



3

TRANSPORTATION

BACKGROUND INFORMATION



TABLE OF CONTENTS

[Introduction](#) 3-1

[Trends and Issues](#) 3-2

[Introduction](#) 3-2

[Countywide Overview](#) 3-2

[Street and Roadway Issues](#) 3-8

[Transit System: Trends and Issues](#) 3-11

[Introduction](#) 3-11

[Existing Transit Service and Trends](#) 3-12

[Transit System Issues](#) 3-17

[Transit Development Program](#) 3-20

[Bicycle System: Trends and Issues](#) 3-21

[Introduction](#) 3-21

[Trends](#) 3-21

[Bicycle Transportation Issues](#) 3-22

[Bicycle Transportation Plan](#) 3-23

[Other Transportation Modes: Trends and Issues](#) 3-24

[Introduction](#) 3-24

[Pedestrian Transportation](#) 3-24

[Rail Transportation](#) 3-27

[Air Transportation](#) 3-29

[Ridesharing](#) 3-31

[Parking](#) 3-32

Maps

- [Map 3-1](#) Arterial and Collector Streets
- [Map 3-2](#) 1990 – 2000 Average Daily Traffic Volume Growth
- [Map 3-3](#) 1990 Roadway Congestion Levels
- [Map 3-4](#) 2000 Roadway Congestion Levels
- [Map 3-5](#) Madison Metro Bus Routes
- [Map 3-6](#) Existing Bicycle Routes
- [Map 3-7](#) Pedestrian Facilities
- [Map 3-8](#) Railroads

INTRODUCTION

Over the past three decades, the manner in which Americans live, work, shop and recreate has changed significantly, and this has impacted our lives in many ways. Changes in energy supplies, household composition, age of the population and employment opportunities have all had a major influence on the way the region has grown and developed. It is expected that these trends will continue into the foreseeable future. In addition, some newly emerging changes will likely alter our decisions about where to live, work, shop and recreate. These emerging trends will impact how the City and region develop, and it is important that they be discussed and considered in preparation of the transportation section of the City's Comprehensive Plan.

Even though the Madison Comprehensive Plan does not directly address municipalities outside of the City, the discussion of trends and emerging issues below is regional in nature, as transportation and mobility issues are truly regional in nature. The trends discussed are divided into four general subject areas:

1. Demographic. These trends are provided in the Population and Demographics chapter of the Comprehensive Plan.
2. Housing. These trends are provided in the Population and Demographics chapter of the Comprehensive Plan.
3. Economic. These trends are provided in the Population and Demographics chapter of the Comprehensive Plan.
4. Land Use. These trends are described in the Land Use Background Information chapter.





The following discussion of transportation system trends and issues affecting the City of Madison and the Comprehensive Plan relies heavily on a review of regional transportation trends and issues. The source for much of this information is the "Regional Transportation Plan for the Madison Metropolitan Area and Dane County, Background Trends and Issues" (Madison Area Metropolitan Planning Organization, October 2004)

TRENDS AND ISSUES

INTRODUCTION

The following section discusses some trends as they affect the individual sections of the transportation system, including unique issues that have developed in recent years. Implications for the future are also presented. To begin with, the section describes some of the population and employment trends, and related roadway capacity issues throughout the Madison Urban Area and Dane County. Additional issues related to streets and roadways, and issues related to transit, bicycles, pedestrian and other modes are then discussed. Even though the Madison Comprehensive Plan does not directly address municipalities outside of the City, the discussion of trends and emerging issues must be regional in this Plan, as transportation and mobility issues cross jurisdictional boundaries in Dane County, and in many respects cross county lines as well.

COUNTYWIDE OVERVIEW

Trip making within Dane County is directly linked to land use and is affected by the type, intensity, and distribution of the land use activity throughout the area. Key variables in estimating trip-making potential are population and employment.

Population

Dane County's population grew 46.9 percent from 1970 to 2000 and is expected to grow another 36 percent by 2030. Just under half (46 percent) of this growth is expected to occur in the City of Madison and central urban area communities, with the remainder occurring in the outlying communities. If population growth in outlying communities continues to outpace employment growth in these same areas, and if employment growth in Madison and the central urban area continues to grow faster than its labor force, commuting into the City will likely continue to increase. This will also translate into increased traffic volumes on the roadway system unless other mode choices are made available and incentives are provided to facilitate other mode options.

Employment

Comparing the place of work employment forecasts in Table 10 of Chapter 1, Population and Demographics, with the forecast of the resident labor force shown in Table 9 of the same chapter, the amount of growth in employment continues to outpace the growth in the resident labor force in Dane County and the City of Madison. The resident labor force from surrounding counties fills this gap by commuting to and from Dane County and the City of Madison on a daily basis.



Commuter traffic on East Washington Avenue.



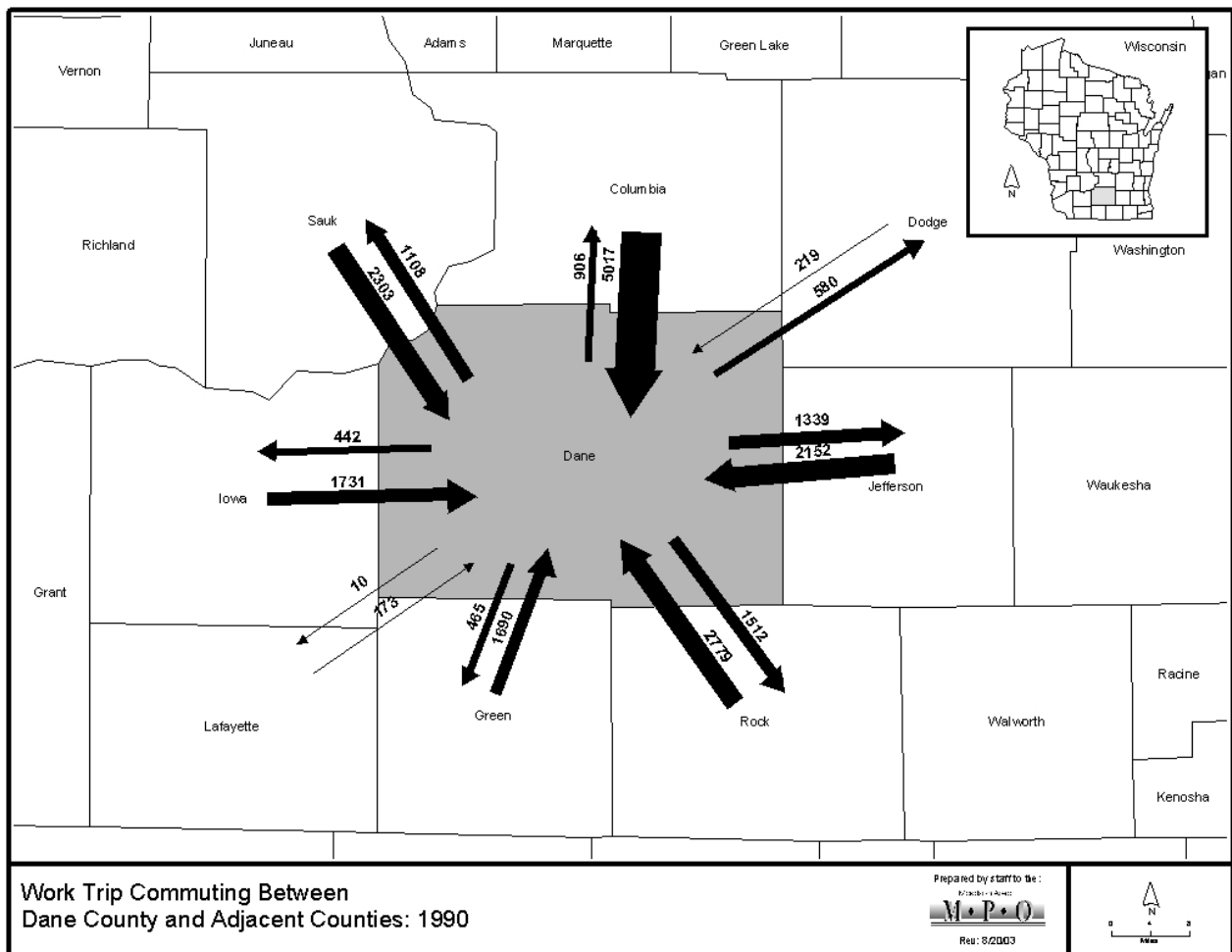
Metro Transit's South Transfer Point is an important hub for commuters.



Travel Patterns

In 1990, the amount of work-trip commuting into Dane County from adjacent counties was approximately 16,400 per day, with approximately 6,000 work trips per day going from Dane County into adjacent counties (See Figure 1 below). For the City of Madison in 1990, the amount of work-trip commuting into the City from adjacent counties was approximately 9,800 per day, with approximately 1,500 work trips per day going from the City into adjacent counties.

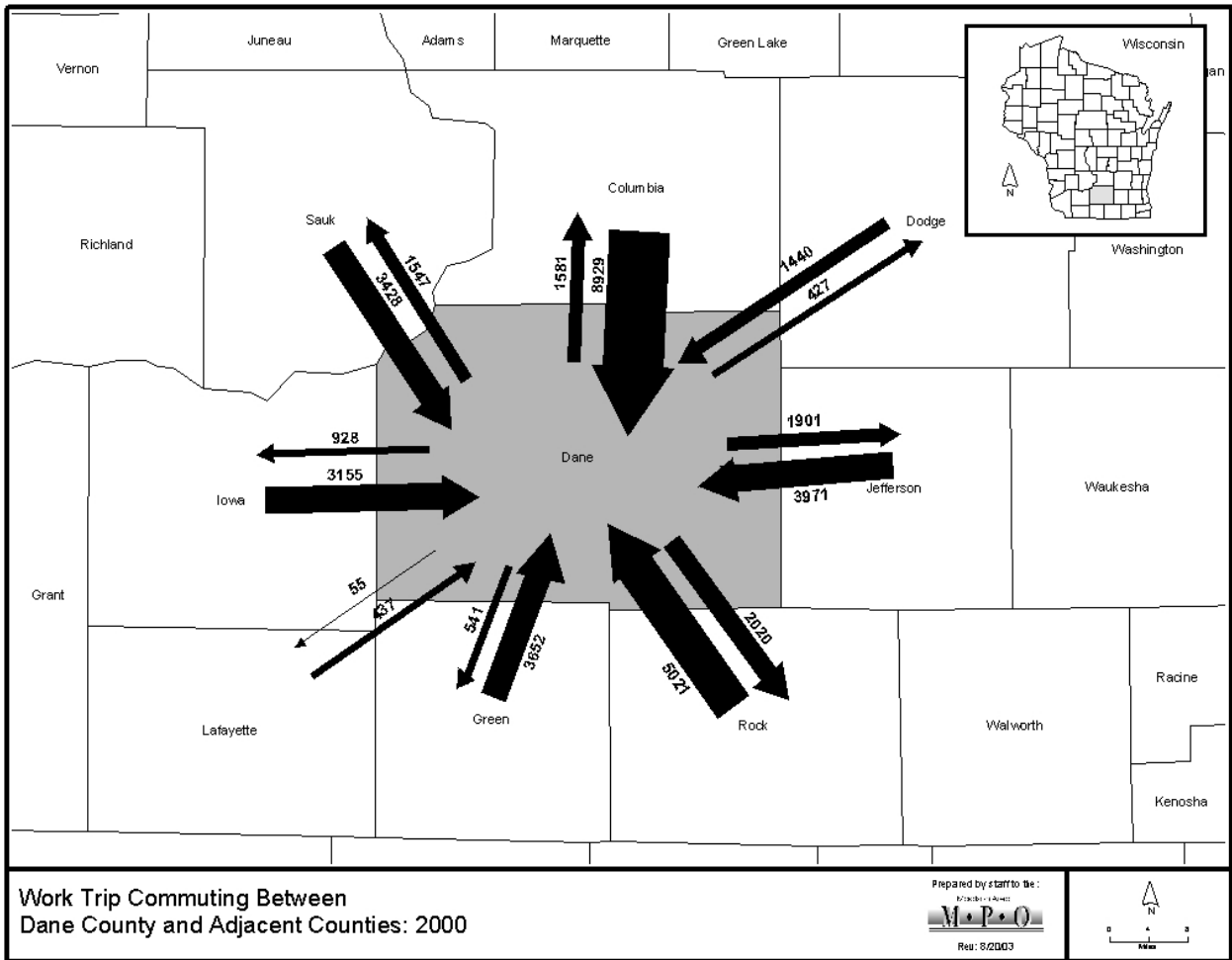
Figure 1: 1990 Work-Trip Commuting to and From Dane County





By 2000, the amount of work-trip commuting into Dane County from adjacent counties nearly doubled to 30,000 per day, with approximately 9,000 work trips per day going from Dane County into adjacent counties (See Figure 2 below). For the City of Madison by 2000, the amount of work-trip commuting into the City from adjacent counties increased 63 percent to 16,000 per day, with approximately 2,600 work trips per day going from the City into adjacent counties.

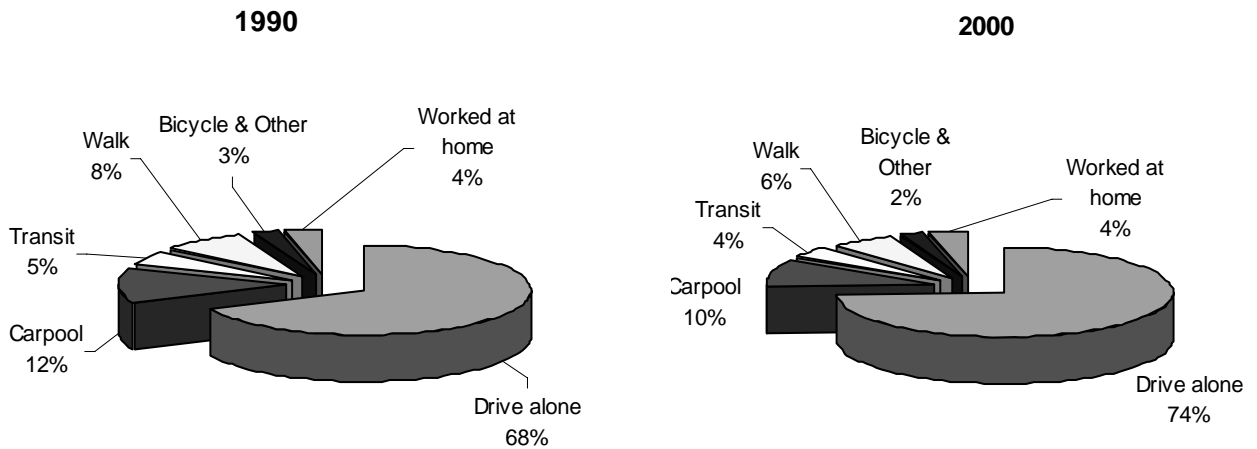
Figure 2: 2000 Work-Trip Commuting to and from Dane County





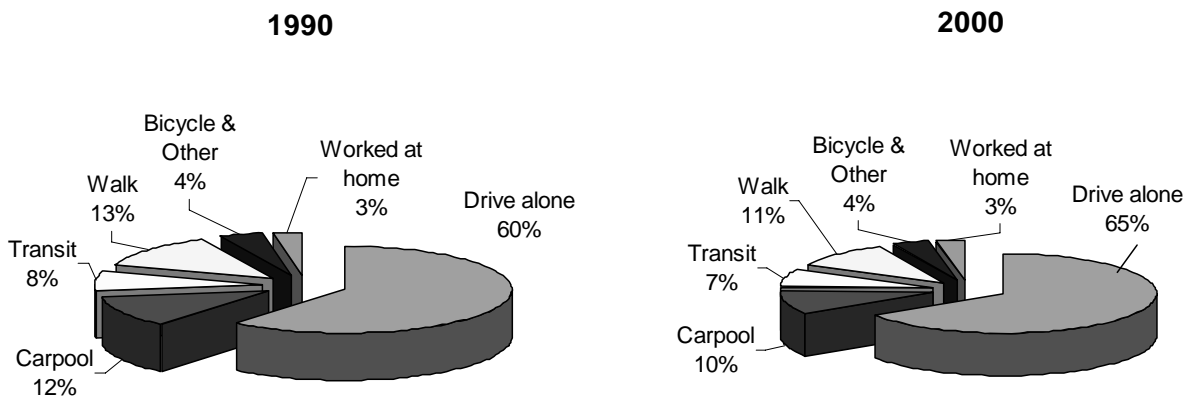
Mode choice for work-trip commuting throughout the county also changed from 1990 to 2000, particularly in the drive-alone category. In that 10-year period, the percentage share of drive-alone work trips increased from 68 percent to 74 percent, while the percentage share of all other modes of work-trip commuting fell, except for the work-at-home category (See Figure 3, below). Similarly, for the City of Madison during the same time period, the percentage share of drive-alone work trips also increased from 60 percent to 65 percent, while the percentage share of all other modes of work-trip commuting fell, except for the bicycle and work-at-home categories (See Figure 4, below).

Figure 3: Percentage Share Mode Choice Work-Trip Commuting for Dane County 1990 - 2000



Source: U.S. Census Bureau and the Madison Area MPO

Figure 4: Percentage Share Mode Choice Work-Trip Commuting for City of Madison 1990 - 2000



Source: U.S. Census Bureau and the Madison Area MPO

Transportation



The amount of work-trip commuting from villages and cities within Dane County to the City of Madison also continues putting increased travel demands on the arterial roadway system throughout the Madison Urban Area and Dane County. From 1990 to 2000, daily work-trip commuting to the City of Madison from municipalities within Dane County increased from 52,593 to 59,760, a 13.6 percent increase (See Table 1, below).

Table 1: Work-Trip Commuting to the City of Madison 1970 - 2000

	1970		1980		1990		2000	
	Total Workers	Number Commuting to Madison	Total Workers	Number Commuting to Madison	Total Workers	Number Commuting to Madison	Total Workers	Number Commuting to Madison
Towns	19,804	8,450	30,977	15,094	38,251	19,602	43,500	20,160
Villages	9,355	4,460	15,705	7,171	22,390	10,948	32,778	15,339
Cities	17,373	9,541	30,364	16,600	37,871	22,043	46,529	24,261
Total	46,532	22,451	77,046	38,909	98,512	52,593	122,807	59,760

Source: U.S. Bureau of the Census and Madison Area MPO



Congestion

The result of the population, employment, development, and travel trends discussed above has been increases in congestion levels on many of the arterial roadway corridors in the Madison Urban Area and Dane County. Volume I, [Map 3-2](#) at the end of this chapter shows those roadways where traffic volumes have increased significantly from 1990 to 2000. Volume I, [Map 3-3](#) and Volume I, [Map 3-4](#), also at the end of this chapter, illustrate those roadways experiencing congestion in 1990 and 2000 and reflect the change in congestion levels as a result of increased travel demand during this period of time. Some roadway segments such as the Interstate and CTH PD show a decrease in congestion levels even though traffic volumes have increased. This is the result of increases in capacity due to expansions in these roadways.

STREET AND ROADWAY ISSUES

The following street and roadway issues have been developed as a result of staff analysis by the Madison Area MPO, staff from various City of Madison agencies and from comments received at several public outreach forums during the Comprehensive Plan development process. The need to address these issues will form the basis for the development of Comprehensive Plan objectives and policies. Volume I, [Map 3-1](#) at the end of this chapter illustrates the road system in Madison and the outlying area.

- Continued development in the periphery of the Madison area and in outlying areas where population and employment activity centers are dispersed from one another will bring with it increased demand for travel on the arterial roadway system in Dane County and within the City of Madison.
- Outlying cities and villages are increasingly providing employment opportunities, thus offering some of their residents the possibility of avoiding the commute to the Madison area. However, the Madison area continues to outpace the outlying cities and villages in employment levels resulting in increased commuting patterns. In addition, the large number of two-worker households also has commuting implications for the City of Madison. The percentage of Dane County workers who worked in the community in which they reside declined from 62 percent in 1990 to 56 percent in 2000.
- Congestion is currently occurring during the morning and evening rush hours on many of the arterial roadway corridors in Dane County and the Madison urban area, with numerous corridors forecasted to reach capacity over the next 30-year period. In particular, the arterial roadways in the City of Madison (especially central Madison) are experiencing significant congestion that is expected to get much worse, unless more trips are diverted to other modes of travel, significant Transportation Demand Management (TDM) measures are applied, and/or additional roadway capacity is provided. It is recognized that providing



additional roadway capacity is extremely limited and not an option in many built-up areas of Madison. Many public comments noted the concern that significant increases in auto capacity destroy the very things that make the City a special place, and would reduce the quality of life for City residents.

- There are several ways to deal with congestion on roadway corridors, although it is important to note that most public comments received during the Comprehensive Plan development process stressed the need to use less extensive roadway improvements to address traffic congestion:
 1. Geometric improvements and other minor capacity improvements to increase safety and improve traffic flow, such as traffic signal control systems, Intelligent Transportation System (ITS) technologies (such as real-time traffic and parking information along roadways), intersection improvements, channelization (such as dedicated turn lanes), and access management techniques.
 2. Reduction in demand for peak-hour travel through commuter transit, demand management measures, and effective land use planning and plan implementation;
 3. Removing on-street parking during peak-hour periods to improve traffic flow;
 4. Better distribution of traffic through development of a well-spaced and connected collector and arterial roadway network; and
 5. Limited expansion of capacity on some existing roadways, where appropriate.
- It has been noted by many residents that some traffic congestion is inevitable and may provide an incentive to travel at a different time and/or utilize alternative modes of transportation (if available). Public outreach activities generally support more tolerance for auto congestion, particularly in central Madison, and the need to provide incentives to use non-automobile modes of transportation.
- There are many groups of commuters located throughout the outlying cities and villages in Dane County that travel to Madison every day. Express transit service, although necessary to attract ridership from these areas, is expensive to provide. Regardless, a large number of public comments supported the need for additional express transit service, as a realistic option to driving.

- The unique geography of the Isthmus does not allow for easily increasing roadway capacity without major impacts to existing neighborhoods. Therefore, providing convenient transit, pedestrian, and bicycle access to and within the downtown and the UW campus is particularly important in reducing congestion and providing a realistic option to driving in these areas.
- Traffic redirection efforts to keep through-traffic out of residential neighborhoods is adding to the significant traffic volume increases on East Washington Avenue, John Nolen Drive, and the Beltline. Even with existing traffic redirection and calming efforts, Comprehensive Plan public outreach forums have identified a need to do more about traffic impacts on neighborhood streets. In particular, the need to enhance the pedestrian experience throughout the City was cited often, and the impacts automobile traffic has on walking was noted as a significant problem. In addition, the need to channel through traffic to higher-order arterial roadways, such as the Beltline, was mentioned at numerous public forums.
- All rail corridors in the Madison Urban Area converge in the Isthmus area, providing opportunities for use as special transportation corridors (e.g. bus, bike, rail, etc.) even if rail freight continues to operate in the corridors. In fact, numerous Comprehensive Plan public comments have noted the need to utilize existing rail corridors for future commuter rail, bicycle and other non-auto forms of transportation.
- There is a need to provide adequate routes for the safe and efficient movement of truck traffic within and through the City, in order to provide access to and serve the needs of Madison businesses. In addition, several comments made at Comprehensive Plan forums indicated the need to minimize the negative impacts of trucks on existing and future residential neighborhoods. Public comments also highlighted the need to enforce ordinances that regulate and minimize negative noise and other impacts of trucking on residential neighborhoods, such as ordinances managing engine jake-braking, truck delivery times and vehicle idling.



Wisconsin & Southern freight rail at Johnson Street yards.



Truck turning onto Williamson Street.

TRANSIT SYSTEM: TRENDS AND ISSUES

INTRODUCTION

The major transit operator in the metro area is Metro Transit, which is owned by the City of Madison and operates within the oversight of the Mayor, Common Council, and the City's Transit and Parking Commission. Metro contracts with other communities and public institutions (including UW-Madison and the Madison Metropolitan School District) to provide service.

Most transit service is provided by Metro on regular fixed-routes using large buses. Other transit services include Metro paratransit service, other demand-responsive services, special event shuttles, state vanpools, and ridesharing services.

Transit in the Madison Urban Area has experienced a variety of changing trends since the adoption of the Regional Transportation Plan in 1978 and subsequent updates in 1988 and 1997. Ridership, which fell throughout the 1980s, has seen a turnaround since 1990. Trends in employment and housing continue to complicate the job of public transit, and the automobile continues its domination of the transportation system.

One of the major challenges for the transit system continues to be how to effectively serve the developing activity/employment centers and neighborhoods on the urban fringe, particularly those located beyond the Interstate and Beltline System. Most of the growing activity and employment centers have not been designed for efficient transit service, and parking is generally plentiful and free. Travel times from peripheral neighborhoods to the downtown/UW campus area are long relative to driving. Funding is another major challenge, given the lack of a dedicated funding source for transit and a very tight budget situation at the state and local levels. In spite of these challenges, Metro Transit continues to rank highly when compared to other transit systems and other urban areas of comparable size. The following paragraphs highlight and expand on the issues and trends relevant to transit in the Madison Urban Area.



Metro Transit West Transfer Point

EXISTING TRANSIT SERVICE AND TRENDS

Fixed-Route Service

Metro Transit provides bus service on regular routes and schedules, providing local, commuter, and circulator service. Metro utilizes a timed transfer point system at four transfer points. The Capitol Square also serves as an informal transfer point. Most routes continue to be oriented to serve the downtown and UW campus areas where the vast majority of riders are destined, particularly during weekday peak hours. “Core” routes operate in high-volume corridors through the downtown/UW campus area between the transfer points, and provide all-day service. “Commuter” routes provide direct weekday peak-hour service from residential areas to central and peripheral employment centers, overlapping with significant portions of the core routes. Some provide faster, limited-stop service. “Peripheral” routes connect outlying residential neighborhoods with the transfer points for access to the core and connecting routes. Some operate only during off-peak and weekend times when direct commuter service is not available. “Connecting” routes connect the transfer points and major peripheral activity centers, providing direct cross-town service (e.g., South to West Side). “Circulator” routes operate within the UW campus, downtown, and central neighborhoods.

Metro’s service area is 63 square miles. The Monona transit service area covers another 1.6 square miles not served by Metro. Approximately 95 percent of the City of Madison’s 2000 population was served by a Metro route, while 81 percent of the City of Middleton population was served. Around one-half of Fitchburg residents were served. Volume I, [Map 3-5](#), at the end of this chapter, illustrates the fixed-route transit network and the weekday service area.



Excerpt from Madison Metro Transit Bus Route Map



In 2003, Metro had 45 regular weekday routes with 167 buses operated in maximum peak-period service. There were 17 weekend routes. On weekdays while school was in session, Metro provided a total of 1,200 scheduled revenue hours of service on regular routes. A total of 487 scheduled hours of service were provided on Saturdays and 431 on Sundays. From 2000–2003, the number of overall service hours was reduced each year to improve efficiency and achieve a more financially sustainable level of service. The 2003 total still represented a 13 percent increase over 1997 prior to implementation of the transfer point system (See Table 2, below).

Table 2: Metro Fixed-Route Transit System Annual Service Levels and Ridership 1998-2003

	Year					
	1998	1999	2000	2001	2002	2003
Transit Service Area Population ¹	233,400	233,400	233,400	233,400	233,400	233,400
Transit Service Levels						
Revenue Vehicle Hours Operated	344,204	393,883	385,072	373,331	363,095	356,137
Revenue Vehicle Miles Operated	4,239,437	4,738,493	4,792,120	4,654,434	4,560,152	4,515,478
Number of Vehicles Operated in Maximum Service	141/157 ²	159	166	166	167	167
Transit Ridership and Service Utilization						
Total Passengers	10,097,867	10,110,441	10,065,495	10,210,834	10,895,089	10,934,125
Passengers per Capita	43.26	43.32	43.13	43.75	46.68	46.85
Passengers per						
Revenue Vehicle Hour	29.3	25.7	26.1	27.4	30.0	30.7
Revenue Vehicle Mile	2.38	2.13	2.10	2.19	2.39	2.42

Source: Metro FTA National Transit Database (NTD) Reports and Madison Area MPO

¹Based upon 2000 Census data. Updated population figures by small area not available.

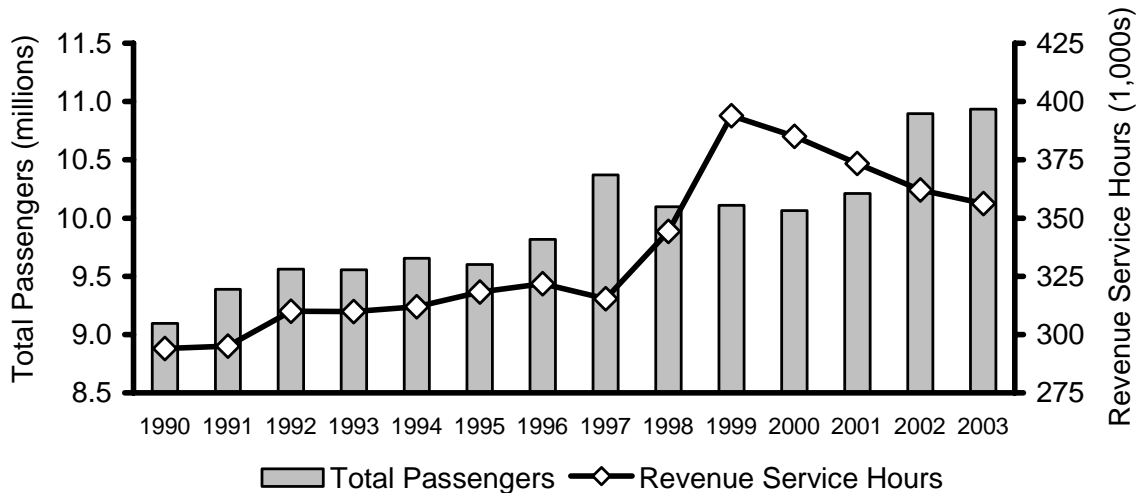
²First number is prior to and second number is after implementation of the transfer point system in August 1998.



Ridership

Since an inevitable period of adjustments with the new transfer point system in 1998–99, ridership has increased and service efficiency has improved. As illustrated by Figure 5, below, the overall ridership trend has been positive since 1990. In 2003, total ridership was 10.93 million, the highest total since 1986. Metro carried 30.7 passengers per revenue service hour. Most of the increase in ridership over the past few years has been on the commuter routes and the UW-Madison campus route. Starting in 2002, the UW began offering free service for students. Table 2 on the previous page shows service level and ridership statistics for 1998–2003.

Figure 5: Madison Metro Fixed-Route Ridership and Service Hours



Source: Madison Area Metropolitan Planning Organization, 2004

Metro Paratransit Service

Metro provides paratransit service on a demand responsive, advance reservation basis for persons who are unable to use Metro’s regular fixed-route service. Persons must be certified as eligible to receive the service in accordance with guidelines established by the Americans with Disabilities Act (ADA). Service is provided within three-quarters of a mile on each side of regular routes, excluding commuter routes, and is provided during the same hours that the fixed-routes operate. The service is provided door-to-door or curb-to-curb, depending upon the passenger’s needs. Metro provides directly operated service on weekdays, but subcontracts with private providers for weeknight and weekend service and other service that it does not have the capacity to handle.



Specialized Transportation Services

The Adult Community Services Division of the Dane County Department of Human Services (DCHS) administers several accessible routed group ride and demand-responsive services for the elderly and persons with physical or developmental disabilities in the metro area and countywide. DCHS contracts with private providers for these services. The services are generally provided as a supplement to Metro service for persons residing or traveling outside Metro’s service area, and transport people to necessary support and medical services, jobs, and training.

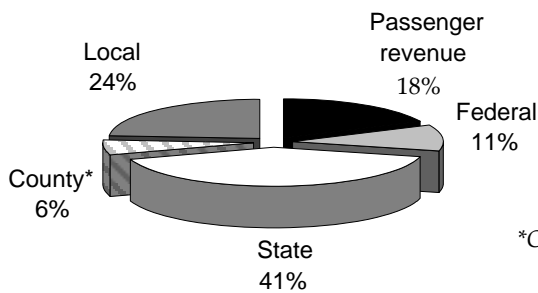
Using volunteer drivers in private vehicles, the Retired Senior Volunteer Driver Escort Program (RSVP) provides individual, and in a few cases, small group rides for the elderly when other options are not available. Most trips are for medical purposes, which is the highest priority. The City of Madison, Dane County, UW-Madison, and various non-profit organizations provide program-specific transportation services, which are targeted primarily at low-income persons.

Transit Service Operating Costs and Revenues

As with all modes of transportation, the cost of public transit service is not paid for by transit users alone, but is supplemented by public funding. In addition to transit passenger fares, Metro relies on federal, state, and local funding to cover the costs of operating the transit system. Since 1997, local funding increases have not kept pace with the increase in operating costs due to the implementation of the transfer point system and inflationary cost increases. Federal funding (including pass-through Medical Assistance funds from the county) and state funding increases have made up the difference. Passenger revenue has actually declined slightly since 1997. Consequently, discounted fares - which account for the bulk of revenue and haven’t increased as much as cash fares - were raised in January 2004.

Figure 6, below, illustrates the 2003 percentage distribution of operating revenue source for the Metro transit system.

Figure 6: Metro Transit Operating Revenue Source Distribution for 2003



*County funds consist primarily of pass-through federal Medicaid Waiver Program and State S. 85.21 Program funding.

Source: Madison Area Metropolitan Planning Organization, 2004



Table 4, below, shows operating costs, revenues, and deficits for Metro’s fixed-route system from 1998-2003. From 1998–2003, the average annual increase in the operating expense per vehicle hour for Metro’s fixed-route system was 3.1 percent compared to an annual average inflation rate of 2.5 percent. In 2003, the expense per vehicle hour was \$77.47, higher than average for peer systems with comparable service levels. The cost per passenger was \$2.83, which represented a 27 percent increase from 1997. Revenue per passenger has dropped from \$0.68 in 1997 to \$0.54 in 2003 due to the increasing use of discounted fares, and expansion of UW’s unlimited ride pass programs in 2002. At the same time, the pass programs and free campus bus service have boosted ridership.

Table 4: Operating Costs, Revenues and Deficits 1998 - 2003

	Year					
	1998	1999	2000	2001	2002	2003
Service Expenses and Revenue						
Operating Expenses ¹						
Total Expenses	\$25,548,528	\$27,576,045	\$28,232,128	\$28,637,012	\$30,029,568	\$30,283,752
Cost per Total Vehicle Hour	\$66.87	\$63.51	\$65.96	\$68.60	\$73.63	\$75.90
Cost per Total Vehicle Mile	\$5.15	\$5.01	\$5.09	\$5.23	\$5.59	\$5.77
Cost per Passenger	\$2.53	\$2.73	\$2.80	\$2.80	\$2.76	\$2.77
Passenger Revenue ²	\$5,862,692	\$5,621,793	\$5,821,511	\$6,308,430	\$6,172,079	\$5,910,084
Revenue per Passenger	\$0.58	\$0.56	\$0.58	\$0.62	\$0.57	\$0.54
Percent of Expenses Recovered Through Passenger Revenue	22.9%	20.4%	20.6%	22.0%	20.6%	19.5%
Operating Deficit						
Total Deficit	\$19,685,836	\$21,954,252	\$22,410,617	\$22,328,582	\$23,857,489	\$24,373,668
Deficit per Passenger	\$1.95	\$2.17	\$2.23	\$2.29	\$2.19	\$2.23

¹Excludes interest and depreciation.

²Excludes miscellaneous operating revenue (e.g., advertising).

Source: Metro FTA National Transit Database (NTD) Reports and Madison Area MPO



TRANSIT SYSTEM ISSUES

The following transit system issues have been developed as a result of staff analysis by the Madison Area MPO, staff from various City of Madison agencies and from comments received at several public outreach forums during the Comprehensive Plan development process. The need to address these issues will form the basis for the development of Comprehensive Plan objectives and policies.

Below are some of the land uses, demographic, and travel trends that will affect the future direction of the transit system:

- The majority of employment growth is on the periphery of the Madison area, but the highest employment density – a principal factor influencing transit demand – is still in the downtown/UW campus area and upper Park Street corridor (where Meriter and St. Marys Hospitals are located). The Mineral Point Road corridor also has a high concentration of employment.
- The population in the metropolitan area continues to become more dispersed as suburban communities grow at a faster rate. As a result, commuting into the City of Madison and the greater Madison area continues to grow.
- While the numbers are small, “reverse” commuting from Madison is also growing, and may improve the viability of Commuter Transit Service between suburban communities and Madison in the future.
- While there are concentrations of more transit-dependent population groups (e.g., low-income and households without cars, students, persons with a mobility limitation) in some areas, such as on Madison’s North and South sides, large numbers of these groups are located throughout the metro area.
- Travel trends continue to favor driving. The percentage share of City of Madison commuters driving alone to work increased from 61 percent to 66 percent from 1990 to 2000. The number taking transit increased, however the percentage share dropped from 7.7 percent to 7.2 percent. Auto ownership remained about the same, despite reduced household size and a drop in workers per household.

Service and Capital Needs

The Madison area has an excellent and well-used transit system, comparing very favorably to systems in similarly sized areas as well as peer transit systems with similar service levels. Despite this, there are a number of unmet service needs in the current transit system, particularly in some of Madison’s peripheral areas and in suburban communities. City staff and public comments received during the planning process have reinforced the importance of meeting these needs. These include:

- Additional limited-stop commuter service to downtown/UW campus from peripheral neighborhoods and suburban communities. Numerous public comments received during the Comprehensive Plan development process have stressed the need for more express commuter bus services.
- Improved UW campus service, including direct service from the South and West Transfer Points and a better connection between the campus route and regular City routes.
- Additional park-and-ride facilities and services.
- New high-capacity express transit service, such as commuter rail to central Madison from outlying Dane County communities and the periphery of Madison. The Transport 2020 study process is currently evaluating this type of transit service. Many members of the public expressed support for the implementation of new commuter rail services at Comprehensive Plan forums.
- New transit circulator service in central Madison and the UW campus, possibly utilizing streetcars or other smaller transit vehicles. In particular, the public outreach efforts concentrating on downtown Madison indicated a need for such services.



Metro Transit's South Transfer Station

- New/improved transit service to peripheral employment centers in Middleton, Fitchburg, the American Center on Madison's Northeast side, and Epic System's new headquarters in Verona.
- New/improved off-peak and weekend service in some neighborhoods and communities (e.g., South side, Middleton, Monona). The need for improved frequency of off-peak transit service in some corridors leading to the downtown/UW campus area was also noted at public meetings.
- Improved pedestrian and bicycle access to transit services.
- Replacement and expansion of the fixed-route and paratransit bus fleets. Many members of the public expressed a need to explore new vehicle technologies, such as cleaner buses, to help improve Madison's urban environment. In addition, the possibility of using smaller, more neighborhood-friendly, transit vehicles has been mentioned in public comment forums.
- Implementation of Intelligent Transit System (ITS) hardware, software and fare collection equipment.



Examples of hydrogen busses.



TRANSIT DEVELOPMENT PROGRAM

To address these trends and needs, the City of Madison, as the major transit operator, and the Madison Area MPO have recently prepared and approved a 2004-2008 Transit Development Program (TDP) for the Madison Urban Area. The TDP is a five-year strategic plan designed to identify the near-term future direction of the transit system. It is intended to guide the planning activities, service and facility improvements, and budgets of Metro Transit and other transit providers. Issues covered include: vehicle and other capital needs; service improvements and extensions; marketing and customer information programs; and the coordination of transit and land use planning.

Madison Area MPO staff prepares the TDP with assistance from Metro Transit staff. The new TDP updates and replaces the previous one prepared in 1998. The transit system objectives and policies contained in the Madison Comprehensive Plan are intended to help guide the development of the TDP and other detailed planning activities undertaken by Metro Transit and the Madison Area MPO.

Key service planning issues include:

1. Developing consensus on a recommended high-capacity transit (e.g., rail) facility and associated regional bus service improvements as part of the final phase of the Transport 2020 study.
2. Need to develop a financing and governance structure for regional transit service, implementing the final Transport 2020 recommendations.
3. Coordination of land use development and transit service.
4. Need to explore alternative transit service models for lower density areas on the urban fringe.
5. Coordination of different public transit and specialized transportation services.



BICYCLE SYSTEM: TRENDS AND ISSUES

INTRODUCTION

Bicycling is an important mode of transportation and recreational activity in the Madison area and throughout the County. It is available to people of all ages and socioeconomic levels. Bicycling is a particularly efficient and convenient form of transportation in urban areas. Like the automobile, bicycling provides a high degree of independence, flexibility, and freedom of choice relative to schedule and destination.

Recreational bicycling continues to be very popular. As of 2000, the Madison area had 50 miles of streets with bicycle lanes and 55 miles of off-street bicycle paths, which are popular for recreational bicyclists as well as commuters. The signed bicycle route system covered 130 miles. Rural town roads and many county trunk highways also provide excellent routes for bicycling in the county. Two major state bicycle trails—the Military Ridge Trail and Glacial Drumlin Trail—run through the county. The recently built Capital City Trail connects to the Military Ridge Trail and the John Nolen Drive/Isthmus Bicycle Paths. The final segment of the Southwest path, which connects to the Capital City Trail and John Nolen Drive path, is scheduled for construction in 2005.

TRENDS

Regional and local data on bicycle travel and the characteristics of bicyclists is limited for a number of reasons. The relatively small number of bicyclists compared to those using other transportation modes makes small-scale surveys difficult. Special area transportation studies (e.g., origin-destination surveys) have often either omitted bicycle trips or have grouped them together with walking trips. Most available data on bicycling is for work trips, however these make up a small percentage of all bicycle trips.

The U.S. Census, which is updated every 10 years, indicates that for Dane County, the number of workers age 16 years and older commuting to work by bicycle increased 6.1 percent from 3,970 in 1990 to 4,215 in 2000. City of Madison workers commuting to work by bicycle increased 7.6 percent from 3,547 in 1990 to 3,815 in 2000. In 2000, 3.2 percent of the City of Madison workers commuted by bicycle. Within the greater Isthmus Area, 7.1 percent of workers commuted by bicycle.

Volume I, [Map 3-6](#) at the end of this chapter, shows the existing major area bicycle path network and programmed projects with committed funding. A daily traffic count conducted in the summer of 2003 on the most recent bicycle path constructed—the Southwest Path connecting the Southwest side and the Capital City Trail to the UW campus—showed 1,250 people using the path at Breese Terrace with 90 percent of these bicyclists.

BICYCLE TRANSPORTATION ISSUES

The following bicycle transportation issues have been developed as a result of staff analysis by the Madison Area MPO, staff from various City of Madison agencies and from comments received at several public outreach forums during the Comprehensive Plan development process. The need to address these issues will form the basis for the development of Comprehensive Plan objectives and policies.

Facilities

The growing demand for safe bicycling facilities and routes has led to the development of guidelines and engineering techniques to specifically address the needs of bicyclists. Continued improvements in this area have been noted extensively throughout the Comprehensive Plan process, including addressing bicyclists needs in community and neighborhood planning and site design processes, providing accommodations for bicycles on roadways, creating a unique bicycle facility functional classification system, and building separate bicycle-specific facilities. The need to utilize railroad corridors for bicycle and other transportation uses has also been cited as an important way of enhancing bicycle transportation.



Issues of concern for bicyclists include: barriers (freeways) and hazards (e.g., rail crossings), lack of bicycle accommodations on existing major roadways, lack of alternatives to heavily used major roadways due to inadequate street connectivity, and lack of traffic control devices that work for bicyclists. Maintenance of bikeway facilities is also a concern due to debris accumulation and surface deterioration. Numerous public comments received during the Comprehensive Plan development process, in addition to concerns raised by City staff, have stressed the need to address these bicycle transportation issues.



Public Education

To be responsible bicyclists, riders should learn their rights and responsibilities and safe riding techniques. This knowledge is also necessary for motor vehicle drivers sharing the road with bicyclists. There is a continuous need to provide education for bicyclists and motorists, including developing and distributing bicycle maps and other informational materials, and conducting safety and training programs.

Law Enforcement

Bicycles are subject to the same rules of the road as motor vehicles with all the rights and responsibilities that follow those rules. Law enforcement agencies are operating under increasing constraints of limited budgets and personnel, while the demand for police services of all types is increasing. As a result, resources for traffic enforcement are limited, and many law enforcement officers consider enforcement of traffic violations by bicyclists and motorists a low priority.



BICYCLE TRANSPORTATION PLAN

To address these issues, the Madison Area MPO, the City of Madison, and Dane County adopted the *Bicycle Transportation Plan for the Madison Urban Area and Dane County*, dated September 2000. Specifically the plan serves to:

- Refine the Bicycle Plan Section of the adopted *Vision 2020 Dane County Land Use & Transportation Plan (1997)*, which provides the overall policy framework for development and transportation improvements within the City of Madison and Dane County.
- Provide a blueprint for continuing to improve bicycling conditions and safety, and increase bicycling levels.
- Identify desirable bicycle routes within the City of Madison and Dane County, including routes into and out of the Madison area and connections between cities and villages.
- Provide a framework for cooperation between state agencies, the county, and local governments in planning for and developing bicycle facilities.
- Educate citizens and policy-makers on bicycle transportation and the needs of bicyclists.
- Provide guidelines for planning, designing, and maintaining bicycle facilities.



OTHER TRANSPORTATION MODES: TRENDS AND ISSUES

INTRODUCTION

The following paragraphs describe some of the trends and issues regarding other modes of transportation such as walking, rail, and air transportation, or special areas of transportation such as ridesharing and parking. The issues pertaining to these other modes of transportation have been developed as a result of staff analysis by the Madison Area MPO, staff from various City of Madison agencies and from comments received at several public outreach forums during the Comprehensive Plan development process. The need to address these issues will form the basis for the development of Comprehensive Plan objectives and policies.

PEDESTRIAN TRANSPORTATION

Pedestrian movements and facilities are often overlooked in many transportation plans, yet an essential part of most trips includes walking: walking from the transit stop to work; or from the parking lot to the store; or from home to the school bus stop. For children and persons without access to a motor vehicle or with a mobility limitation, provision of safe and convenient pedestrian facilities is essential to daily activities. Volume I, [Map 3-7](#), at the end of this chapter, illustrates the area sidewalk system.

Trends

Walking for transportation purposes as opposed to recreation/exercise has declined. This is due in part to the design of neighborhoods and employment centers in most new developments, which provide few destinations within convenient walking distance of most residences and workplaces. The number of City of Madison workers (16 years and older) walking to work decreased from 13,450 to 12,755 between 1990 and 2000, but the percentage share of work-trip commuting remained around 3 percent.

The vast majority of pedestrian work trips are made by persons living in the greater Isthmus area (including UW campus) where the higher densities and mixed land uses put workplaces as well as other destinations closer to where people live. In 2000, persons residing in the greater Isthmus area accounted for 84 percent of pedestrian work trips in the City of Madison, compared to 72 percent of those in Dane County. However, as with the case for Dane County and the City of Madison as a whole, both the number and percentage of commuters in the greater Isthmus area walking to work decreased, but not by as much. The number dropped from 11,160 (31 percent) in 1990 to 10,760 (28 percent) in 2000.

The City has utilized “traffic calming” devices (e.g., traffic circles, speed humps) on local streets to reduce motor vehicle traffic speeds and/or cut-through traffic. In addition, the network of pedestrian/bicycle paths has been expanded in Madison significantly in the past ten years. These facilities often include over- or underpasses of high-volume roadways.



Issues

- Minimizing Conflicts Between Transportation Modes. Pedestrians face obstacles and conflicts with motorists when roadways and developments are designed primarily for the automobile. Even if pedestrian facilities are provided, high-speed, high-volume roadways with large intersections create barriers for pedestrians. In designing roadways, the impact that the different modes have on each other must be balanced. A large number of public comments received during the Comprehensive Plan development process have indicated a strong need for better pedestrian connectivity throughout the City, especially the need to address major pedestrian barriers. In addition, the need to create a more pedestrian-friendly environment (with amenities, traffic calming and safer intersections) has been extensively noted, particularly in downtown Madison and near-downtown neighborhoods.
- Facility Improvements. The City of Madison requires sidewalks along all public streets as part of new developments. Retrofitting existing developed areas to add sidewalks and/or curb ramps is also being done, but is a more difficult and controversial task. This issue has been noted extensively in public comments on pedestrian transportation.
- Design of Pedestrian Facilities for Persons with Special Needs. Limitations experienced by the elderly, children, and persons with a disability should be considered in the design of pedestrian and other transportation facilities. “Accessible” design is required by the Americans with Disabilities Act and can benefit able-bodied users as well. Numerous public comments received during the Comprehensive Plan development process have stressed the need for better pedestrian facilities, especially for the disabled residents that rely on them most.
- Maintenance of Pedestrian Facilities. Continued maintenance efforts are needed to assure that pedestrian areas, including bus stops, are in a usable state of repair and that snow and ice are removed in a timely manner in the winter. This concern has been stressed by City staff, as well as the general public in comments received during the Comprehensive Plan process. This is especially important for the elderly and persons with a disability in order to maintain their mobility.

- Safety, Public Education. As with bicyclists, pedestrians also commonly experience a lack of respect from motorists. Motorists tend to focus only on other motor vehicles and are not attentive to the potential presence of pedestrians, resulting in crashes at intersections, driveways, and in parking lots. Education and outreach efforts are needed to promote pedestrian safety and awareness. A special area of pedestrian concern is on the UW campus, where members of the public and the UW have indicated a need to address pedestrian/moped conflicts.
- Traffic Enforcement. Enforcement of laws related to pedestrians is inconsistent due to staff and financial constraints and lack of support from the public and municipal leaders. Traffic enforcement should be focused on local streets where most pedestrian/motor vehicle crashes occur. Enforcement of pedestrian facility regulations has also been noted as a need, particularly with respect to mopeds using sidewalks on the UW campus.



Moped driving through pedestrian crosswalk on UW campus.



Pedestrian crossing on UW campus at intersection of University Avenue and Charter Street.



Pedestrian crossing Franklin Street.



Pedestrians, bicyclists and moped driver at intersection of University Avenue and Lake Street on UW campus.



RAIL TRANSPORTATION

Dane County's rail corridors form a radial pattern with central Madison serving as the principal focal point. Volume I, [Map 3-8](#), at the end of this chapter, illustrates the area railroad service. Rail service to Dane County has been available for over 150 years, and, at one time, was a principal mode of transportation for both people and goods. Through the years, the automobile, truck, and airplane have partially displaced rail service and forced it into a less dominant role. Rail service is currently provided over privately owned branch line corridors by two main line operators (Canadian Pacific Rail System-Soo Division and the Union Pacific/Southern Pacific Company) and one shortline operator (the Wisconsin & Southern Railroad Company).

However, adopted plans in the region include preserving rail corridor lands throughout the county for possible future transportation uses and continuing rail freight services where needed.

Trends and Issues

- **Commuter Rail**. Currently, the City of Madison, Dane County, WISDOT, the Madison Area MPO and the University of Wisconsin are working to implement commuter rail and other transit services as part of the Transport 2020 project. The long-term transportation system vision proposed in Transport 2020 is a multi-modal system consisting of commuter rail, electric streetcars, express bus services, park-and-ride lots and improvements to local bus service. This "Full System" transit vision will represent significant progress toward meeting the regional transportation, economic development and growth management goals established at the outset of the Transport 2020 project (goals that are also reflected in the adopted plans of Dane County communities).

The first piece of this long-term transit vision to move forward will be a 13-mile commuter rail line – service that will also be supplemented by new express bus service, park and ride facilities and improved local bus services. The Start-Up System project is the first phase of an integrated multi-modal transit system for Madison and Dane County. Extensions of this system to serve many communities in Dane County are anticipated over time. Numerous public comments received during the Comprehensive Plan development process have supported the need for commuter rail in Madison and Dane County, given the limited number of roadway expansion options.



T r a n s p o r t a t i o n

- High-Speed Passenger Rail. Dane County is not directly served by or connected to Amtrak, the nation's rail passenger system. WISDOT and the National Railroad Passenger Corporation (Amtrak) completed a study in 2001 for the possible implementation of high-speed (up to 110 mph) passenger rail service in the Canadian Pacific (CP Rail) corridor between the cities of Madison and Milwaukee. Implementation of the project is dependent on federal funding, which is uncertain at this time. Currently, the closest Amtrak service access point to Dane County is in Columbus, 26 miles northeast of Madison in Columbia County.

- Rail Impacts on Residential Neighborhoods. While the existence of freight rail corridors in the City of Madison presents opportunities for future passenger rail service, the impacts such services have on existing residences will need to be addressed. Numerous public comments received during the Comprehensive Plan development process have stressed the need for increased attention to railroad noise impacts on residential neighborhoods.



- Rail Corridor Preservation. Existing rail corridors in Dane County constitute a valuable and irreplaceable resource. A large public investment is required for the acquisition and rehabilitation of these facilities. Since 1978, WISDOT has invested several million dollars to preserve rail service in the county and in Southern Wisconsin. When private rail service is discontinued, the economic well being of the region can be maintained and enhanced by working to preserve rail corridors for future transportation alternatives.



East rail corridor.

Wisconsin & Southern freight rail train at Johnson Street yards.



AIR TRANSPORTATION

The Dane County Regional Airport (DCRA) in Madison is the second-largest airport in the state, providing service to commercial air passenger and air cargo carriers, and for general aviation and the military. Twelve commercial air carriers serve the airport with over 100 scheduled flights per day, and two airfreight airlines. Major non-stop destinations are Chicago (Midway, O'Hare), Milwaukee, Minneapolis, Detroit, St. Louis, Cincinnati, Denver, Cleveland, Memphis and Newark. In Addition to the DCRA, the county is served by Morey Airport in the City of Middleton and Blackhawk Airfield in the Village of Cottage Grove. Both are general aviation airports serving smaller aircraft used for business and charter flying and for personal reasons.

Trends

- ***Increased Demand For Air Service.*** Annually, there are nearly 130,000 aircraft landings and takeoffs at the DCRA (61 percent general aviation, 34 percent commercial, and 5 percent military). In 2003, the airport had nearly 1.6 million passengers, a 5 percent increase over the record-setting passenger levels in 2002. This places the DCRA in the top 10 percent of all airports nationally in terms of percentage increase in passenger usage. In addition, over 26.5 million pounds of freight and mail passed through the airport in 2003.

Construction work on a major terminal expansion and remodeling project was begun in February 2003. The project will almost double the terminal's square footage, and is scheduled to be completed in 2005. The increased space will be used to expand the airlines' operations and commuter areas, add a baggage claim carousel, and accommodate a new commuter security checkpoint.



New construction at the Dane County Regional Airport.

Transportation

Issues

- Aircraft Noise. Although aircraft noise continues to be a concern in some parts of the metropolitan area, aircraft flight patterns at DCRA have been introduced to vary and/or reduce noise. Numerous public comments received during the Comprehensive Plan development process have stressed the need for increased attention to airport noise impacts on residential neighborhoods.

Lands within DCRA, but not needed for aeronautical uses, are being developed into industrial parks compatible with airport operations. The airport continues to acquire noise and navigation easements within the airport-affected area. The airport is also implementing a federally approved noise and land use compatibility program. This may involve intergovernmental agreements for compatible land use measures and a sales assistance easement purchase program for certain residential parcels.



New building at Truax Air Park West. Photo from the Dane County Regional Airport.

- Improved Bus Service. Metro bus service to the airport was improved in 2004. Direct weekday service is now provided from the North Transfer Point with 30-minute peak and 60-minute off-peak frequencies. Better evening and weekend service is still needed.



Metro Transit Bus Route 24 takes passengers directly from the North transfer station to the Dane County Regional Airport.



RIDESHARING

An important transportation demand management (TDM) initiative in Dane County is the Madison Area MPO's Rideshare, Etc. program, which provides information and assistance to commuters interested in an alternative means of transportation. The program includes a ride-matching service for callers to the information number (266-RIDE), utilizing a computerized database of over 2,000 commuters interested in ridesharing. Program participants are eligible for a guaranteed ride home program, providing transportation home in the event of an emergency. In addition, on-site ridesharing assistance and TDM services are provided to major employers and coordinated with Madison Metro, the State Employee Vanpool Program, Dane County, and WISDOT.

Trends

- Declining Levels of Participation. Since 1980, work-trip commuting by rideshare has gradually declined in Dane County and the City of Madison. Daily ridesharing levels for work purposes countywide stood at 32,880 in 1980, fell to 25,545 in 1990, and fell still further to 23,160 by 2000. Similarly, ridesharing levels in the City of Madison declined from 15,200 to 11,480 during the same period of time.

Issues

- Need for More Incentives and Marketing. Additional public and private resources are needed to provide financial incentives and services (e.g., guaranteed ride home) as well as for marketing and public information efforts. Employers typically provide for parking for employees without any corresponding benefit to those using an alternative mode.
- Financial and Environmental Benefits. In addition to benefits affecting roadway and parking capacity, ridesharing has direct cost savings to commuters and direct benefits to the environment. In 2003, it is estimated that the ridesharing program resulted in a reduction of 11.0 million vehicle miles of travel (VMT), 1,370 required parking spaces, and 221 tons of smog-producing hydrocarbon emissions, and savings by commuters of over \$2.7 million in commuting costs.
- Continuing Coordination of Ridesharing Activities Is Needed. The Ridesharing/TDM Coordinating Committee coordinates the Ridesharing Program with the staff contact person located in the Madison Area MPO. The Ridesharing/TDM Coordinating Committee guides development of the program in accordance with area goals and objectives – which encourages strategies for increasing vehicle occupancy through carpooling, vanpooling, and mass transit use, especially for trips to work, school, and other destinations at times when the transportation system is overloaded. Areas of special emphasis, needing continued coordination and expansion, are the employer-sponsored ridesharing program and the telephone name-matching program.

PARKING

As travel and parking needs have increased, there has been recognition of the constant need to better manage transportation and parking facilities (both auto and bicycle parking), to minimize the amount of valuable land needed for travel and parking purposes, and to minimize the public investments which may be required for transportation purposes. 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 areas, and the encouragement of public transit system usage to meet peak travel needs. In Dane County, the most critical parking situation occurs in central Madison, including the UW-Madison campus.

Trends

- Rising Demand for Peak Time Parking in Central Madison. Peak time parking demand in central Madison is affected by roadway and parking facility capacities. Peak time traffic in the downtown area is currently at capacity in many locations. Due to the physical limitations of the Isthmus, roadway capacity cannot be greatly increased without producing substantial negative impacts for surrounding neighborhoods and incurring high costs to construct new streets and widen existing streets in built-up areas.

Some public on-street and the majority of public off-street parking facilities in the central area are at or above capacity during weekday peak periods. The shortage of parking has been cited as a deterrent in filling vacant office space in the West Washington Avenue corridor. Current local parking policy is directed toward meeting the needs of people who drive downtown and park for short periods of time (for shopping, dining, using services), and encouraging commuters that do not use their automobiles during the day to use public transit and other alternative modes of transportation.



The City's Government East parking structure is often full by 8:30 a.m. during the workweek.



The United Way parking lot in the Schenk-Atwood Business District used by the public after office hours.



Issues

- Managing Central Area Parking Supply and Cost. A balance should be achieved between parking policies that discourage long-term parking on the one hand, and providing adequate parking that is not too expensive in order to maintain downtown as a retail and employment center and for the University to attract employees. Numerous public comments received during the Comprehensive Plan process support achieving this balance.
- Parking Supply and Madison Development/Redevelopment. Numerous staff and public comments from the Comprehensive Plan process also reinforced the need to construct and maintain parking facilities as part of an integrated strategy for urban development and redevelopment. This includes balancing desired land use densities with resulting parking demands and considering the impacts this parking will have on the pedestrian environment. On-street parking in residential areas near employment and commercial sites should also strike a balance between providing resident parking and providing overflow commercial and employee parking.
- Parking Facility Design. Structured parking allows for development densities and site designs that support good transit service and other alternative modes, although it is more expensive than surface parking to build. Public comments consistently indicated the need to pursue structured parking, where additional parking is deemed necessary.
- Changing the Perception of Downtown Parking Costs and Availability. There is a widespread perception that parking is not available and/or affordable for the short-term user in central Madison. (In reality, spaces are available at most locations, and a differential rate structure has been established to discourage long-term parking; thus freeing more spaces for short-term users). Strategic and frequent marketing is needed to inform the Madison community that parking is available and affordable for the short-term user in central Madison.