planned for eventual urban development with a full range of urban services. Premature development, or development with less than a full range of urban services, should be restricted to allow for development at urban densities with full services at the appropriate time.

  Non-farm rural development within the planned long-term growth areas of urban areas (mainly cities and villages) creates numerous barriers to orderly urban expansion and efficient extension of a full range of urban services. Recognizing the areas planned for eventual urban expansion or for urban development at such time that a full range of urban services is available would help prevent inappropriate or premature development. The actual designation of specific urban transitional areas is beyond the scope of this plan.

- Develop compact urban communities by seeking opportunities to develop or redevelop vacant or underutilized properties within the community before converting undeveloped land at the edges of the community to urban uses.

- Within urban areas, locate community-scale development along major transportation corridors which are, or will be, served by transit. Within these corridors, concentrate the largest and most intensive developments primarily at transit stops and other intermodal transportation transfer points.

- Areas around transit nodes and other inter-modal transportation points should be developed with uses, densities, and design qualities that encourage and facilitate pedestrian activity and high levels of transit service and ridership. (See the Appendices volume for guidelines for transit-oriented development.)

- Increase the opportunities for pedestrian and bicycle transportation within urban communities by developing a comprehensive system of walkways and bikeways (on-street and off-street) that provide direct, convenient connections to most destinations.

- Recognize and protect from urban development Environmental Corridors and other important natural areas, environmental resources, and scenic resources.

- Design new urban development to complement and be compatible with important cultural and historical resources.

ECONOMIC DEVELOPMENT FRAMEWORK FOR THE PLAN

GOALS:

The primary goals related to economic development throughout the region include:

1. *Promote the development of balanced communities throughout the county with sufficient commercial, industrial, residential, and open space land to meet the needs of existing and future residents.*

2. *Promote compact urban development in new areas adjacent to existing urban areas and in the redevelopment or infill development of existing neighborhoods.*

3. *Promote the development of functionally and visually distinct communities, encouraging compact mixed-use neighborhoods and the efficient provision of a full range of public services.*

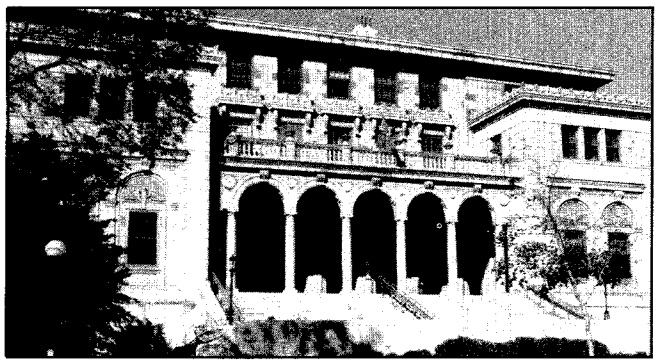
4. *Provide a full range of safe and affordable housing opportunities and choices for all residents throughout the county.*

5. *Provide an integrated, all-mode transportation system which offers the efficient, effective, and safe movement of people and goods, and provides mode choice wherever possible while enhancing and, where relevant, preserving the character and livability of the neighborhoods and residential areas where transportation facilities are located.*

7. *Support and maintain downtown Madison as the region's major activity center and seek greater diversity and vitality in that area.*

8. *Promote an economic development strategy that will provide suitable employment opportunities and a stable and diversified economic base.*

9. *Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.*



The high quality of life in Dane County is dependent on a growing and diversified economy that provides jobs, tax revenues, and a range of goods and services. Dane County has not experienced the economic decline and fluctuations felt elsewhere in the state and nation due, in large part, to the region's role as a major governmental, educational, and service center. However, there is still a need for action to encourage continued economic growth and diversification to provide employment for residents of the region.

Since 1980, employment increases have come primarily from growth in the private sector, although more than one out of four jobs are in the public sector. Past and future employment increases are dependent on the continued rise in the rate of females in the labor force. In addition, with strong growth in county-wide employment, the region is expected to continue to import labor from outside Dane County.

Economic development objectives and implementation measures seeking to create jobs should focus on: encouraging a steady and continued growth of existing and new businesses; assisting local development organizations; recognizing the needs of future employees; and providing the necessary infrastructure to support business growth.

OBJECTIVES AND IMPLEMENTATION:

- Encourage the expansion of existing businesses and the development of new businesses in Dane County that increase employment and improve income without adversely affecting local communities.

- Aid local development organizations to retain and expand existing businesses and to attract desirable new businesses.

- Assist communities in planning and development of commercial and industrial areas that are well designed and properly located.

- Encourage employers to recognize the needs of employees, such as day care facilities and transportation, and the needs of older workers and persons with disabilities.

  The increase in the size of the workforce will depend on a number of factors. The increasing number of working parents, two-wage-earner families, and single-parent households will continue to create a demand for quality child care services. The financial burden on low- to moderate-income workers for day care or transportation can restrict employment opportunities. Flexible hours may be necessary to accommodate part-time workers, including workers that come out of retirement.

- Provide the necessary public infrastructure to enable businesses to operate successfully. Incentives should be directed to business expansion that benefits the local and regional economy.

Public financial assistance in the form of tax incremental financing or loans or grants should be provided by communities to only those potential employers whose projects would not otherwise be feasible, are clearly supported by financial feasibility analysis, and can demonstrate a needed public benefit to the area.

- Encourage tourism as an important economic activity in Dane County.

- Encourage the protection of agricultural lands, the continued viability of farming operations and support of agribusiness as an important part of Dane County's economy.

NEIGHBORHOOD DEVELOPMENT

GOAL:

The primary goal related to neighborhood development throughout the region is:

3. *Promote the development of functionally and visually distinct communities, encouraging compact, mixed-use neighborhoods, and the efficient provision of a full range of public services.*

Neighborhoods are the heart of urban communities. The *Land Use and Transportation Plan* recommends that Dane County communities seek to create and maintain strong, stable, compact, mixed use neighborhoods as an essential element of their development plans. Neighborhoods are more than a concentration of houses or apartments; they more importantly provide the environment in which most residents spend a considerable portion of their time. When possible, neighborhoods should include opportunities for recreation, some convenience shopping, and perhaps even some employment. Some neighborhoods include public schools and many include religious or community institutions. Non-residential uses may sometimes be located at the center of a neighborhood. In other cases, these uses may be at the edge of the neighborhood or of several neighborhoods.

Clearly, there are differences between neighborhoods in relatively small urban communities and in very large communities. There are many unique characteristics that distinguish the neighborhoods within a given community. The differences between neighborhoods are part of their charm and their identity. The range of uses that may be considered desirable or possible will differ from neighborhood to neighborhood, and in all cases, the location, scale and design of any new development needs to be carefully planned to ensure compatibility with the neighborhood as a whole, and to protect existing properties and uses from undesirable impacts from new development.

...neighborhoods are more than a concentration of houses or apartments; they more importantly provide the environment in which most residents spend a considerable portion of their time...

The recommendations for neighborhood development seek to encourage relatively compact neighborhoods characterized by:

- Residential areas which offer a variety of housing opportunities.

- Densities linked to planned service and transportation system capacities.

- Concentration of higher-density residential uses closest to activity centers, neighborhood focal points, major open space, and mass transit routes or stops.

- A neighborhood focal point or center, such as neighborhood shopping district, a community center, or a park, or open space feature.

- Protection of significant environmental, cultural, and historical features.

- Adequate public and private recreation facilities and open space.

- Development siting recommendations, stormwater management facilities, and well location and management policies to protect water resources.

- A circulation system which includes planned arterial and collector streets, a local street system which discourages non-local traffic but provides efficient bus routes and high levels of connectivity within the neighborhood, and a system of paths and walkways for pedestrians and bicyclists providing convenient access to all neighborhood focal points.

- Design and development standards which insure that individual developments will complement and reinforce the neighborhood objectives.

There has been growing interest in the neighborhood development and design concepts often described as "traditional neighborhood design" (TND) or "new urbanism." TND incorporates many concepts similar to those listed above, but places even greater emphasis on the organization of uses within the neighborhood, on the design and siting of individual buildings, and on the design of streets and other public spaces.

OBJECTIVES AND IMPLEMENTATION:

- Seek the preparation and adoption of detailed neighborhood development plans for all developing areas before extending public infrastructure or granting development approvals. Encourage local units to require development proposals to follow the recommendations of the neighborhood development plan.

- Within larger urban communities, develop compact, walkable neighborhoods as a means to provide structure, variety, and individual identity to sub-areas within the larger whole.

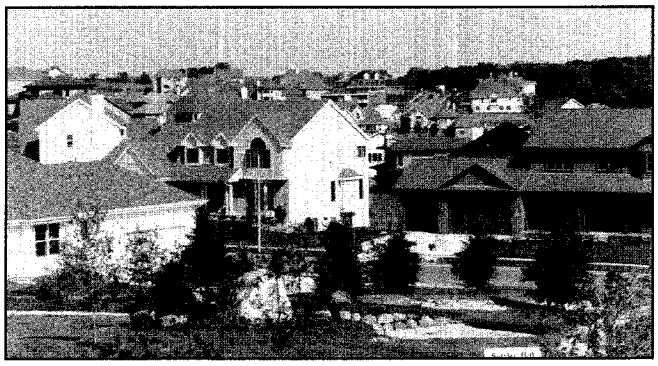
- When feasible, provide a variety of land uses and a range of residential densities and housing types at appropriate locations within each neighborhood.

- Develop appropriately-located, neighborhood-scale commercial developments within or at the edges of residential neighborhoods to provide neighborhood focal points and locations where convenience goods and services may be obtained within a short distance of most residents' homes.

- Provide all urban neighborhoods with a system of roadways, walkways, and bikeways (not necessarily separate facilities) that facilitate easy movement by a variety of routes and transportation modes between neighborhood locations, and particularly between commercial nodes or activity centers, parks, and recreational facilities, schools, community institutions, higher-density developments, and transit stops or transportation transfer points.

- Promote new development which complements and reinforces existing neighborhoods and development, rather than having an undesirable impact on existing neighborhoods and existing urban facilities and services.

- To the extent feasible and consistent with community objectives, utilize traditional neighborhood design guidelines in planning for new development and redevelopment areas within urban communities. (See the Appendices volume for a listing of some TND guidelines.)

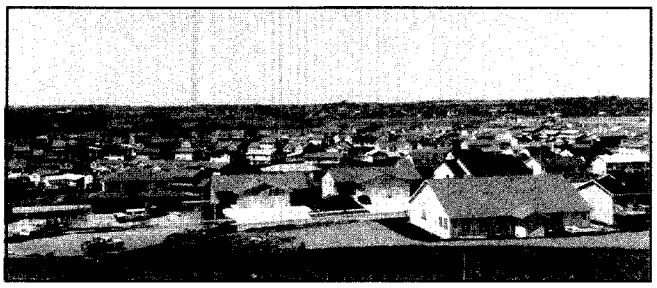


URBAN HOUSING AND DESIGN

GOALS:

The primary goal related to urban housing and design throughout the region is:

4. *Provide a full range of safe and affordable housing opportunities and choices for all residents throughout the county.*



The *Land Use and Transportation Plan* recommends that Dane County urban communities seek to increase the average county-wide density of residential development. There are several benefits from this recommendation, both within the urban areas and in the county generally. Developing at slightly higher concentrations reduces the amount of agricultural and undeveloped land that has to be converted to urban residential uses to accommodate the housing needs of a growing population.

Increased residential concentrations along transit routes and around transit stops also increase the feasibility of mass transportation service by bringing more potential riders within convenient walking distance, generally assumed to be one-quarter mile. This development pattern can also help provide the market support for a wider range of neighborhood-serving uses, such as a convenience store or a community center.

The residential patterns recommended in this plan for urban development represent relatively modest increases in density from recent development trends. As the population of Dane County increases over the planning period, it is likely that the market trend will be toward smaller lot sizes. Research during plan preparation identified many examples of new neighborhoods featuring similar average lot sizes throughout the county. It is important to understand that the recommendations are for average development patterns; in each community a variety of housing choices will be available, including lot sizes both above and below the recommended average.

The *Land Use and Transportation Plan* also projects a slight shift in the proportion of duplex and multi-family housing units developed in the outlying urban service areas. Currently, the Central Urban Service Area, and particularly the City of Madison, is accommodating a significant share of the multi-family development in Dane County. While the CUSA is in many ways a logical location for multi-family housing, the low levels of multi-family development in many other urban communities reduces the choices of many Dane County residents about where they can live. Increasing the proportion of duplex and multi-family units in the housing mix of the outlying urban service areas will allow a more balanced distribution of housing types throughout Dane County, and somewhat lessen the concentration of multi-family units in the CUSA.

OBJECTIVES AND IMPLEMENTATION:

- Decrease the amount of land consumed per unit of new urban housing development in Dane County to provide more compact, walkable neighborhoods, to increase opportunities for efficient transit service, and to reduce the amount of agricultural land converted to residential uses.

  Reduce the county-wide average lot size for new single-family residential urban development from the current 11,000 square feet to an average of 9,500 square feet.

  Increase the average net density for new multi-family residential development from the current 12 dwelling units per acre to 16 dwelling units per acre.

- Locate the relatively higher-density residential development in a community within walking distance of potential high-capacity transit routes, within mixed use settings where appropriate.

  The mile-wide east/west corridor extending from Sun Prairie to Middleton via USH 151, the Madison Isthmus, and University Avenue, with a potential linkage to the West Towne area, has been identified for additional study as a prime candidate for enhanced forms of mass transit, including commuter rail, light rail, and busways. Several additional longer-term regional high capacity transit corridors were identified and are addressed in the transportation portion of this plan.

- Provide a full range of housing types and price opportunities in all Dane County urban service areas so that households of all sizes and income levels have a choice of residential locations, both among and within communities.

- Develop a county-wide housing plan. The plan should consider methods to:

  - Provide affordable housing for low-income residents and families;
  - Preserve existing affordable housing for low-income people;

- Require safe (where safe means "habitable") housing;
- Promote accessible housing for people with disabilities;
- Promote diverse housing options;
- Coordinate housing services and agencies throughout Dane County.

- Recognize the value of existing housing and established neighborhoods, and to support improvement and rehabilitation efforts, both public and private.

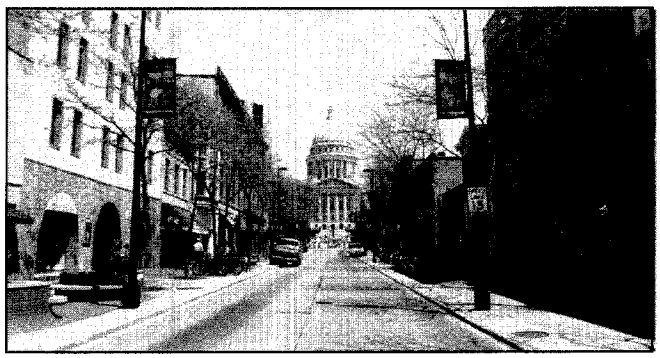
- Support efforts to provide housing for low- and moderate-income residents in a variety of communities experiencing growth or increased employment opportunities.

CENTRAL URBAN SERVICE AREA AND MAJOR ACTIVITY CENTERS

GOAL:

The primary goal related to the CUSA and major activity centers is:

7. *Support and maintain downtown Madison as the region's major activity center and seek greater diversity and vitality in that area.*



Although all urban communities are encouraged to develop with a balanced range of activities and land uses, the Central Urban Area is still expected to remain the predominant location for employment and regional shopping, recreation, and entertainment activities as well as housing.

Within the Central Urban Service Area, the *Land Use and Transportation Plan* uses the concept of Major Activity Centers to recognize major concentrations of existing and projected employment and commercial activity. These concentrations of relatively intensive or large-scale mixed land uses result in high levels of travel and trip generation, and tend to be the focus of continued real estate investment and new development and redevelopment, requiring significant public facility and service investment to accommodate transportation and other needs. In concept, the plan seeks to encourage development in Major Activity Centers, particularly for large-scale and region-serving activities, as a means to maximize utilization of the public facilities already in place, and as a means of reducing the need to extend public facilities to serve new major employment or commercial centers at unanticipated locations. Minimizing the number of scattered concentrations of major employment and commercial development is of particular importance to developing efficient forms of enhanced mass transportation.

The major activity center for the entire Dane County region is the central Madison area bounded generally by Blair Street on the east and Park Street on the west, with closely associated concentrations centered on the University of Wisconsin campus and the hospital and medical facilities area along the Park Street corridor. Other major activity centers are located near the University Hospital, Hilldale Shopping Center, West Towne area/Odana Road, East Towne area/High Crossing/American Center, Oscar Mayer, South Towne, along the South Beltline, the World Dairy Center area in southeast Madison, the Old Sauk Trails Research Park, and the Greenway Center development in Middleton. In some of these areas, particularly those near the urban periphery, there remains a very large potential for additional development. Large concentrations of employment and commercial activity are also developing at new locations not identified as major activity centers. Major activity centers are shown in Exhibit 4-2.

Within the Central Urban Area, downtown Madison is expected to continue to be the region's major activity center, particularly for government, educational, cultural, recreational, and entertainment activities serving not only Dane County, but the State of Wisconsin and beyond. Recommendations for the Madison Isthmus include improving the balance of uses in the downtown area by encouraging additional housing development and other improvements to enhance the Isthmus area as stable residential environments attractive to a wide variety of citizens.

Exhibit 4-2
Major Activity Centers
Urban Service Area
Limited Service Area
Environmental Corridor
Isolated Resource Feature
Major Activity Center
Projected 2020 Employment
Principal Arterial
Minor Arterial
Civil Division Boundary
Section Line
Rail
Trail
Linkage
Map Area
N

OBJECTIVES AND IMPLEMENTATION:

Promote the development of desirable, attractive, compact, and convenient shopping and commercial areas that are an economic and aesthetic asset to the region.

- Encourage all communities within the central urban area to adopt standards that minimize the adverse impacts of commercial development such as traffic congestion, incompatible land uses and poor pedestrian circulation.

- Discourage commercial strip development by encouraging new commercial development on arterial roadways to cluster into districts.

- Encourage planned mixed uses within commercial areas in order to promote more efficient use of the land.

- Continue efforts to improve transit service to all shopping and commercial areas.

Promote and support a range of development activities and employment centers in the central urban area communities that contribute to the economic stability of the region without degrading the natural environment or residential neighborhoods.

- Support local community efforts to encourage new desirable industries.

- Assist in the development of industrial parks for both the expansion of existing industries and to attract new industries; to assure that sites are compatible with adjacent and surrounding land uses.

- Encourage the preparation of feasibility and impact studies for major industrial development proposals indicating positive economic effects and potential negative impacts.

- Encourage the expansion of industrial, governmental, and educational areas to be consistent with adopted regional and local plans.

- Urge local units to develop detailed plans of emerging major activity centers to guide public services and facilities and to serve as an overall guide to the private developments which are anticipated.

The *Land Use and Transportation Plan* incorporates the Isthmus 2020 Citizens Advisory Committee recommendation that a significant share of the employment and housing growth allocated to the CUSA be located within the expanded Isthmus area. The focus of the recommendation is to maintain and enhance the long-term vitality of the downtown and Isthmus neighborhoods, and to increase the feasibility of developing enhanced transit services, both within the CUSA and regionally. The expanded Isthmus 2020 Study Area is defined as Glenway Street on the west, Highway 30 on the north, Starkweather Creek and Lake Monona on the east and Wingra Creek on the south.

- It is recommended that an additional 4,500 housing units be developed in the expanded Isthmus area between 1990 and the year 2020. The Isthmus 2020 Committee determined that, when properly planned, this level of growth can be accommodated on the Isthmus in a way that is compatible with and enhances the character of established neighborhoods.

Recommendations for the Madison Isthmus including improving the balance of uses in the downtown area...

- In keeping with recommendations of the Isthmus 2020 Committee, it is also recommended that employment in the expanded Isthmus area be increased by 14,000 employees between 1990 and the year 2020. This amount of employment growth represents an increase over recent trends and current projections. Realizing this objective will require implementation of a long-term strategy to establish the expanded Isthmus area as an attractive and competitive location for a wider variety of business activities.

- These strategies place some development in the expanded Isthmus area rather than on the fringe of the urban area. In that sense, the Isthmus 2020 Committee recommendations help diminish slightly the amount of development which might otherwise be expected on the periphery. This does not mean that development would or will not occur on the periphery of CUSA.

- Recognize downtown Madison as the region's major activity center (generally Blair Street to Park Street), and encourage greater diversity and vitality in the continuing development of the downtown area.

- To promote more residential uses, cultural and entertainment events and facilities in order to encourage greater occupancy, use, and enjoyment of the central Madison area during non-office hours.

Rural Area Recommendations

Rural areas in Dane County are dominated by agricultural uses and natural areas. However, rural areas also contain elements of the built environment, such as rural non-farm development and transportation facilities.

For the purposes of this section rural areas are defined as all those areas outside urban or limited service areas, see Exhibit 2-1. Towns are frequently labeled as rural areas. However, some town lands lie within urban service areas (e.g. Windsor), and thus have areas considered urban. Conversely, parts of some cities and villages are outside of service areas (e.g. Fitchburg), and are thus considered rural.

Many difficult planning issues occur in rural areas. Agricultural preservation is a widely accepted goal of this plan. Over 75% of respondents to the November 1996 telephone survey indicated that it was "very important" that Dane County preserve its farms and rural areas. Still, this goal often conflicts with landowner desires to sell land for development. Pressure to convert land from rural to urban uses at the expanding fringe of urban areas raises other related issues. These issues occur most often for towns surrounding the central urban service area, and are complicated by the fact that multiple political jurisdictions have an interest in planning for these areas.

RURAL FORM

GOALS:

The primary goals related to rural form and design in the region include:

9. *Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.*

10. *Promote planning and design that preserves environmental functions and protects important environmental, cultural, and historic resources.*

11. *Develop and promote a county-wide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities.*

Throughout this planning process, both urban and rural residents have supported the goal of protecting agricultural lands. In the November 1996 phone survey, 63 percent agreed that Dane County should adopt regulations to limit growth in rural areas, while 31 percent disagreed. Participants at the May/June 1996 public meetings echoed this sentiment. A significant amount of non-farm housing in rural areas conflicts with agricultural uses by consuming farmland, raising farmland values and property taxes, and leading to lifestyle conflicts with farm operations and transportation conflicts on rural roads. Rural housing also increases public service demands and costs, negatively affects travel times, and may result in groundwater contamination if built in significant concentrations.

Agricultual preservation is a widely accepted goal of this plan...

Still, there is a need to plan for some non-farm development in rural areas. This need exists to supply a full range of housing opportunities throughout the county and allow farmers some non-farm economic return on their land. Such development should, however, be directed to areas where it does not conflict with agricultural uses and is not in the path of urban growth. Further, it should be located and designed to minimize environmental impacts and avoid detracting from the "rural" character of the landscape.

OBJECTIVES AND IMPLEMENTATION:

- Continue to preserve the vast majority of rural areas, including prime and productive agricultural lands, as Agricultural Preservation Areas in which non-farm development opportunities would be limited. It is recommended that these areas be identified and incorporated into town plans as they are updated.

- Preserve in permanent agricultural and open space uses other key lands which provide visual and physical separation between existing communities, protect rural resource protection areas, and preserve scenic landscapes.

- Enhance the economic viability of retaining land in agricultural open space uses through creativity and flexibility in regulations and incentives.

  Where possible, farmers should be allowed to benefit from the County's economic growth without having to divide their land or sell it for development. Consider the use of such tools as transfer of development rights or purchase of development rights to accomplish this objective.

- Plan goal for rural, non-farm development is:

  1) A lesser amount of development in towns than at present;

  2) Clustering of rural development based on historical patterns (existing hamlets, subdivisions, etc.) and environmental factors (soils, slopes, view, etc.);

  3) Smaller lots which are consistent with health and environmental concerns;

  4) Channel town development to areas with substantial clustered development with a relatively high level of urban services.

- Designate as Urban Transitional Areas lands at the urban-rural fringe planned for eventual development with a full range of urban services including public sewer and water systems. Premature rural development at low densities should be limited to allow for higher density urban development at the appropriate time.

- Designate as Rural Development Areas lands away from Agricultural Preservation Areas and beyond Urban Transitional Areas. Rural Development Areas would be planned for eventual residential development on private well and septic systems. These areas should be sized according to the planned quantity of rural development through 2020 and appropriate development densities. These areas would be identified by towns as they update their local land use plans. The actual designation of specific rural development areas is beyond the scope of this plan.

- Restrict access to major transportation facilities which extend through rural areas in order to reduce development pressure.

RURAL AREA DESIGN

GOALS:

The primary goals related to rural area design include:

9. *Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.*

10. *Promote planning and design that preserves environmental functions and protects important environmental, cultural, and historical functions*

Design in rural areas should preserve the predominant agricultural and open space character of the landscape. For those areas identified as Rural Development Areas and other areas where limited rural development occurs, design and siting are crucial to assure preservation of rural character. Inappropriately placed or designed rural development may interfere with neighboring farm operations, result in environmental problems, or impair a scenic rural landscape.

OBJECTIVES AND IMPLEMENTATION:

- Prepare with local governmental units Neighborhood Development Plans for designated Rural Development Areas to promote subdivision patterns which protect environmental corridors, avoid prime and productive farmlands, and provide effective access, circulation, and drainage. Require development proposals to comply with Neighborhood Development Plans before granting approvals.

- Develop rural development design and siting guidelines and regulations to (a) minimize the impact of rural development on agricultural operations; (b) preserve scenic views and community separation areas, and (c) facilitate access and provision of public services.

- Encourage cluster design for new rural housing developments, reduce the lot sizes in rural areas, and promote the location of such clusters adjacent to existing hamlets or subdivisions, where additional development is appropriate. Redirecting rural housing into clusters instead of large estate lots can result in the preservation of 70 percent or more of surrounding land in agricultural or open space use.

  As a simple example, consider a rural parcel of 105 acres including productive farmland. A small estate style division might yield three lots averaging 5, 10, or even 35 acres each. With an alternative cluster plan, the division could still yield three lots, but average lot size could approach one acre sized lots. The remaining acreage if appropriately positioned, could be leased by, or sold to the adjacent farmer for continued farming. These benefits become even more tangible if applied to potentially larger rural developments. Such clustering can also increase the feasibility and reduce the cost of future public services as well as preserve the aesthetic character of the rural areas.

- Preserve historic farmsteads and hamlets which contribute to the cultural history and aesthetic beauty of Dane County.

RURAL RESIDENTIAL DEVELOPMENT DENSITY

GOALS:

The primary goals related to rural residential development include:

9. *Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.*

10. *Promote planning and design that preserves environmental functions and protects important environmental, cultural, and historic resources.*

Rural development density is a complicated issue, in part because it has dual meanings. First, rural density may be understood in terms of a "density ratio," or a certain number of homes or lots allowed based on total acreage (e.g., one home site per 35 acres owned). Actual lot size is not considered in this first definition. It is important to note that this 35 acre standard does not represent a minimum lot size. Second, rural density may alternatively be understood as either a minimum or maximum lot size (e.g., maximum 2 acre lots). Both meanings have relevance for this plan.

The County Farmland Preservation Plan rural density policy, expressed through many Town Land Use Plans, suggests that limited rural home development is acceptable within Agricultural Preservation Areas. This policy generally allows one rural home site, regardless of lot size, for every 35 acres of farmland owned. The *Land Use and Transportation Plan* supports the continuation, clarification, and further adoption of the 35 acre standard as a reasonable and equitable approach to rural housing. Still, for reasons expressed earlier in this section, Agricultural Preservation Areas are best kept free of home sites. Equitable ways to achieve this goal should be pursued.

Rural density is less frequently expressed in terms of lot size. Larger lots can be attractive given the requirements of septic drainage fields, the protection of groundwater quality, the lower cost of land in rural areas, and the desires of some homeowners for a rural lifestyle. Still, lots which are too large can consume an excessive amount of agricultural land and result in more rapid, scattered rural land consumption. These scattered lots have a substantial impact on the costs of public infrastructure. This plan proposes a middle ground of moderately sized rural lots.

OBJECTIVES AND IMPLEMENTATION:

The following are proposed to achieve the appropriate scale of rural development:

- Continue to adopt, clarify, and implement the 35 acre density policy for Agricultural Preservation Areas as part of the County Farmland Preservation Plan.

- Develop and provide a means for landowners within Agricultural Preservation Areas to sell their potential to divide land or transfer that potential to other areas where non-farm development is more appropriate, such as Rural Development Areas or targeted locations within Urban Service Areas. This could reduce the number of lots divided in Agricultural Preservation Areas, while still providing land owners the opportunity to realize financial gains from community growth.

- Promote maximum lot sizes in Agricultural Preservation Areas to reduce the number of acres of farmland converted to non-agricultural use.

- When sizing Rural Development Areas and drafting Neighborhood Development Plans, consider lot sizes which promote the efficient use of land but which are also compatible with rural development constraints. Lot sizes should not be below 1 to 1 1/2 acres to avoid potential groundwater problems from on-site wastewater systems.

- Establish low density ratios and high minimum lot sizes within Urban Transitional Areas to discourage such lands from being prematurely developed at lower densities than would occur with eventual urbanization.

RURAL LAND USE DEVELOPMENT TYPES

GOAL:

The primary goal related to rural land use development types in the region is:

10. Promote planning and design that preserves environmental functions and protects important environmental, cultural, and historic resources.

A broad mix of land uses is most appropriate within Urban Service Areas. Because of constraints associated with private septic systems, roads, transit, and other public services, single family residences will remain the nearly exclusive type of development in rural areas. Employment in rural areas should be primarily agricultural and agriculturally related, with opportunities for farm family businesses to provide supplemental income. Limited commercial development opportunities are, however, possible. Multi-family development and large scale commercial or industrial development should not occur in rural areas due to servicing requirements.

These uses should be provided where a full range of urban services are available.This plan advocates a mix of affordable housing opportunities throughout the county. Consistent with this goal, a range of single family housing at affordable prices should be available in rural areas.

OBJECTIVES AND IMPLEMENTATION:

The following are proposed to achieve this plan's vision for the appropriate mix of rural development:

- Plan non-farm development in rural areas to be primarily single family residences for reasons stated earlier in this section.

- Promote development of an adequate portion of rural homes to be affordable to moderate income households.

- Direct multi-family residential development and large scale commercial and industrial development away from rural areas.

- Limit non-agricultural employment growth in rural areas to 1% of all new jobs expected in Dane County between 1990 and 2020.

The Transportation Plan

The transportation system is planned and designed to serve the land use developments which are anticipated to exist by the year 2020. There is a close interdependence between the location and densities of land use developments and the need for transportation facilities and services. The system plan also provides for adequate connections for through traffic on the statewide network. The transportation system plan makes recommendations for a number of different components of the county-wide transportation system. The following transportation components are included in the overall plan:

- Transit
- Bicycle Facilities
- Pedestrian Facilities
- Streets and Roadways
- Vehicle Occupancy
- Paratransit
- Rail Transportation
- Air Transportation
- Parking
- Corridor Preservation

This transportation system plan also seeks to anticipate and plan for the travel facilities needed for existing and future travel. With over 80 percent of the anticipated development by the year 2020 already in place, the plan seeks to address many of the existing transportation problem areas while expanding services and facilities to meet expanded travel needs.

OVERALL GOAL & OBJECTIVES

The overall goal of this transportation plan element is:

- *Provide an integrated, all-mode transportation system which offers the efficient, effective and safe movement of people and goods, and provides mode choice wherever possible while enhancing and, where relevant, preserving the character and livability of the neighborhoods and residential areas where transportation facilities are located.*

This overall goal can be clarified by these objectives:

- *Achieve a safe, convenient, and efficient transportation system that provides the level of service necessary to support the social and economic activity of the community, without adversely affecting the neighborhoods of the communities within Dane County.*

The basic role of a transportation system is the safe movement of people and products necessary to keep a community functioning. These demands influence not only the internal structure of the transportation system but also how Dane County is linked to the rest of Wisconsin and the rest of the nation. It is important, therefore, to maintain mobility on key routes like the Interstate System for through traffic to places throughout Wisconsin and beyond.

Provide an integrated, all-mode transportation system which offers the efficient, effective and safe movement of people and goods and provides mode choice whenever possible...

The social functions of the community, such as education, shopping, and recreation create demands on the transportation system, but equally important is the preservation of neighborhoods and the reduction of undesirable impacts from the transportation system on the human environment.

- *Achieve a transportation system compatible with area-wide and local patterns of development recommended in this plan and in adopted local plans, including compact, walkable neighborhoods, and transit-oriented urban activity centers on a regional basis.*

The effect of the transportation system on the development and redevelopment of land, and the effect of new development on the transportation system, must be carefully considered so that the transportation system and land uses may evolve compatibly. Mobility options within communities and between communities also need to be provided.

- *Achieve a transportation system compatible with environmental features and which minimizes undesirable environmental impacts due to location and construction of transportation facilities.*

The planning of a transportation system for Dane County requires many more considerations than in the past. Significant steps have been taken to reduce the undesirable impacts of the transportation system on the natural and human environments. The planning and design of Dane County's transportation system will continue to seek to minimize these undesirable impacts. In the case of urban streets, in some circumstances, especially in the case of major urban arterials, little can be done to minimize the impact of high volumes of automobile traffic. However, on most neighborhood streets, traffic redirection and traffic calming or the retention of on-street parking, can partially mitigate these impacts.

- *Achieve a transportation system that optimizes natural, social and financial resources while maintaining consistency with community goals and objectives.*

Resources will be more limited than in the past, and the cost of resources will increase as their supply decreases. The high cost of new transportation facilities will be a major consideration for the future. In addition, maintenance of the existing system and preservation of the safety of travelers will also be more costly and require resources that might have been used for expanding the system. Still, as Dane County grows, the transportation system must also grow. In meeting future needs, however, emphasis should be placed on low-capital improvements of existing systems and alternatives to system expansion. Staging of the system's expansion should be in a manner which will lessen long-range commitments to specific facilities while retaining flexibility in the design of facilities to meet future demand.

- *Achieve a transportation system supportive of energy conservation measures while meeting travel needs to the extent possible.*

All available signs indicate that the design of the future transportation system must consider limited petroleum resources as a strong possibility in the long term, even though supplies are now plentiful. In order to maintain mobility and accessibility options throughout the region in such an event, the region must maintain and support its current transit system and augment the system with commuter transit to outlying cities and villages where practical.

The overall transportation goal recognizes that a transportation plan is but one functional plan element which must relate to comprehensive plans as well as other detailed functional plans. Further, this overall goal and the policies of the plan are consistent with the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) goals and the 16 designated Planning Factors listed in that legislation which seek to create an intermodal transportation system that is consistent with land use, maximizes the mobility of people and goods, and minimizes fuel consumption and air pollution.

ALL-MODE OBJECTIVES

The following objectives are intended to apply to all modes of transportation throughout the urban and rural portions of Dane County which have not been addressed above or reflect a special circumstance not addressed in the transportation mode-specific sections of this plan.

OBJECTIVES:

- *Attain an area-wide transportation planning process responsive to the needs and interests of area-wide residents, groups, units of government and affected agencies, with sufficient opportunity for all to participate in policy and implementation decisions.*

- *Support and maintain basic transportation services such as maintenance, snow removal, traffic control, street sweeping, and other services that should be available to all residents of Dane County.*

- *Use public decisions on the provision of publicly financed transportation services as a tool for creating compact, well-designed and balanced communities.*

- *Stage the extension and expansion of urban transportation services within the urban service areas, to encourage compact urban growth in accord with the regional development policies of the land use plan element of this plan.*

- *Encourage and facilitate connections between various modes of travel, including connections with intercity bus (e.g., Badger and Van Galder) and intercity rail (AMTRAK).*

- *Encourage attention to aesthetics in the design of transportation improvements to fully integrate improvements into the environment, including consideration of scenic views and vistas, landscaping along roadsides and boulevards, and the location of signing.*

- *Support legislation which would facilitate the goals and objectives of this transportation plan.*

- *Encourage all governmental units and agencies to accept this plan, and future approved amendments, as a guide in implementing a consistent, coordinated program of transportation system improvements for all modes.*

KEY FEATURES AND CONCEPTS

To achieve the overall transportation goal, a multitude of objectives and implementation measures are needed, many of which are mode- or issue-specific and are individually presented later in this plan. The key transportation features and concepts of this plan are as follows:

FEATURES:

1) The plan emphasizes flexibility (e.g., mode choice options), in meeting existing and future travel needs, and in modifying plans to meet changing conditions.

2) The plan continues efforts to make the most efficient use of the existing transportation system by: efforts to increase vehicle occupancy; efforts to better manage the effectiveness of the existing system, such as minimizing conflicts between modes of travel (pedestrian, bicycles, and motor vehicles); and consideration of low and no cost improvements.

3) The plan continues a Madison urban area transit expansion emphasis, with ridership expected to increase 50% by the year 2020 with the expansion and implementation of a Transit Priority Corridor Concept, including a closer look at alternative transit technologies, such as commuter rail, light rail, bus, and/or new emerging technologies. The expansion also assumes commuter transit service to selected villages and cities outside of the Madison Urban Area.

4) The plan continues to accept somewhat higher congestion levels (Level of Service D) during the peak hours on streets and roadways, before giving consideration to building new or expanded facilities. See the Appendices volume for Level of Service examples. Congestion growth is monitored and traffic management solutions will be tried prior to any consideration of expansion. If, following these efforts, congestion continues to grow and have negative impacts on surrounding neighborhoods, capacity enhancement options could be studied, including turning lanes and other intersection improvements. When roadway improvements do become necessary, the plan recommends that

they should be designed to first meet existing and short range traffic needs. When expansion is not possible, transportation system management and demand management techniques may be possible and should be considered.

5) The plan continues to seek preservation of future travel corridors for pedestrian and bicycle use, transit, and roadways. In some corridors simultaneous uses may be possible.

6) The plan continues to strive for improved coordination and funding of services to the elderly, disabled persons, youth, and low-income persons needing special transportation services, while maximizing existing services.

7) The plan continues to encourage timely maintenance efforts (to preserve the existing system), and safety improvements.

8) The plan recognizes limited financial resources available for use on the transportation system and continues to investigate alternative means to finance local, county, and regional transportation improvements and maintenance.

9) The plan emphasizes a planning process that annually reviews and periodically adjusts short and long range plans.

10) The plan recognizes and encourages opportunities for alternatives to traditional commuting, such as telecommuting.

These features, which represent major policy areas in the transportation system, can be combined in ways to produce certain effects within the region which can also be described in a conceptual context.

CONCEPTS:

Growth Area and Activity Center Linkage. This plan seeks to maintain mobility and accessibility options throughout the region. Exhibit 4-3 illustrates how Dane County's urban service areas (growth centers) are interconnected by the present system of arterial and collector roadways, and

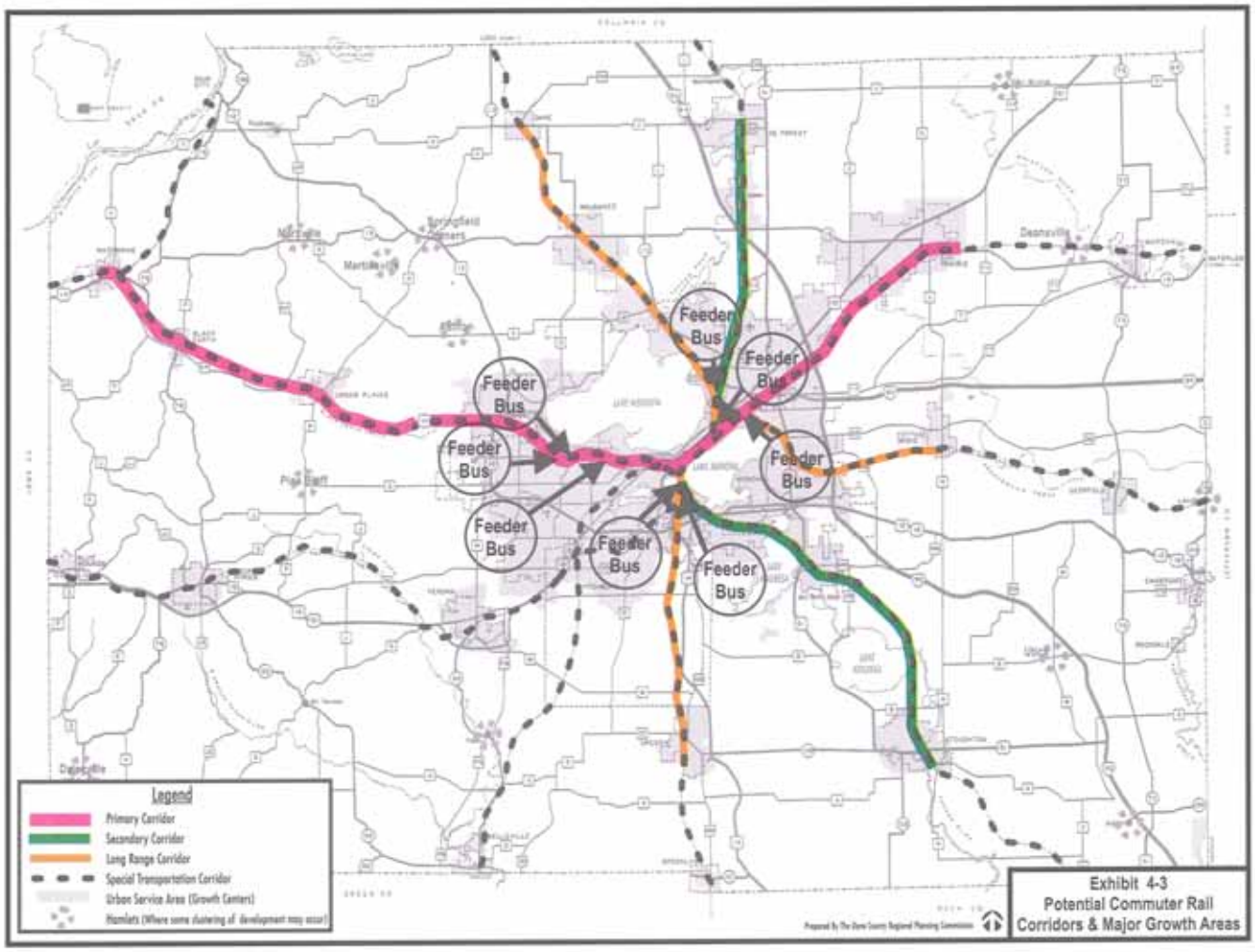


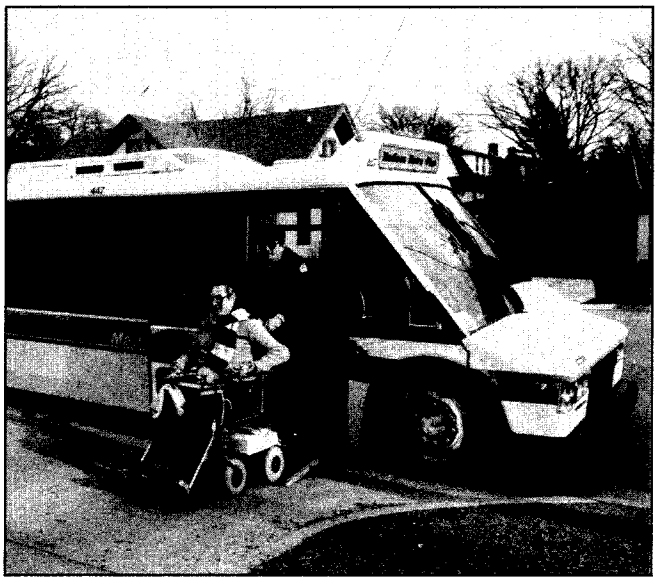
Exhibit 4-3
Potential Commuter Rail Corridors & Major Growth Areas

how those same centers can be served with a potential commuter rail system. Similarly, Exhibit 4-4 illustrates how Dane County's urban service areas can be interconnected with a light rail system which includes express bus service to the outlying service areas. As the outlying urban service areas continue to grow, future rail service could be extended.

Balanced Transportation Concept. This plan strives to increase travel reliance on transit, carpooling and other travel options which encourage riding together, other modes of travel, such as bicycling and walking, and trip reduction. This is especially the case for work trips to central Madison during the peak hours and for school trips. This reduces the demand on the roadway network in terms of congestion and roadway capacity and provides mobility choices for those who wish to use other modes rather than an automobile or who do not have access to an automobile. This plan also recognizes that the majority of trips made within the region will still be made by the automobile for shopping and business, and that modifications to the roadway system will be needed. (See Exhibit 4-5 for a concept map for the Madison urbanizing area).

Traffic Accommodation Concept. This plan continues to accept somewhat higher traffic congestion levels (Level of Service D), particularly during the peak hours. This is intended as a means of encouraging travel during off-peak periods, greater use of transit and carpooling, and lessening the need for expanding streets and roadways. Travel on circumferential routes (such as the South Beltline) is accommodated as a means to draw travel to these corridors wherever possible. Techniques of traffic engineering and safety improvements are made to make existing streets and roadways more efficient in moving traffic. Higher mobility levels are also maintained on some key circumferential routes to ensure efficient movement of people and goods through the region.

Traffic Direction Concept. This plan seeks to draw auto traffic to major travel corridors such as the South Beltline and other arterial roadway corridors, as a way to direct through-traffic from penetrating central Madison neighborhoods and other neighborhoods in the region. Traffic calming and other transportation system management techniques may be used to reduce and/or redirect traffic from local neighborhood streets and other sensitive areas. Bypasses around outlying villages and cities are also considered.



Other Plan Concepts. This plan seeks to broaden the understanding of the other modes of transportation and to recognize and encourage: pedestrian and bicycle travel; specialized travel needs of elderly and disabled persons; taxi and paratransit services; and integration of travel into multimodal corridors. In addition, the plan seeks to highlight the importance of preserving corridor lands, particularly rail corridors, for possible future travel uses.

...this plan strives to increase travel reliance on transit, carpooling and other travel options which encourage riding together, other modes of travel, such as bicycling and walking, and trip reduction...

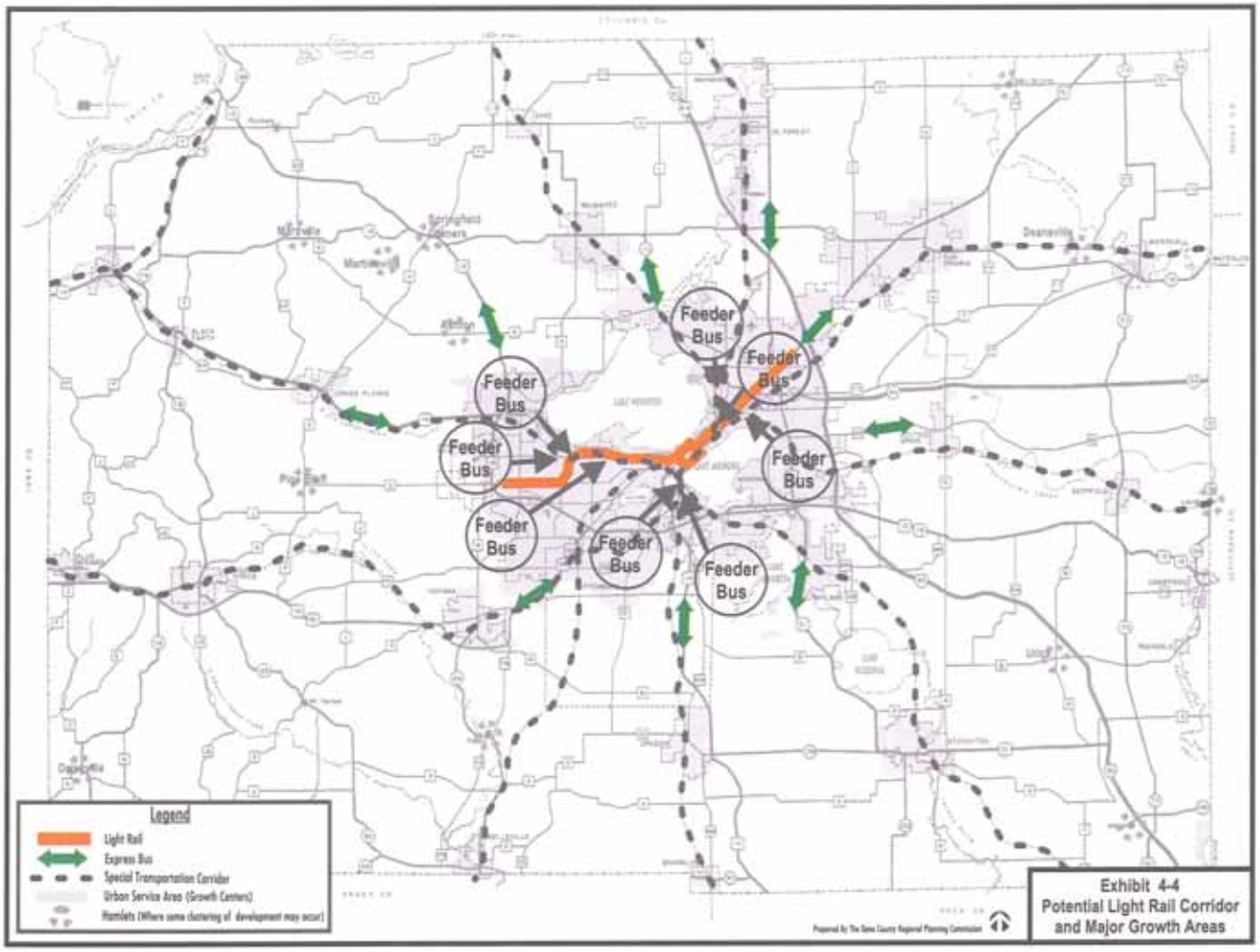


Exhibit 4-4
Potential Light Rail Corridor and Major Growth Areas

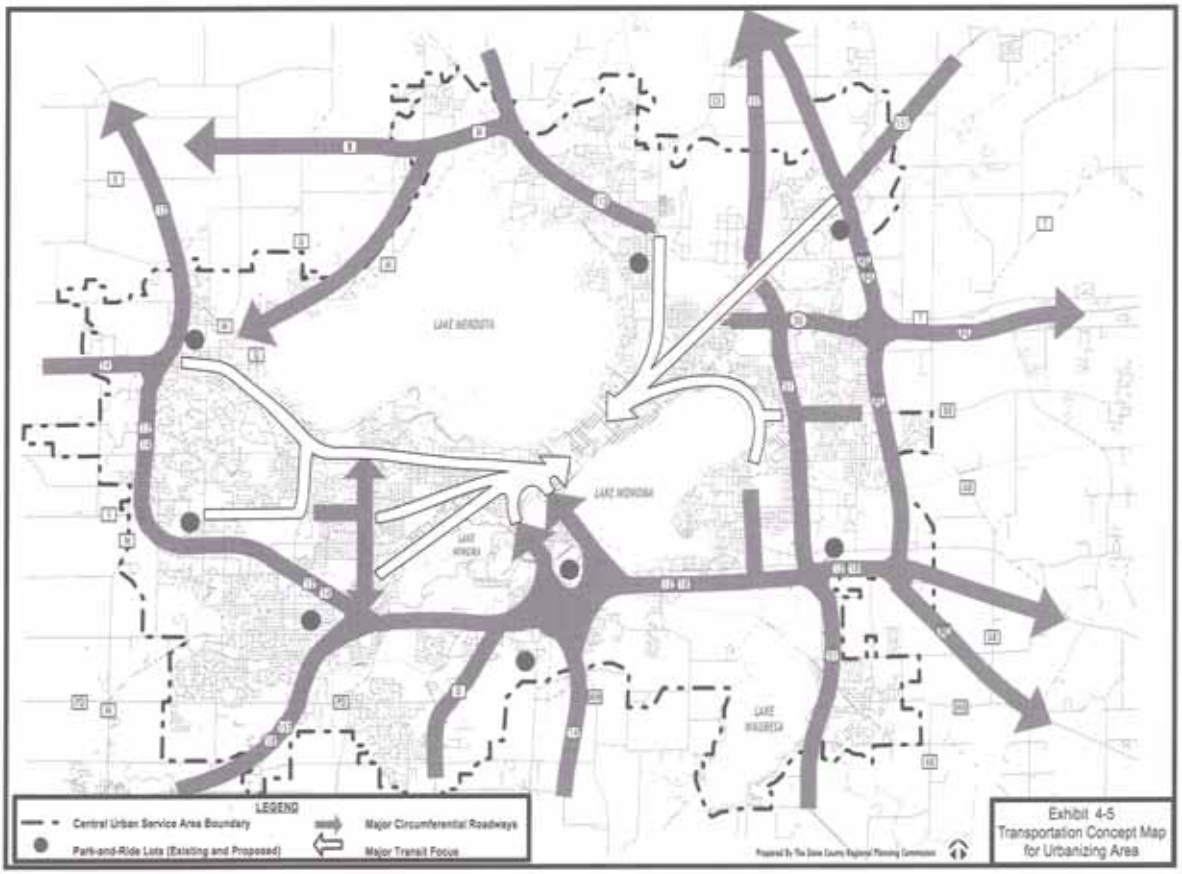


Exhibit 4-5
Transportation Concept Map for Urbanizing Area

Transit System Plan Element

In developing the transit system plan element for the Transportation Plan, three alternative transit technologies were identified which could operate within a high priority transit corridor. These technologies were tested to determine future ridership levels given assumptions about growth and development in the recommended land use plan for the year 2020. The technologies include:

Commuter rail *is heavy rail with vehicles similar to those used by AMTRAK.* A photo example of the vehicles is shown in Exhibit 4-6a. Exhibit 4-7 shows the system that was tested. It includes a main east/west line from the City of Sun Prairie to the Village of Mazomanie and a secondary north/south line from the Village of DeForest to the City of Stoughton. Future corridors for expanded lines would continue to be reserved for later development. A feeder bus system supporting the commuter rail system was also incorporated.

Light rail *refers to lighter vehicles generally powered by overhead electrical power systems which could be compared with street rail systems currently found in Europe or found in American cities fifty years ago (see photo, Exhibit 4-6b).* The light rail system tested, shown in Exhibit 4-8, consists of a 13-mile priority transit corridor served by light rail with a complementary feeder bus system. This system is similar to the light rail system analyzed in 1995 for the City of Madison by Cambridge Systematics, Inc. The transit corridor connects the university and downtown employment center with growth areas to the east around the East Towne shopping area, and to the west in the Hilldale area and the West Towne shopping area.

The possibility also exists to use a technology which combines the features of the heavy rail and light rail systems. Exhibit 4-6c illustrates a diesel-powered, light-rail type of vehicle. This vehicle, called the Regio Sprinter, allows stations to be closer together, uses existing rail lines, and is not dependent on electrical power from overhead wires.

The ***enhanced bus system*** *refers to the use of buses on some type of dedicated transit facility such as a separate bus roadway called a busway or in a dedicated bus lane on an arterial roadway.* The primary difference is the use of the transit priority corridor by buses instead of a train. In addition to the buses having their own lanes separated from auto traffic, the buses would have signal pre-emption capabilities. This system was also tested with peak hour commuter service to the Village of Waunakee and the Cities of Sun Prairie, Stoughton, and Verona. The 1997 proposed Madison Metro bus transfer system, shown in Exhibit 4-9, was also modeled without any of these higher level technologies to obtain future ridership estimates if none of the other three expanded transit systems were implemented.

Exhibit 4-6a
Example of Commuter Rail Technology

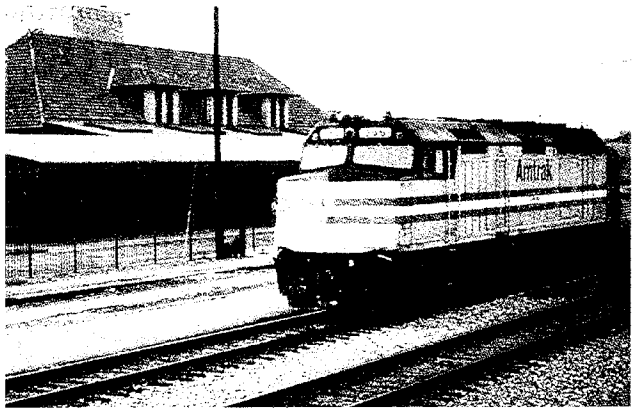


Exhibit 4-6b
Example of Light Rail Technology

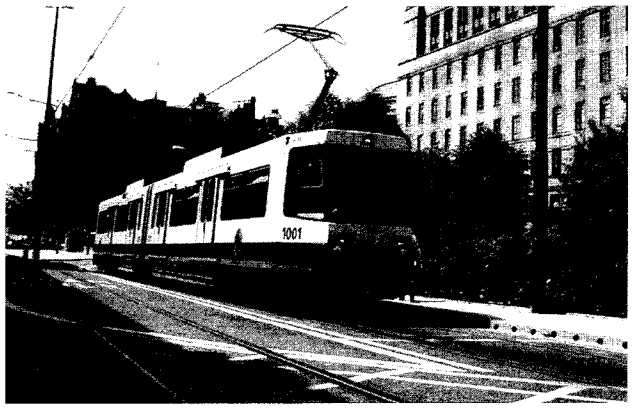
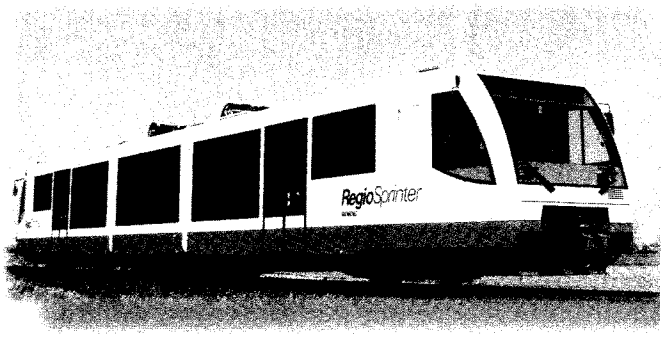


Exhibit 4-6c
Example of Combined Commuter Rail and Light Rail Technology



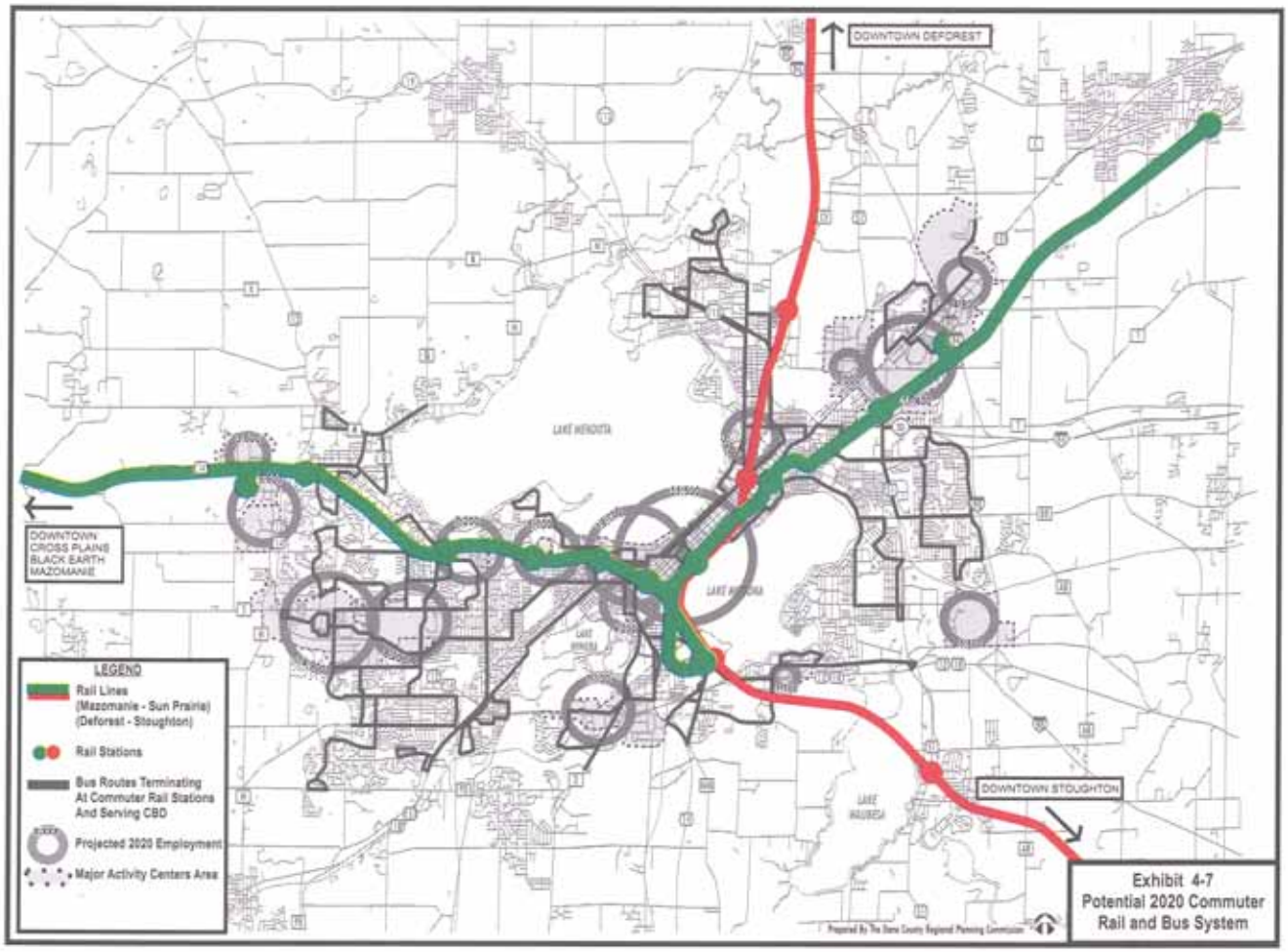


Exhibit 4-7
Potential 2020 Commuter Rail and Bus System

The transit modeling generally showed the more aggressive the service and technology, the higher the ridership. In 1990, the average design day ridership for the Metro system totaled 38,000. For the 1997 bus system, transit modeling based on the recommended land use plan to year 2020 resulted in an 8.4 percent increase in ridership over the 1990 total and had a minimal effect on future congestion levels (see Exhibit 4-10). All three of the more aggressive transit systems to year 2020 had ridership increases which totaled around 60,000 per day and had some impact in reducing future roadway congestion levels, mostly in the isthmus area (see Exhibit 4-11 and Exhibit 4-12).

The plan seeks to highlight the importance of preserving corridor lands, particuulary rail corridors, for possible future travel uses...

However, systemwide reductions in future congestion levels due to more aggressive transit were marginal. The light rail transit scenario demonstrated the highest increase in system ridership, which was almost 60 percent over the 1990 ridership totals. The enhanced bus ridership, which included commuter lines to Waunakee, Stoughton, Verona, and Sun Prairie, was 58 percent greater than the 1990 ridership.

The modeling for the light rail system was based on the Cambridge Systematics 1992 Transit Corridor Study which confirmed the results of the 1985 Transit Priority Corridor Study. Both studies concluded that the corridor with the greatest ridership potential extended from the East Towne area to the West Towne area via the central business district/University area and the Hilldale area. This transit primary corridor would connect the four major activity centers within the central urban service area and would provide improved transit mobility and accessibility for transit riders.

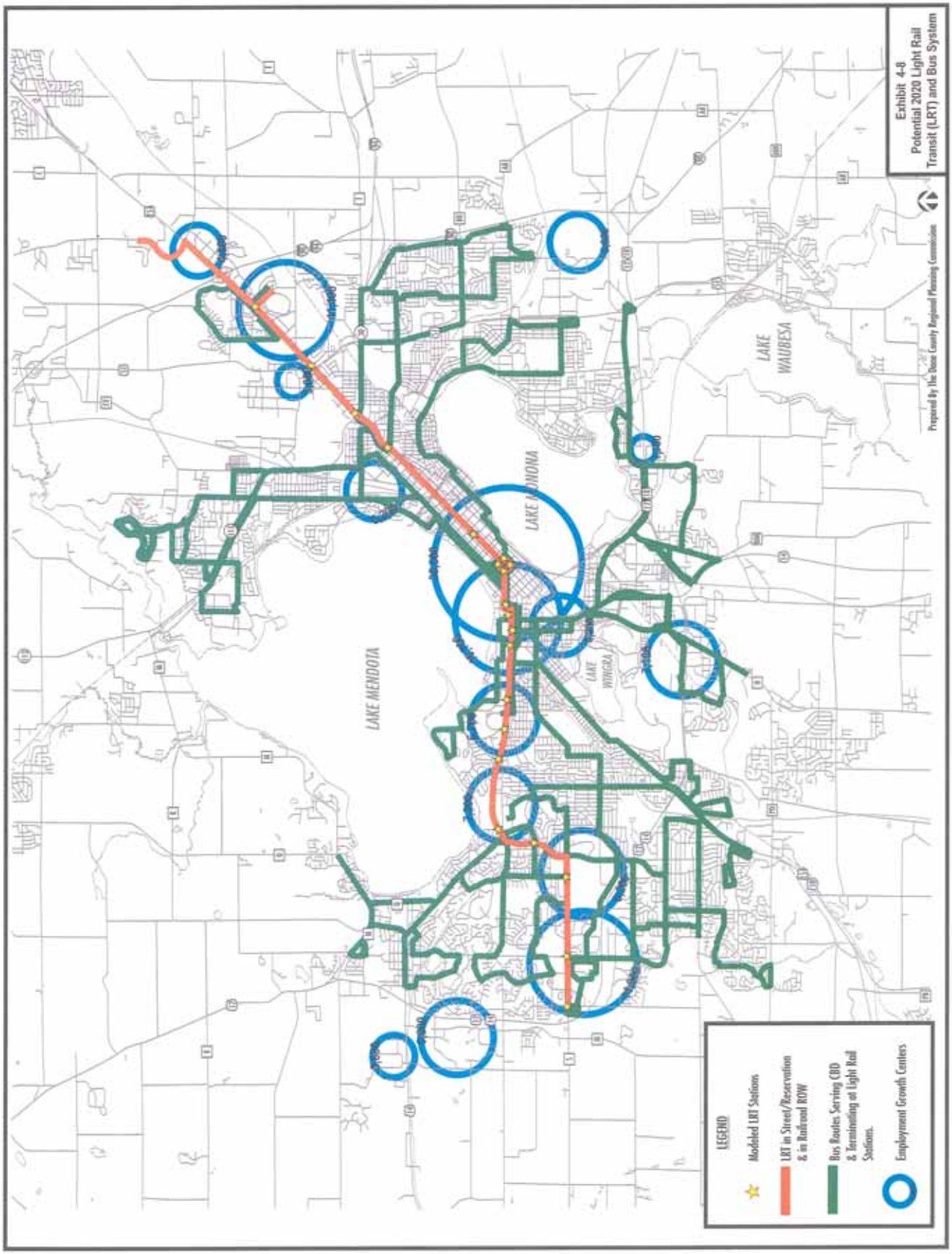


Exhibit 4-8
Potential 2020 Light Rail Transit (LRT) and Bus System
Prepared by The Dane County Regional Planning Commission
LAKE MENDOTA
LAKE MONONA
LAKE WINGRA
LAKE WAUBESA
LEGEND
Modeled LRT Stations
LRT in Street/Reservation & in Railroad ROW
Bus Routes Serving CBD & Terminating at Light Rail Stations.
Employment Growth Centers

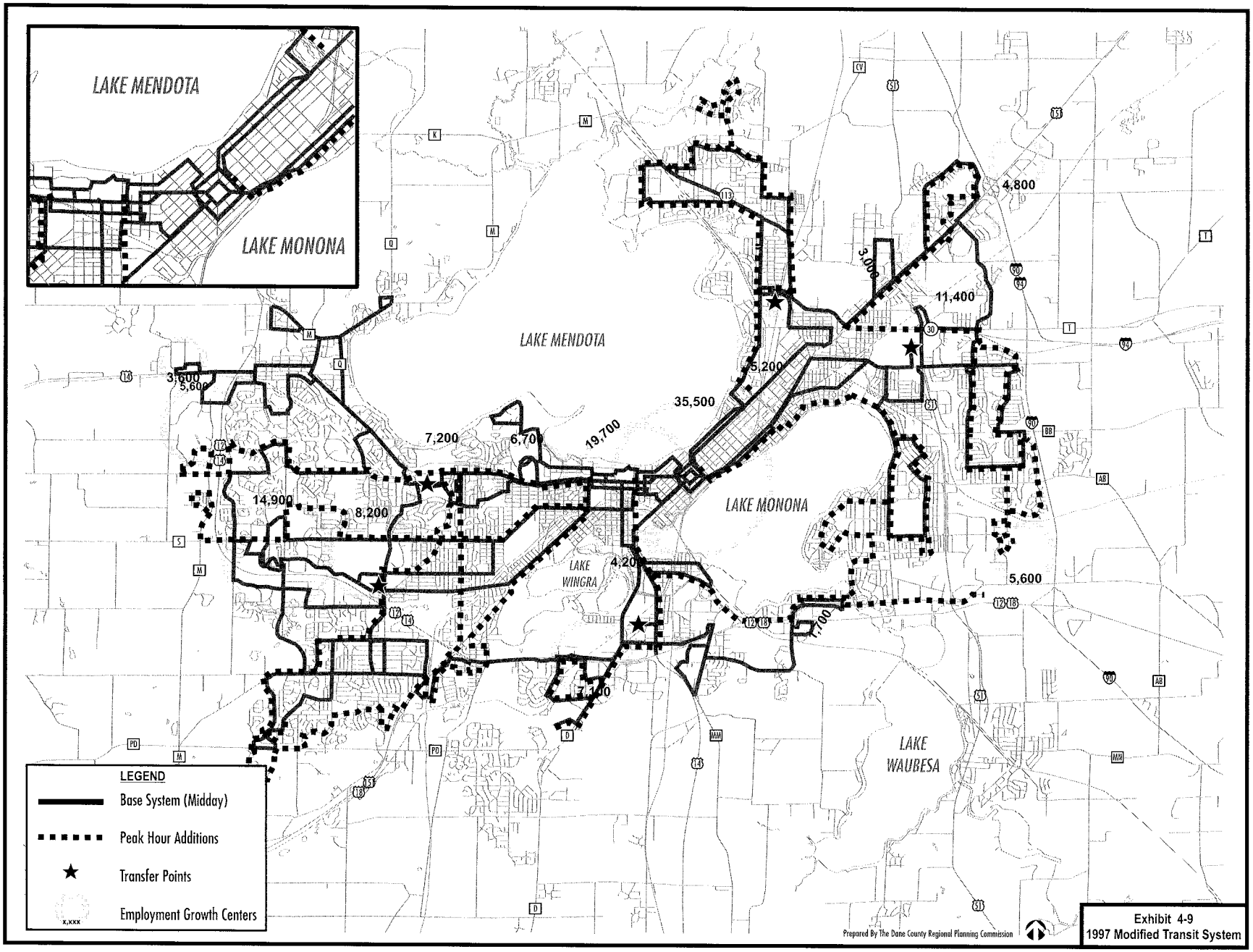


Exhibit 4-9
1997 Modified Transit System

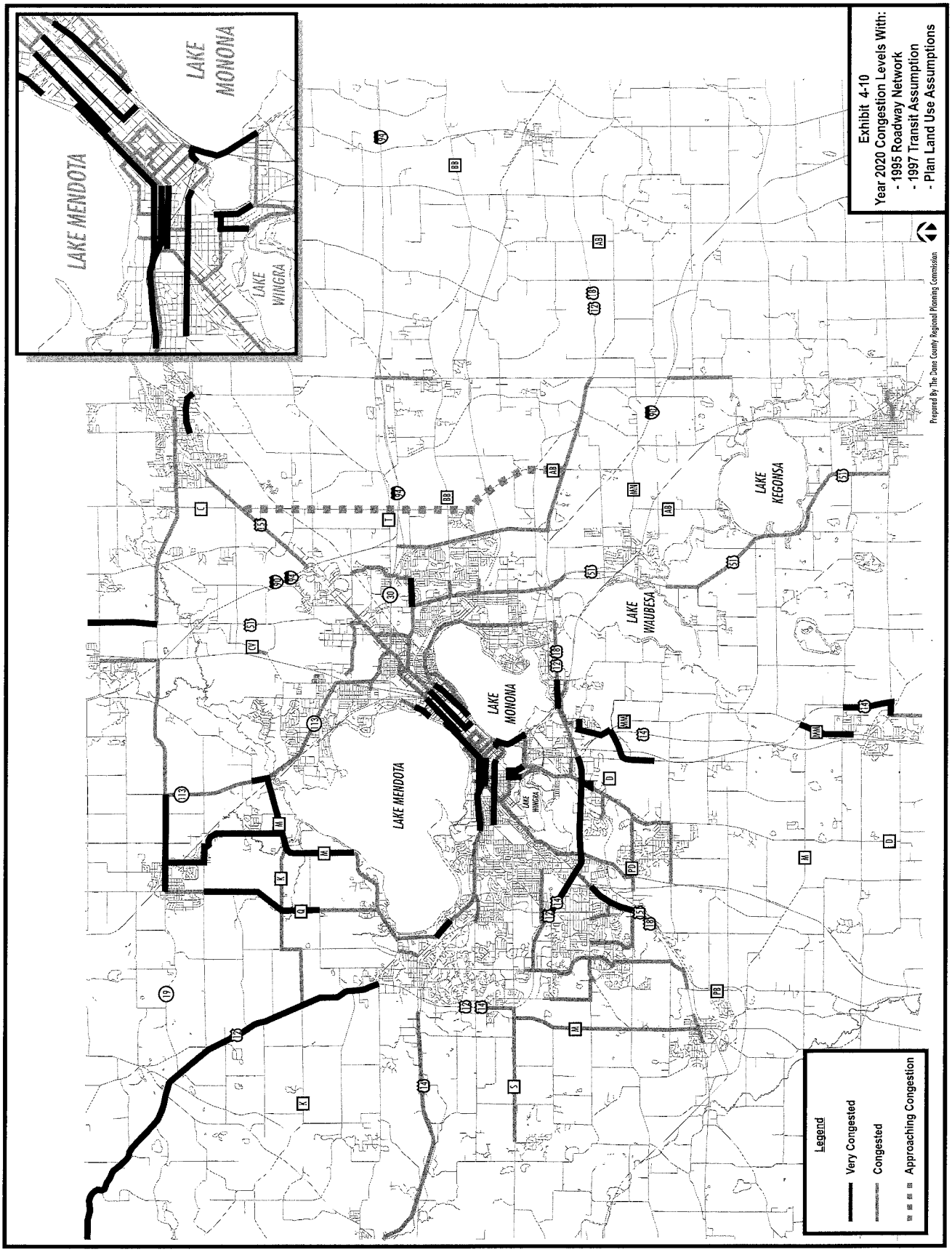


Exhibit 4-10
Year 2020 Congestion Levels With:
- 1995 Roadway Network
- 1997 Transit Assumption
- Plan Land Use Assumptions
Prepared By The Dane County Regional Planning Commission
Legend
Very Congested
Congested
Approaching Congestion
LAKE MENDOTA
LAKE MONONA
LAKE WINGRA
LAKE KEGONSA
LAKE WAUBESA

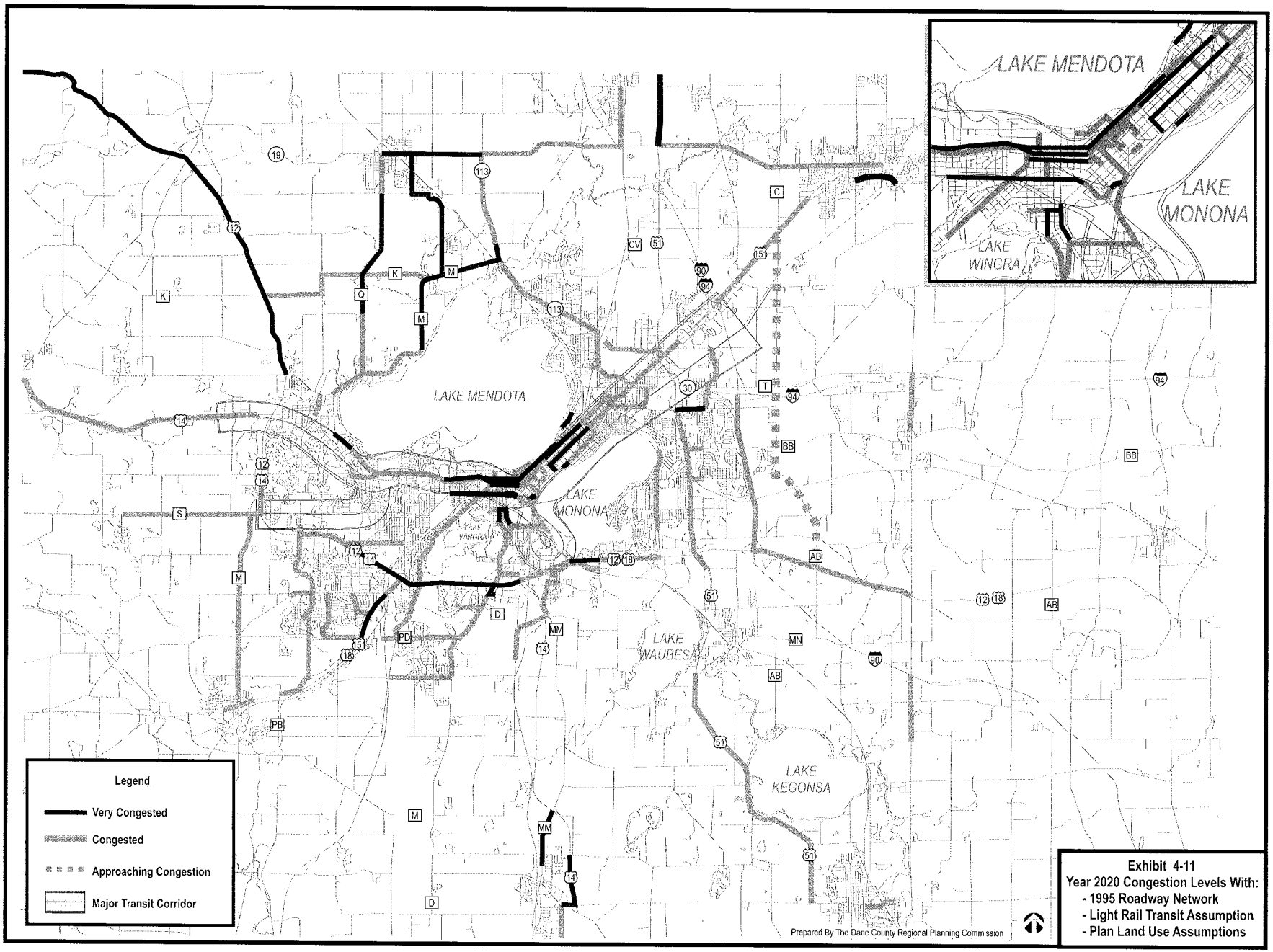


Exhibit 4-11
Year 2020 Congestion Levels With:
- 1995 Roadway Network
- Light Rail Transit Assumption
- Plan Land Use Assumptions

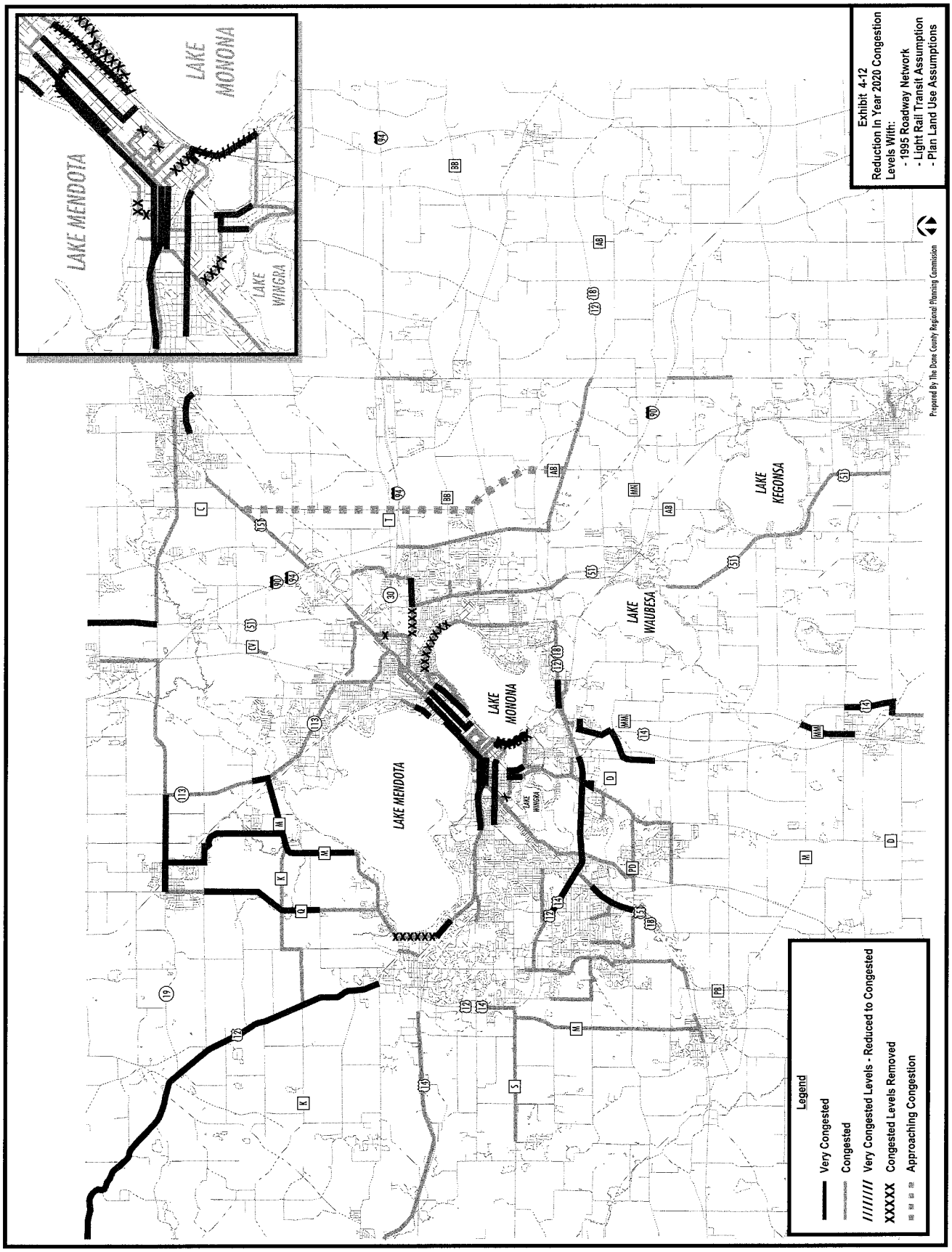


Exhibit 4-12
Reduction In Year 2020 Congestion Levels With:
- 1995 Roadway Network
- Light Rail Transit Assumption
- Plan Land Use Assumptions
Prepared By The Dane County Regional Planning Commission
LAKE MENDOTA
LAKE MONONA
LAKE WINGRA
LAKE WAUBESA
LAKE KEGONSA
Legend
Very Congested
Congested
Very Congested Levels - Reduced to Congested
Congested Levels Removed
Approaching Congestion

Table 4-1 shows a summary of estimated costs and ridership associated with the alternative transit technologies studied during this planning process. Costs are categorized as either capital or operating. Generally, national average unit costs were used to develop these planning system cost estimates. The cost estimates should be considered very preliminary at this point and subject to revision as part of future detailed planning processes. Whenever possible and reasonable, costs were included which were consistent with the *1992 Transit Corridor Study, Feasibility Analysis of Light Rail and Improved Bus Services* and the *1996 Dane County Committee to Evaluate Commuter Rail Implementation Report.*

Table 4-1
Summary of Costs and Ridership of Transit Alternatives

	1990 Bus	1997 Bus	Enh. Bus Ex.[1]	Light Rail[2]	Commuter Rail[3]
Cost in Millions:					
Capital (ongoing)	$2.10	$4.50	$4.50	$4.50	$4.50
Capital (start-up)			52.2	183	81.1
Operating (annual)	18.5	26.4	32.7	34.7	28.6
Ridership/Day[4]	38,600	41,800	60,900	61,600	58,600

[1]13-mile high-frequency bus corridor operating on an exclusive right-of-way in median, on existing diamond lane, or on existing railroad rights of-way.
[2]Scenario E from 1992 Cambridge Report. Assumes light rail corridor from Hilldale to Union Corners with feeder bus system.
[3]Rail corridor from Mazomanie to Sun Prairie with feeder bus system.
[4]Ridership is based on implementation of full systems as shown earlier. Ridership will be less based on partial system costs shown in this table.

In addition, Table 4-2 shows a summary of the total transit trips and vehicle trips associated with each of the transit alternatives studied. Even with a significant increase in transit trips/day over 1990 base levels of about 20,000, the percentage share of these system-wide trips in comparison to auto trips/day increases by less than 1%, from 3.2% to 3.8%.

OBJECTIVES:

- *Expand transit services in a manner to achieve an increasing proportion of total transit trips, and transit trips to central Madison and other major activity centers, particularly within the central urban service area.*

Table 4-2
Comparison of Transit Trips and Vehicle Trips
Systemwide For Each of the Transit Alternatives

Transit Alternative	Transit Trips/Day	Vehicle Trips/Day	Total/Day
1990			
Base System	38,600	1,181,200	1,219,800
2020			
97 Bus	41,800	1,578,700	1,620,500
Light Rail Transit	61,600	1,558,900	1,620,500
Commuter Transit	58,600	1,561,900	1,620,500
Enhanced Bus Ex.	60,900	1,559,600	1,620,500

Note: For all trip purposes including internal-to-external and truck-taxi for the modeled area.

- *Expand the viability of transit as an alternative to auto travel for the rider who wants an alternative and to provide basic mobility services for those having less or no access to automobiles.*

- *Develop commuter transit and/or vanpool services to the central Madison area and to other major activity centers from outlying villages and cities.*

IMPLEMENTATION:

The major implementation strategies to achieve these transit objectives include the following:

- Continue to support and maintain the current transit system in the short term while moving toward an expanded and more aggressive transit system contingent on future, more-detailed feasibility studies.

- Support continued expansion and improvements system-wide to transit facilities/equipment and services in a manner to meet increased transit ridership.

- Complete a Major Investment Study (MIS) to explore transit alternatives within the transit priority corridor. Federal regulations require a Major Investment Study for all capital intensive transportation projects, and the expanded transit priority corridor is one such project. This major study is a high cost item and could begin soon after the budgeted Dane County Commuter Rail Phase I Feasibility Study. The MIS will refine the modeling work completed for this plan, and look more closely at alternative technologies such as commuter rail, light rail, and dedicated bus lanes, as well as documenting detailed corridor land availability, environmental considerations, and costs. This MIS will also have to consider roadway alternatives.

Expansion of the transit priority corridor concept of the East and West Towne areas includes an existing rail corridor through the city of Madison, the city of Middleton, and a spur line loop to the Dane County Coliseum as shown in Exhibit 4-7. The corridor being considered is identified as 1/2 mile on each side of the existing rail corridor which bisects Madison running east to west and includes the identified light rail corridor connecting the East Towne and West Towne areas. The corridor extends to the east to Sun Prairie and to the west to the Village of Mazomanie.

- Complete a special analysis to determine the most appropriate institutional organization for transit administration and operation of any substantially expanded transit system. Some type of regional transit or transportation organization may be considered.

- Provide transit service to central Madison from park and ride lots located along major corridors on the periphery of the central urban service area.

- Encourage major land use developments to be located and designed in a manner supportive of increased transit usage within the central urban service area.

- Expand commuter transit and/or vanpool and carpool services from outlying villages and cities on a gradual basis as desired and supported.

- Utilize available traffic control techniques, such as special transit lanes or preferential traffic signalization where feasible, to maintain and/or improve transit service levels, particularly during peak hours.

- Convert the regular transit fleet vehicles to designs which are accessible to the special needs of elderly and disabled persons, to the extent that federal requirements (Americans with Disabilities Act) and special needs are most appropriately met.

- Encourage the use of incentives to increase transit and vanpooling/carpooling usage, particularly for commuters to central Madison, before pursuing major disincentives to low-occupancy vehicle use. Coordinate implementation of the various transportation and parking policies so that any disincentives to low-occupancy vehicle use are accompanied by improved transit service and incentives for high-occupancy vehicle use.

- Continue transit market research studies to identify potential riders, and propose promotions and services to attract increased transit ridership.

- Support intercity transit services (bus and rail) and consolidation of intercity transit terminals in central Madison with convenient connections to urban transit services, taxis, and other modes.

- Review adequacy of and, where appropriate, improve access to major intermodal facilities such as Dane County Regional Airport, AMTRAK, Badger Bus Depot, etc.

Pedestrian/Bicycle Plan Element

BIKEWAYS

Over the past 25 years, bicycling has become an increasingly important mode of transportation and recreational activity in Dane County. An extensive bikeway system has been developed throughout the urban area. In addition, rural farm to market roads in Dane County and paved shoulders along many county trunk highways provide an excellent opportunity for recreational bicycle touring throughout the area (see Exhibits 4-13 and 14). The Wisconsin Department of Natural Resources also operates two state bicycle trails, portions of which extend through Dane County.

Bikeway facility improvements in the central urban service area are currently guided by the Bicycle Transportation Plan for Madison and Dane County adopted in 1991. In addition to identifying specific facilities for improvement, the plan also includes policies and recommendations for the categories of facilities development, maintenance, support facilities, bicycle safety education and public information and bicycle law enforcement and licensing. This transportation plan does not attempt to provide the level of detail available in the Bicycle Transportation Plan.

OBJECTIVES:

Major objectives related to bicycle travel include:

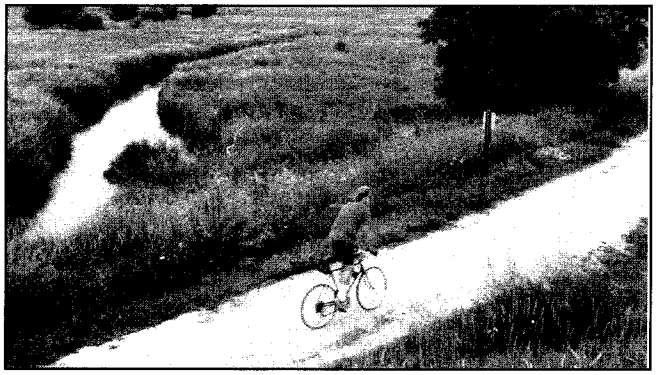
- *Provide for the safe, convenient and efficient travel by bicyclists throughout the region.*
- *Encourage bicycle travel for transportation as well as recreational purposes.*
- *Develop a continuous system of bikeways for the central urban service area with connections to other communities throughout the region.*

IMPLEMENTATION:

Measures designed to achieve these objectives are:

- Continue to program and construct major bikeway facilities for the central urban service area in accord with the proposed facilities shown in Exhibit 4-14. (For purposes of readability, the map has been simplified to identify existing and proposed bicycle facilities for central urban service area jurisdictions.)
- Continue Dane County's program of paving shoulders on county trunk highways with an appropriate width paved shoulder when justifiable due to bicycle traffic or other engineering needs. In some areas it may not be possible to achieve this without major construction costs. See Exhibit 4-13 for a map of proposed locations for future paved shoulders in Dane County.

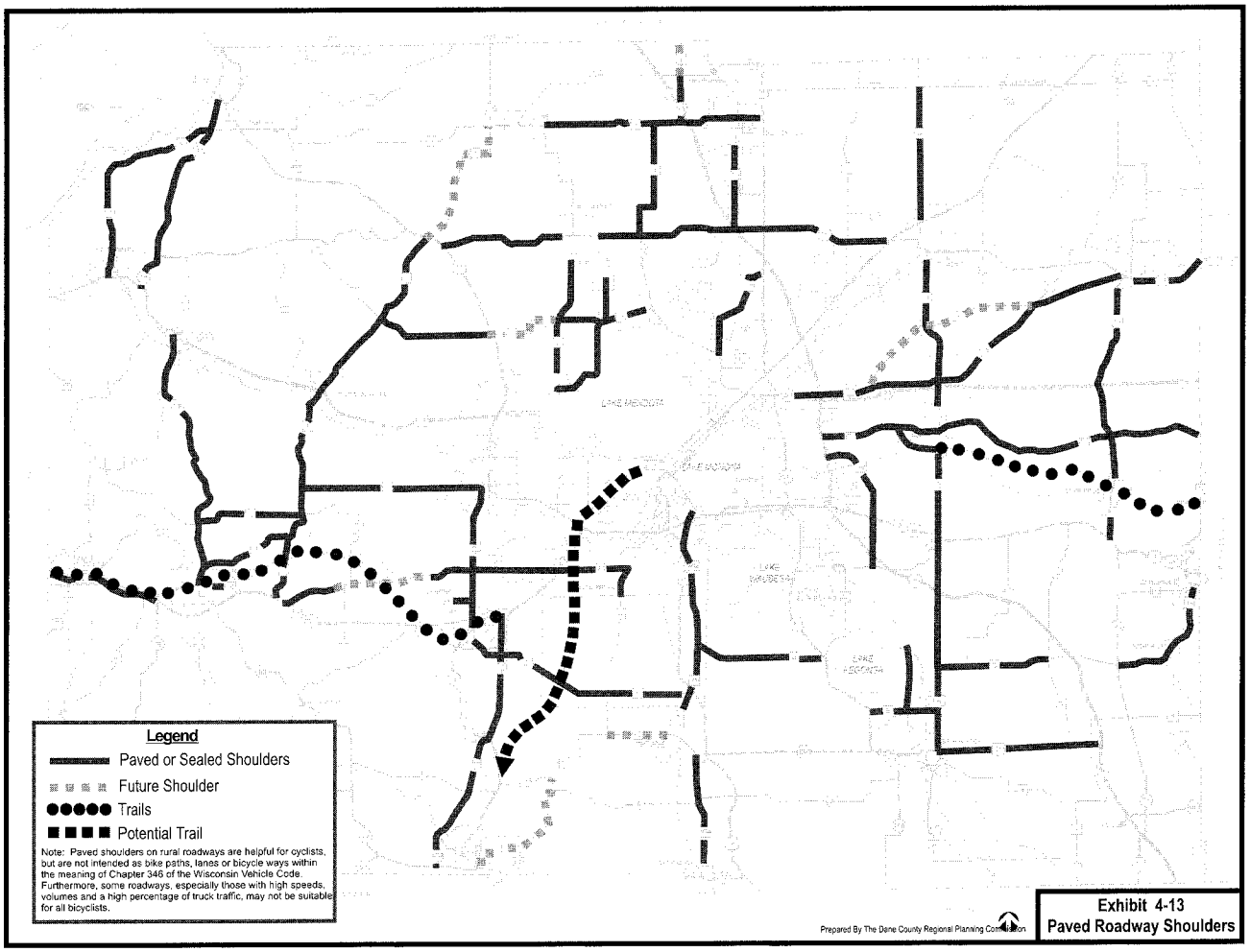
- Encourage the shoulder paving program to continue and to focus upon routes which provide connections to and from population centers to major activity areas such as county and state parks and to multi-county bikeway routes such as Wisconsin Department of Natural Resources or others may provide. Shoulder paving should also be considered along lower volume state and federal highway routes. Paved shoulders on rural roadways are helpful for cyclists but are not intended as bike paths, lanes or bicycle ways within the meaning of Chapter 346 of the Wisconsin Vehicle Code.

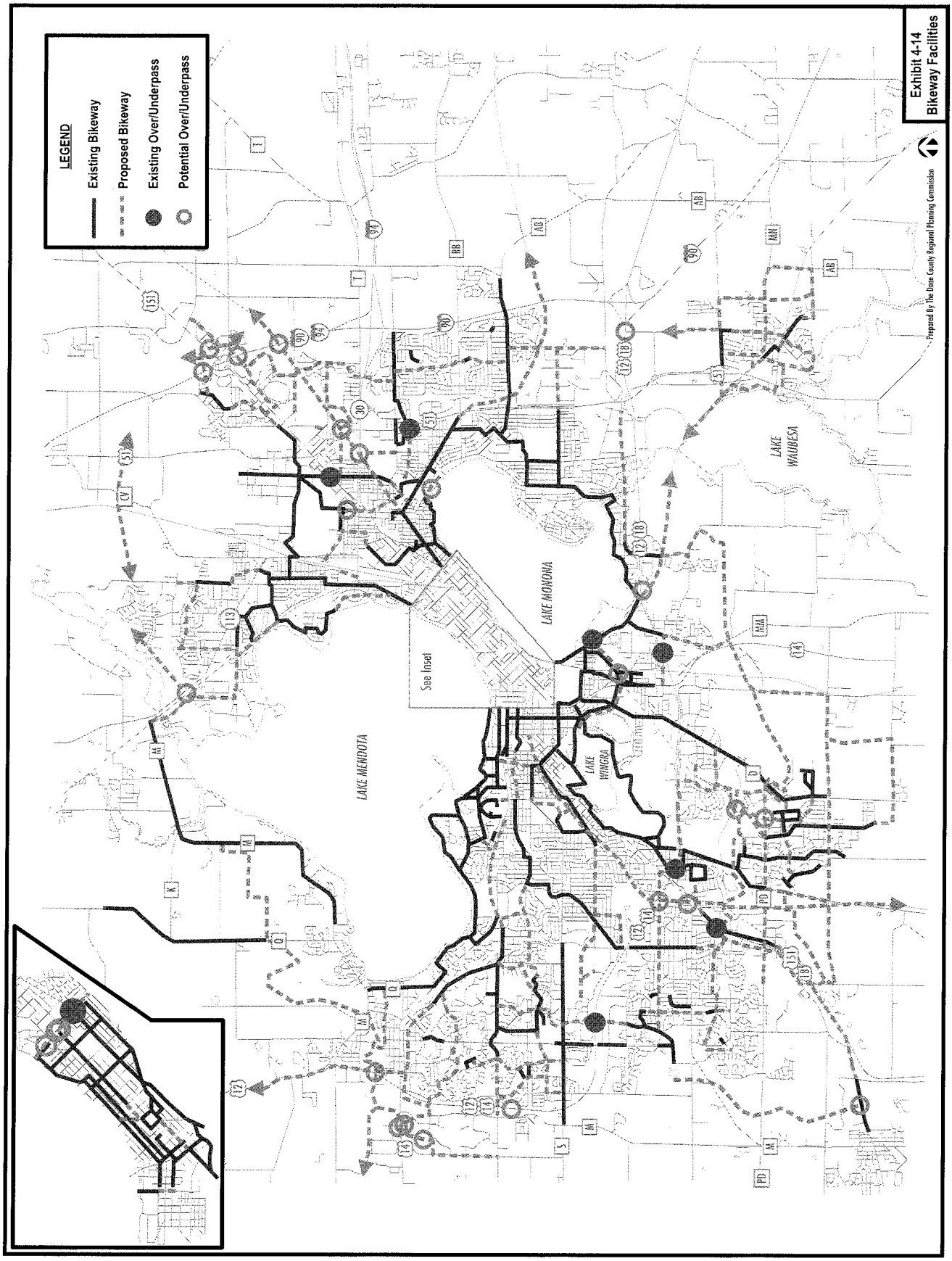


- Continue to implement projects to complete the design concept for the Capital City State Trail. This trail will form an unbroken link of the Military Ridge Trail in western Dane County to the Glacial Drumlin Trail in eastern Dane County and will provide a continuous 140-mile cross-state trail.
- Continue to implement the placement of the Madison-Monroe-Freeport, Illinois rail corridor in an interim Rails-to-Trails program use.
- Continue to consider special bikeway lanes and other facilities as a part of appropriate street reconstructions in all urban service areas in accord with the adopted plan.
- Continue bikeway improvements with street and roadway improvements where possible.
- All jurisdictions involved in the development of bicycle facilities including the state, county, municipalities, university, and colleges should adopt and use the American Association of State Highway and Transportation Officials' "Guide for the Development of

Bicycle Facilities, Copyright, 1991" and subsequent revisions as the guidelines for the design and construction of new bicycle facilities. (The AASHTO guide has been adopted by the Federal Highway Administration as standards for the design and construction of bicycle routes.)

- Encourage outlying villages, cities, and towns in the county to develop bikeway system, route and facility plans as a part of transportation planning efforts they may undertake.
- Continue to provide public information brochures and/or other means to notify the public of where and when bikeway routes and facilities are available.
- Provide public information to educate cyclists and others about traffic and safety rules applicable to bicycles.
- Local jurisdictions should develop bicycle parking requirements for incorporation into zoning ordinances, subdivision regulations, and building permit requirements.
- Provide sufficient bicycle parking at park and ride lots, bus transfer points, and other intermodal transfer facilities.
- Encourage the inclusion of bikeway improvements in development proposals.




LEGEND
Existing Bikeway
Proposed Bikeway
Existing Over/Underpass
Potential Over/Underpass
Exhibit 4-14
Bikeway Facilities
Prepared By The Dane County Regional Planning Commission
LAKE MENDOTA
LAKE MONONA
LAKE WINGRA
LAKE WAUBESA
See Inset

PEDESTRIANS

This plan stresses the continuation of public education efforts to provide for pedestrian safety. Also emphasized are continued planning and construction of improved pedestrian facilities, particularly those which minimize conflicts with other modes of travel. The urban design strategies proposed earlier in this plan stress the importance of walkable neighborhoods and the need to encourage pedestrian trips within neighborhoods as an alternative to shorter auto trips. This directly reflects desires expressed by the community for balanced communities in the public involvement process.

OBJECTIVES:

Major objectives related to pedestrian travel include:

- *Provide for safe, convenient and efficient pedestrian travel throughout the region.*
- *Seek to minimize conflicts between pedestrians and other modes of travel as improvements are considered to other elements of the transportation system.*

IMPLEMENTATION:

Measures designed to achieve these objectives are:

- Consider ordinances to require the installation of sidewalks, or at least the reservation of land, in all urban subdivision developments, except where not appropriate due to steep topography. For an inventory of current sidewalk requirements in Dane County's cities and villages, refer to Table 4-3. For guidelines on sidewalk installation, refer to Table 4-4.

Urban design strategies proposed earlier in this plan stress the importance of walkable neighborhoods and the need to encourage pedestrian trips within neighborhoods as an alternative to shorter auto trips...

- Provide for paved sidewalk ramps at intersections to allow elderly, disabled and other persons to make complete use of the pedestrian facilities available.
- Adhere to the requirements that all pedestrian facilities be constructed in accordance with The Americans with Disabilities Act of 1990 and the Federal Register (Vol. 57, No. 245, December 21, 1992) proposed rules, including ADA requirements for public rights-of-way (sidewalks, curb ramps, crossing controls, etc.). Continue maintenance efforts to ensure that pedestrian areas are in a usable state of repair.
- Encourage the provision of appropriate pedestrian accommodations in large scale commercial and residential developments where significant pedestrian barriers exist or where significant pedestrian traffic is expected.

Table 4-3
Sidewalk Requirements
In Dane County Cities and Villages

City-Village	Sidewalk Requirement	City/Village	Sidewalk Requirement
Belleville	Sidewalks required on some streets.	Marshall	Sidwalks required on some streets.
Black Earth	Sidewalks required on some streets.	Mazomanie	Sidwalks required on some streets.
Blue Mounds	Sidewalks required on some streets.	McFarland	Sidwalks required on some streets.
Brooklyn	Sidewalks required on some streets.	Middleton	Sidewalks required on all streets, except cul-de-sacs.
Cambridge	Sidewalks required on some streets.	Monona	Not available.
Cottage Grove	Sidewalks required on some streets.	Mount Horeb	Sidwalks required on some streets.
Crossplain	Sidewalks required on some streets.	Oregon	Sidewalks required on all streets.
Dane	Not available.	Rockdale	Not available.
Deerfield	Sidewalks required on all streets.	Shorewood Hills	Not available.
De Forest	Sidewalks required on some streets.	Stoughton	Sidewalks required on all streets.
Fitchburg	Sidewalks required on all streets, except cul-de-sacs.	Sun Prairie	Sidwalks required on some streets.
Madison	Sidewalks required on all streets.	Verona	Sidewalks required on all streets.
Maple Bluff	Not available.	Waunakee	Sidewalks required on all streets.

Source: Dane County Regional Planning Commission.

Table 4-4
Guidelines for Installing Sidewalks

Land Use/ Roadway Func. Class/ Residential Density	New Urban and Suburban Streets	Existing Urban and Suburban Streets
Commercial & Industrial (All Streets)	Both sides	Both sides. Every effort should be made to add sidewalks where they do not exist and complete missing links
Residential (Major Arterials)	Both sides	Both sides.
Residential (Collectors)	Both sides	Multifamily - both sides. Single family dwellings - prefer both sides; require at least one side.
Residential (Local Streets) More than 4 dus/acre	Both sides	Prefer both sides; require at least one side
Residential (Local Streets) 1 to 4 dus/acre	Prefer both sides; require at least one side.	One side preferred, at least 4 ft.
Residential (Local Streets) Less than 1 du/acre	One side preferred, shoulder both sides.	At least 4 ft. shoulder on both sides required.

Source: "Investigation of Exposure Based Pedestrian Accident Areas: Crosswalks, Sidewalks, Local Streets and Major Arterials FHWA-RD-88-038, September, 1988.

NOTES:

1) Any local street within two blocks of a school site that would be on a walking route to school - sidewalk required on at least one side.

2) Sidewalks may be omitted on one side of new streets where that side clearly cannot be developed and where there are no existing or anticipated uses that would generate pedestrian trips on that side.

3) Where there are service roads, the sidewalks adjacent to the main road may be eliminated and replaced by a sidewalk adjacent to the service road on the side away from the main road.

4) For rural roads not likely to serve development, a shoulder at least 4 feet in width, preferably 8 feet on primary highways should be provided. Surface material should provide a stable, mud-free walking surface.

- Continue planning and consideration of pedestrian mall areas, pedestrian overpasses over major arterial roadways, improved pedestrian crosswalks, and other pedestrian facility improvements. The City of Madison is in the process of developing such a plan.

- Include pedestrian improvements with street roadway improvements where possible.

- Continue public information, education, and enforcement programs to publicize pedestrian rights and traffic rules.

- Provide for pedestrian connections to park and ride lots, bus transfer points, and other intermodal transfer facilities.

Streets and Roadways Plan Element

Trip-making within Dane County is directly linked to land use. It is affected by the type (e.g. residential, commercial, etc.), intensity (density), and location of the land use activity. Key variables in estimating trip-making potential are population and employment. Forecasts of nearly one-third increases in both population and employment for Dane County through the year 2020, coupled with assumptions of the distribution and density of this growth reflected in the Land Use Plan are expected to result in a 33% increase in trip-making by the year 2020.

ASSUMPTIONS:

The extent of the street and roadway system needed to serve the recommended land use pattern depends on the amount of trip-making generated and the number of trips accommodated through Transportation Demand Management and by other modes of transportation such as transit, bicycling, and walking. This transportation plan assumes:

- Current levels of bicycling and walking which will expand proportionately as the area grows.

- Implementation of an aggressive transit system (light rail, commuter rail, or busways). The details of the transit technology implemented and exact physical alignment will be determined through the conduct of a Major

Investment Study. With one of these higher level transit systems, transit ridership is forecasted to increase 50% to 60% (20,000 to 23,000 trips/day) over 1990 base levels of 38,600 trips/day, while vehicle trips are forecasted to increase 32% from 980,000/day to approximately 1,300,000/day.

Exhibit 4-12 shows projected 2020 congestion levels on the roadway system with the more aggressive light rail transit system assumed. This exhibit would look similar to a commuter rail or a busway system. Congestion reduction from a more aggressive transit system would occur mainly in the Isthmus area such as along Williamson Street, Atwood Avenue, Bassett Street, various streets around the Capitol Square, and other roadways within the transit priority corridor shown in light gray shading. It also illustrates the remaining roadway congestion/capacity needs after maximum levels of transit ridership have been obtained.

OBJECTIVES:

- *Correct safety problems.*

  Continue to make improvements to the existing street and roadway system which will improve the safety and efficiency of the current system, including traffic calming.

- *Encourage transportation patterns which support the concept of balanced communities, more compact urban development and more efficient rural development patterns.*

  This objective encourages patterns of development intended to lessen peak hour traffic congestion and promote mode choice.

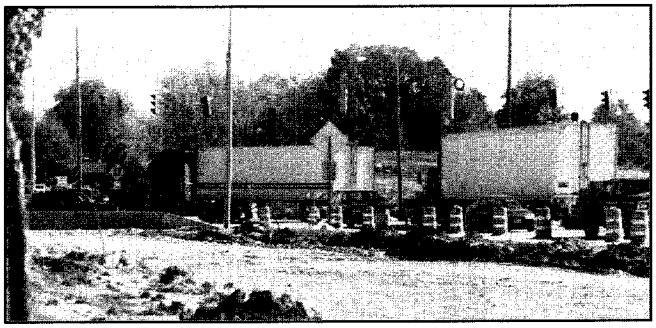
- *Address significant capacity problems using a variety of strategies consistent with the goals of balanced communities and modal choice.*

  This objective also encourages programs intended to lessen peak hour traffic congestion and includes such strategies as staggered work hours and/or flextime. When considering improvements to the street and roadway network, design roadway expansion projects which may be needed over the long range period in a manner that is safe but accepts some peak hour congestion. Also, include the need to accommodate trucks, transit, bicycle, pedestrians, and others. A final strategy is the more extensive use of improvements to two-lane and other roads that remove obstacles to traffic flow at intersections and increase safety without widening the road, where possible.

  Use of Intelligent Transportation Systems (ITS) projects is another potential strategy that can be used in some instances to address congestion. ITS is the application of advanced technologies in the areas of electronics, communications and information processing. WisDOT for instance, is studying a list of potential ITS projects which could be implemented in the I 90/94 corridor, such as providing more/improved motorist information, in-vehicle technology, alternate routing, and traveler help.

- *Meet the need for major reconstruction due to maintenance problems.*

  Construct necessary street and roadway improvements in a phased manner with early phases meeting existing and short-range traffic needs and later phases meeting long-range needs.



- *Draw traffic away from certain sensitive areas (traffic redirection).*

  Direct heavy traffic away from sensitive environmental or natural areas and residential areas where possible, by providing alternative corridors or improvements. Where new corridors are not possible, design new street and roadway improvements to be compatible with adjoining land uses and preserve and enhance the historical, cultural, aesthetic and environmental qualities of the corridor. This objective includes directing through-traffic from the Isthmus of central Madison to other available roadways.

- *Address those capacity problems and deficiencies which support local travel and intra-urban service area travel needs resulting from new development.*

  This includes providing necessary access in a manner which does not lessen the function of the roadway or the overall system. Those improvements which support local and intra-urban travel help achieve the balanced community concept and reduce the travel pressure on inter-community routes.

- *Provide for street and roadway continuity.*

  Maintain street connections and a functional classification plan of streets and roadways indicating major arterial and collector travel corridors throughout the region.

- *Combinations of the above.*

IMPLEMENTATION:

To meet remaining roadway congestion needs after all effective transit options have been implemented, a number of roadway improvements were tested. Exhibit 4-15 shows the roadways for which capacity improvements were assumed and the resulting levels of congestion which still remained. Exhibit 4-15 also illustrates the congestion levels system-wide of the recommended land use plan assumptions with and without the roadway improvements. There would be a significant reduction in the system-wide levels of congestion with the roadway improvements. However, even with the number of improvements shown, congestion cannot be removed from all roadways. For some roadway corridors, physical, environmental, economic, and social constraints prohibit additional capacity expansion. In planning and constructing capacity improvements, improvements which relieve congestion and increase capacity without widening the road shall be considered and employed first where possible.

All roadways which this plan recommends be considered for potential capacity improvements by 2020 are shown in Table 4-5. These are roadways which either are or will likely become congested or very congested by the year 2020. Roadways recommended for reconstruction or resurfacing for system preservation purposes are shown in the Appendices volume.

It should be noted that only arterial streets and roadways were modeled, and hence only their needs are included in this systems plan. Improvements to collectors and local streets and roadways are generally not included. The designation of a roadway as an arterial, collector, or local street generally depends on its relative traffic carrying capabilities and other factors. For a complete discussion of the Functional Classification System and its application to the street system of Dane County in map form, see the Appendices volume.

Recommended potential improvements in this system plan will require detailed corridor and project plans and public hearings, by the unit of government with jurisdiction, prior to any construction efforts being undertaken. Further, in order to make the most efficient use of the existing transportation system, somewhat greater peak-hour traffic congestion (Level of Service D) is used before giving consideration to building new or expanded facilities. This means that improvements are not considered necessary and are not recommended in this plan until a facility is operating at Level of Service "D" or higher. For a description of "Level of Service" conditions, see the Appendices volume.

Congestion growth will continue to be monitored and traffic management solutions will be tried prior to any consideration of expansion. If, following these efforts, congestion continues to grow and have negative impacts on surrounding neighborhoods, capacity enhancement options could be studied, including turning lanes and other intersection improvements.

Table 4-5 lists the street and roadway improvements that, when built, would provide for major improvement in the operation of the street and roadway network. The earlier noted travel forecast and congestion levels in all cases reflect an increase in transit usage of 50% over current levels and attainment of the vehicle occupancy goals noted in this plan.

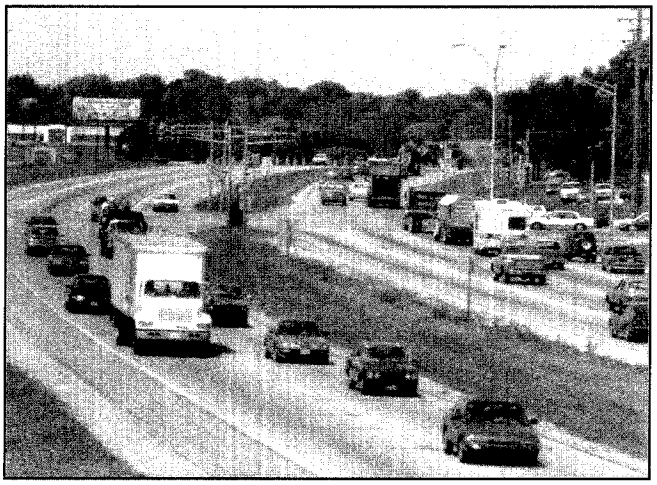


Table 4-5 also identifies the recommended potential improvements over three time periods. Phasing recognizes that congestion levels do not suggest that all projects must be completed today. This also recognizes that limited financial resources, detailed project planning, and implementation activities may take several years. It also indicates that major projects may be initiated somewhat later than the improvement needs may indicate. For example, any decision to undertake a street expansion would have to be preceded by specific studies of alternatives to any improvements, public meetings and hearings, plan detailing and funding. Only after the need for the expansion and type of improvement had been clearly determined and approved would detailed construction plans and construction occur. Additionally, it is emphasized that construction of most major segments will be staged over several years after project initiation. Project staging details are usually specified when public hearings are held on the detailed design.

In summary, the recommended potential arterial street and roadway improvements over the planning period include the following:

- Start detailed planning and construction of the major street and roadway projects shown in Exhibit 4-15 and listed in Table 4-5 with consideration given to staging improvement construction where appropriate. Subsequent decisions will be necessary before any road improvement construction can commence.

- Incorporate bikeway, transit, and other facilities as a part of major street and roadway improvement projects, wherever appropriate.

- Continue improvements to local streets and roadways for reasons of: maintenance problems; safety problems; growth and development in the area; and intersection improvements.

- Consider interchange design possibilities at the following intersections to aid in capacity and traffic redirection efforts: Buckeye Road and USH 51; Pflaum Road and USH 51; E. Washington Ave. and USH 51; USH 151 and CTH C/Reiner Road; I-90/94 and Lien Road; Verona Road and the W. Beltline; USH 18/151 and CTH PD; and possibly others.

- Continue to implement the Isthmus Traffic Redirection Study and Fordem Avenue Extension Study recommendations, and continue consideration of traffic improvements for access to central Madison.

- Continue official mapping and other programs to preserve corridors for possible future travel uses such as the extension of High Point Road to CTH PD, the extension of Lien Road to Reiner Road, the extension of Post Road from Fish Hatchery Road to Syene Road, Pleasant View Road, the extension of Pleasant View Road to CTH M, the Reiner Road/Sprecher Road/CTH AB Corridor as a future arterial, CTH M from CTH Q to STH 113, the North Ring Corridor, and the Stoughton Bypass (USH 51 via CTH B and CTH N).

  Note: Concern has been expressed regarding official mapping of the possible easterly extension of CTH PD from Fish Hatchery Road to connect with South Towne Drive at Moorland Road. This concern is due to the possible impacts a roadway, if built, might have upon the E-Way open space corridor preservation and trails in this area, and concerns that it may encourage more urban development in the northeast corner of Fitchburg and the northern part of Dunn. This possible roadway corridor has been identified on transportation plans since the 1950's as a possible long-range roadway to provide east-west traffic circulation through the City of Fitchburg. Alternative routes to provide east-west traffic circulation will continue to be explored in planning for this area of Fitchburg.

  Current official mapping should be revised to provide the most compatible location for such a possible roadway to accomplish a parkway-type rural cross section compatible with the E-way and adjoining lands. However, no detailed roadway design plans are expected to be undertaken until such time as construction is imminent. It is anticipated that trails through the E-Way for pedestrian or bike purposes would be separated from any roadway parallel to or crossing the E-Way.

- Consistent with WisDOT MIS Process Guidance, the North Ring Corridor connecting I 90/94 with USH 12 should be considered as a candidate for a Major Investment Study (MIS) to be conducted at a later time in the planning period. Similarly, other roadway improvements requiring an appropriately detailed MIS should also be considered as candidates.

- Use street and roadway access control measures as a means of preserving travel capacity on existing streets and roadways, and of seeking safe and appropriate driveway access points.

- Encourage landscaping and other amenities to be incorporated into street improvements, including boulevard-type improvements with median landscaping.

- Encourage land use developments which are compatible with anticipated street and roadway functional classification plans.

- Monitor travel and growth trends of developments on a continuous basis and adjust timing and nature of improvements if required.

- Continue transportation system management (TSM) measures, to make the most efficient use of the existing transportation system.

Forecasts of a nearly one-third increases in both population and employment for Dane County through the year 2020, coupled with assumptions of the distribution and density of this growth reflected in the Land Use Plan are expected to result in a 33% increase in trip-making by the year 2020...

Other Transportation Plan Elements

VEHICLE OCCUPANCY

Increasing the efficiency of an all-mode transportation system includes promotion of the ridesharing program which encourages usage of high occupancy vehicles.

OBJECTIVE:

- *Encourage ridesharing by carpooling, vanpooling, and mass transit, particularly for trips to work and trips to school, and for trips not conveniently served by the transit system.*

IMPLEMENTATION:

Anticipated efforts toward increasing vehicle occupancy for work and school trips include the following activities:

- Continue the activities of the Dane County Ridesharing Program to promote and assist commuters to travel in carpools and vanpools. Provide public information efforts, emphasize company-sponsored programs, coordinate interagency activities and planning, expand incentives to be utilized for carpoolers, vanpoolers, and transit users, and provide name-matching services among program participants including telephone name-matching via the 266-RIDE service. The City of Madison currently gives preferential treatment to carpoolers for monthly rentals in the city's parking ramps.

- Continue efforts to establish vanpools through the Dane County Vanpooling Program and Wisconsin Department of Transportation's van loan program. Encourage commuter participation in the Wisconsin Department of Administration State Employer Vanpool Program through referrals to state van drivers.

- Assist large employers, including federal, state and local government, in organizing for a fast, area-wide, computerized name-matching program which can be used to provide information to employees who may wish to carpool or vanpool. Assist these same employers with Transportation Demand Management (TDM) options and methods.

- Promote carpooling/vanpooling in outlying areas and residential developments to the extent practical.

- Publicize cost-effective ridesharing efforts which have occurred in this area and elsewhere in the country.

Note: Other efforts to encourage ridesharing are discussed elsewhere in this plan. These include efforts for transit service, Metro+Plus service, taxi service, etc.

PARATRANSIT (SPECIALIZED TRANSPORTATION)

Specialized Transportation involves the provision of transit services to those segments of the population that require more accessible vehicles and more "enhanced" and flexible routing than fixed-route, main-line transit services. This type of service generally provides transportation for those with specialized transportation needs or with limited transportation alternatives.

OBJECTIVES:

- *Improve coordination of services to elderly and disabled persons needing special transportation services and expand transportation services available to these groups.*

- *Include taxis and other privately operated services in specialized transportation plans.*

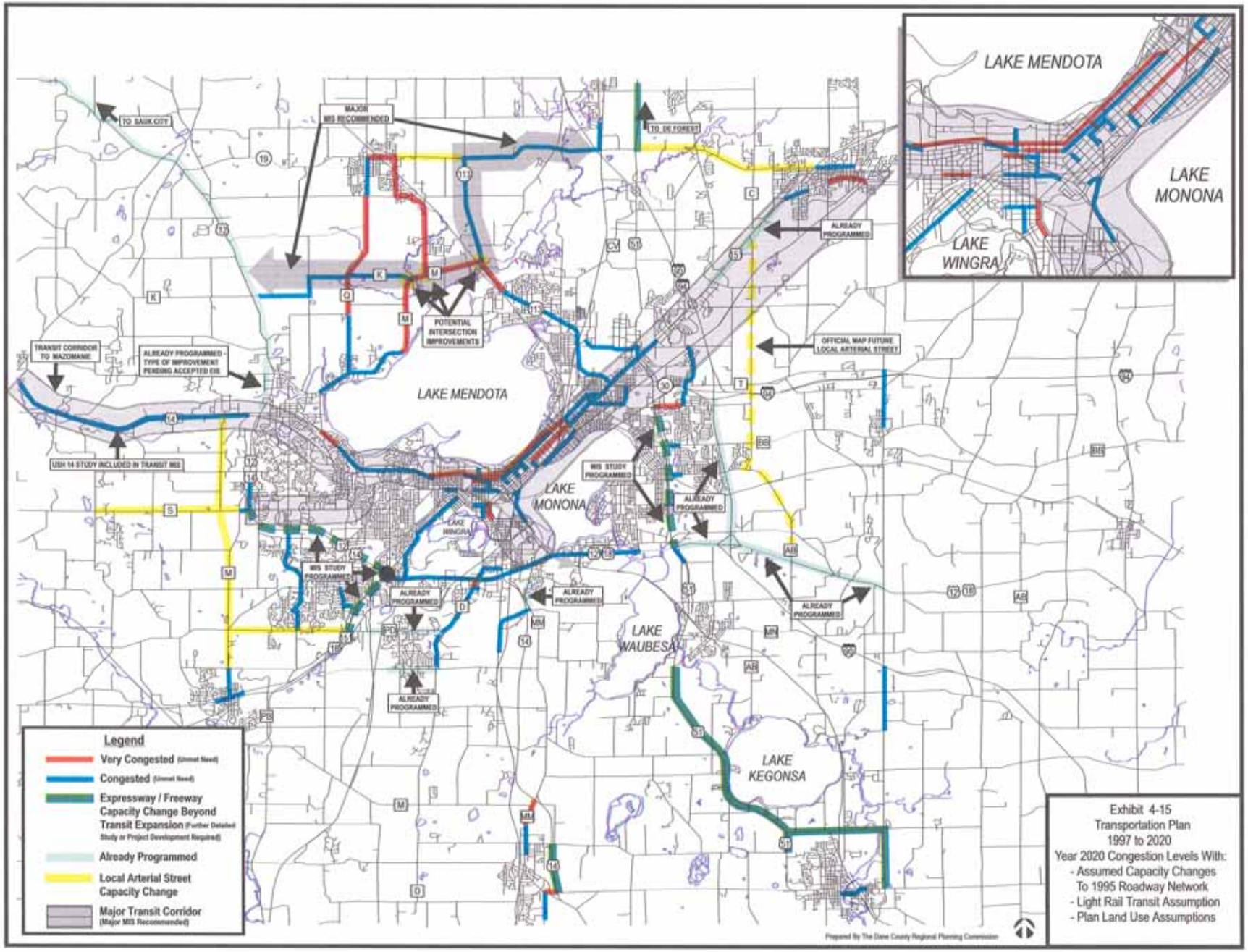


Exhibit 4-15
Transportation Plan
1997 to 2020
Year 2020 Congestion Levels With:
- Assumed Capacity Changes To 1995 Roadway Network
- Light Rail Transit Assumption
- Plan Land Use Assumptions

Table 4-5
Potential Arterial Street and Roadway Improvements, 1997-2020

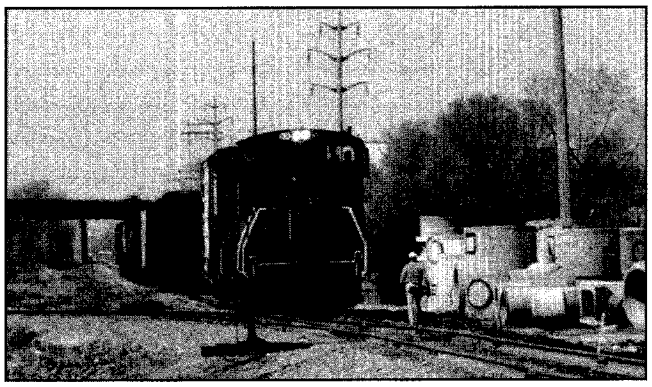
Facility	Segment	Assumed Potential Improvement (For cost estimating purposes only)[1]	Est. Miles	Estimated Timetable[2] and Preliminary Costs (000s) 1997 to 2000	2001 to 2010	2011 to 2020	Comments
Potential Capacity Improvements							
Pleasant View Rd.	Mineral Point Rd. - USH 14	4-lane divided facility	6.13		3,400		Future Minor Arterial
Reiner/Sprecher Rd.	USH 151 - USH 12/18	4-lane divided facility	7.72		17,200		Future Minor Arterial
Lien Rd	Thompson Dr. - Reiner Rd.	4-lane facility + interch'ge	1.72		9,000		Future Minor Arterial
CTH M	Cross Country Rd. - Mineral Pt. Rd.	4-lane divided facility	4.07		9,100		
CTH M	CTH Q - STH 113	4-lane divided facility	5.12		11,600		
CTH PD	Verona Rd. - CTH M	4-lane divided facility	3.17		7,100		
CTH S	CTH M to Timber Lane	4-lane divided facility	1.9		4,200		
North Corridor (2)	CTH K/CTH M/STH 113/STH 19	4-lane divided expressway	12.03			22,500	Official map corridor; candidate MIS study in later time periods
USH 12/14 (W. Beltline)	Verona Rd. - Mineral Pt. Rd. + Beltline - CTH PD	6-lane divided freeway + Interch. at Nakoma & CTH PD	4.27		37,900		Abbreviated MIS candidate study
USH 14 (2)	Pleasant View Road - CTH P	4-lane divided expressway	6.13			13,700	To be studied with transit MIS
USH 14	End of 4-lane section to STH 138	4-lane divided freeway	1.38			3,100	
STH 19	STH 113 - Village of Waunakee	4-lane divided facility	2.18		4,900		
STH 19 (2)	USH 51 - CTH C	4-lane divided facility	3.25			7,200	
USH 51 (2)	Milw. St. - USH 12/18 + 3 interch'ges	6-lane divided freeway	3.67			37,400	Abbreviated MIS candidate study
USH 51 (2)	Village of McFarland - CTH B	4-lane divided expressway	5.88			13,100	
USH 51 (2)	STH 19 - CTH V	4-lane divided expressway	4		8,900		
Stoughton Bypass	CTH B & CTH N (USH 51 - USH 51)	4-lane divided facility	4.13			9,200	
Total			76.75	$0	$113,300	$106,200	
Potential Capacity Improvements & Studies Already Programmed							
Airport Rd	Old USH 12 - Relocated USH 12	4-lane facility	0.8		1,800		
Lien Rd	Eagan Rd - Thompson Dr.	4-lane facility	0.25	1,000			
N. Park St.	Regent St - Johnson St	4-lane facility	0.34	3,900			
Old Sauk Rd.	Excelsior to Pleasant View Rd	4-lane facility	0.59	1,400			Future Minor Arterial
CTH M	Mineral Point Rd - Watts Rd	4-lane divided facility	0.5		1,100		
CTH MM & Rimrock Rd.	McCoy Rd - Moorland Rd	4-lane divided, part 2 lane	0.9	1,600			
CTH PD	Fish Hatchery Rd. - Commerce Dr.	4-lane divided facility	2.14	4,500			
CTH V	Interchange at I-90/94	4-lane divided facility	0.5	3,300			
Interstate 90	USH 151 Interchange	Reconstruct with C-D Sys.	1	9,400			
I/90 & USH 12/18	I/94 - USH 12/18 - USH 51	6-lane divided freeway	4.6	35,600			
USH 12	USH 14 - Sauk City	4-lane divided expressway	17.6	7,400	56,600		Contingent on successful completion of EIS and approval by RPC
USH 12/18	I/90 - Cambridge	4-lane divided expressway from I/90 to CTH N, then 2 lanes to Cambridge	13.4	18,100			
USH 18/151 & West Beltline	W. Beltline to CTH PD & Verona Road to Mineral Pt. Rd.	Eng. Study for long range improvements + Interch'ge	1.8	700			
USH 51	USH 12/18 - Milwuakee St.	Long range traffic study	3.67	400			
USH 151	American Parkway to Main St.	6-ln. div. freeway + interch.	2		9,500		
Total			85.68	$87,300	$59,500	$0	

1) For cost estimating purposes only. Design and magnitude of improvement is subject to more detailed levels of planning and approval by unit of government with jurisdiction.
2) Considering the fiscal constraints on the plan, some projects may not be funded, and all the roadway projects may have their priorities and scheduling modified.

IMPLEMENTATION:

Anticipated future specialized transportation activities include the following:

- Expand public information and special transportation services which are available.
- Increase utilization of innovative approaches like the City of Madison's "Local Motion" routing to contain costs and provide adequate service coverage.
- Improve coordination of service among the various providers of specialized transportation service.
- Consider consolidation of funding opportunities for agencies providing transportation.
- Continue programs for replacement and expansion of the vehicle fleet for specialized transportation services, based on an evaluation of existing service performance coordination and plans for future service improvements. Also continue maximum utilization of available state and federal funds to aid in the purchase of those vehicles.



RAIL TRANSPORTATION

Existing rail corridors in Dane County constitute a valuable and irreplaceable resource. When rail service is discontinued, the economic well-being of the region can be maintained and enhanced by working to preserve rail corridors for:

- Foreseeable future transportation alternatives;
- Public recreation or scenic uses;
- Traditional and nontraditional utility/communications related uses;
- Other unforeseen future public uses.

Negotiations are currently underway to place the Madison-Monroe-Freeport, Illinois rail corridor in an interim Rails to Trails Program use, and its conversion is likely.

In 1994 the Dane County Board of Supervisors adopted a resolution creating the Dane County Committee to Evaluate Commuter Rail Implementation. In February 1996, this committee recommended further study to determine the feasibility of implementing commuter rail service on existing Dane County rail corridors.

OBJECTIVES:

- *Seek to preserve rail corridor lands throughout the county for current and future transportation and other public uses.*
- *Continue rail freight service to all users where justified and needed.*
- *Work with rail companies to consolidate rail tracks, and seek to use excess rail lands for alternative transportation or scenic/recreational uses.*

IMPLEMENTATION:

Anticipated efforts to help fulfill these objectives include:

- Assist Dane County and the City of Madison in conducting a Phase I Commuter Rail Feasibility Study in 1997 and 1998.
- Encourage the state, county, and City of Madison to continue investing in the preservation of rail corridors for future public uses throughout the county and providing the research and documentation needed to help facilitate this effort.
- Monitor requests to the Interstate Commerce Commission for future rail abandonments within the county to allow for as much time as possible to develop specific analyses of the impacts of these abandonments.
- Cooperate with City of Madison and rail company efforts to consolidate rail trackage, while continuing service by all companies involved.

- Continue to seek a direct rail passenger (AMTRAK) connection to Madison via Sun Prairie-Watertown-Milwaukee or Portage - Madison - Sun Prairie - Watertown-Milwaukee.

AIR TRANSPORTATION

The Dane County Regional Airport (DCRA) represents an important resource to the region. In addition to providing service to scheduled air carriers, general aviation and the military, the 4,000 acre airport site includes 112 leased buildings housing over 4,500 employees. Dane County also contains five basic utility airports (Morey Field in Middleton, Waunakee, Edgerton, Verona and Cottage Grove) which accommodate most single-engine and many small twin engine aircraft.

OBJECTIVE:

- *Provide safe and convenient airport facilities to meet air transportation needs for the region.*

IMPLEMENTATION:

Anticipated efforts to help fulfill this objective include:

- Participate in implementation studies of proposed Stage II and Stage III DCRA improvements.
- Participate in further efforts to address reliever airport development issues.
- Assist WisDOT in identifying potential future reliever airports in Dane County in conjunction with the 1996 State Airport System Plan.
- Work with the Airport Noise Abatement Committee.
- Participate in and monitor implementation of airport land use compatibility legislation.

PARKING

As travel and parking demands have increased over the years, there has been a recognition of the need to better manage transportation and parking facilities, to minimize the amount of valuable land needed for travel and parking purposes, and to minimize the public investments required for transportation uses. Over time, this has led to the removal of on-street peak and/or all-day parking in some areas to meet traffic demands, the development of parking ramps to conserve valuable land, and the encouragement of mass transit to meet peak travel needs and giving preference for obtaining monthly stalls to carpoolers. In some business districts, the removal of on-street parking may not be practical.

OBJECTIVES:

- *Provide for parking needs in the central Madison area in a manner complementary to the objectives and policies of adopted land use and transportation plans.*
- *Develop alternatives to all day commuter parking in the central Madison area.*

There has been a recognition of the need to better manage transportation and parking facilities, to minimize the amount of valuable land needed for travel and parking purposes, and to minimize the public investments required for transportation uses...

- Continue to promote alternative modes of travel for the work trip commuter to lessen all-day parking demand in public ramps, thereby freeing space for the short-term parkers.
- Designate park and ride lots on the periphery of the Madison urbanizing area as rapidly as transit services to the major activity centers can be made available.
- Consider a park and ride lot study to address carpool/vanpool needs of outlying communities in Dane County. This study should also address park and ride lots at key arterial roadway crossings in the county for reverse commuting to locations outside of Dane County.
- Investigate alternative ways to provide some modest increase in peak period parking for vehicle trips to the central Madison area.
- Direct additional financial capabilities of the Madison Parking Utility toward the provision of new public parking in conjunction with redevelopment projects and multi-use rather than single-use development to encourage more efficient use of parking space over long periods of the day.

- Encourage private developers to provide sufficient parking to meet at least the accessory needs of major redevelopment projects.

- Participate in an intensive, ongoing, interagency sponsored marketing program to inform the general Madison community that parking is available and affordable for the short-term user in central Madison.

- Seek a solution to the illegal parking problems that: a) eliminates the practice of selling residents' parking spaces to the 'highest bidder' (commuters); b) minimizes traffic in residential areas; c) avoids incentives to tear down vacant buildings for parking space; d)minimizes the exodus of businesses from the Central Business District; e) provides a pleasant environment with adequate usable open space for residents; and f) recognizes the role that Madison Metro and the Madison Parking Utility must play in the transportation process. Eliminating the backyard parking problem could have a substantial impact on the parking supply in the short term.

- Consider removing parking or restricting on-street parking along arterial streets and roadways prior to considering roadway capacity expansion. In some business districts, the removal of on-street parking may not be practical.

- Encourage consideration of the special parking needs of bicycles, and of motorcycles and mopeds, especially in major activity center areas.

Corridor Preservation

Anticipated improvements to the various modes of travel discussed on the previous pages are generally dependent upon lands being available for possible future travel uses. Travel forecasts provide an indication of the extent of future travel which may need to be accommodated along a particular corridor, and this can be converted to the anticipated future travel lanes needs, and suggested future right-of-way widths.

Preserving corridors for possible future transportation use does not mean that they will be used, but rather that lands would be available if future policy bodies choose to improve those corridors. In effect, this would encourage increased setbacks for new developments such that, if corridor expansion is ever needed, existing developments would not be disrupted.

OBJECTIVES:

- *Continue preservation of lands which may be needed for possible future transportation uses by encouraging local units of government to place new and/or expanded corridors on their official maps.*

- *Continue street and roadway access control measures to preserve travel capacity along existing major streets and roadways.*

IMPLEMENTATION:

Anticipated efforts relating to corridor preservation for possible future travel corridors include:

- Continue to encourage cities and villages to undertake official mapping of new and/or expanded future anticipated travel corridors, particularly for new areas that are being subdivided and developed, as soon as sufficient data is available for a recommended right-of-way width and corridor alignment.

- Continue official mapping of certain corridors located outside the Central Urban Service Area, to assure additional setbacks for new land uses, to provide contingency lands if these roadways ever need to be expanded. Examples of corridors within this category are Reiner Road and Sprecher Road east of the urban area, and County Highway M north of Lake Mendota.

- Encourage review of state enabling legislation regarding official mapping to broaden official mapping authority to counties (now limited) and the state (not currently permitted).

- Continue and encourage expanding the use of street and roadway access control measures that will aid in increasing travel capacity along existing major streets and roadways. (The state, county, and some cities now employ access control measures along certain major streets and roadways.) Also, there exists a need to maintain consistency in the application of access controls along major streets and roadways.

- Continue to recognize the importance of preserving special transportation corridors for future yet-to-be-determined uses. Discourage the conversion of special transportation corridors to uses unrelated to transportation.

CHAPTER 5

Implementation Recommendations

Introduction

The Dane County Land Use and Transportation Plan presents a vision of the county in the year 2020 and how the vision relates to land development and public facilities including transportation facilities. This vision simply identifies an intention, a statement of what the county would like to achieve, but says very little about how it can be achieved. This chapter is intended to provide a link between the vision and reality. That link is within the various implementation strategies which can be used to translate the plan into action, and the agencies which must be involved in the process.

THE ROLE OF IMPLEMENTATION IN THE COMPREHENSIVE PLANNING PROCESS

A plan is only useful if its recommendations are implemented. The people of Dane County have worked hard to develop this plan as a vision of their future. Whether this vision is realized depends upon the degree to which the elements of the plan are put into place by the various governmental units in the county and private developments.

Each of the local governments as well as the Dane County Regional Planning Commission, Dane County, the Madison Metropolitan Sewerage District and other local and county elected and appointed bodies make decisions which determine whether this plan can be realized. Over the life of the plan, hundreds of decisions will be made which will impact its success. Therefore, it is important that each of these decision-making bodies accept the basic recommendations of the plan and make decisions and recommendations based upon them.

A plan is only useful if its recommendations are implemented...

The Dane County Land Use and Transportation Plan can be implemented using existing tools and regulations. New laws or regulations are not required for the plan to be realized. However, the commitment of all the decision-making units in the county to implement the ideals of the plan is necessary for success. This commitment should be reflected in the community plans prepared by each of the municipalities and in the actions taken regarding land use and transportation policy. This chapter looks at those tools already in place to help decision-making bodies in implementing this plan. It also looks at how those tools can be improved and discusses several new ideas or concepts which could be explored further.

One overall recommendation which is central to the successful implementation of the plan is to promote good communication among all governments in the county. A great deal can be accomplished if leaders within the county can communicate openly and negotiate issues in good faith.

Implementation Tools

This chapter features information about a number of tools which can be used to help implement the Land Use and Transportation Plan. In this section, a number of key tools are discussed which are already available and can have a substantial impact on the ultimate success of this plan. The tools include the following:

PREPARATION OF COUNTY-WIDE DEVELOPMENT PLANS AND PLAN CONSISTENCY REQUIREMENTS

The most effective approach to ensuring that plans are implemented is to establish them as the basis for daily decisions and actions, both public and private, related to land use and development, facilities siting and transportation or infrastructure improvements.

This plan is intended to combine and replace the previously adopted area-wide land use and transportation plans—the Dane County Regional Development Guide and Regional Transportation Plan. The previously adopted plans have helped guide growth and development, where established as a basis for decisions and actions. This guidance has generally been facilitated through provisions in local, state or federal policies and rules requiring consistency of decisions or actions with adopted plans. Current examples of these measures include:

- The requirement that federal urban transportation improvement funds be directed to projects listed in the Transportation Improvement Program consistent with the Regional Transportation Plan;

- State requirements that sewerage facilities and sanitary sewer extensions conform to statewide water quality management plans (the Dane County Water Quality Plan);

- Statutory requirements that plans of a metropolitan sewerage district must be consistent with adopted plans of a regional planning commission;

- State requirements that park acquisition grants be based upon current adopted local and county park plans;

- State requirements that all changes to the county's Farmland Preservation Plan be reviewed for consistency with adopted regional plans.

The State Statutes direct the RPC to develop and adopt a master plan for the physical development of the region. The Regional Development Guide, Transportation Plan, Water Quality Plan, Parks and Open Space Plan, Farmland Preservation Plan, and Solid Waste/Recycling Plans all constitute adopted elements of the regional master plan. These plans are solely advisory to local governments in the region, except where plan consistency requirements have been specified.

Cities, villages and towns, except in cases related to the Farmland Preservation Plan, have the authority to develop and adopt master plans, and nearly all the units in Dane County have done so, however, there is no requirement that the plans of adjoining municipalities be compatible with each other or consistent with area-wide or county-wide plans.

Recommendations: The most promising approach to improving the effectiveness, usefulness and ultimate implementation of local and county-wide plans is to expand and further formalize policies and requirements for decisions and actions to be based on and be consistent with those plans. Procedures for ensuring that various adopted plans are coordinated and consistent with each other should also be developed. The following recommendations should be pursued:

- In addition to the adoption of this plan by the RPC, the plan should also be adopted or endorsed by Dane County, the City of Madison, the Wisconsin Department of Transportation, and other local governmental units as the county-wide plan providing the framework for future growth and development.

- Local and county governments should incorporate rules or procedures in their day-to-day decision processes requiring consistency with this plan and locally prepared and adopted plans. This will also ensure that plans are kept up to date.

- Local governments should cooperate with neighboring units, with the help of the RPC and the County Planning and Development Department, to resolve conflicts and inconsistencies between local plans.

- Local governments should work with the RPC and the County Planning and Development Department to ensure consistency between local and county-wide plans. Local plans should have the flexibility to address local issues and objectives, while reflecting key county-wide or intergovernmental issues and objectives outlined in the county-wide plans.

- State and federal governments should support and promote this cooperative local/county-wide planning approach by providing incentives and assistance in developing plans, by participating in local and regional planning to ensure that statewide concerns and objectives are reflected in local and county-wide plans, and by formalizing rules and policies ensuring that state and federal actions and decisions are supportive of and consistent with local and regional plans.

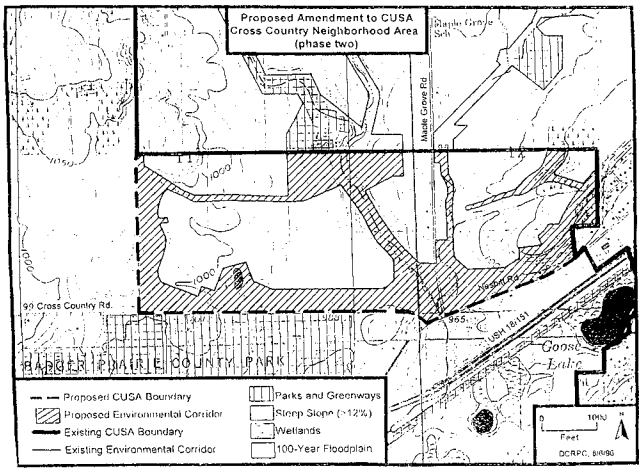
PREPARATION OF THE COUNTY DEVELOPMENT PLAN

The county is authorized, in Section 59.69 of the State Statutes, to prepare a county development plan for the physical development of the unincorporated portion of the county as a guide to future development. Previously, the county adopted the Dane County Regional Development Guide (RDG) as a policy framework plan to guide planning and development of the county, but did not go through the process of formally adopting the RDG as the county development plan under this state statute. The county has also adopted the Farmland Preservation Plan and the Parks and Open Space Plan.

Recommendations: The Land Use and Transportation Plan should be adopted as the current development guide for the county, with all municipalities encouraged to work within the recommendations of the plan. The Dane County Board of Supervisors can also adopt this document as the County Development Plan for the unincorporated portion of the county, after following the procedures outlined in Section 59.69 of the State Statutes.

NEIGHBORHOOD DEVELOPMENT PLANS

Neighborhood development plans are specific area plans which offer a community the opportunity to predict the effect of a proposed development on the larger community and to evaluate the anticipated impacts of that development. The City of Madison and a few other Dane County communities already use this tool as a means to evaluate development proposals. These plans are highly effective in evaluating proposed development in urban fringe areas and in rural areas. Typically, a community or a developer is required to prepare a neighborhood plan if none exists, or comply with existing plans. Plans usually include the parcel under consideration and a substantial area around that parcel. These plans often serve as the basis for future developments as well as public service extensions.



Recommendations: Municipalities and Dane County should be encouraged to adopt a requirement in which new subdivisions or major development proposals be approved only when the impacts of that development on the general area have been assessed. That assessment should take the form of a neighborhood development plan which would look at the effect of any new development in the context of the larger area. When a neighborhood development plan is approved, it would be considered an amendment to the community's plan and future developments would be guided by its recommendations. New neighborhood plans should be consistent with this plan. In addition, the RPC should continue to require plans similar to neighborhood development plans for all requests for urban service area expansions.

URBAN SERVICE AREAS AND SEWER EXTENSIONS

One of the most important factors in determining the location of urban development is the provision of sewerage facilities and the extension of sanitary sewer. The discussion on plan consistency requirements indicated this factor has proved to be one of the most potent tools to achieve consistency between local and county-wide plans, as well as the most effective way of ensuring that urban (sewered) growth and development is directed to locations consistent with adopted plans.

State Statutes and administrative rules require that provision of sanitary sewerage facilities and service be consistent with state-approved area-wide water quality management plans. In Dane County, the designated water quality planning agency is the Dane County Regional Planning Commission. As part of the preparation of the area-wide water quality plan for Dane County, the RPC is required to delineate sewer service areas for all areas in the county intended to receive sanitary sewer service. These sewer service areas correspond to the urban and limited service areas in adopted plans, and are used by the RPC and the Wisconsin Department of Natural Resources to review all sewerage facilities and sanitary sewer extensions in the county for consistency with plans, ensuring that urban sewered development occurs in planned urban service areas while protecting urban environmental corridors.

In addition, State Statutes require that plans of a metropolitan sewerage district must be consistent with the adopted plans of a regional planning commission. In Dane County, the Madison Metropolitan Sewerage District, which provides wastewater collection and treatment service to most of the urban areas in the central part of the county, routinely works with the RPC to ensure consistency of its plans and provision of sewer service with adopted plans, sewer service areas and environmental corridors.

Recommendations: Applications for urban service area and sewer service expansions before the Dane County Regional Planning Commission should include evidence of consistency with the recommendations of the Land Use and Transportation Plan. This evidence should include the expansion of designated environmental corridors and any additional natural resource areas identified in the plan. While plan consistency provisions have been an effective tool for managing and directing urban sewered development into planned growth areas, they have not provided a basis for managing or controlling unsewered development in rural areas. It would be possible (with state support and approval) to also incorporate plan consistency requirements and review into state permits and approvals for on-site wastewater systems and private wells, to ensure consistency with rural development policies and criteria contained in countywide land use and water quality plans.

Applications for urban service area and sewer service expansions before the Dane County Regional Planning Commission should include evidence of consistency with the recommendations of the Land Use and Transportation Plan...

COOPERATIVE AGREEMENTS

Section 66.023 of the State Statutes gives communities the power to develop cooperative boundary agreements. This provision allows communities to avoid annexation as a means of making a boundary change. A plan must be negotiated between the communities and submitted to the Wisconsin Department of Administration (DOA). The DOA reviews and approves the plan to ensure coordinated development between the communities.

This approach clearly defines where communities will grow and by how much. In the absence of the statutory authority for the growth management areas found in states such as Oregon, this tool allows communities to agree on their limits in a rational way outside the heat of an annexation battle. It also allows efficient planning and construction of infrastructure to accommodate expected growth.

Section 66.30 of the State Statutes allows communities to make intergovernmental agreements for a wide range of governmental activities and programs. These can include joint purchasing, cooperative provision of services, provision of service by one governmental unit to others, cooperative construction and maintenance of public facilities, or similar activities.

In Dane County, several communities have entered into some type of boundary agreement under this authority including the Cities of Madison and Middleton with the Town of Middleton, and the Cities of Madison and Sun Prairie, and the Village of Waunakee and the Town of Westport. The intent of this legislation is to enable communities to pool resources and realize economies and efficiencies. There are a number of other areas in which negotiated agreements between governments can provide solutions to problems. This tool is a familiar one and, more importantly, an easy and flexible approach where there is agreement between the parties.

Recommendations: The continued use of these tools should be encouraged as a way to solve boundary issues through negotiation. It is further recommended that communities consult the recommendations of this plan to ensure they are compatible with any such agreements. The Dane County Regional Planning Commission and/or the Dane County Planning and Development Department should explore these options with communities where intergovernmental boundary or service issues develop.

ANNEXATION

In Sections 66.021, 66.024 and 66.025 of the State Statutes, a provision exists for property owners to transfer parcels from towns to cities or villages in most cases in order to receive urban services such as water and sanitary sewer. Cities and villages may annex adjoining parcels in towns for similar reasons or to provide for urban growth and expansion, but the process remains driven by the property owner requests.

Annexation is one of the most contentious issues between incorporated and unincorporated areas. Incorporated areas often feel that annexation is the only way the community can grow and prosper while towns see it as an assault on their territory and an erosion of their tax base. Very often relations between jurisdictions are damaged by historic concerns about annexation. Development decisions can be made based upon a fear of annexation or a desire for territory rather than the best interests of the community as a whole.

Recommendations: This plan provides no recommendations about municipal boundaries or boundary changes. The plan does identify general areas where urban development should occur and where urban services should eventually be provided, and recommends the designation of mutually agreeable "urban transitional areas" through more detailed plans and agreements. If annexations do occur, they should be consistent with the land use and transportation recommendations of this plan. State review of annexations should include and be based, at least in part, on consistency of the proposed annexation with adopted local and county-wide plans. This may require changes in State Statutes or administrative rules.

PARKS AND OPEN SPACE PLANS

Dane County has developed a Parks and Open Space Plan to accommodate the anticipated needs of the county. The recommendations of that plan are incorporated into this plan by reference. Municipalities also can adopt park and open space plans as part of their planning efforts. The purpose of these plans is to identify the recreational needs of the community and plan for new park and recreational facility development as circumstances permit.

Recommendations: As it is updated, the county Parks and Open Space Plan should conform with this plan. The park and open space needs and the development of trails should be combined with the preservation of key natural areas in the county. The purpose of these recommendations is to adequately inform the public that these areas have a county-wide value and should be retained as public resources.

Municipalities should also coordinate their park and open space planning with the recommendations of the county plan in order to provide an efficient network of park and open space facilities to residents throughout the county.

EXTRATERRITORIAL POWERS

State Statutes provide cities and villages some planning and regulatory authority for areas outside their current municipal boundaries. This authority includes extraterritorial zoning and plat review, and official mapping. These powers are granted to cities (2^{nd} and 3^{rd} class) for lands within three miles of their boundaries, and to smaller, 4^{th} class cities and villages within one-and-a-half miles of their boundaries.

Under the authority of Section 66.23 of the State Statutes, cities and villages can prepare master plans for the physical development of the incorporated municipality including any area outside of the city boundaries that their Plan Commissions considers appropriate. Cities and villages are also able to review zoning changes in the extraterritorial areas through a joint committee with members of both the city or village and the affected town. Cities and villages share review authority with towns and the county over subdivisions in their extraterritorial area. Finally, cities and villages can officially map right-of-ways for future streets and drainageways in their extraterritorial areas.

Recommendation: Cities and villages should include consistency with their local plans and this land use and transportation plan as a consideration in their extraterritorial reviews and actions, and in official mapping.

COMMUNITY DEVELOPMENT INITIATIVE

The Dane County Executive established a Community Development Initiative program in the 1997 Dane County budget. This program created a funding source for communities to request technical assistance to solve urban development design and density issues. This program was created in part to assist in the implementation of recommendations found in this plan. (As of this writing, funds for this program have been frozen.)

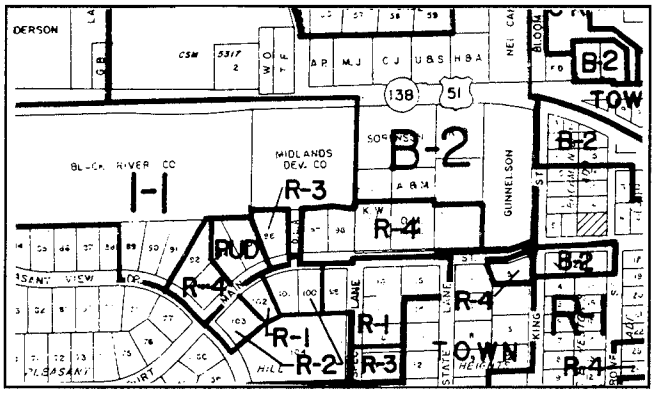
Recommendation: The resources made available through this program should be used, as intended, to assist in the implementation of the recommendations found in the plan for the development of specific area plans. These can assist in development of model ordinances and design guidelines to guide implementation of these specific area plans.

Land Use Implementation Tools

COUNTY ZONING

As authorized under section 59.97(4) the State Statutes, Dane County has opted to establish a system of land use controls in which it shares zoning responsibility and decision-making with the town governments. These powers extend only to the unincorporated areas of the county and require Town Board, County Board, and County Executive concurrence for most zoning map and text amendments. Dane County has no direct role or authority in zoning decisions in the cities or villages. Under current legislation, the county zoning ordinance cannot be significantly revised without the concurrence of both the county and the towns.

Recommendations: The county should review each application in light of the principles in this plan as a decision is reached. The conceptual land use plan map, found in the Appendices volume should not however be used as a guide in consideration of specific zoning map amendments (rezones). Following adoption of the plan, the Dane County Department of Planning and Development should review the zoning ordinance, and its procedures to incorporate any changes consistent with the plan. The county and towns should jointly review these changes.



MUNICIPAL ZONING

State Statutes authorize incorporated municipalities to regulate and restrict the use of land by zoning ordinance. Ordinance elements can include the regulation of building heights and sizes, lots, structure types, yards, open spaces, population density, and the location and types of land uses. Zoning is the most powerful tool a municipality has for shaping its future. As long as a community follows due process and acts without malice or in an arbitrary or capricious manner, it may successfully regulate how land uses are distributed within its boundaries.

Every incorporated municipality in Dane County has its own zoning ordinance. Each ordinance is different and the application of zoning regulations among communities is inconsistent. Dane County government does not participate in zoning decisions in the cities and villages. However, if the local community adopts the county-wide plan, works cooperatively towards consistent standards and follows through on making decisions consistent with the adopted plan, there should be a minimum of inconsistency among local governments.

Recommendations: Dane County Regional Planning Commission and Dane County Department of Planning and Development staff should work with municipalities to encourage the revision of zoning ordinances and decision-making practices to be consistent with one another and with this plan. Staff technical assistance may be able to assist to resolve some inconsistencies by working with local planning commissions.

Another source of inconsistency among communities is the language differences between municipal ordinances. The Dane County Regional Planning Commission and the Dane County Planning and Development Department staffs should provide technical assistance to local communities to promote consistency of zoning terms, language, districts, and procedures throughout the county.

DESIGN GUIDELINES

Design guidelines provide direction to developers about the image a community wants to protect or obtain over time. This technique is commonly used and can help implement the rural and urban design concepts built into this plan including traditional neighborhood design principles and clustering in rural areas.

Recommendations: A series of design guidelines should be developed by staff to help focus rural and urban developments into more compact and efficient forms. These guidelines would promote the clustering of new rural development around existing hamlets or subdivisions to facilitate the possible future provision of municipal services as well as minimize disruption to area farm operations. These guidelines would be extended to the protection of key scenic resources to retain major elements of the county's rural character.

Guidelines should be incorporated into town and county land use plans, and potentially form the basis for ordinance amendments. Urban municipalities may also find it useful to incorporate design guidelines to provide guidance to developers in siting and neighborhood design principles, although these guidelines would vary substantially from the rural development guidelines.

SUBDIVISION AND PLATTING REGULATIONS

Under Section 236 of the State Statutes, the county government has approval authority over new subdivisions in unincorporated areas. Cities and villages have review authority over subdivisions within their jurisdictions and in their extraterritorial areas. Towns with adopted subdivision ordinances also have the authority to review subdivisions within their jurisdictions. The timing and location of development can also be controlled by a subdivision ordinance in conjunction with a plan and appropriate zoning. The timing of the subdivision development can be made dependent upon the development of neighborhood plans, the provision of urban services, and other specific development agreements.

Recommendations: Dane County and local municipalities should review their subdivision and platting ordinances to determine whether they are current with State Statutes and the recommendations of this plan, and to make any changes necessary to strengthen or improve their effectiveness. The county's subdivision ordinance should be amended to incorporate the local and county Parks and Open Space Plan elements. The county, when reviewing subdivision plats, should take into consideration the Park and Open Space Plan elements when approving the plats.

FARMLAND PRESERVATION PLANS

In Sections 59.97 and 91.55 of the State Statutes, counties are empowered to prepare and approve Farmland Preservation Plans, which enable eligible farmers to participate in the Wisconsin Farmland Preservation tax credit program. The goal of the program is to provide the financial incentives for farmers to remain in agriculture. A county farmland preservation plan and exclusive agricultural zoning is required for eligibility. Dane County has participated in the program since 1978 with adoption of exclusive agricultural zoning and the Farmland Preservation Plan (1981), both of which have been certified by the state. This statute has consistency requirements in that the county Farmland Preservation Plan must indicate how it compares with regional plans and explain any discrepancies between plans.

This consistency is taken a step further in Dane County which includes adopted "Standards for Review of Town Plans within the Farmland Preservation Plan." Town plans and their amendments are reviewed for consistency with other plans by the RPC and the County Board prior to adoption as part of the Dane County Farmland Preservation Plan. There is also a provision in the County Zoning Ordinance that states: "The Zoning Committee [of the County Board] shall use plans and maps developed by the individual towns and approved by the County Board as criteria for zoning recommendations to the County Board." Thus, there is a commitment to use and consider the adopted town plans as adopted parts of the county plan in making individual zoning decisions.

The county is experiencing a decline in farmland acreage and in the number of farms. Today's economic reality makes it increasingly difficult for farmers to survive. While most of the reasons for this troublesome business climate are outside the scope of the plan (tax law, farm supplements, etc.), there are methods by which the county can provide help while reinforcing the goals of this plan.

Recommendations: Local plans should be in conformance with the county Farmland Preservation Plan which, in turn, should be consistent with the policies of this land use plan. Zoning decisions should also be consistent with the Farmland Preservation Plan. The current Farmland Preservation Plan should be updated to reflect new initiatives and the recommendations of this plan.

Local plans should be in conformance with the county Farmland Preservation Plan which, in turn, should be consistent with the policies of this land use plan...

RURAL DEVELOPMENT INITIATIVES

This plan proposes three rural area development initiative objectives which are noted in the plan chapter section on Rural Form. These propose the designation of: Rural Development Areas as lands away from Agricultural Preservation Areas which might be planned for non-farm residential development; Urban Transitional Areas at the urban-rural fringe for areas for eventual urban development with a full range of urban services; and Agricultural Preservation Areas with only limited non-farm development opportunities. Agricultural Preservation Areas are generally reflected in town Farmland Preservation Plans and include lands with prime or productive soils. Rural Development Areas and Urban Transition Areas have not yet been delineated, nor have specific criteria and policies been developed for delineating those areas.

Recommendations: Review Farmland Preservation Plans to update and specify where possible the Agricultural Preservation Areas. Working with local units of government, the staff should develop criteria and policies to delineate Rural Development Areas and Urban Transitional Areas, and local units should consider incorporating these areas as they update local plans.

PURCHASE OF DEVELOPMENT RIGHTS

The concept of purchased development rights (PDR) may provide a way to discourage growth in areas where that growth is deemed undesirable or unwanted by the local government or the county. By compensating an owner for his or her development rights, an area of land may be taken out of consideration for future development while still allowing use of the land. The purchase of the land owner's development rights can be made by the local municipality, non-profit organizations, the county, or the DNR. It has the additional effect of reducing property taxes on land that prior to the PDR was under development pressure. If used on farmland, farms can remain farms. The expected revenue from the retirement sale of a farm would be made available to the farmer under this program, without the loss of the agricultural land that normally goes with that income.

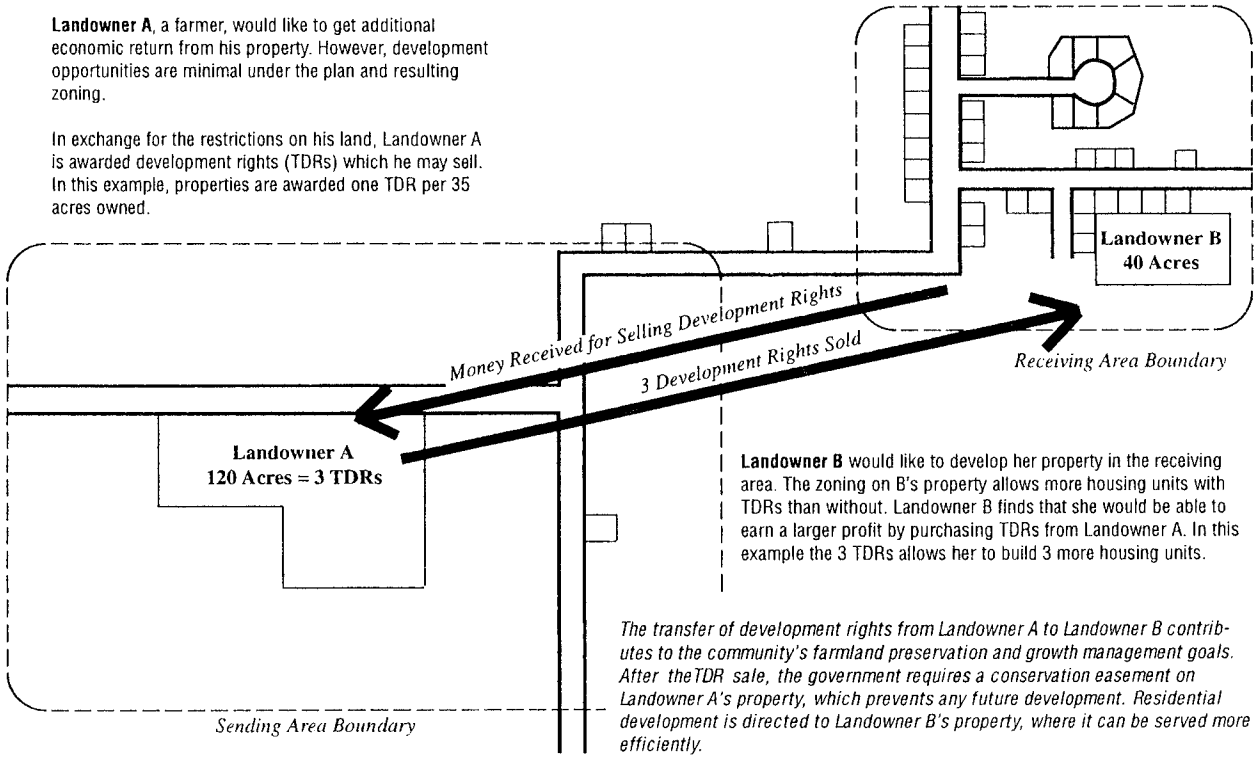
Recommendation: The Dane County Department of Planning and Development should evaluate this concept further, improve upon it, and promote it to the towns as a way to control development in locations deemed undesirable. The experience of the Town of Dunn with this tool should be evaluated to determine how the concept could be applied more widely.

TRANSFER OF DEVELOPMENT RIGHTS

Transfer of Development Rights, or TDR, is a tool used by some communities to help focus growth and development into areas better suited to accept it while preserving open space or agricultural lands in areas which are not. By allowing landowners to transfer development rights from "sending areas" to developers in "receiving areas", this concept can give the farmer incentive to continue farming

How TDR Works: Conceptual Example

Government establishes a TDR program based on community goals to preserve a specific resource (e.g., farmland) and direct development to appropriate areas. The community plan designates a TDR "sending area" where agricultural preservation is desired and a "receiving area" where additional residential development is encouraged.



The transfer of development rights from Landowner A to Landowner B contributes to the community's farmland preservation and growth management goals. After the TDR sale, the government requires a conservation easement on Landowner A's property, which prevents any future development. Residential development is directed to Landowner B's property, where it can be served more efficiently.

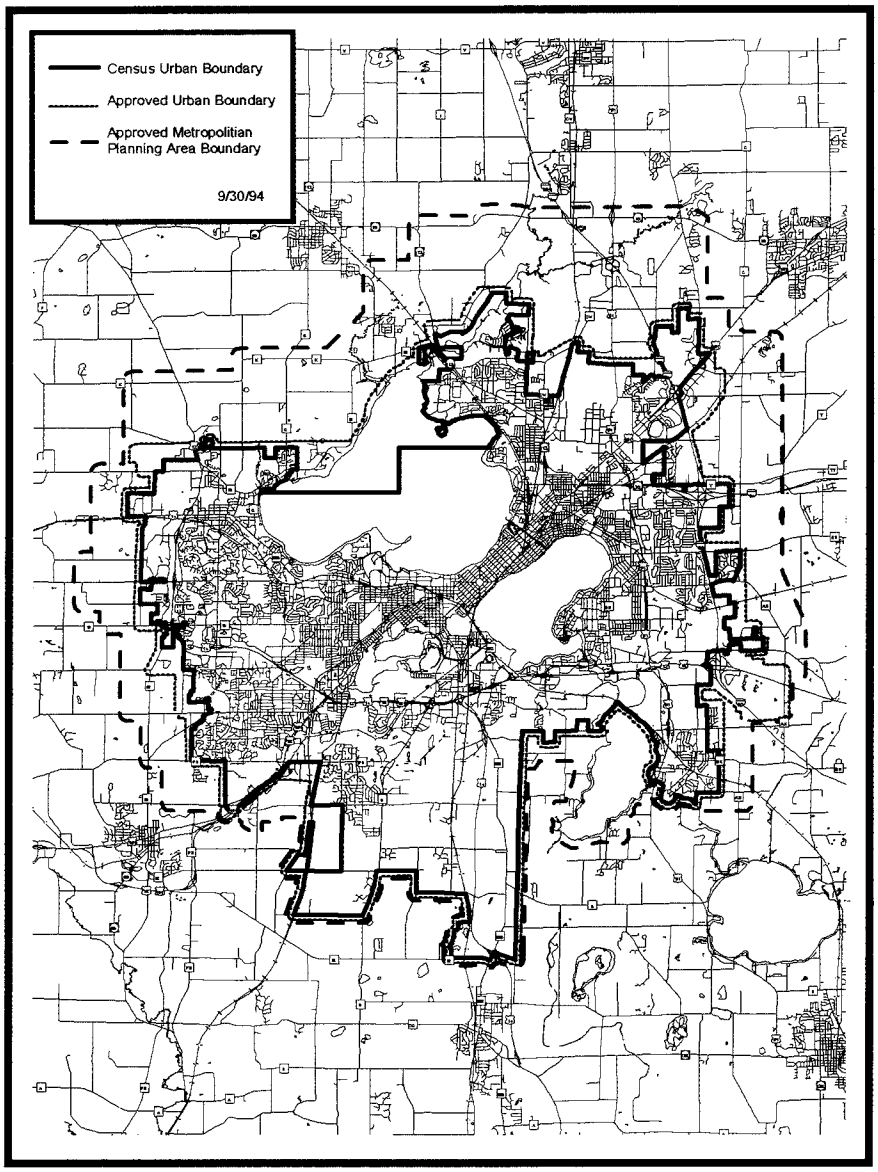
and can give the developer a chance to succeed with development that has been directed into desirable areas. This tool was studied by an advisory committee to the Dane County Board of Supervisors and a series of recommendations were made in May of 1996.

Recommendations: The Dane County Department of Planning and Development, in conjunction with the Regional Planning Commission, should explore the implementation of a pilot TDR program within and between municipalities in the county. The pilot should be analyzed and refined with the goal to implement a county-wide Transfer of Development Rights Program. Any needed enabling state legislation, or change in local or county ordinance should be actively pursued.

Transportation Implementation Tools

METROPOLITAN PLANNING ORGANIZATIONS-TRANSPORTATION PLANNING

The Dane County Regional Planning Commission has been designated the Metropolitan Planning Organization (MPO) for the Madison Urbanized Area. The MPO is responsible for preparing plans for multi-modal transportation improvements and prioritizes discretionary funds for requested projects. The MPO has planning and programming authority for federal funding within the Madison urbanizing area and an advisory role for the balance of the county. This planning effort was a response to the requirements placed upon the MPO in return for federal transportation funding.



Recommendations: The Regional Planning Commission, functioning as the MPO, should encourage focusing development in the urbanized area as identified in this plan through its authority to prioritize funds for transportation projects. Projects should be consistent with the recommended plan, providing multi-modal accessibility. The MPO should also seek annual capital improvement programs as well as updated municipal plans which are consistent with the county-wide plan in order for municipalities to be eligible for Surface Transportation Program - Urban Funds.

This plan will be updated every five years as required by the Intermodal Surface Transportation Efficiency Act (ISTEA). ISTEA is subject to federal reauthorization in 1997. Regularly re-examining not only its success, but its continued relevance to the community will be a key to determining the ultimate success of the plan. The MPO should work with its advisory committees during the updates of this plan undertaken every five years to evaluate the effects of economic, environmental and social changes on all modes of the transportation system.

WISCONSIN DEPARTMENT OF TRANSPORTATION—TRANSPORTATION PLANNING

The Wisconsin Department of Transportation (WisDOT) also plays a role in the implementation of the Land Use and Transportation Plan. WisDOT, the MPO and the City of Madison, as the transit operator, have a three party agreement to continuing transportation planning in the Madison Urbanized Area. This plan is directly tied to the disbursement of federal funds for local transportation improvement projects. Federal funds cannot be used for a project unless it is listed in the MPO's adopted Transportation Improvement Program. WisDOT should adhere to the elements of this plan in making transportation decisions in the area. WisDOT also has the ability to work with the MPO to preserve transportation corridors in the planning area and review plats for lands adjacent to state trunk highways. In addition to roadway issues, WisDOT works with the MPO on a number of other issues related to transit, passenger and freight rail, airports, and pedestrian and bicycle facilities.

Recommendation: The Wisconsin Department of Transportation should continue to work with the MPO to resolve roadway improvement issues, highway access issues along state trunk highways; on transit development, including the location of park and ride lots and other transit facilities; on the provision of passenger and freight rail service in the county; and the continuing development of pedestrian and bicycle facilities in the county. In addition, WisDOT has a major partnership role with the MPO and local units to fund and participate in major investment studies.

OFFICIAL MAPPING

Through Section 236.46 of the State Statutes, counties are responsible for preparing the official county map which, among other things, identifies the County Trunk Highway System. Cities and villages (Section 62.23(6)) can also officially map identified future roadway corridors. Official mapping notifies developers and property owners of the intent to build or widen a road at a future date and can help to preserve the corridor needed for that facility. Official mapping is not property acquisition. The elements of Dane County's or a municipality's official map should be consistent with the recommendations of this plan.

A municipality may also adopt an official map which shows roads, parks, and stormwater and utility easements. If utilized, this tool can be a powerful statement indicating the municipality intends to implement the various elements of both the county and municipal master plans. By including plan elements in the official map, it serves notice that these areas are not available for development. Municipalities can decide to use this tool through an ordinance adopted by individual elected bodies with specific properties affected being identified on a map.

Recommendations: The official maps of Dane County and the local municipalities should be used to include future programmed transportation improvements including any dedicated transit corridors, highway and arterial widenings or extensions, parkways and connecting streets. The official maps should also be expanded to include parks, and stormwater and utility easements where they can be identified.

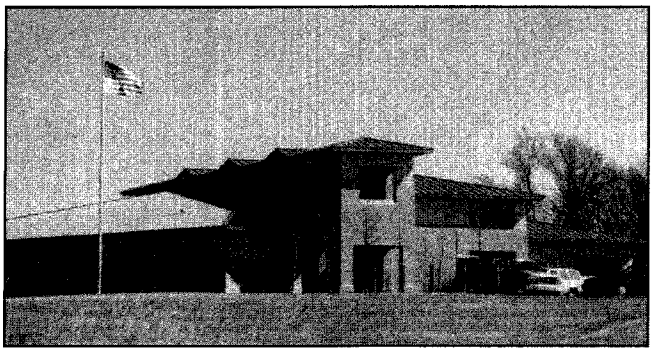
TRANSPORTATION MANAGEMENT SYSTEMS

Recommendations: As part of the ongoing maintenance and operation of the county-wide roadway system and in keeping with ISTEA requirements, the MPO should implement a Congestion Management System (CMS) as reflected in this plan, and the incorporation of results from Pavement Management System (PMS), and Bridge Management System (BMS) plans for all arterial roadways when the results become available from WisDOT and local jurisdictions.

By including plan elements in the official map, it serves notice that these areas are not available for development...

EDUCATION AND TECHNICAL ASSISTANCE

The staffs of the RPC and the County Planning and Development Department, by consulting with and providing information to local municipalities, have a great opportunity to influence all the communities in the county and promote implementation of the plan. This traditional staff role can be very effective, especially as elements of the Plan become accepted as "common wisdom." Staff efforts in this direction should be encouraged and considered an important element of implementation.



The Dane County Regional Planning Commission and the Dane County Planning and Development Department staffs offer assistance to all municipalities in the county. The RPC's current policies on local planning assistance, for example, provide for planning assistance on county-wide issues at no charge to the local municipality, and contractual assistance for local planning activities. Most communities in Dane County do not have their own planning staff. It is recommended that municipalities without staff should regularly consult with these agencies. The staffs can assist local communities with the analysis necessary to make good planning decisions which coincide with the governing principles of the Land Use and Transportation Plan, while the municipalities retain the local authority they desire. For example, staff could spell out the kinds of policies and/or ordinances local units might pursue, and could draft model ordinances and design guidelines.

Recommendation: The RPC and county planning staffs should continue and expand contacts and technical assistance to local municipalities to the extent that staff resources are available for this important activity. The staffs of these agencies should establish procedures to encourage communication and interaction with other planning and development agencies in the county. This enhanced communication network will assist the municipalities in the efficient provision of public services.

Other Planning Initiatives

In addition to local land use planning efforts, there has been considerable interest in land use planning issues at the state level throughout the mid-1990's. Starting with the Metro 2020 strategic planning efforts in southeastern Wisconsin in 1990-1991 and through WisDOT's TRANSLINKS 21 planning process in 1992-1994, concerns were raised around the state that Wisconsin's land use planning system was inadequate. In 1994, Wisconsin cabinet agencies began an internal discussion on land use planning issues which resulted in the creation of the State Interagency Land Use Council chaired by the former Secretary of Revenue, Mark D. Bugher. The Council's report was issued in July 1996 and is being discussed by the Legislative Council's Special Committee on Land Use Policies. A number of state initiatives are being discussed which could impact land use planning practices in Dane County. None of these initiatives have been formally introduced into the Legislature at this time, but are possible in 1997 or 1998.

Locally, the Dane County Board of Supervisors has also developed a land use agenda. Its initiatives include promoting planning at all levels of government and requiring consistency with and among plans. They also strongly support the concepts of traditional neighborhood design and neighborhood revitalization embraced by this plan.

Table 5-1
Recommended Implementation Strategies

Recommendation	State	DCRPC	Dane County	Cities & Villages	Towns	Other	Actions
General Recommendations							
Plan Adoption by Key Agencies	x	x	x	x	x		• RPC and County Board adopt plan. • Local units asked to adopt or endorse. • WisDOT endorses plan. • Other state agencies asked to endorse and support plan.
Promote Compact Development Patterns	x	x	x	x	x		• Encourage county and municipal plans and zoning ordinances to allow and support higher residential densities, and mixed-use neighborhood development. • Use adopted urban service areas as the basis for review of sewered development and sewer extensions, and for other extensions of urban infrastructure.
Offer a Range of Residential Options		x	x	x	x		• RPC develop a countywide housing plan including affordable and diverse housing options. • Encourage municipal plans and zoning ordinances to provide for more even countywide distribution of multi-family housing. • Encourage municipal plans and zoning ordinances be revised to support mixed-use and traditional neighborhood planning and design concepts.
Preserve Environmental Corridors and Natural Areas	x	x	x	x	x		• Protect and expand the county-wide open space corridor system through zoning and siting decisions, subdivision and development approvals, and land and easement acquisition. • Keep sewered urban development from encroaching into environmental corridors through control of sewer extensions. • Locate and design transportation improvements to minimize impacts on corridors and environmental resources. • Enforce shoreland and wetland zoning ordinances to minimize disturbances in sensitive areas.

Recommendation	State	DCRPC	Dane County	Cities & Villages	Towns	Other	Actions
Provide an Efficient Multimodal Transportation System	x	x	x	x	x		• Program and fund only transportation improvements which are consistent with this plan. • Incorporate consideration of transit and pedestrian/bicycle travel in neighborhood planning and street layout, and in all roadway improvement projects. • Revise municipal plans and ordinances and provide incentives where necessary to direct high density development and major employment and activity centers to major transit corridors. • Pursue an expanded and more convenient transit system.
Protect Agricultural Land and Limit Rural Nonfarm Development			x	x	x		• Develop and incorporate into county and town plans and ordinances a set of planning and design guidelines for rural development that a) establish targets or limits and mechanisms for controlling the location and amount of rural nonfarm development; b) encourage clustering around existing rural hamlets or subdivisions; c) avoid encroachment or impacts on critical environmental resources, prime farmland and viable farming operations, or scenic beauty. • Continue use and enforcement of exclusive agriculture zoning to protect agricultural preservation areas. • Support catch-up provisions and indexing for state farmland preservation tax credits. • Review all rural land use, zoning, and siting decisions for consistency with this plan, the Farmland Preservation Plan, and local town plans. • Dane County should continue to pursue Transfer and Purchase of Development Rights programs as possible approaches to more effective and equitable control and direction of rural development, and should complete the technical analysis to implement a pilot TDR program. • Consider updating the Farmland Preservation Plan to incorporate the above and other initiatives to preserve farmland and farming as an occupation.

Recommendation	State	DCRPC	Dane County	Cities & Villages	Towns	Other	Actions
Municipalities Should Cooperate with Neighbors to Resolve Conflicts and Inconsistencies Between Plans		x	x	x	x		• RPC and Dane County should offer to assist local units in resolving intergovernmental planning or service issues, conflicts or inconsistencies. • Dane County and the RPC should assist and work with local units to ensure that local plans are coordinated and consistent with countywide plans. • The RPC and Dane County should assist and promote the use of negotiated intergovernmental agreements to promote coordination and cooperative planning and service provision by local units, to resolve boundary and other disputes, and to cooperatively plan for future boundary changes. • Municipalities should work together to resolve boundary and other disputes through negotiated agreements.
Require Consistency with this Plan in Review of Appropriate Sewer Service	x	x				x	• State rule changes should be requested incorporating plan consistency with state permitting of onsite wastewater systems and private wells. • State agencies, RPC and MMSD should require evidence of plan consistency in review of sewer extension requests. • Expand environmental corridors to include additional natural areas identified in the plan.
Implement Community Development Initiative Program			x				• $300,000 budget secured in 1997 Dane County budget (frozen at time of writing). • Identify communities for participation. • Select appropriate design consultants. • Initiate program.
Promote the Use of Official Mapping by the County and Local Communities	x		x	x			• County, cities, and villages expand official street mapping to include future programmed transportation improvements, parks, and stormwater and utility easements.
Encourage Continuing Park and Open Space Planning		x	x	x	x		• Municipalities coordinate local park and open space planning with the recommendations of the countywide plans. • The RPC, Dane County and municipalities should combine park and open space needs and the development of trails with the preservation of key natural areas in the county.

Recommendation	State	DCRPC	Dane County	Cities & Villages	Towns	Other	Actions
Land Use Plan Recommendations							
Allow Mixed-Use Developments in Communities				x			• Amend local zoning ordinances to encourage mixed-use developments.
Encourage Traditional Neighborhood Design for New Urban Residential Developments				x			• Amend local zoning ordinances to encourage this design. • Develop and adopt local design guidelines to promote this type of neighborhood development.
Promote Redevelopment of Unused or Underused Urban Properties				x			• Survey existing urban areas for potential redevelopment sites. • Prepare redevelopment plans focusing on specific parcels. • Actively recruit developers for those parcels • Explore potential incentives for developers.
Designate Urban Transitional Areas							• Develop plans to identify lands at urban fringe planned for future development with public services. • Cities, villages, towns, and the county should limit development in these areas until planned urban services and development is timely.
Designate Rural Development Areas		x	x		x		• County and RPC work with towns to identify criteria and potential for rural development areas in town plans, consistent with rural development objectives (type, amount, density) and rural design guidelines. • County and towns revise town plans, *Farmland Preservation Plan*, and *County Development Plan* to reflect approved rural development areas. • County should assist towns in developing neighborhood plans for areas of planned rural development. • County and towns revise ordinances and procedures to allow "fast track" approvals of rural development consistent with adopted plans, rural design guidelines, and neighborhood plans. • Explore use of transferred development rights as a prerequisite for developing in rural development areas.

Recommendation	State	DCRPC	Dane County	Cities & Villages	Towns	Other	Actions
Transportation Plan Recommendations							
Promote Continued Transit System Expansion and Improvement	x	x	x	x		x	• Support Madison Metro implementation of 1997 system plan. • Conduct Commuter Rail Preliminary Feasibility Study budgeted for 1997. • Request that Major Investment Study on the feasibility of implementing expanded transit technology including commuter rail, light rail transit and exclusive bus lane facilities be conducted immediately following the Commuter Rail Study with WisDOT MIS Process Guidance. • Provide transit service from periphery park and ride lots to Central madison. • Expand existing vanpool and carpool services in the county. • Improve accessibility for handicapped and transit dependent riders through periodic equipment and scheduling upgrades.
Continue Efforts to Develop a Continuous System of Bikeways and Bicycle Facilities in the Region	x	x	x	x	x		• WisDOT, Dane County and municipalities should continue the existing program of constructing bikeways in the Madison urbanized area and implementing the Capital City State Trail. • Dane County should continue its program of paving shoulders for bikers.
Seek to Minimize Pedestrian-Vehicular Conflicts	x	x	x	x	x		• Continue RPC and State public information efforts regarding pedestrian rights and traffic rules. • Municipalities should amend zoning ordinances to require sidewalks in all new developments. • Municipalities to continue efforts to provide ramps for wheelchair accessibility at intersections.
Continue to Maintain the County Roadway System	x	x	x	x	x		• Continue planning and construction of major street and roadway projects recommended in this plan. • Continue efforts to incorporate transit, bicycle and pedestrian circulation facilities in all major street and roadway projects. • Consider as candidates Major Investment Studies from WisDOT to study the need for potential expansion of the USH 51 corridor from Milwaukee Street to USH 12/18 and for potential expansion of the west beltline from Verona Rd. to Mineral Point Rd., and Verona Rd. from the west beltline to CTH PD. In addition, consider as a candidate a Major Investment Study from WisDOT to study the potential need for a north ring connector from I-90/94 on the northeast to USH 12 on the west later in the planning period.

CHAPTER 6

Impacts Review Summary

The preceding sections of this plan have described the major components and features of the Dane County Land Use and Transportation Plan. This chapter covers another important aspect of this plan—how land use and transportation features of the plan may alter or affect the region as a whole and the habits of its residents. Several impact areas have been reviewed in summary form; these include the broad categories of land use, social, economic, environmental/physical, and institutional impacts. Because this plan is county-wide and system-wide in scope, covering several modes of travel within the entire region, the level of detail is necessarily generalized. The specific impacts of individual projects can be more accurately assessed at the corridor planning and design stages and, consequently, are not treated here.

Land Use Impacts

The Land Use Plan Element of this plan presents recommendations for development of both urban and rural areas. The following table reviews impacts by comparing existing trends to the direction advised by the recommended plan. These are the same impact factors shown in the Appendices volume that provide a summary comparison of alternatives 1990-2020 impacts.

The relationship between land use and transportation is very direct. Each affects the other in important ways. As a service component, transportation services can support land use goals or, at the opposite extreme, counter land use goals. The development of this plan consciously seeks to support

Table 6-1
Selected Impacts of Added Development, 1990-2020

IMPACT CATEGORIES	Existing Trends Alternative	Recommended Plan
Acres Consumed		
Central Urban Area	8,109	6,884
Other Urban Areas	6,156	4,578
Rural Areas	16,925	12,817
County Total	31,189	24,279
Water Use (gallons per day)		
Central Urban Area	9,547,254	9,441,976
Other Urban Areas	4,884,020	5,198,906
Rural Areas	1,851,685	1,460,371
County Total	16,282,959	16,101,253
Sewer Use (gallons per day)		
Central Urban Area	9,242,630	9,134,567
Other Urban Areas	4,682,225	4,990,029
Rural Areas	-	-
County Total	13,924,855	14,124,597
Septic Loadings (gallons per day)		
Central Urban Area	-	-
Other Urban Areas	-	-
Rural Areas	1,741,599	1,366,613
County Total	1,741,599	1,366,613
K - 12 Enrollment		
Central Urban Area	6,291	6,779
Other Urban Areas	5,274	5,157
Rural Areas	3,263	2,913
County Total	14,828	14,849
Public Street Requirements (miles)		
Central Urban Area	443	452
Other Urban Areas	307	313
Rural Areas	410	395
County Total	1,160	1,160

and service the long-range land use patterns for the region. Consequently, the anticipated impacts of this plan upon land use generally follow the goals outlined in this plan and local area land use plans. Transportation services and facilities proposed in this plan are anticipated to encourage the following land use trends:

- Greater concentration of urban development within urban service area boundaries;
- More concentrated residential, commercial and employment growth in central Madison; and
- Greater residential and employment densities along major travel corridors.

This plan reinforces the existing urban shape, form, and distribution of the area. It can be reasonably expected that the central urban service area should continue to spread along the fringes and continue to intensify activity centers and residential clusters. Outer area communities should see continued growth, generally concentrated within the existing 2020 urban service areas.

It can be reasonably expected that the central urban service area should continue to spread along the fringes and continue to intensify activity centers and residential clusters...

Land Consumption and Public Services

This plan proposes a land use development plan which is based upon a number of key principles focusing on the need to preserve the environmental resources of the county while providing a high quality living environment with a wide variety of options for different lifestyle needs. They also call for the provision of efficient public services to communities.

Land Consumption. One of the measures of success is whether less land can be expected to be converted from agricultural production or open space to new development than would occur if nothing was done. As shown in Table 6-1, if current trends were allowed to continue without application of the recommendations in this plan, approximately 6,900 acres of additional land would be used over the life of the plan. This estimate includes about 1,200 acres in the central urban service area, 1,600 acres in the outlying urban service areas, and over 4,100 acres in the rural areas of the county.

Public Service Needs. The impacts of the plan on public service provision can be discussed in a number of ways. Focusing growth into urban service areas allows communities to make more efficient use of existing facilities and resources. Emergency services are more efficient when the distances they have to cover are less. This efficiency in service can be realized as local cost savings over time. In the case of area public schools, as student populations grow and are located in existing neighborhoods or adjacent areas, school boards may avoid the need for some new buildings and the associated transportation or staffing costs that could be incurred under a more dispersed growth pattern. The SAVES model has allowed a quantitative evaluation of five of these factors, as seen in Table 6-1, which include:

Water Use. Water use throughout the county is similar under both a continuation of current trends and the plan. In both cases, total daily water consumption in the county will increase by 16 million gallons. However, increased water consumption under the plan is 200,000 gallons per day less than projected under current trends.

Sewer Use. Sanitary sewer use is projected to be about 200,000 gallons per day greater under the plan than if current trends continued. This increase is due to the larger number of homes anticipated to be served by public sanitary sewer under the plan. This greater reliance on sanitary sewer should have a corresponding positive benefit on ground water quality in the county.

Septic Loadings. A significant impact quantified by the model was a reduction in septic loadings (sanitary effluent serviced by on-site wastewater treatment systems) under the plan. If current trends continue, new on-site systems in the county would generate a projected 1.74 million gallons of effluent daily. Under the plan, that would be decreased to 1.37 million gallons daily, due to fewer new rural housing units. Almost 375,000 gallons less effluent would be treated by on-site systems under the plan's recommended development patterns.

K-12 School Enrollments. Although the model, by its nature, is less precise about this impact factor, it shows a greater concentration of school age children in the urban areas than the rural areas under the land use recommendations of the plan. However, as school district boundaries do not conform with those of the analysis zones used in the

model which tend to reflect municipal boundaries and census tracts, no definitive projections could be made for any individual school districts.

Roads. The SAVES model projects that the same number of miles of new road will be needed to accommodate new development under both futures. The difference is in the location. Under the continuation of current trends, 15 more miles of roadway would be needed in rural areas while the opposite would be true in the urban service areas under the recommended growth patterns proposed in the plan.

Aesthetics and Image. The recommendations of the plan have all been designed to allow Dane County to grow into the image or vision its residents desire for their future. Therefore, one of the important impacts of the plan is how that vision will actually physically manifest itself as the growth is realized. As stated in Chapter 5, much of the success of the vision depends upon the implementation decisions which will be made at all levels of government over the life of the plan. However, if the principles recommended in the plan are followed, a number of general results should be evident including:

- More areas of open space and farmland will remain undeveloped. As a result, there should be less scattered development along county highways. More rural residential development will be clustered or placed around existing hamlets and fewer single homes will be scattered across the countryside. Communities would be more distinct and there would be a clearer separation between urban and rural areas.

- Activity centers will be developed along transit corridors and will be subject to urban design and landscaping guidelines to improve the overall image of the community.

- New urban developments will be characterized by more efficient use of the land through traditional neighborhood design techniques and the application of design guidelines for both new and redeveloped properties. The county's community development initiative is an attempt to provide visual examples of the types of development this plan promises. The aesthetic impact of this plan can best be illustrated through specific implementation efforts such as this initiative.

Indirect Land Use Impacts. The goal of providing a safe, convenient, and efficient transportation system, and improving mobility and accessibility, can result in reinforcing residential location choices and development patterns that are at odds with the land use goals and objectives of this plan. Transportation system improvements which reduce commuting time to major employment centers, particularly in the central urban service area, can have the unintended effect of supporting or even encouraging more dispersed residential development patterns than proposed in this plan.

The success of this land use and transportation plan depends highly on achieving the proposed land use objectives and development patterns. This goal underscores the necessity and importance of pursuing stronger and more effective land use controls, particularly in areas intended to remain rural in character and which are within convenient commuting distance to the central urban service area. Otherwise, scattered residential development in outlying areas, and perpetuation of outlying areas as "bedroom" communities will result.

Transportation System Impacts

OBSERVATIONS OF SOCIAL IMPACTS

This plan proposes a number of changes to the overall transportation system. Some of these changes will affect individuals directly while others will affect groups of individuals. Those changes affecting individuals deal with individual travel habits—what mode of transportation we are likely to use, the extent of carpooling we use, and travel services for special groups. Collectively, changes are likely to affect our overall safety, neighborhoods, and travel convenience.

Personal Travel Habits. Travel habits are changing as a result of changes in the labor force, shifts in employment concentrations, access to automobiles, and the availability and price of fuel supplies. Automobile usage is increasing, with work trips from suburb to suburb increasing in frequency. While the present plan recommends capacity improvements to the highway system in response to this trend, it also recognizes the importance of the transit system, ridesharing, and bicycling in maintaining a balanced transportation system. Transit, ridesharing, and bicycling are essential, particularly in areas where congestion is significant and there are no opportunities for increased roadway capacity and/or additional parking. These alternative modes

of travel increase the efficiency of our transportation system and provide a means of travel for those individuals who do not have access to automobiles. The degree of transit, ridesharing, and bicycling used will vary from person to person; however, the plan anticipates modest increases in all three modes of travel particularly in the following situations:

- Central urban service area residents would likely make a greater shift toward transit, bicycling, and ridesharing since these services can best be utilized in urban settings. Those residents who work, go to school, or shop in central Madison should make the greatest use of transit and ridesharing. This is currently the case and can be reasonably expected to increase. Transit use to non-central Madison activity centers would increase with improved service, including cross-town service and elderly or disabled transit services.

- Ridesharing should become more widespread as efforts are made to coordinate and encourage its use. Commuting trips to work and school can be expected to involve carpools to a greater degree than trips for recreation or shopping.

- Travel within central Madison is expected to make a modest shift to transit as improved transit systems are introduced into the area. Shifts may also be expected toward greater pedestrian and bicycle usage as special pedestrian/transit/bikeway systems are completed and connect the major activity centers within central Madison.

- Other outlying area residents should be less affected by the proposed shifts between transportation modes. However, commuter transit service would be available to more outlying area communities and drivers commuting to central Madison by making greater use of peripheral park and ride lots as these are implemented.

- Improved transit service provided by a more accessible regular system, and more coordinated specialized systems would shift elderly and disabled travel habits away from dependence on private arrangements to a greater use of public transit and coordinated paratransit services. It would tend to stimulate the amount of travel by elderly, disabled and other transportation disadvantaged groups.

- Bicycling as a mode for non-recreational travel can be expected to obtain a larger share of urban trips than already significant current levels. Both recreational and non-recreational bicycle uses are likely to grow as special bikeway facilities are implemented.

- Bicycle and pedestrian transportation for short trips can be expected to increase as more neighborhoods are developed with convenience shops and services integrated into the neighborhood.

Travel Convenience. Overall travel convenience for most of the region should be improved as: 1) congested roadways are improved; 2) transit services are expanded; and 3) additional transportation facilities (such as peripheral parking lots and bicycle lanes) are provided.

- Urban service area roadway congestion will likely cause some travel delays during peak hour periods.

- Travel by transit will become more convenient as the system is expanded with possible peak hour service to outlying urban service areas and the service frequency increased. Improvements in travel time could be realized primarily through increased express service, supplementary routes closer to central Madison, special transit lanes and traffic engineering improvements. (Transit vehicles sharing roadway with other traffic will be slowed as well as when congestion increases.)

- Transit-dependent persons (i.e., those who do not own or have access to autos) would likely have improved travel convenience due to an expanded transit system, increasingly connecting concentrations of elderly, young, and low-income populations to shopping, employment and other service or activity centers. Greater coordination of public, commercial, agency and organizational services will increase travel convenience for elderly, disabled, and other transportation disadvantaged individuals.

Neighborhood Impacts. In general, most neighborhoods should not be greatly affected by travel-related impacts. Overall travel, although increasing over time, should not induce additional auto travel in developed neighborhoods. With greater efforts to channel travel to the major arterials in the system, most local streets can be expected to maintain, or slightly increase, existing traffic volumes.

- Some neighborhood areas, particularly those adjacent to major travel corridors, may experience traffic increases as congestion along the corridors increases. It is expected that these possible traffic intrusions can be minimized through traffic control techniques when traffic redirection opportunities are unavailable.

- It can be expected that temporary localized neighborhood traffic increases would occur while congested roadways are being improved.

- With increased transit service along major transit corridors, there may be increased interest and opportunities to develop additional housing within the corridor at locations consistent with neighborhood plans.

- Neighborhoods with many transportation disadvantaged persons (e.g., elderly, disabled, low income, young) can be expected to benefit from improved and expanded transit services. Increasing transit services and expanding the service area can assist the transportation disadvantaged by: 1) providing improved transportation services to a wider range of job opportunities, schools, health care facilities, shopping centers, and cultural centers; and 2) assisting in broadening the available housing choices for the transportation disadvantaged by making more residential areas conveniently accessible to transit services. One of the reasons for Madison Metro's route restructuring is to meet this need.

- Some enhanced transit modes such as commuter rail with traditional diesel engines may have a noise impact on neighborhoods along this corridor.

- There is potential for positive redevelopment opportunities at station areas for an enhanced transit system in the transit priority corridor.

Travel Safety. Since the most effective ways to reduce accidents (more cautious driving, greater enforcement, public education, etc.) are not directly influenced by this plan, the impacts of this transportation plan cannot be adequately assessed. To the extent that this plan indirectly touches upon some of the variables influencing safety, it is likely no substantial changes could be expected.

- Fatal accidents would not be expected to change substantially.

- The possibilities of non-fatal, auto-related accidents would tend to increase because of the greater traffic congestion, particularly in the central urban service area.

- Traffic engineering, surface maintenance, and lighting programs can improve safety for elderly and disabled as well as all other sectors of the population.

- Roadway improvements, as suggested in this plan, should help reduce auto accidents as existing hazardous roadway conditions are corrected.

- Care must be taken in the design of an enhanced transit system in the priority corridor to minimize potential conflicts between the transit system and roadways, bikeways, and pedestrian routes.

Mobility and Accessibility. The ability to travel where and when desired (mobility) and the ability to reach the wide range of desired locations (accessibility) can be expected to moderately improve over time for a larger portion of Dane County residents. The degree to which each individual's mobility and accessibility may improve will depend upon the location of his/her residence, travel destinations and unique travel needs. Benefits can be realized by implementing the recommendations for compact walkable urban communities.

- In broad locational terms, it would appear that the mobility of outer area residents would not likely drop below currently high levels. Continued reliance upon auto travel, augmented with specialized and commuter transit services, should likely improve overall travel opportunities for intra-community travel and might improve for inter-community travel.

- Central urban service area residents who rely almost exclusively upon auto travel, due to the location of their home or nature of their work, are likely to experience some lessening of mobility due to travel inconvenience during peak period congestion. Overall accessibility should not be affected since all areas are able to be reached by auto.

- For urban area residents who use transit, out of choice or necessity, both mobility and accessibility should be greatly improved—particularly for those trips with central Madison origins or destinations. With increased transit services in the form of expanded service area,

improved service frequency, crosstown service, and specialized transit service (e.g., elderly/disabled, express service), opportunities to reach most destinations with greater convenience should be improved.

OBSERVATIONS OF ECONOMIC IMPACTS

Economic impacts of the transportation plan affect a wide range of concerns. The two broadest areas of impact are: 1) the likely economic impacts upon individuals; and 2) the likely economic impacts upon collectively financing the anticipated transportation system.

Personal Travel Costs. Overall personal travel costs may be reduced slightly as increased transit, ridesharing and bicycling offset the need for marginal automobile ownership. Since a large share of all personal travel costs are associated with owning, maintaining, storing, and operating one or more automobiles, any reduction in overall automobile ownership should reduce overall personal costs for transportation, particularly benefiting low-income and other transportation disadvantaged individuals.

- Although increases in transit support and operating costs can be expected, overall cost reductions from more efficient transit and carpooling operations should yield an overall net reduction in personal transportation costs.

- The greatest out-of-pocket savings should accrue to those individuals or families who can replace former auto trips with transit trips and eliminate the need for added personal automobiles.

- Elderly and disabled persons who can depend to a greater extent on publicly funded transit services will experience reduced transportation costs.

Transportation System Development Costs. The anticipated expenditure of public funds for maintaining, improving, and operating the transportation system is an important consideration in the evaluation of this plan. It is also one of the most difficult impacts to assess since: 1) the most cost-effective means of implementation requires more detailed studies beyond the scope of this plan; and 2) future funding opportunities (especially possible shifts in state and federal funding availability) are constantly changing.

However, some major implications of transportation system development costs may be determined if certain assumptions regarding the future can be established. In analyzing the cost implications of the plan, the following general assumptions were used:

- All cost figures are based upon 1996 dollars and that the relationship between goods, services, and wages will remain essentially the same;

- The present federal and state revenues and funding formulas for roadways and transit will remain essentially the same; and

- Average regional transportation-related expenditures for 1991-1995 represent a reasonable approximation of future funding capabilities.

Revenue projections for support of the long-range transportation plan by funding category are included in the Appendices volume. These provide revenue estimates of the time periods of 1997 to 2000; 2001 to 2010; and 2011 to 2020. These provide revenue estimates for six categories of state highway funding which may be available to this area; and six categories of local roadway program revenues. These projections include an estimate of local unit revenues spent on roadway improvements based upon costs submitted to the state for General Transportation Aids purposes. Revenue projections for seven transit categories and five other miscellaneous categories are also included in the revenue estimates.

Each of the revenue projection categories follow the WisDOT provided Financial Plan Guidance, which provides average annual amounts for each category, based upon the assumption of Translinks 21 initiative funding becoming available following legislative approval. Since Translinks 21 initiatives have not yet been approved by the legislature, the revenue estimates have been adjusted to 1996 dollar amounts, with funding derived from Translinks initiatives delayed to later periods.

Overall, the revenue projections compared to anticipated project improvement costs indicate:

- Continued major expenditures for average annual costs to provide for maintenance and operation of the current transportation system;
  - Roadway costs for construction and maintenance of the state roadways and the local streets and roadways are included in Table 6-2 for the years of 1991 through 1995;
  - Transit capital and operating costs are also included by year for the Madison Metro, Monona, and Stoughton transit systems for the years of 1991 through 1995;

- Projected revenues for transit capital and operating costs to year 2020 appear able to fund the current levels of transit with moderate expansion of service; however, major expansions to 2020 enhanced bus, light rail transit or commuter rail services will need to attract additional federal and/or state funding for capital and operating costs. The transit corridor major investment study will help define transit expansion costs for each of the differing transit technologies which might be used;

- Projected revenues for major roadway improvements, such as a north corridor roadway, will also be dependent upon statewide discretionary funding being able to be directed to these improvements in Dane County. If statewide discretionary funding is not available during the indicated time periods, major projects will have to be delayed to later years; and

- Fiscal constraint. Table 6-3 illustrates the balancing of the Transportation Plan Costs with revenues available for transportation by all surface transportation modes (transit, bicycle, and roadways). For each of the three time periods of the plan, the summary table indicates that the total implementation costs, including system preservation and maintenance, of the transportation plan are generally covered by reasonable expected future revenues on an annual basis, and demonstrates that the plan is fiscally constrained. For example, the total annual cost of the transportation plan for the period of 1997 through the year 2000 is $115.7 million dollars compared to an annual revenue estimate of $132.1 million for the same period.These costs apply primarily to the major arterial roadway system and do not include the collector or minor arterial or local street systems due to inadequate data being available.

Because the Intermodal Surface Transportation Efficiency Act (ISTEA) is up for reauthorization on October 1 of 1997, the potential level of future funding remains uncertain at this time with a number of proposals being debated by Congress. For the purposes of this plan, it has been assumed that the levels of funding available under ISTEA since 1991will continue to be the same over the life of the entire plan.

Table 6-2
Dane County Transportation System Costs
1991 to 1995 ($000s)

ROADWAYS	1991	1992	1993	1994	1995
Construction					
Federal and State [a]	40,703	26,129	16,737	31,319	24,853
Local [b]	23,782	24,701	24,261	26,027	31,581
Subtotal	64,485	50,830	40,998	57,346	56,434
Maintenance					
Federal and State [c]	4,107	3,872	4,061	4,620	4,046
Local [d]	40,285	41,869	45,913	46,964	48,496
Subtotal	44,392	45,742	49,974	51,584	52,542
Total Construction/Maint.					
Federal and State	44,810	30,001	20,789	35,939	28,899
Local	64,067	66,570	70,174	72,991	80,077
Total Roadways	**108,877**	**96,571**	**90,972**	**108,930**	**108,976**
Transit [e]					
Capital	3,182	3,284	10,693	1,710	2,321
Operating	20,893	21,694	22,667	24,136	24,977
Total Transit	**24,075**	**24,978**	**33,360**	**25,846**	**27,298**
Annual Transportation System Costs	**132,952**	**121,549**	**124,332**	**134,776**	**136,274**

Source: Dane County Regional Planning Commission.

[a] From WisDOT STH Improvement Program records less local costs.
[b] From all local unit reported roadway construction costs plus half "Other" costs before General Transportation Aids reimbursement.
[c] From WisDOT records for maintenance costs on STHs.
[d] From all local unit reported maintenance, police and non-local costs before General Transportation Aids reimbursement.
[e] Transit costs include Madison Metro, Monona and Stoughton systems.

Table 6-3
Transportation Funding Plan Summary
(Federal, State, & Local)

	Estimated Costs in Millions/Year		
	1997-2000	2001-2010	2011-2020
Transportation Plan Costs			
Transit			
Capital[a]	4.5	4.5	4.5
Operating & Maintenance[b]	26.4	26.4	26.4
Subtotal	30.9	30.9	30.9
Bicycle & Pedestrian			
Construction[c]	2.1	2.1	2.1
Maintenance[d]	0.05	0.05	0.05
Subtotal	2.15	2.15	2.15
Streets & Roadways			
Construction			
Capacity Expansion[e]	23.2	17.6	10.6
System Preservation[f]	10.6	6.3	1.5
Subtotal	33.8	23.9	12.1
Maintenance[g]	48.8	48.8	48.8
Subtotal	82.6	72.7	60.9
Total	**115.7**	**105.8**	**94.0**
Transportation Revenues Available			
Transit			
Capital[h]	4.2	4.2	4.2
Operating & Maintenance[i]	22.9	22.9	22.9
Subtotal	27.1	27.1	27.1
Bicycle & Pedestrian			
Construction[j]	2.1	2.1	2.1
Maintenance[k]	0.05	0.05	0.05
Subtotal	2.15	2.15	2.15
Streets & Roadways			
Construction[l]	54.0	54.0	54.0
Maintenance[m]	48.8	48.8	48.8
Subtotal	102.8	102.8	102.8
Total	**132.1**	**132.1**	**132.1**

Source: Dane County Regional Planning Commission.

[a] From Table 4-1. Does not include commuter or light rail estimates that will be determined by MIS.
[b] Operating & Maintenance is based on 1995 costs.
[c] Based on 1993-1997 average. Does not include projects as part of roadway improvements.
[d] Based on 1996 expenditures estimated by the City of Madison.
[e] From Table 4-5. Primarily the arterial roadway system. Does not include collector or local street systems.
[f] See Appendices Volume. Primarily the arterial roadway system. Does not include collector or local street systems.
[g] Based on 1991-1995 average. See Table 6-2 and associated footnote.
[h] Based on 1991-1995 average. See Table 6-2 and associated footnote.
[i] Based on 1991-1995 average. See Table 6-2 and associated footnote.
[j] Based on 1993-1997 average. Does not include projects as part of roadway improvements.
[k] Based on 1996 expenditures estimated by the City of Madison.
[l] Based on 1991-1995 average. See Table 6-2 and associated footnote.

In addition, pending the outcome and recommendations of the various Major Investment Studies (MIS) to be conducted, it will be necessary to evaluate the financial feasibility of implementing such recommendations as part of the MIS studies. Availability of funding resources may cause funding priorities to be modified when details become more clear, and/or at the time of the five-year update of this overall plan, whichever occurs first.

OBSERVATIONS OF ENVIRONMENTAL/ PHYSICAL IMPACTS

The physical presence of transportation facilities and services reach nearly everywhere and affect the environmental conditions around them. Some impacts are significant enough and common enough to be reviewed at a systemwide scale while others are unique and localized to a particular area. Transportation facilities and services directly influence the region's air quality, noise levels, urban shape and form as well as other environmental and physical factors.

Air Quality. The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards. These standards were established in order to protect public health, safety and welfare from known or anticipated effects of sulfur dioxide (SO_2), particulates (PM_{10}, 10-micron and smaller), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3) and lead (Pb). The National and Wisconsin Ambient Air Quality Standards for these pollutants are listed in Table 6-4.

The Clean Air Act Amendments (CAAA) of 1977 and 1990 required all states to submit to the United States Environmental Protection Agency a list identifying those air quality control regions, or portions thereof, which meet or exceed the NAAQS or cannot be classified because of insufficient data. Portions of air quality control regions which are shown by monitored data or air quality modeling to exceed the NAAQS for any criteria pollutant are designated "non-attainment" areas for that pollutant. The CAAA established time schedules for the states to attain the NAAQS. Dane County is within the Southern Wisconsin Air Quality Control Region (AQCR # 240). This AQCR is in attainment for all the criteria pollutants of the National Ambient Air Quality Standards.

The primary transportation-related emissions from automobiles, buses and trucks affecting air quality are carbon monoxide (CO), oxides of nitrogen (NO_x) and hydrocarbons (HC). The latter two pollutants are not of concern individually from a health standpoint; however, they do react together in the presence of sunlight to form photochemical oxidants (ozone), which in higher concentrations is harmful to human health and welfare. Ozone derived from the above sources, which are present near the earth's surface, should not be confused with the ozone layer located seven miles high in the atmosphere which shields the earth from cancer-causing ultraviolet rays. O_3 represents about 90 percent of all oxidants found in the air.

In addition to motor vehicles, major sources of oxides of nitrogen include fuel combustion in power plants and processes used in chemical plants. At high temperatures and under certain other conditions, nitrogen gas can combine with oxygen in the air to form several different gaseous compounds with nitric oxide (NO) and nitrogen dioxide (NO_2) being the most important.

The Wisconsin Department of Natural Resources (WDNR) operates five air monitoring stations in Dane County. Three of the five sites measure multiple pollutants with O_3, SO_2 and CO measured at individual locations, TSP at three locations and PM_{10} at two locations. None of the WDNR Dane County monitors measured pollutant levels in violation of the NAAQS in 1995 based upon data found in the 1995 Air Quality Report published by the Bureau of Air Management of the Wisconsin Department of Natural Resources.

Transportation Plan Air Quality Impacts. Transportation-related emissions, mainly from automobiles, are influenced by a number of factors such as vehicle age, average speed, average trip length, temperature, miles traveled, engine condition, and federally mandated emission control regulations. The plan goals and recommendations affect the air quality of the region mainly by reducing traffic congestion.

The 1990 base year vehicle trips of 980,287 are estimated to produce 7,559,344 vehicle miles of travel (VMT) each day in the Madison urban area at an average speed of 30 mph. By not implementing the capacity improvements called for in this plan, congestion levels increase and the system-wide average speed drops to 25 mph. Pollutant levels fall even though congestion levels rise because of newer vehicles gradually replacing older (more polluting) vehicles over time. By implementing the improvements called for in the plan through 2020, average system-wide speed would be maintained at 30 mph. This average speed and a slight reduction in VMT allows HC and CO to be further reduced. (See Table 6-5)

Table 6-4
Wisconsin Ambient Air Quality Standards
NR 404.04, Wisconsin Administrative Code[a]
Adopted From November 25, 1971 National Ambient Air Quality Standards
Last Revised July 1, 1987 (40 CFR 50.4 to 50.11)

Pollutant	Time of Average	Primary Standard [b]**	Secondary Standard [c]**	Method of Determination
Particulate Matter (TSP) [a]	Annual (Geometric Mean) 24 hour	None None	None 150 mg*	High Volume Sampler
Particular Matter (PM 10) a	Annual (Arithmetic Mean) 24 hour	50 mg 150 mg*	50 mg 150 mg*	High Volume Sampler with Size Selective Inlet
Sulfur oxides (SOx) Measured as SO2	Annual (Arithmetic Mean) 24 hour 3 hour	80 mg (o.03ppm)* 365 mg (0.14 ppm)* ----------	1300 mg (0.5 ppm)*	Pulsed and Continous Flourescence
Carbon Monoxide (CO)	8 hour 1 hour	10 mg (9 ppm)* 40 mg (35ppm)*	Same as Primary Same as Primary	Non-sispersive Infrared
Nitrogen Dioxide (NO2)	Annual (Arithmetic Mean)	100 mg (0.05 ppm)	Same as Primary	Chemiluninescence
Ozone (o3)	1 hour	0.12 ppm (235 mg)*	Same as Primary	Ultraviolet Absorbtion and Chemiluninescence
Lead (Pb)	Calendar Quarter (Arithmetic Mean)	1.5 mg	Same as Primary	Atomic Absorption***

Source: Wisconsin 1995 Air Quality Report, WDNR, Bureau of Air Management, p. 13.

[a] PM_{10} standards were adopted and most TSP standards were deleted when the Wisconsin Administrative Code was revised in 1989. The 24-hour secondary TSP standard was retained. The TSP secondary standard is specific to Wisconsin and should not be confused with the National Ambient Air Quality Standards, which are developed by the U.S. EPA.

[b] 'Primary Air Standard' means the level of the air quality which provides protection for public health with an adequate margin of safety.

[c] "Secondary Air Standard" means the level of air quality which may be necessary to protect welfare from unknown or anticipated adverse effects.

* Concentration not to be exceeded more than once (separate days for ozone) per year.

** Concentration in weight per cubic meter (all except ozone corrected to 25°C and 760 mm of Hg).

*** Analysis is conducted on acid extract of high-volume filter particulate.

It should also be noted that if the federal government requires stricter vehicle emission regulations in the future, the average fleet emission rate should continue to decline. Such legislation would help the region maintain its air quality attainment status along with continued growth. Transit and carpooling efforts beyond those specified in the plan and outside of Dane County will also aid in improving the region's air quality.

Noise. Traffic-related noise has historically increased as traffic volumes and speeds have increased throughout the Dane County region. Most of the increase has been focused on the major collectors and arterials in the highway network. The actual impact of traffic-related noise, however, is dependent on a number of factors that tend to be rather site specific, which makes it extremely difficult, if not impossible, to measure on an areawide basis. Typically in long traffic corridors, potential points of impact are identified, and existing and future levels of highway development are then computer modeled to determine noise impacts. Three major characteristics affecting the noise level from motor vehicles at any given location include traffic conditions, roadway configuration and attenuation parameters.

Table 6-5
Transportation Plan Air Quality Impacts

	Ave. Speed	Vehicle Trips	Vehicle Miles	Pollutants* tons/day		
Condition	MPH	per Day	Traveled per Day	**HC**	**CO**	**NO x**
1990 Vehicle Trips & 1995 Highway Network	30	980,287	7,559,344	23.2	366.2	30.3
2020 Vehicle Trips & 1995 Existing and Committed Highway Network with Light Rail System	25	1,298,378	10,848,230	18.4	255.2	25.1
2020 Vehicle Trips & 2020 Highway Network with Light Rail System	30	1,298,378	10,798,960	17.7	239.7	25

*note: Pollution estimates based on emission factors from Mobile 5a.

Traffic Condition Characteristics. Traffic condition characteristics include items such as existing and future year (design year) peak hour traffic volumes, directional split, truck percentage and speed. Peak hour traffic volumes produce the highest noise levels and usually occur during the morning hours between 7:00 and 9:00 a.m. or during the evening hours between 4:00 and 6:00 p.m. Noise levels should also be determined using the worst case directional split, the side of the roadway with the highest percentage of traffic. The use of truck volumes or truck percentage factors is also very important in assessing noise level impacts and is a common cause of error in noise level predictions. Speed, which is the last traffic condition characteristic that affects noise levels, is also important in determining noise impacts.

Roadway Configuration Characteristics. Roadway configuration characteristics include items such as grade, vertical alignment and horizontal alignment. Grades of a roadway, particularly uphill grades, affect noise levels primarily from trucks. Truck noise can increase in range from 1 dB for a two percent grade up to 5 dB for a seven or more percent grade. Grade adjustment factors are used in a noise analysis only for heavy trucks (three or more axles) and not for cars or medium trucks. Changes in vertical alignment, particularly depressing a highway to form a cut section, can also be quite effective in reducing noise, since this creates a barrier or back slope between the source of the noise and the receiver. Since noise from a linear source is reduced between 3 and 4.5 dB per doubling of distance between the source and the receiver, shifting the horizontal alignment away from an affected area can also be quite beneficial. Sometimes a roadway on a new location can be placed so that attenuation is provided by natural land forms such as hills and wooded areas.

Attenuation Characteristics. Attenuation characteristics include items such as distance, shielding and ground cover. As stated above, noise level decreases as the sound moves away from the source at a rate of 3 to 4.5 dB per doubling of the distance. Shielding of a noise occurs when the line-of-sight between the receiver and the roadway is obstructed by an object or objects which interferes with the movement of the noise. Shielding can be provided by structures, buildings, dense woods, and so on. Ground cover refers to the hardness or softness of the surrounding ground surface. Hard sites are usually bituminous or concrete pavement. Soft sites refer to grassy or agricultural areas. Distance attenuation on a hard site is 3 dB per doubling of the distance and 4.5 dB for a soft site.

The Federal Highway Administration (FHWA) has also developed criteria for evaluating the impact of traffic noise on various types of land use or activities. The criteria are summarized in Table 6-6. Noise impacts occur when there is an increase of 15 decibels or more over existing noise levels or when the peak hour equivalent noise level approaches or exceeds the values in Table 6-6 with approach being defined as within one decibel.

Transportation Plan Noise Impacts. The roadway transportation network in Dane County is made up of eight functional classifications ranging from a "Single Lane Collector" to an "Eight Lane Expressway". Using typical pavement widths, approximate right-of-way widths, average speeds from the TRANPLAN model, and free flow peak hour traffic volumes, each classification was modeled using the Federal Highway Administrations traffic noise model, STAMINA. The results are presented in Table 6-7. This table presents a range of property line peak hour Leq noise levels that could be experienced in the county. Depending on the topography between the receiving properties and the roadways, peak hour Leq noise levels could be 3 to 5 decibels lower. The noise impacts of transit improvements were also considered.

Peak hour Leq noise levels adjacent to roadways in Dane County range from the low 60 to the mid 70 dBA. General traffic noise in Dane County will increase with volume. Peak hour equivalent noise levels, Leq, will increase 1 to 2 decibels by the year 2020. This increase in the Leq noise level, in the natural environment, will be barely noticeable to the general population. Corridors being considered for future widening would experience increased noise levels ranging from 2 to 3 decibels. This increase would be the result of traffic growth and the movement of the roadway closer to the right-of-way. Increases of 2 to 3 decibels are not significant. However, the potential movement of the roadway closer to a residence, school, church, library, etc., would require the determination as to whether or not there was a traffic noise impact and whether or not the impact could be mitigated.

Energy Impacts. The total amount of energy consumed to power our transportation system is dependent upon the efficiency of our vehicles and the total distance we travel. It is also affected by a large number of other economic, physical and cultural factors which can assist or hinder our efforts in achieving reduced energy consumption within the transportation sector. To the extent that the features of this transportation plan influence the quantity of future transportation-related fuel consumed, the following general observations may be noted.

- An important energy saving factor affecting this plan is the continuing increase in automobile fuel economy mandated by past federal legislation. The effect of this legislation has improved the overall fuel efficiency of automobiles. If continued at the pace specified, overall fuel savings may be substantial.

Table 6-6
FHWA Noise Abatement Criteria

Land-Use Category	Hourly A-Weighted Sound Level (Leq)	Description of Lnad-Use Category
A	57 dBA (Exterior)	Tracts of land in which serenity and quiet are of extraordinary significannce and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. For example, such areas could include amphitheaters, particular parks or portions of park, or open spaces that are dedicated or recognized by appropriate local official for activities requiring special qualities of serenity and quiet.
B	67 dBA (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic area, recreation areas, playground, active sports areas, and parks.
C	72 dBA (Exterior)	Developed lands, properties, or activities not includedn i catergories A and B above.
D	Unlimited	Undeveloped lands.
E	52 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: 23 CFR Part 772, August 5, 1982.

- From 1975 to 1995, vehicles miles traveled (VMT) increased 3.8 percent per year statewide, while mpg efficiencies also increased 2.1 percent per year from 12.6 mpg to an estimated 17.90 mpg. This has resulted in total fuel consumption increasing at an average annual rate of 1.04 percent, less than half the rate of increase for VMT.

- Transportation-related fuel consumption is also anticipated to increase at a similar rate for travel in the outer areas of the region. Despite increased travel, fuel conservation of outer area travel would largely be accomplished by modest increases in auto efficiency and, to a lesser degree, by transit and carpooling trips oriented to the central urban area.

Table 6-7
Peak Hour Equivalent Noise Levels

Roadway Type	2020 Peak Hour Leq Noise Level, dBA
Single Lane Collector	57-60
Two Lane Minor Arterial	63-66
Three Lane One-Way Arterial	68-72
Four Lane Arterial	64-70
Eight Lane Arterial	68-73
Four Lane Freeway/Expressway	72-76
Six Lane Freeway/Expressway	76-78
Eight Lane Freeway/Expressway	77-79

Source: HNTB, 1996

In the study area, VMT is forecasted to increase approximately 43% from 7,564,607 miles in 1990 to 10,798,960 miles in 2020. It appears that increases in fuel efficiency have leveled off. During the period from 1980-1988, statewide fuel efficiency increased at an average of 3.6 percent per year from 13.2 mpg to 17.03 mpg. However, during the period from 1988 to 1995, statewide fuel efficiency increased at an average of only 0.7% per year from 17.03 mpg to 17.9 mpg. If fuel efficiency continues to increase at the modest rate of 0.7% per year for the next 25 years, then fuel consumption should increase 18% from the 1990 level, an increase less than half of the forecasted increase for VMT.

- Utilization of existing alternate transit technologies for the central urban area would not appreciably reduce overall fuel consumption. Technologies, such as light rail, are more efficient energy alternatives when ridership increases result in a substantial reduction of systemwide VMT. Analyses of the more aggressive transit systems have shown that, while major increases in base transit ridership can be achieved, these increases are not sufficient to lower systemwide VMT to levels where overall fuel consumption would be reduced. Implementing more aggressive transit technologies in the Madison urbanizing area would have a marginal effect on reducing systemwide fuel consumption.

Other Environmental Impacts. Some temporary environmental impacts (noise, dust, etc.) can be expected to occur during major roadway and/or transit construction. Some transit and roadway improvements may impact sensitive areas (such as wetlands, natural areas, etc.). Efforts have been made to minimize roadway improvements in potentially sensitive areas. Specific impacts may best be understood and minimized at a project level. Roadway and transit improvements which require new or expanded right-of-way will require meeting an array of state and federal requirements. Right-of-way acquisition and removal of on-street parking for exclusive bus lanes, traffic lanes or intersection improvements along major transportation corridors may cause residential or business dislocations at specific locations. Transit and auto-related roadway improvements along some major corridors will be implemented in stages as financial resources become available. During interim periods some impacts, such as parking inconvenience for immediate and surrounding areas, increased traffic volumes, and congestion and traffic intrusion into neighborhood areas can be expected until the proposed improvement is complete.

OBSERVATIONS OF INSTITUTIONAL IMPACTS

Transit Administration.

The current central urban area public transit system, owned and operated by the City of Madison, is strained to provide efficient and equitable transit services. This strain is due to development trends at the edge of the Madison area and in outlying locations which create dispersed travel patterns difficult to serve with a transit system with a radial route orientation. The 1997 transit transfer system and the 2020 expanded transit systems proposed by the plan would significantly increase service capabilities to the developing areas and increase the efficiency of the existing system.

There are several organizational options available to administer increased transit service on a partial or county-wide basis. Among the options are to: 1) continue inter-governmental agreements for service on a year-to-year basis and; 2) transfer operating responsibility to a county-wide transit "authority" or "district" or regional transportation authority (for transit and major roadways). When or if to initiate such a transfer, or which type of organization arrangement would work best, will need to be determined as more detailed system expansion and service plans are developed.

Roadway Management. It does not appear that the current institutional arrangements which provide local roadway planning, funding, construction and maintenance would need to be altered; however, it will be appropriate to have some roadway jurisdictional transfers.

Ridesharing. It is anticipated that to continue the ridesharing goals proposed by the plan, an active publicly supported organization needs to be maintained on a continuing basis. The Dane County Ridesharing Program needs to continue to assist and promote carpooling, vanpooling, transit, and other travel demand management activities.

Land Use Controls. It is anticipated that effective land use controls to guide development consistent with adopted plans can be achieved with more creative, extensive, and consistent application of current land use control tools. The implementation chapter of this plan discusses the variety of implementation measures and responsibilities.

CHAPTER 7

Further Planning And Concluding Comments

The results of the work described in the previous chapters is an integrated land use and transportation plan which will guide growth and development in the county through the year 2020. It provides a framework to help determine where new housing and employment will be located, which areas are to be preserved, and which transportation improvements will be necessary to best serve the needs of Dane County. This land use and transportation plan also seeks to provide a framework within which more detailed land use planning and transportation planning efforts can be undertaken. When adopted by appropriate units of government, this plan will replace the current Regional Development Guide and the Regional Transportation Plan.

Some of the other planning efforts which will need to be undertaken following actions on this plan include:

1. Development of detailed community and neighborhood land use plans in accord with the guidelines and policies of this regional Land Use and Transportation Plan;

2. More specific transportation corridor planning and design, ranging from Major Investment Studies (MIS) of capital intensive transportation projects to smaller facility improvements;

3. Detailing of local area transportation plans for outlying villages and cities within Dane County;

4. Detailing of bikeway corridor and facility plans and design standards, particularly for outlying villages and cities;

5. Continued monitoring of development and travel-related trends to assess whether the goals, objectives, and policies of this plan are being realized.

Following adoption of this plan by appropriate units of government, the plan will be subject to an annual review process until the next major review of the plan is undertaken in five years. The annual review will consist of a public hearing conducted by the RPC each year to receive and consider any suggested changes. In this manner, it is expected that this plan will be kept current and be a useful guide and framework for land use and transportation planning in the Dane County region.

APPENDICES

Appendix A: Fact Sheet: Urban Service Areas
- Table A-1: Population Forecasts for Urban Service Areas (CUSA)
- Table A-2: Urban Service Area Conditions: 1990-2020
- Criteria for Provision of Urban Services
- Table A-3: Urban Services Provided by Urban Service Area
- Table A-4: Sewer Service Limitations for Limited Service Areas

Appendix B: Fact Sheet: Environmental Corridors

Appendix C: Process for Amending Adopted Regional Plans
- Planning Submittal Requirements for Urban Service Area Amendments

Appendix D: Glossary

Appendix E: Selected Bibliography

Appendix F: Participants
- Vision 2020 Planning Project
- RPC Project Staff

APPENDIX A

FACT SHEET

Urban Service Areas

What Are Urban Service Areas?

In order to avoid wasteful use of land and to most efficiently provide public services and facilities, the Dane County Regional Planning Commission (RPC) introduced the concept of urban service areas in the first Dane County Land Use Plan in 1973. Urban service areas are those areas in and around existing communities which are most suitable for urban development and capable of being provided with a full range of urban services. (Urban services are those additional public services normally provided or needed in urban areas, including public water supply and distribution systems, sanitary sewerage systems, higher levels of police and fire protection, solid waste collection, urban storm drainage systems, streets with curbs and gutters, street lighting, neighborhood facilities such as parks and schools, and urban transportation facilities such as sidewalks and mass transit.)

The urban service area boundaries represent the outer limits of planned urban growth over the long-term planning period--generally 20-25 years--and include more than enough land to accommodate anticipated growth. Short-term staging boundaries are sometimes developed to indicate where urban development should occur and services be extended over the near-term future (up to 10 years), to assist in logical staging of growth and extension of services.

Regional plans also provide for Limited Service Areas--areas where only one or a few limited urban services, such as sanitary sewer service, is intended to be provided to special or unique areas (remote park facilities, sanitary landfills, etc.) or areas of existing development experiencing sewage disposal problems. These areas are not intended to receive a full range of urban services or additional urban development.

How Are Urban Service Areas Developed?

The RPC works with the local community to develop an urban service area boundary which can be included in both local and regional plans. Twenty-five urban service areas and a number of limited service areas have been designated and adopted in Dane County. The approach involves:

- determining the amount of vacant land needed for urban development, consistent with population and growth forecasts and density standards. This information provides the basis for outlining an urban service area which contains enough vacant land to flexibly accommodate anticipated urban growth, yet is compact enough to result in orderly, staged development.

- locating potential urban service area boundaries, such as natural or constructed barriers to development, drainage area boundaries or other logical service boundaries

- protecting areas unsuitable for development, such as wetlands, floodplains, steep slopes, poor soils, etc.

- Short-term staging boundaries are encouraged to indicate where urban development should occur and services be exended over the near-term future (up to 10 years), to assist in logical staging of growth and extension of services. Short-term staging boundaries are required for large (over 100 acres of developable land) expansions of urban service areas.

- A "flexibility margin" of up to 100% of the incremental growth area is allowed to provide greater flexibility for the smaller outer urban service areas. However, expansions of urban service areas will be limited to provide no more than twice the amount of vacant land needed to accommodate 15 years of forecast growth.

How Are Urban Service Areas Used?

Local municipalities and the RPC use urban service areas to plan the location of urban developments showing where urban services will be provided.

RPC and DNR approve sewer extensions and sewage treatment facilities based on USA boundaries.

USAs are included in areawide plans so that local, regional and state agency decisions can be consistent and achieve desired growth and development patterns.

How Are Urban Service Areas Changed?

Urban service areas are changed in response to:

(a) changes in population or land use forecasts
(b) evidence of actual growth occurring much faster than forecast
(c) adjustments or changes in the specific location or direction of growth and development
(d) changes resulting from an overall community plan update or revision.

The process of change involves these steps:

(1) the request for the proposed change must be sponsored by or initiated by the local governmental unit or the RPC (changes requested by individuals or private parties must be channeled through the local unit of government). The request must be accompanied by a plan or description of: (a) the specific land use or proposed development for the area; (b) any environmental corridor or other areas intended to be protected or excluded from development; and (c) a plan and statement of intent to provide the needed urban services to the area. The specific information which must be submitted is described in the Planning Submittal Requirement for Urban Service Area Amendments, available from the RPC.
(2) the RPC staff consults with affected governmental units to obtain information related to the need and impacts of the proposed change, and to identify any unresolved issues or controversies
(3) the RPC staff prepares an analysis of the proposed change
(4) the Regional Planning Commission holds a public hearing on the proposed change
(5) the Dane County Regional Planning Commission acts on the proposed change
(6) the RPC action is forwarded to any other agency which needs to approve of changes for specific purposes (the County Board for Farmland Preservation Plan changes, DNR for Water Quality Plan changes, etc.)

In general, the proposed changes must be consistent with the process and criteria for delineation of urban service area boundaries:

- the change must be consistent with adopted forecasts and density standards and not exceed the maximum size allowed by these standards (a "trade" may be made to accommodate USA additions which would otherwise exceed the maximum size, by removing an equivalent amount of vacant developable land from the urban service area to compensate for the addition). Short-term staging boundaries are required for large urban service area changes.
- areas unsuitable for development (environmental corridors) must be identified and excluded from development
- the change should generally be consistent and supportive of adopted plan policies and objectives. Any important adverse impacts of the proposed change should be addressed and mitigated to the extent possible.

For more specific questions or information, contact the RPC office.

Dane County Regional Planning Commission
217 S. Hamilton Street, Suite 403
Madison, Wisconsin 53703
(608) 266-4137

Table A–1
Population Forecasts For Urban Service Areas

Urban Service Areas (USA)	Urban Service Area Population		Urban Service Area Population Forecast		
	1980	1990	2000	2010	2020
Belleville (pt)	1,215	1,408	1,709	1,986	2,264
Black Earth	1,179	1,301	1,450	1,558	1,690
Blue Mounds	390	446	642	723	838
Brooklyn (pt)	250	406	516	635	756
Cambridge (pt)	791	890	1,015	1,146	1,276
Central*	218,344	245,390	271,375	290,087	304,667
Cottage Grove	901	1,131	2,258	2,705	3,335
Cross Plains	2,175	2,367	2,996	3,529	4,067
Dane	518	621	726	829	932
Deerfield	1,497	1,657	1,917	2,207	2,497
DeForest	3,659	5,301	7,011	8,804	10,616
Edgerton (pt)	NA	66	68	71	72
Kegonsa**	1,956	1,745	1,852	1,955	2,058
Koshkonong	508	598	618	673	728
Marshall	2,366	2,339	2,862	3,369	3,880
Mazomanie	1,333	1,421	1,582	1,683	1,808
Morrisonville	319	315	358	365	386
Mount Horeb	3,301	4,182	5,004	5,869	6,741
Oregon	3,927	4,528	6,134	7,434	8,745
Rockdale	209	235	246	270	296
Roxbury	217	217	231	246	261
Stoughton	8,256	9,265	11,135	12,802	14,477
Sun Prairie	13,306	15,481	18,526	21,560	24,612
Verona	3,424	5,395	6,539	8,050	9,575
Waunakee	3,890	5,899	8,015	10,144	12,294
Windsor	1,734	1,859	2,215	2,629	3,047
USA TOTAL	275,665	314,463	357,000	391,329	421,918
Non–USA	47,880	52,622	59,088	63,370	66,597
DANE COUNTY	323,545	367,085	416,088	454,699	488,515

(pt) indicates part in Dane County

* Central Urban Service Area includes lands within several municipalities encompassing the Madison Urbanizing Area.

** The Kegonsa lake area is a "limited" service area.

Source: U.S. Census Bureau & Dane County Regional Planning Commission

Table A–2
Urban Service Areas Conditions: 1990–2020

Urban Service Areas (USA)	1990 USA Population	1990 Developed Area (acres)	2020 USA Population	2020 Developed Area (acres)	Adopted USA (acres)
Belleville (pt)	1,408	347	2,264	527	712
Black Earth	1,301	267	1,690	365	336
Blue Mounds	446	121	838	239	407
Brooklyn (pt)	406	92	756	167	191
Cambridge (pt)	890	268	1,276	371	390
Central*	245,390	41,638	304,667	50,725	60,210
Cottage Grove	1,131	269	3,335	665	1,091
Cross Plains	2,367	425	4,067	717	821
Dane	621	175	932	265	646
Deerfield	1,657	361	2,497	558	800
DeForest	5,301	982	10,616	1,833	2,193
Edgerton (pt)	66	32	72	35	160
Kegonsa**	1,745	399	2,058	527	608
Koshkonong	598	268	728	296	601
Marshall	2,339	469	3,880	713	834
Mazomanie	1,421	429	1,808	555	830
Morrisonville	315	89	386	108	108
Mount Horeb	4,182	935	6,741	1,371	1,930
Oregon	4,528	752	8,745	1,710	2,077
Rockdale	235	59	296	75	60
Roxbury	217	59	261	76	215
Stoughton	9,265	1,639	14,477	2,656	3,057
Sun Prairie	15,481	2,852	24,612	4,858	8,548
Verona	5,395	1,045	9,575	1,768	2,453
Waunakee	5,899	931	12,294	1,966	2,774
Windsor	1,859	581	3,047	892	1,587
USA TOTAL	**314,463**	**55,484**	**421,918**	**74,038**	**93,639**

(pt) indicates part in Dane County

* Central Urban Service Area includes lands within several municipalities encompassing the Madison Urbanizing Area.

** The Kegonsa lake area is a "limited" service area.

Source: U.S. Census Bureau & Dane County Regional Planning Commission

Criteria for Provision of Urban Services

One of the primary regional planning objectives of delineating urban service areas is to direct urban development to areas which can be provided with a full range of urban services. When creating or changing urban service areas, therefore, it is important to establish both the intent and capability of the responsible local governmental unit to provide a full range of urban services. (This is not the case for limited service areas, which are not intended for additional urban development or a full range of urban services.)

Definition of Urban Services

Urban services are additional public services normally provided or needed in urban areas, including a public water supply and distribution system (including hydrants and storage for fire fighting); a public sanitary sewerage system; a public transportation system, including an urban street system (with urban standards and cross-sections, curb and gutter, sidewalks, street lighting, etc.); provisions for pedestrian and bicycle movement; urban mass transit and other urban transportation services such as paratransit, trip reduction programs (carpooling, park and ride lots, etc.); a publicly managed storm drainage system; higher levels of police and fire protection and emergency medical service than generally provided in rural areas; solid waste collection service; and neighborhood public facilities, including neighborhood and community parks, schools, etc.

Minimum Standards and Criteria for a Full Range of Urban Services

The minimum standards and criteria for a full range of urban services to be ultimately provided are generally comparable to the present level of urban services provided by most villages and cities in Dane County (described in Table A-3). Minimum levels of fire protection appropriate for urban areas include a public water system with hydrants and water storage sufficient for fighting fires, and quick response time for needed fire fighting equipment. This is generally reflected by a Fire Insurance Rating of 1 to 6. Higher levels of police protection are reflected in local police patrol, or response from a station located within 2-3 miles (this is in addition to normal Sheriff's Dept. coverage and response). Neighborhood facilities, such as schools and parks, should be located no more than two miles away, with a desirable service radius of 1/4-1/2 mile walking distance from main residential areas.

Although the full range of urban services which should be ultimately provided includes most of the services listed in the definition, there are some circumstances where one or more urban services are not appropriate or needed. It is not necessary, for example, to provide neighborhood parks or schools in predominantly commercial or industrial areas. In addition, it is not usually feasible to provide public mass transit throughout all urban areas, although physical provision in street layout and facilities for traffic circulation should allow for this.

Minimum Criteria for Urban Services to be Initially Provided

The minimum requirement for urban services which should be provided initially (as development is initiated and continues) include the physical infrastructure (facilities and land) needed to support the full range of services to be eventually provided.

These include public water, sewerage and storm drainage systems, urban transportation facilities and land needs (streets, facilities for pedestrian and bicycle movement, right-of-way, etc.), and land needs for neighborhood public facilities. Higher levels of police, fire and emergency medical services, neighborhood facilities, solid waste collection, public mass transit or other urban services not proposed to be initially provided should be addressed in a policy or statement that the community intends to provide these services to the area at a later date when the extent of development can support the services.

Table A–3
Urban Services Provided By Urban Service Area

Urban Service Areas (USA)	1990 USA Pop	Urban Services Presently Provided*									
		SS	PW	PD	FD	PK	PS	SD	SW	US	OT
Belleville	1,408	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Black Earth	1,301	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Blue Mounds	446	Y	Y	N	Y	Y	N	N	Y	N	N
Brooklyn	406	Y	Y	Y	Y	Y	Y	N	Y	N	N
Cambridge	890	Y	Y	Y	N	Y	Y	Y	Y	N	N
Central**	245,390	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cottage Grove	1,131	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Cross Plains	2,367	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Dane	621	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Deerfield	1,657	Y	Y	Y	Y	Y	Y	Y	Y	N	N
DeForest	5,301	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Edgerton	66	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Koshkonong	598	Y	N	N	Y	Y	N	N	N	N	N
Marshall	2,339	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Mazomanie	1,421	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Morrisonville	315	Y	Y	N	Y	Y	Y	N	N	N	N
Mount Horeb	4,182	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Oregon	4,528	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Rockdale	235	Y	N	N	N	Y	N	N	N	N	N
Roxbury	217	Y	N	N	N	Y	N	N	N	N	N
Stoughton	9,265	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sun Prairie	15,481	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Verona	5,395	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Waunakee	5,899	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Windsor	1,859	Y	Y	N	Y	Y	Y	Y	Y	N	N

*Urban services provided:

- SS – Sanitary Sewer collection and treatment system
- PW – Public Water supply and distribution system
- PD – Police Department (station within 2 miles)
- FD – Fire District (with Fire Insurance Rating of 1 to 6 as adequate)
- PK – Parks (local parks within 1/2 mile of residential neighborhoods
- PS – Public School (within 2 miles)
- SD – Urban Storm Drainage System
- SW – Solid Waste Collection provided by Municipality
- US – Urban Street Standards in New Development w/ Curb, Gutter, Sidewalks and Bicycle provisions
- OT – Other Public Transportation (mass transit, paratransit, carpooling,etc.)

**The Central Urban Service Area includes lands within several municipalities encompassing the Madison Urbanizing Area. Not all of these municipalities provide the full range of urban services within their jurisdiction.

Source: U.S. Census Bureau and Dane County Regional Planning Commission

Table A–4
Sewer Service Limitations For Limited Service Areas

Limited Service Areas	1990 Resident Population	Sewer service is limited to the following:
Kegonsa (Lake)	1,745	existing development and infill
Windsor Prairie (Vienna)	160	existing development and infill
River Road (T. Westport)	156	special private institution, existing development and infill
Westport (Riverview)	124	existing development and infill
Oakhill (Oregon)	350	a public correctional institution
Thompson (T. Deerfield)	90	a public correctional institution
Badger Prairie (incl. landfill)	300	a public institution and the treatment of leachate
Rodefeld (County Landfill)	0	the treatment of leachate and landfill facilities
Burke (I90–94 & USH 51)	6	existing commercial development and infill
Cave of the Mounds	8	a special private facility and existing development
ABS (American Breeders)	0	a special private facilty
Blue Mounds State Park	0	a public recreational facility
Mun.Golf Course(Yahara Hills)	0	a public recreational facility

Source: U.S. Census Bureau & Dane County Regional Planning Commission

FACT SHEET

Environmental Corridors

Environmental corridors are continuous systems of open space in urban and urbanizing areas, that include environmentally sensitive lands and natural resources requiring protection from disturbance and development, and lands needed for open space and recreational use. They are based mainly on drainageways and stream channels, floodplains, wetlands, steep slopes, and other resource features, and are part of a countywide system of continuous open space corridors.

OPEN SPACE FUNCTIONS OF ENVIRONMENTAL CORRIDOR RESOURCE FEATURES

FUNCTION	Lakes, Ponds & Streams	Wetlands	Floodplains	Shoreland Buffer Strip	Steep Slopes	Woodlands	Parks	Unique Vegetation or Geology	Problem Soils
Protect Water Resources, Drainage & Hydrologic Functions	▲	▲	▲	▲		△			△
Provide Pollution Control		▲	△	▲	▲	△	△		
Protect Public Health, Safety & Property	▲	△	▲		▲				▲
Provide Outdoor Recreation & Education Opportunities	▲	△	△	△		△	▲	△	
Provide Wildlife Habitat	▲	▲	△	△		▲	△	△	
Enhance Scenic Beauty & Shape Urban Form	▲	▲	△	▲	▲	▲	▲	▲	

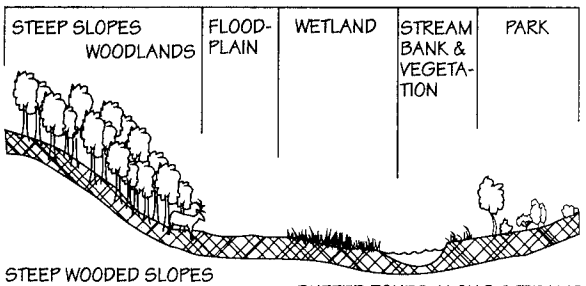
▲ Primary Function △ Secondary or Supplemental Function

How Are Environmental Corridors Mapped and Used?

Environmental corridors have been mapped for all urban service areas in the county. The RPC staff works with the local unit of government to delineate the corridors, based on available information and mapping of environmental resources and open space lands (water bodies and drainageways, floodplains, wetlands, steep slopes, woodlands, areas of unique vegetation or geology, existing and proposed parks, etc.).

The objective is to delineate, in local *and* regional plans, those lands and resources which perform important environmental functions (see illustration) and need to be protected from development and urbanization. Including the corridors in community plans helps the local government to protect lands needed for drainage and recreation; avoid problems from development on steep slopes, problem soils or flood-prone areas; protect water resources and avoid pollution; and enhance scenic beauty and wildlife habitat.

Once delineated and adopted, the corridors are used by local governments, and by the RPC and state and federal agencies in making decisions on the location of urban development and major facilities. The corridors are also used as a basis or starting point for open space and recreation planning and acquisition. An important use of the corridors is in RPC/DNR review of sewer extensions and sewer service areas, to direct urban development to areas outside the corridors.



The schematic diagram depicts the resource elements one finds in a typical environmental corridor. Often one or more elements are found in the same locality, such as woodlands and steep slopes.

Making Changes to Corridors

Changes to the environmental corridors are classified into two categories: a) **major changes** to the corridors that require approval by the Regional Planning Commission (RPC) and Department of Natural Resources (DNR) before these changes would be effective for the purpose of reviewing sanitary sewer extensions; and b) **minor changes** that do not require prior approval by the RPC or the DNR.

Any change to an environmental corridor, whether major or minor, should be initiated or sponsored by the affected local units of government (city, village, town), or by the Regional Planning Commission in consultation with affected local units of government. It is expected that all changes, major or minor, would be initiated by formal action by the municipality—by resolution, or approval of a plat or development plan.

Major Changes. Major changes have the potential for significant impacts on water quality, and require RPC and DNR approval. The review and decision process for a proposed major corridor change requires a public hearing and generally takes a minimum of three months.

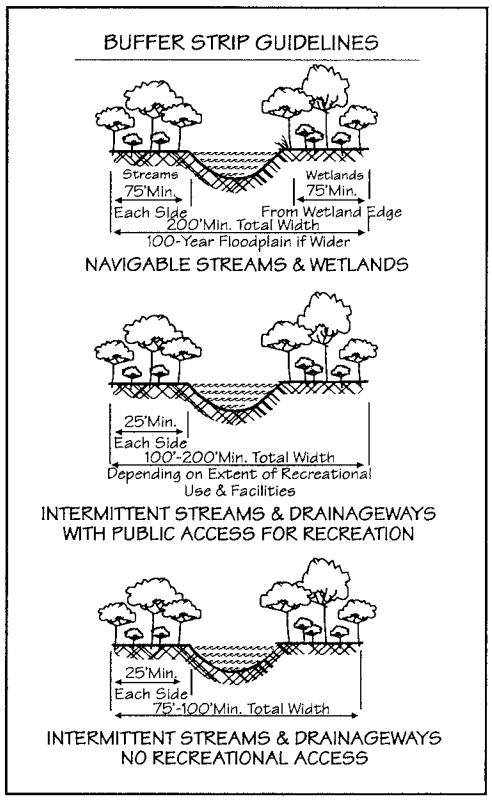
Major changes include:

1) Removing any mapped floodplain or wetland area unless exempted by state administrative rules or state-approved rezoning.

2) Any change that would remove any area below the ordinary high water mark of a stream, pond or lake.

3) Any change resulting in the elimination or interruption in the continuity of any corridor segment which includes floodplains, wetlands, shoreland buffer strips or steep slopes adjacent to water bodies (defined as slopes over 12% where the base of slope does not have at least 75 feet of vegetated buffer strip between the base of slope and the ordinary high water mark or top of bank of streams, ponds and lakes).

4) Any change reducing the width of vegetated shoreland buffer strips along streams and drainageways below minimum guidelines (see illustration).



Minor Changes. Minor changes generally do not have the potential for significant impacts on water quality, and do not require RPC approval. The RPC should be notified of the official local action (resolution, plat or development plan approval, etc.) changing the corridors.

Minor changes include:

1) Changes resulting from DNR-approved changes in floodplain or wetland delineations, or DNR-approved rezoning.

2) Relocation or shortening of a corridor based solely on intermittent streams and drainageways, or adjustment of the buffer strip width within the guidelines (see illustration).

3) Addition to or removal from the corridors of public or private lands which do not include water bodies, floodplains, wetlands, minimum buffer strips or steep slopes adjacent to water bodies.

4) Changes resulting from utility or roadway maintenance or construction which meet the criteria set forth in NR 117. (It is not the intent of the environmental corridors to prevent or obstruct necessary maintenance, expansion or construction of transportation or utility facilities intended to serve areas outside of the corridors, needed to maintain or improve continuity of those systems, or designed to serve compatible uses in the corridors, such as park shelters or facilities. Facilities intended to serve new sewered residential, commercial or industrial development in the corridors are not permitted.)

For more specific questions contact:

Dane County Regional
Planning Commission
217 S. Hamilton Street, Suite 403
Madison, Wisconsin 53703
(608)266-4137

APPENDIX C

Process for Amending Adopted Regional Plans

Each year the Dane County Regional Planning Commission (RPC) conducts an annual review and reaffirmation of all major adopted plans and considers possible changes or amendments at that time. It is also necessary to amend regional plans at other times. The following steps will be followed to assure a proper and timely process for plan amendments.

1. Requests for amendments to regional plans must be initiated or sponsored by a local unit of government or the RPC. Requests for plan changes from individuals should be channeled to the appropriate unit of government to receive their sponsorship. Many times the amendment proposal will reflect local plan updates prepared with RPC staff or consultant assistance. Holding a local public hearing and any notification of property owners are the responsibility of the sponsoring local unit of government.

   All requests for creation or expansion of urban service areas or limited service areas must be accompanied by sufficient supporting information to allow evaluation of the impacts of the proposed change, and determine the intent and capability of providing the needed urban services. The specific information which must be submitted is described in the *Planning Submittal Requirements for Urban Service Area Amendments,* available from the RPC.

2. Staff will consult with affected governmental units to discuss details of the proposal and to determine if there are unresolved issues. There will be early consultation with affected units, where possible, before changes are adopted by the sponsoring unit. The sponsoring unit should initiate these consultations.

3. The RPC staff will prepare a report for the Commission that sets forth the pertinent factors, an analysis, and recommendation. The report will be presented to the Commission at the time of the scheduled public hearing.

   The staff report will also include:

   a. An evaluation of consistency or conflict with major Land Use and Transportation Plan objectives and policies, particularly those related to regional development patterns (location, density), housing (range and mix, affordability), transportation, environmental protection, farmland preservation, and provision of public services.

   b. An evaluation of consistency or conflict of the amendment with other relevant adopted plans.

   c. A description of local measures or programs which will mitigate potential adverse impacts or support plan policies, such as measures to protect environmental corridors, promote compact development, etc.

4. A public hearing will be set for the next RPC meeting unless more time is needed to address issues. All affected local units and county board supervisors will be notified by letter at least thirty (30) days prior to the public hearing. The 30-day notification period may be waived if the

sponsoring unit can demonstrate that other affected units of government have been consulted as provided in #2 above.

5. A resolution will be prepared for RPC consideration, to be acted on following the hearing or at a subsequent meeting. The resolution wording should specifically mention each affected plan (e.g., Land Use and Transportation Plan, Water Quality, Farmland Preservation, etc.). Note: RPC action is expected at a subsequent meeting if there are unresolved issues or questions; however, the RPC could act following the public hearing.

6. A letter to the county Zoning and Natural Resources committee will be prepared for RPC consideration if the Farmland Preservation Plan is affected. The letter will ask the county zoning committee to seek adoption of the amendment to the Farmland Preservation Plan by the county board.

7. After adoption, amendments will be filed in the Land Use and Transportation Plan amendment file, and the Farmland Preservation Plan file. Urban service area amendments will be filed in the urban service area file and the sewer service extension file. All amendments to the Water Quality Plan, including changes to urban service areas and environmental corridors, must be submitted to the Wisconsin Department of Natural Resources for approval following RPC adoption.

8. Each year plan amendments will be documented as part of the annual review, legal notice published and, after the annual plan review, a copy of the resolution reaffirming all regional plans will be filed in the Land Use and Transportation Plan amendment file for that year and other appropriate files, and also submitted to appropriate funding and approving agencies such as WISDOT, WISDNR, etc.

Planning Submittal Requirements for Urban Service Area Amendments

All urban service area or limited service area amendment requests must be sponsored by the principal local governmental unit (town, village, city, county), which will be responsible for land use control and providing services to urban development in the area to be added or deleted, or by the RPC.

All requests for urban service area additions must be accompanied by specific plans for development and provision of urban services to the proposed addition, which include the following elements:

(A) a plan and description of proposed development, land use and major facilities in the area, which is specific enough in terms of type and densities of land use to enable the determination of urban service needs and impacts of development.

(B) a description of the relationship of the proposed development with adjacent land uses and urban development, and consistency or conflict with any applicable adopted plans.

(C) identification of environmental corridors and other environmentally sensitive areas, consistent with RPC and DNR criteria, which are to be protected from urban development, and a description of local policies, ordinances or other measures to protect such areas.

(D) a specific plan for providing urban services to the area, including:

(1) a layout of the basic street and utility (water, sewer, storm drainage system) networks and facilities;

(2) a description of the urban services intended to be provided to the area, both initially and long-term. The description should, for each urban service, indicate whether, how, when and by whom each urban service is to be provided, for each of the following urban services (not all services may be required or needed in each case):

(a) the urban transportation system and facilities, including public street layout and standards, provisions for pedestrian and bicycle movement, and provisions for mass transit and paratransit and trip reduction measures (carpooling, park/ride lots);
(b) public sanitary sewerage system layout and facilities;
(c) public water supply and distribution system layout and facilities, for both potable water and fire protection;
(d) higher or urban levels of police and fire protection and emergency medical services than generally provided in rural areas;
(e) solid waste collection service;
(f) a publicly managed urban storm drainage system layout and standards; and
(g) neighborhood public facilities and sites, including neighborhood and community parks, schools, etc.

In addition to these basic planning submittal requirements for urban service area additions, all requests for large additions (involving more than 100 acres of developable land) must include 10-year staging boundaries, which will be adopted and used to guide extension of services and sewer extension reviews.

APPENDIX D

Glossary

Access Controls. Legal constraints on the number and location of access points (driveways and public or private roads) to a public roadway for the purpose of controlling land use, promoting highway safety, maintaining the efficiency of highways, and enhancing the appearance of highways.

Accessibility. The degree to which the transportation system will allow us to reach a destination.

Air Quality and Transportation Related Pollutants. Carbon monoxide (CO), hydrocarbon (HCI), and nitrogen oxides (NO_x) are the primary pollutants emitted from present day gas powered automobiles.

All-Mode Transportation System. An integrated combination of facilities and services that provides for movement of people and goods within and through Dane County using the full variety of available travel modes: private automobile, truck, bus, rail, bicycle, and air transportation.

Arterials. Roadways intended to provide service for through traffic between communities or parts of a community. Arterial roadways also provide access to adjacent land uses as a secondary function.

Auto Occupancy. The number of persons per car on a given trip.

Balanced Communities. Occurs when a community develops the full range of social and economic elements (business, employment, housing, etc.) in contrast with "bedroom communities" whose residents are dependent on other communities for jobs, shopping, etc.

Bikeways. Designated routes for bicycle use. They may be separate off-road paths, on-road special lanes signed for mixed traffic use or sidewalk routes.

Brownfield. Sites generally within urban areas with contaminated soils from prior land uses which require cleanup prior to redevelopment.

Capital Improvement Program (CIP). This formal program indicates costs and a schedule for capital improvements over a period of time. A CIP is adopted by a governmental body.

Carpooling. The sharing of an automobile trip by persons traveling to and from the same or nearly the same places, usually on a regular basis.

Central Business District (CBD). Generally the area of Central Madison CBD.

Central Madison Area. Includes the Madison central business district (CBD) and the University of Wisconsin; bounded on the east by Blair Street, on the north by Lake Mendota, on the west by Walnut Street (north of Campus Drive) and Breese Terrace (south of Campus Drive), and on the south by Lake Monona, Regent/Proudfit Street (east of Breese Terrace) and Campus Drive (west of Breese Terrace).

Central Madison (CBD). Generally the area bounded by Blair Street on the east, Park Street on the west, and Proudfit/Regent Streets on the south; or Census Tracts 16 and 17.

Central Urban Area. Same as Madison urban area or Madison urbanizing area.

Central Urban Service Area (CUSA). An area including the City of Madison and adjacent municipalities and all or parts of towns generally built up with contiguous urban development plus urban expansion area. The remainder of the villages and cities outside the central urban area are considered Outlying Urban Service Areas. (Also see Urban Service Area)

Cluster Design. A development design technique that utilizes the principles of grouping land uses to promote the preservation of open spaces.

Collector Streets. Collector streets penetrate or surround neighborhoods and collect traffic from the local street system, distributing it to the arterial street system.

Community Bypass. A major route that channels traffic around, rather than through, a community or environmentally sensitive area.

Commuter Rail. This heavy rail line transports passengers using vehicles similar to Amtrak rail and uses a fuel source other than electricity to power the train.

Conservancy District. A district defined for zoning purposes in which the intent is to conserve a variety of natural resources and to limit urban uses to certain essential needs.

Dane County Transportation Study (DCTS). The name of the areawide transportation planning function since 1971.

Demand-Responsive Transit Service. A transit service that operates without a fixed route and/or fixed schedule, generally serving riders on a call-in basis (similar to taxicab service) or a reserved-seat basis (as in home-to-work subscription service); may be a door-to-door service or one in which small modifications in a bus route are permitted in response to user demand.

Density. A measure of concentration or intensity of land use, commonly expressed in units per acre. Net residential density is usually expressed in dwelling units per acre of residential land not including streets and other public lands (also referred t as "net residential density").

Dial-A-Ride. A door-to-door demand responsive transit operation similar to a taxicab (zone cab) service; i.e., with ride sharing.

Easement. A non-profit interest in land owned by another that entitles its holder (generally the public) to a specific limited use or enjoyment. Easements may include scenic views, roadways, utilities, drainage, recreation and fishing or hunting rights.

Energy-Conserving Transportation Actions. Through a combination of three basic practices: improving efficiency of vehicle operation; shifting travel from low-occupancy auto to transit or carpooling; and reducing travel demand.

Environmental Corridors. See Open Space Corridors.

Environmentally Sensitive Areas. Those areas that are most sensitive to the environmental impacts of development, land disturbance or transportation facilities; these include, but are not limited to, neighborhood areas, natural areas, and high-pedestrian-usage areas (e.g., college campus, downtown shopping areas, etc.).

Federal Grants and Development Review Process. A procedure authorized by federal and state laws requiring federally assisted programs and projects to be reviewed by state and regional clearinghouses for consistency with adopted plans (formerly A-95).

Federal Highway Administration (FHWA). An agency of the U.S. Department of Transportation which provides funds for highway-oriented transportation improvements and planning.

Federal Transit Administration (FTA). An agency of the U.S. Department of Transportation which provides funds for transit oriented transportation improvements and operations.

Flexible Work Hours. Allows employees to schedule work hours in order to minimize peak hour congestion, including four-day work weeks and part-time schedules.

Floodplain. The land adjacent to a body of water which has been or may be hereafter covered by flood water including, but not limited to, the regional flood.

Gross Residential Land. Aggregate land area used for residential purposes, including supporting uses such as local streets and local parks.

Ground Water. Water beneath the surface of the land that supplies wells and springs.

High-Occupancy Vehicles (HOV). A high-occupancy vehicle is a car, van, or bus serving multiple occupants. An example of an HOV application is the designation of HOV and/or bus lanes on arterial streets to speed trips through congested traffic areas. Lanes can be designated by pavement marking (often called diamond lanes because of the use of a diamond symbol applied to the roadway surface) or by actual physical barrier.

Hydrologic System. The interrelated group of natural and man-made features and processes which affect the distribution and movement of water, including precipitation, surface water, ground water, evaporation and transpiration.

Infill Development. Infill development, or redevelopment, refers to reoccupying vacant or underutilized buildings and/or land with new uses, returning lands to productive, viable development. Local communities have adopted specific definitions and criteria for infill development.

Interceptor Sewer. A sewer which has the primary function of conveying sewage from collection sewers to a discharge point, rather than serving abutting property.

Intermodal Surface Transportation Efficiency Act (ISTEA). This 1991 U.S. Congressional Act, due for reauthorization in 1997, was adopted to promote an intermodal transportation system that is consistent with land use, maximizes mobility of people and commerce, and minimizes fuel consumption and air pollution. This plan is designed to meet a requirement of ISTEA to prepare an updated transportation plan.

Land Division: A division of a lot or parcel of land for the purpose of sale or of building development. (See Subdivision)

Level of Service (roadway). The extent of traffic congestion experienced on a given roadway segment; expressed as a range from "A" to "F", with "C" through "F" considered congested levels in rural areas and "D" through "F" in urban areas. (See separate Appendices report)

Light Rail Vehicle. An electrically powered street car operating on public streets or reserved rights-of-way (exclusive transitways).

Limited Service Area. An area where only one or a few limited urban services, such as sanitary sewer service, are intended to be provided to special or unique areas (remote park facilities, sanitary landfills, etc.) or areas of existing development experiencing sewage disposal problems. These areas are neither intended to receive a full range of urban services nor generate additional urban growth.

Local Government. As used in the *Land Use and Transportation Plan*, generally refers to governments of towns, villages and cities. When referred to in the context of Wisconsin state law, local government also includes county government.

Major Activity Centers (MAC). Major employment and commercial land uses that individually or as a grouping of similar uses, constitute an attraction for large numbers of people.

Major Investment Study (MIS). A study focusing on the financial implications and other impacts relating to a specific transportation proposal. By federal regulation, capital intensive transportation projects are studied to determine possible alternatives and the overall feasibility of a transportation implementation project.

Mass Transit. Any form of public transportation operation which transports large numbers of passengers (includes dial-a-ride, local bus, express bus, light rail, commuter rail, and other similar operations).

Metropolitan Planning Organization (MPO). The organization responsible for preparing multimodal transportation improvement plans, and programs funds for requested transportation projects. The Dane County Regional Planning Commission has been designated as the MPO for the Madison Urbanized Area.

Mixed Use Development. A development that is comprised of a variety of land uses which may include a combination of commercial, industrial, residential, and/or recreational land uses.

Mobility. The ability of individuals to go where they need or desire to go, when they want to go there.

Modal Split. The proportion of total travel (auto plus transit) served by mass transit

Multifamily Housing. A structure containing two or more housing units, each containing accommodations for families living independently, regardless of owner or renter status (includes duplexes of two residential housing units).

Natural Resource Areas. Areas identified as having important natural qualities for resource preservation purposes by the local municipalities, the county, the Dane County Regional Planning Commission and the WisDNR within their planning efforts. These areas may include Environmental Corridors and other identified areas with one or more natural resource elements needed to maintain the ecological balance and natural beauty of the area. Elements can include: rivers, streams, lakes, wetlands, shorelands, floodplains, steep slopes, woodlands, existing/future parks and open spaces, historic sites and features, wildlife habitat areas, prairies, and scenic vistas.

Neighborhood Development Plans. Detailed development plans of approximately one square mile or more, often bounded by arterial streets, with mixed land uses, such as residential, neighborhood

commercial, a school, and park land. Plans show existing and proposed land uses, development patterns, roadways and other transportation improvements, and parks and open spaces. Individual subdivisions do not necessarily constitute a neighborhood.

Net Residential Land. Land area used solely for residential purposes, excluding supporting uses such as streets and local parks.

Nodes. A fixed point at which urban development is concentrated. Nodes are also considered areas in which a planned transit stop is located.

Objective. Something toward which effort is directed: an aim or end of action.

Official Map. A map indicating the location, width and extent of existing and proposed streets, highways, parkways, parks and other open spaces, adopted by any unit of government enabled to do so by state law.

On-Site Wastewater System. This type of system is typically associated with rural development where no access to public sewer systems exists. Types of on-site systems include holding tanks, in-ground septic systems or above-ground mound systems. The state, local communities, and counties regulate the placement, construction, and maintenance of on-site wastewater systems.

Open Space Corridors. Continuous open space systems based on natural resources and environmentally important lands. The corridors are based primarily on streams, lakes, shorelands, floodplains and wetlands. The corridors include two distinct components: urban environmental corridors in urban service areas, and rural resource protection areas outside urban service areas.

Outlying Urban Service Areas (OUSA). The smaller urban communities in Dane County outside of the Central Urban Service Area.

Paratransit. Flexible transportation services operated publicly or privately and using small or intermediate size vehicles. This can include taxis, services for elderly and disabled, airport limousines and others.

Park-Ride Lots. Commuter parking lots located on the periphery of the urban area adjacent to major travel corridors where commuters may park their cars and ride transit to the Central Business District.

Peak/Off-Peak Hours. Generally refers to the average weekday "rush-hours" (peak) from 7:00 - 9:00 a.m. and 3:00 - 6:00 p.m. when most traffic delay and congestion occurs. All other times are generally called off-peak hours.

Person Trip. A one-way trip by any travel mode made by a single person.

Planned Unit Development (PUD). A technique and process that allows diversification and variation in the relationship of land uses and structures in developments that are conceived and implemented as cohesive, unified projects.

Policy. A definite course or method of action to guide and determine present and future decisions.

Private Sector. All non-governmental institutions, agencies, corporate bodies and individuals including the industrial and business community in Dane County.

Public Services. All services provided to the general public or to specific groups within the general public and financed through tax revenues and/or user fees.

Purchase of Development Rights (PDR). This planning tool is designed to preserve areas deemed inappropriate for development by a local community. PDR is compensation to an owner for the rights to develop on his/her property. A local municipality, non-profit organization, the county, or the WisDNR are examples of agencies that can purchase the rights to develop land.

Region. For the purposes of this plan, the region is Dane County, including all political subdivisions within the county.

Regional. Pertaining to the Dane County region.

Resource Protection Areas. See Open Space Corridors.

Rural Areas. The areas outside of urban service areas intended to remain predominantly rural in character. The areas include both farmland preservation lands as well as rural nonfarm development which is consistent with the adopted County Farmland Preservation Plan and local town plans.

Rural Development Areas. Indicates lands not included in agricultural preservation areas and outside urban service areas which might be planned for nonfarm residential development. Could be considered for designation by local units of government when they update local plans.

Shoreland Area. All lands in the unincorporated areas of Dane County within one thousand (1,000) feet from the normal high water line of lakes, ponds or flowages listed in "Surface Water Resources of Dane County" published by the Wisconsin Dept. of Natural Resources and all lands which are within three hundred (300) feet from the normal high water line, or to the landward side of a floodplain of the navigable reaches of rivers and streams.

Significant Topography. The natural condition of lands characterized by slopes that exceed twelve percent; i.e., a twelve-foot vertical difference for each horizontal 100 feet.

Single-Family Housing Units. One-family residential housing units generally on separate lots.

Sneak Traffic. Auto traffic that avoids congested roadway segments by using local or collector streets in residential neighborhoods.

Special Transit Lanes. A roadway or portion of a roadway designated for the exclusive use of transit vehicles (e.g., buses, light rail vehicles).

Strip Development. The development of urban uses such as housing or commerce in narrow bands, generally one lot deep, along the frontage of roads and highways.

Subdivision (also referred to as "Plats"). A division of a lot or parcel of land for the purpose of sale or of building development, where:

(a) The act of division creates five (5) or more parcels or building sites of fifteen (15) acres each or less in area; or

(b) Five or more parcels or building sites of fifteen (15) acres each or less are created by successive divisions within a period of five (5) years.

(Note: This is Dane County's definition. Individual communities use different acreages.)

Sub-Regional. Refers to any geographical area within Dane County but smaller in size than the county. May refer to an individual municipality or part of a municipality, to groups of municipalities or to an area defined by non-governmental boundaries such as a watershed.

Surface Waters. All the lakes, rivers and streams in Dane County as identified in the Surface Water Resources of Dane County, published by the Wisconsin Department of Natural Resources, 1985.

Traditional Neighborhood Design (TND). Also known as "new urbanism," this design concept emphasizes compact designs, incorporating mixed uses and focal points with planned arterial and collector streets, local street circulation system that disperses the traffic patterns and promotes an all-mode transportation system. It also emphasizes organization of land uses, design and siting of individual buildings, and the design of the street patterns and public spaces.

Traffic Calming. Design features to be incorporated into local street designs (not collectors or arterials) to slow traffic. Examples of design features include a landscaped circle at local intersections and pavement narrowing at crosswalks.

Traffic Engineering Improvements. Relatively small-scale improvements designed to increase capacity and safety of roadways in order to maximize the use of existing transportation facilities (e.g., addition of turning lanes, improving traffic signal timing, etc.).

Transfer of Development Rights (TDR). This planning tool is used to allow rural landowners to transfer the ability to develop their land from "sender areas" to developers in "receiver areas," which can provide a farmer with an incentive to continue farming and provide a developer an opportunity to develop in a community-desired location. TDR is designed to help communities focus new development to areas better suited to accept urban growth.

Transit Priority Corridors. Major transportation corridors identified in this plan as a priority for transit planning to improve transit services.

Transit-Dependent Groups. Persons who are too young or old to drive, too poor to afford an automobile, unable to drive due to some physical disadvantage, or those not wishing to drive.

Transportation Demand Management (TDM). Efforts to lessen roadway traffic volumes by encouraging car- and vanpooling, transit ridership, flextime and staggered work hours for work trips, and other means.

Transportation Disadvantaged Groups. Persons who cannot utilize the standard transit vehicles or operations because of a physical or other disadvantage (e.g., persons using wheelchairs or who are semi-ambulatory).

Transportation Improvement Program (TIP). An adopted list of transportation improvements for a specific period of time.

Urban Densities. Densities of development that are suitable for the efficient and economic provision of urban services.

Urban Development. May refer either to the process of converting land to urban use or to the urban uses themselves.

Urban Land Demand. The amount of land needed to accommodate a given population at specific densities of development.

Urban Service Area. Areas planned for urban development and capable of being provided with a full range of services (see Appendix A).

Urban Services. Public services normally provided or needed in urban areas, in addition to the basic or general governmental services available to all residents. Urban services include public water supply and distribution systems, sanitary sewerage systems, higher levels of police and fire protection, solid waste collection, urban drainage facilities and streets with curbs and gutters, street lighting, urban mass transit and neighborhood facilities such as parks and schools.

Urban Transitional Areas. Located along the fringes of established urban areas, these areas are planned for eventual urban development with the provision of a full range of urban services.

Urban Use. All land uses other than agriculture, open space, and farm housing. Urban use includes, but is not limited to, non-farm housing, commerce, industry, and public and institutional uses. Such uses are referred to as urban even if located outside of areas that may be generally characterized as urban.

Wetland. Lands in Dane County characterized by high water table, the presence of surface water at any time during the year, predominantly organic soils, and aquatic vegetation.

Wetland Mapping. Mapping of wetland areas reflects the delineation of wetlands by the Department of Natural Resources as part of their statewide wetland mapping.

Wetland Zoning Areas. Those areas of mapped wetland subject to the Shoreland/Wetland District of the Dane County Zoning Ordinance and applicable municipal shoreland/ wetland zoning provisions.

APPENDIX E

Selected Bibliography of Reports Pertinent to Land Use and Transportation in Dane County

Note: These documents are available for review at the Dane County Regional Planning Commission office.

OVERALL PLANNING REPORTS

Regional Development Guide. Adopted June 1985 and amended through 1992 (Dane County Regional Planning Commission, 1992).

Dane County Farmland Preservation Plan. (Dane County Regional Planning Commission, 1981).

Dane County Parks & Open Space Plan 1996-2000. (Dane County Regional Planning Commission, 1996).

Dane County Housing Market Report. (Dane County Regional Planning Commission, 1995).

The Isthmus 2020 Committee Report: A Guidebook for a Model Isthmus. Draft Report. (City of Madison, 1997).

Locally adopted plans (all cities, villages and towns). Available from community or for review at the Dane County Regional Planning Commission office.

1996 Regional Trends and 16 previous annual reports. (Dane County Regional Planning Commission, 1997).

Transfer of Development Rights. (Dane County Regional Planning Commission and Dane County Department of Planning and Development, May 1996).

Unified Planning Work Program, 1997-1999, and previous annual programs. (Dane County Regional Planning Commission, 1996).

Vision 2020 Project Reports and Papers:

Vision 2020 Draft Report, Dane County Land Use and Transportation Plan. (Dane County Regional Planning Commission, Jan. 1997).

Vision 2020 – Public Comments Received February 1997. (Dane County Regional Planning Commission, 1997).

Appendices to *the Dane County Land Use and Transportation Plan.* (Dane County Regional Planning Commission, 1997).

Summary Results of Vision 2020 Telephone Survey. (Dane County Regional Planning Commission and Dane County Department of Planning and Development, Dec. 1996).

Focus Group Summary Comments for Vision 2020. (Dane County Regional Planning Commission and Dane County Department of Planning and Development, Oct. 1996).

Rural Issues Paper: A Vision 2020 Discussion Paper by Lane Kendig, Inc. (Dane County Regional Planning Commission, Sept. 1995).

Compact Urban Form: A Vision 2020 Discussion Paper by Lane Kendig, Inc. (Dane County Regional Planning Commission, March 1996).

ENVIRONMENTAL RESOURCE PLANNING

1995 Summary Dane County Water Quality Plan. (Dane County Regional Planning Commission, 1995).

Environmental Corridors. (Dane County Regional Panning Commission, 1996).

Environmental Corridor maps for the Central and Outlying Urban Service Areas.

Dane County Regional Hydrologic Study. (Various reports by the Dane County Regional Planning Commission, Wisconsin Geological and Natural History Survey, and the U.S. Geological Survey, 1997).

Dane County Water Quality Plan. Appendix C: Point Source Inventory and Analysis. (Dane County Regional Planning Commission, 1995).

Dane County Water Quality Plan, Appendix G: Groundwater Protection Plan. (Dane County Regional Planning Commission, 1987).

Solid Waste and Recycling Plans for Dane County. (Dane County Regional Planning Commission, 1980, 1988).

TRANSPORTATION PLANNING

Bicycle Transportation Plan for Madison & Dane County. (Dane County Regional Planning Commission, 1991).

Dane 2020 Task Force Final Report. (City of Madison, Dane County and WisDOT, November, 1992). A report on land use and transportation issues.

Dane County Transit Priority Corridor Study. (Dane County Regional Planning Commission, 1986).

Madison Metro Transfer Point System. (Madison Metro, 1997).

Pedestrian Transportation Plan for Madison. Draft Report. (Madison Department of Transportation, July 1997.

Regional Transportation Plan for Dane County. (Dane County Regional Planning Commission, 1988).

Regional Transportation Plan Reevaluation. (Dane County Regional Planning Commission, 1994).

Report of Committee to Evaluate Commuter Rail Implementation. (Dane County Board of Supervisors, 1996).

1993-1997 Transit Development Program. (Dane County Regional Planning Commission, 1993).

Dane County Transit Priority Corridor Study Reports – Phase I and II. (Cambridge Systematics, 1992).

Translinks 21. (WisDOT, 1995). A statewide multimodal transportation plan for Wisconsin's 21st century. Incorporates numerous background and technical reports.

Transportation Improvement Program, Dane Co.: 1997-2001, and previous annual updates. (Dane County Regional Planning Commission, 1996).

APPENDIX F

PARTICIPANTS

VISION 2020 PLANNING PROCESS

Sponsors

City of Madison
Dane County
Dane County Regional Planning Commission
Wisconsin Department of Transportation

Steering Committee

Sandy Beaupre, Wisconsin Dept. of Transportation
Jonathan Becker, Dane County Regional Planning Commission
Anne Monks, City of Madison
Topf Wells, Dane County

Project Development Team

Dane County Highway and Transportation — John Norwell
Dane County Dept. of Planning and Development — Jeanie Sieling, Gary Gunderman, Mark Roffers, Eva Serra
Dane County Regional Planning Commission — Thomas Favour, Robert McDonald, Derek Hungness, Christopher Johnson
Madison Dept. of Planning and Development — Brad Murphy, Michael Waidelich, Todd Violante, Anthony Brinkman
Madison Dept. of Transportation — Dan McCormick
WisDOT Central Office — Lisa Binkley, Doug Dalton, William Gavinski, David Trowbridge
WisDOT District Office — Michael Rewey

Consulting Assistance

Charles Causier, Project Manager, HNTB
Mark Kaminski, Planner, HNTB
Lane Kendig, Lane Kendig, Inc.

RPC PROJECT PRINCIPAL STAFF

Thomas Favour, Executive Director
Robert McDonald, Director of Transportation Planning
Derek Hungness, Transportation Planner
Christopher Johnson, Transportation Planner
Jill Bates-Warren, Graphics Supervisor
Daniel Seidensticker, Cartographer
Louise Lagier, Program Assistant

RPC ADMINISTRATIVE STAFF

Thomas Favour, Executive Director
William Lane, Deputy Director and Director of Environmental Resources Planning
Robert McDonald, Director of Transportation Planning
Thomas L. Smiley, Director of Community and Regional Development Planning
Louise Smoczynski, Administrative Services Supervisor
Jill Bates-Warren, Graphics Supervisor

(Effective April 1997)