

WAUKESHA COUNTY TRANSIT SYSTEM DEVELOPMENT PLAN: 2002—2006

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COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 245

**WAUKESHA COUNTY TRANSIT SYSTEM
DEVELOPMENT PLAN: 2002-2006**

Prepared by the

Southeastern Wisconsin Regional Planning Commission
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Waukesha, Wisconsin 53187-1607

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Chapter I

INTRODUCTION

At the request of Waukesha County, the Regional Planning Commission has prepared this new short-range transit system development plan for the County. The last short-range plan prepared by the Commission for the County covered the period from 1988 through 1992. The new plan was needed in order for the transit system to respond to changes in residential, industrial, and commercial development occurring in Waukesha County, in particular as such changes affected the need for workers to fill job vacancies in the County. The plan was also needed to identify actions to assure continued coordination between the Waukesha County system and connecting bus services operated by Milwaukee County and the City of Waukesha, as well as to respond to recent changes in State and Federal funding programs.

This Waukesha County transit planning study was carried out within the context of the continuing regional transportation planning program. It was begun following the completion and adoption by the Commission of a regional transportation system plan with a design year 2020.¹ That plan includes a public transit element recommending significant improvement and expansion of transit service in the Region over a 22-year period. Specific recommendations pertaining to Waukesha County are illustrated on Map 1 and include: improved and expanded rapid transit connections to Milwaukee and through Milwaukee to the other urban centers of Southeastern Wisconsin; improved express transit service between the City of Waukesha and eastern Waukesha County and central Milwaukee; and improved and expanded local bus service to residential, commercial, and industrial development in the eastern portion of the County, the greater Waukesha area, and the western portion of the IH 94 east-west corridor. More specifically, the regional plan recommends:

- The provision of rapid transit service² between Waukesha County and the Milwaukee central busi-

ness district (CBD). The plan envisions that new or restructured rapid transit service would be provided over the area freeway system and major surface arterials by up to nine bus routes designed to serve both traditional commuter travel from Waukesha County residences to jobs in Milwaukee County, as well as reverse commute travel from Milwaukee County residences to jobs in Waukesha County. The routes would include: one route originating in Germantown in Washington County and also serving the Menomonee Falls area; two routes originating in Oconomowoc and also serving the Nashotah, Hartland, Delafield, and Pewaukee areas; one route originating in Sussex and also serving the Pewaukee area; two routes originating in Waukesha; two routes originating in Brookfield; and one route originating in Mukwonago and also serving the New Berlin area. Bi-directional service would be provided during weekday peak periods on all routes at headways of 20 to 30 minutes, and during off-peak periods on one route between the Waukesha and Milwaukee CBDs at headways of 30 to 60 minutes. Connections in the Milwaukee CBD and in western Milwaukee County would be available via express and local service to locations within Milwaukee County and via other rapid services to all urban centers in Southeastern Wisconsin. Connections would also be available in the Waukesha County via local service to major employment centers.

- The provision of express bus service³ connecting the City of Waukesha with the Blue Mound Road

spaced stops. Such service can be provided by buses operating in mixed traffic on freeways or over exclusive grade-separated busways; by light rail operating over exclusive, though not grade-separated, rights-of-way; and by commuter rail and "heavy" rail operating over exclusive, grade-separated rights-of-way.

¹See SEWRPC Planning Report No. 46, A Transportation System Plan for the Southeastern Wisconsin Region: 2020, December 1997.

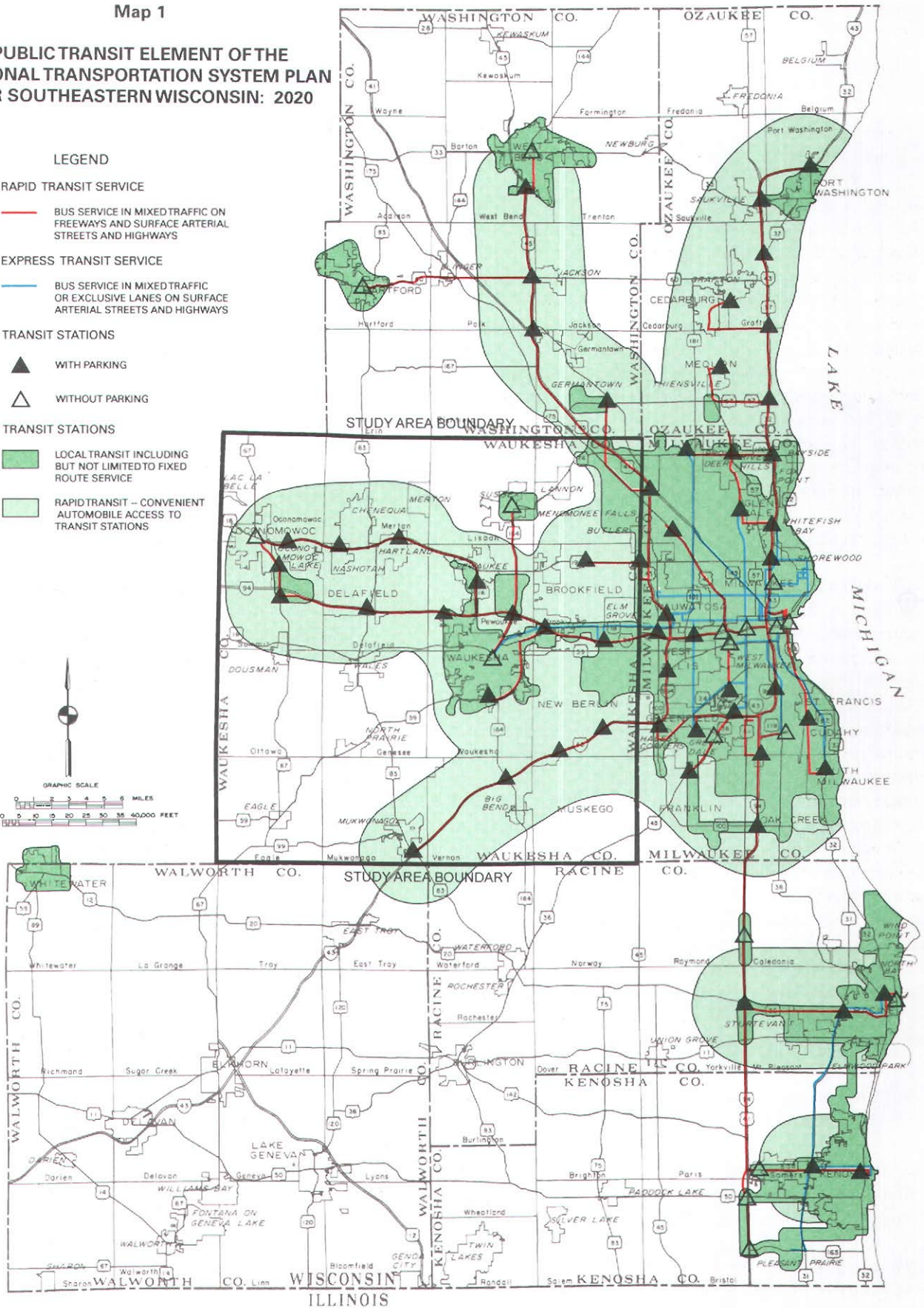
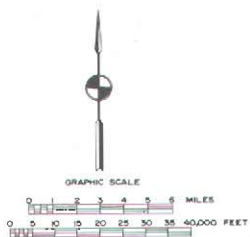
²Rapid transit service provides fast and convenient transportation for long trips in heavily traveled corridors and between major activity centers and high density residential concentrations, and is characterized by relatively high operating speeds and widely

³Express transit service serves trips of moderate length and is characterized by operating speeds that are somewhat slower than for rapid transit, and stops that are located one-quarter mile or less apart at intersecting transit routes, intersecting arterial streets, and major traffic generators. Such service can be provided by bus or light rail operating in mixed traffic on shared rights-of-way.

Map 1

**PUBLIC TRANSIT ELEMENT OF THE
REGIONAL TRANSPORTATION SYSTEM PLAN
FOR SOUTHEASTERN WISCONSIN: 2020**

- LEGEND**
- RAPID TRANSIT SERVICE**
- BUS SERVICE IN MIXED TRAFFIC ON
FREEWAYS AND SURFACE ARTERIAL
STREETS AND HIGHWAYS
- EXPRESS TRANSIT SERVICE**
- BUS SERVICE IN MIXED TRAFFIC
OR EXCLUSIVE LANES ON SURFACE
ARTERIAL STREETS AND HIGHWAYS
- TRANSIT STATIONS**
- ▲ WITH PARKING
- △ WITHOUT PARKING
- TRANSIT STATIONS**
- LOCAL TRANSIT INCLUDING
BUT NOT LIMITED TO FIXED
ROUTE SERVICE
- RAPID TRANSIT - CONVENIENT
AUTOMOBILE ACCESS TO
TRANSIT STATIONS



Source: SEWRPC.

Milwaukee CBD, and the University of Wisconsin-Milwaukee. The proposed express route would operate principally over Moreland Boulevard, Blue Mound Road, Wisconsin Avenue, Prospect and Farwell Avenues, and Downer Avenue, with service provided over the Waukesha County segments at headways of 15 minutes during weekday peak travel periods and 30 to 60 minutes during off-peak periods. Stops along the route would include rapid transit stations in both the Cities of Waukesha and Brookfield. The route would connect with other local and express routes to serve individuals traveling to major trip generators in Milwaukee County and eastern Waukesha County.

- The improvement and expansion of the existing local bus services⁴ provided by the Waukesha County transit system and the City of Waukesha Metro Transit System. Service improvements would include route extensions, expansion of service periods, more frequent service for existing routes, and new services directed at providing access from Milwaukee County or the City of Waukesha to employment concentrations located primarily in the eastern tier of townships immediately adjacent to Milwaukee County and in the IH 94 east-west corridor. Areas targeted for enhanced or new service included large industrial parks or employers located in northern and southern Menomonee Falls, Butler, northeastern Brookfield, New Berlin, and the Waukesha-Pewaukee area, and corridors with significant concentrations of retail and service jobs located in northeastern Brookfield along Capitol Drive and N. 124th Street, in Brookfield and Waukesha along Blue Mound Road, in New Berlin along National Avenue, and in northeastern Menomonee Falls along Appleton Avenue and Main Street. Smaller concentrations of employment in industrial parks and commercial centers located in Sussex, Delafield, and Oconomowoc were also targeted for limited service. Service extensions to serve residential developments on the developing fringe of the City of Waukesha, in the Village of Pewaukee, and in the Town of Waukesha would also be made.

⁴Local transit service is characterized by a high degree of accessibility and low operating speeds. Such service is provided over arterial and collector streets by bus, trolley, or light rail vehicles operating on a fixed schedule with frequent stops located two to three blocks apart over the entire route, as well as by shared-ride taxicab operating on a demand responsive basis.

This Waukesha County transit system development plan was designed to consider, and refine and detail, an initial stage of implementation of the adopted regional transportation plan. The plan considered transit system development principally as needed to serve travel for work commuting between Waukesha and Milwaukee Counties and between individual communities in Waukesha County. The plan is short-range in nature, covering the period 2000 through 2004, and is based on a thorough evaluation of the performance of the existing transit system operated by Waukesha County; analyses of the travel habits, patterns, and needs of both County residents and individuals commuting to jobs in the County; analysis of the transportation needs of existing land use patterns and major land use developments which have been proposed for or are occurring within Waukesha County, with particular attention given to identifying concentrations of employment and associated transit needs for work commuting; and a careful evaluation of alternative courses of action for providing new or improved commuter transit services. The plan also identifies the financial commitment and actions necessary to implement the plan.

Importantly, the plan does not address local transit service needs within individual communities. The County has placed the responsibility for the development of local transit services focusing on a single community with the individual community. By way of example, the City of Waukesha is responsible for the development, operation, and funding of the Waukesha Metro Transit System serving the City and immediate environs. The Commission prepared an updated short-range transit system development plan for the City transit system concurrent with the preparation of the new County transit system plan. The recommendations of the two plans were coordinated by the Commission with respect to jurisdictional responsibilities, routes and service areas, service schedules and fares, and funding. The County plan also does not address the countywide transit service needs of the County's elderly and disabled population. The nature of the travel needs of these population groups can be more appropriately addressed under a special study like the study of elderly and disabled transportation needs completed by the Commission for the County in 1992.⁵

STUDY PURPOSE

This transit system development plan was intended to serve the following purposes:

⁵See SEWRPC Memorandum Report No. 71, A Specialized Transportation Plan for Elderly and Disabled Persons within Waukesha County, June 1992.

1. To evaluate the effectiveness of the existing route structure and schedules, along with the financial performance, of the current County transit system;
2. To identify, evaluate, and recommend potential transit service improvements which would:
 - a. Address the recent changes in urban development which have occurred in Waukesha County;
 - b. Provide for coordination with other public transit services, in particular those operated by the City of Waukesha Metro Transit System and the Milwaukee County Transit System;
 - c. Represent the initial implementation stage of the transit recommendations for Waukesha County contained in the Commission's adopted design year 2020 regional transportation system plan;
3. To develop appropriate responses to recent changes in State and Federal funding programs in order to assure adequate financing of existing and planned transit services; and
4. To provide a sound basis for monitoring the implementation status of the plan and the updating required to maintain a valid plan through the five-year planning period.
5. The design of alternative transit service changes which could address the problems and deficiencies that were identified;
6. The evaluation of the proposed alternative transit service changes;
7. The selection and documentation of a recommended plan; and
8. The identification of the actions which must be taken by Waukesha County to implement the recommended transit service in an orderly and timely manner.

STUDY AREA

The study area considered in this report consisted of Waukesha County. The study area included all of the area within Waukesha County served by the County's fixed-route transit system in January 1999. As the County's transit system is primarily designed to transport passengers between Waukesha and Milwaukee Counties, the plan was developed cognizant of intercounty transit travel and service needs. As necessary, the analyses considered certain major transit trip generators located in Milwaukee County including, in particular, the Milwaukee central business district and the University of Wisconsin-Milwaukee.

STUDY ORGANIZATION

The preparation of this transit system development plan was a joint effort by the staffs of Waukesha County and the Southeastern Wisconsin Regional Planning Commission. Additional staff assistance was obtained from certain other agencies concerned with transit development in Waukesha County, including the Wisconsin Department of Transportation.

To provide guidance to the technical staffs in the preparation of this plan, and to involve concerned and affected public officials and citizen leaders more directly and actively in the development of transit service policies and improvement proposals, Waukesha County acted in August, 1998, to create a Waukesha County Public Transportation Advisory Committee. The full membership of the Committee is listed on the inside front cover of this report.

SCHEME OF PRESENTATION

After this introductory chapter, seven chapters present the findings of the major inventories and analyses

SCOPE OF WORK

The scope of work for preparing the new transit system development plan involved eight specific steps as follows:

1. Study organization, including the appointment by the County of an advisory committee to guide the study effort;
2. The formulation of appropriate transit service development objectives and supporting performance standards;
3. The collation and collection of the socioeconomic, land use, and travel habit and pattern data pertinent to the evaluation of the existing and proposed transit services;
4. The analysis of the operation of the existing transit system, including the identification of any potential deficiencies in that system;

conducted under the planning effort, and describe the plan recommendations. The specific chapters consist of:

Chapter II, "Land Use and Travel Patterns," which describes the land use, demographic, and economic characteristics of, and the travel habits and patterns in, the County; Chapter III, "Existing Public Transit System," which describes the public transit system serving travel between Waukesha and Milwaukee Counties and between communities within the County as that system existed in April 1999, along with other major transit services presently available within the County;

Chapter IV, "Public Transit Service Objectives and Standards," which sets forth a set of transit service objectives and supporting performance standards and design criteria;

Chapter V, "Evaluation of the Existing Transit System," which describes how well the existing County transit system meets the objectives and standards, thereby identifying service-related problems and deficiencies;

Chapter VI, "Alternative and Recommended Transit Service Improvements," which identifies, describes, and evaluates the alternative transit service improvements for the County;

Chapter VII, "Recommended Transit System Development Plan," which sets forth a detailed description of the transit service improvements recommended by the Advisory Committee; and

Chapter VIII, "Summary and Conclusions," which provides a brief overview of the significant findings and recommendations of the study.

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Chapter II

LAND USE AND TRAVEL PATTERNS

INTRODUCTION

In order to evaluate the existing transit services in Waukesha County and to identify the potential need for improvements in transit service, it is necessary to consider those factors which affect, or are affected by, the provision of transit service. These factors include the extent of urban development in the County; the size, distribution, and characteristics of the resident population; and employment, or the location of jobs. In addition, the travel habits and patterns associated with the population, employment, and land use distribution within the County must also be considered. This chapter presents the results of an inventory of these important factors.

POPULATION AND EMPLOYMENT

General Population Characteristics

The resident population levels in Waukesha County and the Southeastern Wisconsin Region from 1960 through 1997 are set forth in Table 1. Table 2 sets forth population data for the County by municipality for the same period. Map 2 shows the distribution of the resident population of the County in 1990. Table 3 indicates the historic changes in the number of households in the County and the Southeastern Wisconsin Region from 1960 through 1997. The following observations relevant to transit service may be made on the basis of an examination of this information:

- Between 1960 and 1997, the resident population of the County increased by about 116 percent, compared with a growth in population in the Region of about 21 percent. In terms of absolute population change, the County experienced the largest total population increase among the seven counties in the Region over this period as well as during each decade since 1960.
- Most of the population growth from 1960 through 1997 occurred in the eastern portion of the County. Of the 183,100 new residents of the County between 1960 and 1997, about 112,300, or about 61 percent, resided in the approximate eastern one-third of the County. This area has also seen most of the population growth in the most recent years. Of the 36,600 new residents of the County between 1990 and 1997, about 22,200, or about 61 percent, resided in this area.

- Although the eastern, urbanized portion of the County has experienced the largest absolute population growth, significant population growth has occurred in the small urban and rural communities in the western portion of the County. These areas have experienced the largest population increases on a relative basis.
- The number of households in the County increased by about 197 percent from 1960 to 1995, about 70 percent faster than the resident population increase. The average household size within the County, consequently, decreased from about 3.7 persons per household in 1960 to about 2.7 persons per household in 1997. These trends mirrored those for the Region as a whole.

Transit-Dependent Population Characteristics

Certain segments of the population may be expected to have a greater dependence on, and make more extensive use of, public transit than the population as a whole because they have more limited access to the automobile as a mode of travel. Two such "transit-dependent" population groups were identified for this study: persons in low-income households, and households with no vehicle available. Information about these transit-dependent groups in the County was obtained from U. S. Census data. Table 4 sets forth the historic levels of these groups within the County from 1960 to 1990. To facilitate identification of areas with concentrations of these groups, the 1990 Census data for these groups were examined by the municipality within the County, as set forth in Table 5. Table 6 sets forth the average number of vehicles available to persons age 16 and over in the County by municipality in 1990. The information in these tables lead to the following conclusions:

- Since 1960, both the population residing in low-income households and the number of zero-auto households have increased somewhat in terms of absolute numbers. Between 1960 and 1990, the number of persons residing in low income households has increased from about 9,100 to about 9,400 persons, or by about 2 percent, while zero auto households have increased from about 2,900 to about 3,800 households, or by about 32 percent. However, both groups have declined on a relative basis. In 1990, these groups represented from 3 to

Table 1

HISTORICAL POPULATION LEVELS FOR WAUKESHA COUNTY AND THE SOUTHEASTERN WISCONSIN REGION: 1960-1997

County	Total Population									
	1960		1970		1980		1990		1997 ^a	
	Number	Percent of Region	Number	Percent of Region	Number	Percent of Region	Number	Percent of Region	Number	Percent of Region
Kenosha	100,615	6.4	117,917	6.7	123,137	7.0	128,181	7.1	140,100	7.4
Milwaukee	1,036,041	65.9	1,054,249	60.0	964,988	54.7	959,275	53.0	958,400	50.4
Ozaukee	38,441	2.4	54,461	3.2	66,981	3.8	72,831	4.0	79,500	4.2
Racine	141,781	9.0	170,838	9.7	173,132	9.8	175,034	9.7	186,500	9.8
Walworth	52,368	3.3	63,444	3.6	71,507	4.0	75,000	4.1	82,900	4.4
Washington	46,119	2.9	63,839	3.6	84,848	4.8	95,328	5.3	110,600	5.8
Waukesha	158,249	10.1	231,335	13.2	280,203	15.9	304,715	16.8	341,300	18.0
Region	1,573,614	100.0	1,756,083	100.0	1,764,796	100.0	1,810,364	100.0	1,899,300	100.0

County	Change in Population									
	1960-1970 ^a		1970-1980		1980-1990		1990-1997		1960-1997	
	Absolute	Percent	Absolute	Percent	Absolute	Percent	Absolute	Percent	Absolute	Percent
Kenosha	17,302	17.2	5,220	4.4	5,044	4.1	11,919	9.3	39,485	39.2
Milwaukee	18,208	1.8	-89,261	-8.5	-5,713	-0.6	-875	-0.1	-77,641	-7.5
Ozaukee	16,020	41.7	12,520	23.0	5,850	8.7	6,669	9.2	41,059	106.8
Racine	29,057	20.5	2,294	1.3	1,902	1.1	11,466	6.6	44,719	31.5
Walworth	11,076	21.2	8,063	12.7	3,493	4.9	7,900	10.5	30,532	58.3
Washington	17,720	38.4	21,009	32.9	10,480	12.4	15,272	16.0	64,481	139.8
Waukesha	73,086	46.2	48,868	21.1	24,512	8.7	36,585	12.0	183,051	115.7
Region	182,469	11.6	8,713	0.5	45,568	2.6	88,936	4.9	325,686	20.7

^aWisconsin Department of Administration estimates.

Source: U. S. Bureau of the Census; Wisconsin Department of Administration; and SEWRPC.

4 percent of the County's total resident population, while in 1960 these groups represented from 6 to 7 percent of the total population.

- The highest absolute numbers of these two transit-dependent groups in 1990 were found within the City of Waukesha. Approximately 36 percent of the County's low-income population, and 42 percent of the County's zero-auto households, lie within the City of Waukesha. That City accounted for only about 19 percent of the County's total population. While not approaching the absolute numbers found in the City of Waukesha, several communities had concentrations of both groups which were above the countywide average as a percent of total population. These communities included: the City of Oconomowoc; the Villages of Butler, Eagle, and Lannon; and the Town of Summit.
- As indicated by the low proportion of households in the County with no automobile available, most of the resident household population in the County may have access to a vehicle which reduces their potential dependence on transit. Another way to

consider household vehicle availability in assessing the potential need for transit is to determine the number of vehicles available in relation to the size of the population 16 years of age or older, or each potential licensed driver. Where the number of persons 16 years of age or older significantly exceeds the number of vehicles available, such ratios would be low, indicating a higher potential need for transit. The ratio of vehicles available to persons 16 years and older was 0.95 in the County in 1990. Of the eight municipalities which had a ratio lower than that of the County, only the Cities of Oconomowoc and Waukesha and the Villages of Butler, Dousman, and Pewaukee had ratios below 0.90.

Employment Characteristics

Employment trends in the County from 1960 through 1997 are set forth in Table 7. The distribution of jobs in the County in 1990 by U. S. Public Land Survey quarter-section is shown on Map 3. To supplement the Commission's 1990 quarter-section employment data, individual employers with 50 or more employees at one worksite in 1997 were identified and their locations plotted

Table 2

RESIDENT POPULATION OF WAUKESHA COUNTY BY CIVIL DIVISION: 1960-1997

Civil Division	Population					Change in Population									
						1960-1970		1970-1980		1980-1990		1990-1997		1960-1997	
	1960	1970	1980	1990	1997 ^a	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Cities															
Brookfield	19,812	32,140	34,035	35,184	37,000	12,328	62.2	1,895	5.9	1,149	3.4	1,816	5.2	17,188	86.8
Delafield ^b	2,334	3,182	4,083	5,347	6,200	848	36.3	901	28.3	1,264	31.0	853	16.0	3,866	165.6
Muskego	8,888	11,573	15,277	16,813	20,500	2,685	30.2	3,704	32.0	1,536	10.1	3,687	21.9	11,612	130.6
New Berlin	15,788	26,937	30,529	33,592	36,400	11,149	70.6	3,592	13.3	3,063	10.0	2,808	8.4	20,612	130.6
Oconomowoc	6,682	8,741	9,909	10,993	11,700	2,059	30.8	1,168	13.4	1,084	10.9	707	6.4	5,018	75.1
Pewaukee	5,797	7,551	8,922	9,339	11,800	1,754	30.3	1,371	18.2	417	4.7	2,461	26.4	6,003	103.6
Waukesha	30,004	40,258	50,365	56,894	61,400	10,254	34.2	10,107	25.1	6,529	13.0	4,506	7.9	31,396	104.6
Villages															
Big Bend	797	1,148	1,345	1,299	1,300	351	44.0	197	17.2	-46	-3.4	1	0.1	503	63.1
Butler	2,274	2,261	2,059	2,079	2,100	-13	-0.6	-202	-8.9	20	1.0	21	1.0	-174	-7.7
Chenequa	445	642	532	601	600	197	44.3	-110	-17.1	69	13.0	-1	-0.2	155	34.8
Dousman	410	451	1,153	1,277	1,500	41	10.0	702	155.7	124	10.8	223	17.5	1,090	265.9
Eagle	620	745	1,008	1,182	1,300	125	20.2	263	35.3	174	17.3	118	10.0	680	109.7
Elm Grove	4,994	7,201	6,735	6,261	6,200	2,207	44.2	-466	-6.5	-474	-7.0	-61	-1.0	1,206	24.1
Hartland	2,088	2,763	5,559	6,906	7,800	675	32.3	2,796	101.2	1,347	24.2	894	12.9	5,712	273.6
Lac La Belle	276	227	289	258	300	-49	-17.8	62	27.3	-31	-10.7	42	16.3	24	8.7
Lannon	1,084	1,056	987	924	1,100	-28	-2.6	-69	-6.5	-63	-6.4	176	19.0	16	1.5
Menomonee Falls	18,276	31,697	27,845	26,840	29,300	13,421	73.4	-3,852	-12.2	-1,005	-3.6	2,460	9.2	11,024	60.3
Merton	407	646	1,045	1,199	1,500	239	58.7	399	61.8	154	14.7	301	25.1	1,093	268.6
Mukwonago	1,877	2,367	4,014	4,464	5,600	490	26.1	1,647	69.6	450	11.2	1,136	25.4	3,723	198.3
Nashotah	321	410	513	567	800	89	27.7	103	25.1	54	10.5	233	41.1	479	149.2
North Prairie	489	669	938	1,322	1,500	180	36.8	269	40.2	384	40.9	178	13.5	1,011	206.7
Oconomowoc Lake	414	599	524	493	500	185	44.7	-75	-12.5	-31	-5.9	7	1.4	86	20.8
Pewaukee	2,484	3,271	4,637	5,287	7,000	787	31.7	1,366	41.8	650	14.0	1,713	32.4	4,516	181.8
Sussex	1,087	2,758	3,482	5,039	7,500	1,671	153.7	724	26.3	1,557	44.7	2,461	48.8	6,413	590.0
Wales	356	691	1,992	2,471	2,700	335	94.1	1,301	188.3	479	24.0	229	9.3	2,344	658.4
Towns															
Brookfield	1,990	3,940	4,364	4,232	6,200	1,950	98.0	424	10.8	-132	-3.0	1,968	46.5	4,210	211.6
Delafield	2,822	3,750	4,597	5,735	7,000	928	32.9	847	22.6	1,138	24.8	1,265	22.1	4,178	148.1
Eagle	1,103	1,250	1,758	2,028	2,500	147	13.3	508	40.6	270	15.4	472	23.3	1,397	126.7
Genesee	2,183	3,172	5,126	5,986	6,900	989	45.3	1,954	61.6	860	16.8	914	15.3	4,717	216.1
Lisbon	2,885	4,709	8,352	8,277	9,000	1,824	63.2	3,643	77.4	-75	-0.9	723	8.7	6,115	212.0
Merton	3,077	4,424	6,025	6,430	7,200	1,347	43.8	1,601	36.2	405	6.7	770	12.0	4,123	134.0
Mukwonago	1,579	1,930	4,979	5,967	7,000	351	22.2	3,049	158.0	988	19.8	1,033	17.3	5,421	343.3
Oconomowoc	4,465	6,010	7,340	7,323	7,700	1,545	34.6	1,330	22.1	-17	-0.2	377	5.1	3,235	72.5
Ottawa	1,092	1,698	2,795	2,988	3,500	606	55.5	1,097	64.6	193	6.9	512	17.1	2,408	220.5
Summit	3,472	3,809	4,050	4,003	4,400	337	9.7	241	6.3	-47	-1.2	397	9.9	928	26.7
Vernon	2,037	2,857	6,372	7,549	8,100	820	40.3	3,515	123.0	1,177	18.5	551	7.3	6,063	297.6
Waukesha	3,540	3,832	6,668	7,566	8,200	292	8.2	2,836	74.0	898	13.5	634	8.4	4,660	131.6
Total	158,249	231,365	280,203	304,715	341,300	73,116	46.2	48,838	21.1	24,512	8.7	36,585	12.0	183,051	115.7

^a Wisconsin Department of Administration estimates.^b Prior to incorporation in 1964, the City of Muskego existed as the Town of Muskego.^c Prior to incorporation in 1999, the City of Pewaukee existed as the Town of Pewaukee.

Source: U.S. Bureau of the Census, Wisconsin Department of Administration, and SEWRPC.

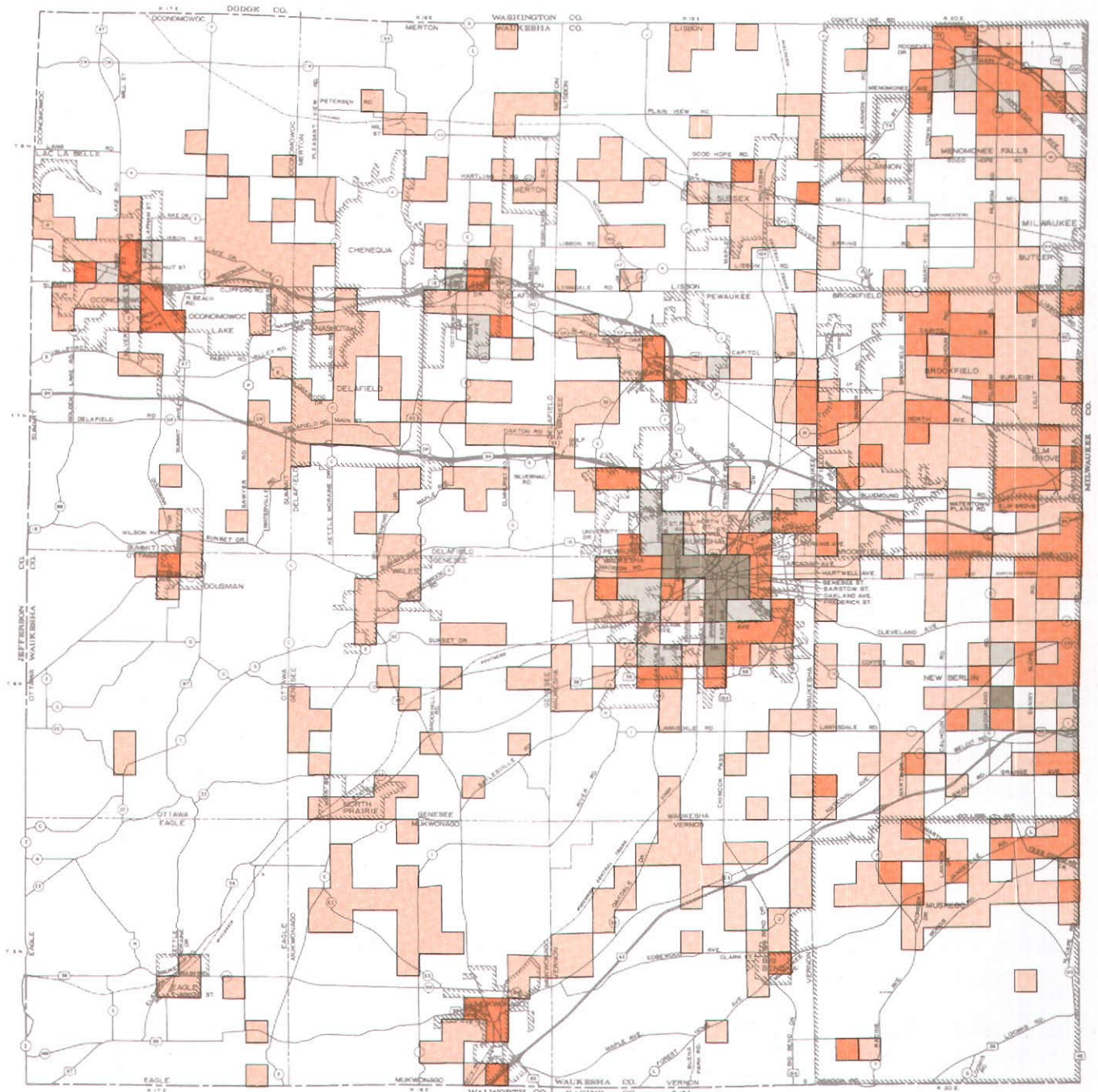
on Map 4. The following observations can be drawn from this table and these maps:

- The County experienced an overall relative increase in employment between 1960 and 1997 of about 675 percent, substantially exceeding the Region's relative increase in employment of about 75 percent during that same period. Of the total increase in the Region's employment of about 507,200 jobs during that period, about 220,000, or about 43 percent, occurred in the County. In terms of absolute gains in employment, the County has gained more employment each decade than the preceding decade since 1960. Between 1990 and 1997, about 61,100, or about 54 percent, of the regionwide increase in employment of about 113,000 jobs occurred in Waukesha County.

- At present, the highest employment concentrations in the County are found in areas of retail, office, and industrial development within: the City of Waukesha, particularly in the central business district (CBD) and industrial areas on the northeast and southwest sides of the City; the Blue Mound Road (USH 18) corridor between Springdale Road and 124th Street, particularly in the Executive Drive office development, in the immediate vicinity the Brookfield Square Shopping Center, and in the Bishop's Woods Office Park; and in the New Berlin Industrial Park. Other areas of significant employment concentrations are also found in the Butler-Menomonee Falls industrial area along N. 124th Street, W. Silver Spring Drive (CTH VV), and Lilly Road; in the northern Menomonee Falls industrial area; in the Villages of Hartland and Sussex; in the

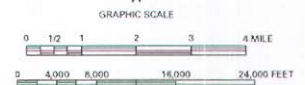
Map 2

RESIDENT POPULATION DISTRIBUTION IN WAUKESHA COUNTY: 1990



PERSONS PER U.S. PUBLIC LAND
SURVEY ONE-QUARTER SECTION

- LESS THAN 100
- 100-499
- 500-999
- 1,000-1,499
- 1,500 OR MORE



Source: SEWRPC.

Table 3

**TOTAL HOUSEHOLDS AND AVERAGE HOUSEHOLD SIZE IN WAUKESHA
COUNTY AND THE SOUTHEASTERN WISCONSIN REGION: 1960-1997**

Year	Total Households				Average Persons per Household			
	Waukesha County		Region		Waukesha County		Region	
	Number	Percent Change from Preceding Date	Number	Percent Change from Preceding Date	Number	Percent Change from Preceding Date	Number	Percent Change from Preceding Date
1960	42,394	--	465,913	--	3.66	--	3.30	--
1970	61,935	46.1	536,486	15.1	3.66	--	3.20	-0.3
1980	88,552	43.0	627,955	17.0	3.11	-15.0	2.75	-14.1
1990	105,990	19.7	676,107	7.7	2.83	-9.0	2.62	-4.7
1997 ^a	125,900	18.8	732,300	8.3	2.67	-5.7	2.54	-3.1

^aEstimated.

Source: U. S. Bureau of the Census and SEWRPC.

Table 4

HISTORIC LEVELS OF TRANSIT-DEPENDENT POPULATIONS WITHIN WAUKESHA COUNTY: 1960-1990

Year	Total Population	Total Households	Transit-Dependent Population Groups ^a			
			Persons in Low-Income Households ^b		Households with No Vehicle Available	
			Number	Percent of Total Population	Number	Percent of Total Households
1960	158,249	42,394	N/A	N/A	2,856	6.7
1970	231,335	61,935	9,137	3.9	2,929	4.7
1980	280,203	88,552	8,592	3.1	3,150	3.6
1990	304,715	105,990	9,357	3.1	3,769	3.6

Change in Total Population: 1960-1990		Change in Total Households: 1960-1990		Change in Transit-Dependent Population Groups: 1960-1990			
				Persons in Low-Income Households ^c		Households with No Vehicle Available	
Number	Percent	Number	Percent	Number	Percent	Number	Percent
146,466	92.6	63,596	150.0	220	2.4	913	32.0

NOTE: N/A indicates comparable data not available for all years.

^a All figures are based on Census information derived from sample data.

^b Represents persons residing in households with a total 1989 family income below Federal poverty thresholds.

^c Changes listed are for the period 1970 to 1990.

Source: U. S. Bureau of the Census and SEWRPC.

Table 5

TRANSIT-DEPENDENT POPULATIONS IN WAUKESHA COUNTY BY CIVIL DIVISION: 1990

Civil Division	Total Population	Total Households	Transit-Dependent Population Groups ^a			
			Persons in Low-Income Households ^b		Households with No Vehicle Available	
			Number	Percent of Civil Division Population	Number	Percent of Civil Division Households
Cities						
Brookfield	35,184	11,939	399	1.1	230	1.9
Delafield	5,347	2,034	288	5.4	65	3.2
Muskego	16,813	5,563	442	2.6	114	2.0
New Berlin	33,592	11,695	569	1.7	125	1.1
Oconomowoc	10,993	4,194	383	3.5	401	9.6
Pewaukee ^c	9,621	3,236	132	1.4	--	--
Waukesha	56,958	21,235	3,359	5.9	1,586	7.5
Villages						
Big Bend	1,299	417	42	3.2	10	2.4
Butler	2,079	928	87	4.2	116	12.5
Chenequa	566	241	10	1.8	--	--
Dousman	1,267	357	37	2.9	9	2.5
Eagle	1,182	396	73	6.2	27	6.8
Elm Grove	6,261	2,290	261	4.2	7	0.3
Hartland	6,906	2,345	216	3.1	82	3.5
Lac La Belle	262	86	--	--	--	--
Lannon	924	359	60	6.5	20	5.6
Menomonee Falls	26,840	9,817	749	2.8	421	4.3
Merton	1,234	346	21	1.7	3	0.9
Mukwonago	4,457	1,535	179	4.0	57	3.7
Nashotah	548	180	3	0.5	4	2.2
North Prairie	1,341	411	15	1.1	7	1.7
Oconomowoc Lake	499	200	10	2.0	6	3.0
Pewaukee	4,941	1,893	226	4.6	48	2.5
Sussex	5,039	1,745	117	2.3	76	4.4
Wales	2,477	726	69	2.8	13	1.8
Towns						
Brookfield	4,232	1,401	52	1.2	21	1.5
Delafield	5,735	1,795	218	3.8	21	1.2
Eagle	2,028	662	78	3.8	16	2.4
Genesee	5,986	1,836	111	1.9	21	1.1
Lisbon	8,277	2,688	120	1.4	41	1.5
Merton	6,430	2,139	163	2.5	50	2.3
Mukwonago	5,974	1,755	164	2.7	20	1.1
Oconomowoc	7,323	2,557	195	2.7	46	1.8
Ottawa	2,988	947	40	1.3	2	0.2
Summit	3,997	1,379	162	4.1	52	3.8
Vernon	7,549	2,241	184	2.4	2	0.1
Waukesha	7,566	2,422	123	1.6	50	2.1
Total	304,715	105,990	9,357	3.1	3,769	3.6

^a All figures are based on Census information derived from sample data.

^b Represents persons residing in households with a total family income below Federal poverty thresholds.

^c Prior to incorporation in 1999, the City of Pewaukee existed as the Town of Pewaukee.

Source: U. S. Bureau of the Census and SEWRPC.

Table 6

**AVERAGE NUMBER OF VEHICLES AVAILABLE TO WAUKESHA
COUNTY PERSONS AGE 16 AND OLDER BY CIVIL DIVISION: 1990**

Civil Division	Total Vehicles Available ^a	Population Age 16 and Over	Average Vehicles per Person Age 16 and Older
Cities			
Brookfield	26,197	27,159	0.96
Delafield	4,126	4,204	0.98
Muskego	12,517	12,622	0.99
New Berlin	25,861	25,870	1.00
Oconomowoc	7,063	8,428	0.84
Pewaukee ^b	7,628	7,325	1.04
Waukesha	36,467	43,339	0.84
Villages			
Big Bend	945	926	1.02
Butler	1,511	1,690	0.89
Chenequa	592	467	1.27
Dousman	737	918	0.80
Eagle	752	795	0.95
Elm Grove	4,652	5,103	0.91
Hartland	4,458	4,869	0.92
Lac La Belle	205	195	1.05
Lannon	742	731	1.02
Menomonee Falls	19,693	21,174	0.93
Merton	818	856	0.96
Mukwonago	3,145	3,228	0.97
Nashotah	416	400	1.04
North Prairie	945	938	1.01
Oconomowoc Lake	461	405	1.14
Pewaukee	3,508	3,952	0.89
Sussex	3,497	3,680	0.95
Wales	1,646	1,666	0.99
Towns			
Brookfield	3,151	3,177	0.99
Delafield	4,156	4,203	0.99
Eagle	1,554	1,491	1.04
Genesee	4,307	4,239	1.02
Lisbon	6,378	6,242	1.02
Merton	4,967	4,855	1.02
Mukwonago	4,311	4,060	1.06
Oconomowoc	5,610	5,566	1.01
Ottawa	2,406	2,200	1.09
Summit	3,077	3,058	1.01
Vernon	5,634	5,336	1.06
Waukesha	5,534	5,594	0.99
Total	219,667	230,961	0.95

^a All figures are based on Census information derived from sample data.

^b Prior to incorporation in 1999, the City of Pewaukee existed as the Town of Pewaukee.

Source: U.S. Bureau of the Census and SEWRPC.

Table 7

**HISTORICAL EMPLOYMENT FOR WAUKESHA COUNTY
AND THE SOUTHEASTERN WISCONSIN REGION: 1960-1997**

County	Total Employment									
	1960		1970		1980		1990		1997 ^a	
	Number	Percent of Region	Number	Percent of Region	Number	Percent of Region	Number	Percent of Region	Number	Percent of Region
Kenosha	42,200	6.3	42,000	5.4	53,900	5.7	50,900	4.8	61,600	5.2
Milwaukee	503,300	74.8	524,900	66.9	581,700	61.5	613,300	57.5	615,100	52.2
Ozaukee	10,200	1.5	21,200	2.7	28,100	3.0	36,400	3.4	48,600	4.1
Racine	49,900	7.4	64,500	8.2	80,900	8.6	88,800	8.3	94,100	8.0
Walworth	19,600	2.9	26,300	3.4	33,400	3.5	40,200	3.8	49,900	4.2
Washington	15,200	2.3	24,300	3.1	35,000	3.7	46,100	4.3	58,300	4.9
Waukesha	32,600	4.8	80,900	10.3	132,200	14.0	191,500	17.9	252,600	21.4
Region	673,000	100.0	784,100	100.0	945,200	100.0	1,067,200	100.0	1,180,200	100.0

County	Change in Employment									
	1960-1970		1970-1980		1980-1990		1990-1997		1960-1997	
	Absolute	Percent	Absolute	Percent	Absolute	Percent	Absolute	Percent	Absolute	Percent
Kenosha	-200	-0.5	11,900	28.3	-3,000	-5.6	10,700	21.0	19,400	46.0
Milwaukee	21,600	4.3	56,800	10.8	31,600	5.4	1,800	0.3	111,800	22.2
Ozaukee	11,000	107.8	6,900	32.5	8,300	29.5	12,200	33.5	38,400	376.5
Racine	14,600	29.3	16,400	25.4	7,900	9.8	5,300	6.0	44,200	88.6
Walworth	6,700	34.2	7,100	27.0	6,800	20.4	9,700	24.1	30,300	154.6
Washington	9,100	59.9	10,700	44.0	11,100	31.7	12,200	26.5	43,100	283.6
Waukesha	48,300	148.2	51,300	63.4	59,300	44.9	61,100	31.9	220,000	674.8
Region	111,100	16.5	161,100	20.5	122,000	12.9	113,000	10.6	507,200	75.4

^a Estimated.

Source: Wisconsin Department of Workforce Development and SEWRPC.

Cities of Muskego and Oconomowoc; and in the City of Pewaukee.

EXISTING LAND USE

Urban Development

Using aerial photographs, the Regional Planning Commission has assembled information that documents the historic growth and the pattern of urban development of the Southeastern Wisconsin Region. The historic increase in the developed urban land area of the Waukesha County is quantitatively summarized in Table 8.

In 1900, development within the County was largely confined to settlements within the now incorporated places of Big Bend, Eagle, Hartland Menomonee Falls, Merton, Mukwonago, Oconomowoc, Pewaukee, and Waukesha, with the City of Waukesha as the largest urban center. Between 1900 and 1950, additional development occurred around these original settlements; the now incorporated places of Butler, Dousman, and Wales were settled; and

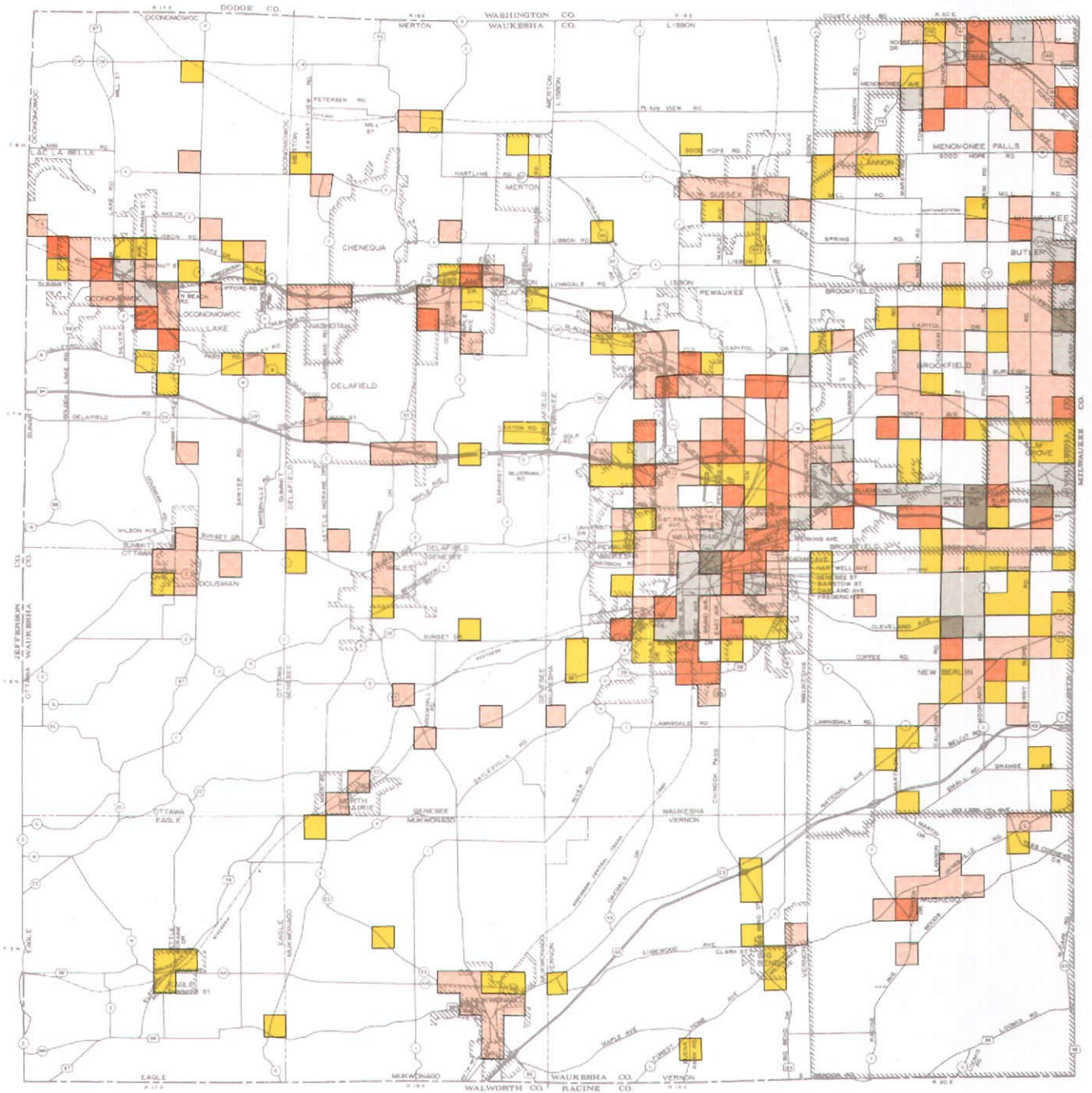
residential and recreational development occurred around the County's lakes. Suburban development in the easternmost portion of the County was just starting to materialize by 1950.

The pace of urban development within the County has been rapid since 1950. The 45-year period from 1950 to 1995 saw significant development in the County's eastern tier of communities, essentially as an expansion of the Milwaukee metropolitan area, and continued development in and around the City of Waukesha and other established outlying urban centers. In addition, this period saw a proliferation of scattered urban enclaves in many areas of the County far removed from the historic urban centers. The extent of urban development in the County in 1995 is shown on Map 5.

Residential development is the predominant type of land use within the developed urban portion of the County. Conventional fixed-route local bus service is generally most cost-efficient when serving areas with residential

Map 3

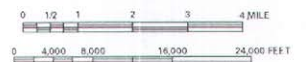
EMPLOYMENT DISTRIBUTION IN WAUKESHA COUNTY: 1990



JOBS PER U. S. PUBLIC LAND
SURVEY ONE-QUARTER SECTION



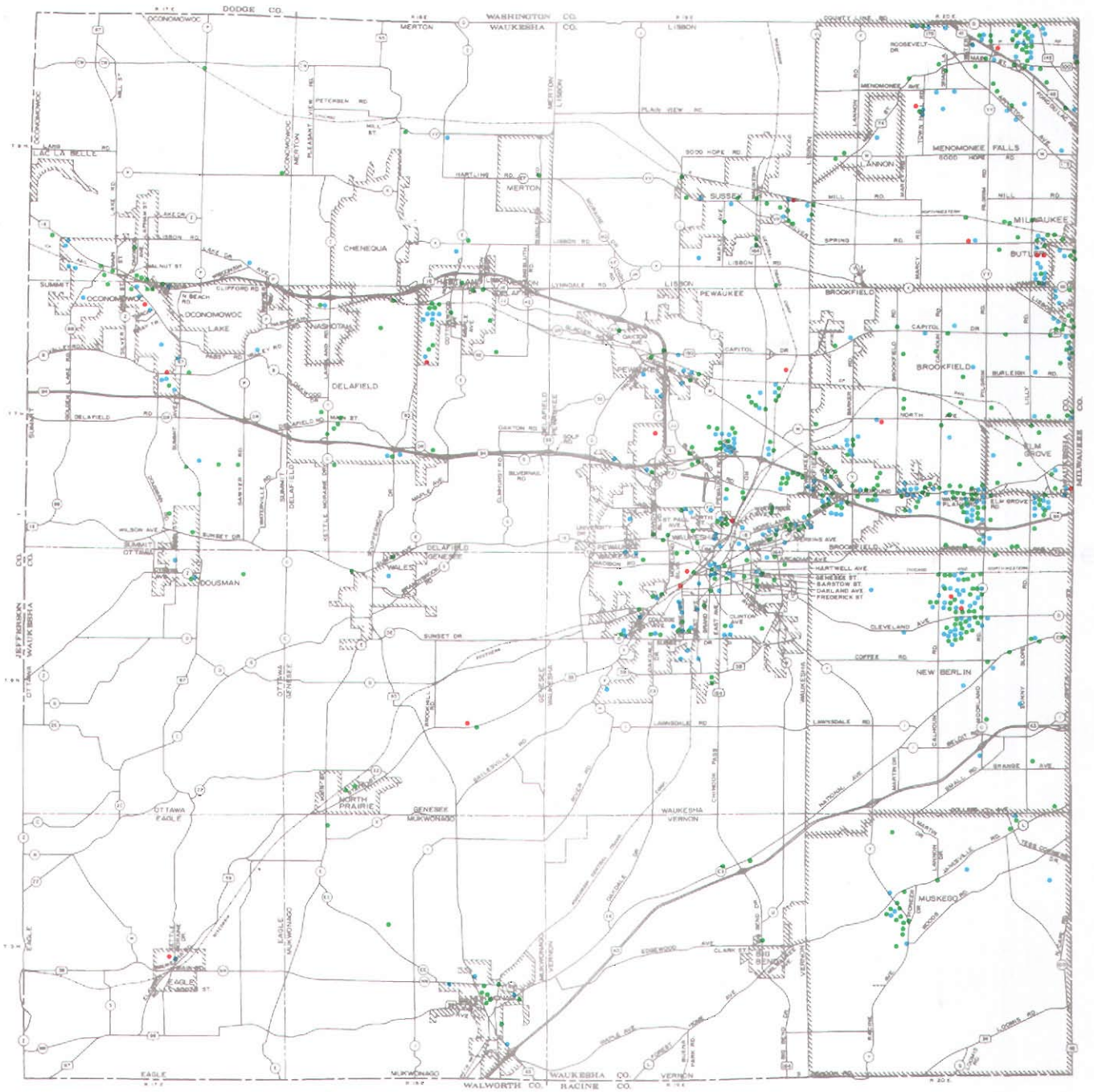
GRAPHIC SCALE



Source: SEWRPC.

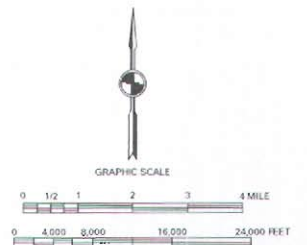
Map 4

LOCATIONS OF EMPLOYERS WITH 50 OR MORE EMPLOYEES IN WAUKESHA COUNTY: 1997



MAJOR EMPLOYER

- 500 OR MORE EMPLOYEES
- 100 TO 499 EMPLOYEES
- 50 TO 99 EMPLOYEES



Source: SEWRPC.

Table 8

HISTORIC URBAN GROWTH IN WAUKESHA COUNTY: 1900-1995

Year	Waukesha County Urban Development ^a				
	Total Area in Square Miles	Change from Previous Time Date		Average Annual Change in Square Miles from Previous Date	Percent of Total Area ^b
		Square Miles	Percent		
1900	2.44	--	--	--	0.4
1950	18.39	15.95	653.7	0.32	3.2
1963	54.25	35.86	195.0	2.76	9.3
1970	72.34	18.09	33.3	2.58	12.5
1980	120.05	47.71	66.0	4.77	20.7
1990	144.43	24.38	20.3	2.44	24.9
1995	158.40	13.97	9.7	2.79	27.3

^aUrban development as defined for the purposes of this analysis includes those areas of the Region wherein houses or other buildings have been constructed in relatively compact groups, thereby indicating a concentration of residential, commercial, industrial, governmental, or institutional land uses. The continuity of such development was considered interrupted if a quarter-mile area or more of nonurban type land uses such as agriculture, woodlands, or wetlands prevailed in which the above conditions were generally absent.

^bThe total land area of Waukesha County is 580.61 square miles.

Source: SEWRPC.

densities of five dwelling units per acre or higher.¹ As shown on Map 6, substantial areas with such densities existed primarily in the City of Waukesha in 1990. Much smaller areas with these densities were also scattered throughout the County often as the result of multi-family residential housing developments in these areas.

Major Employment Centers

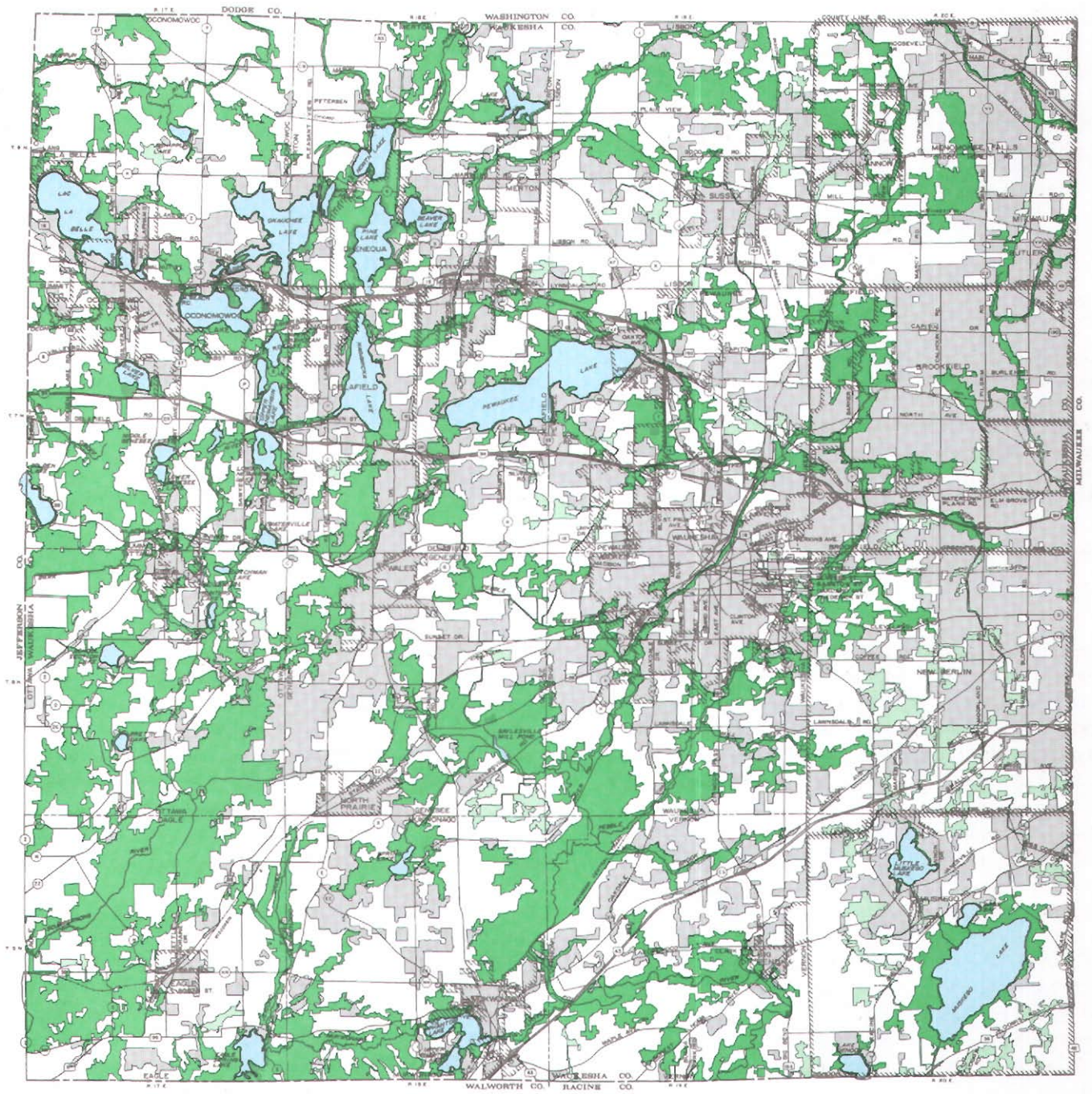
Certain land uses attract a large number of person-trips on an average weekday and, consequently, also have the potential to attract a relatively large number of transit trips. For the purposes of this study, major employment centers, consisting of individual employers with 100 or more employees and office and industrial parks, were identified as such potential transit trip generators. The major employers and office and industrial parks identified within the County in 1997 are presented in Tables 9 and 10 and their locations shown on Maps 7 and 8.

¹The source for this guideline was a newsletter article published by the Regional Plan Association, New York, entitled "Where Transit Works: Urban Densities for Public Transportation." The article summarized a two-year study prepared by the Regional Plan Association which is documented in a report published by Indiana University Press entitled Public Transportation and Land Use Policy.

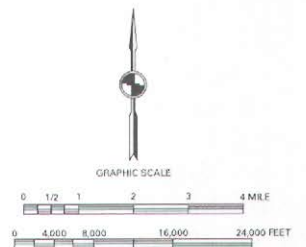
For this study, information was gathered on the transportation needs of employers in Waukesha County directly from employers willing to provide such information in a special survey conducted in the fall 1998 by the Waukesha-Ozaukee-Washington (WOW) Private Industry Council. The survey asked each employer to indicate if it was currently served by either public or private transit services; if existing public transit services were adequately meeting the transportation needs of its employees; and if it was having difficulties in recruiting or retaining workers and, if so, whether transportation was a significant problem in these areas. The survey also included questions on the home residence of employees and on employer opinions toward flexible job starting and ending times; providing funds for an expansion of transit service in its area; and the types of transit service improvements needed. The survey form, which is included in Appendix A, was distributed to employers by including it in the newsletters distributed to employers by the local chambers of commerce in Waukesha County. The WOW Private Industry Council estimates that about 5,000 employers in the County received the form directly through such newsletters. The WOW Private Industry Council also conducted two focus group meetings in December 1998 with employers in the Waukesha and Hartland areas. The survey and focus group efforts of the WOW Private Industry Council were funded through a grant obtained in

Map 5

EXTENT OF URBAN DEVELOPMENT IN WAUKESHA COUNTY: 1995



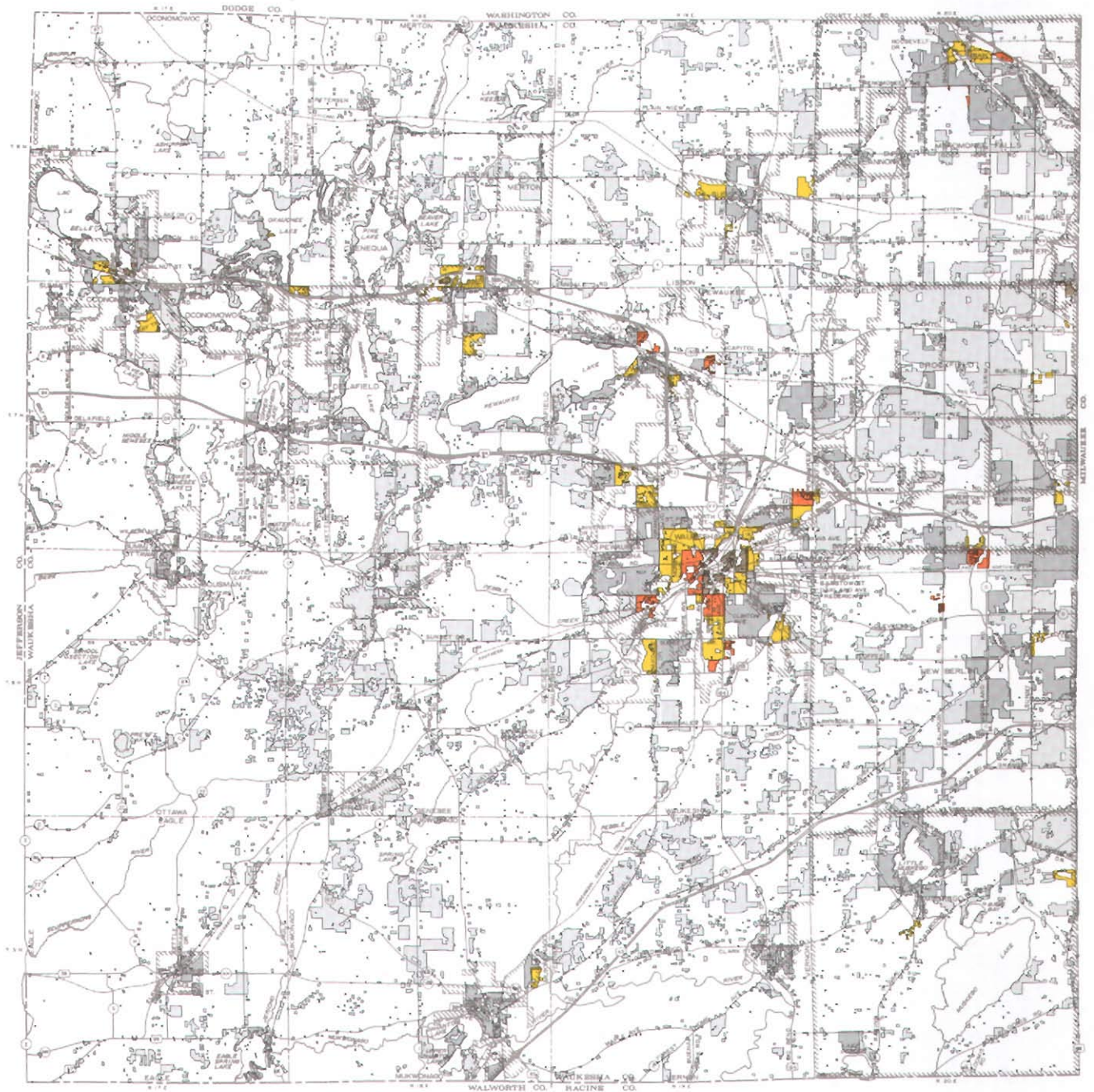
- URBAN DEVELOPMENT
- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- SURFACE WATER



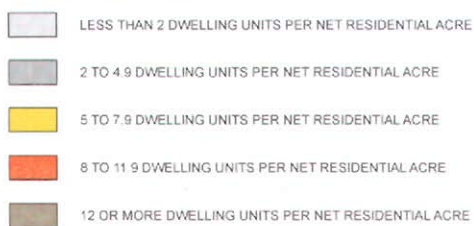
Source: SEWRPC.

Map 6

RESIDENTIAL LAND USE DENSITY IN WAUKESHA COUNTY: 1990



RESIDENTIAL LAND USE



GRAPHIC SCALE



Source: SEWRPC.

Table 9

MAJOR EMPLOYERS IN WAUKESHA COUNTY: 1997

Number on Map 7	Major Employer*	Address	Approximate Employment			
			100-249	250-499	500-999	Over 1,000
	Industrial and Manufacturing					
1	A&A Manufacturing Company	2300 Calhoun Road, City of New Berlin	X	--	--	--
2	ABB Flexible Automation, Inc.	2487 S. Commerce, City of New Berlin	X	--	--	--
3	ABB Industrial Systems, Inc.	16250 W. Glendale Drive, City of New Berlin	--	--	X	--
4	Acme Machell Co., Inc.	2000 Airport Road, City of Waukesha	X	--	--	--
5	Add, Inc.	440 Cardinal Lane, Village of Hartland	X	--	--	--
6	Alloy Products Corporation	1045 Perkins Avenue, City of Waukesha	X	--	--	--
7	Alto Shaam, Inc.	W164 N9221 Water Street, Village of Menomonee Falls	X	--	--	--
8	Applied Power, Inc.	13000 W. Silver Spring Road, Village of Butler	X	--	--	--
9	Arandell Corporation	N82 W13118 Leon Road, Village of Menomonee Falls	--	X	--	--
10	Badger Pattern Works	2525 S. 162nd Street, City of New Berlin	X	--	--	--
11	Balax, Inc.	W305 N7697 CTH VV, Town of Merton	X	--	--	--
12	Beatrice Cheese, Inc.	770 N. Springdale Road, Town of Brookfield	--	X	--	--
13	Best Foods Baking Group	1 Meadow Road, City of Oconomowoc	X	--	--	--
14	BFI of Wisconsin, Inc.	W144 S6350 College Court, City of Muskego	X	--	--	--
15	Bradley Corporation	W142 N9101 Fountain Boulevard, Village of Menomonee Falls	--	X	--	--
16	Bruno Independent Living Aids, Inc.	1780 Executive Drive, City of Oconomowoc	X	--	--	--
17	Burton & Mayer, Inc.	12995 W. Lisbon Road, City of Brookfield	X	--	--	--
18	Camtronics Ltd.	900 Walnut Ridge Drive, Village of Hartland	X	--	--	--
19	Chemrite Industries, Inc.	19725 W. Edgewood Drive, Village of Lannon	X	--	--	--
20	CL & D Graphics, Inc.	1101 W. 2nd Street, City of Oconomowoc	X	--	--	--
21	Commercial Communications, Inc.	1225 Walnut Ridge Drive, Village of Hartland	--	--	X	--
22	Cooper Power Systems	1045 Hickory Street, Village of Pewaukee	--	X	--	--
23	Cooper Power Systems	1319 Lincoln Avenue, City of Waukesha	X	--	--	--
24	Cooper Power Systems	1900 E. North Street, City of Waukesha	--	--	X	--
25	Cooper Power Systems	2300 Badger Drive, City of Waukesha	--	X	--	--
26	Criticare Systems, Inc.	20925 Crossroads Circle, Town of Brookfield	X	--	--	--
27	Custom Products Corporation	W139 N5470 Oak Lane, Village of Menomonee Falls	X	--	--	--
28	Custom Products Corporation	1205 Wall Street, City of Oconomowoc	X	--	--	--
29	Dairyland Food Laboratories, Inc.	620 Progress Avenue, City of Waukesha	X	--	--	--
30	Deluxe Check Printers	16100 W. Overland Drive, City of New Berlin	X	--	--	--
31	Delzer Lithograph Company	510 S. West Avenue, City of Waukesha	X	--	--	--
32	Dickten & Masch Manufacturing Company	N44 W33365 Watertown Plank Road, Village of Nashotah	X	--	--	--
33	Dielectric Corporation	W141 N9250 Fountain Boulevard, Village of Menomonee Falls	X	--	--	--
34	Dorner Manufacturing Corporation	580 Industrial Drive, Village of Hartland	X	--	--	--
35	Dresser Industries, Inc.	1000 W. St. Paul Avenue, City of Waukesha	--	--	X	--
36	Ehlert Tool Co., Inc.	2500 S. 162nd Street, City of New Berlin	X	--	--	--
37	Electromotive Systems, Inc.	N49 W13650 Campbell Drive, Village of Menomonee Falls	X	--	--	--
38	Fibersin Industries, Inc.	37031 E. Wisconsin Avenue, Village of Oconomowoc Lake	X	--	--	--
39	Fiserv, Inc.	255 Fiserv Drive, City of Brookfield	--	X	--	--
40	Fleck Controls, Inc.	20580 Enterprise Avenue, City of Brookfield	X	--	--	--
41	Fortress Forms	2225 S. 170th Street, City of New Berlin	X	--	--	--
42	G E Medical Systems	3000-3114-3200 N. Grandview Boulevard, City of Waukesha	--	--	--	X
43	G E Medical Systems	16705 W. Lincoln Avenue, City of New Berlin	--	--	X	--
44	G E Medical Systems	N25 W23255 Paul Road, City of Pewaukee	X	--	--	--
45	G E Medical Systems	16800 W. Ryerson Avenue, City of New Berlin	--	X	--	--
46	Generac Corporation	211 Murphy Drive, Village of Eagle	--	--	X	--
47	Generac Corporation	Hwy 59, Town of Genesee	--	--	X	--
48	General Signal Power Systems, Inc.	400 S. Prairie Avenue, City of Waukesha	--	X	--	--
49	Glenroy, Inc.	W158 N9332 Nor-X-Way, Village of Menomonee Falls	X	--	--	--
50	Golden Guernsey Dairy	2101 Delafield Street, City of Waukesha	X	--	--	--
51	Griffiths Corporation	N50 W13471 Overview Drive, Village of Menomonee Falls	X	--	--	--
52	Guhring Inc.	1445 Commerce Avenue, City of Brookfield	X	--	--	--
53	H & K Machine, Inc.	880 Bahcall Court, Town of Brookfield	X	--	--	--
54	Harley-Davidson, Inc.	W156 N9000 Pilgrim Road, Village of Menomonee Falls	--	--	X	--
55	Herker Industries, Inc.	N57 W13760 Carmen Avenue, Village of Menomonee Falls	X	--	--	--

Table 9 (continued)

Number on Map 7	Major Employer ^a	Address	Approximate Employment			
			100-249	250-499	500-999	Over 1,000
	Industrial and Manufacturing (continued)					
56	Holoubek, Inc.	W238 N1800 Rockwood Drive, City of Pewaukee	X	--	--	--
57	Howard Company, Inc.	1375 Barker Road, City of Brookfield	X	--	--	--
58	Huffy Corporation	N53 W24700 S. Corporate Circle, Village of Sussex	--	X	--	--
59	Husco International, Inc.	W239 N218 Pewaukee Road, City of Pewaukee	X	--	--	--
60	Inland Press	W141 N9450 Fountain Boulevard, Village of Menomonee Falls	X	--	--	--
61	J & L Fiber Services, Inc.	801 Progress Avenue, City of Waukesha	X	--	--	--
62	J & L Fiber Services, Inc.	809 Philip Drive, City of Waukesha	X	--	--	--
63	Kaimbach Publishing Company	21027 Crossroads Circle, Town of Brookfield	X	--	--	--
64	Kuhlman, Inc.	N57 W13666 Reichert Avenue, Village of Menomonee Falls	X	--	--	--
65	Lamplight Farms	4900 N. Lilly Road, Village of Menomonee Falls	X	--	--	--
66	Lied's Nursery Company, Inc.	N63 W22039 STH 74, Town of Lisbon	X	--	--	--
67	Lippert Corporation	W142 N8999 Fountain Boulevard, Village of Menomonee Falls	X	--	--	--
68	Liturgical Publications	2875 S. James Drive, City of New Berlin	X	--	--	--
69	Magnetek, Inc.	16555 W. Ryerson Road, City of New Berlin	--	X	--	--
70	Maysteel Corporation	N89 W14700 Patrita Drive, Village of Menomonee Falls	X	--	--	--
71	Messer Griesheim Industries, Inc.	W141 N9427 Fountain Boulevard, Village of Menomonee Falls	X	--	--	--
72	Microelectronic Modules Corporation	2601 S. Moorland Road, City of New Berlin	--	X	--	--
73	Midwest Instrument Company, Inc.	541 Industrial Drive, Village of Hartland	X	--	--	--
74	Milwaukee Electric Tool Corporation	13135 W. Lisbon Road, City of Brookfield	--	X	--	--
75	Molded Rubber/Plastic Corporation	13161 W. Glendale Avenue, Village of Butler	X	--	--	--
76	MTE Corporation	W147 N9525 Held Drive, Village of Menomonee Falls	X	--	--	--
77	MTI International, Inc.	W133 N5139 Campbell Drive, Village of Menomonee Falls	X	--	--	--
78	Nabco Entrances, Inc.	S82 W18717 Gemini Drive, City of Muskego	X	--	--	--
79	Navistar International Transportation Corporation	1401 Perkins Avenue, City of Waukesha	--	X	--	--
80	NCL Graphic Specialists, Inc.	N29 W22960 Marjean Lane, City of Pewaukee	X	--	--	--
81	New Berlin Plastics, Inc.	16605 W. Victor Road, City of New Berlin	X	--	--	--
82	Oconomowoc Can	1230 Corporate Center Drive, City of Oconomowoc	X	--	--	--
83	Ortho-Kinetics, Inc.	W220 N507 Springdale Road, City of Pewaukee	X	--	--	--
84	Outlook Foods, Inc.	132 S. Concord Road, City of Oconomowoc	X	--	--	--
85	P M Plastics Company	627 Capitol Drive, Village of Pewaukee	X	--	--	--
86	Pillar Industries Limited Partnership	N92 W15800 Megal Drive, Village of Menomonee Falls	X	--	--	--
87	Plastic Molded Concepts, Inc.	111 Murphy Drive, Village of Eagle	X	--	--	--
88	Pryon Corporation	N93 W14575 Whittaker Way, Village of Menomonee Falls	X	--	--	--
89	Quad/Graphics, Inc.	W224 N3322 Duplainville Road, City of Pewaukee	--	--	X	--
90	Quad/Graphics, Inc.	N63 W23075 STH 74, Village of Sussex	--	--	--	X
91	Quad/Graphics, Inc.	16555 W. Rogers Drive, City of New Berlin	X	--	--	--
92	Quad/Tech, Inc.	N64 W23110 Main Street, Village of Sussex	--	X	--	--
93	Rikart Manufacturing, Inc.	525 Norton Drive, Village of Hartland	X	--	--	--
94	Schoeneck Containers, Inc.	2160 S. 170th Street, City of New Berlin	X	--	--	--
95	Sequist Closures	711 Fox Street, Village of Mukwonago	--	X	--	--
96	Sells Printing Company	16000 W. Rogers Drive, City of New Berlin	X	--	--	--
97	Silgan Containers Corporation	520 W. 2nd Street, City of Oconomowoc	X	--	--	--
98	Snap-On Tools Company	16555 W. Lincoln Avenue, City of New Berlin	X	--	--	--
99	Southwest Metal Finishing, Inc.	2790 S. 167th Street, City of New Berlin	X	--	--	--
100	SPI Communications, Inc.	21045 Enterprise Avenue, City of Brookfield	X	--	--	--
101	Staff Electric Company, Inc.	W133 N5030 Campbell Drive, Village of Menomonee Falls	X	--	--	--
102	Stark Candy Company	700 Hickory Street, Village of Pewaukee	X	--	--	--
103	Stolper-Fabralloy Company	115 N. Janacek Road, Town of Brookfield	X	--	--	--
104	Superior Services	559 Progress Drive, Village of Hartland	X	--	--	--
105	Sussex Plastics, Inc.	N65 W24770 Main Street, Village of Sussex	--	X	--	--
106	Svedala Industries, Inc.	20965 Crossroads Circle, Town of Brookfield	X	--	--	--
107	Systemation Engineered Products, Inc.	5400 S. Westridge Drive, City of New Berlin	X	--	--	--
108	T J Hale, Inc.	W139 N9499 STH 145, Village of Menomonee Falls	X	--	--	--
109	Tombstone Pizza Corporation	W227 N6088 Sussex Road, Village of Sussex	--	X	--	--
110	Toolrite Manufacturing Company, Inc.	16400 W. Lincoln Avenue, City of New Berlin	X	--	--	--

Table 9 (continued)

Number on Map 7	Major Employer ^a	Address	Approximate Employment			
			100-249	250-499	500-999	Over 1,000
	Industrial and Manufacturing (continued)					
111	TruGreen ChemLawn	N8 W22550 Johnson Road, City of Pewaukee	X	--	--	--
112	U.S. Controls Corporation	16955 W. Ryerson Road, City of New Berlin	X	--	--	--
113	U S Filter-Castlloy Corporation	1701 Industrial Lane, City of Waukesha	X	--	--	--
114	U S Filter-Envirex, Inc.	1901 S. Prairie Avenue, City of Waukesha	--	X	--	--
115	V & L Tool, Inc.	1205 S. Grandview Boulevard, City of Waukesha	X	--	--	--
116	Velvac, Inc.	2900 S. 160th Street, City of New Berlin	X	--	--	--
117	Ventura Foods, LLC.	500 S. Prairie Avenue, City of Waukesha	X	--	--	--
118	Wacker Corporation	N92 W15000 Anthony, Village of Menomonee Falls	--	X	--	--
119	Waste Management of Wisconsin	W124 N8925 Boundary Road, Village of Menomonee Falls	X	--	--	--
120	Waukesha Cutting Tools, Inc.	1111 Sentry Drive, City of Waukesha	X	--	--	--
121	Waukesha Foundry, Inc.	1300 Lincoln Avenue, City of Waukesha	X	--	--	--
122	Wenniger Company, Inc.	16875 W. Ryerson Road, City of New Berlin	X	--	--	--
123	Western Industries Gerett Products	W156 N9073 Pilgrim Road, Village of Menomonee Falls	X	--	--	--
124	Western States Envelope Company	4480 N. 132nd Street, Village of Butler	--	X	--	--
125	Wisconsin Centrifugal	905 E. St. Paul Avenue, City of Waukesha	--	X	--	--
126	Wis-Pack Foods	4700 N. 132nd, Village of Butler	--	X	--	--
127	World Color.	12821 W. Blue Mound Road, City of Brookfield	X	--	--	--
128	Zerand Corporation	15800 W. Overland Drive, City of New Berlin	X	--	--	--
	Retail and Service					
129	Aerotek, Inc.	400 S. Executive Drive, City of Brookfield	--	X	--	--
130	Aetna Life Insurance Company	250 N. Sunnyslope Road, City of Brookfield	--	X	--	--
131	Alliant Food Service, Inc.	W137 N9245 Hwy 145, Village of Menomonee Falls	--	X	--	--
132	Allstate Insurance Company	555 S. Executive Drive, City of Brookfield	X	--	--	--
133	American Family Mutual Insurance Company	440 S. Executive Drive, City of Brookfield	--	X	--	--
134	American TV, Appliance, and Furniture-Distribution Center	W228 N2801 Duplainville Road, City of Pewaukee				
135	American TV, Appliance, and Furniture-Retail Store	W229 N1400 Westwood Drive, City of Pewaukee	X	--	--	--
136	Ameriserve Food Distribution, Inc.	W229 N1492 Westwood Drive, City of Pewaukee	--	X	--	--
137	Ameritech	13600 Bishops Court, City of Brookfield	X	--	--	--
138	Ameritech	200 S. Executive Drive, City of Brookfield	X	--	--	--
139	Ameritech	N15 W24250 Riverwood Drive, City of Pewaukee	X	--	--	--
140	Ameritech	220 Wisconsin Avenue, City of Waukesha	X	--	--	--
141	Ameritech	2140 Davidson Road, City of Waukesha	--	X	--	--
142	Ameritech Information Services	17950 W. Corporate Drive, City of Brookfield	--	X	--	--
143	B & T Mail Service, Inc.	19625 W. Lincoln Avenue, City of New Berlin	X	--	--	--
144	Bader Rutter & Associates, Inc.	13555 Bishop's Court, City of Brookfield	X	--	--	--
145	Bank One - Corporate Offices	N54 W13600 Wooddale Drive, Village of Menomonee Falls	--	--	--	X
146	Blue Cross & Blue Shield United of Wisconsin	N17 W24340 Riverwood Drive, City of Pewaukee	X	--	--	--
147	Boston Store	15875 W. Blue Mound Road, City of Brookfield	--	X	--	--
148	Boucher Chevrolet, Inc.	1421 E. Moreland Boulevard, City of Waukesha	X	--	--	--
149	Brookfield Foods, Inc.	1025 S. Moorland Road, City of Brookfield	X	--	--	--
150	Cellular One	20925 Watertown Road, Town of Brookfield	X	--	--	--
151	Chi-Chi's, Inc.	18365 W. Blue Mound Road, City of Brookfield	X	--	--	--
152	CNA Insurance Company	245 S. Executive Drive, City of Brookfield	X	--	--	--
153	Country Inn	2810 Golf Road, City of Waukesha	X	--	--	--
154	D & S Food Services, Inc.	16300 W. Silver Spring Drive, Village of Menomonee Falls	X	--	--	--
155	Dairyland Buses, Inc. and Wisconsin Coach Lines, Inc.	1520 Arcadian Avenue, City of Waukesha	X	--	--	--
156	Dalum's Utility Equipment Company, Inc.	N4 W22610 Blue Mound Road, City of Pewaukee	X	--	--	--
157	Decision One Corporation	N92 W14612 Anthony, Village of Menomonee Falls	X	--	--	--
158	Deluxe Electronic Payment Systems	16363 W. Ryerson, City of New Berlin	--	X	--	--
159	Edison Liquor Corporation	21125 W. Enterprise Avenue, City of Brookfield	X	--	--	--
160	Embassy Suites Hotel	1200 S. Moorland Road, City of Brookfield	X	--	--	--
161	Ernie Von Schledorn Pontiac	N88 W14167 Main Street, Village of Menomonee Falls	X	--	--	--
162	Farm & Fleet	2310 Kossow Road, City of Waukesha	X	--	--	--

Table 9 (continued)

Number on Map 7	Major Employer ^a	Address	Approximate Employment			
			100-249	250-499	500-999	Over 1,000
	Retail and Service (continued)					
163	Firststar Information Services Corporation	16900 W. Capitol Drive, City of Brookfield	--	X	--	--
164	Fleming Companies, Inc.	1200 W. Sunset Drive, City of Waukesha	--	X	--	--
165	G & K Services, Inc.	N51 W13915 North Park Drive, Village of Menomonee Falls	X	--	--	--
166	General Business Services, Inc.	N50 W13916 Overview Drive, Village of Menomonee Falls	X	--	--	--
167	Granite Financial Services Corporation	2725 S. Moorland Road, City of New Berlin	X	--	--	--
168	Grasch's Foods, Inc.	13950 W. North Avenue, City of Brookfield	X	--	--	--
169	Honeywell	150 N. Sunnyslope Road, City of Brookfield	X	--	--	--
170	Industrial Towel & Uniform, Inc.	2700 S. 160th Street, City of New Berlin	X	--	--	--
171	Inland Diesel, Inc.	13015 W. Custer Avenue, Village of Butler	X	--	--	--
172	Inpro Corporation	S80 W18766 Apollo Drive, City of Muskego	X	--	--	--
173	Intelligraphics International	741 N. Grand Avenue, City of Waukesha	X	--	--	--
174	Interactive Business Systems, Inc.	205 Bishops Way, City of Brookfield	X	--	--	--
175	International Foundation of Employee Benefit Plans	18700 W. Blue Mound Road, City of Brookfield	X	--	--	--
176	J C Penney	95 N. Moorland Road, City of Brookfield	X	--	--	--
177	Jack Griffin Ford, Inc.	1940 E. Main Street, City of Waukesha	X	--	--	--
178	Jack Safto Toyota, Inc.	20445 W. Capitol Drive, Town of Brookfield	X	--	--	--
179	Jay's Foods	3625 N. 126th Street, City of Brookfield	X	--	--	--
180	John Deere Transportation Services	350/450 N. Sunnyslope Road, City of Brookfield	X	--	--	--
181	Kmart	N77 W14435 Appleton Avenue, Village of Menomonee Falls	X	--	--	--
182	Kmart	1450 E. Summit Avenue, City of Oconomowoc	X	--	--	--
183	Kmart	120 E. Sunset Drive, City of Waukesha	X	--	--	--
184	Kmart	18200 W. Blue Mound Road, Town of Brookfield	X	--	--	--
185	Kmart	15333 W. National Avenue, City of New Berlin	X	--	--	--
186	Kohl's Department Stores, Inc. Corporate Offices	N56 W17000 Ridgewood Drive, Village of Menomonee Falls	--	--	--	X
187	Kohl's Department Stores, Inc.-Retail Store	2315 N. 124th Street, City of Brookfield	X	--	--	--
188	Kohl's Department Stores, Inc.-Retail Store	2130 E. Moreland Boulevard, City of Waukesha	--	X	--	--
189	Kohl's Department Stores, Inc.- Distribution Center	N54 W13901 Wooddale Drive, Village of Menomonee Falls	--	--	X	--
190	Market Day	16500 W. Glendale Drive, City of New Berlin	X	--	--	--
191	McHugh, Freeman & Associates	20700 Swenson Drive, Town of Brookfield	X	--	--	--
192	Midway Motor Lodge and Maxwells Restaurant	1005 S. Moorland Road, City of Brookfield	X	--	--	--
193	Milliman & Robertson, Inc.	15800 W. Blue Mound Road, City of Brookfield	X	--	--	--
194	Milwaukee Marriott Hotel	375 S. Moorland Road, City of Brookfield	X	--	--	--
195	Nabisco, Inc.	16725 W. Ryerson Road, City of New Berlin	--	X	--	--
196	North Shore Bank	15700 W. Blue Mound Road, City of Brookfield	X	--	--	--
197	Northwestern National Casualty Company	18650 W. Corporate Drive, City of Brookfield	--	X	--	--
198	Olive Garden Italian Restaurant	18180 Blue Mound Road, Town of Brookfield	X	--	--	--
199	Olympia Resort & Conference Center	1350 Royalemile Road, City of Oconomowoc	X	--	--	--
200	Otto L. Kuehn Company	160 Bishops Way, City of Brookfield	X	--	--	--
201	Payco American Corporation	180 N. Executive Drive, City of Brookfield	--	X	--	--
202	Payco American Corporation	2520 S. 170th Street, City of New Berlin	X	--	--	--
203	Pick 'N Save	220 E. Sunset Drive, City of Waukesha	X	--	--	--
204	Pick 'N Save	1010 N. Rochester Street, Village of Mukwonago	X	--	--	--
205	Pick 'N Save	2160 Silvernail Road, City of Waukesha	X	--	--	--
206	Pick 'N Save	17630 W. Blue Mound Road, City of Brookfield	X	--	--	--
207	Pick 'N Save	12735 W. Capitol Drive, City of Brookfield	X	--	--	--
208	Pick 'N Save	N95 W18273 County Line Road, Village of Menomonee Falls	X	--	--	--
209	PMI-Eisenhart, Inc.	N14 W23755 Stoneridge Drive, City of Pewaukee	X	--	--	--
210	Reinders, Inc.	13400 Watertown Plank Road, Village of Elm Grove	X	--	--	--
211	Roundy's, Inc.	N28 W23050 Roundy Drive, City of Pewaukee	X	--	--	--
212	Ruekert & Mielke, Inc.	W239 N1812 Rockwood Drive, City of Pewaukee	X	--	--	--
213	Russ Darrow Group	2141 E. Moreland Boulevard, City of Waukesha	X	--	--	--
214	Sam's Club	600 N. Springdale Road, Town of Brookfield	X	--	--	--

Table 9 (continued)

Number on Map 7	Major Employer ^a	Address	Approximate Employment			
			100-249	250-499	500-999	Over 1,000
	Retail and Service (continued)					
215	Sax Arts & Crafts, Inc.	2405 S. Calhoun Road, City of New Berlin	X	--	--	--
216	Sears	115 S. Moorland Road, City of Brookfield	--	X	--	--
217	Sentry Foods	2304 W. St. Paul Avenue, City of Waukesha	X	--	--	--
218	Sentry Foods	W189 S7847 Racine Avenue, City of Muskego	X	--	--	--
219	Steinhafel Furniture & Carpets, Inc.	16250 W. Rogers Drive, City of New Berlin	--	X	--	--
220	Strong Capital Management, Inc.	100 Heritage Reserve, Village of Menomonee Falls	--	X	--	--
221	Supersaver	1535 E. Moreland Boulevard, City of Waukesha	X	--	--	--
222	Supersaver	N63 W23735 N. Main Street, Village of Sussex	X	--	--	--
223	Supersaver	17295 W. Capitol Drive, City of Brookfield	X	--	--	--
224	Target- Retail Store	2401 Kossow Road, City of Waukesha	--	X	--	--
225	Target- Retail Store	N95 W17707 Shady Lane, Village of Menomonee Falls	X	--	--	--
226	Target- Retail Store	2553 Sun Valley Drive, City of Delafield	X	--	--	--
227	Target- Distribution Center	1100 Valley Road, Town of Oconomowoc	--	--	X	--
228	Technology Consulting Corporation	N16 W23233 Stoneridge Drive, City of Pewaukee	X	--	--	--
229	Tekra Corporation	16700 W. Lincoln Avenue, City of New Berlin	X	--	--	--
230	United Parcel Service	12400 W. Blue Mound Road, Village of Elm Grove	--	--	X	--
231	V. Richards Market, Inc.	17165 W. Blue Mound Road, City of Brookfield	X	--	--	--
232	W O W Distributing Company, Inc.	W238 N1777 Rockwood Drive, City of Pewaukee	X	--	--	--
233	Wal-Mart	2863 Heritage Drive, City of Delafield	X	--	--	--
234	Wal-Mart	N96 W18515 County Line Road, Village of Menomonee Falls	X	--	--	--
235	Wal-Mart	857 S. Rochester, Village of Mukwonago	X	--	--	--
236	Wal-Mart	W226 S1500 STH 164, Town of Waukesha	X	--	--	--
237	Washington National Insurance Company	250 N. Sunnyslope Road, City of Brookfield	X	--	--	--
238	Waukesha State Bank	100 Bank Street, City of Waukesha	X	--	--	--
239	Waukesha Wholesale Foods, Inc.	900 Gale Street, City of Waukesha	X	--	--	--
240	Weissgerber's Golden Mast Inn	N52 W34868 Lacy's Lanes, Town of Oconomowoc	X	--	--	--
241	Whyte Hirschboeck Dudek, S.C.	N80 W14816 Appleton Avenue, Village of Menomonee Falls	X	--	--	--
242	Wilde Pontiac Cadillac, Inc.	1603 E. Moreland Boulevard, City of Waukesha	X	--	--	--
243	Wisconsin Electric Power Company	W237 N1500 Busse Road, City of Pewaukee	X	--	--	--
244	Wisconsin Electric Power Company	N15 W23700 Stoneridge Drive, City of Pewaukee	X	--	--	--
245	Wisconsin Electric Power Company	1830 S. West Avenue, City of Waukesha	X	--	--	--
246	Wisconsin Lift Truck Corporation	12745 W. Townsend Street, City of Brookfield	X	--	--	--
247	Xerox Corporation	440 S. Executive Drive, City of Brookfield	--	X	--	--
248	YMCA-Menomonee Falls	N84 W17501 Menomonee Avenue, Village of Menomonee Falls	X	--	--	--
249	YMCA-Waukesha	320 E. Broadway, City of Waukesha	X	--	--	--
250	YWCA-Waukesha	306 N. West Avenue, City of Waukesha	X	--	--	--
251	Zorba's, Inc.	20290 W. Blue Mound Road, Town of Brookfield	X	--	--	--
	Governmental and Institutional					
252	American Baptist Homes of the Midwest (Tudor Oaks)	S77 W12929 McShane Drive, City of Muskego	X	--	--	--
253	Arboretum Retirement Community	W180 N7890 Town Hall Road, Village of Menomonee Falls	X	--	--	--
254	Care-Age of Brookfield	1755 N. Barker Road, City of Brookfield	X	--	--	--
255	City of Waukesha Police Department	1901 Delafield Street, City of Waukesha	X	--	--	--
256	Community Memorial Hospital of Menomonee Falls	W180 N8085 Town Hall Road, Village of Menomonee Falls	--	--	X	--
257	Congregational Home, Inc.	13900 W. Burleigh Road, City of Brookfield	X	--	--	--
258	Elmbrook Memorial Hospital	19333 W. North Avenue, City of Brookfield	--	--	X	--
259	Falls Medical Group, S. C.	N 84 W16889 Menomonee Avenue, Village of Menomonee Falls	X	--	--	--
260	Family Health Plan Cooperative	12500 W. Blue Mound Road, Village of Elm Grove	X	--	--	--
261	Franciscan Woods	19525 W. North Avenue, City of Brookfield	X	--	--	--
262	Homes for Independent Living	1746 Executive Drive, City of Oconomowoc	--	X	--	--
263	Lindengrove Healthcare Center	W180 N8071 Town Hall Road, Village of Menomonee Falls	X	--	--	--
264	Lindengrove Healthcare Center	13755 W. Fieldpointe Drive, City of New Berlin	--	X	--	--
265	Lindengrove Healthcare Center	425 N. University Drive, City of Waukesha	X	--	--	--
266	Lutheran Homes of Oconomowoc	1306 W. Wisconsin Avenue, City of Oconomowoc	--	X	--	--
267	Masonic Health Care Center, Inc.	400 N. Main Street, Village of Dousman	X	--	--	--

Table 9 (continued)

Number on Map 7	Major Employer ^a	Address	Approximate Employment			
			100-249	250-499	500-999	Over 1,000
	Governmental and Institutional (continued)					
268	Medical Associates Health Center	N14 W23900 Stoneridge Drive, City of Pewaukee	X	--	--	--
269	Medical Associates of Menomonee Falls	W180 N7950 Town Hall Road, Village of Menomonee Falls	--	X	--	--
270	Memorial Hospital at Oconomowoc	791 E. Summit Avenue, City of Oconomowoc	--	--	X	--
271	Oconomowoc Developmental Training Center	36100 Genesee Lake Road, Town of Summit	X	--	--	--
272	River Hills West Health Care Center	321 Riverside Drive, Village of Pewaukee	--	X	--	--
273	Rogers Memorial Hospital, Inc.	34700 Valley Road, Town of Summit	X	--	--	--
274	State Office Building	141 N. W. Barstow Street, City of Waukesha	--	X	--	--
275	U.S. Postal Service	17345 Civic Drive, City of New Berlin	X	--	--	--
276	U.S. Postal Service	300 E. Broadway, City of Waukesha	X	--	--	--
277	Waukesha County Courthouse and Administrative Center	515 W. Moreland Boulevard and 1320 Pewaukee Road	--	--	X	--
278	Waukesha County Office Building and Children's Center	500 and 521 Riverview Avenue, City of Waukesha	--	X	--	--
279	Waukesha County Workforce Development Center	892 Main Street, Village of Pewaukee	X	--	--	--
280	Waukesha Health System, Inc.	210 N. W. Barstow Street, City of Waukesha	X	--	--	--
281	Waukesha Memorial Hospital, Inc.	725 American Avenue, City of Waukesha	--	--	--	X
282	Westmoreland Health Center	1810 Kensington Drive, City of Waukesha	--	X	--	--
283	Wilkinson Medical Clinics	915 E. Summit Avenue, City of Oconomowoc	X	--	--	--
284	Wisconsin Department of Transportation	2000 Pewaukee Road, City of Waukesha	--	X	--	--
285	Woodland Health Center	18740 W. Blue Mound Road, City of Brookfield	--	X	--	--
	Educational					
286	Bay Lane Middle School and Country Meadow Elementary School	S75 W16399 Hilltop Drive, City of Muskego	X	--	--	--
287	Brookfield Central High School	16900 Gebhardt Road, City of Brookfield	X	--	--	--
288	Brookfield East High School	3305 N. Lilly Road, City of Brookfield	X	--	--	--
289	Burleigh Elementary School	16185 Burleigh Place, City of Brookfield	X	--	--	--
290	Carroll College	100 N. East Avenue, City of Waukesha	--	X	--	--
291	Eisenhower Middle and High Schools	4333 S. Sunnyslope Road, City of New Berlin	X	--	--	--
292	Hamilton High School	W220 N6151 Town Line Road, Town of Lisbon	X	--	--	--
293	Hartland-Arrowhead Union High School	700 North Avenue, Town of Merton	X	--	--	--
294	Kettle Moraine High School	349 Oakcrest Drive, Village of Wales	X	--	--	--
295	Kettle Moraine Middle School	301 E. Ottawa Avenue, Village of Dousman	X	--	--	--
296	Menomonee Falls High School	W142 N8101 Merrimac Drive, Village of Menomonee Falls	X	--	--	--
297	Mukwonago High School	605 W. School Road, Village of Mukwonago	X	--	--	--
298	Muskego High School	W183 S8750 Racine Avenue, City of Muskego	X	--	--	--
299	New Berlin West High School and West Middle School	18695 W. Cleveland Avenue, City of New Berlin	X	--	--	--
300	Oconomowoc High School	641 Forest Street, City of Oconomowoc	X	--	--	--
301	Pewaukee Public Schools Campus	510 Lake Street, Village of Pewaukee	X	--	--	--
302	Pilgrim Park Middle School	1500 Pilgrim Parkway, Village of Elm Grove	X	--	--	--
303	Swanson Elementary School	305 N. Calhoun Road, City of Brookfield	X	--	--	--
304	University of Wisconsin- Waukesha County Center	1500 University Drive, City of Waukesha	X	--	--	--
305	Waukesha County Technical College	800 Main Street, Village of Pewaukee	--	X	--	--
306	Waukesha North High School	2222 Michigan Avenue, City of Waukesha	X	--	--	--
307	Waukesha South High School	401 E. Roberta Avenue, City of Waukesha	X	--	--	--
308	Waukesha West High School	3301 Saylesville Road, City of Waukesha	X	--	--	--
309	Wisconsin Hills Elementary School	18700 W. Wisconsin Avenue, City of Brookfield	X	--	--	--

^aIncludes employers with approximately 100 or more employees at one worksite.

Source: SEWRPC.

Table 10

OFFICE AND INDUSTRIAL PARKS IN WAUKESHA COUNTY: 1997

Number on Map 8	Office or Industrial Park ^a	Municipality	Approximate Number of Total Acres			
			10-99	100-199	200-299	300 or More
1	Acre Home Fields.....	City of Brookfield	--	x	--	--
2	Bark River Commerce Center	Village of Hartland	--	--	x	--
3	Big Bend Industrial Park 1 and 2	Village of Big Bend	x	--	--	--
4	Bishop's Woods Office Park	City of Brookfield	--	--	x	--
5	Blue Mound and Blue Mound East Industrial Parks	Town of Pewaukee	--	--	x	--
6	Bowling Green Industrial Park.....	Village of Menomonee Falls	--	x	--	--
7	Brookfield Industrial Park.....	City of Brookfield	--	x	--	--
8	Brookfield Lakes Corporate Center	City of Brookfield	--	x	--	--
9	Butler Industrial Areas	Village of Butler	--	x	--	--
10	Crossroads Corporate Center	Town of Brookfield	x	--	--	--
11	Eagle Industrial Park.....	Village of Eagle	x	--	--	--
12	Executive Drive Office Park.....	City of Brookfield	--	x	--	--
13	Falls Business Park	Village of Menomonee Falls	--	x	--	--
14	Gateway West Commerce Center	City of Brookfield	--	x	--	--
15	Goerkes Business Center	Town of Brookfield	x	--	--	--
16	Hartland- Lake Country Business Park	Village of Hartland	--	--	x	--
17	Heritage Reserve.....	Village of Menomonee Falls	--	--	x	--
18	Hillcrest Business Center	City of Waukesha	x	--	--	--
19	Jerico Industrial Park.....	Town of Pewaukee	x	--	--	--
20	Kettle Moraine Business Park.....	City of Delafield	x	--	--	--
21	Lincoln Ave Industrial Area	City of Waukesha	--	x	--	--
22	Menomonee Falls Industrial Park ^b	Village of Menomonee Falls	--	--	--	x
23	Moorland Industrial Park.....	City of New Berlin	--	--	--	x
24	Mukwonago Industrial Park	Village of Mukwonago	--	--	x	--
25	Muskego Industrial Park.....	City of Muskego	--	--	x	--
26	New Berlin Industrial Park ^d	City of New Berlin	--	--	--	x
27	Nor-X-Way Industrial Park ^e	Village of Menomonee Falls	--	x	--	--
28	Northwest Business Park	Village of Menomonee Falls	x	--	--	--
29	Oakridge Business Park.....	Village of North Prairie	x	--	--	--
30	Oconomowoc Corporate Center and Target Distribution Center	City of Oconomowoc	--	--	x	--
31	Oconomowoc West Industrial Park.....	City of Oconomowoc	x	--	--	--
32	Olympia Business Park.....	City of Oconomowoc	x	--	--	--
33	Pebble Creek Industrial Park.....	City of Waukesha	x	--	--	--
34	Pewaukee Business and Corporate Centers	Town of Pewaukee	--	--	x	--
35	Pewaukee Industrial Park.....	Village of Pewaukee	--	x	--	--
36	Pewaukee Woods Corporate Center.....	Town of Pewaukee	x	--	--	--
37	Priedeman Business Center	City of Waukesha	x	--	--	--
38	Quail Ridge Industrial and Business Park	Village of Pewaukee	x	--	--	--
39	Ridgeview Corporate Park	Town of Pewaukee	--	--	x	--
40	Riverwood Corporate Center.....	Town of Pewaukee	--	x	--	--
41	Silver Spring Industrial Heights	Village of Menomonee Falls	x	--	--	--
42	Silver Spring Corporate Park.....	Village of Menomonee Falls	--	--	x	--
43	Stone Ridge Business Park	Town of Pewaukee	x	--	--	--
44	Sunset Industrial Park	City of Brookfield	--	x	--	--
45	Sussex Industrial Park.....	Village of Sussex	--	x	--	--
46	Sussex Corporate Center	Village of Sussex	--	x	--	--
47	Tess Corners Industrial Park.....	City of Muskego	x	--	--	--
48	Waukesha Airport Industrial Park	City of Waukesha	x	--	--	--
49	Waukesha Commerce and Industrial Center	City of Waukesha	--	x	--	--
50	Waukesha Industrial Park.....	City of Waukesha	--	--	--	x
51	Waukesha Industrial Park South	City of Waukesha	x	--	--	--
52	Westridge Office and Industrial Park	City of New Berlin	--	x	--	--
53	Westwood Commerce Center	Town of Pewaukee	x	--	--	--
54	Wisconsin Avenue Office Park	City of Brookfield	x	--	--	--

^aThe office and industrial parks shown included those that were at least 10 acres in size, had sanitary sewer and public water supply facilities and hard-surfaced roadways, and were controlled and administered by a single governmental unit, organization, or business.

^bIncludes industrial areas in the northern and southern portions of the Village of Butler.

^cIncludes the developed land in the area bounded by Pilgrim Road, County Line Road (CTH Q), STH 145, Main Street (STH 74), and US 41 - US 45.

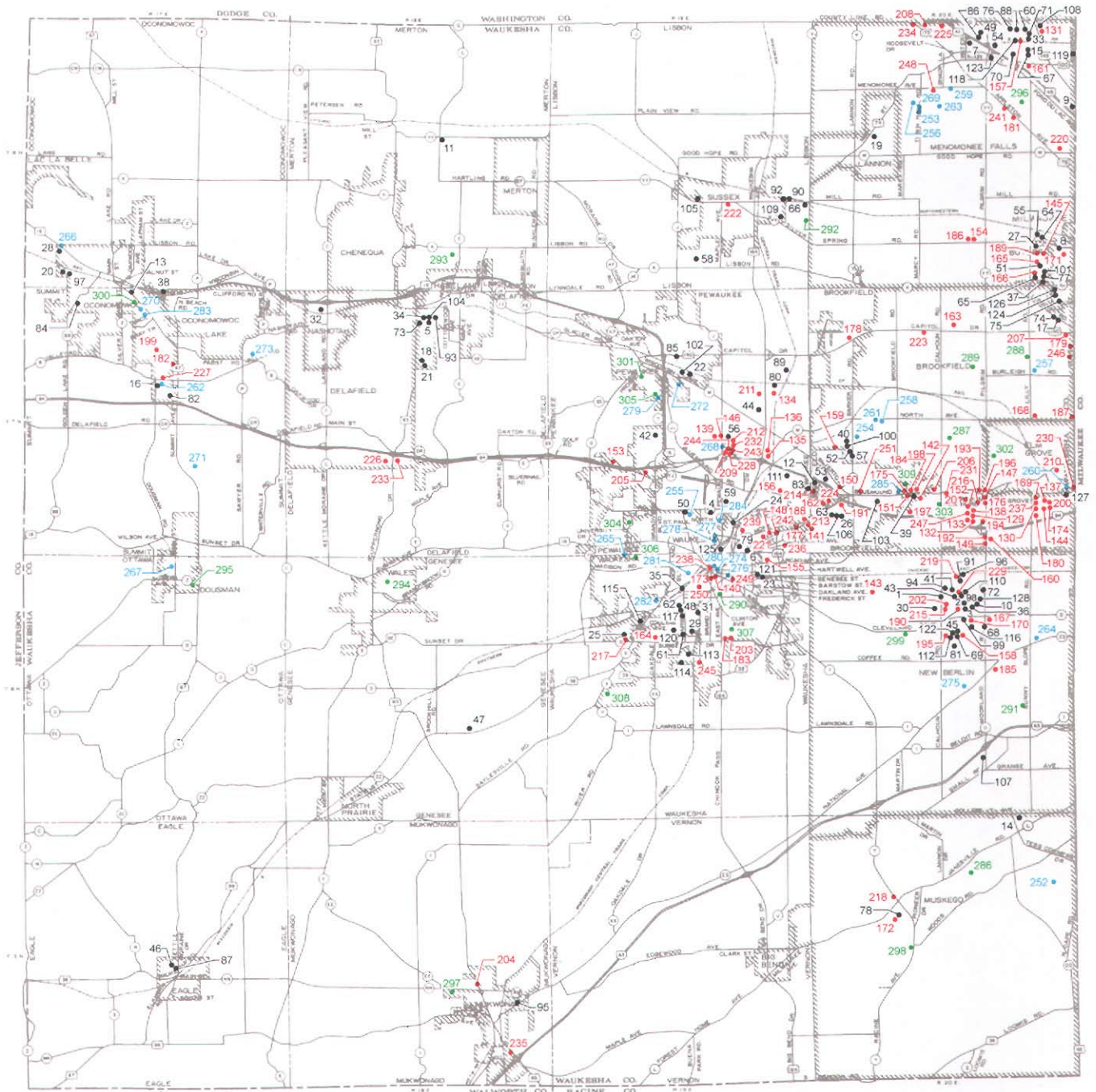
^dIncludes the Lincoln Avenue Industrial Park.

^eIncludes the Nor-X-Way II and Nor-X-Way III Industrial Parks.

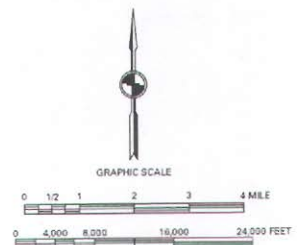
Source: SEWRPC.

Map 7

MAJOR EMPLOYERS IN WAUKESHA COUNTY: 1997



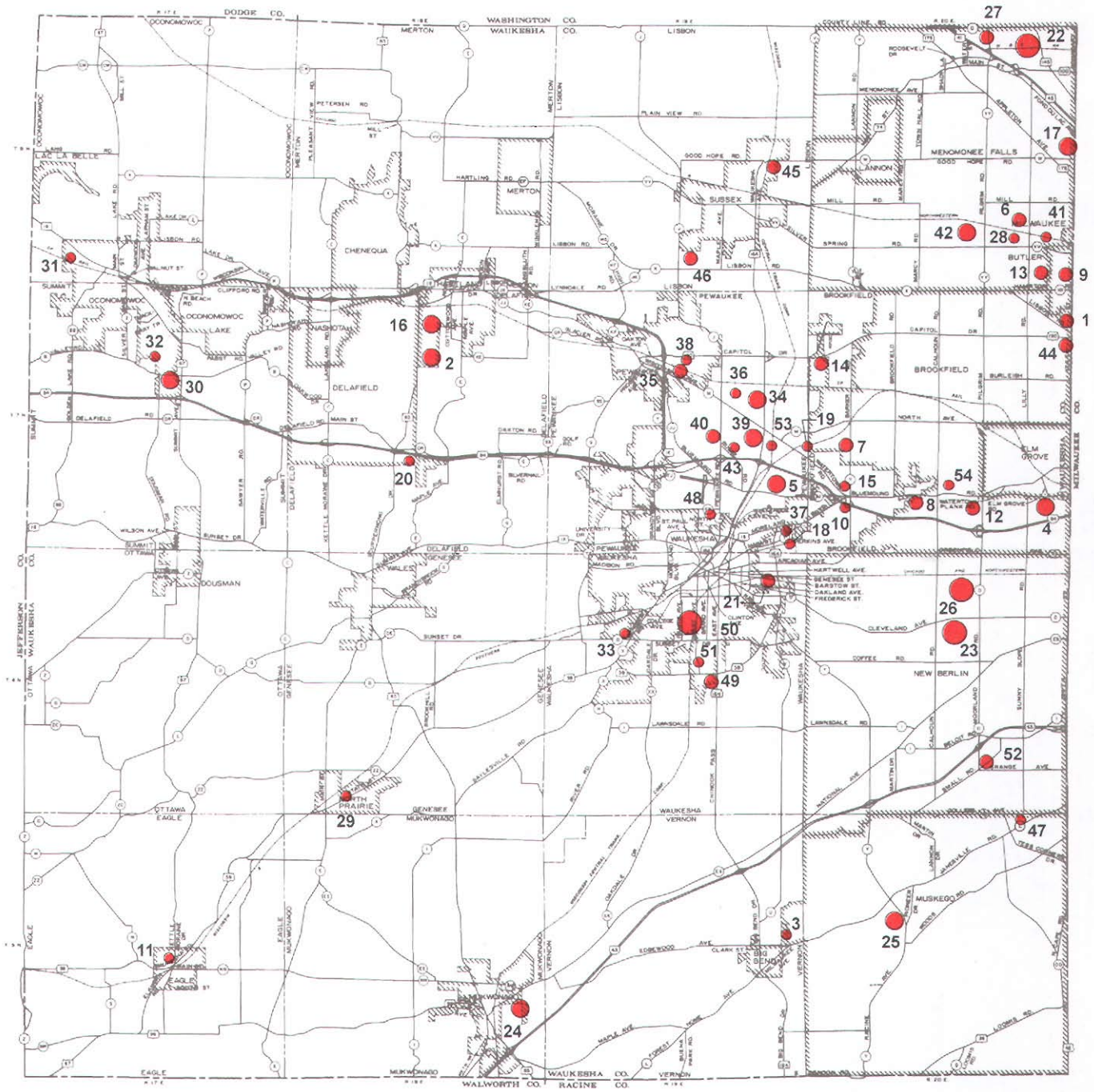
- MAJOR EMPLOYER
- INDUSTRIAL/ MANUFACTURING
 - RETAIL/ SERVICE
 - GOVERNMENTAL/ INSTITUTIONAL
 - EDUCATIONAL
- 145 IDENTIFICATION NUMBER
(SEE TABLE 9)



Source: SEWRPC.

MAP 8

OFFICE AND INDUSTRIAL PARKS IN WAUKESHA COUNTY: 1997

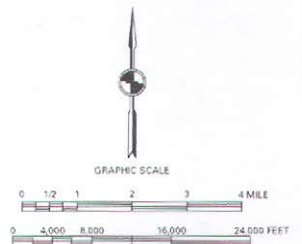


MAJOR OFFICE OR INDUSTRIAL PARK

- 10-99 ACRES
- 100-199 ACRES
- 200-299 ACRES
- 300 OR MORE ACRES

24 IDENTIFICATION NUMBER (SEETABLE10)

Source: SEWRPC.



1998 under the Wisconsin Department of Transportation Demand Management Program.

A total of 61 employers, representing about one percent of the estimated 5,000 employers who had the opportunity to respond to the survey, returned survey forms that were partially or completely useable. The employers that returned surveys are listed in Table 11 and their locations shown on Map 9. A total of 60 employers provided information used for developing employer workforce data, and 58 employers provided information used to assess transportation needs. Table 12 summarizes the responses of the 58 employers that provided information on employer transportation needs. The low number of employers responding to the survey may indicate that transportation for employees is not a major concern for the majority of employers in Waukesha County. Based on the surveys that were returned, the following general observations may be made concerning employer transportation needs:

- Nearly three-fourths, or 45 of the 61 employers responding to the survey, had a total workforce of under 100 employees, while only about 7 percent, 4 of 61, of the employers responding had a total workforce of 500 or more employees. This may indicate smaller employers have experienced more difficulties in addressing employee transportation problems.
- For about 43 percent, or 26 of the 60 employers responding, Milwaukee County residents comprised at least 25 percent of their total workforce. Residents of counties other than Milwaukee or Waukesha Counties comprised less than 10 percent of the total workforce for about 67 percent, 40 of 60, of the employers responding. This may indicate that employee transit services should focus on residents of Waukesha and Milwaukee County.
- Only about 46 percent, 27 of 58, of the employers returning surveys used in assessing transportation needs indicated they were served by some type of transit service. A total of 22 of these employers were located in the communities along the Milwaukee-Waukesha County line or in the Waukesha area and indicated they were served by a public transit route. Only five, or about 23 percent of these 22 employers indicated they were satisfied with the existing public transit service. Five other employers indicated they were served by privately operated transportation services, with four of these located in the western half of the County outside the existing public transit services areas.

- About 86 percent, or 50 of the 58 of the employers returning surveys used in assessing transportation needs, indicated they have problems recruiting workers, with about 62 percent, or 31 of these 50 employers, indicating that transportation problems were a significant factor contributing to their recruiting problems. About 48 percent, or 28 of the 58 employers with surveys usable for assessing transportation needs, indicated they have problems retaining workers, with about 64 percent, or 18 of these 28 employers, indicating that transportation problems were a significant factor contributing to their retention problems.
- A number of desired transit service improvements were identified by the 58 employers whose surveys were useful in assessing employee transportation needs. Service improvements identified by the employers located in the communities along the Milwaukee-Waukesha County line or the Waukesha area, where public transit service is currently available, primarily called for expansion of service into weekday evenings and weekends for work shifts currently without transit service or expansion of current routes. Service improvements identified by the employers located in the western portion of the County, where public transit service is not currently available, primarily called for the establishment of new routes to serve these areas.
- About 55 percent, or 32 of the 58 of the employers returning surveys used in assessing transportation needs, indicated that they would be flexible on the shift start and end times of employees where transportation was a problem. However, only about 24 percent, or 14 of these 58 employers, indicated that they would be willing to help fund the costs of expanded transit services.

Two focus group meetings were conducted by the WOW Private Industry Council in December 1998, one with the Transportation Task Force of the Waukesha Area Chamber of Commerce and the other with employers located in the Hartland Industrial Park. In addition to local employers, the existing transit operators and County staff participated in these meetings. The significant comments pertaining to transit service needs made at these meetings may be summarized as follows:

- The employers and transit operators participating in the focus groups identified several areas as having a need for expanded or new transit services. These included the Hartland Industrial Park, the Blue

Table 11

**EMPLOYERS IN WAUKESHA COUNTY RESPONDING TO
THE SURVEY OF EMPLOYER TRANSPORTATION NEEDS CONDUCTED BY THE
WAUKESHA-OZAUKEE-WASHINGTON PRIVATE INDUSTRY COUNCIL: FALL 1998**

Number on Map 9	Employer	Address	Approximate Employment				
			Less than 50	50 - 99	100-249	250-499	More than 500
1	AccuStaff, Inc.	4700 N. 132nd Street, Village of Butler	X	--	--	--	--
2	AccuStaff, Inc.	2120 E. Moreland Boulevard, City of Waukesha	X	--	--	--	--
3	Acoustical Floors of Waukesha, Inc.	675 Industrial Court, Village of Hartland	X	--	--	--	--
4	Advanced Design Concepts, Inc.	W237 N2889 Woodgate Road, City of Pewaukee	X	--	--	--	--
5	Al's Auto Sales & Salvage.....	5290 N. 124 th Street, Village of Butler	--	--	--	--	--
6	American Cable & Electronics.....	12615 W. Custer Avenue, Butler	X	--	--	--	--
7	Anderson Bros., Refrigeration Service, Inc.	12450 W. Colfax Place, Village of Butler	X	--	--	--	--
8	Baymont Inn.....	2801 Hillside Drive, City of Delafield	X	--	--	--	--
9	Beatrice Cheese, Inc.	770 N. Springdale Road, City of Pewaukee	--	--	--	X	--
10	Boise Cascade Office Products	2725 S. 163rd Street, City of New Berlin	--	X	--	--	--
11	Business Cards Tomorrow	1800 Dolphin Drive, City of Waukesha	X	--	--	--	--
12	Butler Gear	12819 W. Silver Spring Road, Village of Butler	X	--	--	--	--
13	Camtronics	900 Walnut Ridge Drive, Village of Hartland	--	--	X	--	--
14	Car Craft.....	705 Cardinal Lane, Village of Hartland	X	--	--	--	--
15	Central Machine, Inc.	1230 Pearl Street, City of Waukesha	X	--	--	--	--
16	Citizen's Bank of Mukwonago	301 N. Rochester Street, Village of Mukwonago	--	X	--	--	--
17	Comfort Suites Lake Country	N14 W24121 Tower Place, City of Pewaukee	--	X	--	--	--
18	Congregational Home, Inc.	13900 W. Burleigh Avenue, City of Brookfield	--	--	X	--	--
19	Coolidge Glass Company	W226 N758 Eastmound Drive, City of Pewaukee	--	X	--	--	--
20	Country Inn Hotel.....	2810 Golf Road, City of Waukesha	--	--	X	--	--
21	Culver's Frozen Custard.....	14855 W. National Avenue, City of New Berlin	X	--	--	--	--
22	Custom Products Corporation	1205 Wall Street, City of Oconomowoc	--	--	X	--	--
23	Dalum's Utility Equipment Company (Dueco), Inc.	N4 W22610 Bluemound Road, City of Pewaukee	--	--	X	--	--
24	Detroit Edge Tool Company.....	579 Progress Drive, Village of Hartland	X	--	--	--	--
25	Dickten & Masch Manufacturing Company	N44 W33365 Watertown Plank Road, Village of Nashotah	--	--	X	--	--
26	Diversified Personnel Services.....	24 S. Main Street, City of Oconomowoc	X	--	--	--	--
27	East Shore Specialty Foods.....	643 Cardinal Lane, Village of Hartland	X	--	--	--	--
28	Electronic Products, Inc.	530 Hartbrook Drive, Village of Hartland	X	--	--	--	--
29	Farmer's Insurance West Suburban Agency	12526 W. Hampton Avenue, Village of Butler	--	X	--	--	--
30	First Bank Financial Centre.....	155 W. Wisconsin Avenue, City of Oconomowoc	--	X	--	--	--
31	Firststar Information Services Corporation.....	16900 W. Capitol Drive, City of Brookfield	--	--	--	X	--
32	Flexo Graphics, Inc.	12820 W. Glendale Avenue, Village of Butler	X	--	--	--	--
33	General Refrigeration Heating & Air Conditioning, Inc.	5005 N 124th Street, Village of Butler	X	--	--	--	--
34	Heartland Health Care Center	N26 W23977 Watertown Road, City of Pewaukee	--	--	X	--	--
35	Heritage Quality Printing and Graphics Center	19555 W. Blue Mound Road, Town of Brookfield	X	--	--	--	--
36	Holiday Inn Express	3030 Golf Road, City of Delafield	X	--	--	--	--
37	Joe Wilde Company, Inc.	16601 W. Cleveland Avenue, City of New Berlin	X	--	--	--	--
38	The Kimpas Group.....	5235 N. 124 th Street, Village of Butler	X	--	--	--	--
39	KDV Label Company, Inc.	437 W. Newhall Avenue, City of Waukesha	--	X	--	--	--
40	Leather Center.....	17925 W. Bluemound Road, City of Brookfield	X	--	--	--	--
41	Maxxon Great Lakes	675 Industrial Court, Village of Hartland	X	--	--	--	--
42	Molded Rubber/Plastic Corporation	13161 W. Glendale Avenue, Village of Butler	--	--	X	--	--
43	Mukwonago Publications	555 Bay View Road, Village of Mukwonago	X	--	--	--	--
44	Office Depot.....	16085 W. Bluemound Road, City of Brookfield	--	X	--	--	--
45	Pinahs Company.....	N8 W22100 Johnson Road, City of Pewaukee	--	X	--	--	--
46	The Real Estate Company	426 E. Wisconsin Avenue, City of Oconomowoc	X	--	--	--	--
47	Schroeder Moving Systems.....	16260 W. Rogers Drive, City of New Berlin	--	X	--	--	--
48	Sells Painting Company	16000 W. Rogers Drive, City of New Berlin	--	--	X	--	--
49	Singer Tool & Die, Inc.	4559 N. 128th Street, Village of Butler	X	--	--	--	--
50	Sjoberg Tool & Manufacturing Company	535 S. Industrial Drive, Village of Hartland	--	X	--	--	--
51	Spectrum Communication Services, Inc.	125 N. Executive Drive, City of Brookfield	--	X	--	--	--
52	Statz Restoration & Engineering Company, Inc.	5145 N. 124th Street, Village of Butler	X	--	--	--	--
53	Steak Escape	95 N. Moorland Road, City of Brookfield	X	--	--	--	--
54	T-Lon Products, Inc.	540 Progress Drive, Village of Hartland	X	--	--	--	--
55	Target Distribution Center.....	1100 Valley Road, City of Oconomowoc	--	--	--	--	X
56	Three Pillars-Masonic Village on the Square.....	375 STH 67, Village of Dousman	--	--	X	--	--
57	Tony Roma's	19850 W. Bluemound Road, Town of Brookfield	X	--	--	--	--
58	The Virginia Health & Rehabilitation Center	1451 Cleveland Avenue, City of Waukesha	--	X	--	--	--
59	Walenta Grinding, Inc.	3150 N. 126th Street, City of Brookfield	X	--	--	--	--
60	Waukesha Memorial Hospital.....	725 American Avenue, City of Waukesha	--	--	--	--	X
61	Westmoreland Health Center.....	1810 Kensington Drive, City of Waukesha	--	--	X	--	--

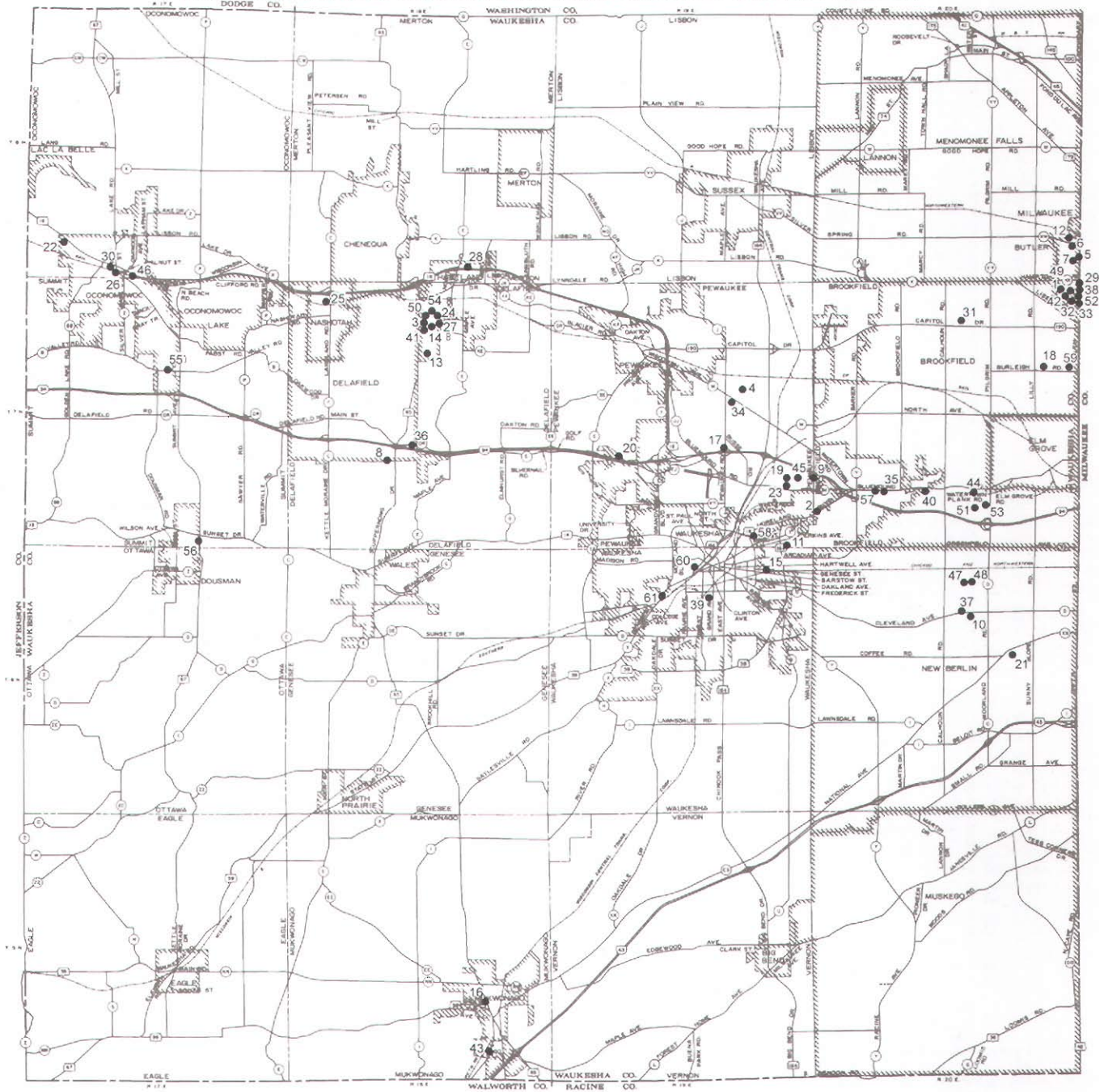
Source: Waukesha-Ozaukee-Washington Private Industry Council and SEWRPC.

Mound and Blue Mound East Industrial Parks in the City of Pewaukee, office parks and businesses located along STH 164 and STH 74 in the City of Pewaukee, and the New Berlin Industrial Park.

In addition to service to bring workers from Milwaukee County, a need was expressed for service to bring workers from the City of Waukesha to these areas.

Map 9

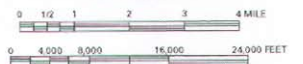
**LOCATIONS OF EMPLOYERS IN WAUKESHA COUNTY RESPONDING TO THE
SURVEY OF EMPLOYER TRANSPORTATION NEEDS CONDUCTED BY THE
WAUKESHA-OZAUKEE-WASHINGTON PRIVATE INDUSTRY COUNCIL: FALL 1998**



- EMPLOYER
- 47 IDENTIFICATION NUMBER
(SEE TABLE 11)



GRAPHIC SCALE



Source: Waukesha-Ozaukee-Washington Private Industry Council and SEWRPC.

Table 12

**SUMMARY OF RESPONSES BY WAUKESHA COUNTY EMPLOYERS TO TRANSPORTATION NEEDS SURVEY
CONDUCTED BY THE WAUKESHA-OZAUKEE-WASHINGTON PRIVATE INDUSTRY COUNCIL: FALL 1998**

Survey Question	Number of Employers by Zip Code Area									
	Brookfield	Butler	Delafield	Hartland	Mukwonago	New Berlin	Oconomowoc	Pewaukee	Waukesha	Waukesha County
Is employer served by a public transportation route?										
Yes	9	6	--	--	--	1	--	--	6	22
No	1	5	2	7	2	4	6	2	7	36
No response	--	--	--	--	--	--	--	--	--	--
Total for Question	10	11	2	7	2	5	6	2	13	58
If served by a public transportation route, does route meet needs of employees?										
Yes	4	1	--	--	--	--	--	--	--	5
No	2	2	--	--	--	1	--	--	4	9
No response	3	3	--	--	--	--	--	--	2	8
Total for Question	9	6	--	--	--	1	--	--	6	22
Is employer served by a privately sponsored transportation service?										
Yes	--	--	1	1	--	--	2	--	1	5
No	10	10	1	6	2	5	4	2	12	52
No response	--	1	--	--	--	--	--	--	--	1
Total for Question	10	11	2	7	2	5	6	2	13	58
For employers having difficulties recruiting workers, are transportation problems a significant factor?										
Yes	7	4	2	1	1	3	4	1	8	31
No	3	5	--	3	1	2	1	--	4	19
No response	--	--	--	--	--	--	--	--	--	--
Total for Question	10	9	2	4	2	5	5	1	12	50
For employers having difficulties retaining workers, are transportation problems a significant factor?										
Yes	4	2	1	1	--	1	2	--	7	18
No	3	1	--	--	--	1	2	--	3	10
No response	--	--	--	--	--	--	--	--	--	--
Total for Question	7	3	1	1	--	2	4	--	10	28
Is employer willing to be flexible on shift times where transportation is a problem?										
Yes	7	4	2	3	1	3	5	1	6	32
No	3	7	--	4	1	2	1	1	7	26
No response	--	--	--	--	--	--	--	--	--	--
Total for Question	10	11	2	7	2	5	6	2	13	58
What types of changes would employers like to see in public transportation? ^c										
Evening service	5	2	--	--	--	3	3	--	6	19
Service for other shifts ^d	4	--	--	--	--	3	--	--	6	13
Expansion of current routes	3	5	--	--	--	--	--	1	6	15
New routes	1	2	2	3	2	3	--	1	5	19
Improve service between Milwaukee and Waukesha Counties	1	1	--	--	--	--	1	--	--	3
Would employer be willing to help fund an expansion of public transportation service in its area?										
Yes	1	2	1	--	1	3	4	1	1	14
No	8	9	--	7	1	2	2	1	12	42
No response	1	--	1	--	--	--	--	--	--	2
Total for Question	10	11	2	7	2	5	6	2	13	58

^aResponses shown are for only those employers indicating they were served by a public transportation route.

^bResponses shown are for only those employers indicating they experienced difficulties in recruiting or retaining employees.

^cSome employers identified more than one potential service change.

^dIncludes requests for service on weekends and holidays.

Source: Waukesha-Ozaukee-Washington County Private Industry Council and SEWRPC.

- The hospitality industry in Waukesha County was identified as experiencing great difficulty in recruiting and retaining workers. Focus group participants indicated there were approximately 30 hotels or motels located in the IH 94 corridor in Waukesha County. The absence of any public transportation

service in the western part of this corridor, or the limited times of service availability in the eastern part of this corridor is a major problem to hotel and motel operators. To be useful to these businesses, transit service must serve the various shifts of part-time employees.

- Several employers noted that their companies run three shifts each weekday. To be effective in serving workers, transit services would need to be operated for each shift.
- Employers indicated that where the businesses to be served were located in outlying areas that were not "pedestrian friendly," stops should be located at businesses or have passenger shelters unless the wait for the bus is less than 5 minutes.
- Several employers identified the need for reliable transit service not only for commuting to and from jobs, but also for job applicants and workers taking pre-employment tests. Several had utilized the State Job-Ride Program in the past but had experienced some problems.
- Childcare transportation was raised as a need that should be considered in developing employment transportation services. The location of childcare centers near or at transit centers or park-ride facilities was identified as being helpful to workers. Employers noted that the availability of day care services makes a company more attractive to potential workers and flexibility around childcare situations helps with employee retention. One employer noted its success in developing an in-house childcare center, both as a convenience to existing employees and as a tool for recruiting new employees.
- Some employers expressed concerns over potential competition among employers for employees as a result of employees from different companies sharing job and wage information on their bus trip to and from work. It was noted that such competition would exist whether employees used public transit or not, and that this had not been identified as a problem in other areas with successful transit routes.
- Employers had questions about the level of financial commitment that would be required from companies to establish new or improved transit services. It was noted that transit services designed to serve employment centers in the Menomonee Falls-Butler area of the County were supported by a group of businesses in that area, with the businesses agreeing to pay the portion of operating costs not covered by passenger revenues, state and federal operating assistance, and County funds. Employers were informed that in Washington and Ozaukee Counties, the local businesses have agreed to pay a higher share of the costs of initiating public transit service,

as these counties either provide no funds or a much smaller share of local transit operating assistance than Waukesha County.

- Emergency guaranteed ride home service was a concern for some employers who noted that this has been a significant concern of workers. However, some employers indicated that there has been little evidence to support the need for emergency guaranteed ride home service, and that it probably costs more to administer than to operate.

TRAVEL HABITS AND PATTERNS

Information on the quantity and characteristics of travel in Waukesha County and between the County and other areas was based on the findings of a household travel survey and a survey of Waukesha County transit system users conducted by the Regional Planning Commission. The Commission's household home interview survey was conducted in the autumn of 1991 and was based on a sample of about 17,500 households, or about 2.6 percent of the total number of households in the Region. That survey was part of a comprehensive inventory of travel, which also included a truck and taxi survey, an external cordon survey, and a household personal opinion survey. Inventories of travel using similar surveys were also conducted by the Commission in 1963 and 1972. The Commission's on-board bus surveys of users of the County's transit system were conducted April 29 and 30, 1998, on the City of Waukesha Metro Transit service operated in the Blue Mound Road corridor, and May 5 through 7, 1998, on the Wisconsin Coach Lines, Inc., and Milwaukee County Transit System bus routes serving Waukesha County. The surveys entailed distributing a prepaid, preaddressed, mail-back survey questionnaire to all passengers. About 1,000, or about 44 percent, of the approximately 2,300 average weekday revenue passengers returned the questionnaires. The on-board bus survey form is reproduced in Appendix A of this report.

Total Person Travel Characteristics

The distributions of person trips² in the County in 1963, 1972, and 1991 are shown in Table 13 by trip purpose and by area, including intracounty trips, which had both trip ends within the County; intercounty intraregional

²A person trip was defined as a one-way journey between a point of origin and a point of destination by a person five years of age or older traveling as an auto driver or as a passenger in an auto, taxi, truck, motorcycle, school bus, or other mass transit carrier. To be considered, the trip must have been at least the equivalent of one full city block in length.

Table 13

**DISTRIBUTION OF AVERAGE WEEKDAY PERSON TRIPS FOR
WAUKESHA COUNTY BY TRIP PURPOSE: 1963, 1972 AND 1991**

Area	Trip Purpose ^a	Person Trips						Change			
		1963		1972		1991		1963-1991		1972-1991	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Within Waukesha County	Home-based work	40,900	15.6	86,800	16.6	146,300	17.8	105,400	257.7	59,500	68.5
	Home-based shopping	38,500	14.7	84,000	16.1	127,000	15.5	88,500	229.9	43,000	51.2
	Home-based other	92,800	35.4	192,500	36.9	260,300	31.7	17,500	186.5	67,800	35.2
	Nonhome-based	39,000	14.8	78,800	15.1	172,600	21.1	133,600	342.6	93,800	119.0
	School	51,200	19.5	79,600	15.3	113,800	13.9	62,600	122.3	34,200	43.0
	Total	262,400	100.0	521,700	100.0	820,000	100.0	557,600	212.5	298,300	57.2
Between Waukesha County and Other Areas in the Region	Home-based work	57,300	33.7	102,100	31.3	183,200	37.6	125,900	219.7	81,100	79.4
	Home-based shopping	21,000	12.4	45,900	14.1	49,600	10.2	28,600	136.2	3,700	8.1
	Home-based other	58,100	34.2	103,500	31.7	118,700	24.3	60,600	104.3	15,200	14.7
	Nonhome-based	21,800	12.8	62,100	19.0	114,300	23.4	92,500	424.3	52,200	84.1
	School	11,800	6.9	12,700	3.9	21,900	4.5	10,100	85.6	9,200	72.4
	Total	170,000	100.0	326,300	100.0	487,700	100.0	317,700	186.9	161,400	49.5
Between Waukesha County and Areas Outside the Region	Home-based work	5,500	35.5	6,600	30.0	16,200	42.4	10,700	194.5	9,600	145.5
	Home-based shopping	1,000	6.4	2,200	10.0	3,400	8.9	2,400	240.0	1,200	54.5
	Home-based other	7,300	47.1	10,600	48.2	11,000	28.8	3,700	50.7	400	3.8
	Nonhome-based	1,500	9.7	2,000	9.1	6,400	16.8	4,900	326.7	4,400	220.0
	School	200	1.3	600	2.7	1,200	3.1	1,000	500.0	600	100.0
	Total	15,500	100.0	22,000	100.0	38,200	100.0	22,700	146.5	16,200	73.6
Total	Home-based work	103,700	23.2	195,500	22.5	345,700	25.7	242,000	233.4	150,200	76.8
	Home-based shopping	60,500	13.5	132,100	15.2	180,000	13.4	119,500	197.5	47,900	36.3
	Home-based other	158,200	35.3	306,600	35.2	390,000	29.1	231,800	146.5	83,400	27.2
	Nonhome-based	62,300	13.9	142,900	16.4	293,300	21.8	231,000	370.8	150,400	105.2
	School	63,200	14.1	92,900	10.7	136,900	10.2	73,700	116.6	44,000	47.4
	Total	447,900	100.0	870,000	100.0	1,345,900	100.2	898,000	200.5	475,900	54.7

^a The trip data were grouped into five categories of travel purpose: home-based work trips, home-based shopping trips, home-based other trips, nonhome-based trips, and school-based trips. Home-based work trips are defined as trips having one end at the place of residence of the tripmaker and the other end at the place of work. Home-based shopping trips are defined as trips having one end at the place of residence of the tripmaker and the other end at a shopping place of destination. Home-based other trips are defined as trips having one end at the place of residence of the tripmaker and the other end at a place of destination other than home, work, shopping, or school. Such trips would include trips made for social, recreation, medical, and personal business. Nonhome-based trips are defined as trips that neither originate or end at home. School-based trips are defined as having at least one end at school.

Source: SEWRPC.

trips, which had one trip end within the County and the other trip end in a different area within the seven-county Southeastern Wisconsin Region; and external interregional trips, which had one trip end within the County and the other trip end in a different area outside the Region.

To facilitate analysis of 1991 person-travel, the County was divided into 14 analysis areas largely representing the major civil divisions within the County, and the areas outside the County were divided into 24 analysis areas, including 21 areas within the Region and three areas outside the Region. The volume of intracounty trip productions and attractions³ in 1991 is presented in

³ A trip is defined and presented as travel by a person from a place of trip production to a place of trip attraction. For trips with one end at home, the place of trip production is always defined as the home and the place of trip attraction, is always defined as the other end of the trip, which may be place of work, shopping, personal business, social activity, recreation, or other activity. For

Table 14. Map 10 illustrates graphically the generalized pattern of trips between the 14 analysis areas in the County. The volume of the person trips made in 1991 between the County and the other counties in the Region and areas outside the Region is presented in Tables 15 and 16. Map 11 graphically illustrates the pattern of trips between the County and the counties within and just outside the Region. Map 12 graphically illustrates the pattern of trips between Waukesha and Milwaukee Counties at the subarea level. Maps 10 through 12 principally show the volume of trips between place of residence and place of work, shopping, and other. Map 13 graphically illustrates the pattern of trips between

a trip which neither begins nor ends at home, the place of the trip production is the place of origin of the trip, and the place of trip attraction is defined as the place of destination of the trip.

Table 14

**DISTRIBUTION OF AVERAGE WEEKDAY INTRACOUNTY
PERSON TRIPS IN WAUKESHA COUNTY: 1991**

Area of Trip Production	Area of Trip Attraction														Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1. Oconomowoc	49,080	1,400	370	360	5,180	1,350	3,280	3,010	2,180	610	450	30	130	30	67,460
2. Chenequa-Merton	1,860	4,540	430	930	5,930	1,000	1,320	1,170	--	--	180	--	140	--	17,500
3. Sussex	240	840	12,780	7,690	1,330	2,050	2,370	3,170	40	20	350	--	--	20	30,900
4. Menomonee Falls	--	80	3,900	58,520	100	1,410	1,910	10,530	--	160	580	--	80	60	77,330
5. Delafield-Hartland	5,300	2,880	570	310	22,770	2,960	5,660	3,630	630	4,350	610	230	140	20	50,060
6. Pewaukee	500	70	610	640	1,020	10,040	9,990	5,050	70	90	1,130	100	50	20	29,380
7. Waukesha	1,880	360	1,470	2,100	2,890	10,110	164,530	19,430	910	2,380	5,450	780	1,500	1,070	214,860
8. Brookfield-Elm Grove	690	170	630	6,880	740	4,630	14,460	106,340	50	110	6,130	120	90	180	141,220
9. Dousman-Eagle	4,290	--	200	70	1,040	1,060	3,720	1,450	5,470	2,680	530	4,010	60	180	24,760
10. Wales-Genesee	1,100	230	140	610	4,580	1,400	10,730	1,740	1,980	14,230	520	2,820	140	150	40,370
11. New Berlin	60	110	130	960	300	1,400	7,400	14,210	--	240	45,420	200	330	2,060	72,820
12. Mukwonago	80	--	40	40	130	310	2,930	790	700	890	650	15,400	680	420	23,060
13. Big Bend-Vernon	40	--	70	60	130	240	3,450	1,150	--	230	620	3,200	2,110	1,020	12,320
14. Muskego	--	40	80	160	20	190	1,400	940	60	--	1,930	370	220	12,590	18,000
Total	65,120	10,720	21,420	79,330	46,160	38,150	233,150	172,610	12,090	25,990	64,550	27,260	5,670	17,820	820,040

NOTE: Shaded cells indicate trips made entirely within an analysis area.

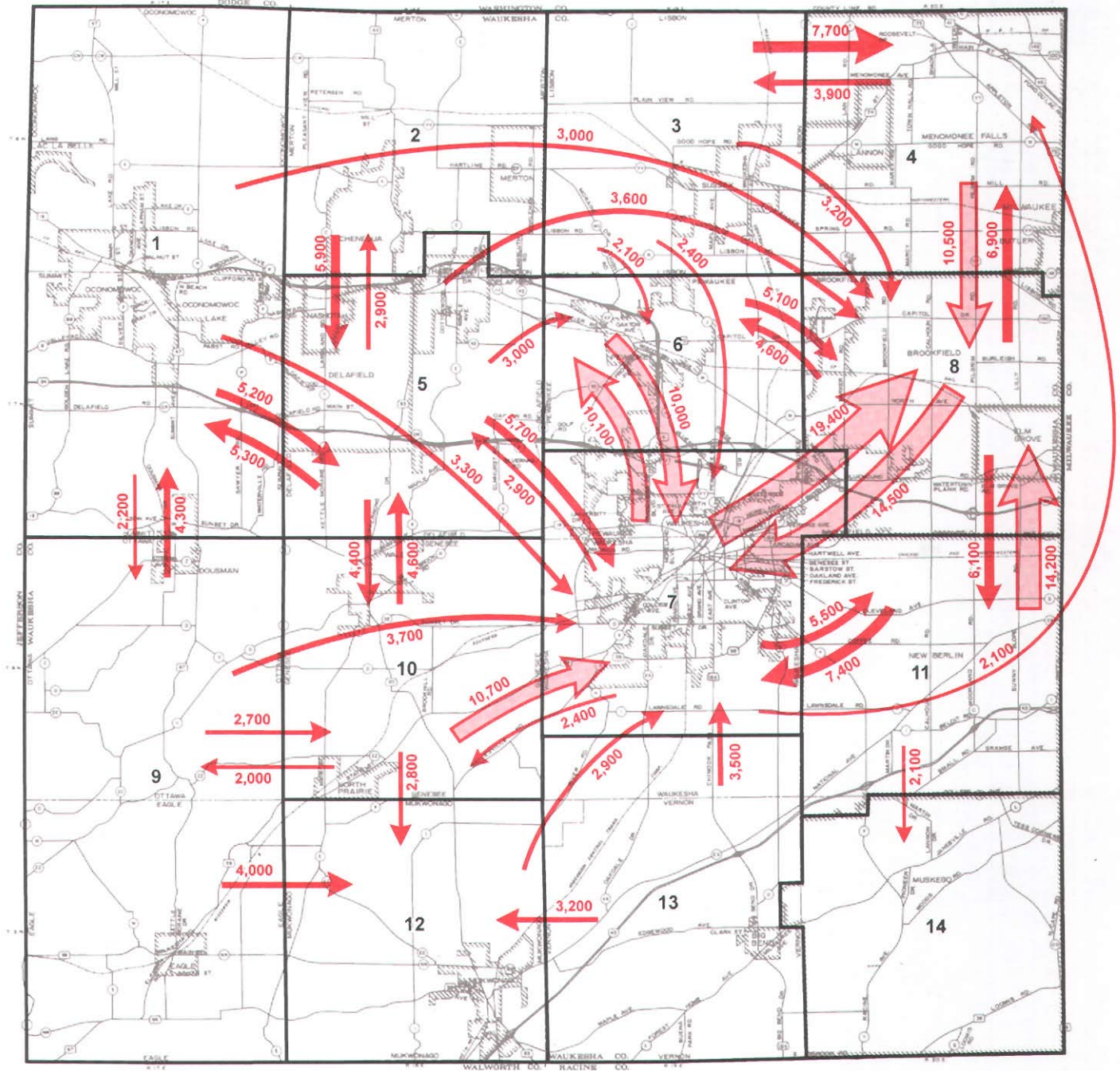
Source: SEWRPC.

Waukesha and Milwaukee Counties for home-based work person trips only. These tables and maps lead to the following conclusions:

- About 1,345,900 person trips with origins or destinations within the County, including both intracounty and intercounty trips, were made on an average weekday in 1991. This represents a threefold increase in person-travel since 1963. Most of the observed increase was from intracounty person travel, which increased by about 557,600 person trips, or about 213 percent, from about 262,400 trips in 1963 to about 820,000 trips in 1991. Intercounty person trips increased by about 340,400 trips, or about 184 percent, from about 185,500 trips in 1963 to about 525,900 trips in 1991.
- About 820,000 person trips, or 61 percent of all person trips, were made as intracounty trips on an average weekday in 1991. The largest proportion, about 32 percent, were home-based other trips, such as trips made for medical, personal business, or social or recreational purposes. The average weekday intracounty trips in 1991 represented an increase of about 213 percent over the 262,400 intracounty trips made on an average weekday in 1963. As would be expected, the distribution of intracounty person-trips among the analysis areas within the County reflects the concentrations of population and employment throughout the County. As may be seen in Table 14 and on Map 12, the majority, about 63 percent, of these trips were made within the Waukesha, Pewaukee, New Berlin, Brookfield, and Menomonee Falls areas.
- The remaining 525,900 person trips, or 39 percent of all average weekday person trips, were made as intercounty trips with one trip end outside the County. Most of these trips, about 37 percent, were made for work purposes. Trips made between the County and Milwaukee County accounted for about 404,500 trips, or about 77 percent, of all intercounty trips. Trips produced in Waukesha County and made to locations in Milwaukee County accounted for about 53 percent of all Waukesha-Milwaukee County trips. The average weekday Waukesha-Milwaukee County travel in 1991 represented an increase of about 145 percent over the approximately 165,000 trips made between the two counties in 1963. While the average weekday trips produced in Waukesha County and attracted to Milwaukee County locations increased from about 103,000 trips in 1963 to about 216,000 trips in 1991, or by about 110 percent, trips produced in Milwaukee County and attracted to Waukesha County increased by about 204 percent, from about 62,000 trips in 1963 to about 188,500 trips in 1991. The vast majority of the Waukesha-Milwaukee County travel was concentrated in the same areas in eastern Waukesha County, which account for most intracounty travel. These areas have been largely converted to urban land uses as an outward expansion of development from Milwaukee County. About 5 percent of the trips from these subareas are

Map 10

DISTRIBUTION OF AVERAGE WEEKDAY INTRACOUNTY PERSON TRIPS
BETWEEN SUBAREAS IN WAUKESHA COUNTY: 1991

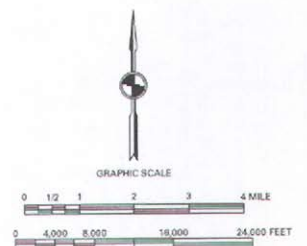


— SUBAREA BOUNDARY
10 SUBAREA IDENTIFICATION NUMBER

NOTE: TRIPS ARE SHOWN IN PRODUCED-ATTRACTED FORMAT THAT IS, FROM AREA OF PRODUCTION TO AREA OF ATTRACTION. TRAVEL BETWEEN SUBAREAS IS NOT DEPICTED UNLESS THERE WAS A MINIMUM OF 2,000 TRIPS FROM ONE SUBAREA TO ANOTHER. APPROXIMATELY 229,700 OF ABOUT 296,300 TOTAL PERSON TRIPS BETWEEN SUBAREAS, OR ABOUT 78 PERCENT, ARE SHOWN HERE.

PERSON TRIPS INTERNAL TO SUBAREAS

1	49,100	9	5,500
2	4,500	10	14,200
3	12,800	11	45,400
4	58,500	12	15,400
5	22,800	13	2,100
6	10,000	14	12,900
7	164,500	TOTAL	523,700
8	106,300		



Source: SEWRPC.

Table 15

DISTRIBUTION OF AVERAGE WEEKDAY INTERCOUNTY PERSON TRIPS PRODUCED WITHIN WAUKESHA COUNTY AND ATTRACTED TO AREAS OUTSIDE WAUKESHA COUNTY: 1991

Areas of Trip Production Inside Waukesha County		Area of Trip Attraction Outside Waukesha County ^a																		
		Within the Region																		
		Washington County					Ozaukee County					Milwaukee County								
		Number	Name	15	16	17	18	Subtotal	19	20	21	Subtotal	22	23A	23B	23C	24A	24B	24C	25
1	Oconomowoc	--	40	20	190	50	--	--	--	--	890	1,830	890	820	520	390	240	90	1,100	6,770
2	Chenequa-Merton	--	--	320	120	440	--	--	20	20	650	1,010	120	220	140	140	20	40	170	2,510
3	Sussex	--	30	250	1,070	1,350	60	--	140	200	2,460	1,700	700	660	230	230	320	20	440	6,760
4	Menomonee Falls	60	260	380	6,850	7,550	--	510	770	1,280	11,800	7,070	2,920	2,360	1,560	1,260	1,040	410	1,720	30,140
5	Delafield-Hartland	--	40	220	90	350	--	70	--	70	740	1,530	550	690	550	310	170	20	1,250	5,810
6	Pewaukee	--	--	70	420	490	--	30	500	530	730	1,510	740	670	690	690	120	40	570	5,760
7	Waukesha	--	250	50	480	780	--	140	--	140	1,670	5,310	2,970	2,110	3,460	2,180	1,880	850	3,370	23,800
8	Brookfield- Elm Grove	--	60	50	950	1,060	--	280	750	1,030	7,280	22,320	8,980	4,190	5,120	2,710	1,970	1,600	4,850	59,020
9	Dousman-Eagle	--	20	--	40	60	--	--	--	--	380	430	400	210	280	270	230	220	380	2,800
10	Wales-Genesee	--	--	--	--	--	--	--	--	--	440	1,050	610	260	410	360	330	50	540	4,050
11	New Berlin	50	--	--	110	160	--	130	230	360	1,900	6,890	3,520	3,050	17,770	5,710	2,550	1,800	3,030	46,220
12	Mukwonago	--	--	--	--	--	--	--	40	40	230	520	230	190	540	650	410	300	370	3,440
13	Big Bend-Vernon	--	--	--	--	--	--	--	--	--	100	330	320	330	1,030	550	660	190	240	3,750
14	Muskego	70	--	--	30	100	--	50	60	110	720	1,240	690	950	5,760	1,780	1,330	1,730	960	15,160
--	Total	180	700	1,360	10,350	12,590	60	1,210	2,510	3,780	29,990	52,740	23,640	16,710	38,060	17,230	11,270	7,360	18,990	215,990

Area of Trip Production Inside Waukesha County		Area of Trip Attraction Outside Waukesha County																	
		Within the Region													Outside the Region				Total
		Washington County				Racine County					Kenosha County								
		Number	Name	27	29	29	Subtotal	30	31	32	33	Subtotal	34	35	Subtotal	Subtotal	36	37	
1	Oconomowoc	50	70	120	240	20	90	--	40	150	--	--	--	7,410	690	2,630	1,110	4,430	
2	Chenequa-Merton	--	--	--	--	--	--	--	--	--	--	40	40	3,010	80	180	190	450	3,460
3	Sussex	80	120	--	200	--	--	--	--	--	--	--	--	8,510	90	120	290	500	9,010
4	Menomonee Falls	30	30	--	60	--	--	--	140	140	--	40	40	39,210	70	60	880	1,010	40,220
5	Delafield-Hartland	40	230	100	370	--	--	50	50	100	--	--	--	6,700	150	360	710	1,220	7,920
6	Pewaukee	20	--	--	20	--	--	--	90	90	100	--	100	6,990	40	190	440	670	7,660
7	Waukesha	490	120	340	950	100	60	20	590	770	180	160	340	26,780	190	410	1,710	2,310	29,090
8	Brookfield- Elm Grove	100	40	50	190	40	--	40	630	710	30	70	100	62,110	110	250	1,560	1,920	64,030
9	Dousman-Eagle	200	470	--	670	--	--	--	100	100	--	--	--	3,630	30	680	250	960	4,590
10	Wales-Genesee	190	50	--	240	--	--	--	--	--	60	40	100	4,390	20	120	290	430	4,820
11	New Berlin	--	--	90	90	40	60	210	350	660	180	90	270	47,760	20	210	1,110	1,340	49,100
12	Mukwonago	130	890	--	1,020	170	30	20	30	250	60	--	60	4,810	--	70	220	290	5,100
13	Big Bend-Vernon	--	120	40	160	130	40	60	70	300	--	110	110	4,320	--	50	170	220	4,540
14	Muskego	--	130	--	130	50	70	400	260	780	--	--	--	16,280	20	30	240	290	16,570
--	Total	1,330	2,200	740	4,340	550	350	800	2,350	4,050	610	550	1,160	241,910	1,510	5,360	9,170	16,040	257,950

^aEach numbered subarea outside Waukesha County is identified in Table 16.

Source: SEWRPC.

focused on the very small area that comprises the City of Milwaukee central business district.

Transit Person Travel Characteristics of Waukesha County Transit System Users

Survey data indicate that about 2,300 revenue passenger trips were made on the routes of the Waukesha County transit system at the times of the survey in late April and early May 1998.⁴ Table 17 indicates the percent of

weekday transit trips made as intercounty trips between Waukesha and Milwaukee Counties and as intracounty trips entirely within Waukesha County on the services provided by each contract operator. Table 18 summarizes the socio-economic characteristics of Waukesha County transit system weekday passengers for intercounty and intracounty travel. Maps 14 and 15 illustrate graphically the distribution of weekday transit person trip productions and attractions in Waukesha and Milwaukee Counties. The hourly distributional pattern of transit system ridership is shown in Figure 1. Table 19 summarizes the comments of transit system passengers concerning the existing service and equipment. The following observations may be made based upon the examination of this information:

⁴The survey data reflect ridership on one express route operated by the Milwaukee County Transit System, Route No. 3, between the Brookfield Square Shopping Center and the University of Wisconsin-Milwaukee which closely paralleled the alignment of route No. 10 between Brookfield Square Shopping Center and the Milwaukee CBD. The route was operated only during the resurfacing

of IH 94 in Waukesha and Milwaukee Counties from April 1997 through August 1998.

Table 16

DISTRIBUTION OF AVERAGE WEEKDAY INTERCOUNTY PERSON TRIPS PRODUCED OUTSIDE WAUKESHA COUNTY AND ATTRACTED TO WAUKESHA COUNTY: 1991

Area	Area of Trip Production Outside Waukesha County			Area of Trip Attraction Inside Waukesha County ^a															
	County	Analysis Areas		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	
		Number	Name																
Inside the Region	Washington	15	Northwestern	--	--	100	580	--	--	30	500	--	--	--	--	--	--	1,210	
		16	Northeastern	230	30	350	1,730	110	260	300	540	--	--	100	--	60	--	3,710	
		17	Southwestern	160	240	340	1,730	380	360	440	80	--	--	30	--	--	--	3,760	
		18	Southeastern	90	280	580	16,450	110	400	1,250	2,300	--	--	670	30	--	30	22,190	
			Subtotal	480	550	1,370	20,490	600	1,020	2,020	3,420	--	--	800	30	60	30	30,870	
	Ozaukee	19	Northern	--	--	--	90	--	--	--	--	--	--	--	--	--	--	90	
		20	Central	--	20	50	1,140	90	120	320	730	--	--	340	--	--	110	2,920	
		21	Southern	40	--	--	830	80	110	330	900	--	--	270	--	--	--	2,560	
			Subtotal	40	20	50	2,060	170	230	650	1,630	--	--	610	--	--	110	5,570	
				670	40	810	19,970	400	1,130	2,320	12,270	40	--	1,850	40	70	160	39,770	
	Milwaukee	23A	North-Central-Western	470	--	760	5,860	300	1,200	4,950	28,510	--	350	3,330	330	120	340	46,520	
		23B	North-Central-Middle	170	--	420	5,210	430	1,060	4,000	14,120	--	--	2,860	30	250	480	29,030	
		23C	North-Central-Eastern	270	40	320	2,970	210	510	3,270	5,220	--	--	890	30	--	50	13,780	
		24A	South-Central-Western	230	30	290	1,190	420	1,260	2,510	6,120	140	80	6,710	140	280	1,810	21,210	
		24B	South-Central-Middle	180	--	90	1,430	200	1,280	1,670	4,870	40	100	4,370	--	70	1,420	15,720	
		24C	South-Central-Eastern	200	--	50	1,170	180	640	1,780	3,000	20	230	2,070	40	170	720	10,270	
		25	Southern	--	--	250	540	90	680	990	2,070	60	70	1,130	80	70	1,200	7,230	
		26	Central Business District ^b	190	20	60	700	60	130	820	2,530	20	--	140	20	80	180	4,950	
			Subtotal	2,380	130	3,050	39,040	2,290	7,890	22,310	78,710	320	830	23,350	710	1,110	6,360	188,480	
				90	--	80	--	--	--	340	110	320	40	80	130	--	70	1,240	
				40	--	30	30	30	360	1,570	940	350	70	990	3,960	160	330	8,860	
	Walworth	29	Southern	--	--	--	--	100	80	260	--	--	--	380	80	40	940		
			Subtotal	130	--	110	30	130	440	2,170	1,050	670	110	1,050	4,470	240	440	11,040	
				--	--	--	--	--	150	270	230	--	--	320	200	290	470	1,930	
				--	90	--	--	--	--	130	50	--	--	200	80	40	90	680	
				--	--	--	--	70	--	50	520	80	80	310	80	90	2,660	3,940	
	Racine	33	Eastern	--	--	60	400	210	80	400	620	80	--	600	80	60	--	2,590	
			Subtotal	--	90	60	400	280	230	850	1,420	160	80	1,430	440	480	3,220	9,140	
				--	--	--	--	--	--	230	60	--	--	80	--	--	--	370	
				--	--	20	100	--	--	90	50	--	--	--	--	60	--	320	
				--	--	--	--	--	--	320	110	--	--	80	--	60	--	690	
	Kenosha	34	Western	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
		35	Eastern	--	--	20	100	--	--	--	90	50	--	--	--	60	--	--	
			Subtotal	--	--	20	100	--	--	--	320	110	--	--	80	--	60	--	
				3,030	790	4,660	62,120	3,470	9,810	28,320	86,340	1,150	1,020	27,320	5,850	1,950	10,160	245,790	
				1,470	70	70	250	200	190	360	220	20	50	80	--	20	--	3,000	
Outside the Region	Dodge	36	Entire County	1,470	70	70	250	200	190	360	220	20	50	80	--	20	--	3,000	
		37	Jefferson	6,060	80	90	160	810	610	1,840	730	420	240	230	190	10	20	11,490	
		All Others	38	All Other Areas	650	70	160	840	280	550	1,500	2,020	300	210	630	250	50	140	7,650
				8,180	220	320	1,250	1,290	1,350	3,700	2,970	740	500	940	440	80	160	22,140	
--	--	--	Total	11,210	1,010	4,980	63,370	4,760	11,160	32,020	89,310	1,890	1,520	28,260	6,090	2,030	10,320	267,930	

^aEach numbered subarea inside Waukesha County is identified in Tables 14 and 15 and shown on Map 10.

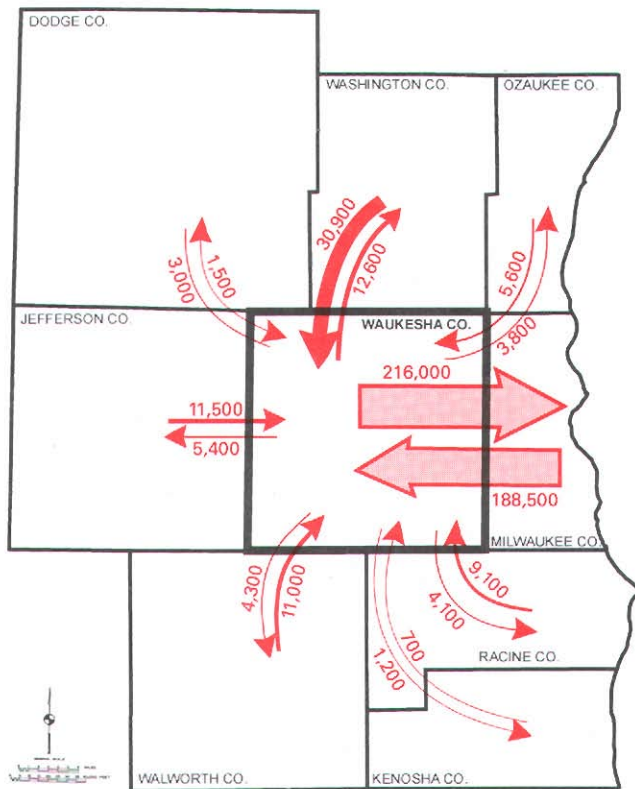
^bThe City of Milwaukee central business district is the area bounded on the south by the Menomonee River, Broadway, and St. Paul Avenue; on the west by N. 12th Street; on the north by E. Highland Avenue, 8th Street, and Juneau Avenue; and on the east by N. Lincoln Memorial Drive.

Source: SEWRPC.

- The Waukesha County transit system is used predominantly for work commuting between Waukesha and Milwaukee Counties. About 80 percent of all passengers indicated their trip was for work purposes, and about 85 percent used the service three or more times per week. The services were also used predominantly by passengers from 24 to 59 years old, or of typical working age. About 91 percent of the weekday trips on the system are made between the two counties, with this ridership evenly divided between Waukesha County and Milwaukee County residents. Only about 9 percent of the trips are made entirely within Waukesha County.
- The characteristics of the system users differ somewhat when viewed by the orientation of their trip. For trips made from Waukesha County residences to Milwaukee County locations, about 58 percent of the passengers reported they had annual household incomes of \$50,000 or more; about 87 percent were licensed drivers; and about 71 percent resided in households with two or more automobiles. By comparison, for trips made from Milwaukee County residences to Waukesha County locations or made entirely within Waukesha County, about 63 and 76 percent, respectively, of the passengers reported they had annual household incomes of \$30,000 or less; about 49 and 61 percent, respectively, were not licensed drivers; and about 41 and 47 percent, respectively, resided in households with no automobile.
- The distributions of transit trip productions and attractions depict the locations of concentrations of population and employment in eastern Waukesha County and central Milwaukee County served by the transit system. The distributions basically reflect the reported trip movements of Waukesha County residents to jobs and schools in the Milwaukee CBD and surrounding area, and of Milwaukee County residents to jobs in eastern Waukesha County. The

Map 11

DISTRIBUTION OF AVERAGE WEEKDAY INTERCOUNTY PERSON TRIPS BETWEEN WAUKESHA COUNTY AND SURROUNDING COUNTIES: 1991



NOTE: TRIPS ARE SHOWN IN PRODUCED-ATTRACTED FORMAT, THAT IS, FROM AREA OF PRODUCTION TO AREA OF ATTRACTION. ONLY TRAVEL BETWEEN WAUKESHA COUNTY AND SURROUNDING COUNTIES IS DEPICTED. APPROXIMATELY 509,100 OF ABOUT 525,900 INTERCOUNTY TOTAL PERSON TRIPS, OR ABOUT 97 PERCENT, ARE SHOWN HERE.

Source: SEWRPC.

relatively wide dispersion of trip productions also reflects both the use of automobiles to access transit services at Waukesha County park-ride facilities and the use of connecting transit routes in Milwaukee County and the City of Waukesha.

- About 77 percent of the weekday ridership occurred during two peak periods of use: from 5:30 a.m. until 8:30 a.m. and from 3:30 p.m. until 6:30 p.m. The morning ridership peak accounted for about 41 percent and the afternoon peak accounted for about 36 percent of weekday ridership. This pattern reflects the predominance of trips being made for work purposes on the transit system.

- About 61 percent of the surveyed passengers on the system provided comments on the bus services. The most frequent comments received related to requests for changes in service times or frequency, particularly related to improving frequency of service, to various service problems such as on-time performance, and to buses being in poor condition or the need for higher capacity buses.

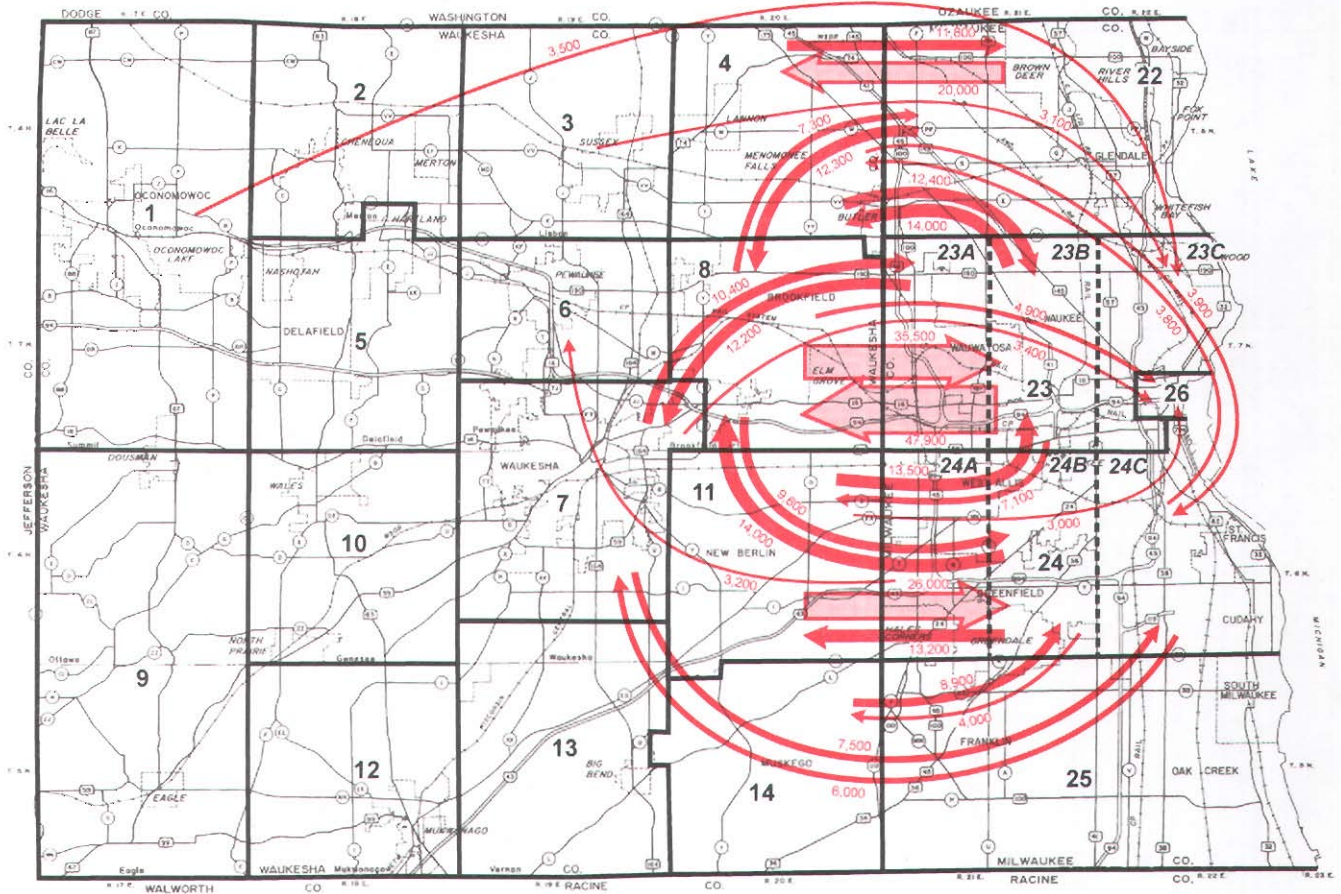
SUMMARY

This chapter has presented pertinent information on past trends and existing conditions for selected characteristics of Waukesha County which affect, or may be affected by, the provision and use of transit service, including population, employment, land use, and travel habits and patterns. Information on the changes in such key characteristic which were observed over approximately the last three to four decades are summarized in Figure 2. The most important findings concerning these characteristics may be summarized as follows:

1. Since 1960, the County's total resident population has increased by about 116 percent, from about 158,200 persons in 1960 to about 341,300 persons in 1997. The rate of population growth in the County has outpaced that of the Southeastern Wisconsin Region as a whole. Between 1990 and 1997, about 61 percent of the new residents in the Region were residents of Waukesha County. Although the largest absolute increases in population have occurred in the approximate eastern one-third of the County, outlying areas of the County have also experienced significant population growth on a percentage basis.
2. The number of households in the County increased by about 197 percent from 1960 to 1995, about 70 percent faster than the County's resident population. The average household size within the County, consequently, decreased from about 3.7 persons per household in 1960 to about 2.7 persons per household in 1997. Trip making and, hence, the potential need to serve trips by transit is strongly related to the number of households and their characteristics.
3. For this study, two population subgroups whose dependence on, and use of, public transit has historically been greater than that of the general population as a whole were identified: persons in low-income households and households with no vehicles available. Since 1960, both these groups have increased somewhat in terms of absolute numbers, but have declined on a relative basis. In

Map 12

**DISTRIBUTION OF AVERAGE WEEKDAY TOTAL PERSON TRIPS
BETWEEN WAUKESHA AND MILWAUKEE COUNTIES: 1991**



— SUBAREA BOUNDARY
10 SUBAREA IDENTIFICATION NUMBER

NOTE: TRIPS ARE SHOWN IN PRODUCED-ATTRACTED FORMAT, THAT IS, FROM AREA OF PRODUCTION TO AREA OF ATTRACTION. TRAVEL BETWEEN SUBAREAS IS NOT DEPICTED UNLESS THERE WAS A MINIMUM OF 3,000 TRIPS FROM ONE SUBAREA TO ANOTHER. APPROXIMATELY 310,900 OF ABOUT 404,500 INTERCOUNTY TOTAL PERSON TRIPS, OR ABOUT 77 PERCENT, ARE SHOWN HERE.



Source: SEWRPC.

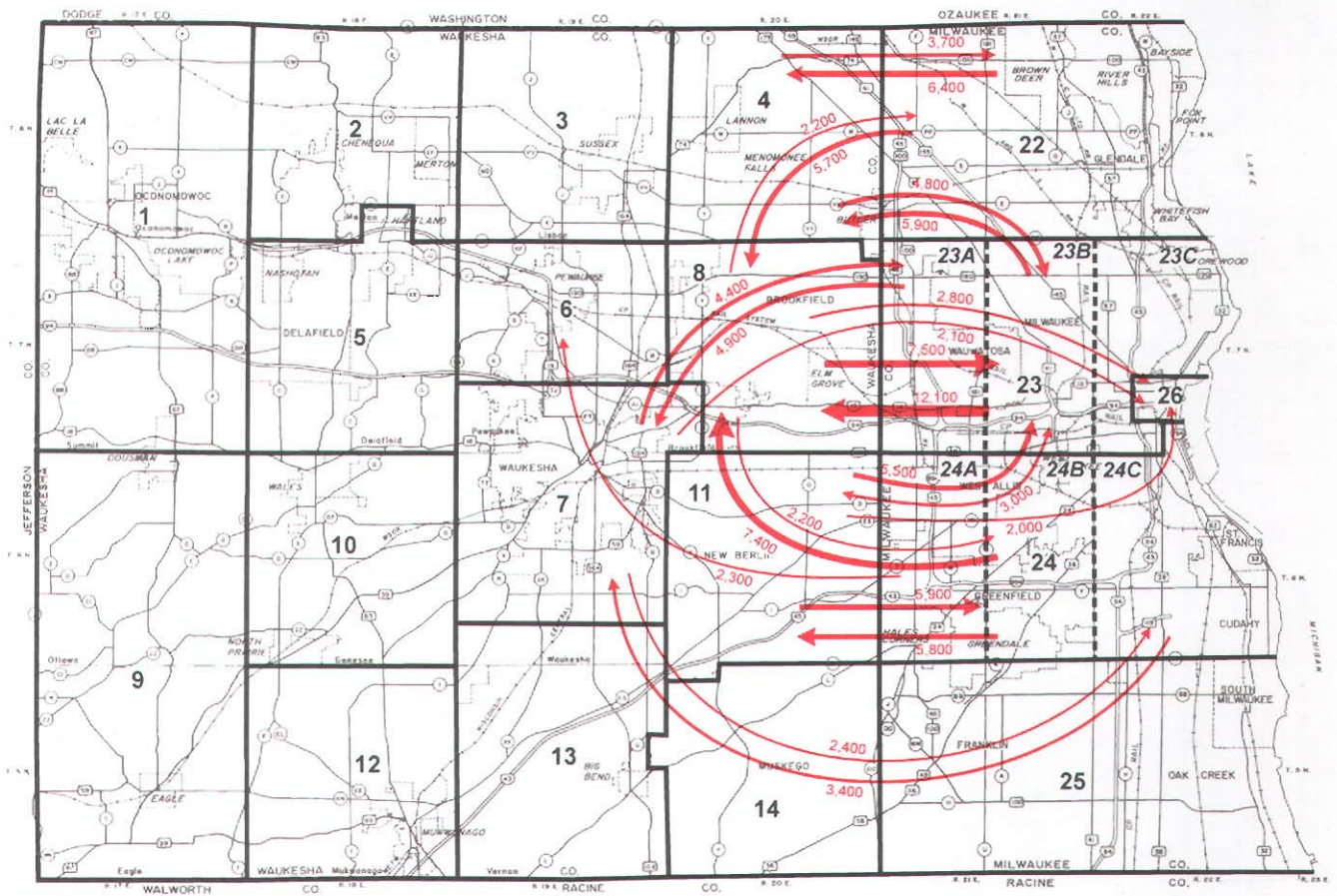
1990, these groups represented from 3 to 4 percent of the County population, compared to from 6 to 7 percent in 1960, and were concentrated primarily in the City of Waukesha.

4. The County experienced an overall relative increase in employment between 1960 and 1997 of about 675 percent, substantially exceeding the Region's

relative increase of about 75 percent over that period. About 220,000, or about 43 percent, of the total increase in Regional employment of about 507,200 jobs during that period occurred in the County. Since 1990, about 61,100, or about 54 percent, of the total regionwide increase in employment of about 113,000 jobs occurred in Waukesha County. At present, the highest employment concen-

Map 13

**DISTRIBUTION OF AVERAGE WEEKDAY HOME-BASED WORK PERSON TRIPS
BETWEEN WAUKESHA AND MILWAUKEE COUNTIES: 1991**



— SUBAREA BOUNDARY

10 SUBAREA IDENTIFICATION NUMBER

NOTE: TRIPS ARE SHOWN IN PRODUCED-ATTRACTED FORMAT, THAT IS, FROM AREA OF PRODUCTION TO AREA OF ATTRACTION. TRAVEL BETWEEN SUBAREAS IS NOT DEPICTED UNLESS THERE WAS A MINIMUM OF 2,000 TRIPS FROM ONE SUBAREA TO ANOTHER. APPROXIMATELY 102,800 OF ABOUT 140,600 INTERCOUNTY HOME-BASED WORK PERSON TRIPS, OR ABOUT 73 PERCENT, ARE SHOWN HERE.

Source: SEWRPC.

trations in the County are found in areas of retail, office, and industrial development located primarily in the eastern half of the County.

5. The amount of land in the County devoted to urban land uses increased by about 192 percent from about 54 square miles in 1963 to

about 158 square miles in 1995. Despite the steady increase of urban development observed since 1963, only about 27 percent of the land in the County is currently in fully developed urban land uses. Residential densities of five dwelling units or more per acre which are needed for cost efficient conventional fixed-route bus ser-

Table 17

**PERCENT OF WEEKDAY TRANSIT TRIPS MADE ON THE WAUKESHA COUNTY
TRANSIT SYSTEM BY ORIENTATION OF TRAVEL: APRIL AND MAY 1998**

Transit Operator	Percent of Trips			
	Trips Produced in Waukesha County and Attracted to Milwaukee County	Trips Produced in Milwaukee County and Attracted to Waukesha County	Trips Produced and Attracted within Waukesha County	Total Trips
Milwaukee County Transit System.....	25.6	72.9	1.5	100.0
City of Waukesha Metro Transit.....	9.4	13.6	77.0	100.0
Wisconsin Coach Lines, Inc.	76.3	27.7	1.0	100.0
Total	46.9	44.7	8.4	100.0

^a Includes about 5 percent of all transit trips which were produced outside of Waukesha and Milwaukee Counties, primarily in Walworth, Washington, and Jefferson Counties.

Source: SEWRPC.

vice currently exist primarily within the City of Waukesha.

6. Certain major land uses in the County generate a large number of person trips on a daily basis, including major employment centers and office and industrial parks. These land uses were identified as major potential transit trip generators for this study and are currently concentrated primarily in the developed urban areas in the eastern half of the County.
7. On the basis of past travel surveys undertaken by the Regional Planning Commission, it may be concluded that average weekday total person travel entirely within the County and between the County and other areas has tripled, from about 447,900 person trips in 1963 to about 1,345,900 trips in 1991. The largest category of travel to increase was travel made entirely within the County. In 1991, about 61 percent of all person trips were intracounty trips with the largest proportion being made for medical, personal business, or social or recreational purposes. The remaining 39 percent were inter-county trips made with one trip end outside the County, with the largest proportion made for work purposes. Trips made between the County and

Milwaukee County accounted for about 77 percent of all intercounty person travel.

8. Based on on-board bus surveys of all passengers using the Wisconsin Coach Lines, Inc., Milwaukee County Transit System, and Waukesha Metro Transit services comprising the Waukesha County transit system conducted by the Commission in late April and early May 1998, it was determined that the vast majority of passengers used the transit system for work commuting. The distributions of transit trip productions and attractions primarily reflect the movements of Waukesha County residents to jobs and schools in the Milwaukee CBD and surrounding area, and of Milwaukee County residents to jobs in eastern Waukesha County. Passengers utilizing the bus services to commute from Waukesha County residences to Milwaukee County locations were more likely to come from households with incomes over \$50,000, to be licensed drivers, and to come from households with two or more vehicles available, than passengers commuting from Milwaukee County residences to Waukesha County locations or traveling entirely within Waukesha County. About one-half of the system ridership occurred during two peak-usage periods which coincided with the starting and ending times of most first shift jobs at employers.

Table 18

**PERCENT OF WEEKDAY TRANSIT TRIPS MADE ON THE WAUKESHA COUNTY
TRANSIT SYSTEM FOR VARIOUS RIDERSHIP CHARACTERISTICS
BY ORIENTATION OF TRAVEL: APRIL AND MAY 1998**

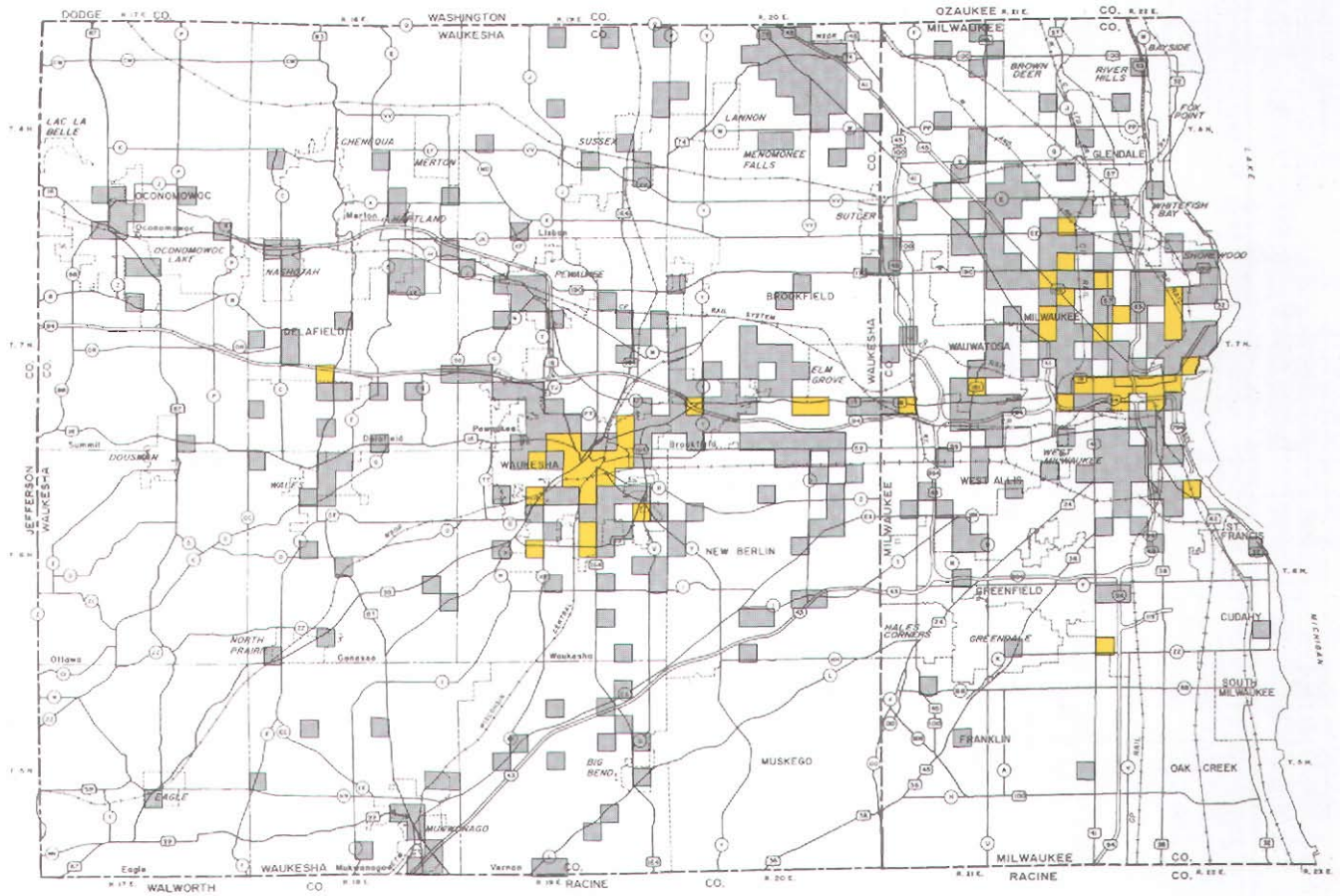
Category	Percent of Trips			
	Trips Produced in Waukesha County* and Attracted to Milwaukee County	Trips Produced in Milwaukee County and Attracted to Waukesha County	Trips Produced And Attracted within Waukesha County	Total Trips
Age				
12 and under	--	--	--	--
13 to 15	0.7	--	1.6	0.4
16 to 18	3.5	6.0	3.7	4.6
19 to 24	8.8	17.6	23.9	14.0
25 to 34	17.7	23.5	27.1	21.1
35 to 44	27.8	29.9	28.2	28.8
45 to 54	31.0	16.6	8.1	22.6
55 to 64	8.8	4.2	7.4	6.7
65 and over	1.7	2.2	--	1.8
Total	100.0	100.0	100.0	100.0
Sex				
Male	37.1	57.8	37.7	46.2
Female	62.9	42.2	62.3	53.8
Total	100.0	100.0	100.0	100.0
Licensed Driver				
Yes	86.6	50.7	39.1	66.8
No	13.4	49.3	60.9	33.2
Total	100.0	100.0	100.0	100.0
Household Income				
Under \$10,000	2.5	17.0	32.0	11.6
\$10,000-\$19,999	4.0	21.7	25.6	13.8
\$20,000-\$29,999	11.0	24.6	18.0	17.7
\$30,000-\$39,999	13.4	16.1	4.1	13.8
\$40,000-\$49,999	11.1	8.2	15.1	10.1
\$50,000 and Over	58.0	12.4	5.2	33.0
Total	100.0	100.0	100.0	100.0
Trip Purpose				
Home-based work	81.2	77.0	79.7	79.2
Home-based shopping	0.6	6.6	4.1	3.5
Home-based other	4.2	5.1	6.8	4.8
Nonhome-based	5.0	5.6	9.4	5.7
School	9.0	5.7	--	6.8
Total	100.0	100.0	100.0	100.0
Vehicles available per Household				
No vehicle	8.2	41.0	46.7	25.2
One vehicle	21.2	37.6	31.1	28.9
Two or more vehicles	70.6	21.4	22.2	45.9
Total	100.0	100.0	100.0	100.0
Frequency of Use				
Less than once a month	3.0	4.8	5.8	4.0
1-3 times a month	2.7	4.8	8.9	4.2
1-2 times a week	6.5	8.4	6.3	7.3
3-5 times a week	80.3	40.5	33.2	58.8
More than 5 times a week	7.5	41.5	45.8	25.7
Total	100.0	100.0	100.0	100.0

*Includes about 5 percent of all transit trips which were produced outside of Waukesha and Milwaukee Counties, primarily in Walworth, Washington, and Jefferson Counties.

Source: SEWRPC.

Map 14

LOCATION OF TRIP PRODUCTIONS OF REVENUE PASSENGERS ON THE
WAUKESHA COUNTY TRANSIT SYSTEM: APRIL AND MAY 1998



TRIP PRODUCTIONS OF
REVENUE PASSENGERS

(NONE) 200 OR MORE

(NONE) 50-199

10-49

1-9

NONE

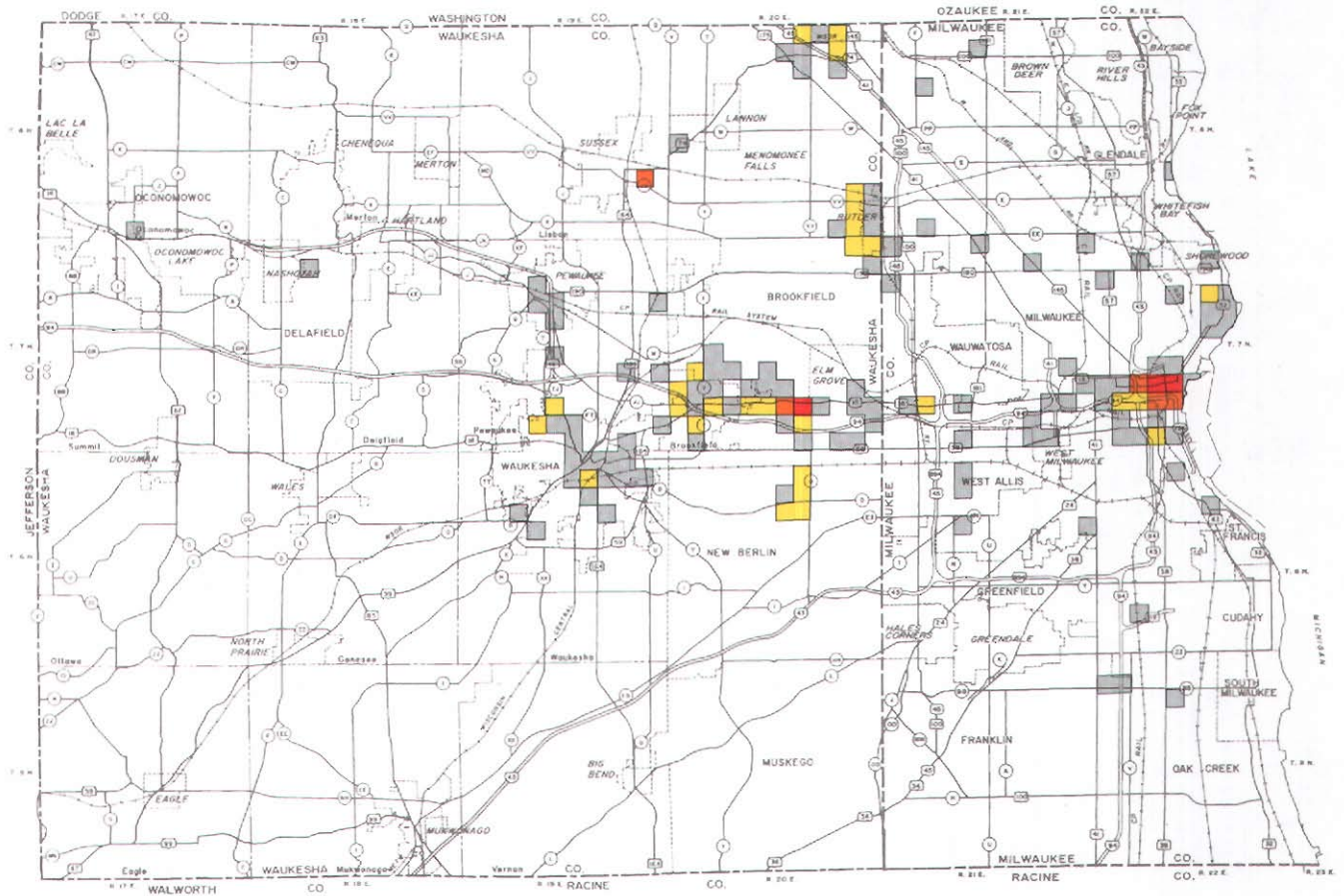
NOTE: TRIP PRODUCTIONS OUTSIDE OF WAUKESHA
AND MILWAUKEE COUNTIES ARE NOT SHOWN
THREE COUNTIES EACH HAD MORE THAN 10
TRIP PRODUCTIONS WASHINGTON COUNTY,
70, WALWORTH COUNTY, 30, AND JEFFERSON
COUNTY, 20

Source: SEWRPC.

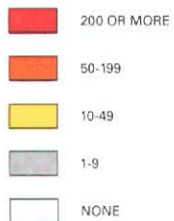


Map 15

LOCATION OF TRIP ATTRACTIONS OF REVENUE PASSENGERS ON THE
WAUKESHA COUNTY TRANSIT SYSTEM: APRIL AND MAY 1998



TRIP ATTRACTIONS OF
REVENUE PASSENGERS

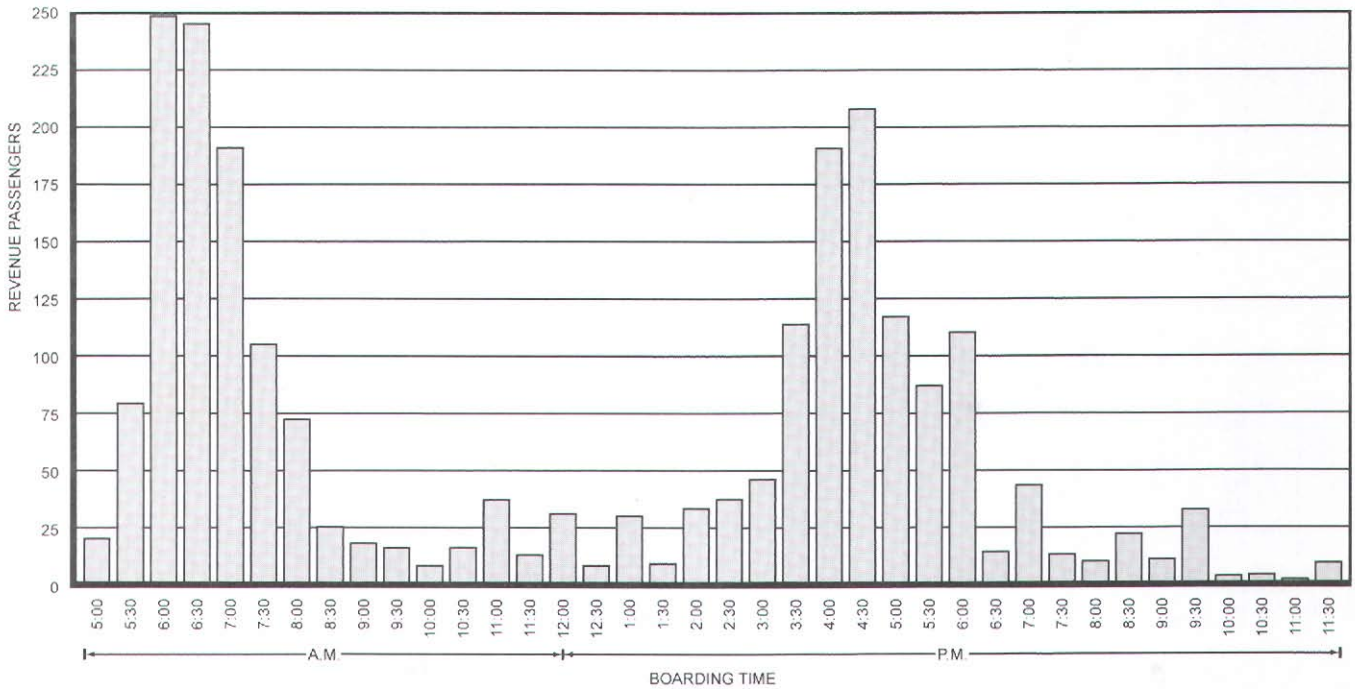


Source: SEWRPC.



Figure 1

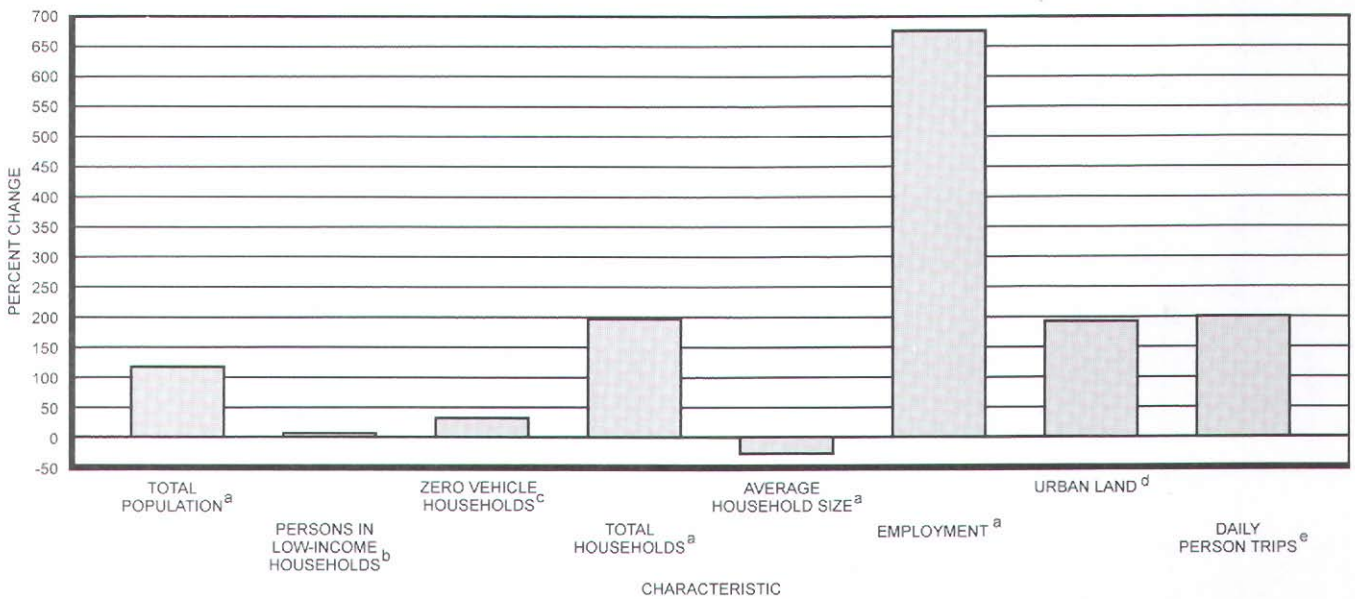
HOURLY DISTRIBUTION OF TRIPS MADE BY REVENUE PASSENGERS ON THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL AND MAY 1998



Source: SEWRPC.

Figure 2

RELATIVE CHANGES IN SELECTED CHARACTERISTICS OF WAUKESHA COUNTY OVER THE PAST THREE DECADES



^a THE RELATIVE CHANGE FOR TOTAL POPULATION, TOTAL HOUSEHOLDS, AVERAGE HOUSEHOLDS SIZE, AND EMPLOYMENT IS FOR THE PERIOD OF 1960 TO 1997

^b THE RELATIVE CHANGE FOR PERSONS IN LOW-INCOME HOUSEHOLDS IS FOR THE PERIOD OF 1970 TO 1990.

^c THE RELATIVE CHANGE FOR ZERO VEHICLE HOUSEHOLDS IS FOR THE PERIOD OF 1960 TO 1990.

^d THE RELATIVE CHANGE FOR URBAN LAND IS FOR THE PERIOD OF 1963 TO 1995

^e THE RELATIVE CHANGE FOR DAILY PERSON TRIPS IS THE PERIOD OF 1963 TO 1991.

Source: SEWRPC.

Table 19

**SUMMARY OF COMMENTS AND SUGGESTIONS RECEIVED FROM SURVEYED PASSENGERS
ON THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL AND MAY 1998**

Comments and Suggestions	Percent of Surveyed Passengers ^a
Change Service Times or Frequency	
Add Evening Service.....	1
Add Sunday Service	4
Provide longer Hours of Service	4
Improve Frequency of Service	11
Extend Saturday Service	3
Add Early Morning Service.....	2
Subtotal	25
Change Routes	
Add Stops.....	1
Increase Service Area	5
General Comments on Routes	3
Subtotal	9
Improvements to Vehicles and Facilities	
Buses in Poor Condition	9
Need Larger Capacity Bus	3
Improve Stops.....	3
Subtotal	15
Other Service Improvements	
On-Time Performance.....	7
Improved Driver Friendliness	1
Improved Transfers.....	1
Reduced Fares.....	4
Improved Coordination Between Routes and Systems	3
Comments on Traffic Conditions	3
Subtotal	19
No Improvement Needed	7
No Comments.....	39

^a Passengers making comments often made more than one comment.

Source: SEWRPC.

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Chapter III

EXISTING PUBLIC TRANSIT SYSTEM

INTRODUCTION

An understanding of the existing public transit services in Waukesha County is basic to the preparation of a sound transit system development plan. This understanding should be based on pertinent information describing the operating characteristics, ridership and service levels, and funding for the existing Waukesha County public transit system and for the other major transit services currently provided in the County.

This chapter documents the findings of an inventory of the principal public transit programs and services available within the Waukesha County. Presented first is a description of the Waukesha County public transit system including service operations, fares, ridership, and costs. This is followed by descriptions of the operations of other major public transit service providers serving the County, including local and intercity bus service, taxicab service, employment transportation service, and specialized transportation services for elderly and disabled persons.

THE WAUKESHA COUNTY TRANSIT SYSTEM

History

Waukesha County first became involved in the provision of public transit service in 1975. Declining ridership and increasing operating costs in the early 1970s on commuter bus services provided between the Cities of Milwaukee, Waukesha, Oconomowoc, and Watertown by Wisconsin Coach Lines, Inc., a private for-profit transit company, had prompted the operator to request financial assistance from the County. The request resulted in an 18-month demonstration project extending from July 1975 through December 1976 which was jointly sponsored by the Wisconsin Department of Transportation, Waukesha County, and the private operator and designed to provide an improved level of transit service in the Waukesha-Milwaukee travel corridor. In 1977, Waukesha County agreed to be the formal public sponsor for all the Wisconsin Coach Lines, Inc., service in the Oconomowoc-Waukesha-Milwaukee travel corridor, acting as the applicant and grantee for the federal and state transit assistance funds and the source of local funds for the services.

A major expansion of Waukesha County transit services occurred in April 1981 when the County initiated service over seven new bus routes operating between Waukesha and Milwaukee County. The new routes included four routes providing rapid "freeway flyer" service between the Milwaukee central business district (CBD) and the Village of Menomonee Falls, the City of Brookfield, the City of Oconomowoc, and the Village of Mukwonago; and three routes providing local bus service from Milwaukee County to major employment or commercial centers in the Village of Butler and the New Berlin Industrial Park, and in the area around the Brookfield Square Shopping Center. The Commission had identified the new routes in 1980¹ at the request of Waukesha County and proposed that service be initiated on a trial basis. As a result of the service expansion, the Milwaukee County Transit System became the second contract service provider for the Waukesha County transit system. By the mid 1980s, service over all but three of the new routes had been discontinued due to low ridership or concerns over County operating assistance levels. The new freeway flyer bus routes serving the Village of Menomonee Falls and the City of Oconomowoc, and the local bus route serving the Brookfield Square Shopping Center, were determined by County officials to be successful and are still part of the County transit system.

During the 1990s, the Waukesha County transit system has undergone a significant expansion of service, increasing from six bus routes in 1990 to 16 bus routes as of April 1999. Most of the new routes have been local bus and shuttle services designed to provide access from Milwaukee County or the City of Waukesha to areas with significant employment concentrations in the Waukesha County. The expansion in these services has been prompted by the significant growth in the number of jobs in Waukesha County and the need for workers to fill job vacancies at employers in the County. Service for Waukesha County residents commuting to jobs in the Milwaukee CBD has also been increased with the addition in 1991 of a new Mukwonago freeway flyer route also serving the Vernon, Muskego and New Berlin areas, and the expansion of service in 1997 on the Oconomowoc-Milwaukee and Waukesha-Milwaukee bus routes implemented during the resurfacing of IH 94 in Waukesha and Milwaukee Counties. The service expansion in the

¹See *SEWRPC Community Assistance Planning Report No. 44, Proposed Public Transit Service Improvements-1980, Waukesha County, Wisconsin, July 1980.*

1990s added the City of Waukesha Metro Transit System as the third contract service provider for the Waukesha County transit system.

Service Administration and Policies

Waukesha County contracts for the operation of all bus services with three existing transit operators identified above who are responsible for the day-to-day operation, management, and support of these transit services, including supervising route operations and employee activities. The Waukesha County Department of Transportation is responsible for administering the contracts between the County and the transit operators. The Transit Coordinator in the Department of Transportation is responsible for monitoring the performance of the operators against their service contracts, for preparing an annual operating budget, and for preparing applications for, and for administering, Federal and State transit assistance funds.

The policy-making body of the transit system is the Waukesha County Public Works Committee, consisting of seven members of the Waukesha County Board of Supervisors. The approval of the Public Works Committee is required for all transit service-related policy matters, including the annual contracts with the transit operators; changes to routes, service levels, or fares; applications for federal and state grants; and the annual operating budget. The Board of Supervisors and the County Executive have the ultimate responsibility for review and approval of certain matters, including the annual budget for the transit system.

Planning for the transit services that are part of the Waukesha County transit system is a cooperative effort. Short-range planning activities are undertaken by the staffs of the County Department of Transportation, the three transit operators, and, to the extent requested, the Regional Planning Commission. Long-range planning activities are undertaken by the Regional Planning Commission staff with assistance from the County Department of Transportation.

Formal operating policies for the transit system are limited. The County established a policy in 1996 governing private funding requirements for local shuttle bus routes and bus service expansions² requested by, or designed to provide service to, specific businesses. The policy calls for all County-sponsored shuttle bus services and bus service expansions for businesses to be financed through

partnership agreements between the County and the businesses benefiting from the service. Under the agreements, Waukesha County funds are provided to cover up to 21 percent of the total operating costs of the service. In return, the businesses agree to assume responsibility for the "risk of the farebox" for the subject transit service, which is defined as the operating assistance that is required after all other financial assistance, not including farebox revenue, is subtracted from the total operating costs of the service. If ridership levels generate sufficient farebox revenues, then no funds are required from the businesses. Otherwise, the businesses must provide the difference between the passenger revenues and the assistance not covered by the other financial assistance for the service. To date, only small contributions from businesses have been required under this policy, in 1997 for one shuttle route operated by Wisconsin Coach Lines, Inc., serving Pewaukee businesses, and in 1998 for the two routes operated by the Milwaukee County Transit System serving the Quad/Graphics, Inc., plants in Sussex and New Berlin.

The County staff collects ridership, service, and financial data for the individual routes of the transit system, using the data to prepare various performance measures for each County service. There are currently no formal adopted policies establishing minimum or maximum performance levels as service standards for County transit services. When such data is reviewed by County staff and policy makers, decisions on transit services are made based on the judgement of the individual or body conducting the review. The County has requested that the Commission develop performance measures and service standards as part of the County's new transit system development plan.

Fixed-Route Bus Service

Routes and Service Levels

As of April 1999, fixed route bus service was provided by the Waukesha County transit system over 16 routes, shown on Map 16 and identified in Table 20. The routes operated in both Waukesha and Milwaukee Counties and provided rapid "freeway flyer", suburban commuter express, and local bus and shuttle services. Waukesha County contracts for all service from three transit operators. Eight of the 16 routes are operated by Wisconsin Coach Lines, Inc.; seven are operated by the Milwaukee County Transit System; and one is operated by the City of Waukesha Metro Transit System. Of the seven routes operated by the Milwaukee County Transit System, Route Nos. 10 and 18 are extensions of local bus routes that also provide extensive service in Milwaukee County. Waukesha County only contracts for the extension of these routes into Waukesha County. Similarly, Waukesha County only contracts for the extension of Waukesha Metro Transit System Route No. 1 between the Goerkes Corners Public Transit Station and the Brookfield Square Shopping Center. The entire length

² The County defines shuttle bus routes and service as that which is intended to transport employees of a specific business or area to and from their workplace during peak travel periods only. A bus service expansion is defined as the addition of a substantial amount of revenue vehicle-miles or hours of service to an existing bus route.

Table 20

BUS ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999

Transit Operator	Route Number	First Year under Waukesha County Sponsorship	Type of Service	Route Termini ^a	Major Terminals and Park-Ride Lots Served ^b
Wisconsin Coach Lines, Inc.	1	1977 ^c	Express	Waukesha CBD and Milwaukee CBD (operates via Blue Mound Road and IH 94)	10. Wisconsin Coach Lines, Inc., Waukesha Depot-Waukesha Metro Terminal 11. Goerkes Corners Public Transit Station 12. Brookfield Square Park-Ride Lot
	2	1994	Rapid	Waukesha CBD and Milwaukee CBD (operates via IH 94)	10. Wisconsin Coach Lines, Inc., Waukesha Depot-Waukesha Metro Terminal 11. Goerkes Corners Public Transit Station
	3	1977 ^c	Express	Waukesha CBD and Milwaukee CBD (operates via Greenfield Avenue and IH 94)	10. Wisconsin Coach Lines, Inc., Waukesha Depot-Waukesha Metro Terminal 12. Brookfield Square Park-Ride Lot
	4	1981	Rapid	Oconomowoc and Milwaukee CBD (operates via IH 94)	4. Collins Parking Lot 7. STH 67 and CTH DR 8. IH 94 and STH 83 9. IH 94 and CTH G 11. Goerkes Corners Public Transit Station
	5	1977 ^c	Rapid	Oconomowoc and Milwaukee CBD (operates via STH 16 and IH 94)	4. Collins Parking Lot 5. STH 16 and CTH P 6. STH 16 and CTH C 11. Goerkes Corners Public Transit Station
	6	1991 ^d	Rapid	Mukwonago ^e and Milwaukee CBD	13. IH 43 and STH 83 14. IH 43 and STH 164 15. IH 43 and Moorland Road
	7	1993	Local Shuttle	Brookfield Square Park-Ride Lot and New Berlin Industrial Park	12. Brookfield Square Park-Ride Lot
	8	1994	Local Shuttle	Goerkes Corners Public Transit Station and Pewaukee Business Parks	11. Goerkes Corners Public Transit Station
Milwaukee County Transit System	6	1998 ^f	Express	N. Teutonia Avenue-E. Capital Drive and Quad/Graphics Plants in West Allis and the New Berlin Industrial Park	--
	8	1998 ^f	Express	S. Kinnickinnic Avenue-E. Mitchell Street and Quad/Graphics Sussex Plants	--
	9	1995	Local Shuttle	N. Lovers Lane Road-W. Silver Spring Drive and N. 124th Street-W. Capitol Drive.	--
	10	1981	Local	N. 124th Street-W. Blue Mound Road and Brookfield Square Shopping Center	12. Brookfield Square Park-Ride Lot
	18	1999	Local	N. 124th Street-W. Greenfield Avenue, S. 108th Street-E. Cleveland Avenue and the New Berlin Industrial Park	--
	79	1981	Rapid	Pilgrim Road Park-Ride Lot and Milwaukee CBD	1. Pilgrim Road Park-Ride Lot 2. W. Good Hope Road Park-Ride Lot 16. Milwaukee County Transit System Downtown Transit Center
	106	1997	Local Shuttle	Mill Road Transit Center and Menomonee Falls northside industrial area	3. Mill Road Transit Center
Waukesha Metro Transit System	1	1993 ^g	Local	Goerkes Corners Public Transit Station and Brookfield Square Shopping Center	11. Goerkes Corners Public Transit Station 12. Brookfield Square Park-Ride Lot

^a Data shown only for the routes or route segments for which Waukesha County provides public transit operating assistance funds. Milwaukee County Transit System Route Nos. 10 and 18, and Waukesha Metro Transit System Route No. 1 also have significant portions which are operated in Milwaukee County and the City of Waukesha, respectively, without public operating assistance from Waukesha County.

^b See Map 16 and Table 25.

^c Service provided between 1975 and 1977 under the sponsorship of the Wisconsin Department of Transportation and prior to 1975 by Wisconsin Coach Lines, Inc., without public subsidies.

^d Waukesha County sponsored a Mukwonago bus route with a somewhat different alignment from April 1981 until May 1983.

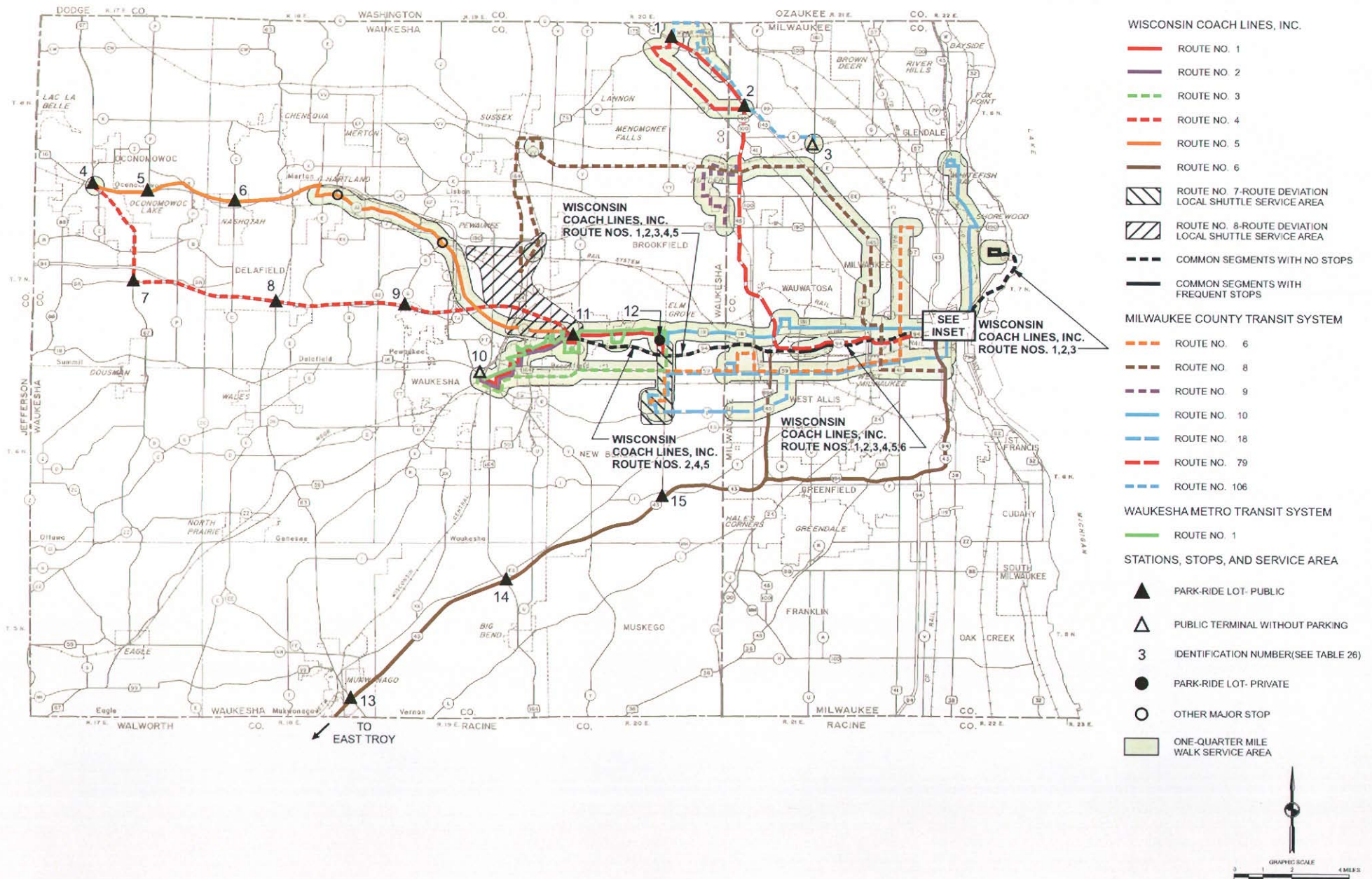
^e Wisconsin Coach Lines, Inc., Route No. 6 was temporarily extended to a park-ride lot at the East Troy Municipal Airport (IH 43 and STH 20) in Walworth County on March 29, 1999. The route extension coincided with the start of work on reconstructing the Hale Interchange and is planned to be operated through August 27, 1999.

^f Service over Milwaukee County Transit System Route Nos. 6 and 8 was provided from 1995 through 1997 under a contract arrangement between Milwaukee County and Quad/Graphics, Inc.

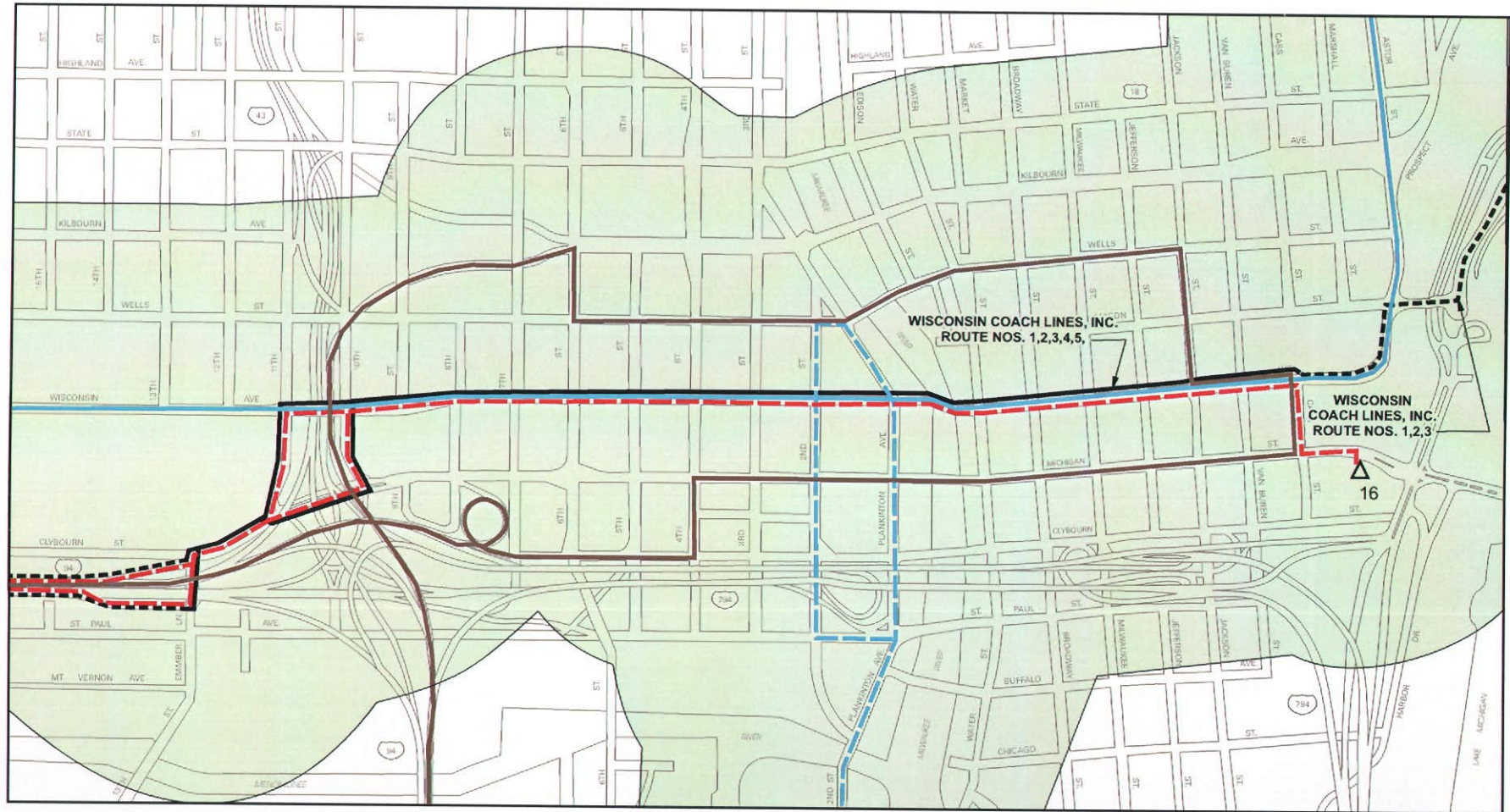
^g Service over Waukesha Metro Transit System Route No. 1 between the Goerkes Corners public transit station and the Brookfield Square Shopping Center was provided from September 1992 through August 1993 under City of Waukesha sponsorship using funds obtained through a Wisconsin Department of Transportation Section 85.24 Transportation Demand Management grant.

Source: Waukesha County Department of Transportation and SEWRPC.

EXISTING BUS ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999



INSET TO MAP 16



Source: Milwaukee County Transit System, Waukesha County Department of Transportation, City of Waukesha Metro Transit System, and SEWRPC.

Table 21

**OPERATING AND SERVICE CHARACTERISTICS FOR THE BUS ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999**

Weekday Service ^a											
Transit Operator	Route Number	Round Trip Route Length (miles) ^b	Approximate Service Hours	Service Frequency				Buses Required			
				Morning Peak Period	Midday Period	Afternoon Peak Period	Evening Period	Morning Peak Period	Midday Period	Afternoon Peak Period	Evening Period
Wisconsin Coach Lines, Inc.	1	54.0	5:15 a.m.-10:45 p.m.	30-35 minutes	60 minutes	30-60 minutes	60-90 minutes	5	3	6	3
	2	54.0	7:15 a.m.-8:15 a.m.	1 trip	--	--	--	1	--	--	--
	3	54.0	6:15 a.m.-8:00 a.m. 4:15 p.m.-5:45 p.m.	2 trips	--	2 trips	--	2	--	2	--
	4	74.0	6:00 a.m.-8:00 a.m. 4:15 p.m.-6:00 p.m.	15 minutes	--	20 minutes	--	4	--	4	--
	5	74.0	6:00 a.m.-7:15 a.m. 4:45 p.m.-6:00 p.m.	1 trip	--	1 trip	--	1	--	1	--
	6 ^c	64.0	6:00 a.m.-8:15 a.m. 3:45 p.m.-6:20 p.m.	4 trips	--	4 trips	--	4	--	4	--
	7 ^d	5.4	6:15 a.m.-8:45 a.m. 3:00 p.m.-5:15 p.m.	30 minutes	--	30 minutes	--	2	--	2	--
	8 ^d	10.4	6:30 a.m.-8:45 a.m. 3:00 p.m.-5:15 p.m.	30 minutes	--	30 minutes	--	2	--	2	--
	Subtotal	389.8	--	--	--	--	--	21	3	21	3
Milwaukee County Transit System	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips	--	2 trips	--	1	--	1	--
	8	55.6	5:45 a.m.-8:15 a.m. 5:45 p.m.-8:15 p.m.	2 trips	--	2 trips	--	1	--	1	--
	9	10.5	5:30 a.m.-8:15 a.m. 1:15 p.m.-4:45 p.m. 9:45 p.m.-12:00 a.m.	40-45 minutes	--	40-50 minutes	45-55 minutes	1	--	1	1
	10	8.3	5:30 a.m.-10:45 p.m.	20 minutes	30-35 minutes	20 minutes	20-25 minutes	2	1	2	1
	18	17.1	6:00 a.m.-9:00 a.m. 2:00 p.m.-5:00 p.m. 10:00 p.m.-1:00 a.m.	13 minutes	--	13 minutes	20 minutes	2	--	2	2
	79	46.5	6:00 a.m.-8:15 a.m. 3:45 p.m.-6:00 p.m.	15-40 minutes	--	15-40 minutes	--	3	--	2	--
	106	17.7	5:30 a.m.-7:00 a.m. 2:30 p.m.-4:00 p.m. 9:30 p.m.-11:30 p.m.	30 minutes	--	30 minutes	2 trips	1	--	1	1
	Subtotal	188.1	--	--	--	--	--	11	1	10	5
Waukesha Metro Transit System	1	11.0	6:00 a.m.-10:15 p.m.	15-20 minutes	30 minutes	15-20 minutes	30 minutes	2	1	2	1
Total System	--	588.9	--	--	--	--	--	34	5	33	9

of these routes has been shown on Map 16 to indicate the areas in Milwaukee County and the City of Waukesha that are directly connected to Waukesha County by route extensions.

Several of the County bus routes are provided in partnership with private business or local transportation management associations including Wisconsin Coach Lines, Inc., Route Nos. 7 and 8, and Milwaukee County Transit System Route Nos. 6, 8, 9, and 106. Milwaukee

County is also a partner in the operation of Milwaukee County Transit System Route Nos. 6 and 8 which were initiated in 1995 as contract routes with Quad/Graphics, Inc. Milwaukee County has agreed to provide up to 30 percent of the local operating assistance for these two routes.

The operating characteristics of each route are summarized in Table 21. The routes and service provided by the transit system may be characterized as follows:

Table 21 (continued)

Saturday Service ^a					
Transit Operator	Route Number	Round Trip Route Length (miles) ^b	Approximate Service Hours	Service Frequency	Buses Required
Wisconsin Coach Lines, Inc.	1	46.0	7:30 a.m.-10:15 p.m.	2.5 hours	1
Milwaukee County Transit System	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips 2 trips	1
	8	55.6	5:45 a.m.-8:15 a.m. 5:45 p.m.-8:15 p.m.	2 trips 2 trips	1
	9	10.5	6:00 a.m.-7:45 a.m. 12:00 p.m.-12:45 p.m. 3:00 p.m.-3:45 p.m.	2 trips 1 trip 1 trip	1
	10	8.3	8:30 a.m.-5:30 p.m.	30-35 minutes	1
	18	17.1	6:00 a.m.-9:00 a.m. 2:00 p.m.-5:00 p.m.	13 minutes 13 minutes	1
	Subtotal	123.9	--	--	5
Waukesha Metro Transit System	1	7.3	8:45 a.m.-9:45 p.m.	30 minutes	1
Total System	--	177.2	--	--	7

Sunday and Holiday Service ^a					
Transit Operator	Route Number	Round Trip Route Length (miles) ^b	Approximate Service Hours	Service Frequency	Buses Required
Wisconsin Coach Lines, Inc.	1	46.0	10:00 a.m.-7:45 p.m.	2.5 hours	1
Milwaukee County Transit System	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips 2 trips	1
	8	55.6	5:45 a.m.-8:15 a.m. 5:45 p.m.-8:15 p.m.	2 trips 2 trips	1
	Subtotal	88.0	--	--	2
Total System	--	134.0	--	--	3

^aData shown only for the routes or route segments for which Waukesha County provides public transit operating assistance funds. Milwaukee County Transit System Route Nos. 10 and 18, and Waukesha Metro Transit System Route No. 1 also have significant portions which are operated in Milwaukee County and the City of Waukesha, respectively, without public operating assistance from Waukesha County.

^bRepresents the directional miles of street traversed by a bus route including all branches.

^cRepresents increased service implemented March 29, 1999, to coincide with the Hale Interchange reconstruction. The additional service was operated through August 27, 1999.

^dWisconsin Coach Lines, Inc., Route Nos. 7 and 8 operate as demand-responsive route deviation shuttles which follow a flexible route between the transfer points and businesses served. The route lengths shown represent averages per round trip.

Source: Milwaukee County Transit System; Wisconsin Coach Lines, Inc.; Waukesha Metro Transit System; and SEWRPC

- Six of the routes provide service primarily for traditional commuting to Milwaukee County job locations, including five routes operated in the heavily traveled Oconomowoc-Waukesha-Milwaukee corridor (Wisconsin Coach Lines, Inc., Route Nos. 2 through 5) and two routes operated between the Menomonee Falls and the Mukwonago³

New Berlin areas to the Milwaukee CBD (Wisconsin Coach Lines, Inc., Route No. 6 and Milwaukee County Transit System Route No. 79).

- Seven of the routes are operated primarily to serve reverse commute travel to Waukesha County jobs including four in the Waukesha-Milwaukee corridor serving the New Berlin Industrial Park and business parks in the City of Pewaukee (Wisconsin Coach Lines, Inc., Route Nos. 7 and 8 and Milwaukee County Transit System Route Nos. 6 and 18), and three serving major employment centers in the Menomonee Falls, Butler, and Sussex areas of Waukesha County (Milwaukee County Transit System Route Nos. 8, 9, and 106).

³Wisconsin Coach Lines, Inc., Route No. 6 was temporarily extended to a park-ride lot at the East Troy Municipal Airport (IH 43 and STH 20) in Walworth County on March 29, 1999. The route extension coincided with the start of work on reconstructing the Hale Interchange and was operated through August 27, 1999.

- Two routes (Wisconsin Coach Lines, Inc., Route No. 1 and Milwaukee County Transit System Route No. 10) provide service that is used for both traditional commuting to the Milwaukee CBD and other locations in Milwaukee County and for reverse commuting to jobs in the Waukesha-Milwaukee travel corridor including in the eastern half of the Blue Mound Road corridor. While used for reverse commuting, the service on Route No. 1 is largely designed to serve traditional commuting.
- The remaining route (Waukesha Metro Transit Route No. 1) provides service that is principally used for commuting between the City of Waukesha and the western half of the Blue Mound Road corridor for both employment and shopping purposes. This route also facilitates both traditional and reverse commuting between Waukesha and Milwaukee Counties through transfers with Milwaukee County Transit System Route No. 10 at the Brookfield Square Shopping Center.
- The system primarily provides service for work commuting between Waukesha and Milwaukee Counties with the vast majority of the service is provided only during weekday peak periods from 6:00 a.m. until 9:00 a.m. and from 3:00 p.m. until 6:00 p.m. The actual service hours for each route are tailored to the specific service market. Headways on most routes range from about 10 to 30 minutes during weekday peak periods, 30 to 60 minutes during the weekday middays and 30 minutes to two hours or more on weekday evenings and weekends. The most extensive service hours and most frequent service is provided on the routes operated between the City of Waukesha and the Milwaukee CBD, where service is available seven-days-a-week, and between both the City of Waukesha and Milwaukee County and the Blue Mound Road corridor, where service is available throughout the day on both weekdays and Saturdays. Limited weekend service was also provided on routes serving employment centers in the New Berlin, Menomonee Falls, Butler and Sussex areas.

Bus stops along the County bus routes in the Milwaukee CBD and in eastern Waukesha County are generally marked by bus stop signs of the design used by each of the contract transit operators. Wisconsin Coach Lines, Inc., Route Nos. 7 and 8 follow a flexible routing have marked stops only at the park-ride lot termini for each route. For the Wisconsin Coach Lines, Inc., routes operated west of the City of Waukesha, only the major stops identified in timetables are marked, although other "flag" stops will be made where safe and practical.

Fares

The fares charged by the three operators for the County bus services are shown in Tables 22 through 24. Most of the fares for the routes operated by Wisconsin Coach Lines, Inc., are based on a zone system and vary with the length of the trip with longer trips being charged higher fares. Exceptions to the higher fares have been made for passengers on Wisconsin Coach Lines, Inc. Route Nos. 4 and 5 traveling to or from the zones between Oconomowoc and Waukesha. The adult cash fares for these zones were reduced in 1997 from \$2.25 and \$2.50 per trip to \$1.00 per trip to encourage ridership. Zone fares are also charged on the two Waukesha County routes operated by the Milwaukee County Transit System since 1981, Route Nos. 10 and 79. Fares for all other Waukesha County routes operated by the Milwaukee County Transit System are the same as charged for travel in Milwaukee County. Fares on the single County route operated by the Waukesha Metro Transit System are the same as charged for travel within the City of Waukesha on any City bus route. Reduced fares are available for children, elderly and disable individuals, and students. Convenience fares in the form of tickets and passes, which in most cases offer a discount from the regular cash fares, are offered by each operator.

Transfers between the routes of the Waukesha County transit system, and between County routes and other routes operated by the Milwaukee County Transit System and the Waukesha Metro Transit System, can be made at several points including in the Milwaukee CBD, upon request at stops along IH 94 between 70th and 84th Streets, at the Brookfield Square Shopping Center, at the Goerkes Corners Public Transit Station, and in downtown Waukesha. Special transfer fare agreements have been established among all the operators which provide for either free transfers or payment of a reduced or nominal cash fare. An exception is for transfers from Waukesha Metro Transit System and Milwaukee County Transit System routes to Wisconsin Coach lines, Inc., Route Nos. 7 and 8 for which passengers must pay the full fare.

Equipment and Facilities

Waukesha County owns no operating equipment or bus garage facilities for the transit system, but rather has the operating equipment and facilities supplied by the transit operators under the terms of the service contracts. Publicly owned facilities consist largely of park-ride lots and terminals constructed by the Wisconsin Department of Transportation or the two public contract transit operators. The equipment and facilities used may be summarized as follows:

- Wisconsin Coach Lines, Inc., bases its Waukesha County routes out of a facility it shares with a sister

Table 22

**FARES FOR WAUKESHA COUNTY BUS SERVICE
OPERATED BY WISCONSIN COACH LINES, INC.: APRIL 1999**

Route Nos. 1, 2, and 3						
Fare Zone		One-Way Adult Cash Fare ^a between Zones				
Number	Name (limits)	1	2	3	4	5
1	Downtown Milwaukee (Lake Michigan to 27th Street)	N/S				
2	West Central Milwaukee (27th Street to 124th Street)	N/S	N/S			
3	Brookfield/New Berlin (124th Street to Calhoun Road)	\$1.25	\$1.00	\$1.00		
4	Goerkes Corners Park and Ride (Calhoun Road to Springdale Road)	\$1.75	\$1.25	\$1.00	\$1.00	
5	Waukesha (Springdale Road to Waukesha Depot)	\$2.00	\$1.25	\$1.00	\$1.00	\$1.00

Route Nos. 4 and 5						
Fare Zone		One-Way Adult Cash Fare ^a between Zones				
Number	Name (limits)	1	4	5	6	7
1	Downtown Milwaukee (Lake Michigan to 27th Street)	N/S				
4	Goerkes Corners Park and Ride (Calhoun Road to Springdale Road)	\$1.75	\$1.00			
5	Waukesha (Springdale Road to CTH JJ and CTH TJ)	\$2.00	\$1.00	\$1.00		
6	Pewaukee (CTH JJ and CTH TJ to CTH JJ and CTH KF or to IH 94 and CTH G)	\$2.25	\$1.00	\$1.00	\$1.00	
7	Oconomowoc (CTH JJ and CTH KF or IH 94 and CTH C to Oconomowoc)	\$2.50	\$1.75	\$1.50	\$1.25	\$1.00

Route No. 6 ^b			
Fare Zone		One-Way Adult Cash Fare ^a between Zones	
Number	Name (limits)	1	8
1	Downtown Milwaukee (Lake Michigan to 27th Street)	N/S	
8	New Berlin (13th Street to IH 43 and Moorland Road)	\$1.00	N/S
9	Vernon/Mukwonago (IH 43 and Moorland Road to IH 43 and STH 83))	\$1.00	\$1.00

yellow school bus company, Dairyland Buses, Inc., located on the east side of the City of Waukesha at 1520 Arcadian Avenue. The facility includes outdoor bus storage areas, a maintenance and service facility, driver facilities, and the company

offices. The buses used by the company for Waukesha County contract service are drawn from its transit and charter fleet of 44 buses. Both motor coaches seating 39 passengers and deluxe "over the road" motor coaches seating 47 to 55 passengers are

Table 22 (continued)

Route Nos. 7 and 8			
Fare Zone		One-Way Adult Cash Fare ^a	
Number	Name (limits)	10	11
10	New Berlin Industrial Park (Brookfield Square to New Berlin Industrial Park)	\$1.00 ^c	N/S
11	Pewaukee Business Parks (Goerkes Corners to Pewaukee area businesses)	N/S	\$1.00 ^c

NOTE: N/S indicates no service is provided to passengers traveling between or within these zones. Fares are the same for the reciprocal (shaded) cells.

^a A commuter book of 10 tickets is available at a 10 percent discount from the adult cash fare. Fares for elderly and/or disabled persons are one-half the adult cash fare. Students with a valid UPASS and appropriate identification ride for free. Students without a UPASS ride for \$1.00 per trip. Children age five to 12 ride for \$0.75 per trip. Children under age 5 ride for free. There is no additional charge for passengers transferring between the Wisconsin Coach Lines, Inc., Route Nos. 1 through 5 and Waukesha Metro Transit System routes. A special program is in effect for passengers transferring between Wisconsin Coach Lines, Inc., and Milwaukee County Transit System bus routes which allows transferring passengers to receive up to a \$0.50 discount off the appropriate Wisconsin Coach Lines, Inc., bus fare, or to pay a reduced fare of \$0.50 for the Milwaukee County Transit System bus route.

^b Fares for this route were reduced from March 29, 1999, through August 27, 1999, in conjunction with an expansion of service to be provided during the Hale Interchange reconstruction project. After that time, fares returned to the standard fares of \$2.00 for travel between New Berlin and downtown Milwaukee, and \$2.50 for travel between Vernon and Mukwonago and downtown Milwaukee.

^c The \$1.00 fare is charged only to passengers who board in the morning at the Brookfield Square park-ride lot or the Goerkes Corners Public Transit Station without a valid transfer from another Wisconsin Coach Lines, Inc. route. No fare is charged to any passenger for service in the afternoon from the employment centers served.

Source: Wisconsin Coach Lines, Inc., and SEWRPC.

used on Route Nos. 1 through 6, and small shuttle buses seating 10 to 19 passengers are used on Route Nos. 7 and 8.

- The Milwaukee County Transit System uses three operating stations for its Waukesha County routes including: the Fond du Lac Operating Garage located in central Milwaukee County at 3343 W. Fond du Lac Avenue; the Fiebrantz Operating Garage located in northcentral Milwaukee County at 1900 W. Fiebrantz Avenue; and the Kinnickinnic Operating Garage located in southcentral Milwaukee County at 1710 S. Kinnickinnic Avenue. The facilities include indoor bus storage areas, light maintenance and service facilities, and driver facilities. The buses used by the transit system for Waukesha County contract service are drawn from the regular bus fleet of 535 urban transit buses for

the Milwaukee County Transit System. Small 24-passenger buses are used on Route No. 9 and articulated 76-passenger buses are used on Route No. 8. On all other routes, buses seating 39 to 53 passengers are used.

- The Waukesha Metro Transit System bases its Waukesha County routes out of its operating garage located on the west side of the City of Waukesha at 2311 Badger Drive. The facility includes an indoor bus storage area, a maintenance and service facility, driver facilities, and the transit system offices. The buses used by the transit system for Route No. 1 are drawn from the regular bus fleet for the Waukesha Metro Transit System which consists of 26 urban transit buses including 23 which seat 31 to 42 passengers and three which seat 13 passengers.

Table 23

**FARES FOR WAUKESHA COUNTY BUS SERVICE OPERATED
BY THE MILWAUKEE COUNTY TRANSIT SYSTEM: APRIL 1999**

Fare Category by Service Type	Fare Type		
	Cash (per one-way trip)	Tickets	Pass
Local Shuttle Service (Route Nos. 6, 8, 9, 18, 106)			
Adults Ages 12 to 64.....	\$1.35	10 for \$10.50	\$10.50 per week ^a
Commuter Value Pass	--	--	\$35 per month ^b
Students			
With UPASS	--	--	\$31 per semester ^c
With Fare Permit	\$1.00	10 for \$9.00	--
Children Ages 6-11 (under age 6 free when accompanied by an adult)	\$0.65	10 for \$6.50	--
Elderly (65 and older) and Disabled Persons	\$0.65	10 for \$6.50	--
Transfers with other Milwaukee County Transit System routes ^d	Free	Free	--
Regular Local Service (Route No. 10)			
All fare categories.....	Applicable cash fare stated above plus \$0.25 zone fare	Applicable ticket fare stated above plus \$0.25 zone fare	Applicable pass fare stated above plus \$0.25 zone fare
Freeway Flyer Service (Route No. 79)			
All fare categories.....	Applicable cash fare stated above plus \$0.65 zone and premium fares	10 for \$13.00 plus \$0.40 zone fare or applicable ticket fare stated above plus \$0.65 zone and premium fares	Applicable pass fare stated above plus \$0.65 zone and premium fares

^aThe weekly pass is good for unlimited riding for one week.

^bThe commuter value pass is good for unlimited riding during the monthly period indicated on the pass. It is paid for by a participating employer which may charge each employee up to \$15 per month for the pass.

^cThe UPASS is good for unlimited riding during a semester. It is paid for by participating colleges and universities for use by eligible students.

^dFree transfers for Milwaukee County Transit System routes are currently issued at the time the cash or ticket fares are paid and are valid for one hour. Passengers transferring to freeway flyer routes must also pay a premium fare of \$0.25. A transfer policy is in effect for passengers transferring between selected routes operated by the Milwaukee County Transit System and Wisconsin Coach Lines, Inc. This policy allows passengers transferring in the Milwaukee CBD or along IH 94 between 70th and 84th Streets to either receive a \$0.50 discount on the appropriate Wisconsin Coach Lines, Inc. fare or to pay a reduced fare of \$0.50 on selected Milwaukee County Transit System bus routes. A transfer policy is also in effect for passengers transferring between Waukesha Metro Transit Route No. 1 and Milwaukee County Transit System Route No. 10 at the Brookfield Square and Executive Drive bus stops which allows passengers to transfer for an additional fare of \$0.25 per trip.

Source: Milwaukee County Transit System and SEWRPC.

- A total of 16 park-ride lots and public terminals in Waukesha and Milwaukee Counties, identified in Table 25, are directly served by the routes of the system. All of the park-ride lots are publicly constructed facilities except the park-ride lot at the Brookfield Square Shopping Center which is

located in part of the shopping center parking area. The system also serves three major public terminal facilities intended to serve as transfer points and not as commuter parking facilities: the Downtown Transit Center and Mill Road Transit Center for the Milwaukee County Transit System and the

Table 24

**FARES FOR WAUKESHA COUNTY BUS SERVICE OPERATED
BY THE WAUKESHA METRO TRANSIT SYSTEM: APRIL 1999**

Fare Category	Fare Type		
	Cash (per one-way trip)	Tickets	Pass
Adults (ages 18-64).....	\$1.00	10 for \$8.50	\$24.00 per month ^a
Students (ages 5-17)	\$0.75	10 for \$6.50	\$19.00 per month ^b
Children (under age 5 when accompanied by an adult)	Free	--	--
Elderly (age 65 and older) and Disabled Persons.....	\$0.50	10 for \$4.50	--
Transfers with other Waukesha Metro Transit System Routes ^c	Free	Free	--
Saturday Supertransfer ^d	\$1.50	--	--

^aThe monthly pass is good for unlimited riding for one calendar month.

^bA summer youth pass, which is good for unlimited riding during the three-month summer season, is available for \$20.

^cFree transfers for the Waukesha Metro Transit System routes are currently issued at the time fares are paid by cash or ticket and are valid for 90 minutes. There is no additional charge for passengers transferring between the routes operated by Waukesha Metro Transit System and Wisconsin Coach Lines, Inc., Route Nos. 1 through 5. A transfer policy is also in effect for passengers transferring between Waukesha Metro Transit Route No. 1 and Milwaukee County Transit System Route No. 10 at the Brookfield Square and Executive Drive bus stops which allows passengers to transfer for an additional fare of \$0.25 per trip.

^dThe Supertransfer is good for unlimited riding on the Saturday it is purchased.

Source: Waukesha Metro Transit System and SEWRPC.

downtown terminal for the Waukesha Metro Transit System. The Waukesha depot for the Wisconsin Coach Lines, Inc., bus routes is located in proximity to the Waukesha Metro Transit downtown terminal.

Paratransit Service for Disabled Individuals

Waukesha County also provides paratransit service to comply with Federal regulations implementing the public transit requirements of the Americans with Disabilities Act (ADA) of 1990. These regulations require each public entity operating fixed-route transit system to provide paratransit service to disabled individuals unable to use fixed-route bus service as a complement to the bus service. Only noncommuter bus routes and service are subject to the complementary paratransit service requirement. Only three of the 16 County bus routes which provide service during weekday nonpeak periods as well as on weekends have been identified as providing noncommuter service, in terms of the ADA regulations, and are subject to this requirement: Wisconsin Coach Lines, Inc., Route No. 1, Milwaukee County Transit System Route No. 10, and Waukesha Metro Transit System Route No. 1.

Waukesha County provides the Federally required complementary paratransit service through two separate

programs: the Waukesha County Parallel Commuter Bus Program and the City of Waukesha Metrolift Program. The Parallel Commuter Bus Program provides door-to-door service for trips made by disabled individuals in the corridor between the Waukesha CBD and the Milwaukee CBD along the alignments of Wisconsin Coach Lines, Inc., Route No. 1 and Milwaukee County Transit System Route No. 10. At least one end of a trip must lie within the Waukesha County portion of the service area to be eligible for service. Waukesha County contracts for operation of the service from a private nonprofit operator, Curative Transportation Services. The City of Waukesha Metrolift Program provides curb-to-curb service for trips made by disabled individuals between the City of Waukesha and areas in the City or Town of Brookfield within three-quarters of a mile of Waukesha Metro Transit System Route No. 1 between the Goerkes Corners Public Transit Station and the Brookfield Square Shopping Center. At least one end of a trip must lie within the City or Town of Brookfield to be eligible for the County-sponsored service. The Metrolift Program service is provided under the terms of the County's service contract for the extension of Waukesha Metro Transit System Route No. 1. The operating characteristics of the complementary paratransit service programs are summarized in Table 26.

Table 25

**MAJOR TERMINALS AND PARK-RIDE FACILITIES SERVED BY THE BUS ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999**

Number on Map 16	Location ^a	Available Parking Spaces	1998 Utilization	
			Average Weekday Autos Parked	Percent of Spaces Used
1	Pilgrim Road (Menomonee Falls)	70	55	79
2	W. Good Hope Road (Milwaukee)	135	16	12
3	Milwaukee County Transit System Mill Road Transit Center (Milwaukee).....	--	--	--
4	Collins Municipal Parking Lot (Oconomowoc).....	65	10 ^b	15
5	STH 16 and CTH P (Oconomowoc)	45	14	31
6	STH 16 and CTH C (Nashotah)	45	9	20
7	STH 67 and CTH DR (Summit)	100	56	56
8	IH 94 and STH 83 (Delafield)	200	45	23
9	IH 94 and CTH G (Pewaukee)	45	36	80
10	Wisconsin Coach Lines, Inc., Waukesha Depot-Waukesha Metro Terminal (Waukesha)	--	--	--
11	Goerkes Corners (Brookfield).....	315	177	56
12	Brookfield Square (Brookfield)	240	76	32
13	IH 43 and STH 83 (Mukwonago)	105	65	62
14	IH 43 and STH 164 (Big Bend).....	55	40	73
15	IH 43 and Moorland Road (New Berlin).....	175	38	22
16	Milwaukee County Transit System Downtown Transit Center (Milwaukee)	--	--	--
--	Total	1,595	637	40

^aService was also provided to a temporarily park-ride lot at the East Troy Municipal Airport (IH 43 and STH 20) in Walworth County through an extension of Wisconsin Coach Lines, Inc., Route No. 6. The service was provided on a temporary basis during work on the Hale Interchange from March 29 through August 27, 1999.

^bEstimated based on 1998 SEWRPC on-bus survey data.

Source: Wisconsin Department of Transportation and SEWRPC.

In addition to the complementary paratransit services, disabled individuals can also use accessible bus service provided on the bus routes. The Milwaukee County Transit System bus fleet includes 173 buses that are accessible to individuals using wheelchairs; the Wisconsin Coach Lines, Inc., fleet includes six buses that are accessible; and the Waukesha Metro Transit System bus fleet includes 17 buses that are accessible. Some accessible bus service is provided over the Waukesha County bus routes, with the level of service varying by route.

Ridership and Service

The historic trends in transit ridership and service levels for the Waukesha County Transit System since 1977 are shown in Figures 3 and 4. Figure 5 shows the trends in passengers per vehicle hour and per vehicle mile for the system over this period. The ridership and service data are estimates for all services operated as part of the

Waukesha County transit system or receiving County funds including all regular contract service routes, the partnership routes with area businesses and Milwaukee County, and the expanded service added during the resurfacing of IH 94 in Waukesha and Milwaukee Counties during 1997 and 1998. The transit system experienced steadily increasing ridership from 1978 through 1982. Over this period ridership nearly doubled, from about 182,700 revenue passengers in 1977 to about 360,400 revenue passengers in 1982. Transit ridership increases occurring between 1979 and 1981 may be attributed to the substantial increases in gasoline prices in each of these years. However, the most significant ridership increase may be attributed to the introduction of seven new bus routes by Waukesha County in April 1981. Several of these routes were initially very successful in attracting new ridership. From 1983 through 1987 ridership and service levels on the system declined due largely to

Table 26

**OPERATING AND SERVICE CHARACTERISTICS OF THE
COMPLEMENTARY PARATRANSIT SERVICES FOR DISABLED INDIVIDUALS
PROVIDED THROUGH THE WAUKESHA COUNTY TRANSIT SYSTEM: 1999**

Characteristics	Complementary Paratransit Service ^a
Eligibility	<ul style="list-style-type: none"> Disabled individuals whose physical or cognitive disability prevents them from using the Waukesha County fixed route bus service provided over Wisconsin Coach Lines, Inc., Route No. 1, the extension of Milwaukee County Transit System Route No 10, or the extension of Waukesha Metro Transit System Route No 1
Response Time	<ul style="list-style-type: none"> Service provided on a next day reservation basis.
Restrictions or Priorities Placed on Trips	<ul style="list-style-type: none"> None
Fares	<ul style="list-style-type: none"> Parallel Commuter Bus Program: \$2.00 to \$3.90 per trip (fare varies by origin and destination) Waukesha Metrolift Program: \$2.00 per trip
Hours and Days of Operation	<ul style="list-style-type: none"> Parallel Commuter Bus Program <ul style="list-style-type: none"> Monday-Friday: 5:15 a.m. – 10:45 p.m. Saturdays: 7:30 a.m. - 10:15 p.m. Sundays and holidays: 10:00 a.m. - 7:45 p.m. Waukesha Metrolift Program <ul style="list-style-type: none"> Monday-Friday: 5:30 a.m. – 10:45 p.m. Saturdays: 7:30 a.m. - 10:15 p.m. Sundays and holidays: No service
Service Area	<ul style="list-style-type: none"> Parallel Commuter Bus Program: Trips made within area within approximately one mile on both sides of Wisconsin Coach Lines, Inc., Route No. 1 and Milwaukee County Transit System Route No. 10 in the corridor between the Waukesha CBD and the Milwaukee CBD. Trips must have one or both ends in the Waukesha County portion of the corridor. Waukesha Metrolift Program: Trips made within area within approximately three-quarters mile of a Waukesha Metro Transit route that have one or both ends in the corridor between the Goerkes Corners Public Transit Station and the Brookfield Square Shopping Center served by Waukesha Metro Transit System Route No. 1.

^aService provided on a contract basis by Curative Transportation Services for the Parallel Commuter Bus Program and by the City of Waukesha Metrolift Program.

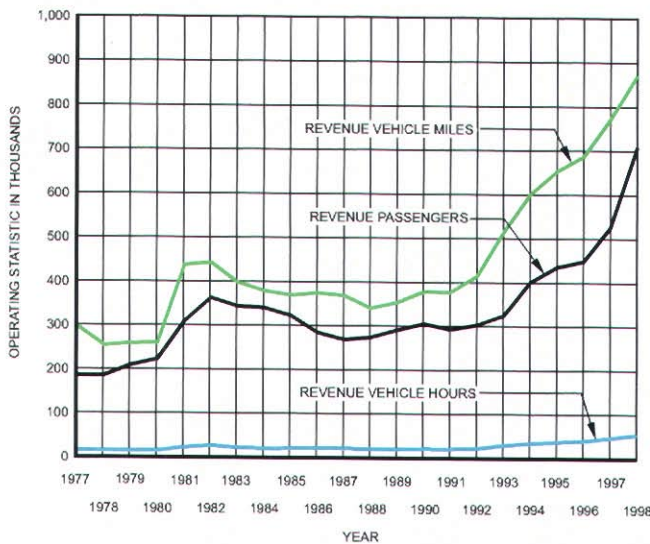
Source: Waukesha County Department of Transportation, Waukesha Metro Transit System, and SEWRPC.

the elimination of service over four of the seven routes implemented in 1981. The routes were eliminated due to low ridership and constraints on the County budget. Systemwide ridership declined to about 266,200 revenue passengers in 1987, or about 26 percent below the 1982 level. Ridership fluctuated somewhat between 1988 and 1991 and ultimately increased to about 290,400 revenue passengers by 1991 or by about 9 percent over the 1987 level, largely as a result of new special services operated by Wisconsin Coach Lines, Inc., to the summer festivals held at the Milwaukee lakefront.

Ridership and service levels on the transit system have increased in each year since 1991 as a direct result of the new routes and services that have been added to the system. Information on systemwide ridership and service levels on the transit system for the most recent five-year period, 1994 through 1998, are shown in Table 27. Total annual ridership on the transit system has increased by about 77 percent from approximately 398,800 revenue passengers in 1994 to about 707,800 revenue passengers in 1998, with an annual average of about 502,400 revenue passengers carried on the system. The estimated average

Figure 3

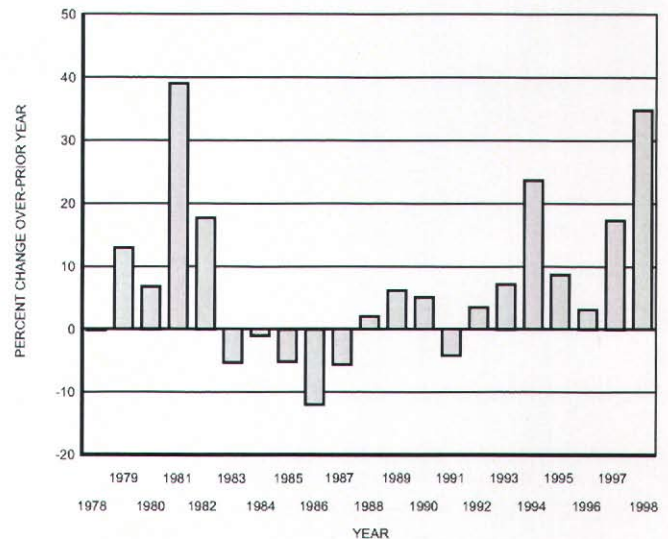
HISTORIC RIDERSHIP AND SERVICE LEVELS ON THE WAUKESHA COUNTY TRANSIT SYSTEM: 1977-1998



Source: Waukesha County Department of Transportation; Wisconsin Coach Lines, Inc.; Milwaukee County Transit System; Waukesha Metro Transit System; and SEWRPC.

Figure 4

PERCENTAGE CHANGE IN ANNUAL RIDERSHIP ON THE WAUKESHA COUNTY TRANSIT SYSTEM: 1977-



Source: Waukesha County Department of Transportation and SEWRPC.

daily ridership on each the system's bus routes based on total annual ridership in 1998 is shown in Table 28. About 54 percent of the average weekday ridership, and the majority of the weekend ridership, was accounted for by just four routes: Wisconsin Coach Lines, Inc., Route Nos. 1 and 2, the extension of Milwaukee County Transit System Route No. 10, and the extension of Waukesha Metro Transit System Route No. 1. The percentage distribution of weekday ridership on the routes of the transit system is presented by orientation of travel in Table 29 based on the findings of the Commission's 1998 on-bus survey. This table provides support data for the groupings of routes presented in the previous section describing the routes and service levels of the transit system.

Operating Costs

The operating expenses of the Waukesha County Transit System are funded through a combination of farebox revenues, and Federal, State, and local funds. The historic trend of the operating expenses, revenues, and operating assistance for the system since 1977 are shown in Figure 6 in both actual dollars and constant 1977 dollars. A summary of the recent trends in operating expenses, revenues, total assistance, and local assistance on the transit system is shown in Table 30 for the period 1994-

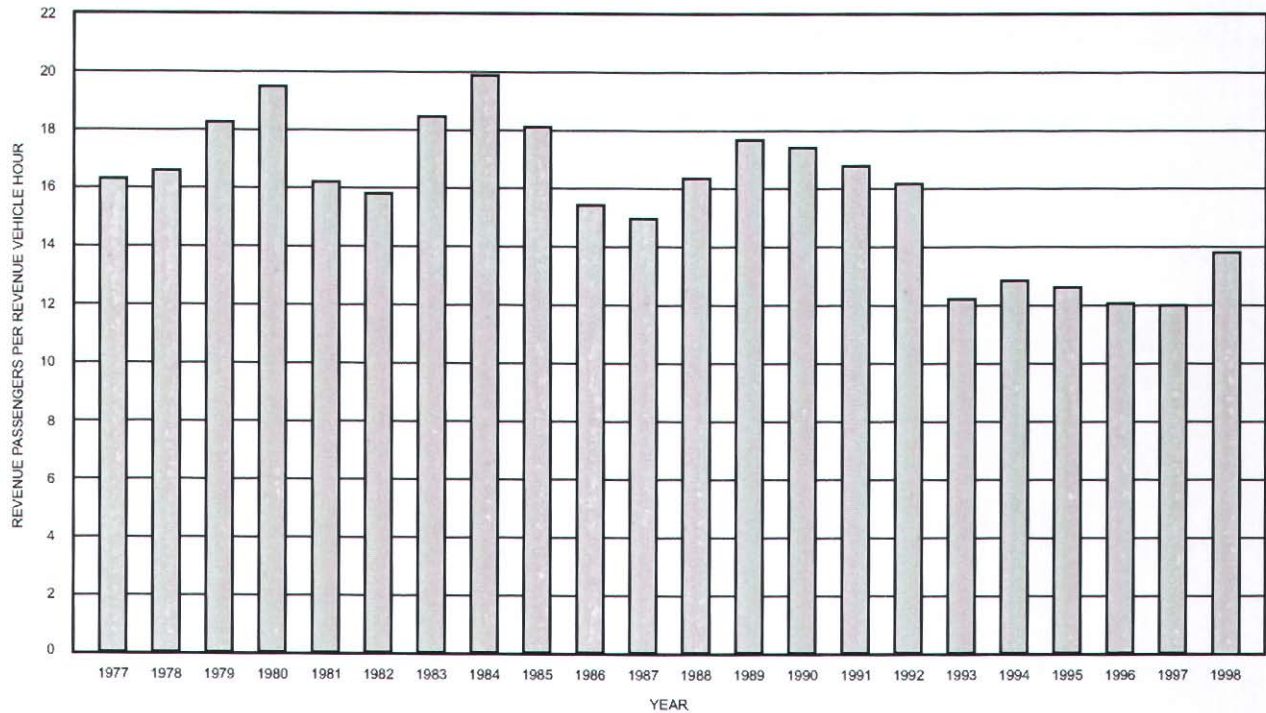
1998. The financial data are estimates for all services operated as part of the Waukesha County transit system or receiving County funds and include total costs, revenues from passengers and the private businesses served, and public operating assistance for all regular contract service routes, the partnership routes with area businesses and Milwaukee County, and the expanded service added during the resurfacing of IH 94 in Waukesha and Milwaukee Counties during 1997 and 1998. The following observations may be made on the basis of an examination of this information:

- Operating expenses and operating assistance for the transit system rose slowly in actual dollar terms and remained stable in constant dollar terms until 1981 when the County expanded bus service over seven new routes. Between 1982 and 1987, system operating expenses and operating assistance remained stable in actual dollars, and declined slightly in constant dollar terms, as the County offset inflationary increases in costs with service cuts. Since 1988, system operating expenses and operating assistance have increased steadily in terms of both actual and constant dollars, reflecting the expanded services provided by the transit system over this period.

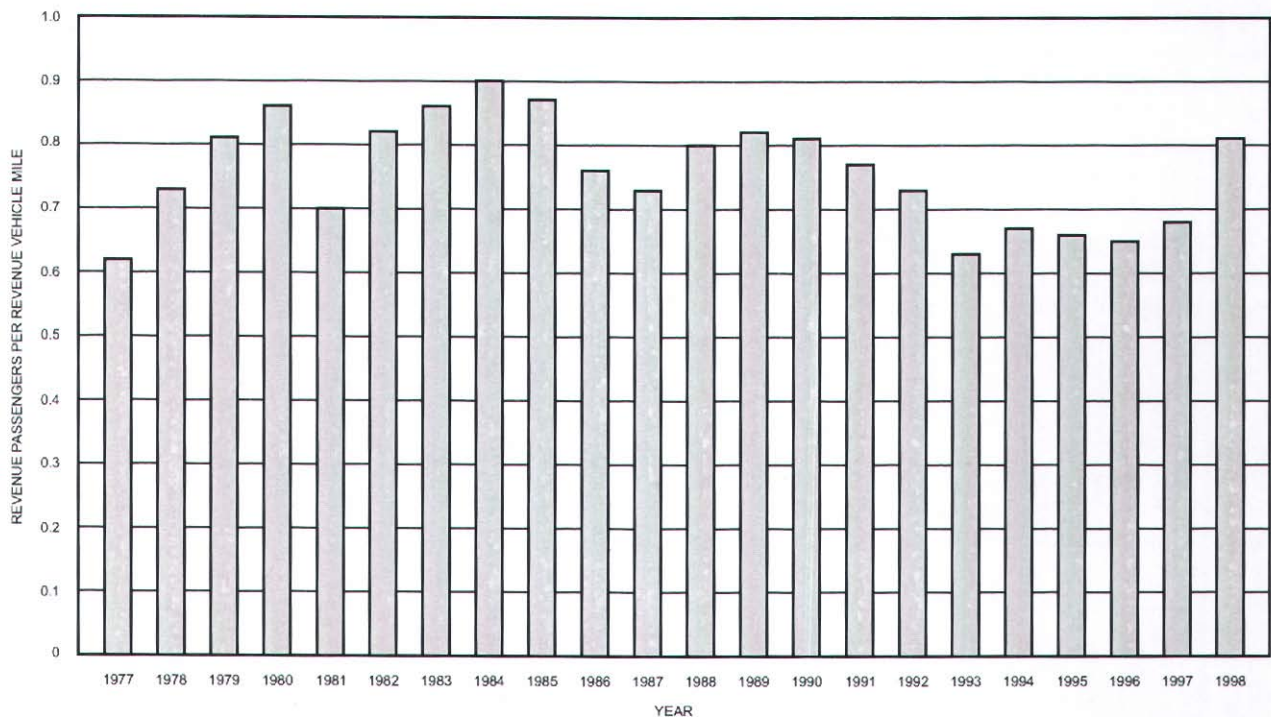
Figure 5

**HISTORIC TRENDS IN SERVICE EFFECTIVENESS ON
THE WAUKESHA COUNTY TRANSIT SYSTEM: 1977-1998**

PASSENGERS PER REVENUE VEHICLE-HOUR



PASSENGERS PER REVENUE VEHICLE-MILE



Source: Waukesha County Department of Transportation and SEWRPC.

Table 27

**ANNUAL RIDERSHIP AND SERVICE LEVELS
ON THE WAUKESHA COUNTY TRANSIT SYSTEM: 1994-1998**

Characteristic	Year ^a					Five-Year Average
	1994	1995	1996	1997	1998	
Service Provided						
Revenue Vehicle-Miles	599,600	651,900	686,300	778,900	870,800	717,500
Revenue Vehicle-Hours	31,000	34,400	37,000	43,000	51,300	39,300
Revenue Passengers						
Fixed Route Service ^b	392,900	428,500	441,200	517,400	699,500	495,900
Paratransit Service.....	5,900	5,000	5,900	7,400	8,300	6,500
Total	398,800	433,500	447,100	524,800	707,800	502,400
Service Effectiveness						
Revenue Passengers per Vehicle-Mile.....	0.7	0.7	0.7	0.7	0.8	0.7
Revenue Passengers per Vehicle-Hour.....	12.9	12.6	12.1	12.2	13.8	12.8

^aAll data are estimates.

^bIncludes ridership on special services to Summerfest and other ethnic festivals on the Milwaukee lakefront as follows: 1996 – 23,000 passengers, 1997 – 44,000 passengers, and 1998 – 46,000 passengers. This ridership should be subtracted from the figures shown for fixed route service for comparison with the ridership forecasts for the recommended plan set forth in Chapter VI.

Source: Waukesha County Department of Transportation and SEWRPC.

- From 1994 through 1998, total operating expenses for all of the services provided by the Waukesha County transit system increased by about 92 percent from about \$2,164,900 in 1994 to about \$4,153,400 in 1998; revenues increased by about 87 percent from about \$540,000 in 1994 to about \$1,010,500 in 1998; and total operating assistance increased by about 93 percent from about \$1,624,900 in 1994 to about \$3,142,900 in 1998. The operating assistance from Waukesha County has varied by year ranging from a low of about \$125,400 in 1994 to a high of about \$361,900 in 1997. The Waukesha County assistance for the system in 1998 was estimated at about \$324,500.
- On an average annual basis since 1994, total operating expenses for the transit system have been about \$2,906,600 per year. Of this total, about \$699,900, or 24 percent, came from passenger revenues and private business funding. The remaining \$2,206,700, or 76 percent, constituted the average annual public operating assistance which had to be funded through Federal and State transit assistance programs and local property taxes. The average annual operating assistance from the Waukesha County has been about \$244,400, or about 8 percent of total system operating expenses.
- On a per trip basis, the total costs, revenues, and operating assistance for the system have increased over the past five years. The systemwide operating cost per trip has increased by about 8 percent

from \$5.43 in 1994 to \$5.87 in 1998; revenue per trip by about 5 percent from \$1.36 in 1994 to \$1.43 in 1998; total operating assistance per trip by about 9 percent from \$4.07 in 1994 to \$4.44 in 1998; and local operating assistance per trip by about 48 percent from \$0.31 in 1994 to \$0.46 in 1998.

OTHER PUBLIC TRANSIT SERVICES

A number of other public transit services are also provided to residents of Waukesha County including public fixed-route bus services, intercity bus services, taxicab services for the general public; special employee transportation services; and specialized transportation services for the elderly and disabled population.

Bus and Taxicab Services for the General Public

The additional transit services in 1999 that were either provided in the County, or which provided important connections with the routes of the Waukesha County transit system, are identified in Table 31 and may be summarized as follows:

- Waukesha Transit Metro System**
The Waukesha Metro Transit System is publicly owned and operated by the City of Waukesha and provides local bus service in the City and immediate environs over nine fixed routes (see Map 17). All nine routes provide direct service to the system's downtown terminal in the River parking lot Waukesha CBD and are operated with pulse sched-

Table 28

**AVERAGE DAILY RIDERSHIP ON THE ROUTES COMPRISING THE
WAUKESHA COUNTY TRANSIT SYSTEM BY ORIENTATION OF TRAVEL: 1998**

Predominant Orientation of Passenger Travel	Transit Operator	Route Number	Average Passengers ^a					
			Weekdays		Saturdays		Sundays and Holidays	
			Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Traditional Commute— Waukesha County to Milwaukee County	Wisconsin Coach Lines, Inc.	2	30	1.2	--	--	--	--
		3	70	2.9	--	--	--	--
		4	200	8.2	--	--	--	--
		5	50	2.0	--	--	--	--
		6	100	4.1	--	--	--	--
	Subtotal		450	18.4	--	--	--	--
	Milwaukee County Transit System	79	180	7.4	--	--	--	--
	Subtotal	--	630	25.8	--	--	--	--
Reverse Commute— Milwaukee County to Waukesha County	Wisconsin Coach Lines, Inc.	7	40	1.7	--	--	--	--
		8	30	1.2	--	--	--	--
		Subtotal	70	2.9	--	--	--	--
	Milwaukee County Transit System	6	80	3.3	80	7.2	80	19.5
		8	180 ^b	7.4	180 ^b	16.2	180 ^b	43.9
		9	150	6.1	--	--	--	--
		106	50	2.0	--	--	--	--
	Subtotal		460	18.8	260	23.4	260	63.4
	Subtotal	--	530	21.7	260	23.4	260	63.4
Traditional and Reverse Commute	Wisconsin Coach Lines, Inc.	1	600 ^c	24.6	300 ^c	27.0	150 ^c	36.6
	Milwaukee County Transit System	10 ^d	350	14.4	240	21.7	--	--
	Subtotal	--	950	39.0	540	48.7	150	36.6
Within Waukesha County	Waukesha Metro Transit System	1 ^d	330	13.5	310	27.9	--	--
Total System	--	--	2,440	100.0	1,110	100.0	410	100.0

^a Estimated based on total annual ridership and sample passenger counts.

^b Includes passengers traveling to and from Quad/Graphics, Inc., West Allis plant.

^c The average daily ridership figures shown for Route No. 1 reflects the large number of passengers that used the service to travel to and from Summerfest and ethnic festivals held on the Milwaukee lakefront during the summer months. During the nine nonsummer months, daily ridership on Route Nos. 1 averaged about 530 passengers on weekdays, 90 passengers on Saturdays, and 60 passengers on Sundays.

^d Data shown only for route segments for which Waukesha County provides public transit operating assistance funds. Milwaukee County Transit System Route No. 10, and Waukesha Metro Transit System Route No. 1 also have significant portions which are operated in Milwaukee County and the City of Waukesha, respectively, without public operating assistance from Waukesha County.

Source: Waukesha County Department of Transportation and SEWRPC.

uling to facilitate a "timed-transfer" between routes at the system's downtown terminal. Two of the routes extend outside the City of Waukesha: the Waukesha County route serving the Blue Mound Road Corridor and the Brookfield Square Shopping Center in the City and Town of Brookfield; and a route serving the Waukesha County Technical College in the Village of Pewaukee. The three

Waukesha County routes operated by Wisconsin Coach Lines, Inc. between the City of Waukesha and the Milwaukee CBD directly serve the downtown terminal for the City bus system. This facilitates transfers between the County and City's bus routes and permits the City bus system to act in some degree as a local feeder bus system for the County routes. The system operates from 5:40 a.m.

Table 29

**PERCENT OF WEEKDAY TRANSIT TRIPS MADE ON THE WAUKESHA COUNTY
TRANSIT SYSTEM BY ROUTE AND ORIENTATION OF TRAVEL: APRIL AND MAY 1998**

Transit Operator	Route Number ^a	Percent of Trips			Total Trips
		Trips Produced in Waukesha County and Attracted to Milwaukee County	Trips Produced in Milwaukee County and Attracted to Waukesha County	Trips Produced and Attracted within Waukesha County	
Wisconsin Coach Lines, Inc.	1 and 2	68.4	31.2	0.4	100.0
	3	96.6	3.4	--	100.0
	4	99.1	0.9	--	100.0
	5	95.8	4.2	--	100.0
	6	100.0	--	--	100.0
	7	6.8	86.4	6.8	100.0
	8	--	81.3	18.7	100.0
	Total	76.3	22.7	1.0	100.0
Milwaukee County Transit System	3/10 ^c	18.9	80.5	0.6	100.0
	6	--	100.0	--	100.0
	8	2.0	98.0	--	100.0
	9	2.4	89.7	7.9	100.0
	79	95.3	4.7	--	100.0
	106	--	100.0	--	100.0
	Total	25.6	72.9	1.5	100.0
Waukesha Metro Transit System	1	9.4	13.6	77.0	100.0
Total	--	46.9	44.7	8.4	100.0

^aData shown only for the routes or route segments for which Waukesha County provides public transit operating assistance funds. Milwaukee County Transit System Route Nos. 10 and 18, and Waukesha Metro Transit System Route No. 1 also have significant portions which are operated in Milwaukee County and the City of Waukesha, respectively, without public operating assistance from Waukesha County.

^bIncludes about five percent of all transit trips which were produced outside of Waukesha and Milwaukee Counties, primarily in Walworth, Washington, and Jefferson Counties.

^cThe survey data include ridership on one express route operated by the Milwaukee County Transit System, Route No. 3, between the Brookfield Square Shopping Center and the University of Wisconsin-Milwaukee, which paralleled the alignment of Route No. 10 between Brookfield Square Shopping Center and the Milwaukee CBD. The route was operated only during the resurfacing of IH 94 in Waukesha and Milwaukee Counties from April 1997 through August 1998.

Source: SEWRPC.

until 10:30 p.m. on weekdays and from 8:00 a.m. until 10:00 p.m. on Saturdays, with headways of 15 to 60 minutes at all times.

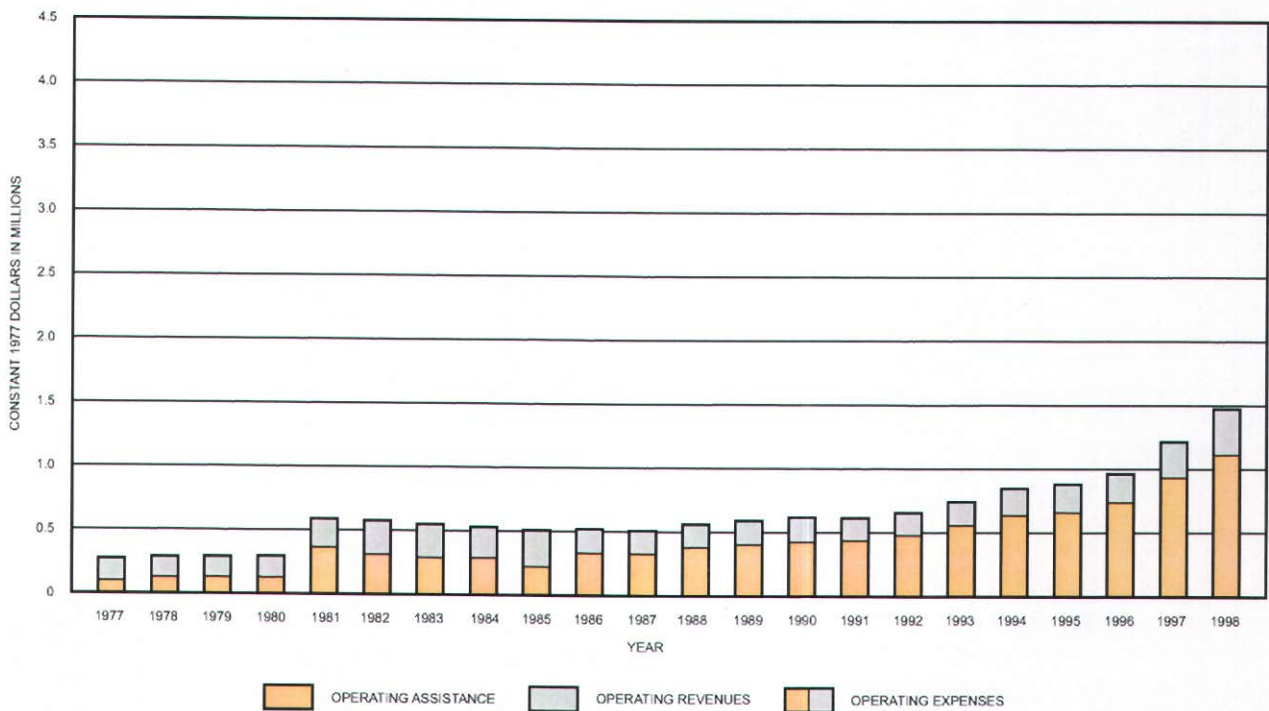
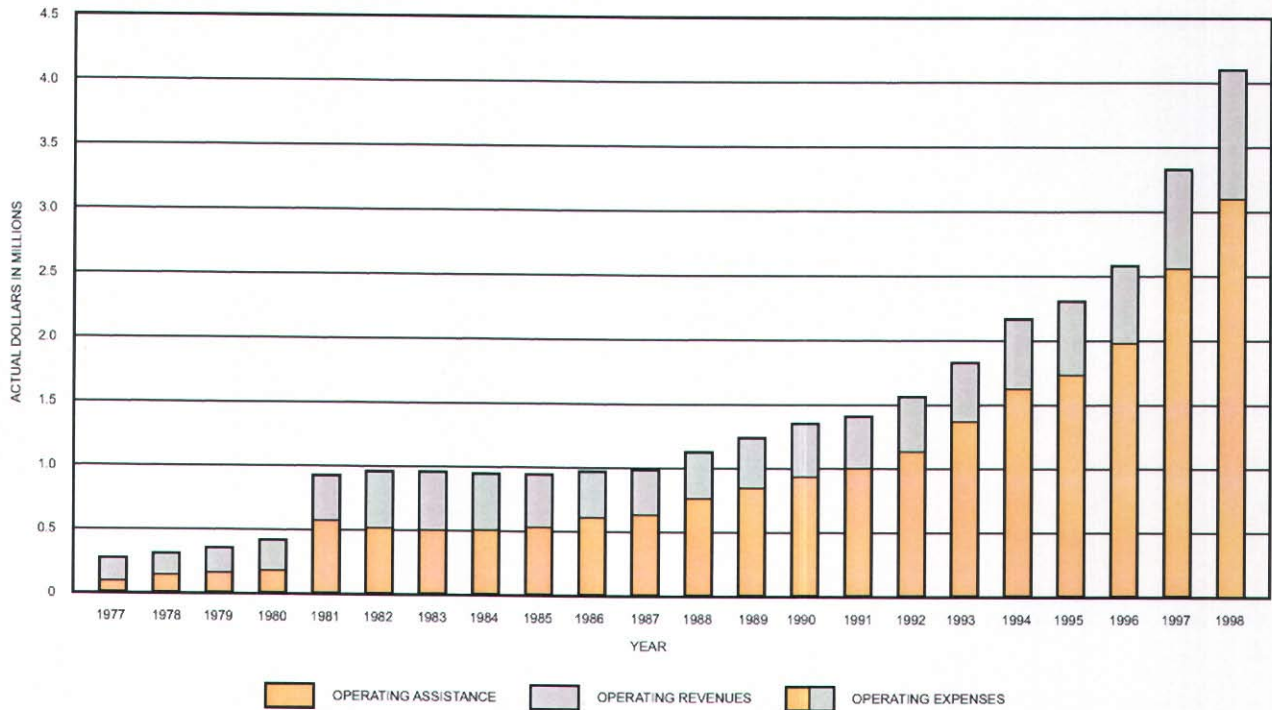
- Milwaukee County Transit System**

The Milwaukee County Transit System is publicly owned and operated by Milwaukee County and provides rapid "freeway flyer", express, and local bus services over a system of approximately 70 routes (see Map 18). The system covers most, but not all of Milwaukee County, with much of the Cities of Franklin and Oak Creek in the south without regular service. The system includes 11

freeway flyer routes which provide service primarily over area freeways between outlying park-ride lots and the Milwaukee CBD. While the freeway flyer routes operate virtually entirely within Milwaukee County, surveys conducted by the transit system in 1996 indicated that about 14 percent of all freeway flyer passengers were residents of Waukesha County. By comparison, 1998 Commission on-bus survey data indicate that about 46 percent of all Waukesha County transit system passengers were residents of Milwaukee County. The system also includes three express routes that provide service primarily over arterial streets with limited

Figure 6

TOTAL ANNUAL OPERATING EXPENSES, REVENUES, AND OPERATING ASSISTANCE FOR THE WAUKESHA COUNTY TRANSIT SYSTEM: 1977-1998



NOTE: ALL FINANCIAL DATA ARE ESTIMATES. OPERATING EXPENSES HAVE BEEN ADJUSTED TO REFLECT THE ESTIMATED ACTUAL COSTS OF SERVICE BY SUBTRACTING FUNDS WHICH WERE INDICATED AS BEING PROVIDED BY CONTRACT SERVICE OPERATORS.

Source: Waukesha County Department of Transportation; Wisconsin Coach Lines, Inc.; Milwaukee County Transit System; Waukesha Metro Transit System; and SEWRPC.

Table 30

**ANNUAL OPERATING EXPENSES, REVENUES, AND OPERATING
ASSISTANCE FOR THE WAUKESHA COUNTY TRANSIT SYSTEM: 1994-1998**

Characteristic	Year ^a					Five-year Average
	1994	1995	1996	1997	1998	
Service Provided						
Total Vehicle-Miles	772,700	832,700	880,800	1,037,200	1,138,300	932,300
Total Vehicle-Hours	41,300	45,200	48,400	58,500	67,000	52,100
Revenue Passengers	398,800	433,500	447,100	524,800	707,800	502,400
Costs, Revenues, and Assistance						
Operating Expenses	\$2,164,900	\$2,304,900	\$2,582,500	\$3,327,300	\$4,153,400	\$2,906,600
Operating Revenue						
Passenger Revenues	540,000	573,300	604,500	770,300	999,000	697,400
Private Sector Revenues	--	--	--	1,100	11,500	2,500
Subtotal	\$ 540,000	\$ 573,300	\$ 604,500	\$ 771,400	\$1,010,500	\$ 699,900
Required Operating Assistance	\$1,624,900	\$1,731,600	\$1,978,000	\$2,555,900	\$3,142,900	\$2,206,700
Percent of Expenses Recovered through Revenues	24.9	24.9	23.4	23.2	24.3	24.1
Sources of Operating Assistance						
Federal ^c	\$ 439,900	\$ 406,100	\$ 374,100	\$ 422,300	\$ 611,700	\$ 450,800
State	1,059,600	1,184,300	1,281,900	1,771,700	2,206,700	1,500,900
Local						
Waukesha County	125,400	141,200	322,000	361,900	271,700	244,400
Milwaukee County	--	--	--	--	52,800	10,600
Subtotal	\$ 125,400	\$ 141,200	\$ 322,000	\$ 361,900	\$ 324,500	\$ 255,000
Total	\$1,624,900	\$1,731,600	\$1,978,000	\$2,555,900	\$3,142,900	\$2,206,700
Per Revenue Passenger Data						
Operating Cost	\$5.43	\$5.32	\$5.78	\$6.34	\$5.87	\$5.79
Revenue	1.36	1.33	1.36	1.47	1.43	1.40
Total Operating Assistance	4.07	3.99	4.42	4.87	4.44	4.39
Local Operating Assistance	0.31	0.33	0.72	0.69	0.46	0.51

^a All financial data are estimates.

^b Represents funds provided by the private sector for service provided by the shuttle routes of the Waukesha County Transit System.

^c Represents funds obtained through the FTA Section 5307 Urbanized Area Formula Program and the Federal Congestion Mitigation and Air Quality (CMAQ) Improvement Program.

^d Represents funds obtained through the WisDOT Section 85.20 Urban Public Transit Operating Assistance Program, the WisDOT Section 85.24 Transportation Demand Management Program, and special funding for transit service to mitigate congestion on IH 94 during the resurfacing of the freeway in Milwaukee and Waukesha County in 1997 and 1998.

* Represents funds provided under the partnership with Waukesha County for Route Nos. 6 and 8 of the Milwaukee County Transit System.

Source: Waukesha County Department of Transportation; Wisconsin Department of Transportation; Milwaukee County Transit System; Waukesha Metro Transit System; and SEWRPC.

stops at intersecting routes and major trip generators; and five special "UBUS" routes which provide limited stop freeway flyer and express service to the University of Wisconsin-Milwaukee. The vast majority of routes—54—provide local bus service. The local and express routes form a grid pattern

over the local transit service area and are designed so that no passenger needs to transfer more than once to get to most destinations. Many of the routes connect with Waukesha County routes and provide service to and from the home end of the daily work trips made on the Waukesha County routes.

Table 31

**ADDITIONAL PUBLIC TRANSPORTATION SERVICES FOR
THE GENERAL PUBLIC IN WAUKESHA COUNTY: APRIL 1999**

Type of Service	Name of Service Provider	Type of Service	Days and Hours of Operation	Fares ^a	Service Area	Vehicles Used	Average Weekday Ridership (one-way trips)
Fixed-Route Bus Service	Milwaukee County Transit System	Local, Express, and Freeway Flyer Bus	Seven days a week: 5:30 a.m.-1:00 a.m.	Adults (ages 12-64):\$1.35 ^b Students (ages 6-11):\$1.00 ^b Elderly (ages 65 and over), and Disabled:\$0.65 ^b	Milwaukee County	Urban transit buses	180,000
	Waukesha Metro Transit System	Local Bus	Weekdays:5:40 a.m.-10:30 p.m. Saturdays:8:00 a.m.-10:00 p.m. Sundays and Holidays: No Service	Adults (ages 12-64):\$1.00 Students (ages 6-11):\$0.75 Elderly (ages 65 and over), and Disabled:\$0.50	City of Waukesha and environs	Urban transit buses	2,000
Intercity Bus	Badger Coaches, Inc.	Intercity Bus	Weekday and Saturday service consisting of: Seven Eastbound Trips Six Westbound Trips One additional trip in each direction on Sunday	Distance-based	Two stops located at IH 94 Barker Road (Goerkes Corners park-ride lot) and STH 67 CTH DR (Summit park-ride lot)	Deluxe over-the-road motor coaches	N/A
	Greyhound Lines, Inc.	Intercity Bus	Four trips eastbound and westbound daily on IH 94 operated between Milwaukee and Madison Two daily trips northbound and one trip southbound on US 41/US 45 operated between Milwaukee and Green Bay	Distance-based	Milwaukee-Madison service: One stop located at IH 94 and STH 83 (Delafield park-ride lot) Milwaukee-Green Bay service: No stops in the County	Deluxe over-the-road motor coaches	N/A
	Lamers Bus Lines, Inc.	Intercity Bus	One trip northbound and one trip southbound daily on US 41/US 45 operated between Milwaukee and Green Bay	Distance-based	No stops in the County	Deluxe over-the-road motor coaches	N/A
	Wisconsin Coach Lines, Inc.	Intercity Bus	Two eastbound trips each Friday and two westbound trips each Sunday	\$5.00	Milwaukee-Whitewater service: Two stops in the County	Deluxe over-the-road motor coaches	35
Taxicab	Best Cab of Waukesha, Inc.	Taxicab Service	24 hours a day, seven days a week	Zone-based fares starting at \$4.00 in central portion of City of Waukesha with increases based on number of zones crossed	City of Waukesha and environs, and City of Muskego	Automobiles	N/A

NOTE: N/A indicates data not available.

^a Fares shown are cash fares per trip.

^b Fare shown is for local and express bus services. There is an additional charge of \$0.25 for Freeway Flyer bus service.

Source: SEWRPC

The system operates seven days a week from about 5:30 a.m. until 1:00 a.m., with the greatest number of routes in operation during weekday peak periods from 6:00 a.m. until 9:00 a.m. and from 3:00 p.m. until 6:00 p.m. A number of local routes oriented to specific employment locations in the northwest and southern portions of the County are operated only during these peak periods. Headways on most local routes are 10 to 30 minutes during peak periods and 15 to 60 minutes at other times, with headways on freeway flyer and express routes being somewhat greater. The system operates with a reduced number of routes and higher service frequencies during weekday evenings and on weekends and holidays. Special routes are also

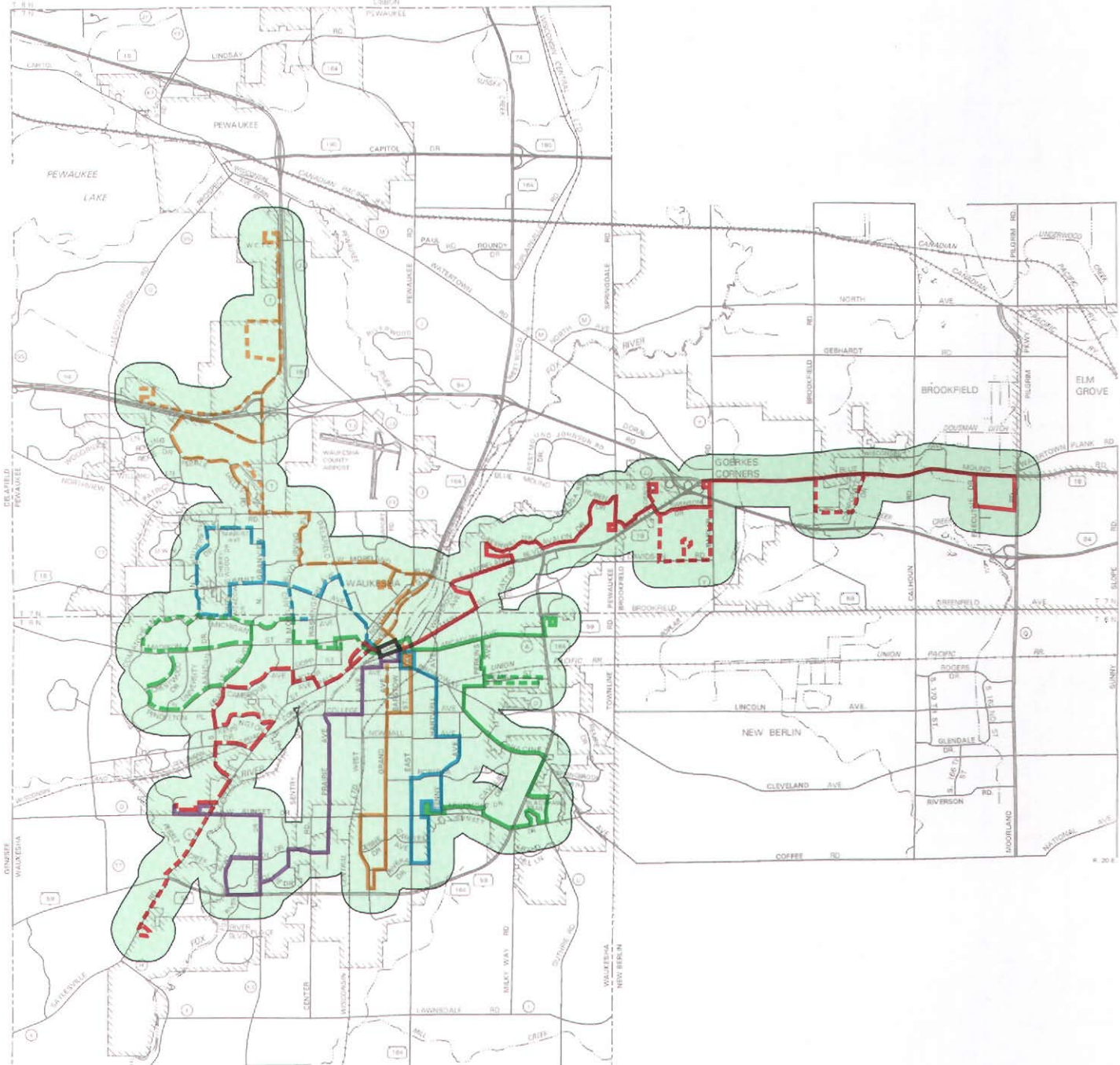
operated on a limited basis for sporting events, lakefront festivals, and the State Fair.

- Intercity Bus Services**

Intercity bus services were provided through the County by four companies (see Map 19). Greyhound Lines, Inc., and Badger Coaches, Inc., provide service over IH 94 between Milwaukee and Madison. Greyhound Lines, Inc., operated four round trips daily, stopping only at the park-ride lot at IH 94 and STH 83 in the City of Delafield. Badger Coaches, Inc., operates six to eight round trips daily, stopping at the Goerkes Corners Public Transit Station at IH 94 and Barker Road in the Town of Brookfield and at the park-ride lot at

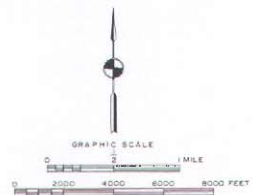
Map 17

EXISTING PUBLIC TRANSIT SERVICE PROVIDED BY THE
WAUKESHA METRO TRANSIT SYSTEM: APRIL 1999



- | | |
|-------------|------------------------------------|
| ROUTE NO. 1 | ROUTE NO. 7 |
| ROUTE NO. 2 | ROUTE NO. 8 |
| ROUTE NO. 3 | ROUTE NO. 9 |
| ROUTE NO. 4 | COMMON DOWNTOWN SEGMENTS |
| ROUTE NO. 5 | PEAK HOUR SERVICE ONLY |
| ROUTE NO. 6 | ONE-QUARTER MILE WALK SERVICE AREA |

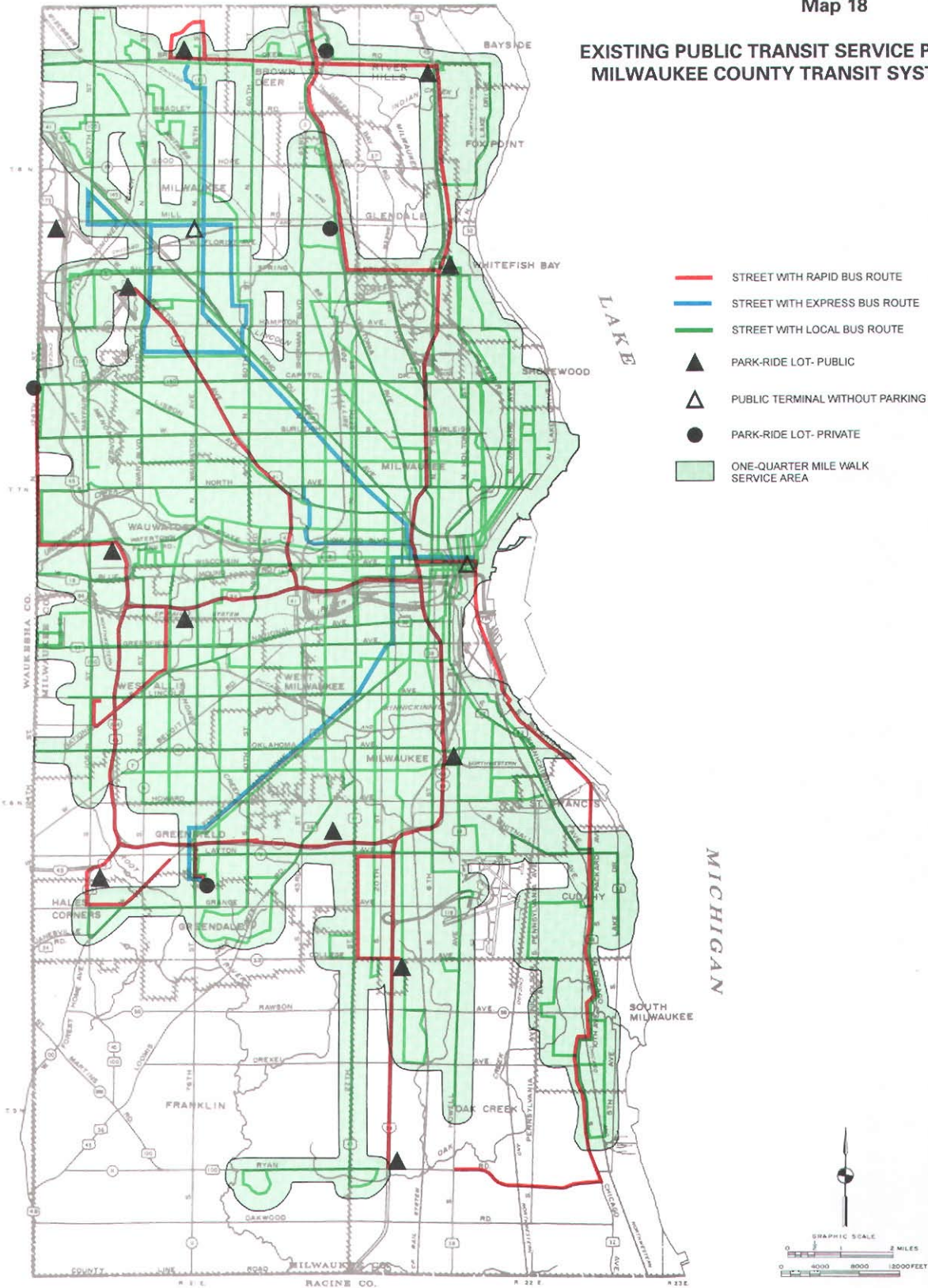
NOTE: ON ROUTE NO. 1 THE SEGMENT BETWEEN BARKER ROAD AND MOORLAND ROAD IS FUNDED BY WAUKESHA COUNTY.



Source: Waukesha Metro Transit System and SEWRPC.

Map 18

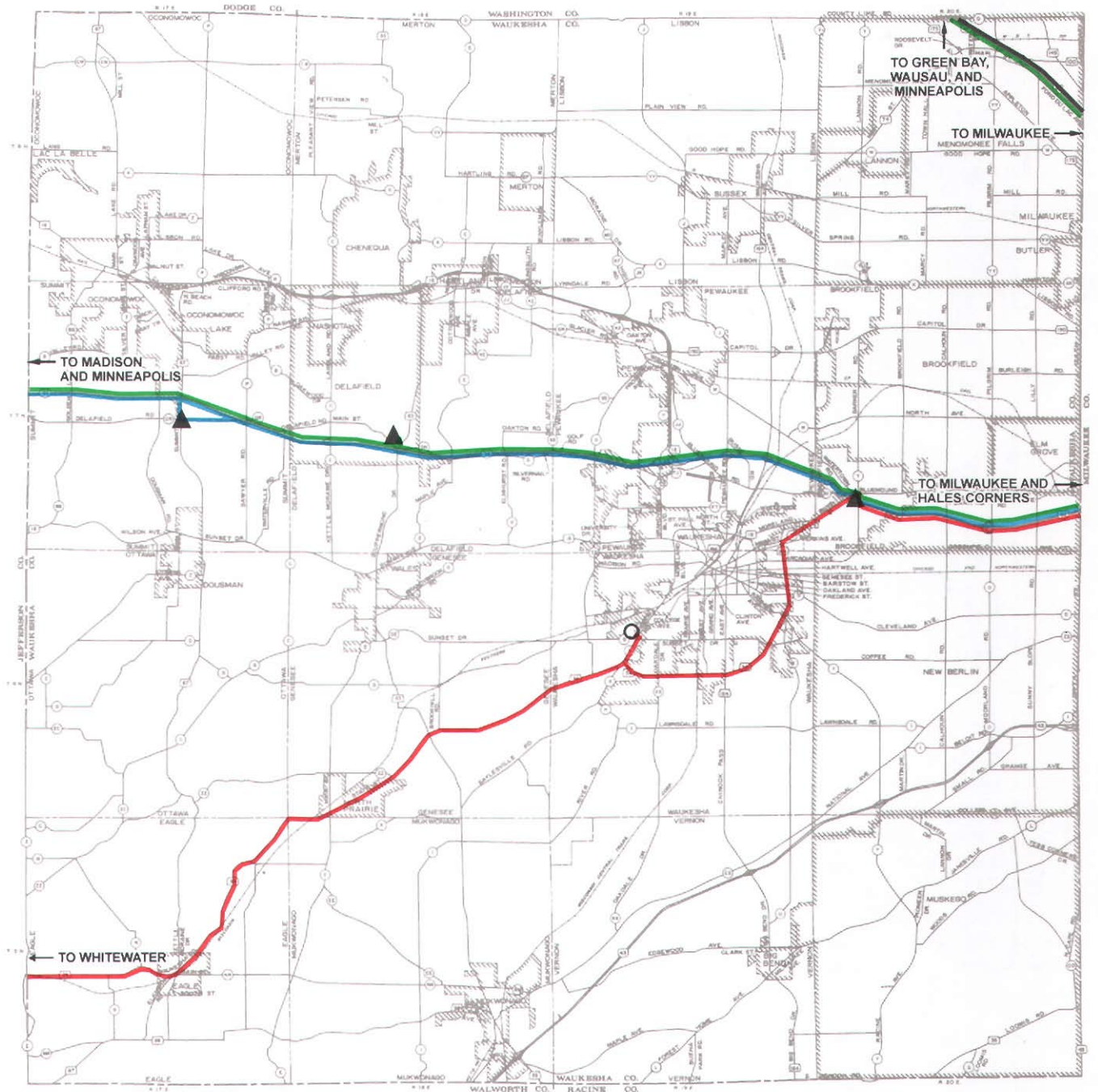
**EXISTING PUBLIC TRANSIT SERVICE PROVIDED BY THE
MILWAUKEE COUNTY TRANSIT SYSTEM: APRIL 1999**



Source: Milwaukee County Transit System and SEWRPC.

Map 19

INTERCITY BUS SERVICE IN
WAUKESHA COUNTY: APRIL 1999

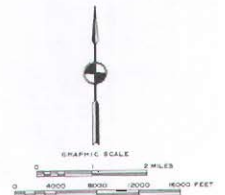


INTERCITY BUS ROUTES

- BADGER COACHES, INC.
- GREYHOUND LINES, INC.
- LAMERS BUS LINES, INC.
- WISCONSIN COACH LINES, INC.

STATIONS AND STOPS

- ▲ PARK-RIDE LOT - PUBLIC
- OTHER MAJOR STOP



Source: SEWRPC.

STH 67 and CTH DR in the Town of Summit. Wisconsin Coach Lines, Inc., operated service on weekends for students commuting between Waukesha and Milwaukee Counties and the University of Wisconsin-Whitewater. Service consisted of two bus trips to the campus on Sunday and two bus trips from the campus on Friday. Stops on the route in Waukesha County were made at the Fox Run Shopping Center on the southwest side of the City of Waukesha and at the Goerkes Corners Public Transit Station. Routes operated by Greyhound Lines, Inc., and Lamers Bus Lines, Inc., between Milwaukee and Appleton and Wausau passed through, but did not stop in, the Menomonee Falls area. The service operated by Wisconsin Coach Lines, Inc., was publicly funded through a Transportation Demand Management grant awarded to the bus company in 1998 by the Wisconsin Department of Transportation. The other services were all privately funded and received no public assistance.

- Taxicab Service

Taxicab service for the general public was provided by only one company based in Waukesha County during 1999. Best Cab Company provided service in the City of Waukesha and environs 24-hours a day, seven days a week. Service is provided on a shared-ride basis where passengers traveling between different origins and destinations may share the cab for a portion of their trip. Fares were based on a system of zones with passengers charged for the number of zones passed through. While principally serving the Waukesha area, the company also served trips between the City and other communities in the County and also provided limited service in the City of Muskego.

Employee Transportation Services

Special public transportation services were provided in 1999 to employees of businesses in Waukesha County through two publicly funded programs, by a number of private businesses providing temporary help, and by organizations and employers. The employee transportation services identified by Commission staff are presented in Table 32 and include the following services:

- State JobRide Program

The Wisconsin Department of Workforce Development, with the assistance of the Private Industry Council (PIC) of Milwaukee County, administers the employment public transportation assistance program, or "JobRide" program. The program is designed to address transportation problems within the Milwaukee metropolitan area which have

developed as a result of an increasing mismatch between the place of residence of potential workers in central Milwaukee County and the location of new jobs on the fringes Milwaukee County or in the surrounding counties. The job locations served are in outlying locations that are poorly served or unserved by fixed route bus service. Under the program, the State currently contracts with six private service providers which both find and transport individuals from central Milwaukee County to permanent jobs at employers in the Region. Eligible users of the JobRide services, consequently, are individuals who have been either recruited, or placed with an employer, by the one of the service providers. Semi-fixed routes are used to provide the service under which employees are picked up at one or more stops in Milwaukee County then transported directly to the participating employers. Service is provided seven days a week for all job shifts to meet the specific needs of the participating employers. The JobRide program is not intended to be viewed as a permanent long-term transportation option and limits the period of eligibility for participating employees to six months. Approximately 50 employers in Waukesha County were registered with the JobRide program as of March 1999 for job placement and transportation services. During the first quarter of 1999, JobRide service was provided to employers located in the eastern portion of Waukesha County and in the western portion along the IH 94 east-west travel corridor.

- Bridges to Work Program

The "Bridges to Work" Program is a four-year national research and demonstration program designed to link job-seeking residents of metropolitan central-city neighborhoods with jobs in suburban areas. The Milwaukee Bridges to Work project is a joint effort of the Milwaukee County PIC and the Waukesha-Ozaukee-Washington (WOW) PIC. Staff from the two Councils recruit potential employees from central Milwaukee County neighborhoods for placement in jobs at businesses in the Germantown, Jackson, and Slinger areas of Washington County and in the New Berlin Industrial Park in Waukesha County. Participants in the project are selected at random from a pool of candidates that have been screened to meet the criteria of the national Bridges to Work Program. All participants selected are provided with jobs but only one-half are provided with other support services including transportation, the other one-half being a control group for the research project. For those eligible, transit service is provided

Table 32

EMPLOYEE TRANSPORTATION SERVICES OPERATED IN WAUKESHA COUNTY: APRIL 1999

Type of Provider	Name of Provider	Type of Service	Days and Hours of Operation	Eligible Users	Areas Currently Receiving Service	Vehicles Used	Fare Per Trip	Average Weekday Ridership (one-way trips)
Organized Employee Transportation Program	State JobRide ^a Program	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Milwaukee County residents traveling to permanent jobs in surrounding counties where public transit services are not available	Cities of Muskego, New Berlin, Oconomowoc, Pewaukee, and Waukesha; and Villages of Hartland, Menomonee Falls, and Nashotah	Buses and vans provided by contract operation	\$2.00; half paid by employer	330
	Bridges to Work Program ^b	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Milwaukee County residents traveling to permanent jobs in surrounding counties where existing transit services are not available; program closed to new participants	New Berlin	Vans provided by contract operation	None charged	10
Temporary Employment Agency	Instant Help	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Employees working at Waukesha County employer through employment agency	Cities of Oconomowoc and Waukesha and Village of Hartland	Vans	\$3.00	15
	Nissen and Associates	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Employees working at Waukesha County employer through employment agency	Towns of Genesee and Merton	Van	\$1.50	20
	Site Personnel	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Employees working at Waukesha County employer through employment agency	Cities of Oconomowoc and Waukesha	Buses and vans	\$2.00	70
	Staff Works	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Employees working at Waukesha County employer through employment agency	Cities of New Berlin and Village of Menomonee Falls	Buses and vans	\$1.00 to \$2.50	40
	Tandem Staffing for Industry	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Employees working at Waukesha County employer through employment agency	Village of Hartland	Vans	\$1.00 to \$2.50	10
	Westaff	Semi-fixed routes, prescheduled basis	Seven days a week as required by employer	Employees working at Waukesha County employer through employment agency	Cities of New Berlin, Oconomowoc, and Waukesha and Town of Merton	Vans	\$2.50	150
Religious Organization	Cooperating Congregations of Greater Waukesha	24-hour advanced reservation, door-to-door	Weekdays: 4:00 a.m.-6:00 p.m.	Persons traveling to jobs in Waukesha County where public transit services are not available	Entire County	Van	\$1.50	15
Employer	Westmoreland Health Center ^c	Fixed route	Seven days a week, serving shift start/end times of 6:30 a.m., 2:30 p.m., and 10:30 p.m.	Employees of Westmoreland Health Center	City of Waukesha	Buses	\$1.00	100
	Menomonee Falls Businesses	Local Shuttle	Weekdays, serving shift start/end times of approximately 6:30 a.m., 2:30 p.m., and 10:30 p.m.	Employees of participating employers	Village of Menomonee Falls	Buses	\$1.00 ^d	N/A

^aThe current JobRide program service providers include: Goodwill Industries of Southeastern Wisconsin; J & W Transport Business Services; Milwaukee Careers Cooperative; the Opportunities Industrialization Center of Greater Milwaukee; United Migrant Opportunity Services, Inc., and TW Transport.

^bThe current Bridges to Work program service provider is Goodwill Industries of Southeastern Wisconsin.

^cThe operator of this service is Wisconsin Coach lines, Inc.

^dService initiated May 1999 and provided with the public funds made available through the Community Development Block Grant Program in Waukesha County. The service is operated by Johnson Bus Service and is sponsored by the following local businesses: The Arboretum Retirement Community, Community Memorial Hospital, Falls Medical Group Advanced Health Care S.C., Linden Grove Health Care Center, Medical Associates Health Centers, and Tamarack Place Retirement Apartments.

^eFare shown is maximum determined by sponsoring employers; individual employers may charge lower fares at their discretion.

Source: SEWRPC.

at no charge to the employee or employer for the regular work schedule of selected participants, including weekday, weekend, and overtime shifts. The Milwaukee project included a total of about 125 participants in the entire Milwaukee

area. Like the transit service provided under the JobRide Program, the employee transportation provided under the Milwaukee projects is not a permanent service and is limited to an 18-month period per individual.

- **Temporary Employment Agencies**

Six private firms supplying temporary personnel to businesses also provided transportation services for their contract employees. Service was provided seven days a week for all job shifts to meet the specific needs of the participating employers. In many cases, the transportation was provided to fill "gaps" left by the JobRide and Bridges to Work Programs which cannot accommodate the needs of all employer to fill job vacancies and which cannot continue the service they provide for extended periods. During the first quarter of 1999, employment agency transportation services were provided to a somewhat wider area in the County than the two publicly sponsored programs discussed above.

- **Other Providers**

The Cooperating Congregations of Greater Milwaukee, a religious organization, provided work-related transportation to individuals who live or work outside the existing City of Waukesha or Waukesha County transit service areas, or who need to travel at times when public transit service is not available. Service was provided throughout the County on a 24-hour advance reservation basis on weekdays only, typically for first-shift jobs, and is not intended to be a long-term travel option.

The Westmoreland Health Center provided transportation between central Milwaukee County and its facilities on the southwest side of the City of Waukesha. The service was initiated in February 1999 as a replacement for service formerly provided through the JobRide Program and was provided seven days a week to serve three daily work shifts at the firms' facilities.

Several health care industry employers provided transportation service between stops along Milwaukee County Transit System Route No. 106 and the employers' facilities in the Village of Menomonee Falls. The service was initiated in May 1999 with financial assistance through the Waukesha County Community Development Block Grant Program, and was operated on weekdays to serve three work shifts.

Specialized Transportation Services

Specialized transportation services for elderly and disabled individuals were also provided in the County by a number of public and private nonprofit agencies and organizations, by private medical facilities, and by private for-profit transportation companies. In general, most of the available specialized transportation services were provided on demand, rather than on a fixed schedule, with eligibility for

service usually limited to clientele of the sponsoring agency or organization. The general characteristics of the principal specialized transportation services provided within the County during 1999 are presented in Table 33.

SUMMARY

This chapter has presented pertinent information on the existing Waukesha County transit system, as well as on other major transit services provided in the County during 1999. A summary of the most important findings concerning the transportation services identified follows.

1. Waukesha County has been the principal sponsor of public transit service in the County since 1977. The County contracts for the operation of all bus services with three existing transit operators who are responsible for the day-to-day operation, management, and support of the transit services, including supervising route operations and employee activities. Staff in the Waukesha County Department of Transportation are responsible for monitoring the performance of the operators against their service contracts, for preparing an annual operating budget, and for preparing applications for, and for administering, federal and state transit assistance funds. The policy-making body for the transit system is the Waukesha County Public Works Committee. However, the ultimate responsibility for review and approval of certain important matters, including the annual program budget, lies with the Waukesha County Board of Supervisors and the County Executive.
2. As of April 1999, fixed-route bus service was provided by the Waukesha County transit system over 16 bus routes operated by one private transit company, Wisconsin Coach Lines, Inc., and two public transit operators, the Milwaukee County Transit System and the City of Waukesha Metro Transit System. Six of the routes provided service for traditional commuting to Milwaukee County job locations, with five routes operated in the heavily traveled Oconomowoc-Waukesha-Milwaukee corridor and two routes operated between the Menomonee Falls and the Mukwonago-New Berlin areas to the Milwaukee CBD. Eight routes were operated to serve reverse commute travel to Waukesha County jobs including five in the Waukesha-Milwaukee corridor serving the eastern half of the Blue Mound Road Corridor, the New Berlin Industrial Park, and business parks in the Town of Pewaukee, and three serving major employment centers in the Menomonee Falls, Butler, and Sussex areas of Waukesha County. One route provided

Table 33

**MAJOR SPECIALIZED TRANSPORTATION SERVICES FOR
ELDERLY AND DISABLED PERSONS PROVIDED IN WAUKESHA COUNTY: APRIL 1999**

Type of Provider	Name of Service Provider	Type of Service	Eligible Users	Days and Hours of Operation	Service Area	Fare Per Trip
Public	Waukesha County Department of Aging Ride-Line ^a	Advance reservation, door-through-door	Waukesha County resident; non-driver, age 65 or older; disabled persons ages 18-64; excludes nursing home residents	Monday through Friday: 6:00 a.m. - 6:00 p.m. Holidays: only dialysis appointments	Waukesha County; only to adjoining counties for second opinions, consultations, or services not duplicated in Waukesha County	\$2.75 to \$15.75; based upon ability to pay
	User-side subsidy ^b	Door-to-door	Waukesha County resident, non-driver, age 65 years or disabled persons ages 18-64	7 days a week, 24 hours a day; limited for some service providers	Waukesha County	\$2.75 plus any amount over \$9.00
	Department of Health and Human Services-Volunteer Transportation Service	Advance reservation, door-to-door	Clients of Waukesha County Department of Health and Human Services	Monday through Friday: 7:30 a.m. to 8:00 p.m.	Waukesha County	No charge
	City of Waukesha Metro Transit System-METROLIFT	Advance reservation, curb-to-curb	Persons certified as being disabled	Monday through Friday: 5:30 a.m. - 10:30 p.m. Saturday: 8:00 a.m. - 10:00 p.m.	City and Town of Waukesha and Brookfield, Village of Pewaukee	\$2.00
	Menomonee Falls Senior Shuttle Bus ^c	Curb-to-curb	Village of Menomonee Falls residents age 60 or older and ambulatory	Tuesday and Wednesday 9:00 a.m. to 2:00 p.m. 4:00 p.m. to 5:00 p.m. Friday - 9:00 a.m. - 2:00 p.m.	Village of Menomonee Falls	\$1.00
	Sussex Shuttle	Curb-to-curb Fixed route	Ambulatory persons ages 60 and older	Monday and Thursday: 9:00 a.m. - 1:00 p.m. 3rd Tuesday - trip to a mall: 8:30 a.m. - 2:30 p.m.	Monday and Thursday Sussex/Lisbon stops: 9:30 a.m.-Willow Springs trailer court 10:00 a.m.-Bristol Court 10:10 a.m.-Senior Center	\$1.00 - within Sussex/Lisbon area \$2.00 - one-way to malls on 3rd Tuesday of the month
Private, nonprofit	Adaptive Community Approach Program	Advance reservation required, door-through-door	Persons certified as being disabled	Monday through Friday: 8:00 a.m. to 5:00 p.m.	Waukesha County	\$2.50 per one-way trip into City of Waukesha \$2.00 per ride within City of Waukesha
	American Red Cross	Advance reservation, door-to-door	Waukesha County ambulatory residents who don't qualify for other programs; medical purposes only	Monday through Friday: 8:30 a.m. to 5:00 p.m.	Waukesha County to Greater Milwaukee area	\$5.00; Not denied if unable to pay.
	Curative Transportation Services	Advance reservation, door-through-door	Persons eligible for Title 19	Monday through Friday: 7:00 a.m. - 6:00 p.m.	Waukesha and Milwaukee Counties	No charge
	Elder Care Line, Inc.	Advance reservation, door-through-door	Restricted to clients funded by Waukesha County	Monday through Friday: 6:00 a.m. - 6:00 p.m.	Milwaukee, Racine, and Waukesha, Counties	Voluntary contributions
	Elmbrook Senior Taxi, Inc.	Curb-to-curb	Riders must be: able to walk without assistance or have an aide, age 60 or older and/or ambulatory disabled adults; excludes nursing home residents	Monday through Friday: 9:00 a.m. to 5:00 p.m. Saturdays: 9:00 a.m. to 1:00 p.m.	City and Town of Brookfield, Villages of Butler and Elm Grove, and Mayfair Shopping Center area	\$5.00 - within New Berlin \$7.00 between Waukesha and Milwaukee Counties
	Interfaith Caregiving Network, Inc.	Advance reservation, door-through-door	Serves ambulatory persons in need due to age or disability; excludes nursing home residents	Monday through Friday: 8:00 a.m. - 4:00 p.m.	Waukesha County and into Milwaukee County	Voluntary contributions
	New Berlin Senior Taxi	Advance reservation, door-to-door	Age 60 years and older Ambulatory disabled adults; No nursing home residents	Monday through Friday: 9:00 a.m. - 4:30 p.m. Saturday: 9:00 - 12:00 noon	New Berlin, Brookfield Square, Mayfair Shopping Center area	\$6.50 - within New Berlin \$8.50 - to Brookfield Square \$10.50 - to Mayfair Shopping Center
	Oconomowoc Silver Streak	Door-to-door	Waukesha County resident, non-driver, age 65 years or disabled persons ages 18-64	Monday through Friday: 8:30 a.m. to 5:00 p.m. Saturday: 8:00 a.m. to 12:00 noon	City and Town of Oconomowoc and Town of Summit	\$3.75

Table 33 (continued)

Type of Provider	Name of Service Provider	Type of Service	Eligible Users	Days and Hours of Operation	Service Area	Fares Per Trip
Private, for-profit	Elmbrook Memorial Hospital	Advance reservation, door-through-door	Hospital patients and their families	Monday through Friday: 8:00 a.m. to 4:30 p.m. Saturday: 9:30 a.m. to 1:30 p.m.	No geographic boundaries	No charge
	Community Memorial Hospital	Advance reservation, door-to-door	Hospital patients and their families	7 days a week, 24 hours a day	Ozaukee, Washington, and Waukesha Counties; and Northwest Milwaukee County	\$3.00 to \$6.00; fee waived in hardship situations
	Meda-Care Vans of Waukesha, Inc.	Advance reservation, door-through-door	Persons eligible for Title 19	Monday through Friday: 6:00 a.m. to 6:00 p.m. Special requests	All of Waukesha and Milwaukee Counties and to Washington County and eastern Jefferson County	No charge
	Oconomowoc Memorial Hospital	Advance Reservation, door-through-door	Hospital patients and their families	Monday through Friday: 7:00 a.m. to 4:30 p.m.	20 mile radius of Oconomowoc	\$2.75 - \$3.75; fare determined by length of trip
	Specialized Transportation Services	Advance reservation, door-to-door	Any private pay and persons eligible for Title 19	Monday through Friday: 6:00 a.m. to 6:00 p.m. Saturday and Sunday: By appointment	Menomonee Falls, Lannon, Germantown, some additional areas in Waukesha and Milwaukee Counties	\$18.00 base rate plus distance charges after five miles
	Waukesha Health System, Inc. Courtesy Transportation Service Prepaid Voucher Program	Advance Reservation, door-through-door Advance Reservation, door-through-door	Clients of ProHealth Care, Inc., not eligible for other programs. Any person requiring transportation for a medical or dental appointment; not restricted to clients of ProHealth Care, Inc.	Monday through Friday (except holidays): 7:00 a.m. - 5:30 p.m. Monday through Friday (except holidays): 7:00 a.m. - 5:30 p.m.	Dodge, Jefferson, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties Dodge, Jefferson, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties	Voluntary contributions \$15.00 base fare plus distance charges; fare must be prepaid

^aService provided by Meda-Care Vans of Waukesha, Inc.

^bService provided by Best Cab of Waukesha, Inc., Elmbrook Senior Taxi, Inc., New Berlin Senior Taxi, and Oconomowoc Silver Streak.

^cService provided by Specialized Transportation Services.

Source: SEWRPC.

service that was used for both traditional commuting to the Milwaukee CBD and for reverse commuting to jobs in the Waukesha-Milwaukee travel corridor. The remaining route provided connections between the City of Waukesha and job and shopping opportunities in the western half of the Blue Mound Road corridor. Transfers between the routes operated by the three operators for the County and other bus routes operated by the Milwaukee County and City of Waukesha transit systems could be made at several points in Milwaukee and Waukesha Counties.

3:00 p.m. until 6:00 p.m. with the service hours for each route tailored to the specific service market. Headways on most routes ranged from about 10 to 30 minutes during weekday peak periods, 30 to 60 minutes during the weekday middays and 30 minutes to two hours or more on weekday evenings and weekends. Base adult cash fares varied among the different operators with Wisconsin Coach Lines, Inc., charging from \$1.00 to \$2.50 per trip; the Milwaukee County Transit System charging \$1.35 to \$2.00 per trip; and the Waukesha Metro Transit System charging \$1.00 per trip.

- The transit system primarily provided service for work commuting between Waukesha and Milwaukee Counties. The vast majority of the service was provided only during weekday peak periods from 6:00 a.m. until 9:00 a.m. and from

- To comply with Federal regulations, the transit system also provided paratransit services through two separate programs directed at serving the travel needs of disabled individuals unable to use the fixed-route bus service provided over three

- routes during weekday nonpeak periods as well as on weekends. The Waukesha County Parallel Commuter Bus Program provided door-to-door service for trips made by disabled individuals in the corridor between the Waukesha CBD and the Milwaukee CBD along the alignments of Wisconsin Coach Lines, Inc., Route No. 1 and Milwaukee County Transit System Route No. 10. The City of Waukesha Metrolift Program provided curb-to-curb service for trips made by disabled individuals between the City of Waukesha and areas in the City or Town of Brookfield along the extension of Waukesha Metro Transit System Route No. 1 to the Brookfield Square Shopping Center. The services were operated along the alignments of, and were available during the same hours as, and the three fixed-route bus services.
5. Ridership on the Waukesha County transit system increased steadily from 1977 through 1982, largely as a result of seven new bus routes implemented in April 1981. From 1983 through 1987 ridership and service levels on the system declined as service over four of the seven routes implemented in 1981 was eliminated in response to low ridership and also constraints on the County budget. Ridership fluctuated somewhat between 1988 and 1991, increasing somewhat due to special service to summer festivals on the Milwaukee lakefront. Ridership and service levels on the transit system have increased in each year since 1991 as a direct result of the new routes and services that have been added to the system. Total annual ridership on the transit system over the last five years has increased by about 77 percent from approximately 398,800 revenue passengers in 1994 to about 707,800 revenue passengers in 1998, with an annual average of about 502,400 revenue passengers carried on the system.
 6. From 1994 through 1998, the County expended on an average annual basis a total of about \$2,906,600 per year, or about \$5.79 per trip, on its public transit system. Of this total, about \$699,900, or 24 percent and \$1.40 per trip, came from passenger revenues and private business funding. The remaining \$2,206,700, or 76 percent and \$4.39 per trip, constituted the average annual public assistance which had to be funded through Federal and State transit assistance programs, and local property taxes. The average annual operating assistance from the Waukesha County has been about \$244,400, or about 8 percent of total system operating expenses and \$0.51 per trip.
 7. Other transit services for the general public, which either operated within the County or provided important connections with the County transit system outside the County, were also identified. The City of Waukesha Metro Transit System operated a system of nine local bus routes serving the City and environs, and the Milwaukee County Transit System operated an extensive system of freeway flyer, express and local bus routes within Milwaukee County. Many of the routes of these two public transit systems connect with Waukesha County bus routes and provide service to and from the home end of the daily work trips made on the County routes. Four private carriers operated intercity bus routes between through Waukesha County, three of which made stops that served County residents: Greyhound Lines, Inc., and Badger Coaches, Inc., on routes operated between Milwaukee and Madison; and Wisconsin Coach Lines, Inc., on a route operated between Waukesha and Milwaukee Counties and the University of Wisconsin-Whitewater. Taxicab service for the general public was provided by Best Cab Company which principally provides service in the City of Waukesha and environs.
 8. Special public transportation services were provided in 1999 to employees of businesses in Waukesha County through two publicly funded programs, the State JobRide Program and "Bridges to Work" Program. Both programs provided temporary transportation to individuals residing in central Milwaukee County who had been placed in jobs in the surrounding counties including in Waukesha County. Transportation was also provided by a number of private businesses providing temporary personnel to businesses in the County, largely to fill "gaps" left by the JobRide and Bridges to Work Programs which cannot accommodate the needs of all employer to fill job vacancies and which cannot continue the service they provide for extended periods. Other services were provided by the Westmoreland Health Center, which contracted for service between central Milwaukee County and its facilities on the southwest side of the City of Waukesha as a replacement for service formerly provided through the JobRide Program; by the Cooperating Congregations of Greater Milwaukee, which provided work-related transportation to individuals who live or work in areas not served by transit or who need to travel when transit service is not available; and by several employers in the Village of Menomonee Falls, which subsidized a shuttle service operated between stops along Milwaukee County Transit System Route No. 106 and the sponsoring businesses.

9. Specialized transportation services for elderly and disabled individuals were also provided in the County by a number of public and private nonprofit agencies and organizations, by private medical facilities, and by private for-profit transportation

companies. In general, most of the available specialized transportation services were provided on demand, rather than on a fixed schedule, with eligibility for service usually limited to clientele of the sponsoring agency or organization.

Chapter IV

PUBLIC TRANSIT SERVICE OBJECTIVES AND STANDARDS

INTRODUCTION

One of the critical steps in the preparation of a transit system development plan is the articulation of the objectives to be served by the transit system, together with the identification of supporting standards which can be used to measure the degree of attainment of the objectives. The objectives and standards provide the basis upon which the performance of existing transit services may be assessed; alternative service plans designed and evaluated; and recommendations for the institution or improvement of service. The objectives formulated under this study are intended to represent the level of transit performance desired by Waukesha County. Only if the objectives and standards clearly reflect the transit-related goals of the community will the recommended plan provide the desired level of service within the limits of available financial resources.

This chapter presents the public transit service objectives, principles, and standards formulated for the County's transit system development plan. The objectives and supporting standards were used in evaluating the existing transit system, and in the design and evaluation of alternative improvement plans. The objectives and supporting standards may also be used to guide in the design, operation, and review of County transit services after completion of the current planning effort.

OBJECTIVES

The transit service objectives, principles, and standards set forth in this chapter are intended to reflect the underlying values of the elected officials and residents of Waukesha County. The task of formulating objectives, principles, and standards must, therefore, involve interested and knowledgeable public officials and private citizens representing a broad cross-section of interests in the community, as well as individuals familiar with the technical aspects of providing transit service. Accordingly, one of the important functions of the Waukesha County Public Transportation Advisory Committee was to articulate transit service objectives, principles, and supporting standards for the planning effort. By drawing upon the collective knowledge, experience, views, and values of the members of the Committee, it is believed that a meaningful expression of the performance desired for Waukesha County transit system was obtained, and a relevant set of transit service objectives and supporting principles and standards was defined.

The specific objectives adopted basically envision a transit system which will effectively serve commuter travel between Waukesha County and other counties, as well as within the County, while minimizing the costs entailed. More specifically, the following objectives were adopted by the Advisory Committee:

1. Public transit should be provided within Waukesha County, and between the County and other counties, to link residential concentrations of commuters with major employment centers, and, in particular, connecting concentrations of low income and unemployed individuals with jobs.
2. The public transit system should promote effective utilization of public transit services and provide for user convenience, comfort, and safety.
3. The public transit system should promote efficiency in the total transportation system.
4. The public transit system should be economical and efficient, meeting all other objectives at the lowest possible cost.

PRINCIPLES AND STANDARDS

Complementing each of the foregoing transit service objectives is a planning principle and two sets of service and design standards, as set forth in Table 34. The planning principle supports each objective by asserting its validity. Each set of standards is directly related to the transit service objective and serves several purposes. The service design and operating standards are intended to primarily provide guidelines for the design of new and improved services, for the operation of the transit system, and for purchasing capital equipment or constructing facilities. The service performance standards primarily facilitate the evaluation of the performance of the existing transit system and alternative service improvements. For each performance standard, one or more criteria are identified which can be used to quantify the performance of the transit service or system for measurement against the standard. Some of the design and operating standards can also be useful in evaluating the performance of the transit system or individual services. Criteria have, therefore, also been identified for such standards.

The service performance standards and the associated performance measures also reflect the recommendations

Table 34

**PUBLIC TRANSIT SERVICE OBJECTIVES, PRINCIPLES, STANDARDS, AND
PERFORMANCE MEASURES FOR THE WAUKESHA COUNTY TRANSIT SYSTEM**

Objective	Principle	Standards	Performance Measure
1. Public transit should be provided within Waukesha County, and between the County and other counties, to link residential concentrations of commuters with major employment centers, and, in particular, connecting concentrations of low income and unemployed individuals with jobs	Public transit can provide an important means of access to jobs for all segments of the population, but particularly for persons residing in low- to middle-income households and unemployed individuals. Transit services are most cost-efficient when serving areas that are fully developed to medium and high densities	<u>Service Design and Operating Standards</u>	
		1. Rapid bus transit service over freeways should be provided in major travel corridors to connect major concentrations of urban development within the County to employment and cultural activities in the Milwaukee central business district	1. --
		2. Express bus transit service should be provided in major travel corridors to connect major concentrations of urban development within the County with each other and with major trip generators in Milwaukee County including the Milwaukee central business district	2. --
		3. Local bus and local shuttle bus transit services should be provided to connect rapid, express, and other local bus services with major employment and commercial centers within contiguous areas of urban development in the County	3. --
		4. The accessibility provided by the transit system should be adjusted to effectively serve the current land use pattern within the County by providing a higher degree of accessibility to areas of high- and medium-density development than to areas of low-density development and to those areas which should be protected from development	4. --
		5. Public transit service to employment and commercial centers should be maximized	5. Number of employment and commercial centers within one-quarter mile walking distance of a bus stop or 15 minutes ride time on connecting bus service
		<u>Service Performance Standards</u>	
2. The public transit system should promote effective utilization of public transit services and provide for user convenience, comfort, and safety	The benefits of a public transit system are, to a large extent, greatly related to the degree to which it is used. The extent of such use, as measured by public transit ridership, is a function of the degree to which the transit facilities and services provide for user convenience, comfort, and safety	1. The number of people served, particularly that portion of the population which is poor or unemployed, should be maximized	1. Total population within one-quarter mile walking distance of a bus stop, three miles driving distance of a park-ride facility, or 15 minutes ride time on connecting bus service
		2. The number of jobs served should be maximized	2. Total employment within one-quarter mile walking distance of a bus stop or 15 minutes ride time on connecting bus service
		<u>Service Design and Operating Standards</u>	
		1. Public transit routes should be direct in alignment, with a minimum of turns, and arranged to minimize duplication of service and unnecessary transfers, which would otherwise discourage transit use	1. --
		2. Fixed-route public transit stops should be located and designed to minimize walking distance to and from major trip generators, and to facilitate connections with feeder bus and other transit services where appropriate. Stops in urban areas should be located as follows: a. For rapid transit routes: at terminal areas and one-half mile or more on line-haul sections b. For express transit routes: at terminal areas, intersecting public transit routes, intersecting arterial streets, and major traffic generators c. For local transit routes: 600 to 1200 feet (two to three blocks) apart d. For shuttle transit routes: as appropriate for the employment centers served	2. --
		3. Rapid and express transit service should be provided, where it is cost-effective, to reduce travel times for the longest trips made between component parts of the study area, and should be extended as needed to perform a collection-distribution function at the ends of the route	3. --

Table 34 (continued)

Objective	Principle	Standards	Performance Measure																										
2. (continued)		4. Local transit and shuttle service should be provided, where it is cost-effective, to link residential areas with major employment centers and commercial developments	4. --																										
		5. Passenger loading areas should be clearly marked by easily recognized bus stop signs	5. --																										
		6. Transit service will provide adequate service and vehicle capacity to meet existing and projected demand. The average maximum load factor, measured as the ratio of passengers to bus seats at that point on a route where passenger loads are highest, will not exceed the following during any one-hour period: <u>Average Maximum Load Factor</u> <table><tr><th>Service Type</th><th>Peak Periods</th><th>All Other Times</th></tr><tr><td>Express/Rapid</td><td>1.00</td><td>1.00</td></tr><tr><td>Local/Shuttle</td><td>1.25</td><td>1.00</td></tr></table>	Service Type	Peak Periods	All Other Times	Express/Rapid	1.00	1.00	Local/Shuttle	1.25	1.00	6. Average maximum load factor by route for the weekday peak hour of service																	
	Service Type	Peak Periods	All Other Times																										
	Express/Rapid	1.00	1.00																										
	Local/Shuttle	1.25	1.00																										
		7. Operating headways for fixed-route transit services should be capable of accommodating passenger demand at the recommended load standards but shall adhere to certain minimum levels: <u>Minimum Headways (minutes)</u> <table><tr><th rowspan="2">Service Type</th><th colspan="2">Weekday</th><th>Weekend</th></tr><tr><th>Peak Periods</th><th>Off-Peak Periods</th><th>Periods</th></tr><tr><td>Rapid</td><td>30</td><td>--</td><td>--</td></tr><tr><td>Express</td><td>30</td><td>60</td><td>--</td></tr><tr><td>Local</td><td>30</td><td>60</td><td>60</td></tr><tr><td>Shuttle</td><td colspan="3">As appropriate for employers</td></tr></table>	Service Type	Weekday		Weekend	Peak Periods	Off-Peak Periods	Periods	Rapid	30	--	--	Express	30	60	--	Local	30	60	60	Shuttle	As appropriate for employers			7. --			
	Service Type	Weekday		Weekend																									
		Peak Periods	Off-Peak Periods	Periods																									
	Rapid	30	--	--																									
	Express	30	60	--																									
Local	30	60	60																										
Shuttle	As appropriate for employers																												
	8. Transit service will be designed and operated so as to achieve the following minimum overall travel speeds by area based on average weekday conditions: <u>Travel Speed (miles per hour)</u> <table><tr><th>Service Type</th><th>CBD</th><th>Other Areas</th></tr><tr><td>Rapid</td><td>5-10</td><td>40-50</td></tr><tr><td>Express</td><td>5-10</td><td>20-30</td></tr><tr><td>Local/Shuttle</td><td>5-10</td><td>10-15</td></tr></table>	Service Type	CBD	Other Areas	Rapid	5-10	40-50	Express	5-10	20-30	Local/Shuttle	5-10	10-15	8. --															
Service Type	CBD	Other Areas																											
Rapid	5-10	40-50																											
Express	5-10	20-30																											
Local/Shuttle	5-10	10-15																											
	9. Consideration should be given to rehabilitating or replacing each public transit vehicle at the end of its normal service life, which shall be defined as follows: <table><tr><th rowspan="2">Vehicle Type</th><th>Length (feet)</th><th colspan="2">Normal Service Life</th></tr><tr><th></th><th>Years</th><th>Mileage</th></tr><tr><td>Heavy-duty bus</td><td>35 or more</td><td>12</td><td>500,000</td></tr><tr><td>Heavy-duty bus</td><td>25-30</td><td>10</td><td>350,000</td></tr><tr><td>Medium-duty bus</td><td>25-30</td><td>7</td><td>200,000</td></tr><tr><td>Light-duty bus</td><td>25-30</td><td>5</td><td>150,000</td></tr><tr><td>Cars and Vans</td><td>--</td><td>4</td><td>100,000</td></tr></table>	Vehicle Type	Length (feet)	Normal Service Life			Years	Mileage	Heavy-duty bus	35 or more	12	500,000	Heavy-duty bus	25-30	10	350,000	Medium-duty bus	25-30	7	200,000	Light-duty bus	25-30	5	150,000	Cars and Vans	--	4	100,000	9. --
Vehicle Type	Length (feet)		Normal Service Life																										
		Years	Mileage																										
Heavy-duty bus	35 or more	12	500,000																										
Heavy-duty bus	25-30	10	350,000																										
Medium-duty bus	25-30	7	200,000																										
Light-duty bus	25-30	5	150,000																										
Cars and Vans	--	4	100,000																										
	10. Consideration will be given to providing passenger shelters of an attractive design at all bus stops where: a. The location serves major facilities designed specifically for the use of, or is frequently used by, elderly or disabled individuals b. The location has a boarding passenger volume of 50 or more passengers per day c. The location is a major passenger transfer point between bus routes	10. --																											
	11. Sufficient off-street automobile parking should be provided at park-ride terminals to accommodate the total parking demand generated by patrons of rapid or express transit services and carpoolers	11. --																											

Table 34 (continued)

Objective	Principle	Standards	Performance Measure
2. (continued)		<u>Service Performance Standards</u> 1. Ridership on the transit system should be maximized. However, minimum systemwide effectiveness levels should be maintained	1a. Total boarding passengers 1b. Total boarding passengers per revenue vehicle-mile. Minimum levels: 0.5 for rapid and express service and 1.2 for local and shuttle service 1c. Total boarding passengers per revenue vehicle hour. Minimum levels: 15 for all service
		2. Existing transit routes with substandard ridership and service effectiveness levels should be reviewed for potential service changes unless special circumstances warrant otherwise. For this standard, levels shall be considered substandard if they are more than 20 percent below the systemwide average for the type of service being provided	2a. Total boarding passengers per route 2b. Total boarding passengers per scheduled bus trip 2c. Total boarding passengers per revenue vehicle mile 2d. Total boarding passengers per revenue vehicle hour 2e. Percent of weekday ridership carried on weekends and holidays
		3. The transit system should be designed and operated to maximize schedule adherence and be "on-time" at least 90 percent of the time. On-time is defined as schedule adherence within the ranges of one minute early and five minutes late for rapid and express services, and one minute early and three minutes late for local and shuttle services. Checks of schedule adherence for rapid and express services should be limited to the starting points of individual bus trips. For local and shuttle services, checks should be made at several locations along the route	3. Percent of scheduled bus trips on time
		4. Public transit times for transit patrons should be kept reasonable in comparison to travel times by automobile for trips made between component parts of the service area	4a. Ratio of transit to highway distance 4b. Ratio of transit to highway travel time
3. The public transit system should promote efficiency in the total transportation system	Public transit facilities and services can promote economy and efficiency in the total transportation system. The public transportation system has the potential to supply additional passenger transportation capacity, which can alleviate peak loadings on arterial street facilities and assist in reducing the demand for land necessary for parking facilities at major centers of land use activity. Efficient public transit service also has the potential to reduce energy consumption and air pollutant emissions	<u>Service Performance Standards</u> 1. The total amount of energy and the total amount of energy per passenger mile consumed in operating the total transportation system of which the transit system is an integral part, particularly petroleum-based fuels, should be minimized	1. Passenger miles per gallon of motor fuel
		2. The amount of highway system capacity which must be provided to serve travel demand should be minimized	2. Potential increase in vehicle traffic on surface streets if transit trips use automobile
4. The public transit system should be economical and cost effective, meeting all other objectives at the lowest possible cost	The total resources of the County are limited, hence any investment in public transportation facilities and services must occur at the expense of other public and private investments; therefore, total transit system costs should be minimized for the desired level of transit service and transit revenues should be maximized to maintain the financial stability of the system	<u>Service Design and Operating Standards</u> 1. The total operating and capital investment for the transit system should be minimized and reflect efficient utilization of resources	1.

Table 34 (continued)

Objective	Principle	Standards	Performance Measure
4. (continued)		2. The fare policy for the transit system should provide for premium fares for premium transit services, as well as special or discounted fares for priority population groups and frequent transit riders	2. --
		3. Periodic increases in passenger fares should be considered to maintain the financial stability of the transit system when: a. The farebox recovery rate for the transit system goes below the prescribed minimum level. b. Operating expenses for the transit system have increased by 10 to 15 percent since fares were last raised c. Projected levels of Federal and State operating assistance funds would require an increase in projected local operating assistance levels above that determined to be acceptable by local officials	3. --
		Service Performance Standards 1. The operating expense per unit of transit service, the operating expense per passenger, and the total operating assistance per passenger should be minimized for the system as a whole. Annual increases in such costs should not exceed the average percentage increase experienced by comparable bus systems	1a. Operating expense per revenue and total vehicle mile ^a 1b. Operating expense per revenue and total vehicle hour ^a 1c. Operating expense per boarding passenger 1d. Total operating assistance per boarding passenger ^a
		2. Transit system operating revenues generated from passenger fares, including private sources, should be maximized. A minimum farebox recovery rate for the system as a whole should be maintained	2. Percent of operating expenses recovered through passenger and other operating revenues, excluding public operating assistance: Minimum level: 25 percent
		3. Existing bus routes with substandard cost effectiveness levels should be reviewed for service changes unless special circumstances warrant otherwise ^b . For this standard, levels shall be considered as substandard when the operating cost or operating assistance per passenger or per passenger mile are more than 20 percent above, or the farebox recovery rate is more than 20 percent below, the systemwide average for the type of service being provided	3a. Operating expense per boarding passenger 3b. Total operating assistance per boarding passenger 3c. Operating expense per passenger mile 3d. Total operating assistance per passenger mile 3e. Percent of operating expenses recovered through passenger and other operating revenues, excluding public operating assistance
		4. The total operating expense per passenger and total operating assistance per passenger, after passenger fares and private funds are considered, should be minimized for each route of the system unless special circumstances warrant. Maximum per trip cost and assistance levels ^c should be maintained for each route of the system	4a. Total operating expense per boarding passenger. Maximum levels: \$12.50 for rapid and express service and \$5.00 for local and shuttle service 4b. Total operating assistance per boarding passenger. Maximum levels: \$9.40 for rapid and express service and \$3.75 for local and shuttle service

^aDuring 1998, the Waukesha County transit system carried about 0.7 total boarding passengers per revenue vehicle mile and about 15 total boarding passengers per revenue vehicle hour on its rapid and express routes, and about 1.2 total boarding passengers per revenue vehicle mile and about 17 total boarding passengers per revenue vehicle hour on its local and shuttle routes.

^bA reasonable period of time should be allowed for ridership to develop and stabilize before evaluating the performance of new transit services to determine if the service should be continued, modified, or eliminated. Generally, new transit services should achieve 30 percent of average performance levels for existing routes after six months of operation; 60 percent of average performance levels for existing routes after one year of operation; and 100 percent of average performance levels for existing routes after two years of operation.

^cDuring 1998, the estimated systemwide average operating expense on the Waukesha County transit system was about \$4.77 per revenue vehicle mile, \$3.65 per total vehicle mile, \$80.96 per revenue vehicle hour, and \$61.99 per total vehicle hour.

^dOver the five-year period from 1994 through 1998, the Waukesha County transit system recovered an average of about 24 percent of its operating expenses from operating revenues. During 1998, the transit system recovered about 24.7 percent of its operating expenses from operating revenues.

^eDuring 1998, the estimated average operating expense and deficit per boarding passenger on the Waukesha County transit system was about \$7.60 and \$5.90, respectively, for its rapid and express routes, and about \$3.40 and \$2.50, respectively, for its local and shuttle routes

Source: SEWRPC.

of the Transit Advisory Council which was created in March 1996 by the Wisconsin Department of Transportation. Among the charges to the Council was the identification of appropriate transit system performance measures and standards. The Council recommended that six measures be used to assess the performance of Wisconsin transit systems including: operating ratio, or farebox recovery rate; operating expense per passenger; passengers per capita; passengers per revenue vehicle hour of service; operating expenses per revenue vehicle hour of service; and revenue vehicle hours of service per capita. Four of these six measures have been incorporated into the performance standards and measures identified in Table 34. The per capita measures of ridership and revenue vehicle hours have not been included as such measures would not be meaningful for the commuter bus services provided by the Waukesha County transit system. The performance standards in Table 34 can also provide guidance to the transit system in establishing the multi-year service and performance goals that are required for systems receiving State transit operating assistance.

The performance evaluation of the existing transit system utilized in the current study included assessments of transit performance on both a systemwide and individual route basis. The service standards set forth in this chapter represent a comprehensive list from which specific performance standards and measures, as deemed appropriate, were drawn in conducting the systemwide and route performance evaluations. A more complete description of the evaluation process is presented in Chapter V.

OVERRIDING CONSIDERATIONS

The objectives, principles, and standards set forth in Table 34 were intended to be used to guide the

evaluation of the performance of existing transit system and the design and evaluation of alternative service improvements. In the application of the objectives, principles, and standards, several overriding considerations must be recognized.

First, it must be recognized that an overall evaluation of the existing public transit services and the alternative service plans must be made on the basis of cost and revenue. Such an analysis may show the attainment of one or more standards to be beyond the economic capability of the community and, therefore, the standards cannot be met practically and must be either modified or eliminated.

Second, it must be recognized that a transit system is unlikely to fully meet all the standards, and that the extent to which each standard is met, exceeded, or violated must serve as the final measure of the ability of the system to achieve the objective which a given standard supports.

Third, it must be recognized that certain intangible factors, including the perceived value of the transit service to the community and its potential acceptance by the concerned elected officials, may influence the preparation and selection of a recommended plan. Inasmuch as transit service may be perceived as a valuable service within the community, the community may decide to initiate or retain such services regardless of performance or cost. Only if a considerable degree of such acceptance exists will service recommendations be implemented and their anticipated benefits realized.

Chapter V

EVALUATION OF THE EXISTING TRANSIT SYSTEM

INTRODUCTION

This chapter documents the results of an evaluation of the performance of the Waukesha County transit system based on the four transit service objectives and supporting standards set forth in Chapter IV of this report. Table 35 lists the objectives and the standards which were used in the evaluation to determine whether the objectives were being met by the existing system. Only the information which was deemed most important for planning for improved or new transit services, or for understanding the objectives for the transit system, is presented. Table 36 identifies the performance measures used to quantify the achievement of each standard and identifies whether the standard was used in the systemwide or route performance evaluation of the transit system.

Not all the standards listed under each objective were used in the performance evaluation process since not all were deemed appropriate or necessary for the current study. Table 37 lists the standards not used. Some standards not used were primarily intended to serve as guidelines in the design of new and improved service. These standards were met in the design and operation of the current routes. Other standards not used were intended to serve as warrants for providing equipment and facilities for the transit system. These standards will be used to the extent necessary in the development of a program of recommended capital projects developed for the recommended transit system development plan. Still other standards were intended to be used in comparing the costs of alternative plans. These will be used in evaluating the alternative plans and transit service improvements considered in Chapter VI.

The performance evaluation conducted for this study is not intended to be as comprehensive as the audit of transit system management and operations required under State administrative regulations for bus systems receiving State urban mass transit operating assistance funds. Such management performance audits are to be conducted at least once every five years by the Wisconsin Department of Transportation and address management structure and operating and service characteristics in greater detail. The performance data identified in this chapter will complement the State management performance audit and incorporate any significant findings pertaining to the planning and

operation of transit services in Waukesha County identified in the State report.

The following sections of this chapter present the findings of the performance evaluation. Presented first is an assessment of transit performance on a systemwide basis to ascertain the extent to which the transit system currently serves the existing land use pattern, employment, and resident population of Waukesha County; to assess the overall ridership and financial performance of the transit system; and to determine the transit system's contribution to the efficiency of the total transportation system. This is followed by an evaluation of the performance of each route of the transit system with respect to ridership and effectiveness levels, operating headways and peak passenger loading characteristics, on-time performance, and directness of route alignment. The findings of the evaluation were used to develop the alternative service improvements and transit system plans described in Chapter VI of this report.

SYSTEMWIDE PERFORMANCE EVALUATION

Service to Existing Population, Employment, and Land Uses

Performance measures used to evaluate the existing transit service provided to population, employment, and land uses included estimates of the total population and employment within the service area of the County bus routes, as well as the number of major employers and commercial centers, consisting of office and industrial parks, located in Waukesha County served by County bus routes. This evaluation was based on the seven standards under Objective 1. To meet these standards, the service area coverage should include the principal concentrations of population, employment, and major transit trip generators within the County, as identified in Chapter II. The bus system should also serve the job concentrations in the Milwaukee CBD to facilitate Waukesha County residents commuting to jobs in Milwaukee County, as well as the major population concentrations in central Milwaukee County to facilitate Milwaukee County residents commuting to jobs in Waukesha County.

The service area coverage used in determining the population served by the County transit system is shown

Table 35

**STANDARDS USED IN THE PERFORMANCE
EVALUATION OF THE EXISTING TRANSIT SYSTEM**

Objectives and Standards	
Objective No. 1—Provide Service within the County, and between the County and Other Counties to Provide Access to Major Employment Centers	
<u>Design/Operating Standards</u>	
Standard 1:	Provide rapid transit service within major travel corridors to connect major concentrations of urban development in the County to the Milwaukee central business district
Standard 2:	Provide express transit service within major travel corridors to connect major concentrations of urban development in the County with each other and to the Milwaukee central business district
Standard 3:	Provide local transit service to connect major employment and commercial centers in contiguous areas of development with other bus routes
Standard 4:	Provide a higher level of accessibility to areas of high- and medium-density development than to areas of low-density development and areas where development is not desired
Standard 5:	Maximize the employment and commercial centers served
<u>Performance Standards</u>	
Standard 1:	Maximize the population served
Standard 2:	Maximize the jobs served
Objective No. 2—Promote Transit Utilization and Provide for User Comfort, Convenience, and Safety	
<u>Design/Operating Standards</u>	
Standard 6:	Provide adequate capacity so as not to exceed recommended maximum load factors
<u>Performance Standards</u>	
Standard 1:	Maximize transit system ridership
Standard 2:	Review routes with substandard ridership and effectiveness levels
Standard 3:	Achieve minimum acceptable schedule adherence
Standard 4:	Provide for reasonable transit travel times
Objective No. 3—Promote Efficiency in the Total Transportation System	
<u>Performance Standards</u>	
Standard 1:	Minimize the energy consumed in operating the total transportation system
Standard 2:	Minimize the amount of highway system capacity needed to serve travel demand
Objective No. 4—Provide Economical and Efficient Service	
<u>Performance Standards</u>	
Standard 2:	Minimize operating expenses per unit of transit service
Standard 4:	Maximize percent of operating expenses recovered through operating revenues
Standard 6:	Review routes with substandard financial performance
Standard 7:	Minimize operating expenses and public operating assistance per transit trip

Source: SEWRPC.

on Map 20. The area includes that located within a one-quarter mile walking distance of a route, a three mile automobile driving distance of a park-ride lot, or an estimated 15 minute ride time on connecting bus services including those operated by the Milwaukee County and City of Waukesha transit systems. The service area coverage used in determining the employment served by the County transit system is

shown on Map 21. The area includes that located within a one-quarter mile walking distance of a County bus route or an estimated 15 minute ride time on connecting bus services. Table 38 identifies the estimated 1998 population and employment served based on the appropriate service area. Tables 39 and 40, along with Maps 22 and 23, identify the major employers and office and industrial parks in the County with locations that

Table 36

APPLICATION OF SPECIFIC PERFORMANCE MEASURES IN THE PERFORMANCE EVALUATION PROCESS

Performance Measure by Objective	Systemwide Performance Evaluation	Route Performance Evaluation
Objective No. 1—Provide Service within the County, and between the County and Other Counties to Provide Access to Major Employment Centers		
1. Areas served by rapid, express, and local bus service	X	--
2. Population served	X	--
3. Total employment served	X	--
4. Major employment centers and office and industrial parks served	X	--
Objective No. 2—Promote Transit Utilization and Provide for User Comfort, Convenience, and Safety		
1. Revenue passengers per revenue vehicle mile	X	X
2. Revenue passengers per revenue vehicle hour	X	X
3. Total boarding passengers	--	X
4. Boarding passengers per revenue vehicle mile	--	X
5. Boarding passengers per revenue vehicle hour	--	X
6. Boarding passengers by scheduled bus run	--	X
7. Percent of weekday passengers riding on weekends	--	X
8. Percent on-time adherence	--	X
9. Travel distance and time by transit versus travel distance and time by automobile	--	X
Objective No. 3—Promote Efficiency in the Total Transportation System		
1. Passenger miles per gallon of petroleum-based fuel	X	--
2. Impacts on highway capacity due to transit system operation	X	--
Objective No. 4—Provide Economical and Efficient Service		
1. Operating expense per vehicle mile	X	--
2. Operating expense per vehicle hour	X	--
3. Operating expense per revenue passenger	X	--
4. Operating assistance per revenue passenger	X	--
5. Operating expense per boarding passenger	--	X
6. Operating assistance per boarding passenger	--	X
7. Percent of operating expenses recovered by operating revenues	X	X

Source: SEWRPC.

were not considered as served by the transit system. Based on this information, the following conclusions were reached:

1. For the most part, transit service in the County is currently being provided in accordance with the standards under Objective 1 which specify the location and purpose for providing rapid, express and local transit services. Rapid or express

services are currently operated in all major travel corridors in the County to provide fast transit connections to Milwaukee County and the Milwaukee Central Business District (CBD). Local transit and shuttle services are provided by the County transit system and by the City of Waukesha Metro transit system to serve several major employment centers in the eastern portion of the County. The expansion of the existing

Table 37

**STANDARDS NOT USED IN THE PERFORMANCE
EVALUATION OF THE EXISTING TRANSIT SYSTEM**

Objectives and Standards	
Objective No. 1—Provide Service within the County, and between the County and Other Counties to Provide Access to Major Employment Centers	
--	
Objective No. 2—Promote Transit Utilization and Provide for User Comfort, Convenience, and Safety	
<u>Design/Operating Standards</u>	
Standard 1:	Minimize indirect routing
Standard 2:	Provide stops meeting minimum stop spacing
Standard 3:	Provide rapid and express bus service to reduce long travel times, and extend such service to provide collection distribution service
Standard 4:	Provide local bus service to link residential areas with employment and commercial centers
Standard 5:	Provide signs and paved passenger loading areas at bus stops
Standard 7:	Provide service with minimum policy headways
Standard 8:	Provide service which meets or exceeds minimum vehicle speeds
Standard 9:	Replace public transit vehicles at end of maximum service life for vehicles
Standard 10:	Construct bus passenger shelters at major passenger loading areas
Standard 11:	Provide sufficient parking at park-ride terminals to accommodate demand
Objective No. 3—Promote Efficiency in the Total Transportation System	
--	
Objective No. 4—Provide Economical and Efficient Service	
<u>Design/Operating Standards</u>	
Standard 1:	Minimize total transit system operating and capital costs
Standard 3:	Provide premium fares for premium service and special or discounted fares for transit-dependent persons and frequent riders
Standard 5:	Consider periodic increases in passenger fares

Source: SEWRPC.

local and shuttle bus services should be considered, however, to improve coverage of the employment centers in the eastern portion of the County and to extend new service to unserved centers in the southeastern and western portion of the County.

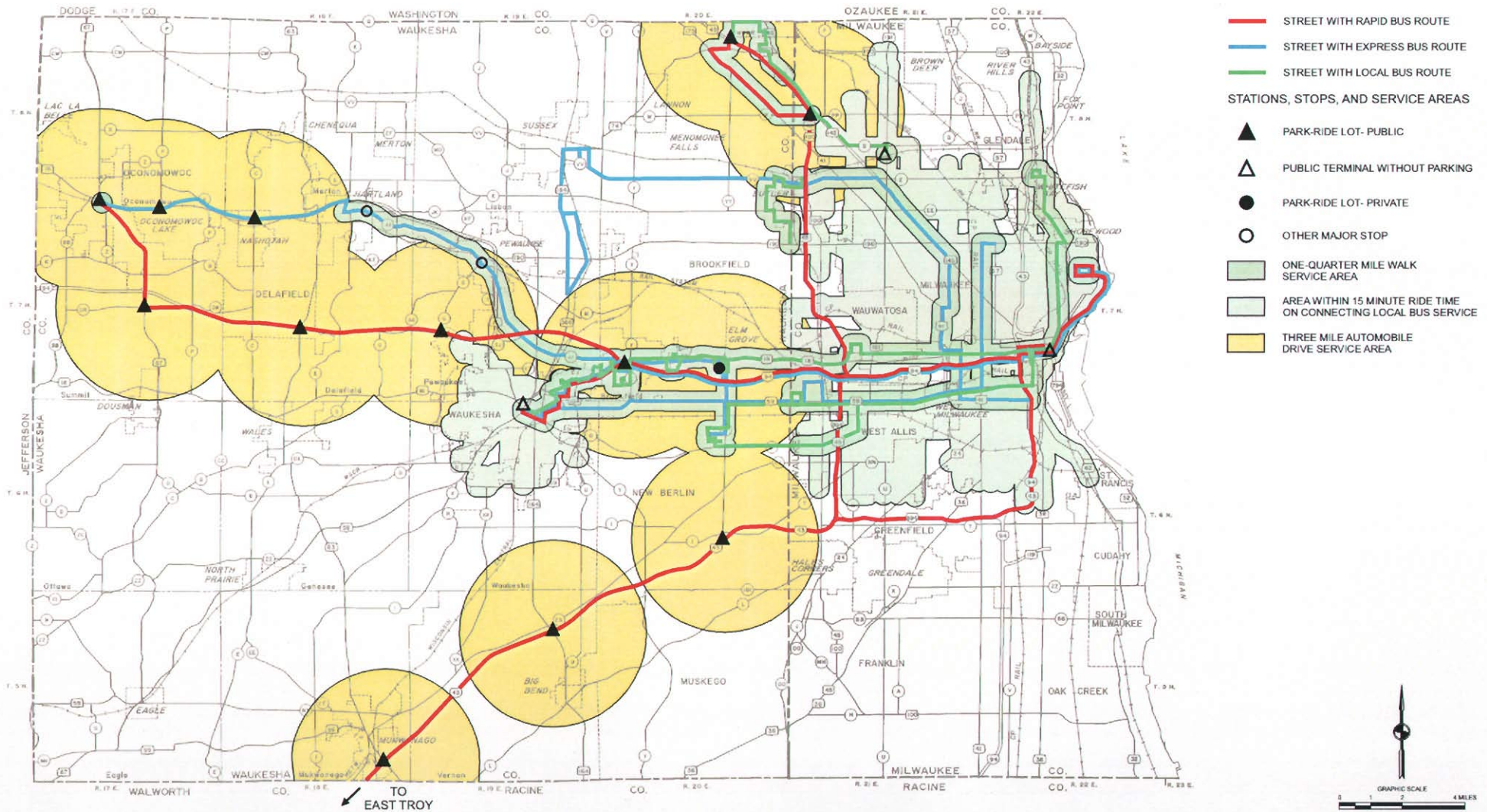
- County transit service is also currently being provided in general agreement with Standard 4 under Objective 1 which addresses the overall accessibility, or coverage, to be provided by the transit system to the County land use pattern. A substantial level of fixed route transit service is provided in the eastern portion of the County, primarily in the east-west travel corridor along IH 94 between the City of Waukesha and downtown Milwaukee, and in the northwestern portion of the County in the Menomonee Falls-Butler area. These areas have the highest development

densities and are capable of supporting the highest levels of transit service. In the southwest travel corridor along IH 43 between the City of Mukwonago and downtown Milwaukee, the density of development is lower and a lesser amount of transit service is provided. The majority of the areas in the County that are not served by the existing routes of the County transit system are not yet developed to densities which can support effective or efficient transit service.

- The existing transit system provides very good coverage of the existing residential areas within the Waukesha County, serving its most densely populated areas. About 233,100 persons, or 67 percent of the County's total estimated 1998 population of about 345,400 persons, resided within the transit system service area shown on Map 20. The resident population of the County

Map 20

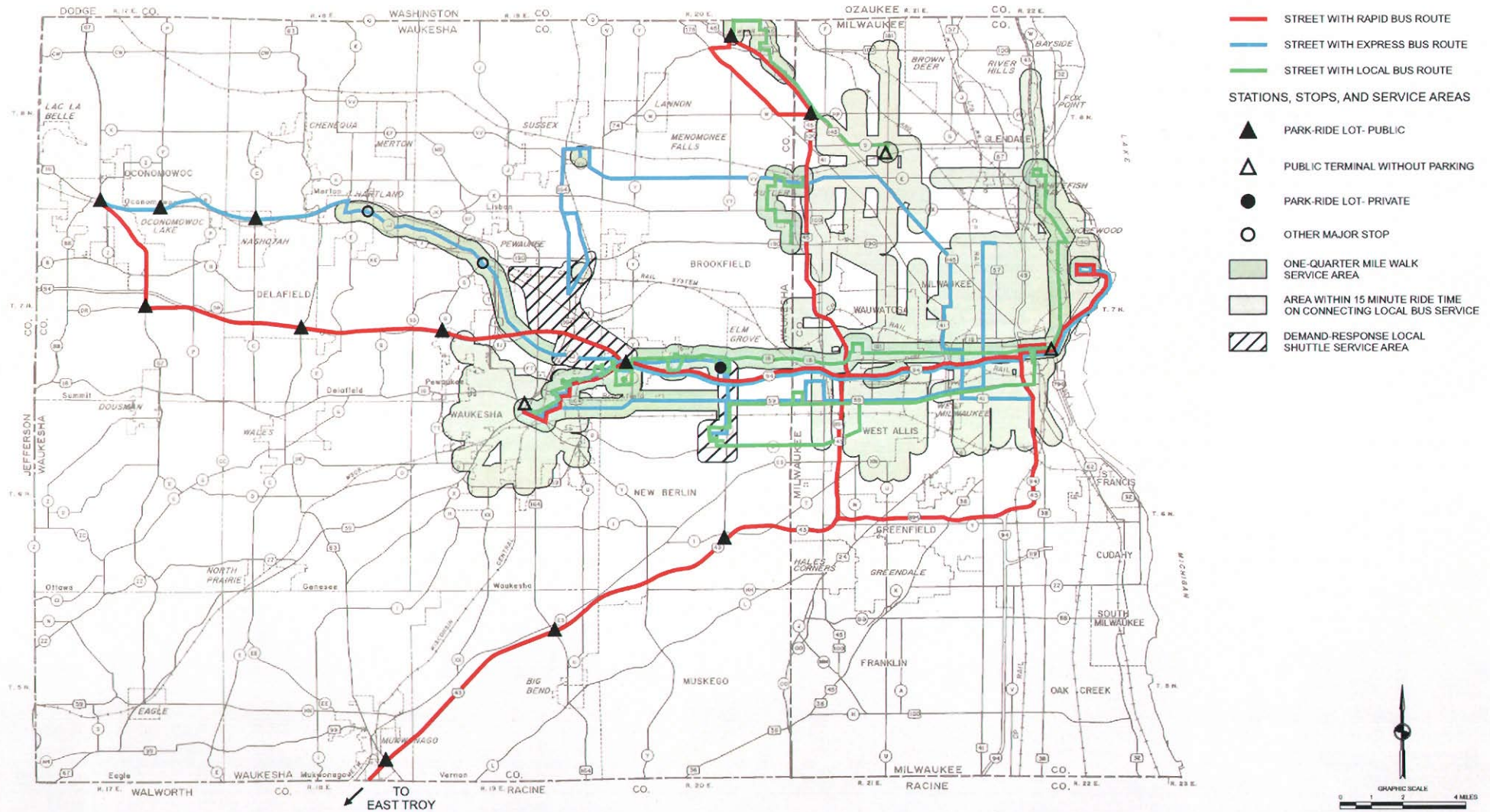
SERVICE AREA FOR THE WAUKESHA COUNTY TRANSIT SYSTEM USED TO DETERMINE POPULATION SERVED: APRIL 1999



Source: Milwaukee County Transit System, Waukesha County Department of Public Works, City of Waukesha Metro Transit System, and SEWRPC.

Map 21

SERVICE AREA FOR THE WAUKESHA COUNTY TRANSIT SYSTEM USED TO DETERMINE EMPLOYMENT SERVED: APRIL 1999



Source: Milwaukee County Transit System, Waukesha County Department of Public Works, City of Waukesha Metro Transit System, and SEWRPC.

Table 38

**POPULATION AND EMPLOYMENT SERVED BY THE ROUTES
OF THE WAUKESHA COUNTY TRANSIT SYSTEM: 1998 ESTIMATED**

Category	Population Served ^a				Employment Served ^b		
	Waukesha County	Milwaukee County	Other Counties ^c	Total	Waukesha County	Milwaukee County	Total
Walk Access	51,400	273,600	--	325,000	121,800	159,600	281,400
Connecting Bus Service	65,400	644,400	--	709,800	54,500	321,900	376,400
Automobile Drive Access	187,800	53,100	19,900	260,800	--	--	--
Unduplicated Total	233,100	688,000	19,900	941,000	147,300	366,000	513,300

^aPopulation figures are based on the local one-quarter mile walk service area and three-mile automobile access service area of the Waukesha County transit system, and an estimated 15 minute ride time on connecting local bus services provided by the Waukesha Metro transit system and the Milwaukee County Transit System. All population figures are based on 1990 census data allocated to U.S. Public Land Survey quarter sections by Commission staff and adjusted to reflect estimated year data using population estimates prepared by the Wisconsin Department of Administration.

^bEmployment figures are based on the local one-quarter mile walk service area for the Waukesha County transit system, and an estimated 15-minute ride time on connecting local bus services provided by the Waukesha Metro Transit System and the Milwaukee County Transit System. All employment figures are based on 1990 U.S. Bureau of Economic Analysis data allocated to U.S. Public Land Survey quarter sections by Commission staff and adjusted to reflect estimated year data using employment estimates prepared by the U.S. Bureau of Economic Analysis and the Wisconsin Department of Workforce Development

^cIncludes approximately 200 persons in Ozaukee County, 300 persons in Racine County, 7,400 persons in Walworth County, and 12,000 persons in Washington County.

Source: SEWRPC.

not served was principally in partially developed or undeveloped portions of the County and in other areas where residential densities are generally too low to support bus service. The Waukesha County transit system also provides for substantial coverage of Milwaukee County residents, serving about 688,000 persons, or 72 percent, of the total estimated 1998 population of Milwaukee County of about 957,100 persons. Most of this population would be attributed to the connecting bus service provided by the routes of the Milwaukee County Transit System.

4. The combined system of Waukesha County and connecting Milwaukee County and City of Waukesha bus routes provides for substantial coverage of the central portions of Milwaukee County and the City of Waukesha where the highest concentrations of individuals receiving public assistance through State welfare programs and low income individuals reside. Such individuals should be considered as priority population groups for the Waukesha County transit system as they represent potential workers to fill available jobs in Waukesha County and potential

users of Waukesha County reverse commute bus services. Map 24 illustrates the estimated residential distribution of welfare recipients in 1998 and low-income persons in 1990 in Milwaukee and Waukesha Counties, and the coverage of these population groups provided by the Waukesha County transit system.

5. The transit system provides good coverage of the location of job concentrations in Waukesha County. About 147,300 jobs, or 56 percent of the County's total estimated 1998 employment of about 264,800 jobs, were located within the transit system service area shown on Map 21. Significant job locations in the County that are not served by the transit system are in industrial and office parks in the eastern, southeastern, and western portions of the County, many of which are newly developed since 1990. The expansion of transit service to serve jobs in these areas should be considered where it can be provided in an efficient and effective manner. The transit system also serves about 350,400 jobs located in Milwaukee County, representing about 57 percent, of the total estimated 1998 employment in Milwaukee County

Table 39

**MAJOR EMPLOYERS IN WAUKESHA COUNTY NOT SERVED BY
THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999**

Number on Map 22	Major Employer ^a	Address	Approximate Employment			
			100- 249	250-499	500-999	Over 1,000
	Industrial and Manufacturing					
1	Acme Machell Co., Inc.	2000 Airport Road, City of Waukesha	X	--	--	--
2	Add, Inc.	440 Cardinal Lane, Village of Hartland	X	--	--	--
3	Alto Shaam, Inc.	W164 N9221 Water Street, Village of Menomonee Falls	X	--	--	--
4	Balax, Inc.	W305 N7697 CTH VV, Town of Merton	X	--	--	--
5	Best Foods Baking Group	1 Meadow Road, City of Oconomowoc	X	--	--	--
6	BFI of Wisconsin, Inc.	W144 S6350 College Court, City of Muskego	X	--	--	--
7	Bruno Independent Living Aids, Inc.	1780 Executive Drive, City of Oconomowoc	X	--	--	--
8	Burton & Mayer, Inc.	12995 W. Lisbon Road, City of Brookfield	X	--	--	--
9	Camtronics Ltd.	900 Walnut Ridge Drive, Village of Hartland	X	--	--	--
10	Chemrite Industries, Inc.	19725 W. Edgewood Drive, Village of Lannon	X	--	--	--
11	CL & D Graphics, Inc.	1101 W. 2nd Street, City of Oconomowoc	X	--	--	--
12	Commercial Communications, Inc.	1225 Walnut Ridge Drive, Village of Hartland	--	--	X	--
13	Cooper Power Systems	1900 E. North Street, City of Waukesha	--	--	X	--
14	Custom Products Corporation	1205 Wall Street, City of Oconomowoc	X	--	--	--
15	Dickten & Masch Manufacturing Company	N44 W33365 Watertown Plank Road, Village of Nashotah	X	--	--	--
16	Dorner Manufacturing Corporation	580 Industrial Drive, Village of Hartland	X	--	--	--
17	Fiberesin Industries, Inc.	37031 E. Wisconsin Avenue, Village of Oconomowoc Lake	X	--	--	--
18	Fleck Controls, Inc.	20580 Enterprise Avenue, City of Brookfield	X	--	--	X
19	G E Medical Systems	3000-3114-3200 N. Grandview Boulevard, City of Waukesha	--	--	X	--
20	Generac Corporation	211 Murphy Drive, Village of Eagle	--	--	X	--
21	Generac Corporation	Hwy 59, Town of Genesee	--	--	X	--
22	Guhring Inc.	1445 Commerce Avenue, City of Brookfield	X	--	--	--
23	Howard Company, Inc.	1375 Barker Road, City of Brookfield	X	--	--	--
24	Huffy Corporation	N53 W24700 S. Corporate Circle, Village of Sussex	--	X	--	--
25	Lied's Nursery Company, Inc.	N63 W22039 STH 74, Town of Lisbon	X	--	--	--
26	Midwest Instrument Company, Inc.	541 Industrial Drive, Village of Hartland	X	--	--	--
27	Milwaukee Electric Tool Corporation	13135 W. Lisbon Road, City of Brookfield	--	X	--	--
28	Nabco Entrances, Inc.	S82 W18717 Gemini Drive, City of Muskego	X	--	--	--
29	Oconomowoc Can	1230 Corporate Center Drive, City of Oconomowoc	X	--	--	--
30	Outlook Foods, Inc.	132 S. Concord Road, City of Oconomowoc	X	--	--	--
31	P M Plastics Company	627 Capitol Drive, Village of Pewaukee	X	--	--	--
32	Plastic Molded Concepts, Inc.	111 Murphy Drive, Village of Eagle	X	--	--	--
33	Rikart Manufacturing, Inc.	525 Norton Drive, Village of Hartland	X	--	--	--
34	Seaquist Closures	711 Fox Street, Village of Mukwonago	--	X	--	--
35	Silgan Containers Corporation	520 W. 2nd Street, City of Oconomowoc	X	--	--	--
36	SPI Communications, Inc.	21045 Enterprise Avenue, City of Brookfield	X	--	--	--
37	Superior Services	559 Progress Drive, Village of Hartland	X	--	--	--
38	Sussex Plastics, Inc.	N65 W24770 Main Street, Village of Sussex	--	X	--	--
39	Systemation Engineered Products, Inc.	5400 S. Westridge Drive, City of New Berlin	X	--	--	--
40	T J Hale, Inc.	W139 N9499 STH 145, Village of Menomonee Falls	X	--	--	--
41	Waste Management of Wisconsin	W124 N8925 Boundary Road, Village of Menomonee Falls	X	--	--	--
42	Waukesha Cutting Tools, Inc.	1111 Sentry Drive, City of Waukesha	X	--	--	--
	Retail and Service					
43	B & T Mail Service, Inc.	9625 W. Lincoln Avenue, City of New Berlin	X	--	--	--
44	Country Inn	2810 Golf Road, City of Waukesha	X	--	--	--
45	D & S Food Services, Inc.	16300 W. Silver Spring Drive, Village of Menomonee Falls	X	--	--	--
46	Edison Liquor Corporation	21125 W. Enterprise Avenue, City of Brookfield	X	--	--	--
47	Firststar Information Services Corporation	16900 W. Capitol Drive, City of Brookfield	--	X	--	--
48	Fleming Companies, Inc.	1200 W. Sunset Drive, City of Waukesha	--	X	--	--
49	Grasch's Foods, Inc.	13950 W. North Avenue, City of Brookfield	X	--	--	--
50	Inpro Corporation	S80 W18766 Apollo Drive, City of Muskego	X	--	--	--
51	Jack Saffro Toyota, Inc.	20445 W. Capitol Drive, Town of Brookfield	X	--	--	--
52	Jay's Foods	3625 N. 126th Street, City of Brookfield	X	--	--	--
53	Kmart	N77 W14435 Appleton Avenue, Village of Menomonee Falls	X	--	--	--
54	Kmart	1450 E. Summit Avenue, City of Oconomowoc	X	--	--	--
55	Kmart	15333 W. National Avenue, City of New Berlin	X	--	--	--
56	Kohl's Department Stores, Inc.- Corporate Offices	N56 W17000 Ridgewood Drive, Village of Menomonee Falls	--	--	--	X
57	Kohl's Department Stores, Inc.- Retail Store	2315 N. 124th Street, City of Brookfield	X	--	--	--
58	Olympia Resort & Conference Center	1350 Royalemile Road, City of Oconomowoc	X	--	--	--
59	Pick 'N Save	1010 N. Rochester Street, Village of Mukwonago	X	--	--	--
60	Pick 'N Save	2160 Silvermail Road, City of Waukesha	X	--	--	--
61	Pick 'N Save	N95 W18273 County Line Road, Village of Menomonee Falls	X	--	--	--
62	Reinders, Inc.	13400 Watertown Plank Road, Village of Elm Grove	X	--	--	--
63	Sentry Foods	W189 S7847 Racine Avenue, City of Muskego	X	--	--	--
64	Strong Capital Management, Inc.	100 Heritage Reserve, Village of Menomonee Falls	--	X	--	--
65	Supersaver	N63 W23735 N. Main Street, Village of Sussex	X	--	--	--
66	Supersaver	17295 W. Capitol Drive, City of Brookfield	X	--	--	--
67	Target- Retail Store	N95 W17707 Shady Lane, Village of Menomonee Falls	X	--	--	--
68	Target- Retail Store	2553 Sun Valley Drive, City of Delafield	X	--	--	--
69	Target- Distribution Center	1100 Valley Road, Town of Oconomowoc	--	--	X	--
70	Wal-Mart	2863 Heritage Drive, City of Delafield	X	--	--	--
71	Wal-Mart	N96 W18515 County Line Road, Village of Menomonee Falls	X	--	--	--
72	Wal-Mart	857 S. Rochester, Village of Mukwonago	X	--	--	--
73	Weissgerber's Golden Mast Inn	N52 W34868 Lacy's Lanes, Town of Oconomowoc	X	--	--	--
74	Whyte Hirschboeck Dudek, S.C.	N80 W14816 Appleton Avenue, Village of Menomonee Falls	X	--	--	--
75	Wisconsin Lift Truck Corporation	12745 W. Townsend Street, City of Brookfield	X	--	--	--
76	YMCA-Menomonee Falls	N84 W17501 Menomonee Avenue, Village of Menomonee Falls	X	--	--	--

Table 39 (continued)

Number on Map 22	Major Employer ^a	Address	Approximate Employment			
			100- 249	250-499	500-999	Over 1,000
	Governmental and Institutional					
77	American Baptist Homes of the Midwest (Tudor Oaks)	S77 W12929 McShane Drive, City of Muskego	X	--	--	--
78	Arboretum Retirement Community	W180 N7890 Town Hall Road, Village of Menomonee Falls	X	--	--	--
79	Care-Age of Brookfield	1755 N. Barker Road, City of Brookfield	X	--	--	--
80	Community Memorial Hospital of Menomonee Falls	W180 N8085 Town Hall Road, Village of Menomonee Falls	--	--	X	--
81	Congregational Home, Inc.	13900 W. Burleigh Road, City of Brookfield	X	--	--	--
82	Elmbrook Memorial Hospital	19333 W. North Avenue, City of Brookfield	--	--	X	--
83	Falls Medical Group, S. C.	N84 W16889 Menomonee Avenue, Village of Menomonee Falls	X	--	--	--
84	Franciscan Woods	19525 W. North Avenue, City of Brookfield	X	--	--	--
85	Homes for Independent Living	1746 Executive Drive, City of Oconomowoc	--	X	--	--
86	LindenGrove Health Care Center	W180 N8071 Town Hall Road, Village of Menomonee Falls	X	--	--	--
87	LindenGrove Health Care Center	13755 W. Fieldpointe Drive, City of New Berlin	--	X	--	--
88	Lutheran Homes of Oconomowoc	1306 W. Wisconsin Avenue, City of Oconomowoc	--	X	--	--
89	Masonic Health Care Center, Inc.	400 N. Main Street, Village of Dousman	X	--	--	--
90	Medical Associates of Menomonee Falls	W180 N7950 Town Hall Road, Village of Menomonee Falls	--	X	--	--
91	Memorial Hospital at Oconomowoc	791 E. Summit Avenue, City of Oconomowoc	--	--	X	--
92	Oconomowoc Developmental Training Center	36100 Genesee Lake Road, Town of Summit	X	--	--	--
93	Rogers Memorial Hospital, Inc.	34700 Valley Road, Town of Summit	X	--	--	--
94	U.S. Postal Service	17345 Civic Drive, City of New Berlin	X	--	--	--
95	Waukesha County Workforce Development Center	892 Main Street, Village of Pewaukee	X	--	--	--
96	Wilkinson Medical Clinics	915 E. Summit Avenue, City of Oconomowoc	X	--	--	--
97	Wisconsin Department of Transportation	2000 Pewaukee Road, City of Waukesha	--	X	--	--
	Educational					
98	Bay Lane Middle School and Country Meadow Elementary School	S75 W16399 Hilltop Drive, City of Muskego	X	--	--	--
99	Brookfield Central High School	16900 Gebhardt Road, City of Brookfield	X	--	--	--
100	Brookfield East High School	3305 N. Lilly Road, City of Brookfield	X	--	--	--
101	Burleigh Elementary School	16185 Burleigh Place, City of Brookfield	X	--	--	--
102	Eisenhower Middle and High Schools	4333 S. Sunnyslope Road, City of New Berlin	X	--	--	--
103	Hamilton High School	W220 N6151 Town Line Road, Town of Lisbon	X	--	--	--
104	Hartland-Arrowhead Union High School	700 North Avenue, Town of Merton	X	--	--	--
105	Kettle Moraine High School	349 Oakcrest Drive, Village of Wales	X	--	--	--
106	Kettle Moraine Middle School	301 E. Ottawa Avenue, Village of Dousman	X	--	--	--
107	Menomonee Falls High School	W142 N8101 Merrimac Drive, Village of Menomonee Falls	X	--	--	--
108	Mukwonago High School	605 W. School Road, Village of Mukwonago	X	--	--	--
109	Muskego High School	W183 S8750 Racine Avenue, City of Muskego	X	--	--	--
110	New Berlin West High School and West Middle School	18695 W. Cleveland Avenue, City of New Berlin	X	--	--	--
111	Oconomowoc High School	641 Forest Street, City of Oconomowoc	X	--	--	--
112	Pewaukee Public Schools Campus	510 Lake Street, Village of Pewaukee	X	--	--	--
113	Pilgrim Park Middle School	1500 Pilgrim Parkway, Village of Elm Grove	X	--	--	--
114	Waukesha County Technical College	800 Main Street, Village of Pewaukee	--	X	--	--
115	Waukesha West High School	3301 Saylesville Road, City of Waukesha	X	--	--	--

^aIncludes employers with approximately 100 or more employees at one worksite. Employers were not considered served if they were located more than a one-quarter-mile walking distance from a bus stop or more than 15 minutes ride time on connecting bus services.

Source: SEWRPC.

of about 615,500 jobs. About 95,700 of the Milwaukee County jobs served are in and around the Milwaukee CBD and directly served by Waukesha bus routes. Most of the remaining Milwaukee County employment is served through connecting bus service provided by the routes of the Milwaukee County Transit System.

- Not all jobs in the transit service area should be considered as completely served under the current hours of operation of the Waukesha County bus routes and connecting bus services in the City of Waukesha. The existing services are designed to serve the weekday first-shift starting and ending times of office and industrial jobs. However, the

current weekday service hours do not serve the second-shift ending times and the third-shift starting of most industrial jobs. In addition, retail and service jobs often have work shifts that are quite different from office and industrial jobs and are difficult to completely serve unless some transit service is available during weekday midday and evening periods. Service on most routes of the County system is not provided during these periods. On Saturdays and Sundays, service is more limited than on weekdays or is not provided at all. This restricts the ability of individuals working on weekends to use the transit system for any job even though the job may be within the transit service area.

Table 40

**OFFICE AND INDUSTRIAL PARKS IN WAUKESHA COUNTY
NOT SERVED BY THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999**

Number on Map 23	Office or Industrial Park ^a	Municipality	Approximate Number of Total Acres			
			10-99	100-199	200-299	300 or More
1	Bark River Commerce Center	Village of Hartland	--	--	x	--
2	Big Bend Industrial Park 1 and 2	Village of Big Bend	x	--	--	--
3	Bowling Green Industrial Park	Village of Menomonee Falls	--	x	--	--
4	Brookfield Industrial Park	City of Brookfield	--	x	--	--
5	Eagle Industrial Park	Village of Eagle	x	--	--	--
6	Gateway West Commerce Center	City of Brookfield	--	x	--	--
7	Hartland-Lake Country Business Park	Village of Hartland	--	--	x	--
8	Heritage Reserve	Village of Menomonee Falls	--	--	x	--
9	Kettle Moraine Business Park	City of Delafield	x	--	--	--
10	Mukwonago Industrial Park	Village of Mukwonago	--	--	x	--
11	Muskego Industrial Park	City of Muskego	--	--	x	--
12	Northwest Business Park	Village of Menomonee Falls	x	--	--	--
13	Oakridge Business Park	Village of North Prairie	x	--	--	--
14	Oconomowoc Corporate Center-Target Distribution Center	City of Oconomowoc	--	--	x	--
15	Oconomowoc West Industrial Park	City of Oconomowoc	x	--	--	--
16	Olympia Business Park	City of Oconomowoc	x	--	--	--
17	Silver Spring Corporate Park	Village of Menomonee Falls	--	--	x	--
18	Sussex Corporate Center	Village of Sussex	--	x	--	--
19	Tess Corners Industrial Park	City of Muskego	x	--	--	--
20	Waukesha Airport Industrial Park	City of Waukesha	x	--	--	--
21	Westridge Office and Industrial Park	City of New Berlin	--	x	--	--

^aThe office and industrial parks shown included those that were at least 10 acres in size, had sanitary sewer and public water supply facilities and hard-surfaced roadways, and were controlled and administered by a single governmental unit, organization, or business. Office and industrial parks were not considered as served if they were located more than a one-quarter-mile walking distance from a bus route or more than 15 minutes ride time on connecting bus services.

Source: SEWRPC.

- The transit system provides good coverage of the existing locations of major employers and industrial and office parks in the County. A total of 189, or 61 percent, of the 308 major employers identified in the County, and 33, or 61 percent, of the 54 industrial and office parks identified in the County, were considered as served by Waukesha County bus routes. Many of the specific sites not served are in the eastern, southeastern, and western portions of the County that have been developed since 1990. The expansion of transit service to serve employers and industrial and office parks in these areas should be considered where it can be provided in a efficient and effective manner.

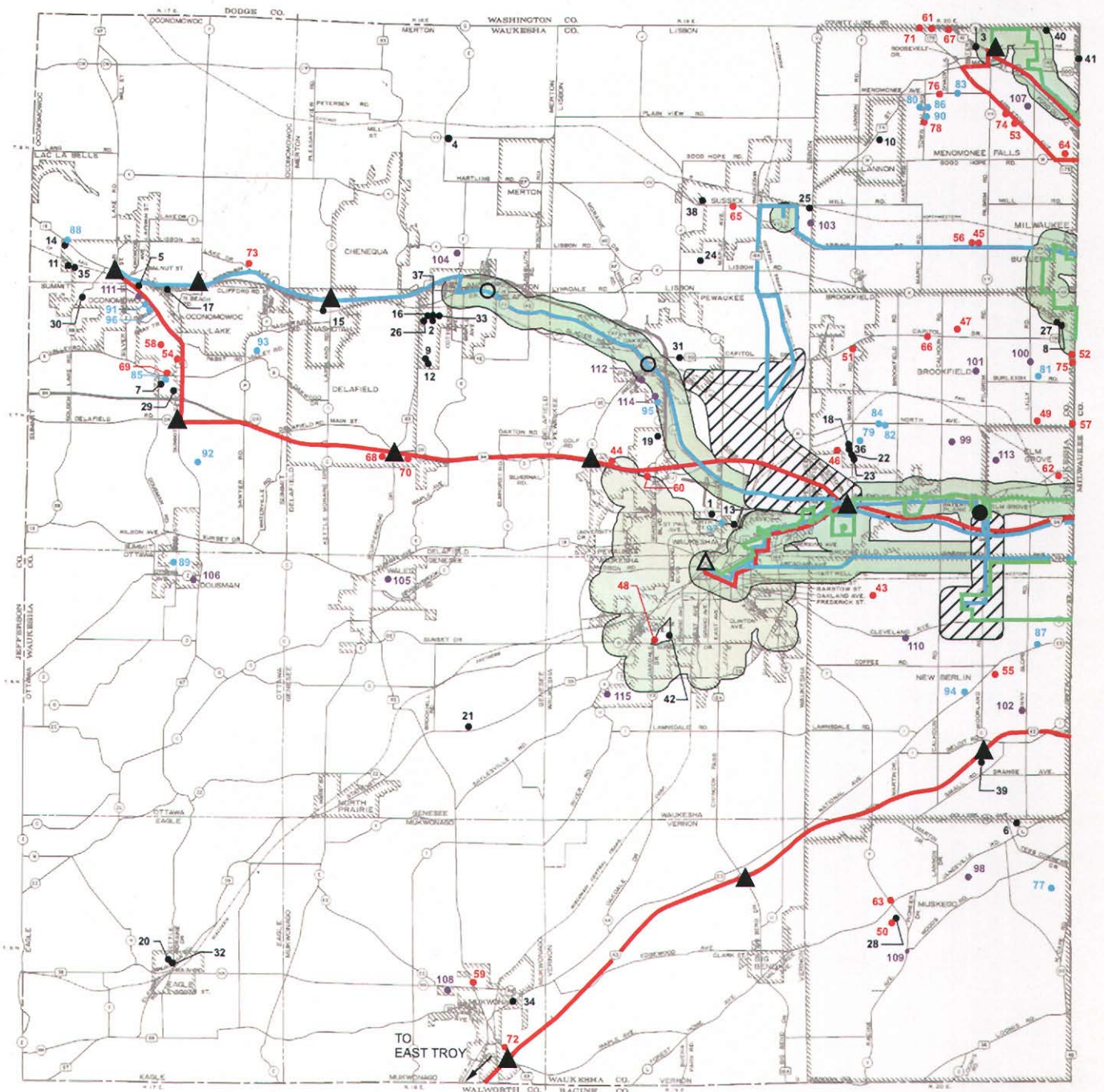
Ridership and Financial Performance

The systemwide ridership and financial performance of the Waukesha County transit system was evaluated by using the key measures of ridership performance specified under Objective No. 2, performance standard 1, and the key measures of financial performance specified under Objective No. 4, performance standards 1, 2, and 3. Trends in key performance measures were examined

for the five years from 1993 through 1997. The ridership per-formance measures used included annual revenue passengers, annual revenue passengers per revenue vehicle-mile, and annual revenue passengers per revenue vehicle-hour. The measures used to evaluate the financial performance of the transit system included operating expense per revenue vehicle-mile and per revenue vehicle-hour, operating expense and total public operating assistance per revenue passenger, and the percent of operating expenses recovered from operating revenues, often referred to as the farebox-recovery rate. The observed performance levels of the Waukesha County transit system for these measures were compared with performance with the average performance levels for other urban bus systems in the Southeastern Wisconsin Region including the Milwaukee County Transit System, the City of Kenosha transit system, the City of Racine Belle Urban System, the City of Waukesha Metro Transit System; and the Milwaukee-Racine-Kenosha commuter bus service operated by Wisconsin Coach lines, Inc., for the Cities of Racine and Kenosha and the Counties of Racine and Kenosha. These other systems should not be considered a "peer group" for the Waukesha County transit system. The commuter

MAP 22

MAJOR EMPLOYERS NOT SERVED BY THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999



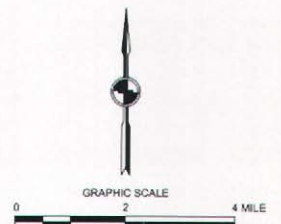
MAJOR EMPLOYER NOT SERVED BY TRANSIT SYSTEM

- INDUSTRIAL/ MANUFACTURING
- RETAIL/ SERVICE
- GOVERNMENTAL/ INSTITUTIONAL
- EDUCATIONAL
- 98 IDENTIFICATION NUMBER
(SEE TABLE 40)

- STREET WITH RAPID BUS ROUTE
- STREET WITH EXPRESS BUS ROUTE
- STREET WITH LOCAL BUS ROUTE
- ONE-QUARTER MILE WALK SERVICE AREA
- DEMAND-RESPONSE LOCAL SHUTTLE SERVICE AREA
- AREA WITHIN 15 MINUTE RIDE TIME ON CONNECTING LOCAL BUS SERVICE

STATIONS AND STOPS

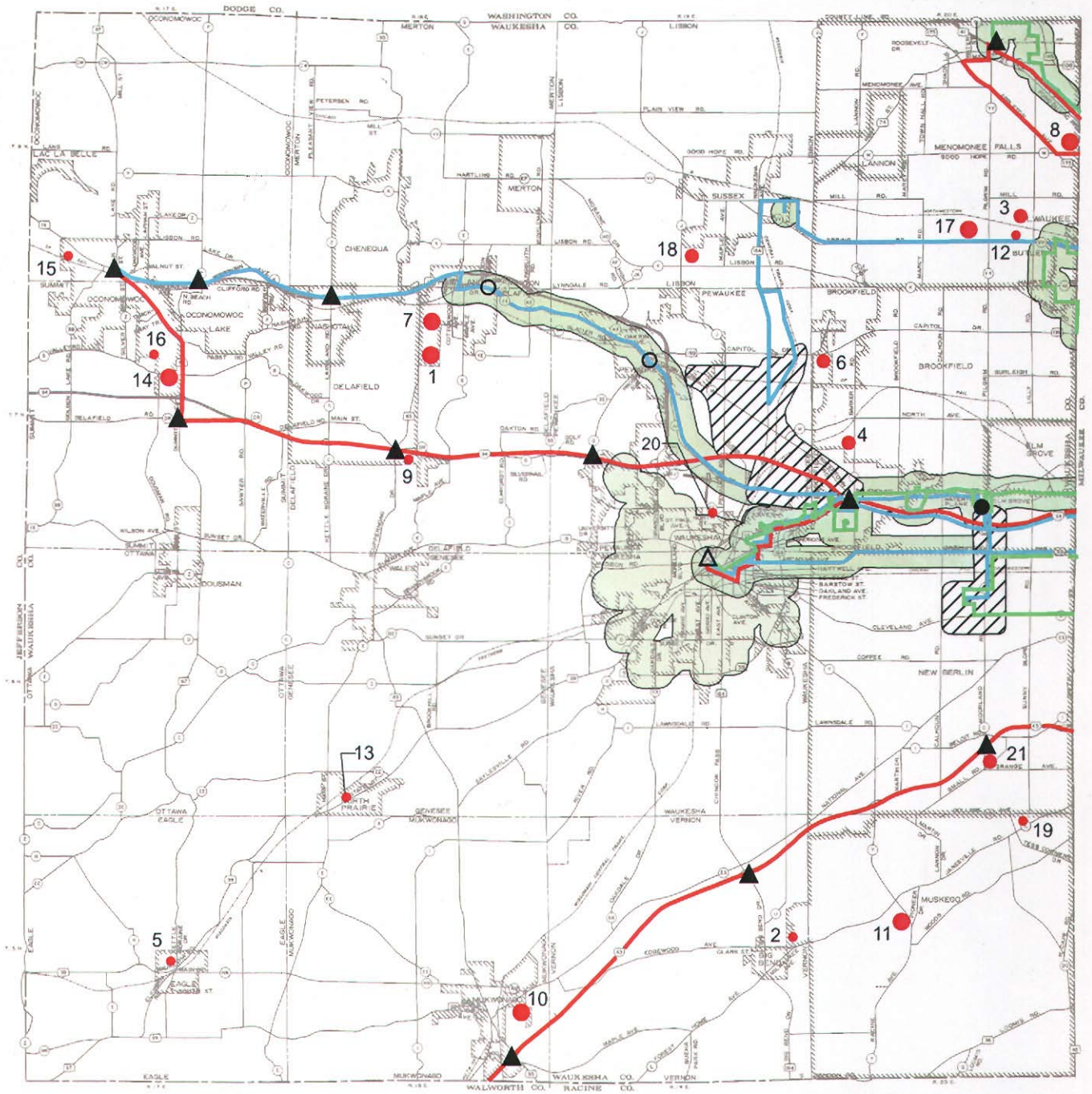
- ▲ PARK-RIDE LOT- PUBLIC
- △ PUBLIC TERMINAL WITHOUT PARKING
- PARK-RIDE LOT- PRIVATE
- OTHER MAJOR STOP



Source: SEWRPC.

MAP 23

OFFICE AND INDUSTRIAL PARKS NOT SERVED BY THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999



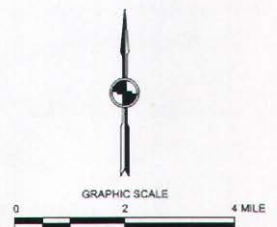
OFFICE OR INDUSTRIAL PARK NOT SERVED BY TRANSIT SYSTEM

- 10-99 ACRES
- 100-199 ACRES
- 200-299 ACRES
- (NONE) 300 OR MORE ACRES
- 20 IDENTIFICATION NUMBER
(SEE TABLE 41)

- STREET WITH RAPID BUS ROUTE
- STREET WITH EXPRESS BUS ROUTE
- STREET WITH LOCAL BUS ROUTE
- ONE-QUARTER MILE WALK
SERVICE AREA
- DEMAND-RESPONSE LOCAL
SHUTTLE SERVICE AREA
- AREA WITHIN 15 MINUTE RIDE TIME
ON CONNECTING LOCAL BUS SERVICE

STATIONS AND STOPS

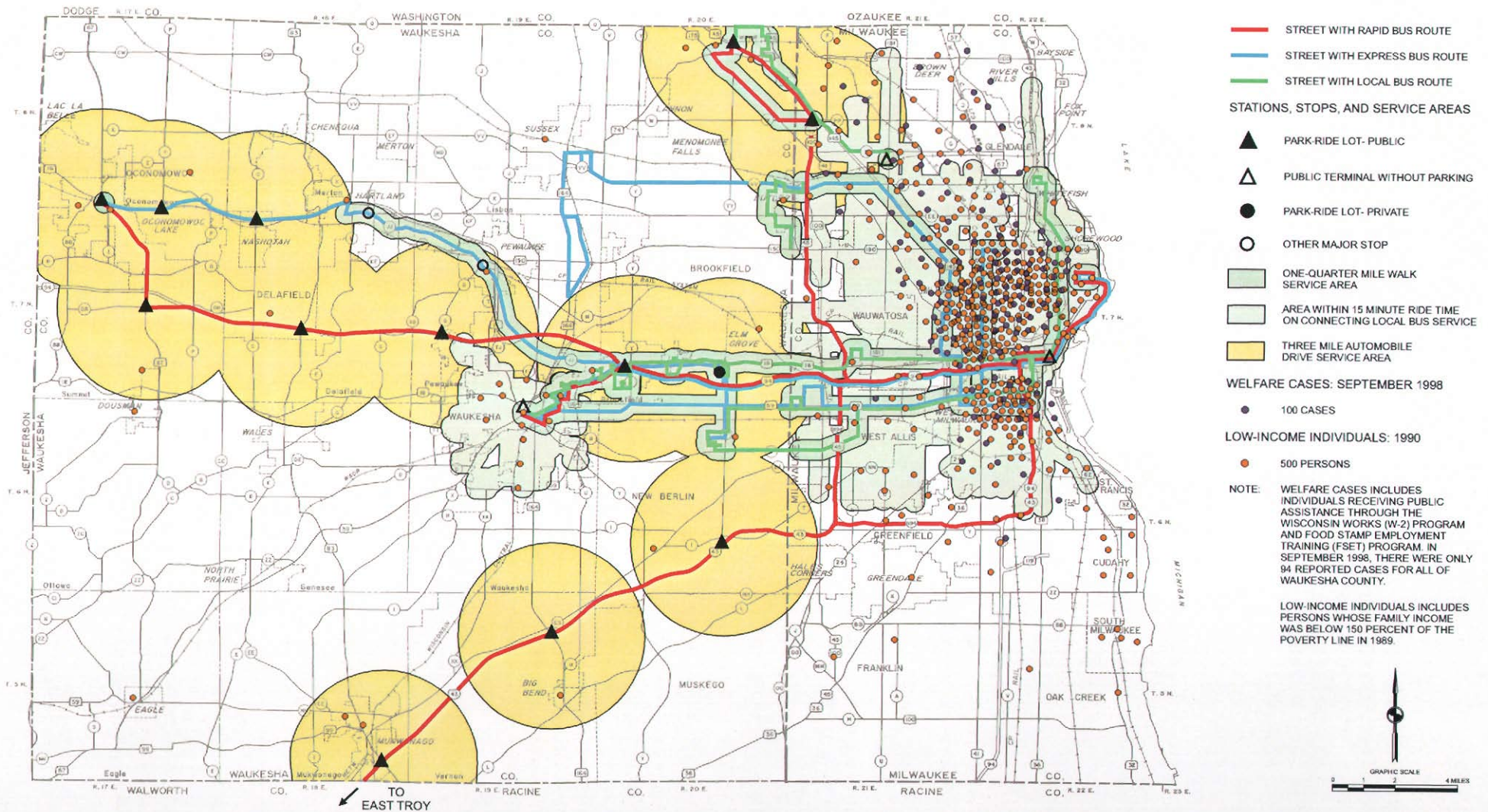
- ▲ PARK-RIDE LOT - PUBLIC
- △ PUBLIC TERMINAL
WITHOUT PARKING
- PARK-RIDE LOT - PRIVATE
- OTHER MAJOR STOP



Source: SEWRPC.

Map 24

**WELFARE AND LOW INCOME POPULATION SERVED BY THE ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999**



Source: Wisconsin Department of Workforce Development, Milwaukee County Transit System, Waukesha County Department of Public Works, City of Waukesha Metro Transit System, and SEWRPC.

bus services provided by the Waukesha County transit system share similarities only with the Milwaukee-Racine-Kenosha commuter bus service operated by Wisconsin Coach Lines, Inc. The other four public transit systems in the Region principally provide local transit service within much smaller and more densely developed service areas and, consequently, serve more trips, which are significantly shorter in distance. The primary purpose for providing this comparison is to present information to local officials on how trends in ridership, service and costs for the Waukesha County transit system over the past five years compare to trends for the other systems in the area.

The performance of the existing Waukesha County transit system with respect to the above measures is summarized in Table 41. The actual operating data used in developing the performance measures is presented in Tables B-1 and B-2 in Appendix B. The ridership data and financial data used covered the five-year period from 1993 through 1997, representing the most recent period for which such information was available for the bus systems. All data were obtained from annual reports prepared by each transit system and submitted to the Federal Transit Administration and the Wisconsin Department of Transportation. Based upon this information, the following conclusions were reached:

1. In terms of ridership and service, the average percentage increase in the annual ridership on the Waukesha County transit system of about 13 percent between 1993 and 1997 is significantly more than the average of about 1 percent observed for the other urban bus systems in the Region. This ridership increase on the Waukesha County transit system is the result of increases in service levels of between 9 and 12 percent as the system added new routes and improved the frequency of service on other routes. As the rate of increase in ridership was greater than the rate service was increased, the service effectiveness levels of the Waukesha County transit system also increased. By comparison, both service levels and service effectiveness levels on the other systems were relatively stable over the period.
2. The trends for the Waukesha County transit system for changes in costs per unit of transit service also compare favorably overall with the trends for the bus systems in the Region from 1993 through 1997 with respect to changes in costs per unit of service and changes in operating costs and total operating assistance per passenger. Operating expenses per vehicle-mile and per vehicle-hour for the Waukesha County transit system increased at about the same overall rate as those experienced by the other systems. The operating cost and total operating assistance per revenue passenger for the Waukesha County transit system increased by between 1 and 2 percent over the period compared with average increases of between 5 and 6 percent on the other systems. The operating cost and total operating assistance per passenger mile¹ for the Waukesha County transit system, however, increased by between 6 percent over the period compared with an average increase of about 4 percent on the other systems. This may be attributed to the addition of local routes to the Waukesha County transit system between 1993 and 1997. These routes served much shorter trips which as a result decreased the average in-vehicle trip length on the system from about 15 miles per trip in 1993 to about 12 miles per trip in 1997.
3. The farebox recovery rate for the Waukesha County transit system decreased by about 1 percent annually over the period, compared with an average increase of about one percent annually on the other systems, while the farebox recovery and local funding rate for the transit system increased by about 4 percent annually over the period, compared with an average increase of less than 1 percent annually on the other systems. These changes for the Waukesha County system may be attributed to the its fare policy over the period which has included limited fare increases and reductions in fares on selected routes to stimulate transit ridership. While passenger fares were increased at least once over the period on all of the other bus systems except the Milwaukee-Racine-Kenosha commuter bus service, base passenger fares on the Waukesha County bus routes operated by Wisconsin Coach Lines, Inc., remained the same for most trips and were actually reduced in the IH 94 corridor during the resurfacing of the freeway in 1997 and 1998. The reduced fares in the IH 94 corridor were discontinued in April 1999, and at the same time fares were reduced in the IH 43 corridor during the reconstruction of the Hale Interchange. The farebox recovery rate for the transit system in 1997 of about 24 percent was also slightly below the rate of 25 percent set forth in performance standard 2 under Objective 4. Waukesha County may need to consider increasing passenger fares or the contributions for the private sector for shuttle routes if it desires to control future increases in County funds for the

¹A transit passenger mile is a measure of the distance in the transit vehicle incurred by passengers traveling on the transit service.

Table 41

COMPARISON OF KEY INDICATORS OF RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE WAUKESHA COUNTY TRANSIT SYSTEM AND THE OTHER URBAN BUS SYSTEMS IN SOUTHEASTERN WISCONSIN: 1993 AND 1997

Performance Measure	Operating Data ^a					
	Waukesha County Transit System			Total/Average for Other Bus Systems in Southeastern Wisconsin ^b		
	1993	1997	Average Annual Percent Change	1993	1997	Average Annual Percent Change ^c
Annual Ridership						
Revenue Passengers	316,000	517,400	13.1	52,292,700	55,209,300	1.4
Total Boarding Passengers.....	316,000	517,400	13.1	65,105,200	65,972,200	0.3
Annual Service Levels						
Revenue Vehicle-Miles.....	498,100	713,500	9.4	20,485,400	20,388,200	-0.1
Revenue Vehicle-Hours.....	24,800	39,000	12.0	1,685,800	1,660,000	-0.4
Service Effectiveness						
Total Passengers per Vehicle-Mile	0.63	0.73	3.4	1.67	1.62	-0.8
Total Passengers per Vehicle-Hour	12.70	13.30	1.0	21.80	21.60	-0.3
Service Efficiency^d						
Operating Expense per Revenue Vehicle-Mile	\$ 3.69	\$ 4.46	4.8	\$ 3.01	\$ 3.44	3.4
Operating Expense per Total Vehicle-Mile	2.84	3.39	4.5	2.77	3.15	3.3
Operating Expense per Revenue Vehicle-Hour	74.20	81.67	2.4	44.43	52.39	4.2
Operating Expense per Total Vehicle-Hour	59.17	60.78	0.7	38.67	44.44	3.5
Cost Effectiveness						
Operating Expense per Total Passenger.....	\$ 5.82	\$ 6.16	1.4	\$ 2.74	\$ 3.36	5.3
Total Operating Assistance per Total Passenger	4.37	4.70	1.8	1.81	2.31	6.3
Operation Expense per Passenger Mile	0.38	0.48	5.5	0.59	0.69	4.2
Total Operating Assistance per Passenger Mile	0.29	0.36	6.0	0.43	0.49	3.7
Local Contribution						
Farebox Recovery Rate	25.0%	23.7%	-1.4	28.9%	29.8%	0.8
Farebox Recovery and Local Funding Rate	28.4	33.0	3.9	43.0	43.7	0.4

^aBased on ridership and service data obtained from annual reports submitted by each transit system to the Wisconsin Department of Transportation and to the Federal Transit Administration. Financial data based on annual audits conducted by the Wisconsin Department of Transportation and each transit system. All data is for fixed route bus operations only and excludes data for complementary paratransit service for disabled individuals.

^bKey performance indicators were developed based on information reported by the other urban bus systems in Southeastern Wisconsin including the Kenosha transit system, the Milwaukee County Transit System, the Racine Belle Urban System, the Milwaukee-Racine-Kenosha commuter bus service operated by Wisconsin Coach Lines, Inc., and the Waukesha Metro Transit System. Data for each system is presented in Appendix B. Values for ridership and service levels represent totals for all the other bus systems in the Region. The values for all other performance measures represent the average of the individual values calculated for each system.

^cFor ridership and service levels, the average annual percent change reflects the change in total ridership and service levels for all the other bus systems in the Region. For all other performance measures, the average annual percent change is based on the average of the individual values calculated for each system.

^dThe average annual percentage change in operating costs shown in the table may be compared with the average annual change of about 2 percent in the Consumer Price Index within the Region for the period 1993-1997.

Source: SEWRPC.

transit system and achieve the farebox recovery goal set forth in the objectives and standards.

Contributions to the Efficiency of the Total Transportation System

Objective No. 3 concerns the operation of public transit services and facilities to promote both economy and efficiency in the total transportation system. This objective is supported by two performance standards,

one relating to utilization of energy and the other to provision of adequate highway system capacity.

The first standard under this objective requires that the amount of motor fuels utilized in operating the transportation system be minimized. This standard is intended to measure the potential energy savings of public transit services provided by the Waukesha County transit system. To measure compliance with this

standard, a comparison of relative energy efficiency of the current Waukesha County transit system with that of automobile travel was undertaken and is presented in Table 42, along with similar comparisons for the other public transit systems in Southeastern Wisconsin.

The information in the table indicates that the overall energy efficiency of the Waukesha County transit system in serving travel on an average weekday is somewhat higher than that of the private automobile. According to 1997 operating information for the Waukesha County transit system, the system provided about 37 passenger-miles of travel for every gallon of fuel used. This compares with an estimated 23 to 28² passenger-miles of travel provided per gallon of fuel if the transit trips had, instead, been made by automobile. Consequently, the transit service provided by the system does reduce the daily use of petroleum-based motor fuels by Waukesha and Milwaukee County residents. The information would also indicate that, while the transit systems within the Region are generally more energy-efficient than the automobile, the Milwaukee County and Waukesha County transit systems are substantially more energy-efficient than the private automobile. The higher efficiency of the Milwaukee County transit system may be attributed to its service area, which includes central Milwaukee County, with high-density land uses and attendant travel and transit demand, particularly to and from the City of Milwaukee (CBD). The higher energy efficiency of the Waukesha County transit system may be attributed to the focus of its service on travel between Waukesha County and central Milwaukee County including the Milwaukee CBD and to the limitation of a sizable portion of its service to the morning and afternoon peak-traffic periods.

The second standard under Objective No. 3 states that the amount of highway system capacity provided to serve total travel demand should be minimized. The intent of this standard is to measure the impact of the additional passenger transportation capacity provided by the public transportation system on peak-traffic loadings

²This estimated range of automobile efficiency assumes an average 23 mile-per-gallon fuel efficiency for an automobile operated in combined city and highway travel. The upper end of the range assumes that the comparable automobile travel is made at the average automobile occupancy in the Milwaukee area, about 1.2 persons per vehicle. The lower end of the range for automobile travel is based on an average auto occupancy of 1.0 person, assuming that present transit passengers do not now have the opportunity to travel by carpool and, therefore, would not have such opportunity if they were assumed to have an automobile available for their travels.

on highway facilities in heavily traveled corridors and on the need for improvements to existing highway facilities. The existing Waukesha County transit system includes seven routes that use the segment of IH 94 between USH 45 and IH 43. These routes carried approximately 300 passengers in the peak direction during the weekday peak hour based on passenger surveys and counts conducted by Commission staff in late April and early May 1998. If these passengers had used automobiles instead of transit, it is estimated that about 283 additional automobiles³ would have used this freeway segment during the weekday peak hour. As this freeway segment is one of the most heavily traveled in the Milwaukee area freeway system during weekday peak periods, the additional automobile trips would have a significant on the peak hour level of service on this segment of the freeway by further reducing speeds and increasing stop and go driving. The additional automobile trips using this freeway segment would represent almost 19 percent of the design capacity of one additional freeway lane, and would contribute to the potential need for a major improvement to the freeway. The Waukesha County transit system can, therefore, be viewed as helping to reduce the need for additional and costly improvements to the freeway system in the east-west corridor.

ROUTE PERFORMANCE EVALUATION

Route Ridership and Financial Performance

The evaluation of route ridership and financial performance was based on service performance standards 1 and 2 under Objective 2, and service performance standards 2, 3, and 4 under Objective 4. The average daily ridership, service effectiveness and cost effectiveness measures for the 15 routes of the Waukesha County transit system in operation during March 1999 are shown in Tables 43 and 44 and in Figures 7 and 8. The data presented in the tables and figures reflect the performance measures specified under the objectives and standards, and were developed principally from the ridership, service levels, operating costs, and revenues for each route of the system reported by each contract operator in their March 1999 monthly report. The average daily operating and financial data, which served as the basis for the performance measures, are presented in Table B-3 in Appendix B.

³The number of automobiles assumes that the comparable automobile travel is made at the average automobile occupancy in the Milwaukee area for work travel of about 1.06 persons per vehicle.

Table 42

**COMPARISON OF THE ESTIMATED WEEKDAY ENERGY EFFICIENCY OF
PUBLIC TRANSIT SYSTEMS WITHIN SOUTHEASTERN WISCONSIN: 1997**

Characteristic	Transit System Operating Data ^a					
	Waukesha County Transit System	Milwaukee County Transit System	Milwaukee- Racine- Kenosha Commuter Bus Service ^c	City of Racine Transit System	City of Kenosha Transit System	City of Waukesha Transit System
Estimated Energy Efficiency of Travel by Transit						
Unlinked transit passenger trips ^d	1,880 ^b	226,100	220	6,950	5,650	2,590
Transit passenger-miles of travel	25,300 ^b	594,300	4,620	17,400	18,300	8,500
Passenger-miles per transit trip	13.5	2.6	21.0	2.5	3.2	3.3
Total bus-miles	3,470 ^b	60,530	950	4,530	3,430	2,730
Gallons of fuel used	690 ^b	14,020	190	1,060	890	640
Bus-Miles per gallon of fuel	5.0	4.3	5.0	4.1	4.3	4.4
Transit passenger-miles per gallon of fuel	36.7	42.4	24.3	16.4	20.6	13.3
Estimated energy efficiency if transit trips were made by automobile						
Automobile passenger-miles of travel	25,300	594,300	4,620	17,400	18,300	8,500
Vehicle-miles (at 1.0-1.2 passengers per automobile)	21,080-25,300	495,250-594,300	3,850-4,620	14,500-17,400	15,250-18,300	7,080-8,500
Gallons of fuel used	920-1,100	33,920-40,710	230-270	1,040-1,240	1,090-1,310	510-610
Vehicle-miles per gallon of fuel ^e	23.0	14.6	17.0	14.0	14.0	14.0
Automobile passenger-miles per gallon of fuel	23.0-27.5	14.6-17.5	17.0-20.6	14.0-16.7	14.0-16.7	14.0-16.7

^aUnless otherwise noted, transit system data are based upon information reported by each transit operator in its 1997 National Transit Database report submitted to the Federal Transit Administration.

^bThe data from National Transit Database report for the Waukesha County Transit System was adjusted to include estimated weekday ridership, passenger miles, and bus miles for County bus routes for which data was not reported. Figures for fuel consumed are estimates based on vehicle miles of service and average miles per gallon for the various transit operators providing service.

^cAll data are estimates developed from the annual report submitted to the Wisconsin Department of Transportation and other transit operator data.

^dRepresents all boarding passengers including transfer and free passengers.

^eEstimated based on an average auto fuel efficiency of about 21 miles per gallon, with average efficiency of about 14 miles per gallon for central city standard arterial travel and 26 miles per gallon for freeway and expressway travel. For the Waukesha County transit system, it was assumed that about 25 percent of travel would be on standard arterials and 75 percent on freeways. For the Milwaukee County Transit System, it was assumed that about 95 percent of travel would be on standard arterials and 5 percent on freeways. For the Milwaukee-Racine-Kenosha commuter bus service, it was assumed that about 75 percent of travel would be on standard arterials and 25 percent on freeways. For the Racine, Kenosha, and Waukesha transit systems, it was assumed that all travel would be on standard arterials.

Source: SEWRPC

The performance measures presented in the tables and figures provide an indication of the performance of each bus route and the types of service operated on the transit system. The service effectiveness measures included: total passengers; passengers per scheduled bus trip, revenue vehicle mile, and revenue vehicle hour; and the percent of weekday passengers riding on weekends. The cost effectiveness measures included: total operating cost and operating assistance per passenger; total operating cost and operating assistance per passenger mile; and farebox recovery rate. To facilitate identification of poor performing routes, a minimum performance level was identified for each performance measure based on the

systemwide averages for rapid and express service or and local and shuttle service. Poor performing routes were considered to be those which had service effectiveness measures that were more than 20 percent below the service type average, or had cost effectiveness measures that were more than 20 percent above the service type average for operating cost and assistance per passenger and per passenger mile or more than 20 percent below the service type average for farebox recovery rate. Where the performance measures indicates poor performance for a route, it has been listed in red type in Tables 43 and 44. Use of systemwide service type averages as to identify minimum performance

Table 43

**AVERAGE DAILY RIDERSHIP AND SERVICE EFFECTIVENESS MEASURES FOR
THE ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: MARCH 1999**

Type of Service	Bus Route ^b	Service Effectiveness Measure ^a													
		Total Boarding Passengers			Passengers per Scheduled Bus Trip			Passengers per Revenue Vehicle-Mile			Passengers per Revenue Vehicle-Hour			Percent of Weekday Passengers Riding on Weekends	
		Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Saturdays	Sundays
Rapid/Express	WCL Nos. 1,2	597	97	64	13.9	8.1	8.0	0.53	0.35	0.35	11.5	8.1	8.0	16.2	10.7
	WCL Nos. 3	58	--	--	14.5	--	--	0.54	--	--	11.6	--	--	--	--
	WCL Nos. 4	208	--	--	26.0	--	--	0.88	--	--	19.3	--	--	--	--
	WCL Nos. 5	50	--	--	25.0	--	--	0.68	--	--	16.7	--	--	--	--
	WCL Nos. 6	89	--	--	22.3	--	--	0.67	--	--	22.3	--	--	--	--
	MCTS No. 6	50	50	48	12.5	12.5	12.0	0.77	0.77	0.74	12.8	13.2	12.6	100.0	96.0
	MCTS No. 8	153	153	151	38.3	38.3	37.8	1.37	1.37	1.35	29.4	30.0	29.6	100.0	98.7
	MCTS No. 79	169	--	--	21.1	--	--	0.68	--	--	16.9	--	--	--	--
	Systemwide Average for Service Type	172	100	88	17.8	15.0	16.4	0.65	0.66	0.73	14.6	14.4	15.6	21.8	19.1
	Minimum Acceptable Performance Level ^c	137	80	70	14.3	12.0	13.2	0.52	0.53	0.58	11.7	11.5	12.4	17.5	15.3
Local/Local Shuttle	WCL No. 7	34	--	--	3.4	--	--	0.31	--	--	3.4	--	--	--	--
	WCL No. 8	31	--	--	3.1	--	--	0.17	--	--	3.1	--	--	--	--
	MCTS No. 9	140	--	--	6.4	--	--	1.11	--	--	16.1	--	--	--	--
	MCTS No. 10	543	172	--	12.3	5.4	--	2.37	1.95	--	31.6	18.9	--	31.7	--
	MCTS No. 106	46	--	--	7.7	--	--	0.86	--	--	16.4	--	--	--	--
	WMT No. 1	332	290	--	4.2	5.6	--	1.10	1.53	--	16.6	20.9	--	87.3	--
	Systemwide Average for Service Type	188	231	--	6.5	5.5	--	1.12	1.66	--	16.4	20.1	--	41.0	--
	Minimum Acceptable Performance Level ^c	150	185	--	5.2	4.4	--	0.90	1.33	--	13.1	16.1	--	32.8	--
All	Systemwide Average for All Routes	179	152	88	10.0	7.3	16.4	0.81	1.04	0.73	15.4	17.4	15.6	30.5	10.5

^a Unless otherwise noted, all data are based on the March 1999 operating reports submitted by each operator to Waukesha County. The data used to calculate each performance measure is presented in Table B-3 in Appendix B.

^b The following abbreviations have been used to identify the operator of each bus route; WCL for Wisconsin Coach Lines, Inc.; MCTS for the Milwaukee County Transit System; and WMT for the City of Waukesha Metro Transit System.

^c The minimum levels shown are 20 percent above the overall average for all routes in the service category. Values which indicate poor performance levels, in accordance with service performance standard 2 of Objective 2, are listed in red type.

Source: Waukesha County Department of Public Works and SEWRPC.

Table 44

**AVERAGE DAILY COST EFFECTIVENESS MEASURES FOR THE ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: MARCH 1999**

1	Bus Route ^b	Cost Effectiveness Measure ^a														
		Operating Cost per Passenger			Operating Assistance per Passenger			Operating Cost per Passenger Mile			Operating Assistance per Passenger Mile			Farebox Recovery Rate (percent)		
		Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays
Rapid/Express	WCL Nos. 1, 2	\$ 8.86	\$ 12.58	\$ 12.72	\$ 7.04	\$ 10.76	\$ 10.90	\$ 0.49	\$ 0.60	\$ 0.61	\$ 0.39	\$ 0.51	\$ 0.52	20.6	14.5	14.3
	WCL No. 3	13.34	--	--	11.81	--	--	0.74	--	--	0.66	--	--	11.5	--	--
	WCL No. 4	7.67	--	--	5.78	--	--	0.35	--	--	0.26	--	--	24.7	--	--
	WCL No. 5	9.44	--	--	7.52	--	--	0.43	--	--	0.34	--	--	20.3	--	--
	WCL No. 6	9.63	--	--	7.18	--	--	0.33	--	--	0.25	--	--	25.4	--	--
	MCTS No. 6	5.26	5.12	5.33	2.14	2.00	2.08	0.42	0.41	0.43	0.17	0.16	0.17	59.3	60.9	60.9
	MCTS No. 8	2.16	2.12	2.15	0.25	0.21	0.21	0.09	0.08	0.09	0.01	0.01	0.01	88.5	90.1	90.1
	MCTS No. 79	2.75	--	--	0.89	--	--	0.16	--	--	0.05	--	--	67.5	--	--
	Systemwide Average for Service Type	\$ 7.31	\$ 6.00	\$ 5.30	\$ 5.39	\$ 3.92	\$ 3.15	\$ 0.37	\$ 0.28	\$ 0.24	\$ 0.27	\$ 0.18	\$ 0.15	26.3	34.7	40.5
	Minimum Acceptable Performance Level ^c	\$ 8.77	\$ 7.20	\$ 6.36	\$ 6.46	\$ 4.70	\$ 3.78	\$ 0.44	\$ 0.33	\$ 0.29	\$ 0.32	\$ 0.22	\$ 0.17	21.1	27.8	32.4
Local/Local Shuffle	WCL No. 7	\$ 14.03	--	--	\$ 13.53	--	--	\$ 2.54	--	--	\$ 2.45	--	--	3.6	--	--
	WCL No. 8	15.39	--	--	14.87	--	--	3.06	--	--	2.96	--	--	3.4	--	--
	MCTS No. 9	4.97	--	--	3.92	--	--	0.99	--	--	0.78	--	--	21.1	--	--
	MCTS No. 10	2.08	\$ 3.62	--	1.13	\$ 2.67	--	0.75	\$ 1.31	--	0.41	\$ 0.97	--	45.7	26.2	--
	MCTS No. 106	5.07	--	--	4.00	--	--	0.64	--	--	0.50	--	--	21.0	--	--
	WMT No. 1	2.53	2.01	--	1.93	1.59	--	0.96	0.76	--	0.73	0.60	--	23.7	29.8	--
	Systemwide Average for Service Type	\$ 3.42	\$ 2.61	--	\$ 2.58	\$ 1.99	--	\$ 1.02	\$ 0.97	--	\$ 0.77	\$ 0.74	--	24.5	27.9	--
	Minimum Acceptable Performance Level ^c	\$ 4.10	\$ 3.14	--	\$ 3.10	\$ 2.39	--	\$ 1.22	\$ 1.16	--	\$ 0.92	\$ 0.89	--	19.6	22.3	--
	All	\$ 5.56	\$ 3.95	\$ 5.30	\$ 4.12	\$ 2.75	\$ 3.15	\$ 0.45	\$ 0.39	\$ 0.24	\$ 0.33	\$ 0.27	\$ 0.15	25.8	32.0	40.5
	Systemwide Average	\$ 5.56	\$ 3.95	\$ 5.30	\$ 4.12	\$ 2.75	\$ 3.15	\$ 0.45	\$ 0.39	\$ 0.24	\$ 0.33	\$ 0.27	\$ 0.15	25.8	32.0	40.5

^a Unless otherwise noted, all data are based on the March 1999 operating reports submitted by each operator to Waukesha County. The data used to calculate each performance measure is presented in Table B-3 in Appendix B.

^b The following abbreviations have been used to identify the operator of each bus route; WCL for Wisconsin Coach Lines, Inc.; MCTS for the Milwaukee County Transit System; and WMT for the City of Waukesha Metro Transit System.

^c For the purpose of this analysis, the operating costs for all WCL routes have been adjusted down from the total monthly invoice by removing the Federal share, or 80 percent, of the portion of total costs representing capital depreciation on equipment and facilities. The company estimates that such Federal capital assistance represents approximately 10 percent of the total WCL operating costs for Waukesha County bus services. The adjusted WCL operating costs include only the local share, or 20 percent, of capital depreciation costs. The costs for MCTS and WMT bus services also include only the local share of capital depreciation costs.

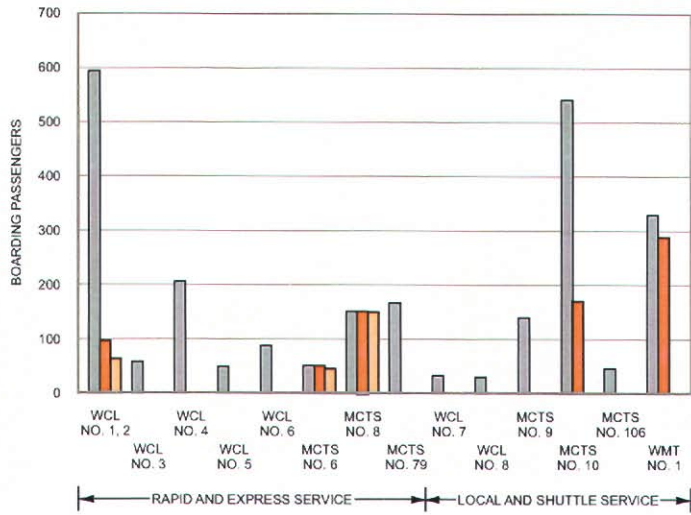
^d For operating cost and assistance per passenger and per passenger mile, the minimum levels shown are 20 percent above the overall average for all routes in the service category. For the farebox recovery rate, the minimum level shown is 20 percent below the overall service category average. Values which indicate poor performance levels, in accordance with service performance standard 3 of Objective 4, are listed in red type.

Source: Waukesha County Department of Public Works and SEWRPC.

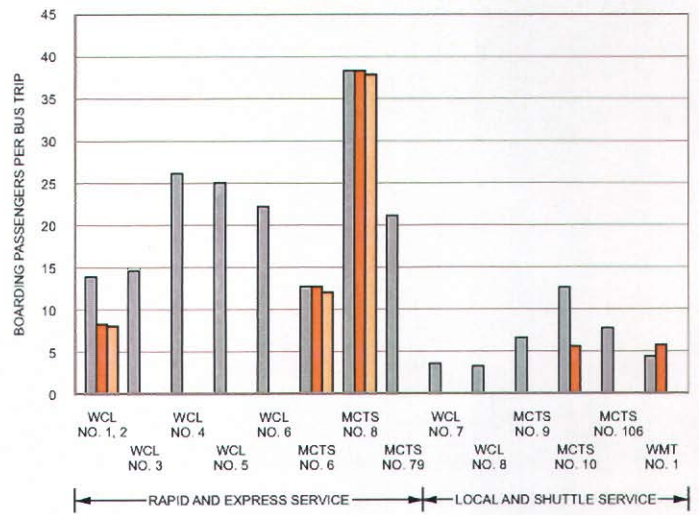
Figure 7

AVERAGE DAILY RIDERSHIP AND SERVICE EFFECTIVENESS MEASURES FOR THE ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: MARCH 1999

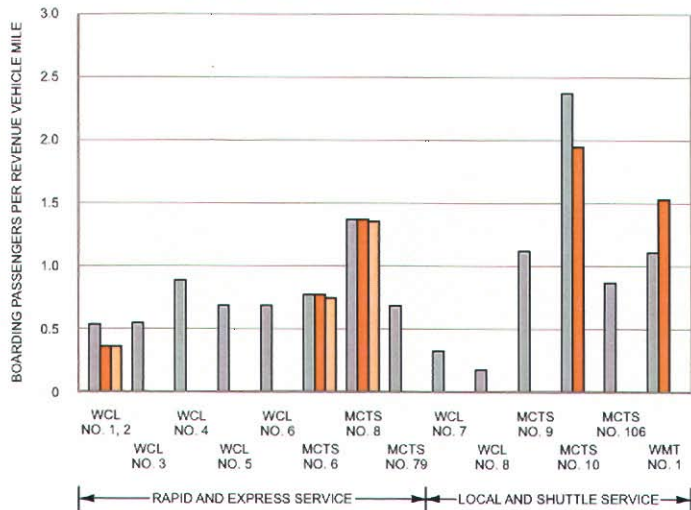
TOTAL PASSENGERS



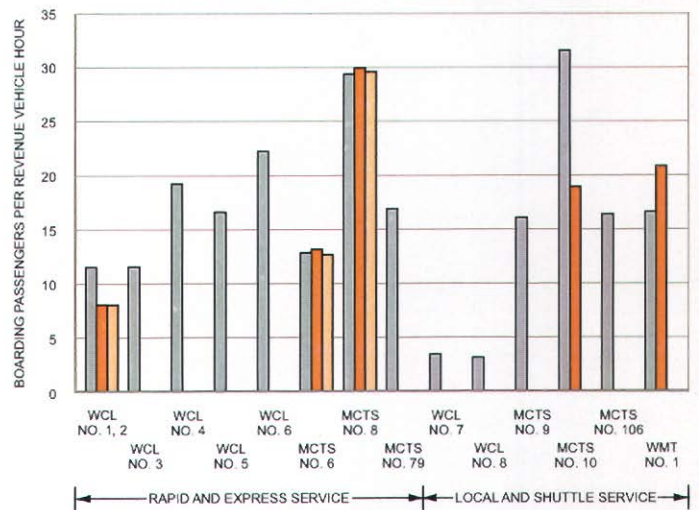
TOTAL PASSENGERS PER BUS TRIP



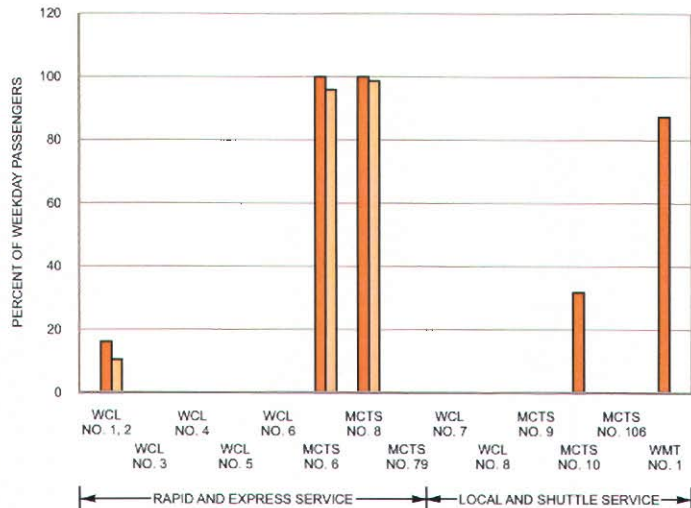
TOTAL PASSENGERS PER VEHICLE MILE



TOTAL PASSENGERS PER VEHICLE HOUR



PERCENT OF WEEKDAY PASSENGERS RIDING ON WEEKENDS



WEEKDAYS
SATURDAYS
SUNDAYS

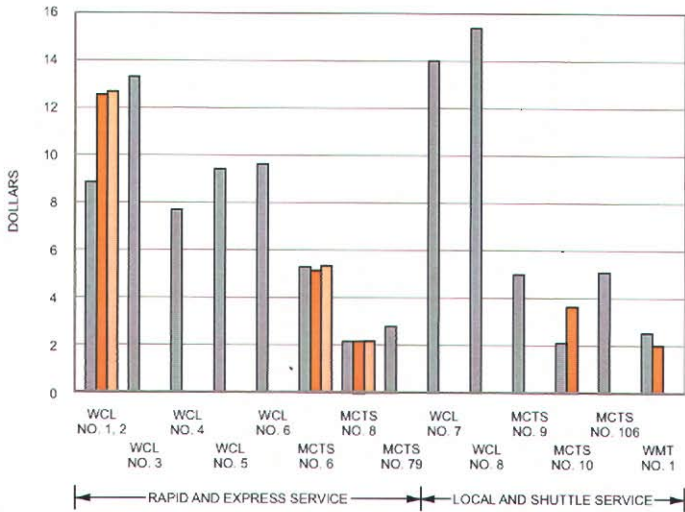
NOTE: NO SERVICE ON SATURDAYS OR SUNDAYS IS OPERATED OVER WCL ROUTE NOS. 3 THROUGH 8 OR MCTS ROUTE NOS. 9, 79, AND 106. NO SUNDAY SERVICE IS OPERATED OVER MCTS ROUTE NO. 10 AND WMT ROUTE NO. 1. INFORMATION FOR THESE ROUTES IS PRESENTED ONLY FOR THEIR WEEKDAY OPERATION CHARACTERISTICS.

Source: Waukesha County Department of Public Works and SEWRPC.

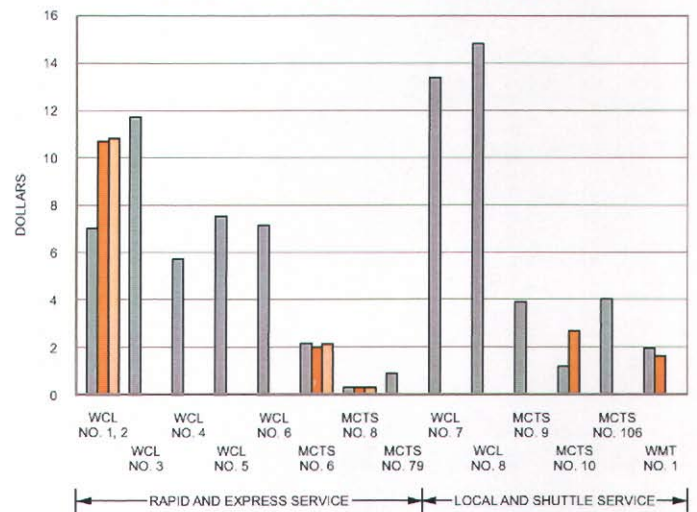
Figure 8

AVERAGE DAILY COST EFFECTIVENESS MEASURES FOR THE ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: MARCH 1999

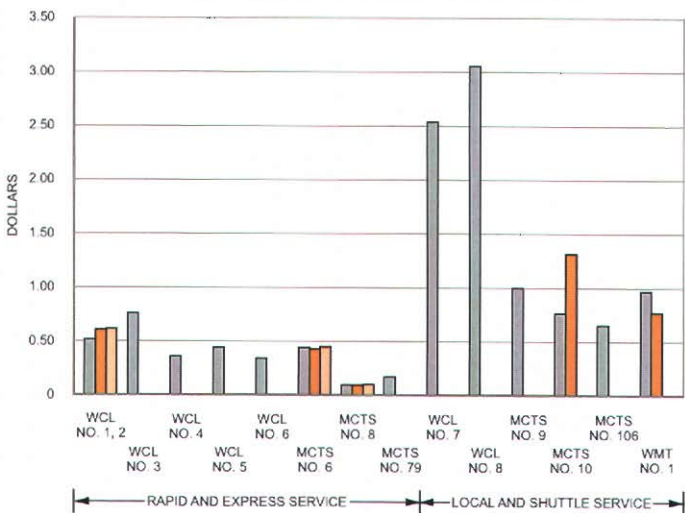
OPERATING COST PER PASSENGER



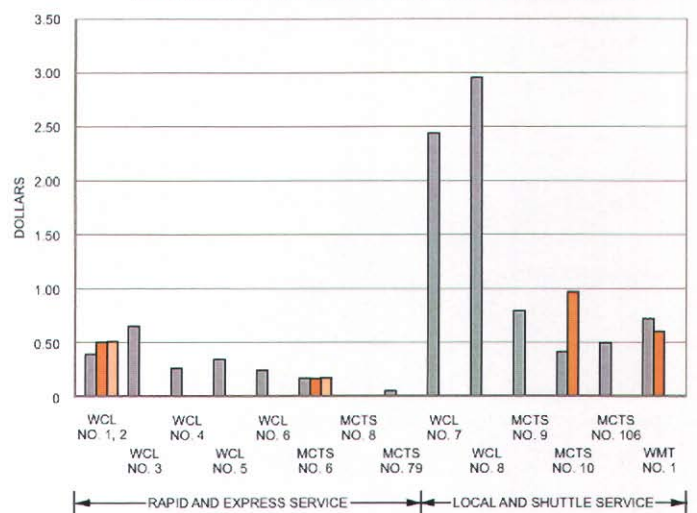
OPERATING ASSISTANCE PER PASSENGER



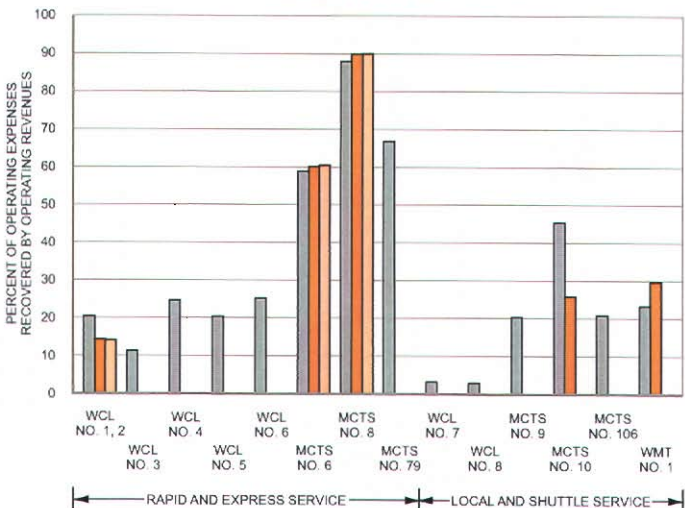
OPERATING COST PER PASSENGER MILE



OPERATING ASSISTANCE PER PASSENGER MILE



FAREBOX RECOVERY RATE



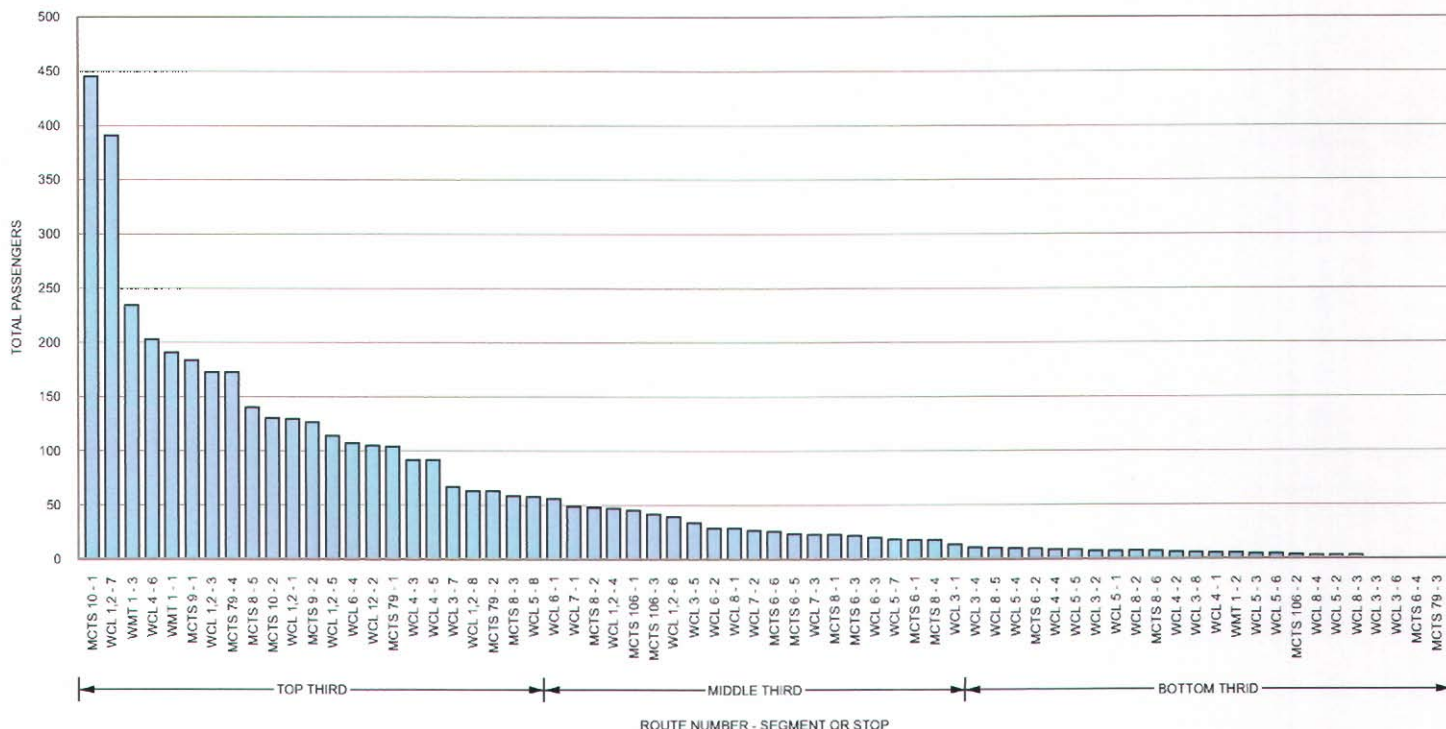
WEEKDAYS
 SATURDAYS
 SUNDAYS

NOTE: NO SERVICE ON SATURDAYS OR SUNDAYS IS OPERATED OVER WCL ROUTE NOS. 3 THROUGH 8 OR MCTS ROUTE NOS. 9, 79, AND 106. NO SUNDAY SERVICE IS OPERATED OVER MCTS ROUTE NO. 10 AND WMT ROUTE NO. 1. INFORMATION FOR THESE ROUTES IS PRESENTED ONLY FOR THEIR WEEKDAY OPERATION CHARACTERISTICS.

Source: Waukesha County Department of Public Works and SEWRPC.

Figure 9

TOTAL PASSENGER ACTIVITY BY ROUTE SEGMENT AND STOP ON THE ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: 1999



NOTE: DATA PRESENTED FOR MILWAUKEE COUNTY TRANSIT SYSTEM ROUTE NO. 10 INCLUDE DATA FOR AN ADDITIONAL ROUTE, MILWAUKEE COUNTY TRANSIT SYSTEM ROUTE NO. 3, WHICH CLOSELY PARALLELED THE ALIGNMENT OF THIS ROUTE. ROUTE NO. 3 WAS OPERATED ONLY DURING THE RESURFACING OF IH 94 IN WAUKESHA AND MILWAUKEE COUNTIES FROM APRIL 1997 THROUGH AUGUST 1998.

Source: SEWRPC.

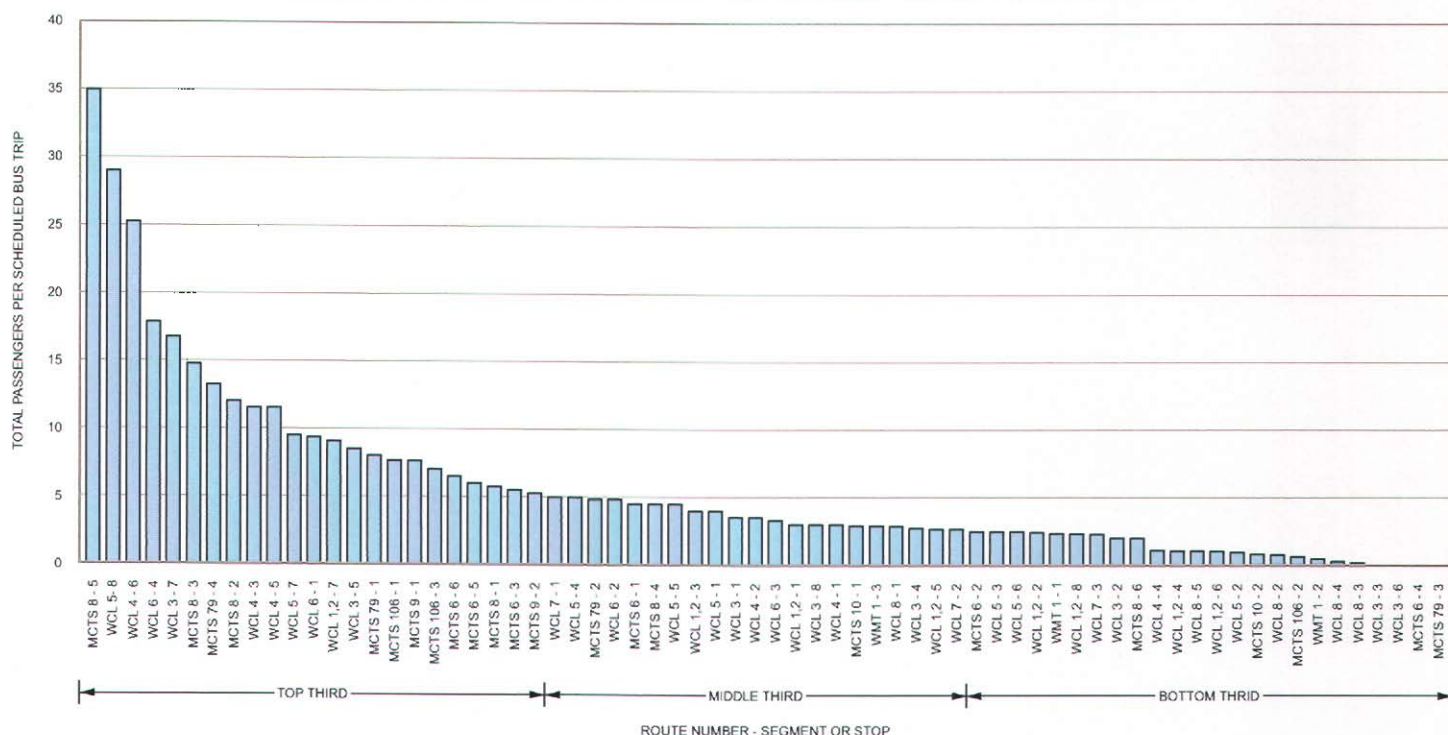
mum performance levels directs the transit system toward improving the performance of routes that are significantly below average so that, over time, the overall performance of the entire transit system will improve. In addition, performance standard 1 under Objective 2 specifies service effectiveness levels by service type for passengers per revenue vehicle-mile and revenue vehicle-hour which represent goals to be achieved at the systemwide level. Performance standard 4 under Objective 4 specifies absolute maximum cost effectiveness levels by service type for total operating cost and operating assistance per passenger which are thresholds above which consideration should be given to discontinuing service over a route.

The boarding and alighting passenger activity along each bus route of the Waukesha County transit system was also examined to help identify productive and nonproductive route segments and stops. Information concerning the number of boarding and alighting passengers on weekdays by location for each bus route was obtained from passenger counts and surveys conducted on all routes of the system, with the exception of 108

Waukesha Metro Transit System Route No. 1, during the last week of April and first week of May 1998 by Commission or Wisconsin Coach Lines, Inc., staff. Ridership data for Waukesha Metro Transit System Route No. 1 was based on weekday passenger counts conducted during the last week of October 1998 by transit system staff. In total, approximately 4,230 boarding and alighting passengers were observed on the transit system with these passenger counts. This ridership was then assigned to a total of 68 major route segments or stops identified on the transit system. A rank ordering of the route segments and stops by total passenger activity, including both boarding and alighting passengers, is displayed graphically in Figure 9. Because total ridership levels on each route can be expected to be affected by the amount of service provided over each route, and because service levels vary greatly among the routes of the transit system, the total passenger activity per scheduled bus trip was also examined for each route segment and stop. A rank ordering of the route segments and stops by total passenger activity per bus trip is displayed graphically in Figure 10. The route segments and stops which ranked

Figure 10

TOTAL PASSENGER ACTIVITY PER SCHEDULED BUS TRIP BY ROUTE SEGMENT AND STOP ON THE ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: 1999



NOTE: DATA PRESENTED FOR MILWAUKEE COUNTY TRANSIT SYSTEM ROUTE NO. 10 INCLUDE DATA FOR AN ADDITIONAL ROUTE, MILWAUKEE COUNTY TRANSIT SYSTEM ROUTE NO. 3, WHICH CLOSELY PARALLELED THE ALIGNMENT OF THIS ROUTE. ROUTE NO. 3 WAS OPERATED ONLY DURING THE RESURFACING OF IH 94 IN WAUKESHA AND MILWAUKEE COUNTIES FROM APRIL 1997 THROUGH AUGUST 1998.

Source: SEWRPC.

in the top one-third in terms of both total passenger activity and total passenger activity per bus trip were considered as the most productive segments in the transit system, and the route segments which ranked in the bottom one-third in terms of both measures were considered as the least productive segments in the transit system. The most productive and the least productive route segments and stops that were identified in this manner are shown by route on Map 25. The 13 most productive route segments or stops accounted for about 1,790 boarding and alighting passengers, or about 42 percent of the total observed passenger activity, and averaged about 15 boarding and alighting passengers per bus trip. The 17 least productive route segments or stops accounted for only about 80 boarding and alighting passengers, or about 1 percent of the total observed passenger activity, and had an average of about one boarding and alighting passenger per bus trip.

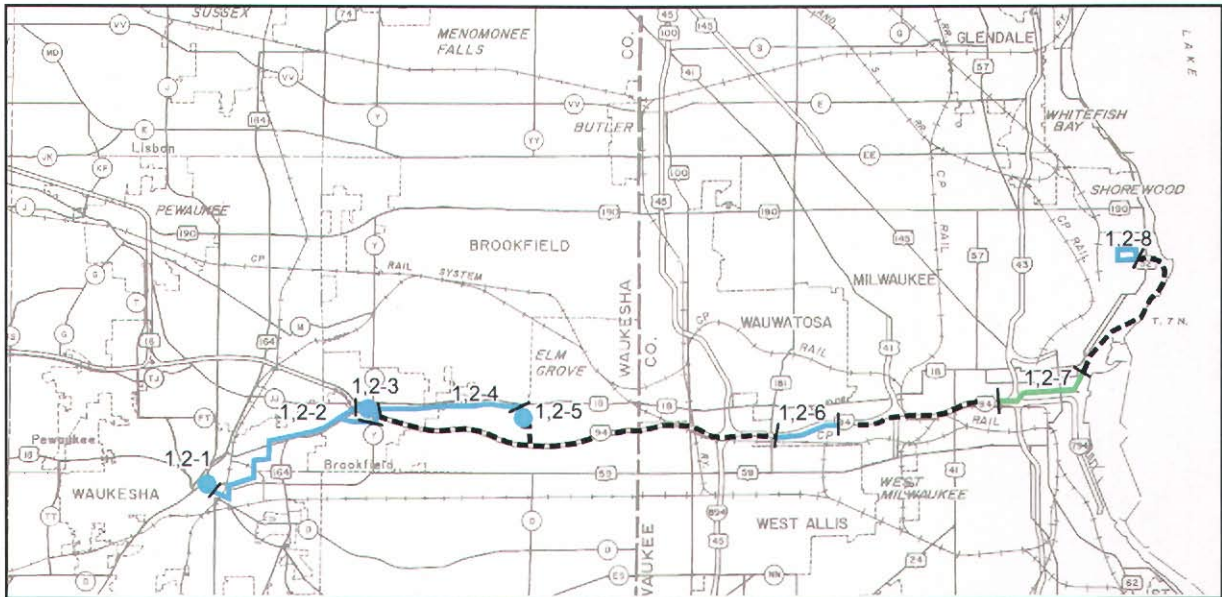
Based on the above information, the following conclusions were reached:

1. Six of the 15 bus routes examined have weekday performance levels which, for the most part, are consistently above the minimum performance levels for service-based performance measures or below the minimum performance levels for cost-based performance measures for the service type for service-based performance measures. These routes include: Wisconsin Coach Lines, Inc., Route No. 4; Milwaukee County Transit System Route Nos. 6, 8, 10, and 79; and Waukesha Metro Transit System Route No. 1. Of these, Milwaukee County Transit System Route Nos. 8, 10, and 79 are clearly the best performers, showing weekday performance levels which are better than the average for the service type for all performance measures specified under the objectives and standards. The remaining three routes have acceptable weekday effectiveness levels which are better than the service type average for most measures and at least meet the specified minimum levels for all others. Based solely upon

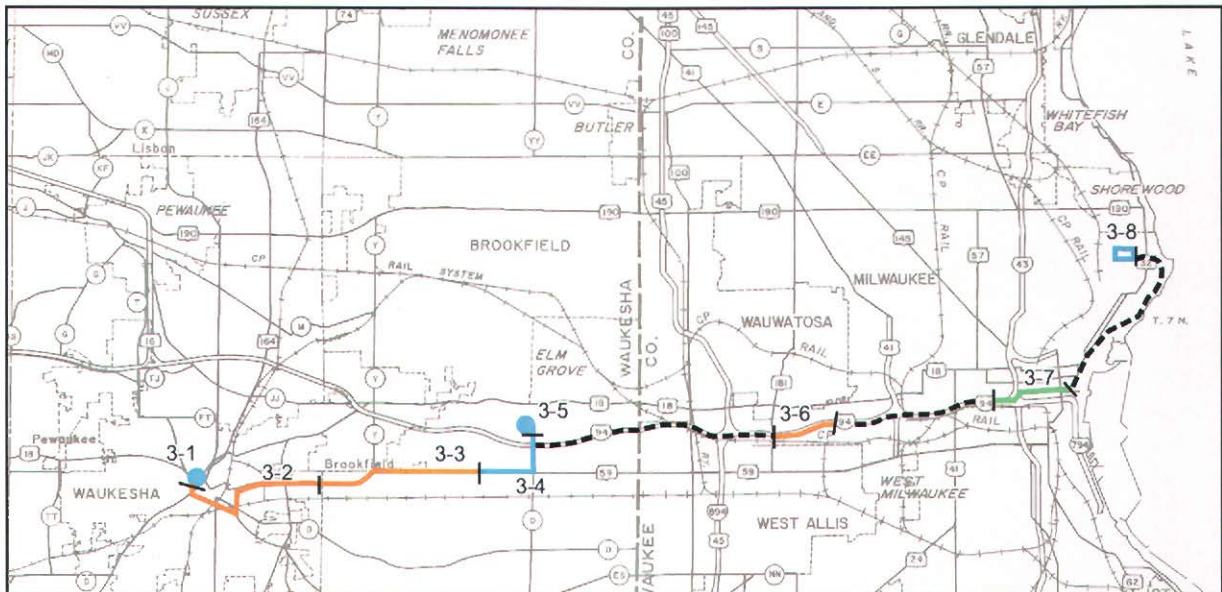
MAP 25

PRODUCTIVE AND UNPRODUCTIVE ROUTE SEGMENTS OF THE WAUKESHA COUNTY TRANSIT SYSTEM: 1998

WISCONSIN COACH LINES, INC. (WCL) ROUTE NOS. 1 AND 2



WISCONSIN COACH LINES, INC. (WCL) ROUTE NO. 3



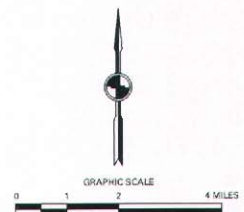
ROUTE SEGMENTS AND STOPS

- MOST PRODUCTIVE SEGMENTS/ STOPS
- LEAST PRODUCTIVE SEGMENTS/ STOPS
- OTHER SEGMENTS/ STOPS
- - - NONSTOP SEGMENTS

3-6 ROUTE NUMBER - SEGMENT/STOP NUMBER

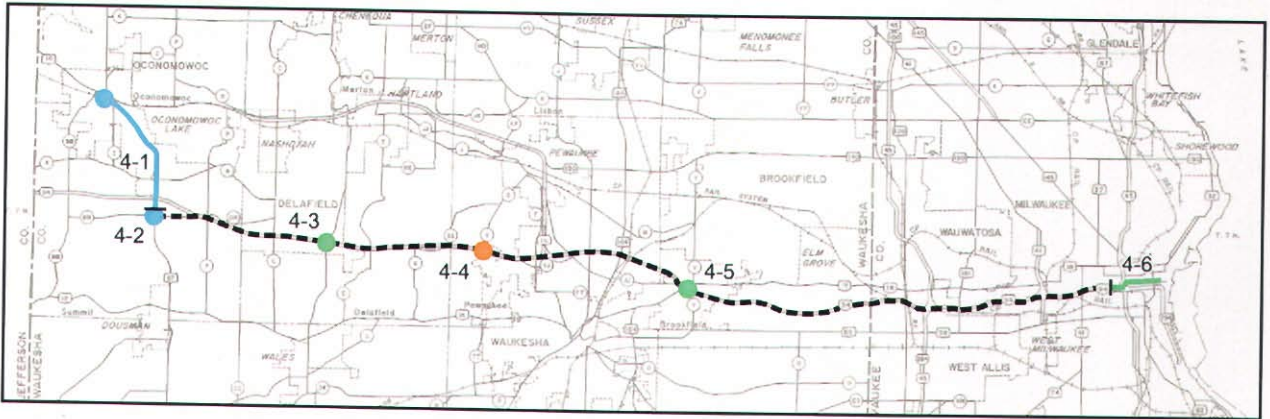
DEMAND RESPONSE LOCAL TRANSIT SERVICE AREAS

- (NONE) MOST PRODUCTIVE
- ▨ LEAST PRODUCTIVE
- ▨ OTHER

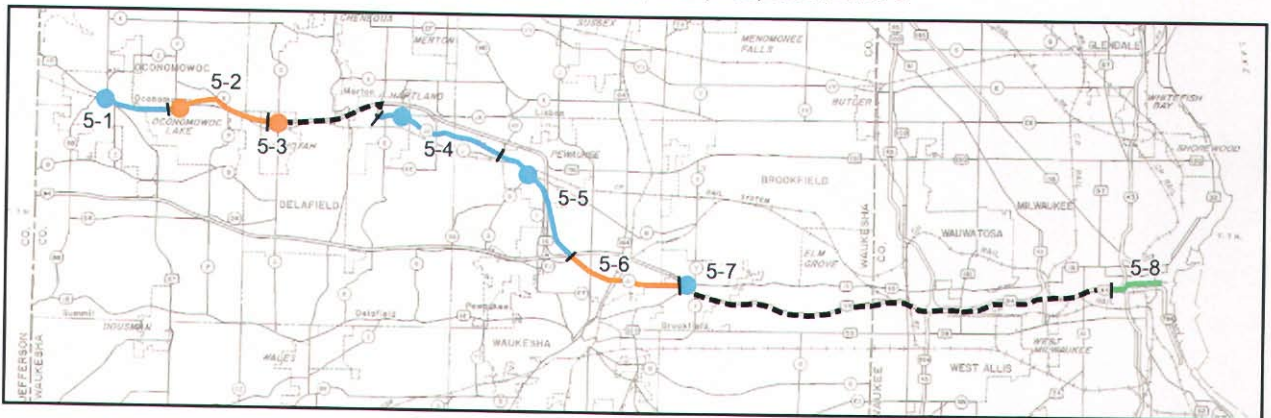


MAP 25 (continued)

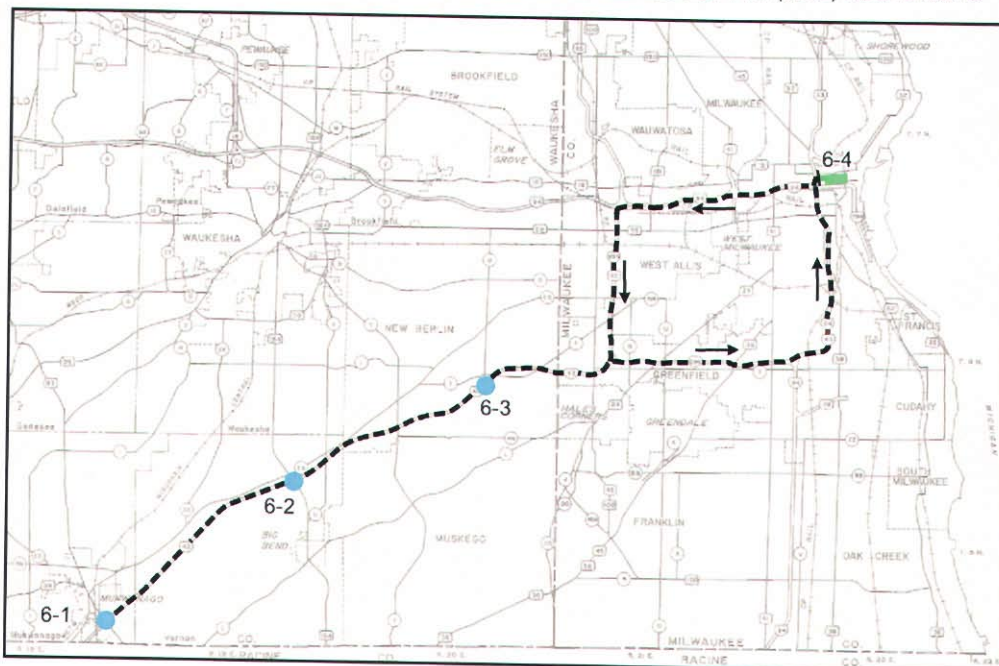
WISCONSIN COACH LINES, INC. (WCL) ROUTE NO. 4



WISCONSIN COACH LINES, INC. (WCL) ROUTE NO. 5



WISCONSIN COACH LINES, INC. (WCL) ROUTE NO. 6



ROUTE SEGMENTS AND STOPS

—●— MOST PRODUCTIVE SEGMENTS/ STOPS

—●— LEAST PRODUCTIVE SEGMENTS/ STOPS

—●— OTHER SEGMENTS/ STOPS

--- NONSTOP SEGMENTS

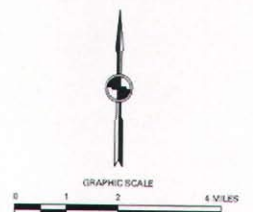
3-6 ROUTE NUMBER - SEGMENT/STOP NUMBER

DEMAND RESPONSE LOCAL TRANSIT SERVICE AREAS

(NONE) MOST PRODUCTIVE

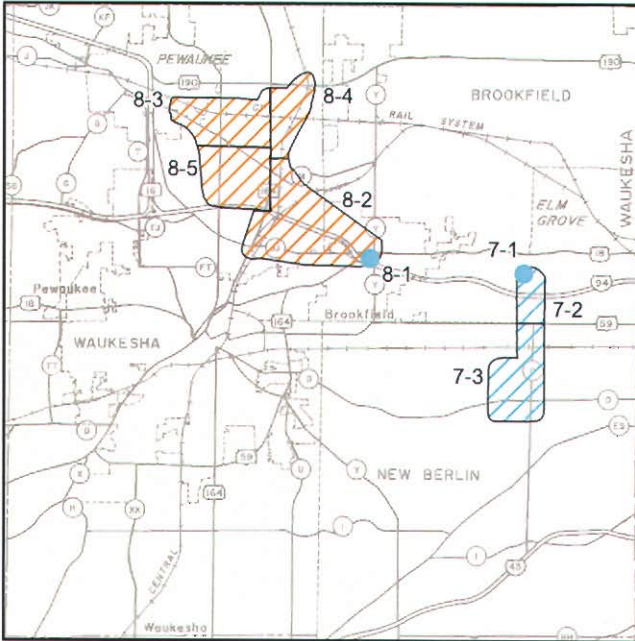
LEAST PRODUCTIVE

OTHER

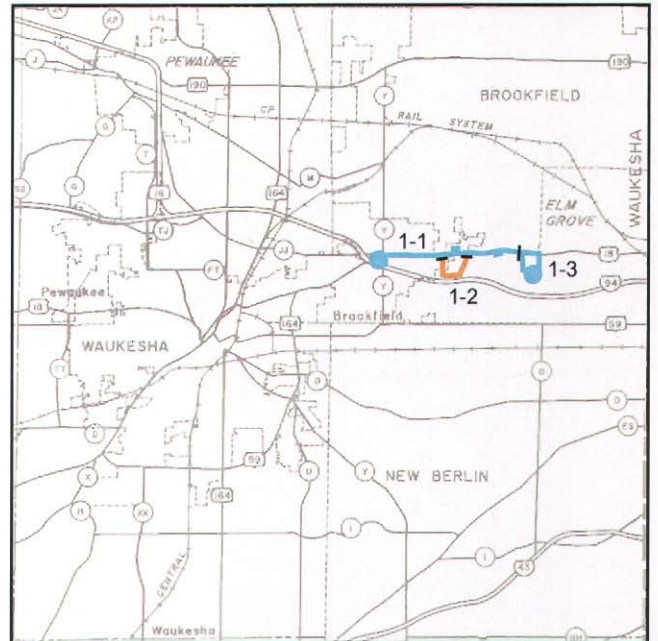


MAP 25 (continued)

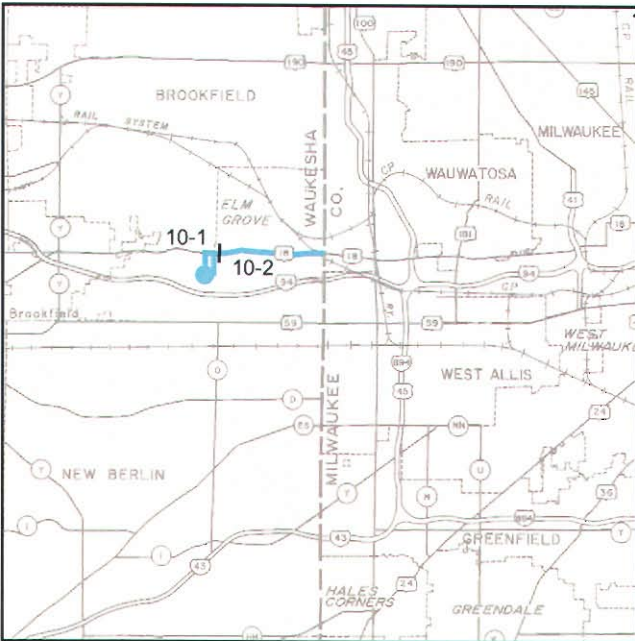
WISCONSIN COACH LINES, INC. (WCL) ROUTE NOS. 7 AND 8



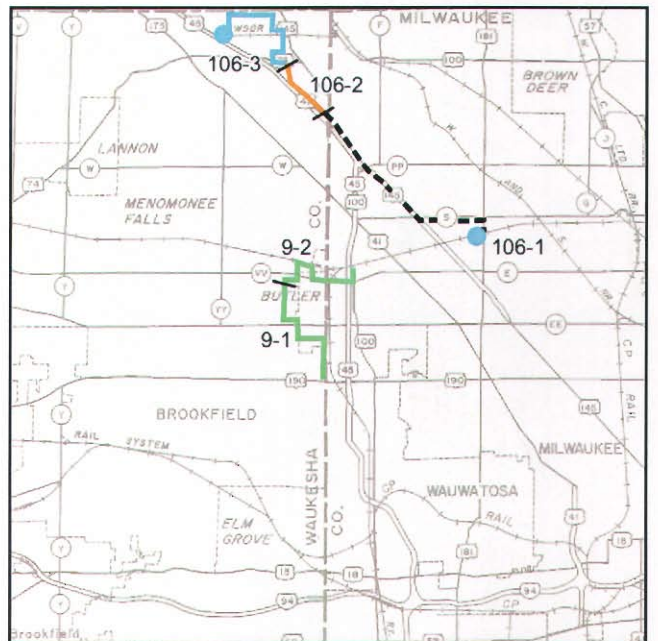
WAUKESHA METRO TRANSIT SYSTEM (WMT) ROUTE NO. 1



MILWAUKEE COUNTY TRANSIT ROUTE (MCTS) ROUTE NO. 10



MILWAUKEE COUNTY TRANSIT ROUTE (MCTS) ROUTE NOS. 9 AND 106

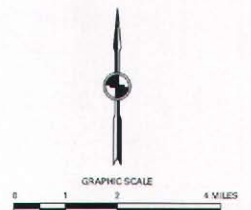


ROUTE SEGMENTS AND STOPS

- MOST PRODUCTIVE SEGMENTS/ STOPS
- LEAST PRODUCTIVE SEGMENTS/ STOPS
- OTHER SEGMENTS/ STOPS
- NONSTOP SEGMENTS
- 3-6 ROUTE NUMBER - SEGMENT/STOP NUMBER

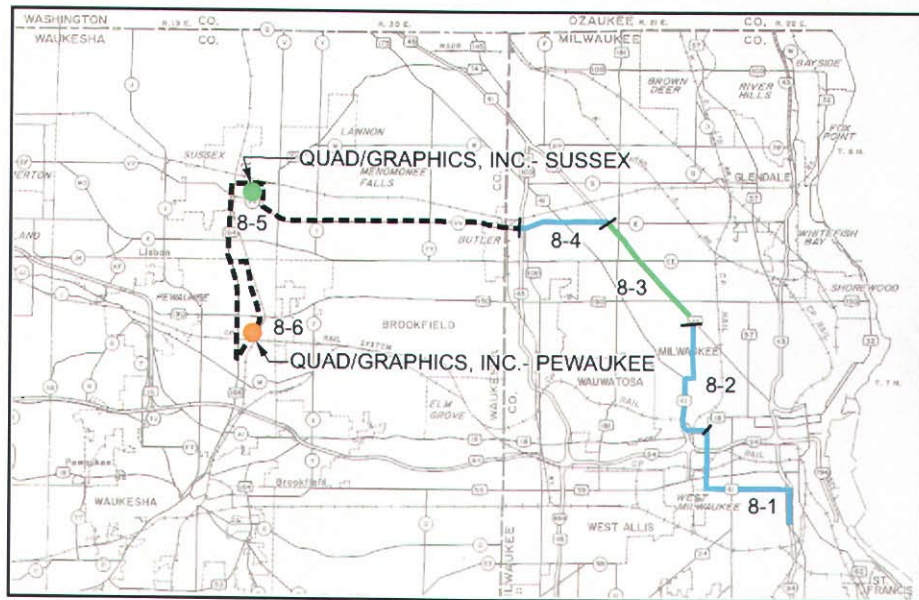
DEMAND RESPONSE LOCAL TRANSIT SERVICE AREAS

- (NONE) MOST PRODUCTIVE
- LEAST PRODUCTIVE
- OTHER

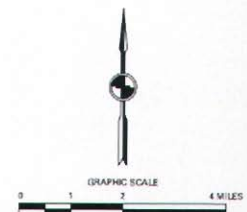
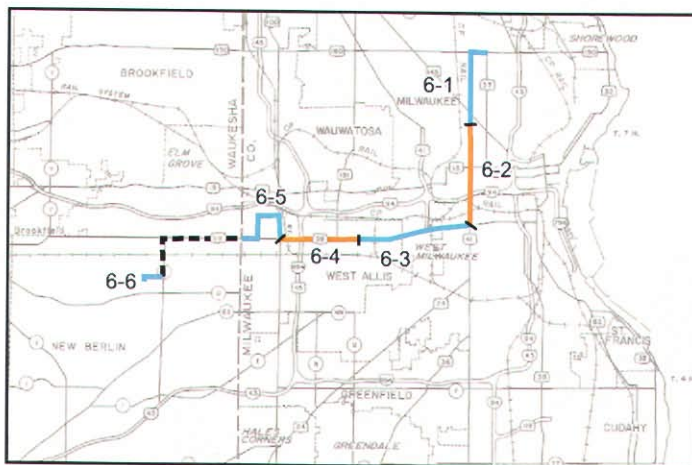


MAP 25 (continued)

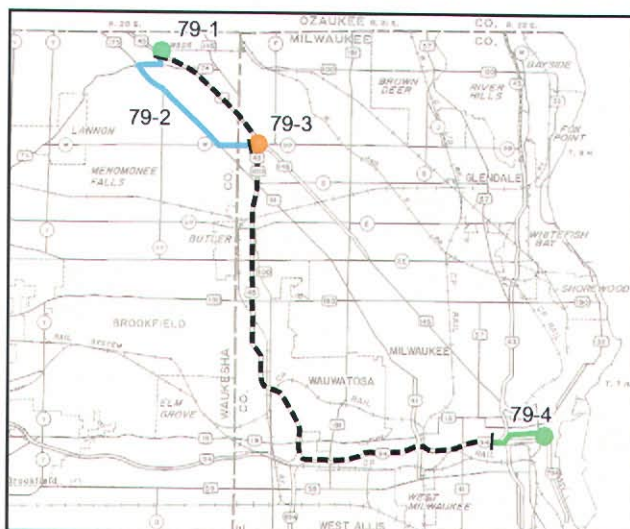
MILWAUKEE COUNTY TRANSIT SYSTEM (MCTS) ROUTE NO. 8



MILWAUKEE COUNTY TRANSIT SYSTEM (MCTS) ROUTE NO. 6



MILWAUKEE COUNTY TRANSIT SYSTEM (MCTS) ROUTE NO. 79



- ROUTE SEGMENTS AND STOPS**
- MOST PRODUCTIVE SEGMENTS/ STOPS
 - LEAST PRODUCTIVE SEGMENTS/ STOPS
 - OTHER SEGMENTS/ STOPS
 - NONSTOP SEGMENTS
 - 3-6 ROUTE NUMBER - SEGMENT/STOP NUMBER
- DEMAND RESPONSE LOCAL TRANSIT SERVICE AREAS**
- (NONE) MOST PRODUCTIVE
 - LEAST PRODUCTIVE
 - OTHER

Source: SEWRPC.

- ridership and financial performance, these routes could continue to be operated without change.
2. Four of the routes examined had mixed performance levels that generally meet the specified minimum levels for service effectiveness measures including passengers per bus trip, per vehicle mile, and per vehicle hour but do not meet minimum levels for cost effectiveness measures including operating cost and assistance per passenger. These routes include Wisconsin Coach Lines, Inc., Route Nos. 5 and 6, and Milwaukee County Transit System Route Nos. 9, and 106. The cost effectiveness of Wisconsin Coach Lines, Inc., Route No. 5 was affected by the reduced fares of \$1.00 per trip charged on the route west of the City of Waukesha up until mid April 1999. The return to the standard, higher fares on the route should improve its performance. Route No. 6 is one of the longest routes in the system, serving the southwest portion of the County where significant deadhead time and miles are incurred in route operation. The ratio of deadhead miles and hours to revenue miles and hours for the route is between 2.00 and 2.25. The financial performance of the route reflect the high costs associated with the significant deadheading of vehicles for route operation. Milwaukee County Transit System Route Nos. 9 and 106 serve employment centers in low density areas where generating high ridership has traditionally been difficult to achieve. Ridership on these routes is still expanding and performance levels should be monitored before significant service changes are considered.
 3. The other five routes examined show weekday performance levels which, for the most part, consistently do not meet the specified minimum levels for the performance measures. These routes include Wisconsin Coach Lines, Inc., Route Nos. 1, 2, 3, 7, and 8. While service effectiveness measures for Route Nos. 1, 2, and 3 are close to specified levels, the operating cost and operating assistance per passenger for these routes are well above the specified levels. Route Nos. 7 and 8 are clearly the worst performers, showing weekday performance levels for service-based measures that were well below 80 percent of the average for all local and shuttle routes, and for cost-based measures that were well above 120 percent of the local and shuttle route average. Potential changes to these four routes to improve performance should be considered.
 4. At least one unproductive route segment was found on nine of the 15 routes examined including Wisconsin Coach Lines, Inc., Route Nos. 3, 4, 5, and 8; Milwaukee County Transit System Route Nos. 6, 8, 79; and 106; and Waukesha Metro Transit System Route No. 1. This information as displayed on Map 24, along with the source data in Figures 8 and 9 used to identify the unproductive route segments, should be reviewed to determine if and where routing changes should be considered. It should be noted, however, that some of the route segments with the lowest ridership occur where bus routes pass through areas with little residential development or few employment centers as they travel to or from residential areas or employment centers within Waukesha County which do generate significant ridership. Consequently, if the transit system is to continue to provide good areal coverage of Waukesha County, some bus routes must be expected to perform at relatively lower levels of efficiency than other routes because of the specific and constrained operating and service area characteristics of each route.
 5. In general, the limited number of routes which operate on weekends have similar performance characteristics to their weekday operations. Milwaukee County Transit System Route Nos. 6 and 8, and Waukesha Metro Transit System Route No. 1 all have acceptable weekend performance levels. The somewhat poorer Saturday performance of Milwaukee County Transit System Route No. 10 in comparison to systemwide averages may be attributed to the reduced number of local and shuttle service routes on operated on Saturdays and the effect which this has on the Saturday systemwide average. The Saturday performance levels for the Route No. 10 still exceed minimum levels for weekdays. Wisconsin Coach Lines, Inc., Route No. 1 remains a poor performer on weekends, with performance levels substantially below those for weekdays. A review of the weekend operation of the route should be made to determine if weekend service is warranted and, if so, how performance levels can be improved.
 6. The observed systemwide average effectiveness levels for rapid and express service meet or exceed the specified levels of 0.5 passengers per revenue vehicle mile and about 15 passengers per revenue vehicle hour specified under the objectives and standards. The observed systemwide average effectiveness levels for local and shuttle service exceed the desired level of about 15 passengers per revenue vehicle hour specified

under the objectives and standards but are slightly below the specified level of 1.2 passengers per revenue vehicle mile. Improvements to the poor performing routes identified above, including Wisconsin Coach Lines, Inc., Route Nos. 7 and 8, would raise the systemwide average to the desired goal.

Compliance with Passenger Loading Standards

Design/Operating standard 6 of Objective No. 2 calls for providing service with adequate capacity maximum to maintain load factors which do not exceed 1.00 at all times for rapid and express service, and which do not exceed 1.25 during peak periods and 1.00 at all other times for local bus and shuttle. The maximum load factor is defined as the ratio of passengers to bus seats as measured at the point on the route where passenger loads are highest. The maximum load factor provides a measure of the quality of bus service by indicating the number of passengers who must stand on a given route.

The performance of Waukesha County bus routes against this standard was determined from the weekday boarding and alighting passenger count data collected during the last week of April and first week of May 1998 for the Wisconsin Coach Lines, Inc., and Milwaukee County Transit System routes and during the last week of October 1998 for Waukesha Metro Transit System Route No. 1. Information on the total weekday boarding passengers by bus run by direction of travel for each bus route was used to identify individual bus trips with total passenger boardings in excess of the seated capacity of the buses used. The pattern of boarding and alighting passengers on these individual bus runs was then reviewed to determine the highest passenger loads for the particular bus trip from which the maximum load factor was computed based on the average seating capacity of the buses used in operating the service.

The maximum load factors observed on each route are presented in Table 45. The data indicate no major problems with the capacity of the services provided by the transit system. The highest passenger loads of between 0.62 and 0.74 were identified on Wisconsin Coach Lines, Inc., Route Nos. 1, 2, 4, and 5, which providing service in the IH 94 corridor, on the route segments between the Georkes Corners Public Transit Station and stops in Milwaukee County at S 84th, 76th and 70th Streets. The passenger load factors on these routes and all others in the system did not exceed the maximum loads specified under the objectives and standards. It may, therefore, be concluded that the existing headways operated on the routes of the transit system are capable of accommodating existing levels of passenger demand and that reductions in operating headways are not needed.

Schedule Adherence

The provision of reliable and on-time transit service is important in attracting and retaining transit riders. For the purpose of this study, "on time" has been defined as adherence to published schedules within the range of one minute early and three minutes late for local and shuttle services, and one minute early and five minutes late for rapid and express services. The headways operated on the bus routes of the Waukesha County transit system vary greatly, with some routes operating with frequent service every 15 minutes and others operating with only one of two bus trips during weekday peak periods. As a result, passengers who miss service connections can experience long waiting times to the next bus trip or entirely miss the only bus trip scheduled. Performance within the on-time guidelines, therefore, becomes important means of minimizing passenger inconvenience.

To obtain a measure of schedule adherence on the Waukesha County transit system, spot checks of scheduled times were made by the Commission staff at bus stop locations along the route operated by the transit system in December 1998 and July 1999. The random checks were made on selected inbound and outbound bus trips throughout the service day at selected stops located along the entire length of each local and shuttle route, and at the first scheduled stop of each rapid and express route. These checks of schedule adherence were made on 93, or 31 percent, of the 298 scheduled one-way bus trips operated on the routes on weekdays. Actual departure times were recorded at each bus stop and compared with the departure times at the stop in published route timetables to determine if any problems in schedule adherence existed. The schedule adherence data collected are summarized in Table 46.

For the 97 stops for which observed bus departure times were checked, 80 departures, or 86 percent, were considered to be on time, in accordance with the foregoing definition. This falls slightly below the recommended performance level of 90 percent on time set forth under the transit service objectives and standards. Notably, 11 of the 15 routes examined had an on-time performance that either met, or were within 2 percent of, the specified performance level of 90 percent on-time. The four routes which had problems with on-time performance included Wisconsin Coach Lines, Inc., Route Nos. 4 and 6, and Milwaukee County Transit System Route Nos. 10 and 79. For these routes, 31 of the 41 bus trips checked, or 76 percent, were considered as on-time. About three-fourths of the trips with schedule adherence problems on these routes were found to be late departures at bus stops. To correct the problems with schedule adherence observed, the scheduled running

Table 45

**MAXIMUM LOAD FACTORS FOR THE ROUTES COMPRISING
THE WAUKESHA COUNTY TRANSIT SYSTEM: 1998^a**

Operator	Route Number ^f	Direction	Morning Peak Period ^b		Midday Off-Peak Period ^c		Afternoon Peak Period ^d		Nighttime Off-Peak Period ^e	
			Maximum Passenger Volume	Maximum Load Factor ^g	Maximum Passenger Volume	Maximum Load Factor ^g	Maximum Passenger Volume	Maximum Load Factor ^g	Maximum Passenger Volume	Maximum Load Factor ^g
Wisconsin Coach Lines, Inc.	1	Eastbound	31	0.66	20	0.43	19	0.40	5	0.11
		Westbound	14	0.30	12	0.26	27	0.57	15	0.32
	2	Eastbound	29	0.62	--	--	--	--	--	--
		Westbound	--	--	--	--	32	0.68	--	--
	3	Eastbound	20	0.43	--	--	--	--	--	--
		Westbound	--	--	--	--	22	0.47	--	--
	4	Eastbound	34	0.72	--	--	--	--	--	--
		Westbound	--	--	--	--	35	0.74	--	--
Milwaukee County Transit System	6	Eastbound	10	0.22	--	--	--	--	11	0.24
		Westbound	22	0.49	--	--	--	--	7	0.16
	8	Eastbound	29	0.38	--	--	--	--	30	0.39
		Westbound	40	0.53	--	--	--	--	50	0.66
	9	Northbound	12	0.52	4	0.17	7	0.30	8	0.35
		Southbound	13	0.57	3	0.13	12	0.52	1	0.04
	10 ^h	Eastbound	1	0.02	5	0.11	--	0.18	7	0.16
		Westbound	6	0.13	19	0.42	--	0.18	4	0.09
	79	Eastbound	21	0.47	--	--	--	--	--	--
		Westbound	--	--	--	--	20	0.44	--	--
	106	Westbound	18	0.40	--	--	--	--	--	--
		Eastbound	--	--	--	--	10	0.22	--	--
Waukesha Metro Transit System	1	Eastbound	9	0.27	9	0.27	7	0.21	3	0.09
		Westbound	6	0.18	7	0.21	12	0.35	7	0.21

^aBased on passenger counts taken on the Wisconsin Coach Lines, Inc., and Milwaukee County Transit System routes during the last week of April and the first week of May 1998, and on Waukesha Metro Transit System Route No. 1 during the last week of October 1998.

^b5:00 a.m. - 8:29 a.m.

^c8:30 a.m. - 2:29 p.m.

^d2:30 p.m. - 5:59 p.m.

^e6:00 p.m. - 4:59 a.m.

^fData shown only for the routes or route segments for which Waukesha County provides public transit operating assistance funds.

^gAssumes 47 seats per bus for Wisconsin Coach Lines, Inc., Route Nos. 1 through 6; 14 seats per bus for Wisconsin Coach Lines, Inc., Route Nos. 7 and 8; 76 seats per bus for Milwaukee County Transit System Route No. 8; 23 seats per bus for Milwaukee County Transit System Route No. 9; 45 seats per bus for Milwaukee County Transit System Route Nos. 3, 6, 10, 79, and 106; and 34 seats per bus for Waukesha Metro Transit System Route No. 1. The maximum load factors specified under Objective No. 2, design/operating standard No. 6, are 1.25 for local transit service and 1.00 for rapid and express transit service during weekday peak periods, and 1.00 for all services at all other times.

^hData were collected for an additional route, Milwaukee County Transit System Route No. 3, which closely paralleled the alignment of this route. The highest load factor observed on this route was 0.22. Route No. 3 was operated only during the resurfacing of IH 94 in Waukesha and Milwaukee Counties from April 1997 through August 1998.

Source: SEWRPC.

Table 46

**ON-TIME PERFORMANCE OF THE ROUTES COMPRISING THE
WAUKESHA COUNTY TRANSIT SYSTEM: DECEMBER 1998 AND JULY 1999^a**

Type of Service	Bus Route ^c	Weekday One-Way Bus Trips			Schedule Adherence					
		Total	Number of Bus Trips Checked	Percent of Bus Trips Checked	On-Time ^b		Early/Late		Total	
					Number	Percent	Number	Percent	Number	Percent
Rapid/ Express	WCL 1	42	20	48	18	90	2	10	20	100
	WCL 2	1	1	100	1	100	--	--	1	100
	WCL 3	4	2	50	2	100	--	--	2	100
	WCL 4	8	6	75	5	83	1	17	6	100
	WCL 5	2	2	100	2	100	--	--	2	100
	WCL 6	8	4	50	2	50	2	50	4	100
	MCTS 6	4	2	50	2	100	--	--	2	100
	MCTS 8	4	2	50	2	100	--	--	2	100
	MCTS 79	9	5	56	4	80	1	20	5	100
	Subtotal	82	44	54	38	86	6	14	44	100
Local/ Local Shuttle	WCL 7	10	2	20	2	100	--	--	2	100
	WCL 8	10	2	20	2	100	--	--	2	100
	MCTS 9	24	8	33	7	88	1	13	8	100
	MCTS 10	86	26	30	20	77	6	23	26	100
	MCTS 106	6	3	50	3	100	--	--	3	100
	WMT 1	80	8	10	8	100	--	--	8	100
	Subtotal	216	49	23	42	86	7	14	49	100
--	Total	298	93	31	80	86	13	14	93	100

^aOn-time performance was checked for local and shuttle services in December 1998 and for rapid and express services in July 1999.

^bDefined as adherence to published schedules between one minute early and three minutes late for local and shuttle services and between one minute early and five minutes late for rapid and express services.

^cThe following abbreviations have been used to identify the operator of each bus route: WCL for Wisconsin Coach Lines, Inc.; MCTS for the Milwaukee County Transit System; and WMT for the City of Waukesha Metro Transit System.

Source: SEWRPC.

times between checkpoints along each route should be reviewed regularly by the transit operators and, possibly, adjusted to reflect different passenger loading and traffic conditions occurring throughout the day that affect actual running times between stops.

Directness of Public Transit Route Alignments

The directness of route alignments can affect the ability of the transit system to compete with private automobiles because indirect and circuitous routing alignments can affect travel time and can discourage transit use. In order to measure the directness of the alignments of the existing Waukesha County bus routes, the over-the-road distance and time for travel by transit and by automobile between selected locations within the transit service area were compared. The Milwaukee CBD is the focus of seven of the 15 County bus routes and both produces and attracts a

significant number of both total person and transit person trips made on an average weekday from Waukesha County. Accordingly, distances and travel times were measured for travel between the outlying termini and other major stops along such routes and stops within the Milwaukee CBD. In addition, distances and travel times were also measured between the termini of the other County routes serving major employment and commercial areas and also between other major stops along those routes. Table 47 presents the comparison of automobile and transit travel distances and times used to measure the directness of the current route alignments. No information is presented for Wisconsin Coach Lines, Inc., Route Nos. 7 and 8 as the routes are operated as demand-responsive, route deviation service without published stops or time points which could be used to make comparisons with automobile travel.

Table 47

**TRANSIT-TO-AUTOMOBILE DISTANCES AT SELECTED LOCATIONS SERVED BY THE
ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: APRIL 1999**

Operator	Route Number	Termini for Measurements of Travel Distance and Time	One-Way Travel Distance (miles) ^a				One-Way Travel Time (minutes) ^b			
			Transit	Automobile	Difference (transit to automobile)	Ratio (transit to automobile)	Transit ^c	Automobile	Difference (transit to automobile)	Ratio (transit to automobile)
Wisconsin Coach Lines, Inc.	1	Waukesha CBD to Milwaukee CBD ^d	19.8	19.4	0.4	1.02	56	41	15	1.37
		Goerkes Corners Public Transit Station to Milwaukee CBD ^d	14.9	14.3	0.6	1.04	41	29	12	1.41
		Brookfield Square Park-Ride Lot to Milwaukee CBD ^d	11.4	11.5	-0.1	0.99	31	27	4	1.15
		Waukesha CBD to the University of Wisconsin-Milwaukee	23.6	23.2	0.4	1.02	67	49	18	1.37
		Waukesha CBD to Milwaukee CBD ^d	19.1	19.4	-0.3	0.98	53	41	12	1.29
		Goerkes Corners Public Transit Station to Milwaukee CBD ^d	14.2	14.3	-0.1	0.99	38	29	9	1.31
	2	Waukesha CBD to Milwaukee CBD ^d	19.2	19.4	-0.2	0.99	62	41	21	1.51
		Brookfield Square Park-Ride Lot to Milwaukee CBD ^d	11.4	11.5	-0.1	0.99	32	28	4	1.14
	3	Waukesha CBD to Milwaukee CBD ^d	34.5	33.4	1.1	1.03	75	46	29	1.63
		Goerkes Corners Public Transit Station to Milwaukee CBD ^d	14.2	14.3	-0.1	0.99	40	29	11	1.38
	4	Oconomowoc CBD-Collins Municipal Parking Lot to Milwaukee CBD ^d	34.6	34.9	-0.3	0.99	72	46	26	1.57
		Goerkes Corners Public Transit Station to Milwaukee CBD ^d	14.2	14.3	-0.1	0.99	32	29	3	1.10
Milwaukee County Transit System	5	Oconomowoc CBD-Collins Municipal Parking Lot to Milwaukee CBD ^d	29.8	29.1	0.7	1.02	65	38	27	1.71
		IH 43 to STH 83 Park-Ride Lot to Milwaukee CBD ^e								
	6	W. Capitol Drive and N. Teutonia Avenue to Quad/Graphics-New Berlin Industrial Park	16.7	16.2	0.5	1.03	48	30	18	1.60
		S. 27th Street and W. National Avenue to Quad/Graphics-New Berlin Industrial Park	10.9	11.6	-0.7	0.94	31	15	16	2.07
		W. Mitchell Street and S. Kinnickinnic Avenue to Quad/Graphics-City of Pewaukee	32.0	19.2	12.8	1.67	65	22	43	2.95
		W. Mitchell Street and S. Kinnickinnic Avenue to Quad/Graphics- Village of Sussex	13.8	12.7	1.1	1.09	39	17	22	2.29
		W. Capitol Drive and N. Fond du Lac Avenue to Quad/Graphics-City of Pewaukee	18.8	13.4	5.4	1.40	29	21	8	1.38
		W. Capitol Drive and N. Fond du Lac Avenue to Quad/Graphics-Village of Sussex	26.5	22.0	4.5	1.20	55	31	24	1.77
	9	N. 124th Street and W. Capitol Drive to N. Lovers Lane Road and W. Silver Spring Drive Intersection	5.2	2.7	2.5	1.93	17	5	12	3.40
		N. Lovers Lane Road and W. Silver Spring Road to W. Woodale Drive and N. Lilly Road Intersection	2.1	1.8	0.3	1.17	7	3	4	2.33
		W. Woodale Drive and N. Lilly Road to N. 124th Street and W. Capitol Drive Intersection	3.1	2.3	0.8	1.35	10	4	6	2.50
	10	Milwaukee CBD ^f to Brookfield Square Shopping Center-Boston Store	13.0	11.7	1.3	1.11	52	16	36	3.25
N. Hawley Road and W. Wisconsin Avenue to Brookfield Square Shopping Center-Boston Store		8.6	7.7	0.9	1.12	30	10	20	3.00	
18	Milwaukee CBD ^g to W. Rogers Drive and S. Moorland Road-New Berlin Industrial Park	12.6	10.0	2.6	1.26	51	16	35	3.19	
	S. 70th Street and W. Greenfield Avenue to W. Rogers Drive and S. Moorland Road-New Berlin Industrial Park	17.0	15.6	1.4	1.09	25	11	14	2.27	
Waukesha Metro Transit System	1	N. Pilgrim Road Park-Ride Lot to Milwaukee CBD	21.5	19.5	2.0	1.10	48	27	21	1.78
		Mill Road Transit Center to E. Main Street and N. Fountain Boulevard	6.0	5.9	0.1	1.02	10	8	2	1.25
	106	Mill Road Transit Center to N. Pilgrim Road Park-Ride Lot	8.8	6.4	2.4	1.38	22	8	14	2.75
Systemwide Average	Routes Serving Milwaukee CBD		11.6	9.7	1.9	1.20	35	13	22	2.69
			3.8	3.8	0	1.00	9	5	4	1.80
Systemwide Average	Other Routes		19.9	19.6	0.3	1.01	50	35	15	1.41
			13.0	10.9	2.1	1.22	33	16	18	2.33

^aBased on the estimated over-the-road distances between points identified.

^bBased on average morning peak-period travel times between points identified.

^cTime represents average of peak period bus trips when schedule times varied by trip.

^dMilwaukee CBD terminus at the intersection of E. Wisconsin Avenue and N. Cass Street.

Source: Waukesha County Department of Public Works and SEWRPC.

^eMilwaukee CBD terminus at the intersection of E. Michigan Street and N. Van Buren Street.

^fMilwaukee CBD terminus at the intersection of N. Prospect Avenue and E. Wisconsin Avenue.

^gMilwaukee CBD terminus at the intersection of W. Wells Street and N. 2nd Street.

The following observations can be based on the information in Table 47:

1. Transit travel distances and times compare favorably to automobile travel distances and times for the rapid and express routes serving the Milwaukee CBD including Wisconsin Coach Lines, Inc., Route Nos. 1 through 6 and Milwaukee County Transit System Route No. 79. For the trips examined on these routes, the average ratio of transit to automobile travel distance was about 1.0, and the average ratio of transit to automobile travel time was about 1.4. This would indicate that the existing transit system routes provide very direct transit service for work commute travel between Waukesha County residences and jobs located in the Milwaukee CBD.
2. Transit travel distances also compare favorably to automobile travel distances for most of the express, local, and shuttle routes serving employment and commercial centers in Waukesha County including Milwaukee County Transit System Route Nos. 6, 8, 9, 10, and 106, and Waukesha Metro Transit System Route No. 1. The trips examined for these routes had an average ratio of transit to automobile travel distance about 1.2 indicating the routes were relatively direct in alignment. However, the average ratio of transit to automobile travel time for these routes was about 2.3. Travel time ratios exceeding the average were found on all of these routes except Milwaukee County Transit System Route No. 6, with travel time ratios of 3.0 or higher found on Milwaukee County Transit System Route Nos. 9, 10, and 18. The high travel time ratios can be partially attributed the alignments of some routes which attempt to maximize service area coverage of either residential areas or major employment and commercial centers along each route and, as a result, follow a less direct path than for automobile travel. The high travel time ratios can also be attributed operation of most of these routes with local service with frequent stops, or operation on arterial streets in urban areas with high traffic volumes, both of which result on low operating speeds and long travel times for bus service. Consideration should be given to providing more limited stop express service instead of local service to serve the longest trips made between Waukesha and Milwaukee Counties.

SUMMARY

This chapter has evaluated the performance of the Waukesha County transit system based upon specific performance measures related to the attainment of key transit system objectives and standards. The evaluation included separate assessments of performance on a systemwide basis and on a route-by-route basis. The most important findings of this evaluation include:

1. Transit service in the County is currently being provided in accordance with the transit service standard specifying the appropriate location of, and accessibility to be provided by, rapid, express and local transit service. Rapid or express services are operated in all major travel corridors in the County to provide fast transit connections to Milwaukee County and the Milwaukee Central Business District (CBD). Local transit and shuttle services are provided by the County transit system and by the City of Waukesha Metro transit system to serve several major employment centers in the eastern portion of the County. A substantial level of fixed route transit service is provided in the eastern portion of the County in areas that have the highest development densities and are capable of supporting the highest levels of transit service. The expansion of the existing local and shuttle bus services should be considered, however, to improve coverage of the employment centers in the eastern portion of the County and to extend new service to unserved centers in the southeastern and western portion of the County. The majority of the areas in the County that are not served by the existing routes of the County transit system are not yet developed to densities which can support effective or efficient transit service.
2. The service area for the existing transit system provides good coverage of the most densely populated residential areas within Waukesha County. About 67 percent of the County's estimated 1998 resident population resided within the transit system service area. The transit system also provided substantial coverage of Milwaukee County residents, serving about 72 percent of the estimated 1998 population of Milwaukee County, primarily due to the connecting bus service provided by the routes of the Milwaukee County Transit System.
3. The combined system of Waukesha County and connecting Milwaukee County and City of

Waukesha bus routes provides for substantial coverage of the central portions of Milwaukee County and the City of Waukesha where the highest concentrations of individuals receiving public assistance through State welfare programs and low income individuals reside. Such individuals should be considered as priority population groups for the Waukesha County transit system as they represent potential workers to fill available jobs in Waukesha County and potential users of Waukesha County reverse commute bus services.

4. The existing transit system provides good coverage of employment concentrations in Waukesha County, with about 56 percent of the County's estimated 1998 employment within the transit system service area. The expansion of transit service to serve significant job locations in the eastern, southeastern, and western portions of the County that are not served should be considered where transit service can be provided in an efficient and effective manner. The transit system also serves about 57 percent of the estimated 1998 Milwaukee County employment, most of which is served by the connecting bus service provided by the routes of the Milwaukee County Transit System. The routes of the Waukesha County transit system directly serve the largest employment concentration in Milwaukee County and the Region in the Milwaukee CBD
5. The transit system provides good coverage of the existing locations of major employers and industrial and office parks in the County, serving 189 of the 308 major employers identified in the County, and 33 of the 54 industrial and office parks identified in the County. The expansion if transit service to serve employers and industrial and office parks in the eastern, southeastern, and western portions of the County should be considered where it can be provided in a efficient and effective manner.
6. In terms of changes in ridership and service between 1997 and 1993, the Waukesha County transit system compares favorably with other bus systems within the Region. The annual ridership on the Waukesha County transit system over this period increased by an average of about 13 percent per year over this period, compared with an average annual increase of about 1 percent observed for the other bus systems in the Region, and service levels on the transit system increased by between 9 and 12 percent, compared with relatively stable service levels on the other systems. The trends for the Waukesha County transit system for changes in cost effectiveness levels also compare favorably overall with the trends for the bus systems in the Region as the operating cost and total operating assistance per revenue passenger for the Waukesha County transit system increased by between 1 and 2 percent per year over the period compared with average annual increases of between 5 and 6 percent on the other systems. The farebox recovery rate for the Waukesha County transit system decreased by about one percent annually over the period, compared with an average increase of about 1 percent annually on the other systems, while the farebox recovery and local funding rate for the transit system increased by about 4 percent annually over the period, compared with an average increase of less than 1 percent annually on the other systems.
7. The overall energy efficiency of the Waukesha County transit system in serving travel on an average weekday is higher than that of the private automobile. Consequently, the transit service does reduce the use of petroleum-based motor fuel by Waukesha and Milwaukee County residents on a daily basis. The transit system also contributes to efficiency of the transportation system by reducing peak-hour automobile traffic and the potential for congestion on IH 94.
8. Six of the 15 bus routes in the system had weekday performance levels in March 1999 that were consistently above the specified minimum levels, those levels being no more than 20 percent below the average for all routes of a service type for service-based performance measures, and no more than 20 percent above the service type average for cost-based performance measures. These routes included: Wisconsin Coach Lines, Inc., Route No. 4; Milwaukee County Transit System Route Nos. 6, 8, 10, and 79; and Waukesha Metro Transit System Route No. 1. Of these, Milwaukee County Transit System Route Nos. 8, 10, and 79 are clearly the best performers, showing weekday performance levels which exceeded the average for the service type for all performance measures specified under the objectives and standards. Based solely on their ridership and financial performance, all six routes could continue to be operated without change.
9. Four of the routes in the system had mixed performance levels in March 1999 that generally met the minimum performance levels for passengers per bus trip, per vehicle mile, and per

vehicle hour but did not meet minimum performance levels for operating cost and assistance per passenger. These routes included Wisconsin Coach Lines, Inc., Route Nos. 5 and 6, and Milwaukee County Transit System Route Nos. 9, and 106. The cost effectiveness of these routes has been affected by the fares charged, the deadhead time and miles associated with route operation, or the density of the development in the areas served. The performance of these routes should be monitored closely before significant service changes are considered.

10. The other five routes of the system had weekday performance levels which, in most cases, consistently did not meet specified minimum performance levels for the measures examined. These routes included Wisconsin Coach Lines, Inc., Route Nos. 1, 2, 3, 7, and 8. Route Nos. 7 and 8 are clearly the worst performers, showing weekday performance levels well below minimum specified levels for all measures. Potential changes to these four routes to improve performance should be considered.
11. At least one unproductive route segment was found on nine of the 15 routes of the system examined. Some of the route segments with the lowest ridership occur where bus routes pass through areas with little residential development or few employment centers as they travel to or from residential areas or employment centers within Waukesha County which do generate significant ridership. If the transit system is to continue to provide good coverage of Waukesha County, some bus routes must be expected to perform at relatively lower levels of efficiency than other routes because of the specific and constrained operating and service area characteristics of each route.
12. In general, the limited number of routes which operate on weekends have similar performance characteristics to their weekday operations. Milwaukee County Transit System Route Nos. 6, 8, and 10, and Waukesha Metro Transit System Route No. 1 all have acceptable weekend performance levels. Wisconsin Coach Lines, Inc., Route No. 1 remains a poor performer on weekends, and should be reviewed to determine if weekend service is warranted and, if so, how performance levels can be improved.
13. The existing headways on the routes of the transit system can accommodate existing levels of passenger demand at the recommended load

standards. The highest loads factors, ranging from 0.62 to 0.74, were identified on Wisconsin Coach Lines, Inc., Route Nos. 1, 2, 4, and 5, which providing service in the IH 94 corridor. In no cases did the observed passenger loads result in load factors exceeding the maximums specified in the transit service standards. Headway reductions are not needed on any routes.

14. Based on random checks of schedule adherence, the on-time performance of the existing transit system was found to be somewhat below the performance level of 90 percent, set forth under the transit service objectives and standards. Problems with on-time performance were observed primarily on Wisconsin Coach Lines, Inc., Route Nos. 4 and 6 and Milwaukee County Transit System Route Nos. 10 and 79. About three-fourths of the trips with schedule adherence problems on these routes were found to be late departures at bus stops. To correct such problems, the scheduled running times between checkpoints along each route should be reviewed regularly by the transit operators and, possibly, adjusted to reflect different passenger loading and traffic conditions occurring throughout the day that affect actual running times between stops.
15. The existing alignments of the rapid and express bus routes serving the Milwaukee CBD are relatively direct and result in convenient travel for work commute travel. However, most of the express, local, and shuttle routes serving employment and commercial centers in Waukesha County were somewhat indirect and had high ratios of transit to automobile travel time. The high travel time ratios can be partially attributed the indirect alignments of some routes compared to potential automobile paths as well as low operating speeds and long travel times resulting from operation of most of these routes with local service with frequent stops over arterial streets in urban areas with high traffic volumes. Consideration should be given to providing more limited stop express service instead of local service to serve the longest trips made between Waukesha and Milwaukee Counties.

The analyses documented in this chapter indicated that changes in some bus routes should be considered to improve their performance as well as the overall performance of the transit system. Alternative and recommended changes to the transit system are described in Chapter VI of this report.

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Chapter VI

RECOMMENDED TRANSIT SERVICE IMPROVEMENTS

INTRODUCTION

Previous chapters of this report have described the land uses and travel patterns of Waukesha County and analyzed the effectiveness with which the existing County transit system serves those patterns. In addition, an extensive evaluation of the ridership levels and financial performance of each route of the transit system in 1999 has been documented. This information provided the basis for developing transit routing and service changes for this transit system development plan for the Waukesha County transit system.

The findings of the transit system evaluation indicated that the existing system performed well overall in meeting the transit service objectives and performance standards; however, some routes were found to have performance levels that warranted service changes and some areas of the County were identified as potential areas for service expansion. Consequently, the County determined to immediately pursue several service changes during the years 2000 and 2001 that would partially address the route performance and service expansion issues raised in the performance evaluation.

This chapter describes the recommended transit system development plan for the Waukesha County transit system for the five-year period from 2002 through 2006. The remainder of the chapter consists of five sections. The first section documents the changes to the 1999 transit system that were implemented between December 1999 and September 2001 and describes the existing transit system as of the fall of 2001. The second section describes the recommended transit system which proposes changes to the existing fall 2001 transit system. Included in this section are descriptions of the route alignments and services levels that are envisioned as needed by the end of the planning period in 2006. The third section summarizes the anticipated performance of the recommended transit system, including information on ridership, farebox revenues, and costs. The fourth section sets forth the actions required by the various agencies to achieve plan implementation. The chapter concludes with a brief summary.

THE 2001 TRANSIT SYSTEM

Changes from 1999 Transit System

A number of changes to the 1999 Waukesha County transit system described in Chapter III were implemented from December 1999 through September 2001. The system changes are summarized in Table 48 with the most significant being the following:

- In December 1999, a new shuttle route, Route No. 218, replaced the extension of Milwaukee County Transit System (MCTS) bus service over Route No. 18 to the New Berlin Industrial Park. The new Route No. 218 operated over Greenfield Avenue and Moorland Road between the terminus of Route No. 18 at N. 124th and W. Greenfield Avenue and the industrial park. Service periods and frequencies over the shuttle route were comparable to that provided over the former extension of Route No. 18.
- In late May 2000, additional changes to the County transit system were implemented. These changes were implemented because the County needed to complete by March 2000 a competitive procurement process for the selection of transit operators for the years 2000 through 2003. In addition, in April 1999 the areawide selection of projects to receive Federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program funding for the years 2000 through 2002 was scheduled to be completed. The need for the County to complete the competitive procurement process in early 2000 was required by both the Federal Transit Administration and the Wisconsin Department of Transportation in order for the County's transit system to remain eligible for Federal and State transit assistance. The existing County bus services subject to the competitive procurement process consisted of those operated by Wisconsin Coach Lines, Inc., (WCL) over Route Nos. 1 through 6 providing express and freeway flyer service between Waukesha, Oconomowoc, and Mukwonago and the Milwaukee

Table 48

**CHANGES TO THE BUS ROUTES COMPRISING THE WAUKESHA COUNTY
TRANSIT SYSTEM IMPLEMENTED BETWEEN DECEMBER 1999 AND JUNE 2001**

Transit Operator	Route Number		Date	Summary Description of Routing and Service Changes
	1999 System	2001 System		
Wisconsin Coach Lines, Inc.	1, 2, and 3	901	June 2000	<ul style="list-style-type: none"> All service operated between downtown Waukesha and the Milwaukee Central Business District (CBD) or the University of Wisconsin-Milwaukee combined into one route Base alignment for the route in Milwaukee County changed to include limited-stop express operation along W. Wisconsin Avenue and N. 35th Street between N. 11th Street and IH 94. This action directed at improving connections with Milwaukee County Transit System bus service for passengers commuting from Milwaukee County residences to jobs in Waukesha County A limited number of eastbound bus trips in the morning peak period and westbound bus trips in the afternoon peak period operated over IH 94 between the Goerkes Corners Public Transit Station and the Milwaukee CBD to serve passengers commuting from Waukesha County residences to jobs in downtown Milwaukee Base alignment of the route in the City of Waukesha changed to operate over E. Main Street and Manhattan Drive between the downtown Waukesha terminal and E. Moreland Boulevard. This action directed at providing more direct service into and out of the City of Waukesha and offsetting longer running times that resulted from route operation over W. Wisconsin Avenue in central Milwaukee County Service over Route No. 3 along W. Greenfield Avenue discontinued Overall service levels on Route No. 901 to remained virtually the same as with Route Nos. 1, 2, and 3. Weekday bus trips to consist of 24 eastbound and 27 westbound trips, compared with 23 eastbound and 25 westbound trips in the existing schedule. Service on weekends and holidays not changed
	4 and 5	905	June 2000	<ul style="list-style-type: none"> The portion of Route No. 5 formerly operated over Bluemound Road (CTH JJ) between the Village of Pewaukee and the Goerkes Corners Public Transit Station moved to operate over STH 16 and IH 94
	6	906	June 2000	--
	7	--	June 2000	<ul style="list-style-type: none"> Route eliminated and service replaced by Route No. 302 (see below)
	8	--	June 2000	<ul style="list-style-type: none"> Route eliminated and service replaced by Route No. 304 (see below)
	--	303	June 2000	<ul style="list-style-type: none"> New route providing local shuttle transit service targeted toward both Waukesha and Milwaukee County residents commuting to jobs at employment centers in the Hartland Industrial Park, the Bark River Commerce Center, and the Delafield commercial area at the intersection of IH 94 and STH 83 Route operated between the Goerkes Corners Public Transit Station and these employment centers principally over IH 94, STH 16, and STH 83 and provided for flexible routing within designated employment service areas Service over the route provided seven days a week to serve the principal work shift starting and ending times at the employment centers along the route Route No. 303 extended to also provide service between central Milwaukee County and the Goerkes Corners Public Transit Station during weekday early morning and late evening periods and on weekends when connecting bus service to and from central Milwaukee County is not be available on Route No. 901 Service to be discontinued at the end of 2001 due to low ridership
Milwaukee County Transit System	6	6	--	--
	8	8	--	--
	9	9	--	--

Table 48 (continued)

Transit Operator	Route Number		Date	Summary Description of Routing and Service Changes
	1999 System	2001 System		
Milwaukee County Transit System (continued)	10	10	June 2001	<ul style="list-style-type: none"> Service expanded to include Saturday evening and Sunday daytime service
	18	218	December 1999	<ul style="list-style-type: none"> Extension of Route No. 18 to the New Berlin Industrial Park replaced by a new shuttle route, Route No. 218, operated over Greenfield Avenue and Moorland Road between the terminus of Route No. 18 at N. 124th and W. Greenfield Avenue and the New Berlin Industrial Park Shuttle route to provide comparable service to Route No. 18 extension
	79	79	--	--
	106	106	--	--
	--	263	January 2001	<ul style="list-style-type: none"> New providing local shuttle service to the Kohl's Corporate Park in Menomonee Falls Route operated primarily over W. Silver Spring Drive and provided transfer connections with other bus routes at a stop at W. Silver Spring Drive and Lovers Lane Service provided on weekdays and Saturdays to serve the principal work shift starting and ending times at the Kohl's Corporate Park Service discontinued September 2001 due to low ridership
Waukesha Metro Transit System	1	1	June 2001	<ul style="list-style-type: none"> Service expanded to include Sunday daytime service
	--	302	June 2000	<ul style="list-style-type: none"> New route providing local bus service over Moorland Road, National Avenue, and S. 108 Street between transfer points with other Milwaukee and Waukesha County routes in West Allis and at the Brookfield Square Shopping Center Service directed at connecting New Berlin residents to the commercial, employment, medical, and governmental centers served by the route, and at providing connections for Waukesha and Milwaukee County residents to jobs at the businesses located along National Avenue in the New Berlin Industrial Park Portion of the route between the Brookfield Square Shopping Center and businesses in the New Berlin Industrial Park replaced service provided over Wisconsin Coach Lines, Inc., Route No. 7. The remaining portions of the route represented new service Service over the route provided seven days a week to serve the principal work shift starting and ending times at the employment centers along the route Connecting bus service to and from central Milwaukee County provided by Route Nos. 901 and 303
	--	304	June 2000	<ul style="list-style-type: none"> New route providing local shuttle transit service targeted toward both Waukesha and Milwaukee County residents commuting to jobs at employers in office and business parks located in the City and Village of Pewaukee and to classes or training at the Waukesha County Technical College Route operated between the Goerkes Corners Public Transit Station and these employment centers principally over IH 94, CTH JJ, STH164, Pewaukee Road (CTH J), and Capitol Drive (STH 190) and provides for flexible routing to pick-up and discharge passengers within the designated employment service areas Portion of the route between the Goerkes Corners Public Transit Station and Capitol Drive replaced service provided over Wisconsin Coach Lines, Inc., Route No. 8. The remaining portions of the route represented new service Service over the route provided seven days a week to serve the principal work shift starting and ending times at the employment centers along the route Connecting bus service to and from central Milwaukee County to be provided by Route Nos. 901 and 303 Service to be discontinued at the end of 2001 due to low ridership

Source: Waukesha County Department of Public Works and SEWRPC.

CBD. The other existing routes of the County transit system were not subject to the procurement process as they were determined to be inappropriate for competitive bidding. These routes included MCTS Route Nos. 6, 8, 9, 79, 106, and the extension of Route No. 10 over Blue Mound Road between the Milwaukee-Waukesha County line and the Brookfield Square Shopping Center, along with the extension of Waukesha Metro Transit (WMT) Route No. 1 over Blue Mound Road between the Goerkes Corners Public Transit Station and the Brookfield Square Shopping Center. Three new routes—Nos. 302, 303, and 304—that were to provide new or restructured service for employment centers in the New Berlin-Brookfield, Hartland, and Pewaukee areas, respectively, were also subject to the bidding process. The three routes were part of a group of five service expansion proposals for which the County requested, as was awarded in late 1999 CMAQ funds by the Wisconsin Department of Transportation.

The changes implemented in May 2000 also included a revised route numbering system developed by Waukesha County staff that was applied to the existing WCL routes and the new CMAQ-funded routes. Routes designated by the County as express routes operating between Waukesha and Milwaukee County were assigned “900” series route numbers. Existing WCL express routes were renumbered as follows: Waukesha-Milwaukee Route Nos. 1 and 2 to No. 901; Oconomowoc-Milwaukee Route Nos. 4 and 5 to No. 905; and Mukwonago-Milwaukee Route No. 6 to No. 906. Existing WCL express Route No. 3 was discontinued. Routes designated as local and shuttle routes operating primarily within Waukesha County were assigned “300” series route numbers. The three new CMAQ-funded routes were designated as “300” series routes as follows: Route No. 302, New Berlin; Route No. 303, Hartland; and Route No. 304, Pewaukee. Existing WCL shuttle Route Nos. 7 and 8 were replaced with new routes.

- In January 2001, a fourth new route was implemented serving the Kohl’s Corporate Park in the Village of Menomonee Falls. The new route, MCTS Route No. 263, operated over Silver Spring Drive between the terminus of MCTS Route No. 63 at Lovers Lane road and Silver Spring Road and the corporate park. Service was operated on weekdays and Saturdays to serve the

principal work shift times and was funded through the CMAQ grant received by the County in 1999.

- In June 2001, service over MCTS Route No. 10 along Blue Mound Road in Waukesha County was expanded to include Saturday evenings and Sundays. The service expansion was funded through the CMAQ grant received by the County in 1999. At the same time, service over Waukesha Metro Transit Route No. 1 along Blue Mound Road was also expanded to include Sunday service. This service expansion was funded through a CMAQ grant received by the City in 1999.

The Commission staff advised and worked with County staff in the development of many of the above service changes. Service changes that were based on the findings of the performance evaluation of the 1999 transit system were identified so they could be incorporated into the County’s CMAQ grant application filed in April 1999 and also into the service specifications set forth in the County’s transit service RFP issued in February 2000. Such service changes included: the elimination or replacement of service over three existing bus routes—WCL Route Nos. 3, 7, and 8—which had been identified as poor performers; the expansion of service to employment centers in the New Berlin, Brookfield, Pewaukee, and Hartland areas that had been identified as potential areas of service improvement or expansion; the restructuring of the existing Waukesha-Milwaukee service to improve service for reverse commuting in this corridor; and the addition of Sunday service hours for the existing local bus routes in the Blue Mound Road corridor. The 2001 transit system that was shaped by the above service changes essentially represented a first phase of the transit system development plan which was immediately implemented.

Map 26 displays the existing routes comprising the Waukesha County transit system in the fall of 2001, and Table 49 summarizes the service characteristics for each route. Table 50 indicates the changes in route miles and vehicle requirements from the 1999 transit system to the fall 2001 transit system. The alignments and service levels for the existing 1999 transit system routes that were not identified in the above service changes remain essentially as operated at the end of 1999. The alignments and service levels on Route Nos. 301, 302, 303, and 901 have undergone several revisions since their implementation in 2000 directed at improving route operation or performance. Route No. 263 was discontinued at the end of August 2001 due to extremely low ridership and is not included in the fall 2001 transit system.

Table 49

**OPERATING AND SERVICE CHARACTERISTICS FOR THE BUS ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: FALL 2001**

Type of Service	Route Number	Round Trip Route Length (miles) ^a	Approximate Service Hours	Weekday Service					Buses Required				
				Service Frequency									
				Morning Peak Period	Midday Period	Afternoon Peak Period	Evening Period	Night Period	Morning Peak Period	Midday Period	Afternoon Peak Period	Evening Period	Night Period
Rapid	79	46.5	6:00 a.m.-8:15 a.m. 3:45 p.m.-6:00 p.m.	15-40 minutes	--	15-40 minutes	--	--	3	--	4	--	--
	905	108.0	6:00 a.m.-8:00 a.m. 4:15 p.m.-6:15 p.m.	5-25 minutes	--	15-20 minutes	--	--	5	--	5	--	--
	906	64.0	6:15 a.m.-8:00 a.m. 4:00 p.m.-6:15 p.m.	3 trips	--	3 trips	--	--	3	--	3	--	--
	Subtotal	218.5	--	--	--	--	--	--	11	--	12	--	--
Express	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips	--	2 trips	--	--	1	--	1	--	--
	8	55.6	5:30 a.m.-8:15 a.m. 5:30 p.m.-8:15 p.m.	2 trips	--	2 trips	--	--	1	--	1	--	--
	901	54.0	5:15 a.m.-10:30 p.m.	10-35 minutes	30-60 minutes	10-35 minutes	30-70 minutes	--	7	3	7	3	--
	Subtotal	142.0	--	--	--	--	--	--	9	3	9	3	--
Local	1	11.0	6:00 a.m.-10:15 p.m.	15-25 minutes	30 minutes	15-20 minutes	30 minutes		2	1	2	1	--
	10	8.3	5:30 a.m.-10:45 p.m.	20-25 minutes	30-35 minutes	20-25 minutes	20-25 minutes	--	2	1	2	1	--
	302 ^b	22.3	5:30 a.m.-11:45 p.m.	40 minutes	70 minutes	40 minutes	70 minutes	40 minutes	2	1	2	1	2
	Subtotal	41.6	--	--	--	--	--	--	6	3	6	3	2
Local Shuttle	9	10.5	5:30 a.m.-8:15 a.m. 1:15 p.m.-5:00 p.m. 9:45 p.m.-12:00 a.m.	40-45 minutes	--	40-50 minutes	--	50-55 minutes	1	--	1	--	1
	106	18.5	5:15 a.m.-7:30 a.m. 2:00 p.m.-4:00 p.m. 9:30 p.m.-11:30 p.m.	40-40 minutes	--	40-55 minutes	--	50-55 minutes	1	--	1	--	1
	218	11.1	5:45 a.m.-8:15 a.m. 2:00 p.m.-5:30 p.m. 10:15 p.m.-12:45 a.m.	35-45 minutes		30-45 minutes	--	40 minutes	1	--	1	--	1
	303 ^b	45.0	4:45 a.m.-8:30 a.m. 2:45 p.m.-5:15 p.m. 10:00 p.m.-1:15 p.m.	30 minutes	--	30-60 minutes	--	30 minutes	3	--	3		3
	304 ^b	27.0	5:30 a.m.-8:45 a.m. 3:00 p.m.-6:00 p.m.	30 minutes	--	30 minutes	--	--	2	--	2	--	2
	Subtotal	112.1	--	--	--	--	--	--	8	--	8	--	8
Total System	--	514.2	--	--	--	--	--	--	34	6	35	6	10

Table 49 (continued)

Saturday Service					
Type of Service	Route Number	Round Trip Route Length (miles) ^a	Approximate Service Hours	Service Frequency	Buses Required
Rapid Express	--	--	--	--	--
	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips 2 trips	1
	8	55.6	5:30 a.m.-8:15 a.m. 5:30 p.m.-8:15 p.m.	2 trips 2 trips	1
	901	46.0	7:30 a.m.-10:00 p.m.	2.5 hours	1
	Subtotal	134.0	--	--	3
Local	10	8.3	8:30 a.m.-10:30 p.m.	20-35 minutes	1
	1	7.3	8:45 a.m.-9:45 p.m.	30 minutes	1
	302 ^b	22.3	9:00 a.m.-11:00 p.m.	60 minutes	1
	Subtotal	37.9	--	--	3
Local Shuttle	9	10.5	6:00 a.m.-7:15 a.m. 12:00 p.m.-12:45 p.m. 3:00 p.m.-3:45 p.m.	4 trips 2 trips 2 trips	1
	106	18.5	5:15 a.m.-7:30 a.m.	35-40 minutes	1
	218	11.1	5:30 a.m.-8:15 a.m. 1:45 p.m.-5:15 p.m.	30-35 minutes 30-45 minutes	1
	303 ^b	45.0	4:45 a.m.-9:45 a.m. 2:15 p.m.-6:15 p.m.	30 minutes	4
	Subtotal	85.1	--	--	7
Total System	--	257.0	--	--	13

Sunday/Holiday ^c Service					
Type of Service	Route Number	Round Trip Route Length (miles) ^a	Approximate Service Hours	Service* Frequency	Buses Required
Rapid Express	--	--	--	--	--
	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips 2 trips	1
	8	55.6	5:30 a.m.-8:15 a.m. 5:30 p.m.-8:15 p.m.	2 trips 2 trips	1
	901	46.0	10:00 a.m.-7:30 p.m.	2.5 hours	1
	Subtotal	134.0	--	--	3
Local	10	8.3	9:45 a.m.-7:45 p.m.	20 minutes	1
	1	7.3	9:45 a.m.-6:45 p.m.	30 minutes	1
	302 ^b	22.3	10:00 a.m.-7:00 p.m.	60 minutes	1
	Subtotal	37.9	--	--	3
Local Shuttle	106	18.5	9:30 p.m.-11:30 p.m.	35-40 minutes	1
	303 ^b	45.0	4:45 a.m.-8:45 a.m. 2:30 p.m.-5:45 p.m. 10:30 p.m.-2:00 p.m.	30 minutes	3
	Subtotal	63.5	--	--	4
Total System	--	219.8	--	--	10

^aRepresents the directional miles of street traversed by a bus route including all branches.

^bRoute Nos. 302, 303, and 304 operate with flexible routing over portions of each route. The route lengths shown represent estimates for the base route without flexible routing.

^cOnly Route Nos. 6 and 8 operate on holidays.

Source: Milwaukee County Transit System; Wisconsin Coach Lines, Inc.; Waukesha Metro Transit; and SEWRPC.

Table 50

**ROUND-TRIP ROUTE MILES AND VEHICLE
REQUIREMENTS FOR THE WAUKESHA COUNTY
TRANSIT SYSTEM: 1999 AND FALL 2001**

Characteristic	1999 Transit System	Change from 1999 System		Fall 2001 Transit System
		Absolute Amount	Percent	
Number of Routes				
Rapid.....	5	-2	-40.0	3
Express.....	4	-1	-25.0	3
Local.....	3	--	--	3
Local Shuttle.....	4	1	25.0	5
Total	16	-2	-12.5	14
Round Trip Route- Miles				
Rapid.....	300.5	-82.0	-27.3	218.5
Express.....	196.0	-54.0	-27.6	142.0
Local.....	36.4	5.2	14.3	41.6
Local Shuttle.....	33.5	78.6	134.6	112.1
Total	566.4	-52.2	-9.2	514.2
Total System Vehicle Requirements				
Rapid.....	11	1	9.1	12
Express.....	9	0	0.0	9
Local.....	6	0	0.0	6
Local Shuttle.....	6	2	33.3	8
Total	32	3	9.4	35

Source: SEWRPC.

Ridership and Financial Performance

As significant route and service changes were implemented since the performance evaluation of the 1999 transit system documented in Chapter V was completed, Commission staff re-examined key route ridership and financial performance measures for 2001 prior to completing the recommended plan. Like the previously completed evaluation, the 2001 route ridership and financial performance evaluation was based on Standards 1 and 2 under Objective 2, and Standards 4, 6, and 7 under Objective 4 as documented in Chapter IV. The average effectiveness and efficiency measures for the 15 routes of the Waukesha County transit system operated during the first six months of 2001¹ are shown in Table 51. The data presented in the table were developed principally from the service and utilization levels, operating costs, and revenues for each route of the system reported by each contract operator in their monthly reports.

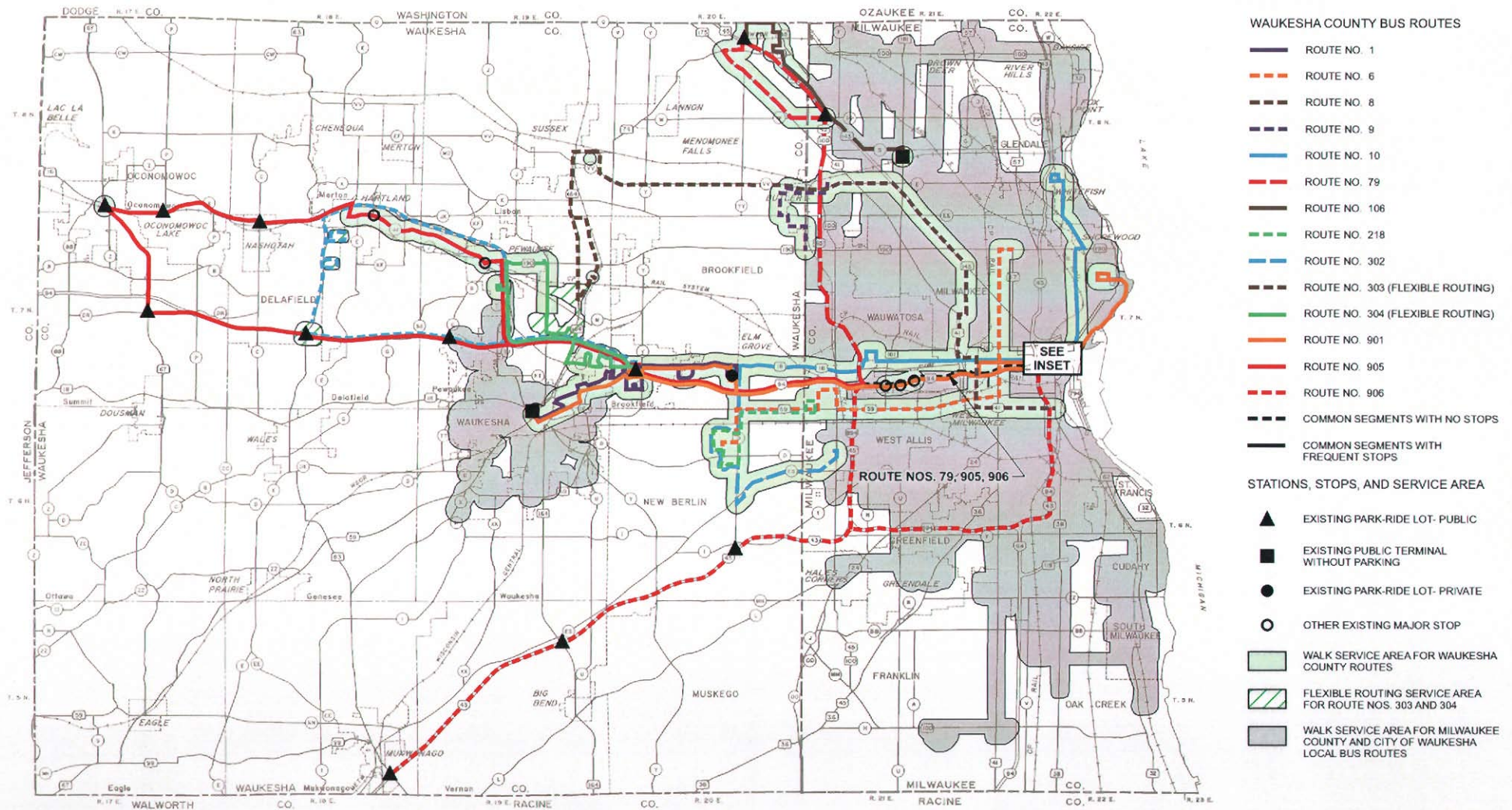
¹The data reviewed included only limited information for the Saturday evening and Sunday service hours on Route No. 10 or the Sunday service hours on Route No. 1, both in the Blue Mound Road corridor, as these service expansions were initiated in June 2001. Separate information for these service changes was not developed.

The performance measures presented in Table 51 provide an indication of the ridership, productivity, and financial performance of each bus route and the types of service operated on the transit system. These performance measures include: passengers per route mile, revenue vehicle-mile, and revenue vehicle-hour; total operating cost and operating assistance per passenger and per passenger mile; and farebox recovery rate. These may be considered to be the key measures of performance for the transit system. The diversity of the services provided by the County transit system, including commuter routes serving long (15-30 mile) passenger trips and local/shuttle routes serving short (3-6 mile) passenger trips makes it inappropriate to use a single performance measure. For each performance measure specified under the objectives and standards, routes which had service-based performance measures that were more than 20 percent below the average for all routes of a service type, or cost-based performance measures more than 20 percent above the systemwide average for the service type, were "flagged" in the table as poor performers for the specific measure. Use of the systemwide average as the performance standard directs the transit system toward improving the performance of routes that are significantly below average so that, over time, the overall performance of the entire transit system will improve.

The information in Table 51 for the first half of 2001 indicates that only three of the 15 bus routes in the system—MCTS Route Nos. 8, 10, and 79—had average performance levels that were consistently above the specified minimum levels. These routes were clearly the best performers, showing performance levels that exceeded the average for the service type for all performance measures specified under the objectives and standards. Based solely on their ridership and financial performance, all three routes should continue to be operated without significant changes.

Six of the routes in the system had mixed performance levels that generally met either the minimum performance levels for service effectiveness—passengers per bus trip, per vehicle-mile, and per vehicle-hour—or for cost effectiveness—operating cost and assistance per passenger and farebox recovery. These routes included WCL Route Nos. 901, 905, 906; MCTS Route Nos. 6 and 106 weekdays first shift service; and Waukesha Metro Route No. 1. The overall performance of these routes is not poor enough to warrant drastic changes but should be monitored. Service changes should be considered for these routes if they have the potential to improve overall performance.

BUS ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: FALL 2001



INSETTO Map 26

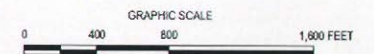


Table 51

**AVERAGE PERFORMANCE MEASURES FOR THE BUS ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: JANUARY - JUNE 2001**

Service Type	Route	Service Period	Performance Measure ^a								Farebox Recovery (percent)	Operating Cost per Revenue Vehicle Hour
			Passengers Per			Per Passenger Trip Data						
			Scheduled Bus Trip	Revenue Vehicle Mile	Revenue Vehicle Hour	Operating Cost	Operating Assistance	Operating Cost	Operating Assistance			
Rapid/Express	6	Weekdays, Weekends, Holidays	11.0	0.68	11.4	\$ 6.32	\$ 5.22	\$ 0.51	\$ 0.42	17.4	\$ 71.93	
	8	Weekdays, Weekends, Holidays	25.4	0.91	18.5	3.68	2.58	0.15	0.10	29.9	68.13	
	79	Weekdays	20.5	0.59	19.3	2.65	0.85	0.16	0.05	67.9	51.12	
	901	Weekdays, Weekends, Holidays	12.1	0.48	10.8	8.70	7.01	0.48	0.39	19.5	94.00	
	905	Weekdays	26.6	0.87	19.0	9.58	7.68	0.44	0.35	19.8	182.01	
	906	Weekdays	18.5	0.56	18.5	13.21	10.76	0.46	0.37	18.5	244.00	
	Systemwide Average for Service Type		19.0	0.68	16.2	\$ 7.36	\$ 5.68	\$ 0.37	\$ 0.28	28.8	\$118.53	
	Minimum Acceptable Performance Level ^b		15.2	0.55	13.0	\$ 8.83	\$ 6.82	\$ 0.44	\$ 0.34	23.1	\$142.24	
Local/Shuttle Established Routes	1	Weekdays, Saturdays	4.2	1.12	16.7	\$ 2.78	\$ 2.11	\$ 1.04	\$ 0.79	24.2	\$ 46.40	
	9	Weekdays	6.3	1.10	16.0	5.32	4.77	1.06	0.95	10.3	85.16	
	10	Weekdays, Saturdays	12.2	2.87	32.5	2.25	1.30	0.70	0.40	42.2	73.04	
	106	Weekdays	9.0	1.01	21.8	4.59	4.04	0.56	0.49	12.0	100.32	
	Systemwide Average for Service Type		7.9	1.52	21.8	\$ 3.74	\$ 3.06	\$ 0.84	\$ 0.66	22.2	\$ 76.23	
	Minimum Acceptable Performance Level ^b		6.3	1.22	17.4	\$ 4.48	\$ 3.67	\$ 1.01	\$ 0.79	17.8	\$ 91.48	
Demonstration Routes and Services	9	Saturdays	1.0	0.21	3.4	\$ 39.68	\$ 39.13	\$ 7.94	\$ 7.83	1.4	\$135.22	
	106	Weekday Evenings and Saturdays	2.3	0.13	5.6	14.70	14.15	1.79	1.73	3.7	82.30	
	218	Weekdays, Saturdays	4.2	0.29	6.3	11.04	10.49	2.43	2.31	5.0	69.70	
	263	Weekdays, Saturdays	0.2	0.04	0.7	144.04	143.49	32.15	32.03	0.4	97.10	
	302	Weekdays, Weekends	1.1	0.10	1.8	31.63	30.97	22.19	21.73	2.1	56.65	
	303	Weekdays, Weekends	1.2	0.03	0.8	99.47	98.47	7.11	7.03	1.0	78.00	
	304	Weekdays, Saturdays	0.9	0.09	1.8	31.94	31.28	0.56	0.55	2.1	56.51	
	Systemwide Average for Service Type		1.6	0.13	2.9	\$ 53.21	\$ 52.57	\$10.60	\$10.46	2.2	\$ 82.21	
	Minimum Acceptable Performance Level ^c		6.3	1.22	17.4	\$ 4.48	\$ 3.67	\$ 1.01	\$ 0.79	17.8	\$ 91.48	
Total System	Overall Systemwide Average		6.9	0.55	11.2	\$ 7.49	\$ 6.23	\$ 0.60	\$ 0.50	16.7	\$ 84.16	

^a All data are based on the operating reports submitted by each operator to Waukesha County for the months of January through June, 2001.

^b The minimum levels shown are 20 percent above the overall average for all routes in the service category. Values which indicate poor performance levels, in accordance with service performance standard 2 of Objective 2, are listed in red type.

^c The minimum levels shown are 20 percent above the overall average for all established, nondemonstration routes in the service category. Values which indicate poor performance levels, in accordance with service performance standard 2 of Objective 2, are listed in red type.

Source: Waukesha County Department of Public Works and SEWRPC.

The other routes of the system had average performance levels that for the most part did not come close to meeting the specified minimum performance levels for the measures examined. These routes included one established route—MCTS Route No. 9 for both weekday and Saturday service—and seven demonstration routes or services—WCL Route No. 303, MCTS Route No. 106 for Weekday evenings and Saturdays, Route No. 218, and Route No. 263; and Waukesha Metro Route Nos. 302 and 304. Based solely on their ridership and financial performance, the continuation of these routes is not warranted. Of these seven, Route No. 263 was clearly the worst performer and was discontinued by the County at the end of August 2001. Route Nos. 303 and 304 were also poor performers and have been proposed for elimination by the County at the end of 2001.

The above conclusions, along with the other findings of the performance evaluation of the existing transit system documented in Chapter V, were explicitly considered in developing the recommended transit services discussed in the following section.

RECOMMENDED TRANSIT SERVICE

Recommended 2006 Transit System

The recommended plan calls for a number of changes in existing alignments and schedules of the Waukesha County transit system which are envisioned as needed by 2006 for the County to fully address the transit service needs of County residents commuting to Milwaukee County jobs and schools, along with the providing transportation to bring workers to the major Waukesha County employment centers. The recommended routing and service changes are set forth in Table 52 and include those needed to make adjustments to, or eliminate, poorly performing routes and to improve and expand service to serve developing areas with significant employment and employee needs. The table also indicates an implementation priority for the proposed serve changes, identifying those changes which should be pursued immediately in 2002 and 2003, and those changes which would be pursued in the short-term future and be in place by the end of the planning period in 2006. Map 27 displays the proposed routes of the Waukesha County transit system for 2006, and Table 53 summarizes the service characteristics for each proposed route. Table 54 indicates the changes in route miles and vehicle requirements from the fall 2001 transit system to the recommended system for 2006. Table 55 identifies the park-ride lots and public terminals in Waukesha and Milwaukee Counties that are proposed to be served by the recommended transit system. The proposed County transit system would include the following

service components, some of which entail changes from existing 2001 services.

Rapid Bus Routes Serving Central Milwaukee County

Rapid bus service would be provided for passengers working or attending schools in the Milwaukee CBD or attending the University of Wisconsin-Milwaukee (UWM) over the routes shown on Map 28. The basis for the recommended services would be the four existing bus routes serving the Waukesha-Brookfield (Route No. 901), Oconomowoc-Delafield-Hartland-Pewaukee (Route No. 905), Menomonee Falls (Route No. 79), and Mukwonago-Vernon-New Berlin (Route No. 906) areas in Waukesha County. No changes are proposed for Route Nos. 79 and 906. Changes are, however, recommended for the alignments and/or service levels for Route Nos. 901 and 905 as follows:

- Route No. 901 and 901X: The service changes implemented in late May 2000 for the County's Waukesha-Milwaukee bus service combined all service in this corridor into one route, Route No. 901. The current Route 901 schedules include a mix of rapid service operated primarily over the IH 94 freeway during the peak periods and express service operated at all other times over W. Wisconsin Avenue between N. 11th and N. 35th Streets, the IH 94 freeway, and Blue-mound Road between the Brookfield Square park-ride lot and the Goerkes Corners Public Transit Station. It is recommended that the County identify in the Route No. 901 timetable two distinct branches in the route, Route Nos. 901 and 901X, to more clearly impart information on the trips in the schedule that are operated over IH 94 for passengers commuting to downtown Milwaukee or UWM. The two routes are shown more clearly on Map 29.

Route No. 901X would operate only during weekday peak periods with five eastbound trips leaving downtown Waukesha between 6:15 a.m. and 8:15 a.m. and five westbound trips leaving UWM or the Milwaukee CBD between 2:30 p.m. and 5:00 p.m. The existing bus trips to and from the Milwaukee CBD at these times that carry the highest passenger volumes would be the most appropriate trips to be converted to Route 901X operation. Route No. 901X would not operate over Blue Mound Road between the Goerkes Corners Public Transit Station and the Brookfield Square park-ride lot or over W. Wisconsin Avenue between N. 35th and N. 11th Streets, and would also not make stops along IH 94 at N. 84th,

Table 52

**SUMMARY OF TRANSIT SERVICE CHANGES PROPOSED FOR THE
ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: 2002-2006**

Type of Service	Existing 2001 Transit System		Proposed Under Plan			
	Route Number	Service Description	Recommended Routing and Service Changes			Comments
			Route Number	For Immediate Implementation (2002-2003)	For Implementation in Short Term (2004-2006)	
Rapid/Express (continued)	6	<ul style="list-style-type: none"> Route operated between central Milwaukee County and Quad Graphics, Inc., New Berlin plant over N. and S. 27th Street and W. Greenfield Avenue Provides weekday, weekend, and holiday service 	6	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Route is forecast to continue to be one of the best performers in system
	8	<ul style="list-style-type: none"> Route operated between central Milwaukee County and Quad Graphics, Inc., Sussex plant over W. Fond du Lac Avenue and W. Silver Spring Drive Provides weekday, weekend, and holiday service 	8	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Route is forecast to continue to be one of the best performers in system
	79	<ul style="list-style-type: none"> Route operated between Menomonee Falls and the Milwaukee central business district over USH 45 and IH 94 Provides weekday, peak period service 	79	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Route is forecast to continue to be one of the best performers in system
	901	<ul style="list-style-type: none"> Route operated between Waukesha and Brookfield, the Milwaukee central business district, and the University of Wisconsin-Milwaukee over Bluemound Road, IH 94, Wisconsin Avenue, and Lake Shore Drive Provides weekday, weekend, and holiday service 	901	<ul style="list-style-type: none"> Restructure route so all service is operated over Bluemound Road, IH 94, and W. Wisconsin Avenue (see Map 28) between the Goerkes Corners Public Transit Station and the Milwaukee CBD Move existing weekday peak period bus trips operated over IH 94 between N. 35th Street and the Milwaukee CBD to new Route No. 901X (see below) Add additional bus trips on weekdays to provide for 30-minute headways during morning and afternoon peak periods and 60-minute headways during midday period in both travel directions Modify weekday evening service by eliminating early evening bus trips operated between downtown Waukesha and the Milwaukee CBD between 7:00 p.m. and 9:30 p.m. and adding bus trips operating between the Milwaukee CBD and the Goerkes Corners Public Transit Station between about 9:30 p.m. and 12:30 a.m. with changes to provide connections for second and third shift workers using Route Nos. 301 and 305 (see below). Reduce weekend and holiday service levels from six existing round-trips to three round-trips on Saturdays and from four existing round-trips round trips to three on Sundays and holidays Provide access to employer operated shuttle routes operated from Goerkes Corners Public Transit Station serving major employment centers in Delafield and Oconomowoc 	<ul style="list-style-type: none"> Continue to operate route with changes proposed for 2002-2003 	<ul style="list-style-type: none"> Proposed weekday changes would provide for improved connections for passengers commuting from residences in central Milwaukee County to job centers in Waukesha County Proposed weekend and holiday changes would reduce unproductive service and improve overall performance of route With proposed changes, weekday service is forecast to be one of the best performers in system but forecast weekend and holiday performance is mixed and should be continue to be monitored

Table 52 (continued)

Type of Service	Existing 2001 Transit System		Proposed Under Plan			
	Route Number	Service Description	Recommended Routing and Service Changes			
			Route Number	For Immediate Implementation (2002-2003)	For Implementation in Short Term (2004-2006)	Comments
Rapid/Express (continued)	901 (continued)		901X (new route)	<ul style="list-style-type: none"> Create new route from morning and afternoon peak period bus trips currently operated on Route No. 901 serving passengers commuting from Waukesha County residences to jobs and schools in downtown Milwaukee or to UWM Operate route over IH 94 with no service along Bluemound Road or Wisconsin Avenue Serve new park-Ride lot to be constructed at IH 94 and Moorland Road interchange and new transfer center for the Waukesha Metro Transit System in downtown Waukesha Operate with five eastbound and five westbound bus trips over route during weekday peak periods^a 	<ul style="list-style-type: none"> Continue to operate route with changes proposed for 2002-2003 	<ul style="list-style-type: none"> Proposed changes would improve travel times for existing riders commuting to jobs and schools in Milwaukee CBD or to UWM Route is forecast to continue to be one of the best performers in system
	905	<ul style="list-style-type: none"> Route operated between Oconomowoc and the Milwaukee central business district over two branches: one over STH 16 and IH 94 and one over STH 67 and IH 94 Provides weekday, peak period service between Oconomowoc, Delafield, Pewaukee, Brookfield and the Milwaukee central business district, Capitol Drive, USH 45, and IH 94 	904 (new route)	<ul style="list-style-type: none"> Create new route from morning and afternoon peak period bus trips currently operated over STH 16 on Route No. 905, with service provided over STH 16, Capitol Drive (STH 190), USH 45, and IH 94 Route to originate and end at existing Hartland park-ride lot at STH 16 and STH 83 and serve new park-ride lots created at private shopping centers lots near STH 16 and Ryan Street (CTH KF), Capitol Drive and Pewaukee Road (CTH J), and Capitol Drive and Calhoun Road Route will no longer serve park-ride lots in downtown Oconomowoc, at STH 16 and CTH P, at STH 16 and CTH C, and the Goerkes Corners Public Transit Station Operate with two eastbound and two westbound weekday peak period bus trips 	<ul style="list-style-type: none"> Continue to operate route with changes proposed for 2002-2003 	<ul style="list-style-type: none"> Proposed change would eliminate service over existing segments of Route No. 905 identified as a poorly performing route segments in the performance evaluation Proposed route would retain service to Hartland and Pewaukee areas and expand service into Brookfield Route is forecast to be one of the best performers in system
			905	<ul style="list-style-type: none"> Continue to operate IH 94 route branch but with one additional morning and afternoon bus trip serving Oconomowoc Operate with total of four eastbound and four westbound weekday peak period bus trips and two morning and two afternoon bus trips serving downtown Oconomowoc 	<ul style="list-style-type: none"> Continue to operate route with changes proposed for 2002-2003 	<ul style="list-style-type: none"> With proposed changes, route is forecast to be one of the best performers in system
	906	Weekday, peak period service operated between Mukwonago, Vernon, New Berlin and the Milwaukee central business district over IH 43 and IH 94	906	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Overall performance of route mixed due in part to substantial deadhead time and miles Forecast performance not poor enough to warrant significant changes but route should be closely monitored
	1	<ul style="list-style-type: none"> Route operated between the Goerke's Corners Public Transit Station, the Brookfield Square Shopping Center, and proposed Moorland Road/IH 94 Transit Station over Bluemound Road Provides weekday and weekend service 	1	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Incorporate Sunday service funded through CMAQ demonstration grant into regular service and continue to operate route without any changes 	<ul style="list-style-type: none"> Route is forecast to continue to be one of the best performers in system
Established Local/Shuttle Routes/Services						

Table 52 (continued)

Type of Service	Existing 2001 Transit System		Proposed Under Plan			
	Route Number	Service Description	Recommended Routing and Service Changes			Comments
			Route Number	For Immediate Implementation (2002-2003)	For Implementation in Short Term (2004-2006)	
Established Local/Shuttle Routes/Services (continued)	9 (Weekday Service)	<ul style="list-style-type: none"> Route operated between N. 124th Street/Capitol Drive and Lovers Lane Road and Silver Spring Road over local streets Provides weekday service for first, second, and third shift jobs 	9	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Forecast performance not poor enough to warrant significant changes but route should be closely monitored
	10	<ul style="list-style-type: none"> Route operated between N. 124th Street/ Bluemound Road and the Brookfield Square Shopping Center over Bluemound Road Provides weekday, weekend, and holiday service 	10	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Incorporate Saturday evening and Sunday service funded through CMAQ demonstration grant into regular service and continue to operate route without any changes 	<ul style="list-style-type: none"> Route is forecast to continue to be one of the best performers in system
	106 (Weekday Daytime Service)	<ul style="list-style-type: none"> Route operated between N. 76th Street/Mill Road and Menomonee Falls Industrial Parks over STH 145 and local streets Provides weekday service for first shift jobs 	106	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Forecast performance not poor enough to warrant significant changes but route should be closely monitored
Demonstration Local/Shuttle Routes/Services	9 (Saturday Service)	<ul style="list-style-type: none"> Route alignment same as for established route (see above) Provides Saturday service 	9	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Incorporate Saturday service funded through WETAP demonstration grant into regular service and continue to operate route without any changes 	<ul style="list-style-type: none"> Forecast performance of route would be well below that of established local and shuttle routes Performance should be closely monitored
	106 (Weekday Evening Service)	<ul style="list-style-type: none"> Route alignment same as for established route (see above) Provides weekday and weekend service for second and third shift jobs 	106	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Incorporate weekday evening and Saturday service funded through WETAP demonstration grant into regular service and continue to operate route without any changes 	<ul style="list-style-type: none"> Forecast performance of route would be well below that of established local and shuttle routes Performance should be closely monitored
	218	<ul style="list-style-type: none"> Route operated between N. 124th Street/Greenfield Avenue and the New Berlin Industrial Park over Greenfield Avenue and Moorland Road Provides weekday and Saturday service for principal work shifts 	218	<ul style="list-style-type: none"> Continue to operate route without any changes 	<ul style="list-style-type: none"> Incorporate route currently funded through WETAP demonstration grant into regular service and continue to operate route without any changes 	<ul style="list-style-type: none"> Forecast performance not poor enough to warrant significant changes but route should be closely monitored
	263	<ul style="list-style-type: none"> Route operated between Lovers Lane Road/Silver Spring Road and Kohl's Corporate Park over Silver Spring Drive Provides weekday and Saturday service for principal work shifts 	--	<ul style="list-style-type: none"> Eliminate all service over route Employer operated shuttle to replace existing service as needed 	--	<ul style="list-style-type: none"> Poor performance of route warranted elimination of route at the end of August 2001
	302	<ul style="list-style-type: none"> Route operated between N. 108th Street/W. Cleveland Avenue and Westridge Business Park over W. National Avenue and Moorland Road Provides weekday and Saturday service 	301 (new route)	<ul style="list-style-type: none"> Create new route to replace existing service provided to the New Berlin Industrial Park by Route No. 302 Provide limited service over Greenfield Avenue and Calhoun Road during weekday morning and afternoon peak periods to provide connections for passengers commuting to Milwaukee CBD or UWM on Route Nos. 901 and 901X Provide transfer connections with Route Nos. 1, 10, and 901 at the new park-ride lot to be constructed at IH 94 and Moorland Road interchange Operate with 30-minute headways to serve the starting and ending times of principal weekday and Saturday work shifts 	<ul style="list-style-type: none"> Incorporate route currently funded through CMAQ demonstration grant into regular service and continue to operate route with changes proposed for 2002-2003 	<ul style="list-style-type: none"> Operation as separate route would facilitate extension of Route No. 302 to Westridge Business Park Reduced hours of service operation to only during major work shift times expected to modestly improve overall route performance Forecast performance of route would still be well below that of established local and shuttle routes Performance of should be closely monitored

Table 52 (continued)

Type of Service	Existing 2001 Transit System		Proposed Under Plan			
	Route Number	Service Description	Recommended Routing and Service Changes			
			Route Number	For Immediate Implementation (2002-2003)	For Implementation in Short Term (2004-2006)	Comments
Demonstration Local/Shuttle Routes/Services (continued)	301 (continued)		302	<ul style="list-style-type: none"> Restructure Route No. 302 to extend service to the Westridge Business Park and the park-ride lot at IH 43 and Moorland Road using flexible routing Operate Westridge route extension only on weekdays to serve the starting and ending times of principal work shifts Replace existing service to the Brookfield Square Shopping Center and the New Berlin Industrial Park over Moorland Road with service over new local shuttle Route No. 301 (see above) Eliminate existing Sunday service Operate route with 30-minute headways at all times on weekdays and Saturdays Provide access to employer operated shuttle routes operated from Moorland Road park-ride serving major employment centers in Muskego and Mukwonago 	<ul style="list-style-type: none"> Incorporate route currently funded through CMAQ demonstration grant into regular service and continue to operate route with changes proposed for 2002-2003 	<ul style="list-style-type: none"> Westridge Business Park identified as major employment center potentially in need of transit service Elimination of Sunday service expected to modestly improve overall route performance Forecast performance of route would still be well below that of established local and shuttle routes Performance of should be closely monitored
	303	<ul style="list-style-type: none"> Route operated between the Goerkes Corners Public Transit Station, the Hartland Industrial Park, Bark River Commerce Center, Delafield commercial development at IH 94/STH 83 over IH 94, STH 16, and STH 83 Provides weekday and Saturday service for principal work shifts 	303 (new route)	<ul style="list-style-type: none"> Eliminate all service over existing route 	<ul style="list-style-type: none"> Create new route operated between N. 124th Street and the Village of Hartland over W. Capitol Dr (STH 190), STH 16, and STH 83 Route to serve employers in Hartland Industrial Park and Bark River Commerce Center, commercial development along Capitol Dr. between N. 124th Street and Brookfield Road; and Waukesha County Workforce Development Center at the Waukesha County Technical College Provide transfer connections with Milwaukee County Transit System bus routes at N. 124th Street and W. Capitol Drive Provide access to employer operated shuttle routes serving new park-ride lot to be created near Capitol Drive and Pewaukee Road (CTH J) Operate with 30- and 60-minute headways to serve the starting and ending times of principal weekday and Saturday work shifts 	<ul style="list-style-type: none"> Poor performance of existing 2001 route prompted County to propose its elimination at the end of December 2001 Major employment centers in Delafield and Hartland, and Brookfield commercial development along Capitol Drive (STH 190), still potentially in need of transit service New route to provide for more direct service to Hartland and Delafield areas for central Milwaukee County residents through use of Milwaukee County Transit System bus routes as feeder service Route to be funded through Federal and State transit demonstration grants Forecast performance of route would still be well below that of established local and shuttle routes Performance of should be closely monitored
	304	<ul style="list-style-type: none"> Route operated between Waukesha Metro Transit downtown Terminal, Pewaukee businesses, and Waukesha County Technical College over STH 164, CTH J, and Capitol Drive Provides weekday service for first shift jobs 	304 (new route)	<ul style="list-style-type: none"> Eliminate all service over existing route 	<ul style="list-style-type: none"> Create new route operated between Waukesha Metro Transit downtown transfer center to Pewaukee business and commercial areas Provide transfer connections with Route No. 901 and all routes of the Waukesha Metro Transit System at Waukesha Metro Transit downtown transfer center Operate with 30- and 60-minute headways during weekday morning, midday, and afternoons primarily to serve daytime jobs 	<ul style="list-style-type: none"> Poor performance of existing 2001 route prompted County to propose its elimination at the end of December 2001 Major employment centers and commercial development in Pewaukee still potentially in need of transit service New route to provide for more direct service for Waukesha residents Route to be funded through Federal and State transit demonstration grants Forecast performance of route would still be well below that of established local and shuttle routes Performance of should be closely monitored

Table 52 (continued)

Type of Service	Existing 2001 Transit System		Proposed Under Plan			
	Route Number	Service Description	Recommended Routing and Service Changes			
			Route Number	For Immediate Implementation (2002-2003)	For Implementation in Short Term (2004-2006)	Comments
Demonstration Local/Shuttle Routes/Services (continued)	--	--	305 (new route)	--	<ul style="list-style-type: none"> • Create new operated between Goerkes Corners Public Transit Station and Elmbrook Memorial Hospital • Provide transfer connections with Route Nos. 1 and 901 at the Goerkes Corners Public Transit Station • Route to serve jobs at employment centers in the Bluemound, Bluemound East, Jerico, and Brookfield Industrial Parks and at Elmbrook Memorial Hospital • Operated over Bluemound Road, Springdale Road, North Avenue, and Barker Road with flexible routing to pick-up and discharge passengers within Brookfield and Pewaukee employment service areas • Operate with 30 minute headways on weekdays to serve principal work shift starting and ending times 	<ul style="list-style-type: none"> • Major employment centers in Pewaukee and Brookfield potentially in need of transit service • Route to be funded through Federal and State transit demonstration grants • Forecast performance of route would still be well below that of established local and shuttle routes • Performance of should be closely monitored

^aThe Fall 2001 schedule for Route No. 901 includes 25 eastbound and 27 westbound bus trips on weekdays and includes bus trips operated over IH 94 between N. 35th Street and the Milwaukee CBD which are proposed to be incorporated into the new Route No. 901X. The recommended service over both Route Nos. 901 and 901X would provide for a total of 28 eastbound and 29 westbound bus trips on weekdays.

Source: SEWRPC.

with these IH 94 ramp stops would be operated during the morning and afternoon peak periods over the base Route 901 as part of service provided for Milwaukee County residents commuting to jobs in Waukesha County as discussed in a following section. The existing schedules for Route No. 901 currently include only two eastbound morning bus trip and one westbound afternoon bus trip each weekday that are operated similar to the proposed branch alignment for Route No. 901X.

It is also recommended that the route serve two public transit facilities that are to be constructed by 2006. A new downtown transfer terminal has been approved the City of Waukesha for the Waukesha Metro Transit System and will be located in the block bounded by St. Paul Avenue, Brook Street, North Avenue, and Mary street, about one block north of the current transfer terminal in the River Parking Lot. Plans tentatively call for the facility to be open for use in 2002. A project to construct a new public transit station near the IH 94 and Moorland Road interchange has been proposed by the Wisconsin Department of Transportation. This facility has tentatively been proposed for construction during

2003 and will replace the existing park-ride lot on private land at the Brookfield Square Shopping Center.

- **Route Nos. 904 and 905:** It is recommended that the County's Oconomowoc-Milwaukee bus service operated over Route No. 905 be significantly restructured. The existing route would be split into two routes in much the same manner as operated prior to the recent service change. One route, Route No. 905, would operate over IH 94 and serve the Oconomowoc and Delafield areas. The second route, Route No. 904, would operate over STH 16 and serve the Hartland and Pewaukee areas. The portion of the existing Route No. 905 operated over STH 16 between Hartland and Oconomowoc would be eliminated, having been identified as a poorly performing portion of the route in the performance evaluation. The restructured alignments for these two routes are shown on Map 28.

The new Route No. 904 would originate in the Village of Hartland at the Hartland park-ride lot (STH 16 and STH 83) and would operate primarily over STH 16, Capitol Drive (STH 190), USH 41-45, and IH 94 between Hartland and

Table 53

**PROPOSED OPERATING AND SERVICE CHARACTERISTICS FOR THE
BUS ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: 2006**

Type of Service	Route Number	Round Trip Route Length (miles) ^a	Approximate Service Hours	Weekday Service					Buses Required				
				Service Frequency					Morning Peak Period	Midday Period	Afternoon Peak Period	Evening Period	Night Period
				Morning Peak Period	Midday Period	Afternoon Peak Period	Evening Period	Night Period					
Rapid	79	46.5	6:00 a.m.-8:15 a.m. 3:45 p.m.-6:00 p.m.	15-40 minutes	--	15-40 minutes	--	--	3	--	2	--	--
	901X	47.0	6:15 a.m.-9:15 a.m. 2:30 p.m.-5:45 p.m.	30 minutes	--	30 minutes			4	--	4	--	--
	904	58.0	6:15 a.m.-7:45 a.m. 4:45 p.m.-6:00 p.m.	2 trips	--	2 trips	--	--	2	--	2	--	--
	905	74.0	6:00 a.m.-8:00 a.m. 4:15 p.m.-6:15 p.m.	20-30 minutes	--	20-30 minutes	--	--	4	--	4	--	--
	906	64.0	6:00 a.m.-8:15 a.m. 3:45 p.m.-6:20 p.m.	3 trips	--	3 trips	--	--	3	--	3	--	--
	Subtotal	289.5	--	--	--	--	--	--	16	--	15	--	--
Express	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips	--	2 trips	--	--	1	--	1	--	--
	8	55.6	5:30 a.m.-8:15 a.m. 5:30 p.m.-8:15 p.m.	2 trips	--	2 trips	--	--	1	--	1	--	--
	901	54.0	4:45 a.m.-1:15 a.m.	30 minutes	30-60 minutes	30 minutes	1 trip	30 minutes	5	3	5	1	5
	Subtotal	142.0	--	--	--	--	--	--	7	--	7	1	5
Local	1	11.0	6:00 a.m.-10:15 p.m.	15-25 minutes	30 minutes	15-20 minutes	30 minutes		2	1	2	1	1
	10	8.3	5:30 a.m.-10:45 p.m.	20 minutes	30-35 minutes	20 minutes	20-25 minutes	--	2	1	2	1	--
	302 ^b	16.0	5:30 a.m.-11:30 p.m.	30 minutes	30 minutes	30 minutes	30 minutes	30 minutes	2	1	2	1	1
	Subtotal	35.3	--	--	--	--	--	--	6	3	6	3	2
Local Shuttle	9	10.5	5:30 a.m.-8:15 a.m. 1:15 p.m.-5:00 p.m. 9:45 p.m.-12:00 a.m.	40-45 minutes	--	40-50 minutes	--	50-55 minutes	1	--	1	--	1
	106	18.5	5:15 a.m.-7:30 a.m. 2:00 p.m.-4:00 p.m. 9:30 p.m.-11:30 p.m.	40-40 minutes	--	40-55 minutes	--	50-55 minutes	1	--	1	--	1
	218	11.1	5:45 a.m.-8:15 a.m. 1:45 p.m.-5:15 p.m. 10:15 p.m.-12:45 a.m.	35-45 minutes		30-45 minutes	--	40 minutes	1	--	1	--	1
	301	10.4	5:30 a.m.-8:30 a.m. 2:00 p.m.-5:30 p.m. 10:00 p.m.-12:00 a.m.	30 minutes	--	30 minutes	--	30 minutes	1	--	1	--	1
	303 ^b	45.0	5:15 a.m.-10:00 a.m. 1:15 p.m.-4:45 p.m. 10:30 p.m.-12:30 p.m.	60-75 minutes	--	30 minutes	--	30-60 minutes	3	--	3		2
	304 ^b	23.0	5:30 a.m.-9:00 a.m. 11:15 a.m.-1:15 p.m. 3:00 p.m.-6:00 p.m.	30-45 minutes	2 trips	30-40 minutes	--	--	2	1	2	--	2
	305 ^b	10.0	5:30 a.m.-9:00 a.m. 2:00 p.m.-5:30 p.m. 10:15 p.m.-12:15 a.m.	30 minutes	--	30 minutes	--	30 minutes	1	--	1	--	1
	Subtotal	128.5	--	--	--	--	--	--	10	1	10	--	9
Total	--	595.3	--	--	--	--	--	--	39	7	38	4	16

Table 53 (continued)

Saturday Service					
Type of Service	Route Number	Round Trip Route Length (miles) ^a	Approximate Service Hours	Service Frequency	Buses Required
Rapid	--	--	--	--	--
Express	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips 2 trips	1
	8	55.6	5:30 a.m.-8:15 a.m. 5:30 p.m.-8:15 p.m.	2 trips 2 trips	1
	901	46.0	7:30 a.m.-9:30 a.m. 12:00 p.m.-2:15 p.m. 4:00 p.m.-6:15 p.m.	2 trips 2 trips 2 trips	1
	Subtotal	134.0	--	--	3
Local	1	7.3	8:45 a.m.-9:45 p.m.	30 minutes	1
	10	8.3	8:30 a.m.-10:30 p.m.	20-35 minutes	1
	302	8.2	9:00 a.m.-11:00 p.m.	30 minutes	1
	Subtotal	23.8	--	--	3
Local Shuttle	9	10.5	6:00 a.m.-7:15 a.m. 12:00 p.m.-12:45 p.m. 3:00 p.m.-3:45 p.m.	4 trips 2 trips 2 trips	1
	106	18.5	5:15 a.m.-7:30 a.m.	35-40 minutes	1
	218	11.1	5:30 a.m.-8:15 a.m. 2:30 p.m.-5:00 p.m.	30-35 minutes 30 minutes	1
	303 ^b	45.0	5:15 a.m.-8:15 a.m. 2:00 p.m.-4:15 p.m.	60 minutes 30 minutes	2
--	Subtotal	85.1	--	--	5
Total	--	242.9	--	--	11

Sunday/Holiday ^c Service					
Type of Service	Route Number	Round Trip Route Length (miles) ^a	Approximate Service Hours	Service Frequency	Buses Required
Rapid	--	--	--	--	--
Express	6	32.4	6:00 a.m.-8:00 a.m. 6:00 p.m.-8:00 p.m.	2 trips 2 trips	1
	8	55.6	5:45 a.m.-8:15 a.m. 5:45 p.m.-8:15 p.m.	2 trips 2 trips	1
	901	46.0	7:30 a.m.-9:30 a.m. 12:00 p.m.-2:15 p.m. 4:00 p.m.-6:15 p.m.	2 trips 2 trips 2 trips	1
	Subtotal	134.0	--	--	3
Local	1	7.3	9:45 a.m.-6:45 p.m.	30 minutes	1
	10	8.3	9:45 a.m.-7:45 p.m.	20 minutes	1
	302	22.3	10:00 a.m.-7:00 p.m.	30 minutes	1
	Subtotal	37.9	--	--	3
Local Shuttle	106	18.5	9:30 p.m.-11:30 p.m.	2 trips	1
Total	--	190.4	--	--	7

^aRepresents the directional miles of street traversed by a bus route including all branches.

^bRoute Nos. 302, 303, 304, and 305 are proposed to operate with flexible routing over portions of each route. The route lengths shown represent estimates for the base route without flexible routing.

^cOnly Route Nos. 6 and 8 would operate on holidays.

Source: Milwaukee County Transit System; Wisconsin Coach Lines, Inc.; Waukesha Metro Transit; and SEWRPC.

Table 54

**ROUND-TRIP ROUTE MILES AND VEHICLE REQUIREMENTS
FOR THE RECOMMENDED WAUKESHA COUNTY TRANSIT SYSTEM: 2006**

Characteristic	Fall 2001 Transit System	Change from Fall 2001 System		Recommended 2006 Transit System
		Absolute Amount	Percent	
Number of Routes				
Rapid	3	2	66.7	5
Express	3	--	--	3
Local	3	--	--	3
Local Shuttle	5	2	40.0	7
Total	14	4	28.5	18
Round Trip Route Miles				
Rapid	218.5	71.0	32.5	289.5
Express	142.0	--	--	142.0
Local	41.6	-6.3	-15.1	35.3
Local Shuttle	112.1	16.4	14.6	128.5
Total	514.2	81.1	15.6	595.3
Total System Vehicle Requirements				
Rapid	12	4	33.0	16
Express	9	-2	-22.2	7
Local	6	--	--	6
Local Shuttle	8	2	25.0	10
Total	35	4	11.4	39

Source: SEWRPC.

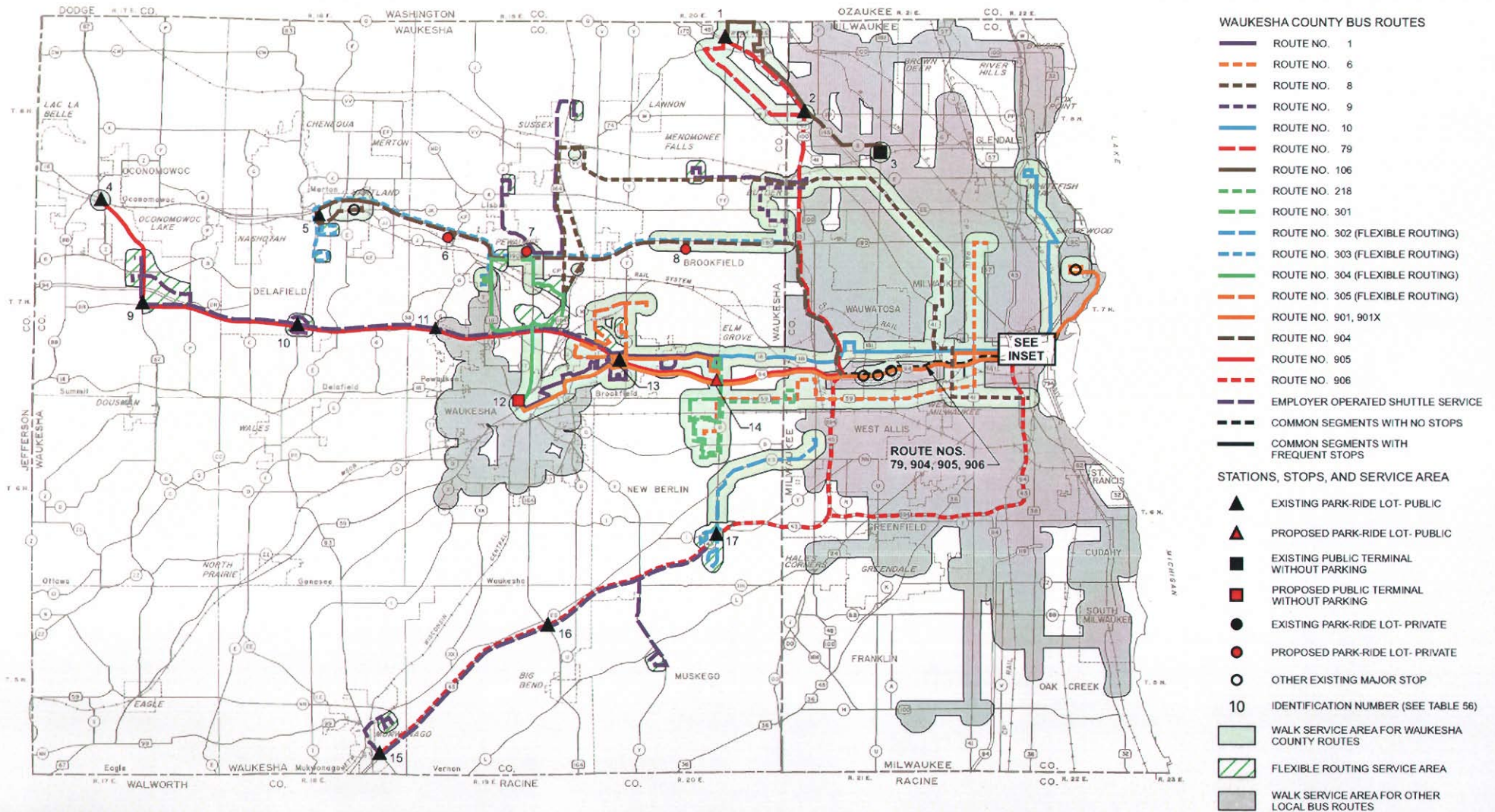
the Milwaukee CBD. The existing Hartland park-ride lot would need to be modified to provide for safe bus operations. Development of a new privately owned transit center at the Hartland location that would include commercial development catering to commuters has been proposed by the staff of the Wisconsin Department of Transportation and is under consideration by Village officials. Besides the Hartland park-ride lot, the route would also serve three new park-ride facilities created at privately owned shopping center lots near STH 16 and Ryan Street (CTH KF) in the Village of Pewaukee, Capitol Drive and Pewaukee Road (CTH J) in the City of Pewaukee, and Capitol Drive and Calhoun Road in the City of Brookfield. Service over the route would be provided only during weekday peak periods with two eastbound trips operated in the morning and two westbound trips operated in the afternoon. This would be an increase of one round trip each day over what is provided over to the Hartland and Pewaukee areas by the existing Route No. 905.

The restructured Route No. 905 would follow the existing route alignment over STH 67, CTH DR, and IH 94 and continue to serve all the existing stops between Oconomowoc and the Milwaukee CBD. To maintain the two morning and two afternoon bus trips serving Oconomowoc each weekday by the current route, one of the three morning bus trips and one of the three afternoon bus trips that currently start or end at the Delafield park-ride lot (IH 94 and STH 83) would be extended to begin and end in Oconomowoc. A total of four bus trips in each direction each weekday would continue to be operated over the route between the Delafield park-ride lot and the Milwaukee CBD as at present.

***Express Bus Routes Serving
Waukesha-Milwaukee County Travel***

The recommended express bus routes are shown on Map 30. The plan retains without change Route Nos. 6 and 8 that serve Quad Graphics, Inc. plants located in Sussex and New Berlin. Both routes were identified as

PROPOSED BUS ROUTES COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: 2006



INSETTO Map 27

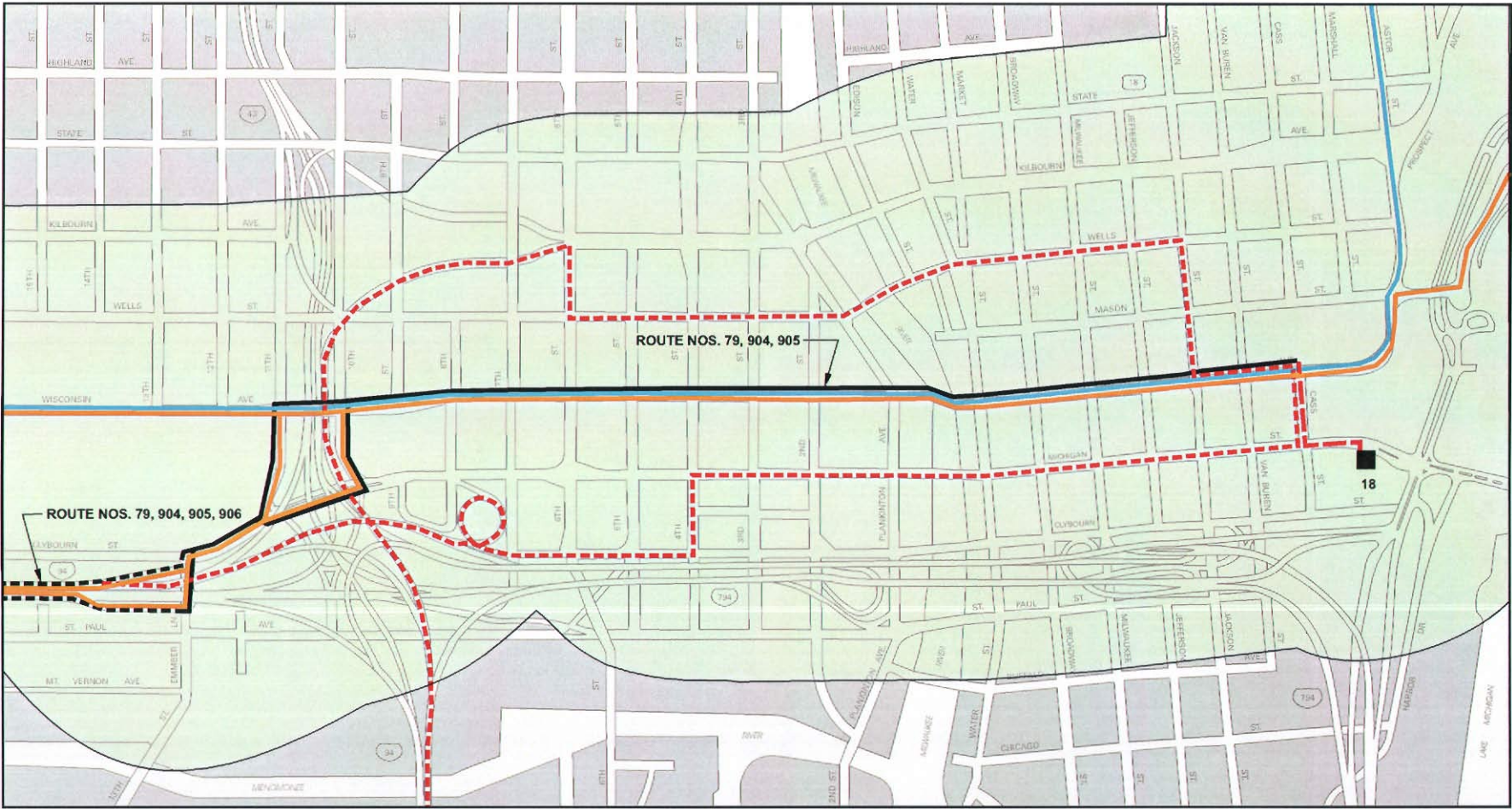


Table 55

**MAJOR PARK-RIDE FACILITIES AND TERMINALS FOR THE
PROPOSED WAUKESHA COUNTY TRANSIT SYSTEM: 2006**

Number on Map 27	Location	Waukesha County Routes Serving Facility ^a	Status	Number of Parking Spaces
1	Pilgrim Road (Menomonee Falls)	79	Existing	70
2	W. Good Hope Road (Milwaukee)	79	Existing	135
3	Milwaukee County Transit System Mill Road Transit Center (Milwaukee)	106	Existing	--
4	Collins Municipal Parking Lot (Oconomowoc)	905	Existing	65
5	STH 16 and STH 83 (Hartland)	904	Existing ^b	35
6	STH 16 and CTH KF (Pewaukee)	904	Proposed ^a	25
7	Capitol Drive (STH190) and Pewaukee Road (Pewaukee)	904	Proposed ^c	25
8	Capitol Drive (STH190) and Calhoun Road (Brookfield)	904	Proposed ^c	25
9	STH 67 and CTH DR (Summit)	905	Existing	100
10	IH 94 and STH 83 (Delafield)	905	Existing	200
11	IH 94 and CTH G (Pewaukee)	905	Existing	235
12	Waukesha Metro Transfer Terminal (Waukesha)	1, 901, 901X, 304	Proposed ^d	--
13	Goerkes Corners (Brookfield)	1, 305, 306, 901, 901X, 905	Existing	315
14	IH 94 and Moorland Road (Brookfield)	1, 10, 301, 901	Proposed ^e	350
15	IH 43 and STH 83 (Mukwonago)	906	Existing	105
16	IH 43 and STH 164 (Big Bend)	906	Existing	55
17	IH 43 and Moorland Road (New Berlin)	302, 906	Existing	175
18	Milwaukee County Transit System Downtown Transit Center (Milwaukee)	10, 79	Existing	--
--	Total	--	--	1,915

^aSee Map 27 and Table 52.

^bA project to construct a new public transit station and commuter center with commercial development at this location has been proposed by the Wisconsin Department of Transportation. No timetable for completion has been established.

^cThe plan assumes Waukesha County or its the contract transit operator would successfully negotiate with the owner of a private commercial center for the establishment a park-ride lot at this location.

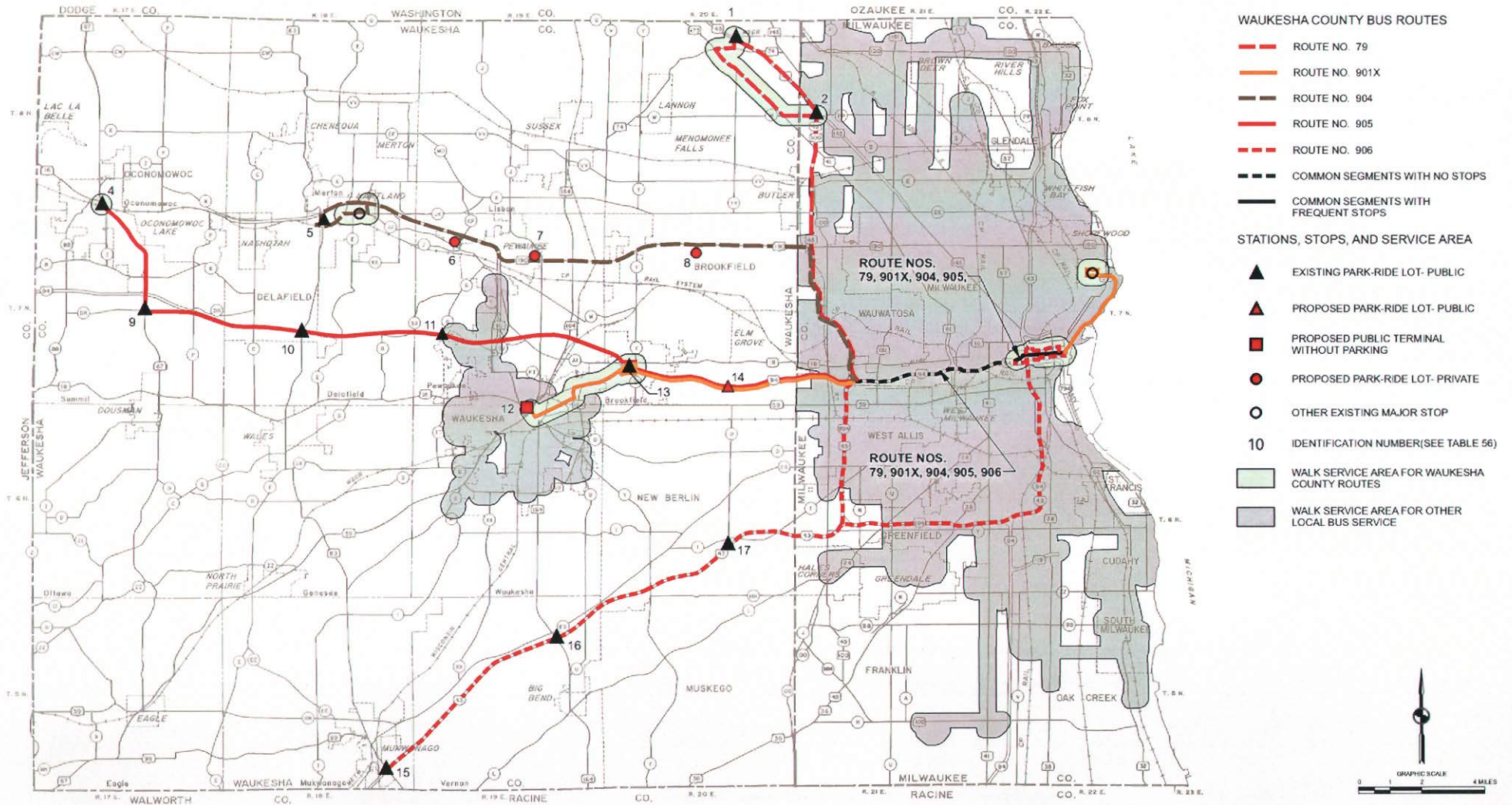
^dThis facility will serve as the common transfer point for the City of Waukesha Metro Transit System and will be constructed in downtown Waukesha in the block bounded by St. Paul Avenue, Brook Street, North Avenue, and Mary Street. Plans tentatively call for the facility to be open for use in 2002.

^eA project to construct a new public transit station at this location has been proposed by the Wisconsin Department of Transportation for 2003.

Source: SEWRPC.

Map 28

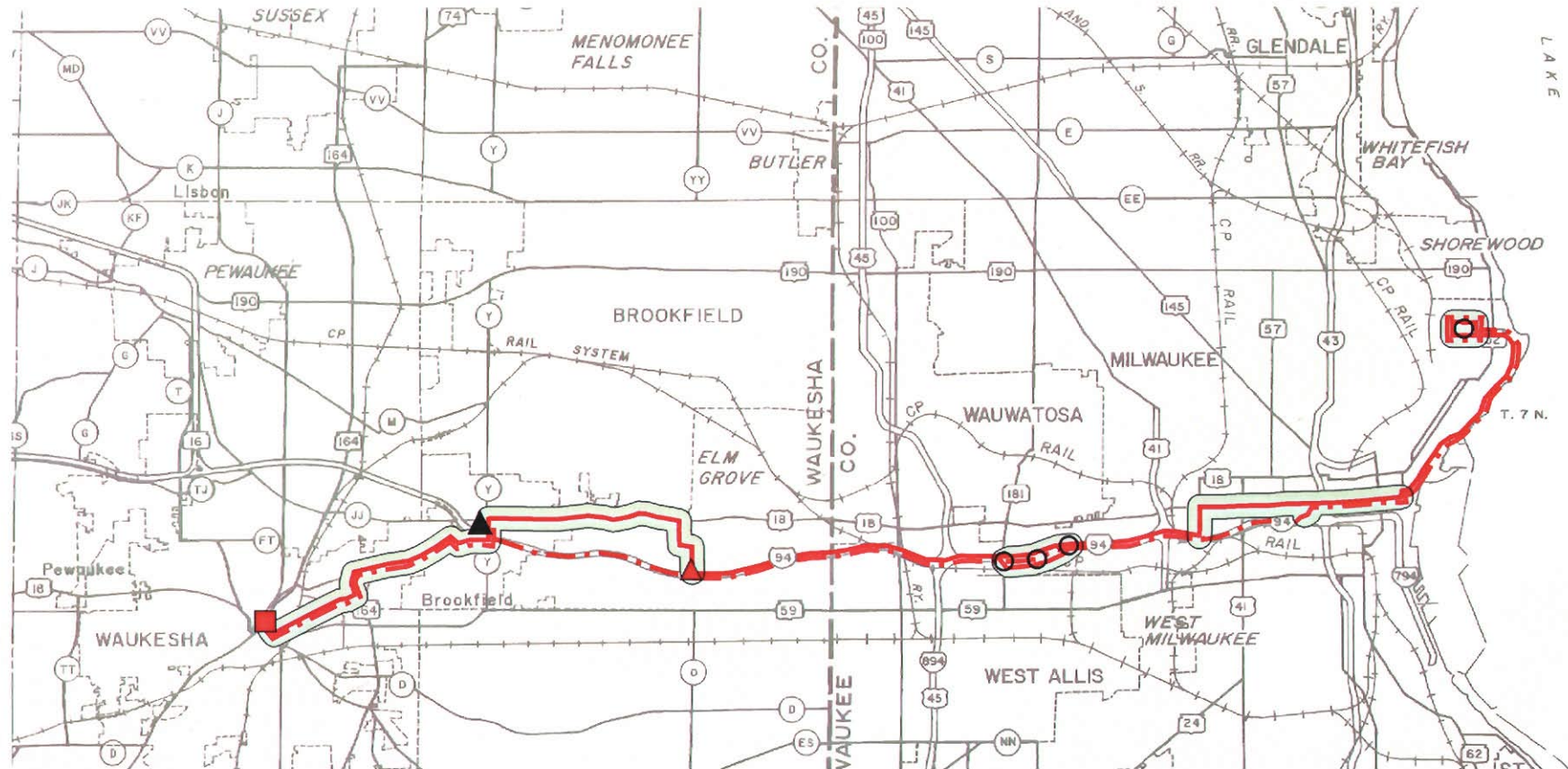
PROPOSED RAPID BUS ROUTES SERVING MILWAUKEE COUNTY: 2006



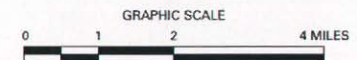
Source: Waukesha County Department of Public Works and SEWRPC.

Map 29

RECOMMENDED ALIGNMENTS FOR ROUTE NOS. 901 AND 901X



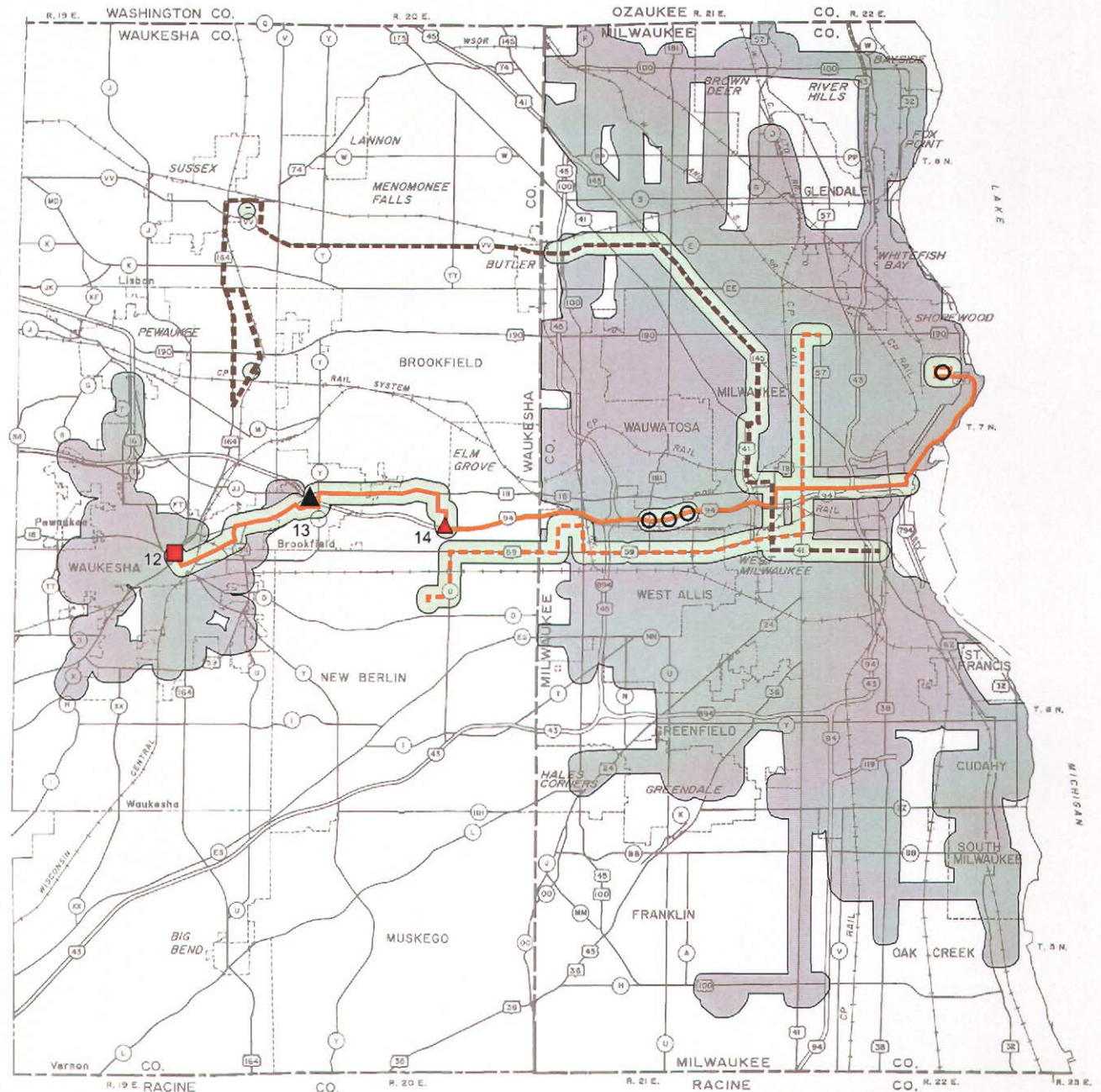
- ROUTE NO. 901
- - - ROUTE NO. 901X
- ▲ EXISTING PARK-RIDE LOT- PUBLIC
- ▲ PROPOSED PARK-RIDE LOT- PUBLIC
- PROPOSED PUBLIC TERMINAL WITHOUT PARKING
- OTHER EXISTING MAJOR STOP (ROUTE 901 ONLY)
- WALK SERVICE AREA FOR WAUKESHA COUNTY ROUTES



Source: SEWRPC.

Map 30

**PROPOSED EXPRESS BUS ROUTES SERVING
WAUKESHA-MILWAUKEE COUNTY COMMUTER TRAVEL: 2006**



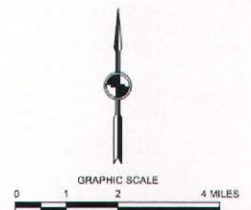
WAUKESHA COUNTY BUS ROUTES

- ROUTE NO. 6
- ROUTE NO. 8
- ROUTE NO. 901

STATIONS, STOPS, AND SERVICE AREA

- ▲ EXISTING PARK-RIDE LOT- PUBLIC
- ▲ PROPOSED PARK-RIDE LOT- PUBLIC
- PROPOSED PUBLIC TERMINAL WITHOUT PARKING

- EXISTING PARK-RIDE LOT- PRIVATE
- OTHER EXISTING MAJOR STOP
- 10 IDENTIFICATION NUMBER (SEE TABLE 56)
- WALK SERVICE AREA FOR WAUKESHA COUNTY ROUTES
- WALK SERVICE AREA FOR OTHER LOCAL BUS ROUTES



Source: Waukesha County Department of Public Works and SEWRPC.

being among the best performing routes in the transit system in the performance evaluation documented in Chapter V. The data examined for the first six months of 2001 indicated the performance of Route No. 6 had slipped somewhat but no changes are proposed for this route as it is believed ridership will return to higher levels with improvements to the economy. Both routes are also a good example of partnerships between Waukesha and Milwaukee Counties and the private sector as Quad Graphics, Inc contributes to the cost of the routes as dictated by ridership and passenger revenue levels.

The plan recommends significant changes to the express bus service provided between the City of Waukesha and central Milwaukee County over Route No. 901. While no changes from the existing alignment for Route No. 901 (see Map 28) are proposed, changes in the daily service levels and times of operation for the Waukesha-Milwaukee service provided over Route No. 901 are recommended as follows:

- Bus trips would be added during the weekday morning and afternoon peak periods to allow for operation with 30-minute headways in both directions of travel. The existing weekday schedules do not include any bus trips over Wisconsin Avenue between N. 11th Street and N. 35th Street eastbound between about 6:30 a.m. and 9:45 a.m. or westbound between about 2:45 p.m. and 6:15 p.m. The additional bus trips would include stops on Wisconsin Avenue that are essential to providing improved connections for passengers commuting between central Milwaukee County residences and Waukesha County jobs.
- Bus trips currently operated on weekday evenings between approximately 7:00 p.m. and 9:00 p.m. would be shifted, and additional trips added, to provide service at night between approximately 9:45 p.m. and 1:00 a.m. The night service would replace service currently provided over Route No. 303 and provide connections for second and third shift workers using the shuttle routes connecting with Route No. 901 at the Goerkes Corners Public Transit Station and the proposed park-ride lot at IH 94 and Moorland Road.
- Service provided on weekends and holidays would be reduced by eliminating three of six existing round trips operated on Saturdays and one of four existing round trips round trips operated on Sundays and holidays. Weekend and holiday service had been identified as poorly performing service in the performance evaluation documented

in Chapter V, in particular when compared with the minimum acceptable performance levels identified for all rapid and express routes on weekdays. On weekends, the route carried about 8 passengers per scheduled bus trip, about 0.4 passengers per revenue vehicle-mile, and about 8 passengers per revenue vehicle-hour; had average operating costs of about \$13 per passenger and \$0.60 per passenger mile; had average operating assistance of about \$11 per passenger and \$0.50 per passenger mile; and had a farebox recovery rate of about 14 percent. These figures compared with weekday minimum acceptable performance levels for all rapid and express routes of about 14 passengers per scheduled bus trip, about 0.5 passengers per revenue vehicle-mile, and about 12 passengers per revenue vehicle-hour; operating costs of about \$9 per passenger and \$0.40 per passenger mile; operating assistance of about \$6.50 per passenger and \$0.30 per passenger mile; and a farebox recovery rate of about 21 percent. The recommended service changes should bring weekend performance levels closer to weekday levels.

Local Bus and Shuttle Routes Serving Waukesha County Employment Centers

The plan proposes an expansion in local bus and shuttle services provided to connect residents of central Milwaukee County and the City of Waukesha with major job concentrations in Waukesha County. The basis for the recommended services would be the local route extensions and shuttle bus services operated in the fall of 2001 over Route Nos. 1, 9, 10, 106, 218, 302, 303, and 304. As such, the plan includes service for employment centers in the Hartland and Pewaukee areas currently served by Route Nos. 303 and 304, routes that have been proposed to be dropped at the end of 2001. While the performance of the existing Route Nos. 303 and 304 may not warrant their continued operation at this time, the plan recognizes that the employment centers in the Hartford and Pewaukee areas may warrant service in the next five years and should be served if the County is to fully address the transit service needs of the County's employers. In addition, the plan proposes an incremental, or stepped, approach to implementing new routes and services for employment centers under which service levels would initially be designed to serve the periods of highest demand, typically on weekdays, rather than an aggressive seven-day-a-week service. The latter approach was followed by County staff on the four new routes implemented with CMAQ funds and service ultimately needed to be cut back when ridership did not occur during evening and weekend service periods.

The plan assumes no changes for Route Nos. 1, 9, 10, 106 and 218 from the service each route provided in the fall 2001. The plan, however, recommends changes in the alignments and/or service levels for Route Nos. 302, 303, and 304, along with the creation of an additional new route by 2006. The recommended local bus and shuttle routes are shown on Map 31. The proposed changes and new routes may be summarized as follows:

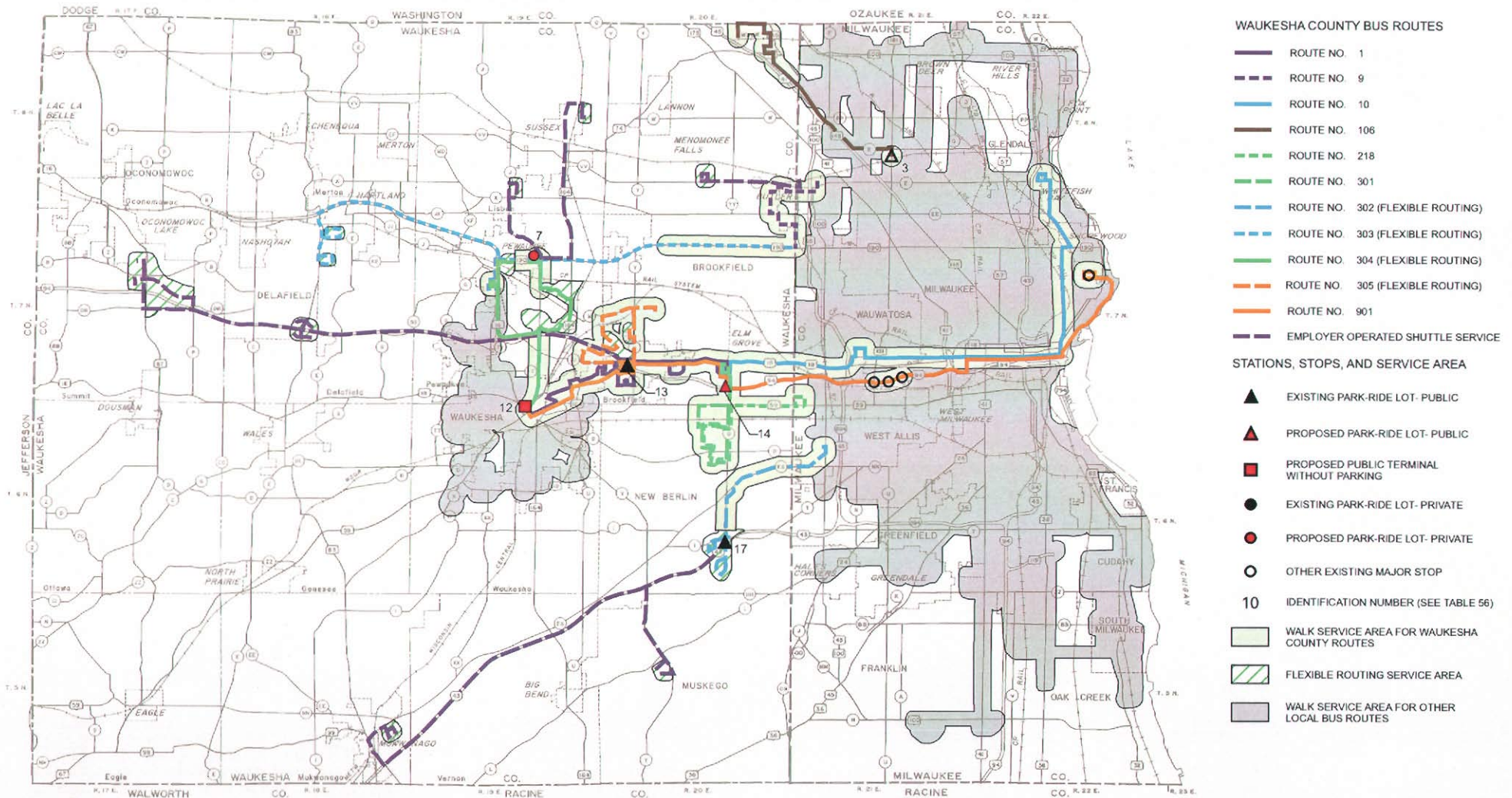
- **Route Nos. 301 and 302:** Route No. 302 would essentially be split into two routes. The restructured Route No. 302 would continue to operate over W. National Avenue, but service between the Moorland Square Shopping Center and the Brookfield Square Shopping Center over the route would be eliminated. The restructuring of the route in this manner would facilitate extending the route to serve the Westridge Business Park located both north and south of the IH 43 and Moorland Road interchange in the City of New Berlin. The route extension would be operated only on weekdays to serve the first, second and third shift starting and ending times at the businesses served and would utilize flex routing to maximize coverage of the Westridge Business Park. Service over the base segment of the restructured route between West Allis and the Moorland Square Shopping Center would be provided at 30 minute headways at all times. This compares with the headways for the existing route of 30-40-minutes during peak periods and 70 minutes at all other times. Service over the Westridge Business Park route extension would also be provided at 30 minute headways during its more limited morning, afternoon, and late evening weekday service periods, with no service operated over the route extension on weekends. Service periods for the route would be reduced by starting weekday and Saturday service later in morning, and by eliminating service on weekday nights after 12:00 midnight, on Saturday evenings after 7:00 p.m., and all day Sunday.

A new local shuttle, Route No. 301, would be created to replace the existing service provided by Route No. 302 between the Brookfield Square Shopping Center and the New Berlin Industrial Park. The new route would operate primarily over Moorland Road and provide for transfer connections with Route Nos. 1 and 10 at the Brookfield Square Shopping Center and Route No. 901 at the new park-ride lot to be constructed at the IH 94 and Moorland Road interchange. Service would be provided on weekdays to serve first, second and third shift starting and ending times and on Saturdays to serve the first shift

starting and ending times, with 30-minute headways operated at all times. Limited service would also be provided over W. Greenfield Avenue during weekday peak periods to provide transfer connections for passengers commuting to the Milwaukee CBD and using the rapid and express bus routes serving the proposed Moorland Road park-ride lot.

- **Route No 303:** The plan proposes a significant restructuring of Route No. 303 from the service operated in fall 2001. The eastern terminus of the route would be moved from the Goerkes Corners Public Transit Station to N. 124th Street and W. Capitol Drive, and the route would operate via W. Capitol Drive (STH 190) and STH 16 to the Hartland Industrial Park and Bark River Commerce Center. The alignment change would provide for more direct service to the Hartland area for the target Milwaukee County population who could use Milwaukee County Transit System local routes serving central Milwaukee County to access the route. Use of existing Milwaukee County Transit System routes in this manner would eliminate the need to operate additional service over Route No. 901 during weekday evenings and on weekends. The restructured route would also provide access to proposed employer operated shuttle routes, as discussed below, serving the new park-ride lot to be created near Capitol Drive and Pewaukee Road (CTH J), and could also provide service to employers in commercial development along Capitol Dr. between N. 124th Street and Brookfield Road and to the Waukesha County Workforce Development Center at the Waukesha County Technical College. Weekday and Saturday service levels on route would be similar to that in fall 2001 and all Sunday service would be eliminated. Service to the Bark River Commerce Center and Waukesha County Workforce Development Center would be provided only on weekdays with no night service. Service to the Delafield commercial development near the intersection of IH 94 and STH 83 provided by would be replaced by service provided proposed employer operated shuttle routes.
- **Route No 304:** The plan proposes to relocate the southern terminus of the route from the Goerkes Corners Public Transit Station to the proposed new transfer center for the Waukesha Metro Transit System in downtown Waukesha. Transfer connections would still be available with Route No. 901 but would now also include connections

PROPOSED LOCAL BUS AND SHUTTLE ROUTES SERVING WAUKESHA COUNTY EMPLOYMENT CENTERS: 2006



with all Metro local bus routes. This change would significantly improve access to the Pewaukee business and commercial areas served by route for City of Waukesha residents, who can be considered as a good market for the route. Between downtown Waukesha and IH 94 and Pewaukee Road (CTH J), the revised route would operate via St. Paul Avenue and North Streets, Moreland Boulevard, and Pewaukee Road and would no longer serve the Blue Mound and Blue Mound East Industrial Parks. A new shuttle route, Route No. 305 discussed below, would serve these areas. Between IH 94 and Capitol Drive (STH 190), Route No. 304 would continue to use flex routing to serve the Stone Ridge Business Park, Ridgeview Corporate Park, Pewaukee Business and Corporate Center, and Pewaukee Woods Corporate Center with the base alignment for the route adjusted to operate through these areas to the maximum extent practical. Flex routing would also be used to serve the Pewaukee Industrial Park, provided permission is granted from the Village of Pewaukee. Weekday service on the route during mornings and afternoons would be similar to existing service but midday bus trips would be added to the route between 11:00 and 1:30 p.m. No service would be operated on weekends or holidays.

- **Route No 305:** This would be a new shuttle route created to serve the Blue Mound and Blue Mound East, Jericho, and Brookfield Industrial Parks, and Elmbrook Memorial Hospital. The route would provide for transfer connections with Route Nos. 1 and 901 at the Goerkes Corners Public Transit Station and would utilize flex routing to maximize coverage of the industrial areas along Watertown and Doral Roads. Service would be provided only on weekdays with 30-minute headways to serve first, second and third shift starting and ending times.

Employer Operated Shuttle Services

The recommended local bus and shuttle services would serve the major work shifts at largest existing employment centers in the County and those that are envisioned to be fully developed by the end of the planning period. As such, the proposed services would be those that Commission staff considers to be the most capable of supporting publicly sponsored bus and shuttle services. Not all of the major office and industrial parks in the County identified in Chapter II are proposed to be served by these recommended local bus and shuttle services. For the unserved employment centers, and for employment centers served by local bus and shuttle services that have major evening or weekend work

shifts for which no service would be available, it is recommended that employers assume responsibility for developing privately sponsored shuttle services. Potential areas where there may be a need for such private shuttle services based on current 2001 data are shown on Map 31.

While the County would not be directly involved in the operation of these shuttle services, it is recommended that the County consider making staff services available to advise in the formation of such services and making available funds through the community development block grant program to help with the start-up of private shuttle routes. Such action would be similar to the assistance provided by the County to local communities and private non-profit organizations for development and start-up of specialized taxicab services for the elderly and disabled. If a privately sponsored shuttle service can generate enough ridership to indicate it has the potential to be cost efficient, the County could consider becoming the public sponsor for the shuttle service and including the service in a grant application for Federal and State funds for transit demonstration projects, or in the County's annual applications for routine Federal and State transit assistance funds.

Complementary Paratransit Service for Disabled Individuals

The plan proposes no significant changes to the County's complementary paratransit service for disabled individuals in response to the routing and service changes described in the preceding sections. The current service area and service hours for the paratransit service adequately cover the areas to be served by the County's non-commuter bus services provided over Route Nos. 1, 10, and 302, and the service hours of these routes for which paratransit service must be provided in accordance with federal regulations. It is recommended that passenger fares for the paratransit service be increased in 2003 and 2006 when fares for fixed-route bus service are increased.

Marketing

In order for the recommended transit services to be successful, a public information and promotional campaign should be established by the County. This will be particularly important for the success of the existing bus routes as well as the new demonstration services recommended for the County. To this end, it is recommended that the County participate in the Southeastern Wisconsin Transit Marketing Partnership, a coalition of the public transit systems serving Ozaukee, Milwaukee, and Washington Counties and the Cities of Kenosha and Racine. The partnership has two key goals, those being to increase transit ridership on the participating transit systems and to increase the overall

awareness of public transit services in the southeastern Wisconsin region. The partnership has worked together since 1995 to promote transit services through a variety of tactics and strategies developed by consultants with expertise in transit system marketing with the costs of the marketing activities funded through Federal CMAQ grants and local matching funds provided by each partner system. Waukesha County will begin participation in the partnership in 2002. It is recommended that the County stay active in the marketing program throughout the planning period.

Plan Staging

Table 52 also indicates an implementation priority for the proposed service changes, identifying those changes which should be pursued immediately in 2002 and 2003, and those changes which would be pursued in the short-term future to be in place by 2006 at the end of the planning period. For 2002 and 2003, the recommended plan assumes:

- The elimination of service over the existing 2001 alignments of Route Nos. 263, 303 and 304;
- The implementation of the proposed restructuring of the service provided over Route Nos. 901 and 905; and
- The restructuring of Route No 302 to extend service to the Westridge Buisness Park

The other changes proposed for specific routes would be considered for implementation by the County between 2003 and 2006 as dictated by economic conditions, the speed at which development occurs, and the performance of the routes in the system between 2003 and 2006. It is important to note that, while the plan proposes routing and service changes to extend local and shuttle transit service to unserved existing and developing new employment centers, the identified services should only be considered for implementation if recent development trends in the County continue and the areas are deemed to need transit service by the County. Should development occur at a slower pace than currently envisioned the routing and service changes identified for 2003 through 2006 should not be implemented.

PLAN PERFORMANCE AND COSTS

Basic Assumptions and Determinations

The analyses attendant to the anticipated performance of the recommended transit services for Waukesha County, and the cost and funding estimates associated with those services, are predicated upon the following assumptions and determinations:

- Implementation of the recommended service changes will be phased-in over the planning period to allow for time needed to obtain local approval and for the costs of new and restructured services to be incorporated into transit system operating budgets and applications for Federal and State operating assistance.
- All costs are expressed in projected "year of expenditure" dollars and assume an increase of 3 percent per year increase in operating costs per unit of transit service due to general price inflation. As a result, the unit costs of service operation will increase by about 16 percent over 2001 levels by the end of the planning period.
- The costs of constructing properly configured park-ride lots at the two locations in Waukesha County where new facilities are needed, have not been included in the costs of implementing the plan. The costs of these facilities were included in the adopted regional transportation system plan. While not essential to providing the recommended commuter transit services, the park-ride lots would facilitate use of those services and should be put in place under a cooperative effort by Waukesha County and the Wisconsin Department of Transportation as soon as possible.
- Fare increases of 5 to 10 percent on all transit services are assumed for 2003 and 2006. This action will raise the base adult cash fares on each route by about 15 percent over 2001 levels by the end of the planning period.
- The Federal and State governments will not significantly change the transit and related capital and operating assistance programs that are now in place, nor the level of funding made available under those programs during 2001.

Ridership, Service Levels, and Financial Performance

The anticipated average annual operating characteristics, ridership, costs, and revenues associated with the recommended Waukesha County transit services are set forth in Table 56. The following observations may be made based upon an examination of the information presented in this table:

- The recommended service changes will increase the route miles for the routes comprising the Waukesha County transit system from about 514 to about 603 miles, or by about 17 percent. The changes will also increase the peak vehicle

Table 56

**ANNUAL OPERATING EXPENSES, REVENUES, AND SUBSIDIES
FOR THE WAUKESHA COUNTY TRANSIT SYSTEM: 2000-2006**

Characteristic	Estimated 2000	Estimated 2001	Forecast ^a		
			2002	2006	Average Annual
Service					
Revenue Vehicle-Miles	1,214,700	1,444,800	1,203,700	1,403,400	1,303,600
Revenue Vehicle-Hours	60,230	70,520	58,930	72,390	65,700
Ridership					
Total Passengers ^b	793,800	797,300	830,900	962,300	896,600
Passengers per Revenue Vehicle-Mile.....	0.65	0.55	0.69	0.69	0.69
Passengers per Revenue Vehicle-Hour.....	13.2	11.3	14.1	13.3	13.6
Operating Costs, Revenues, and Subsidies					
Operating Expenses	\$5,179,700	\$5,735,500	\$5,070,200	\$6,967,400	\$6,018,800
Passenger Revenues	1,051,800	1,019,400	1,068,300	1,412,800	1,240,600
Required Public Assistance	4,127,900	4,716,100	4,001,900	5,554,600	4,778,200
Farebox Recovery	20.3%	17.8%	21.1%	20.3%	20.6%
Sources of Public Assistance					
Federal					
Section 5307 Program	\$ 882,400	\$ 649,600	\$ 649,600	\$ 652,500	\$ 651,100
Section 5330 Program	129,900	136,800	2,400	321,600	197,000
CMAQ Program	586,700	1,105,400	439,700	--	219,900
Subtotal	\$1,599,000	\$1,891,800	\$1,161,700	\$ 974,100	\$1,068,000
State					
WisDOT Operating Assistance Program	\$1,878,100	\$1,700,400	\$1,870,000	\$3,006,900	\$2,438,500
WisDOT/WisDWD TDM and TANF Programs.....	105,100	114,500	43,500	193,000	118,300
Subtotal	\$1,983,200	\$1,814,900	\$1,913,500	\$3,199,900	\$2,556,800
Local					
Waukesha County	\$ 485,000	\$ 932,900	\$ 819,200	\$1,273,300	\$1,046,200
Milwaukee County	60,500	71,100	72,800	82,800	77,800
Other	--	5,400	34,700	24,500	29,600
Subtotal	\$ 545,500	\$1,009,400	\$ 926,700	\$1,380,600	\$1,153,600
Total	\$4,127,700	\$4,716,100	\$4,001,900	\$5,554,600	\$4,778,400
Per Trip Data					
Operating Cost.....	\$6.52	\$7.19	\$6.10	\$7.24	\$6.71
Revenue	1.32	1.27	1.28	1.47	1.38
Total Subsidy	5.20	5.92	4.82	5.77	5.33
Local Subsidy.....	0.69	1.55	1.43	2.12	1.77

^aThe following assumptions were made in preparing the forecasts of annual ridership, revenues, and costs:

1. Operating expenses per unit of transit service would increase by 3 percent per year over the planning period
2. Base adult cash fares on all services would be increased by approximately 15 percent by 2006.
3. Federal transit assistance available to Waukesha County through the Section 5307 Urbanized Area Formula Assistance Program will remain at current 2001 levels and not keep pace with increases in operating expenses.
4. Federal and State assistance for transit demonstration projects will be available to Waukesha County through the Federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program and the Wisconsin Employment Transportation Assistance Program (WETAP) to cover up to 80 percent of eligible project costs.
5. The combination of Federal Section 5307 transit assistance funds and State transit operating assistance will cover 60 percent of the operating expenses of the transit system, excluding the costs of demonstration services funded through the other Federal and State transit assistance programs.

^bRidership figures exclude passengers carried on special services provided by Wisconsin Coach Lines, Inc. in 2000 and 2001, including services to Summerfest and ethnic festivals held on the Milwaukee lakefront. Forecast ridership levels for 2002-2006 also exclude passengers that may be carried on such services provided by transit operators under contract to Waukesha County.

Source: Waukesha County Department of Public Works and SEWRPC.

requirements for the system by four vehicles, from 35 to 39 vehicles.

- Assuming implementation of all the recommended service changes, the Waukesha County transit system would operate about 65,900 revenue vehicle-hours of service and 1,307,500 revenue vehicle-miles of service annually. This would be a decrease of about 4,600 vehicle-hours and about 137,300 vehicle-miles, or about 7 to 10 percent, from the service levels operated in 2001.
- The Waukesha County transit system may be expected to carry about 892,000 revenue passengers annually over the period, representing an increase of about 94,700 revenue passengers, or about 12 percent, over the 2001 ridership level on the system. The ridership increase under the plan reflects the expected effects of a combination of the proposed routing changes to rapid and express routes and continued ridership increases on the local routes serving the Blue Mound Road Corridor.
- Overall, the recommended transit system may be expected to carry about 14 passengers per vehicle-hour of service provided, compared with about 11 passengers per vehicle-hour carried on the existing system in fall 2001.
- The total cost of providing the recommended local transit service, including the operating and capital costs, would be expected to be about \$6,034,600 annually representing an increase of about \$299,100, or about 5 percent, over the estimated total expenses in 2001 for the system. Of this total, about \$1,237,100, or about 21 percent, may be expected to be recovered by operating revenues, about the same as in 2001. The required average annual operating assistance would amount to approximately \$4,797,500, or about \$81,400—2 percent—over the estimated total operating assistance level for the system in 2001.
- Federal and State funds amounting to approximately \$3,634,100 may be expected to be available to cover about 60 percent of the total operating costs, and about 76 percent of the total required operating assistance.
- The total required local operating assistance for the plan would average about \$1,163,400 per year over the period, representing about 19 percent of the total costs and about 24 percent of the total

operating assistance. This would represent and increase of about \$153,900, or 15 percent, over the total local operating assistance requirement for 2001. Of this amount, about \$1,056,000 would have to be provided by the Waukesha County and increase of about 13 percent over the operating assistance funds provided by the County in 2001.

To assist the County in staging the implementation of the plan, the bus routes and services proposed in the recommended plan were grouped into three tiers based upon the forecast performance of each route or service. The routes and services included in each tier are identified in Table 57 and the forecast service levels, ridership, financial performance, and public funding requirements for each tier are presented in Table 58. The tiers may be summarized as follows:

- **Tier 1:** This tier includes the routes which are forecast to be the best performing routes in the transit system. The routes generally have service effectiveness measures—passengers per revenue vehicle-mile and per revenue vehicle-hour—and cost effectiveness measures—total operating cost and assistance per passenger and farebox recovery rate—that are at least 80 percent of the system average. Implementation of bus services in this tier should be pursued.
- **Tier 2:** This tier includes the routes in the transit system which are forecast to be the better performing routes but not as good as the established routes. The routes in this tier have performance levels with some measures that would be at least 80 percent of the system average and some that fall below that level. Implementation of bus services in this tier should be pursued but the performance of each should be monitored closely.
- **Tier 3:** This tier includes the routes in the transit system which are forecast to have the lowest performance levels, with most or all measures below 80 percent of the system average. The bus routes and services in this tier consist of services intended to serve the major employment centers in the less densely developed portions of the County. Service to these centers would be needed in order for the County to fully address the transit service needs of the County's employers. Implementation of bus services in this tier, however, should be pursued at the discretion of Waukesha County, possibly with financial support from the local municipalities or private businesses served.

Table 57

**BUS SERVICE TIERS UNDER
THE RECOMMENDED PLAN
FOR THE WAUKESHA COUNTY
TRANSIT SYSTEM: 2006**

Service Tier ^a	Service Type	Route Number	Service Period
1	Express/Rapid	6	Weekdays, weekends, holidays
		8	Weekdays, weekends, holidays
		79	Weekdays
		901, 901X	Weekdays
		904	Weekdays
		905	Weekdays
		906	Weekdays
	Local/Shuttle	1	Weekdays, weekends
		10	Weekdays, weekends, holidays
2	Express	901	Weekends, holidays
	Local/Shuttle	9	Weekdays
		106	Weekdays daytime
3	Local/Shuttle	218	Weekdays, Saturdays
		9	Saturdays
		106	Weekday evenings
		301	Weekdays, Saturdays
		302	Weekdays, Saturdays
		303	Weekdays, Saturdays
		304	Weekdays
		305	Weekdays

^aThe bus service tiers are defined as follows:

- **Tier 1:** Includes the routes which are forecast to be the best performing routes in the transit system, generally having service effectiveness measures—passengers per revenue vehicle mile and per revenue vehicle hour—and cost effectiveness measures—total operating cost and assistance per passenger and farebox recovery rate—that are at least 80 percent of the system average. Implementation of bus services in this tier should be pursued.
- **Tier 2:** Includes the routes which are forecast to be the better performing routes but not as good as the established routes, generally having performance levels with some measures that would be at least 80 percent of the system average and some that fall below that level. Implementation of bus services in this tier should be pursued but the performance of each should be monitored closely.
- **Tier 3:** Includes the routes which are forecast to have the lowest performance levels, with most or all measures below 80 percent of the system average. The bus routes and services in this tier consist of services intended to serve the major employment centers in the less densely developed portions of the County. Service to these centers would be needed in order for the County to fully address the transit service needs of the County's employers. Implementation of bus services in this tier, however, should be pursued at the discretion of Waukesha County, possibly with financial support from the local municipalities or private businesses served.

Source: SEWRPC.

PLAN ADOPTION AND IMPLEMENTATION

Plan Adoption

Adoption or endorsement of the recommended Waukesha County transit system development plan is important to ensuring a common understanding among the concerned units and agencies of government and to

enable the staffs of those governments to work cooperatively toward plan implementation. Accordingly, the following plan adoption actions are recommended:

- **Waukesha County**

The Waukesha County Board of Supervisors should act to formally adopt the plan as a guide to the provision of transit services in the Waukesha County area. Importantly, this action would not commit the County to implement any of the recommended service changes, but would indicate that the County agrees the plan would serve as a valuable reference document. The adoption action should be certified to the Southeastern Wisconsin Regional Planning Commission with a request that the plan be incorporated into the regional transportation system plan.

- **Southeastern Wisconsin
Regional Planning Commission**

Upon receipt of notification of adoption of the plan from Waukesha County, the Southeastern Wisconsin Regional Planning Commission should adopt the plan as an amendment and extension of the regional transportation system plan and formally certify such adoption to all of the local units of government in Waukesha County that are presently, or proposed to be, served by the transit system, to the Wisconsin Department of Transportation, and to the Federal Transit Administration.

- **Wisconsin Department of Transportation**

Upon receipt of the certification by the Regional Planning Commission, the Wisconsin Department of Transportation should act to endorse the plan as a guide for the programming, administration, and granting of State transit assistance funds.

- **Federal Transit Administration**

Upon endorsement of the plan by the Wisconsin Department of Transportation, the Federal Transit Administration should endorse the plan as a guide for the programming, administration, and granting of Federal transit funds.

- **Local Units of Government**

Upon receipt of the certified plan, the concerned city, village, and town boards in Waukesha County should act to adopt the plan, thereby indicating support to the County in the implementation of that plan. Such actions on the part of the communities concerned would indicate general agreement with services proposed under the plan.

Table 58

**ANNUAL OPERATING EXPENSES, REVENUES, AND SUBSIDIES
FOR THE WAUKESHA COUNTY TRANSIT SYSTEM BY SERVICE TIER: 2006**

Characteristic	Bus Service Tier ^b				Total System ^c
	Tier 1	Tier 2	Tier 3	Subtotal	
Service					
Revenue Vehicle-Miles	769,500	104,900	432,800	1,307,200	1,403,400
Revenue Vehicle-Hours	41,640	5,940	19,210	66,790	72,390
Ridership					
Total Passengers	775,800	87,400	90,800	954,000	962,300
Passengers per Revenue Vehicle-Mile.....	1.01	0.83	0.21	0.73	0.69
Passengers per Revenue Vehicle-Hour.....	18.6	14.7	4.7	14.3	13.3
Operating Costs, Revenues, and Subsidies					
Operating Expenses	\$4,594,300	\$ 595,500	\$1,401,100	\$6,590,900	\$6,967,400
Passenger Revenues	1,249,200	64,400	74,300	1,387,900	1,412,800
Required Public Assistance	3,345,100	531,100	1,326,800	5,203,000	5,554,600
Farebox Recovery	27.2%	10.8%	5.3%	21.1%	20.3%
Sources of Public Assistance					
Federal					
Section 5307 Program	\$ 546,100	\$ 40,800	\$ 43,200	\$ 630,100	\$ 652,500
Section 5330 Program	--	--	321,600	321,600	321,600
CMAQ Program	--	--	--	--	--
Subtotal	\$ 546,100	\$ 40,800	\$364,800	\$ 951,700	\$ 974,100
State					
WisDOT Operating Assistance Program	\$2,176,300	\$ 291,300	\$ 355,100	\$2,822,700	\$3,006,900
WisDOT/WisDWD TDM and TANF Programs.....	--	--	193,000	193,000	193,000
Subtotal	\$2,176,300	\$ 291,300	\$ 548,100	\$3,015,700	\$3,199,900
Local					
Waukesha County	\$ 515,400	\$ 199,000	\$ 413,900	\$1,128,300	\$1,273,300
Milwaukee County ^b	82,800	--	--	82,800	82,800
Other ^c	24,500	--	--	24,500	24,500
Subtotal	\$ 622,700	\$ 199,000	\$ 413,900	\$1,235,600	\$1,380,600
Total	\$3,345,100	\$ 531,100	\$1,326,800	\$5,203,000	\$5,554,600
Per Trip Data					
Operating Cost	\$5.92	\$6.81	\$15.43	\$6.91	\$7.24
Revenue	1.61	0.73	0.82	1.46	1.47
Total Subsidy	4.31	6.08	14.61	5.45	5.77
Local Subsidy	1.14	4.88	9.58	1.96	2.12

^aThe following assumptions were made in preparing the forecasts of annual ridership, revenues, and costs:

1. Operating expenses per unit of transit service would increase by 3 percent per year over the planning period
2. Base adult cash fares on all services would be increased by approximately 15 percent by 2006.
3. Federal transit assistance available to Waukesha County through the Section 5307 Urbanized Area Formula Assistance Program will remain at current 2001 levels and not keep pace with increases in operating expenses.
4. Federal and State assistance for transit demonstration projects will be available to Waukesha County through the Federal Congestion Mitigation and Air Quality Improvement (CMAQ) Program and the Wisconsin Employment Transportation Assistance Program (WETAP) to cover up to 80 percent of eligible project costs.
5. The combination of Federal Section 5307 transit assistance funds and State transit operating assistance will cover 60 percent of the operating expenses of the transit system, excluding the costs of demonstration services funded through the other Federal and State transit assistance programs.

^bThe bus routes and services included in each service tier are shown in Table 57.

^cIn addition to the bus service costs shown in this table, total costs also include costs for federally required paratransit service and administration of the transit program by the Department of Public Works.

Source: Waukesha County Department of Public Works and SEWRPC

Plan Implementation

It is recommended that Waukesha County have the primary responsibility implementing the service changes proposed under the recommended plan. The County's actions should include the following:

- **Refinement of Recommended Service Changes**
Subject to the approval of the Public Works Committee of the Waukesha County Board of Supervisors, County staff in the Waukesha County Department of Public Works should prepare detailed operating plans which refine the service changes proposed by the plan. Such refinements of the plan recommendations are envisioned for the proposed restructuring of Route Nos. 901 and 905 to create Route Nos. 901X and 904; the restructuring of Route No. 302 to create Route Nos. 301; and creation of new Route Nos. 303, 304, and 305. The service changes for Route Nos. 302, 901, and 905 have been targeted for implementation in 2002 or 2003 while the other changes and new routes were not assumed to be implemented until 2004 or later. The details for the recommended changes should be completed and approved early in the fall of year preceding implementation to coincide with County budget preparation and completion of transit aid applications. County staff should work with the current or new transit operators in establishing the specific stops and operating schedules for the services.
- **Selection of Service Providers**
County staff will need to undertake one or more competitive procurement processes to select the provider(s) of recommended transit services. The last competitive procurement action was undertaken by the County in 2000 was for Route Nos. 901, 905, 906, 302, 303, and 304. The process will have to be undertaken again for these routes prior to the expiration of their service contracts at the end of 2003. A competitive procurement action will also be needed for new Route No. 305 before it can be implemented. The other routes of the County transit system have been identified by County staff as not being subject to the procurement process as they were determined to be inappropriate for competitive bidding. The procurement actions should be structured to meet all Federal and State requirements.
- **Public Hearings**
Federal regulations require transit systems using federal funds to provide the opportunity for

comment through public hearings prior to the implementation of significant service and fare changes. The County may need to conduct one or more public hearings for the specific service and fare changes noted above.

- **Federal and State Grant Applications**
Waukesha County should prepare operating budgets to support applications for the Federal and State funds needed over the planning period to implement the recommended plan. Such applications would need to be prepared annually on a schedule that meets the requirements of the agencies concerned.
- **Park-Ride Lots**
The Wisconsin Department of Transportation and Waukesha County should undertake a cooperative effort directed at the construction of a new park-ride lot near the intersection of Moorland Road (CTH O) and IH 94 in the City of Brookfield, and the reconstruction the existing park-ride lot near the intersection STH 83 and USH 16 in the Village of Hartland. These facilities should be properly configured to facilitate the provision of the recommended commuter bus services. The establishment of park-ride lots or transit stations at these locations has long been recommended in the Commission's adopted regional transportation system plan to serve work-commute travel by transit patrons and carpoolers. In developing these park-ride facilities, it is recommended that the Department of Transportation involve the transit operators that will use these facilities so that transit operating concerns are considered in facility design.

SUMMARY

This chapter has set forth the recommended transit system development plan for Waukesha County as approved by the Waukesha County Public Transportation Planning Advisory Committee. The plan is based upon the existing fall 2001 transit system and identifies routing and service changes directed at improving the convenience of using, and the performance of, the existing transit services, along with expanding transit service to employment centers in the County.

Fall 2001 Transit System

A number of changes to the 1999 Waukesha County transit system were implemented from December 1999 through September 2001 to partially address the route performance and service expansion issues raised in the performance evaluation documented in Chapter III.

Consequently, the Commission staff re-examined key route ridership and financial performance measures for each route and service using data for the first six months of 2001 prior to completing the recommended plan. This evaluation indicated that

- Three of the 15 routes in the system—MCTS Route Nos. 8, 10, and 79—were clearly the best performers in the system, having average performance levels that were consistently above the specified minimum levels.
- Six of the 15 routes in the system—WCL Route Nos. 901, 905, 906; MCTS Route Nos. 6 and 106 weekdays first shift service; and Waukesha Metro Route No. 1—had mixed performance levels that generally met either the minimum performance levels for service effectiveness or for cost effectiveness. The overall performance of these routes was not poor enough to warrant drastic changes but each route's performance should continue to be monitored.
- The remaining six routes of the system—one established route, MCTS Route No. 9, and seven demonstration routes or services including MCTS Route Nos. 106, 218, and 263; WMT Route Nos. 302 and 304, and WCL Route No. 303—had average performance levels that for the most part did not come close to meeting the specified minimum performance levels for the measures examined. The continuation of these routes was not considered to be warranted based solely on their ridership and financial performance. The County discontinued route No. 263 at the end of August 2001. Route Nos. 303 and 304 have been proposed for elimination by the County at the end of 2001.

Recommended Transit Service

The recommended plan calls for a number of changes in alignments and schedules of the fall 2001 bus routes in the Waukesha County transit system. These changes would provide for more convenient service for existing passengers and would allow the County to fully address the transit service needs of County residents and employment centers by 2006. The proposed changes are summarized below.

Rapid Bus Service

- Waukesha-Milwaukee service over Route No. 901 would be modified to formally identify an express branch, Route No. 901X, that would operate exclusively over the freeway between the Goerkes Corners Public Transit Station and downtown

Milwaukee with more weekday peak period bus trips than included in the current schedule.

- Oconomowoc-Milwaukee service over Route No. 905 would be modified to eliminate service over STH 16 between Oconomowoc and Hartland and to create a new Route No. 904 operating between Hartland and downtown Milwaukee over STH 16, Capitol Drive, USH 45, and IH 94. Route No. 904 would serve three new park ride lots at privately owned shopping center lots in the Village of Pewaukee and in the City of Brookfield.
- Service over Route No. 905 would remain unchanged except for the addition of one bus trip to serve the City of Oconomowoc. No changes would be proposed for the Mukwonago-Milwaukee service over Route No. 906
- No changes would be made to MCTS Route No. 79.

Express Bus Service

- No changes would be proposed for from the exiting alignment for Route No. 901 between the City of Waukesha and central Milwaukee County. However, the plan recommends changes in the daily service levels and times of route operation including: adding bus trips over Wisconsin Avenue between N. 35th and N. 11th Streets during the weekday morning and afternoon peak periods to allow for operation with 30-minute headways in both directions of travel; shifting bus trips currently operated early on weekday evenings and adding additional bus trips to provide late evening service for second and third shift workers using the shuttle routes connecting with Route No. 901 at the Goerkes Corners Public Transit Station and a proposed park-ride lot at IH 94 and Moorland Road; and reducing weekend and holiday service to three round trips operated per day.
- The plan retains without change Route Nos. 6 and 8 that serve Quad Graphics, Inc. plants located in Sussex and New Berlin.

Local Bus and Shuttle Service

- Route No. 302 would be restructured and split into two routes, Route Nos. 301 and 302. Route No. 301 would provide service over Moorland Road between the Brookfield Square Shopping Center and the New Berlin Industrial Park. Route No. 302 would continue to operate over W. National

Avenue between West Allis and Moorland Road, and would be extended to serve the Westridge Business Park located both north and south of the IH 43 and Moorland Road interchange in the City of New Berlin.

- Route No. 303 would be restructured to move the eastern terminus of the route from the Goerkes Corners Public Transit Station to N. 124th Street and W. Capitol Drive, and the route would operate via W. Capitol Drive (STH 190) and STH 16 to the Hartland Industrial Park and Bark River Commerce Center. Transfer connections would be available with several MCTS local bus routes serving central Milwaukee County
- Route No. 304 would be restructured to move the southern terminus of the route from the Goerkes Corners Public Transit Station to the proposed new transfer center for the Waukesha Metro Transit System in downtown Waukesha. Transfer connections would still be available with Route No. 901 but would now also include connections with all Metro local bus routes.
- A new shuttle route, Route No. 305, would be created to serve the Blue Mound and Blue Mound East, Jericho, and Brookfield Industrial Parks, and Elmbrook Memorial Hospital. The route would provide for transfer connections with Route Nos. 1 and 901 at the Goerkes Corners Public Transit Station.
- The plan assumes no changes for Route Nos. 1, 9, 10, 106, and 218 from the service each route provided in the fall 2001.

Employer Operated Shuttle Services

- The plan recommended that employers assume responsibility for developing privately sponsored shuttle services for the employment centers that would not be directly served by the recommended local and shuttle bus routes, and for the employment centers served by local bus and shuttle services that have major evening or weekend work shifts for which no service would be available. Waukesha County should consider making staff services available to advise in the formation of such services and making available funds through the community development block grant program to help with the start-up of private shuttle routes.

Plan Performance and Costs

Assuming implementation of all the recommended service changes, the Waukesha County transit system would operate an average of about 65,700 revenue vehicle-hours of service and 1,303,600 revenue vehicle-miles of service annually over the planning period, a decrease of about 4,800 vehicle-hours and about 141,200 vehicle-miles, or about 7 to 10 percent, from the service levels operated in 2001. Under the plan, the Waukesha County transit system may be expected to carry an average of about 896,600 revenue passengers annually over the period, representing an increase of about 99,300 revenue passengers, or about 12 percent, over the 2001 ridership level on the system. The ridership increase under the plan reflects the expected effects of a combination of the proposed routing changes to rapid and express routes and continued ridership increases on the local routes serving the Blue Mound Road Corridor.

The total cost of providing the recommended local transit service, including the operating and capital costs, would be expected to be about \$6,018,800 annually representing an increase of about \$283,300, or about 5 percent, over the estimated total expenses in 2001 for the system. The required average annual operating assistance would amount to approximately \$4,778,200, or about \$62,100—1 percent—over the estimated total operating assistance level for the system in 2001. Federal and State funds amounting to approximately \$3,710,400 may be expected to be available to cover about 62 percent of the total operating costs, and about 78 percent of the total required operating assistance. The total local operating assistance for the plan would average about \$1,153,600 per year over the period, and would represent an increase of about \$144,200, or 14 percent, over the total local operating assistance requirement for 2001. Of this amount, about \$1,046,200 would have to be provided by the Waukesha County, an increase of about 12 percent over the operating assistance funds provided by the County in 2001.

Plan Implementation

Following adoption of the transit system development plan, Waukesha County will have the primary responsibility for the necessary plan implementation actions through the following steps:

- Subject to the approval of the Public Works Committee of the Waukesha County Board of Supervisors, County staff in the Waukesha County Department of Public Works would need to

prepare detailed operating plans which refine the service changes proposed by the plan.

- Pursuant to Federal regulations, the County should conduct one or more public hearings for the specific service and fare changes proposed under the plan.
- County staff will need to undertake one or more competitive procurement processes to select the provider(s) of recommended transit services prior to the expiration of existing service contracts at the end of 2003 and for new services such as

Route No. 305. The procurement actions should be structured to meet all Federal and State requirements.

- The Wisconsin Department of Transportation and Waukesha County should undertake a cooperative effort directed at the construction of a new park-ride lot near the intersection of Moorland Road (CTH O) and IH 94 in the City of Brookfield, and the reconstruction the existing park-ride lot near the intersection STH 83 and USH 16 in the Village of Hartland.

Chapter VII

SUMMARY AND CONCLUSIONS

INTRODUCTION

At the request of Waukesha County, the Regional Planning Commission prepared a short-range transit system development plan for the County to update the previous last short-range plan completed by the Commission. The study was carried out within the context of the adopted design year 2020 regional transportation system plan which includes a public transit element which recommends that improved transit services be provided within Waukesha County and between Waukesha and Milwaukee Counties. The Waukesha County study was designed to refine, detail, and, as may be found desirable, amend and extend the regional transportation system plan.

In conducting the study, several tasks were performed, including an inventory and analysis of the existing land uses and of the current travel habits, patterns, and needs of the residents of the area; an evaluation of the performance of the existing County transit system; and the identification of potential service changes for the existing County transit system. The study culminated in the preparation of a recommended transit system development plan for the Waukesha County transit system.

PURPOSE OF THE TRANSIT SYSTEM DEVELOPMENT PLAN

The Waukesha County transit plan was needed to identify potential changes to the current bus services operated by the County in response to changes in residential, industrial, and commercial development, in particular as such changes affected the need for workers to fill job vacancies in Waukesha County. The plan was also needed to identify actions directed at improving the convenience of using, and the performance of, the existing transit services. In this context, the study was intended to serve the following purposes:

1. To evaluate the effectiveness of the existing route structure and schedules, along with the financial performance, of the current Waukesha County transit system;
2. To identify, evaluate, and recommend potential transit service improvements which would:

- a. Address the recent changes in urban development which have occurred in Waukesha County;
 - b. Provide for coordination with other public transit services, in particular those operated by the City of Waukesha Metro Transit System and the Milwaukee County Transit System;
 - c. Represent the initial implementation stage of the transit recommendations for Waukesha County contained in the Commission's adopted design year 2020 regional transportation system plan;
3. To develop appropriate services, in terms of the focus of the services provided and their attendant service levels, that would maximize the use of available State and Federal funding to help finance transit system expenditures; and
 4. To provide a sound basis for monitoring the implementation status of the plan and the updating required to maintain a valid plan through the five-year planning period.

STUDY ORGANIZATION

The preparation of this new transit system development plan was a joint effort by the staffs of Waukesha County and the Southeastern Wisconsin Regional Planning Commission. Additional staff assistance was obtained from certain other agencies concerned with transit development in Waukesha County including the Wisconsin Department of Transportation. To provide guidance to the technical staffs and to directly involve concerned and affected public officials and citizen leaders in the development of transit service policies and improvement proposals, Waukesha County created the Waukesha County Public Transportation Advisory Committee. The full membership of this committee is listed on the inside front cover of this report.

POPULATION, EMPLOYMENT, LAND USE, AND TRAVEL PATTERNS

Figure 2 in Chapter II summarizes information on the changes over the last three to four decades in these key characteristics of Waukesha County which affect, or may be affected by, the provision and use of transit service. The key findings of the inventories of these characteristics are as follows:

1. Since 1960, the County's total resident population has increased by about 128 percent, from about 158,200 persons in 1960 to about 360,800 persons in 2000, compared with a growth rate of about 23 percent for the seven-county Southeastern Wisconsin Region as a whole. The eastern, urbanized portion of the County has experienced the largest absolute population growth, although the small urban and rural communities in the western portion of the County have experienced large population increases on a relative basis. The transit-dependent population in the County is relatively small, generally consisting of persons in low-income households and households with no vehicle available, and is largely concentrated in the City of Waukesha.
2. The total number of jobs in the County has increased by about 732 percent, from about 32,600 jobs in 1960 to about 271,100 jobs in 2000, substantially exceeding the Region's relative increase of about 82 percent during that period. At present, the highest employment concentrations in the County are found in areas of retail, office, and industrial development located primarily in the eastern half of the County (see Map 7 in Chapter II).
3. While the amount of land in the County devoted to urban land uses increased steadily from about 54 square miles in 1963 to about 158 square miles in 1995, or by about 192 percent, only about 27 percent of the land in the County is currently in fully developed urban land uses. Outside the City of Waukesha, there are very few areas in the County with a residential density of five dwelling units or more per net residential acre, which is one indicator of where local fixed-route bus service can be cost-efficient. Importantly, there are areas in the County with high employment densities, significant commercial development, or concentrations of major trip generators, which may have the potential to support efficient fixed-route bus or special transit services. The major potential transit trip generators identified for this study, consisting

of major employment centers and office and industrial parks, are currently concentrated primarily in the eastern half of the County.

4. Past travel surveys undertaken by the Regional Planning Commission indicate that the number of person trips made on average weekday which either started or ended in the County has tripled, from about 447,900 person trips in 1963 to about 1,345,900 trips in 1991. In 1991, about 820,000 person trips, or 61 percent of all person trips, were intracounty trips made entirely within the County, with the largest proportion being made for medical, personal business, or social or recreational purposes. The remaining 525,900 person trips, or 39 percent, were intercounty trips made with one trip end outside the County, with the largest proportion made for work purposes. All trips made between Waukesha and Milwaukee Counties accounted for about 404,500 person trips, or about 77 percent of all intercounty person travel (see Map 11 in Chapter II).
5. On-board bus surveys conducted by the Commission for all passengers using the bus services comprising the Waukesha County transit system in late April and early May 1998 indicate that the vast majority of passengers used the County bus system for work commuting. The characteristics of system users (see Table 16 in Chapter II) differ somewhat when viewed by the orientation of their trip. Passengers utilizing the bus services to commute from Waukesha County residences to Milwaukee County locations were more likely to come from households with incomes over \$50,000, to be licensed drivers, and to come from households with two or more vehicles available, than passengers commuting from Milwaukee County residences to Waukesha County locations or traveling entirely within Waukesha County.

EXISTING WAUKESHA COUNTY BUS SERVICE

Waukesha County has been the principal sponsor of public transit service in the County since 1977. The County contracts for the operation of all bus services with three existing transit operators—Wisconsin Coach Lines, Inc.; the Milwaukee County Transit System; and the City of Waukesha Metro Transit System—who are responsible for the day-to-day operation, management, and support of the transit services, including supervising route operations and employee activities. To comply with Federal regulations, the transit system also provides paratransit services through three separate programs

operated by the Waukesha County Department of Public Works, the Milwaukee County Transit System, and the City of Waukesha Metro Transit System that are directed at serving the travel needs of disabled individuals. Table 22 and Map 17 in Chapter III describe the bus routes comprising the transit system and show the extent of service in fall 2001. The major characteristics of these services are as follows:

1. The transit system primarily provides service for work commuting between Waukesha and Milwaukee Counties. The vast majority of the service is provided only during weekday peak periods from 6:00 a.m. until 9:00 a.m. and from 3:00 p.m. until 6:00 p.m. with the service hours for each route tailored to the specific service market. Headways on most routes range from about 10 to 30 minutes during weekday peak periods, 30 to 60 minutes during the weekday middays and 30 minutes to two hours or more on weekday evenings and weekends. Base adult cash fares vary among the different operators with Wisconsin Coach Lines, Inc., charging from \$1.00 to \$2.50 per trip; the Milwaukee County Transit System charging \$1.50 to \$2.05 per trip; and the Waukesha Metro Transit System charging \$1.00 per trip.
2. Ridership on the Waukesha County transit system increased steadily from 1977 through 1982, in part as a result of service increases related to seven new bus routes implemented in April 1981 (see Figure 3 in Chapter III). From 1983 through 1987 ridership and service levels on the system declined as service over several routes initiated in 1981 was eliminated in response to low ridership and also constraints on the County budget. Ridership fluctuated somewhat between 1988 and 1991, increasing somewhat due to special service to summer festivals on the Milwaukee lakefront. Ridership and service levels on the transit system have increased in each year since 1991 as a direct result of the new routes and services that have been added to the system. Total annual ridership on the transit system from 1996 through 2000 increased by about 91 percent from approximately 447,100¹ revenue passengers in 1996 to

about 853,800¹ revenue passengers in 2000, with an annual average of about 663,000 revenue passengers carried on the system.

3. From 1996 through 2000 the County expended on an average annual basis a total of about \$3,982,300 per year, or about \$6.01 per passenger trip, on its public transit system. Of this total, about \$898,400, or 23 percent and \$1.36 per passenger trip, came from passenger revenues and private business funding. The remaining \$3,083,900, or 77 percent and \$4.65 per passenger trip, constituted the average annual public assistance which had to be funded through Federal and State transit assistance programs, and local property taxes. The average annual operating assistance from Waukesha County has been about \$429,800, or about 11 percent of total system operating expenses and \$0.65 per passenger trip.

TRANSIT SERVICE OBJECTIVES AND STANDARDS

The Advisory Committee formulated four objectives to guide the preparation of the plan:

1. Public transit should be provided within Waukesha County, and between the County and other counties, to link residential concentrations of commuters with major employment centers, and, in particular, connecting concentrations of low income and unemployed individuals with jobs.
2. The public transit system should promote effective utilization of public transit services and provide for user convenience, comfort, and safety.
3. The public transit system should promote efficiency in the total transportation system.
4. The transit system should be economical and efficient, meeting all other objectives at the lowest possible cost.

Each objective was linked to a supporting principal and two sets of standards: one set to guide service design and operation, and one set to help evaluate service performance.

¹The ridership figures reported here include an estimated 23,000 revenue passengers in 1996 and 60,000 revenue passengers in 2000 that were made on special services provided by Wisconsin Coach Lines, Inc. to Summerfest and the Wisconsin State Fair that were not part of the Waukesha County transit system and should not have been reported. For comparison with 2001 ridership estimates and plan forecasts for

2002 through 2006, adjusted ridership figures of 424,100 revenue passengers for 1996 and 793,800 revenue passengers for 2000 should be used.

PERFORMANCE EVALUATION OF EXISTING BUS ROUTES

The performance of the existing bus services provided by Waukesha County was evaluated at both a systemwide level and on a route by route basis using specific performance measures related to the objectives and standards. The most important findings of this evaluation include:

1. About 67 percent of Waukesha County's total population, and about 72 percent of the Milwaukee County's total population, resided within the areas served by the Waukesha County bus routes and the connecting bus services provided by the City of Waukesha Metro and Milwaukee County Transit Systems. The combined system of Waukesha County and connecting bus routes provides for substantial coverage of areas containing the highest concentrations of individuals receiving public assistance through State welfare programs and low income individuals (see Map 24 in Chapter V). Such individuals should be considered as priority population groups for the Waukesha County transit system as they represent potential workers to fill available jobs in Waukesha County and potential users of Waukesha County reverse commute bus services.
2. About 56 percent of the Waukesha County's total employment and about 59 percent of the Milwaukee County's total employment was located within the areas served by the Waukesha County bus routes and the connecting bus services provided by the City of Waukesha Metro Transit and Milwaukee County Transit Systems. The routes of the Waukesha County transit system directly serve the Milwaukee central business district, largest employment concentration in Milwaukee County and the Region. The transit system provides good coverage of the existing locations of major employers and industrial and office parks in the Waukesha County, serving 194 of the 304 major employers identified in the County, and 33 of the 54 industrial and office parks identified in the County. The expansion of transit service to serve employers and industrial and office parks in the eastern, southeastern, and western portions of the County should be considered where it can be provided in a efficient and effective manner.
3. In terms of changes in ridership and service between 1993 and 1997, the Waukesha County transits system compares favorably with other bus systems within the Region. Over this period, the Waukesha County transit system experienced an average annual increase in ridership of about 13 percent, compared with an average annual increase of about 1 percent observed for the other bus systems in the Region. Service levels on the County transit system increased by between 9 and 12 percent per year, compared with relatively stable service levels on the other systems. In terms of cost effectiveness levels, the total operating cost per revenue passenger and the total operating assistance per revenue passenger for the Waukesha County transit system increased by between 1 percent and 2 percent per year over the period compared with average annual increases for these measures of between 5 percent and 6 percent on the other systems. The proportion of operating costs recovered through the combination of passenger fares and local funds for the County transit system increased by about 4 percent annually over the period, compared with an average increase of less than 1 percent annually on the other systems. Among the other systems, the Milwaukee County Transit System and the transit systems serving the Cities of Kenosha and Racine also performed well in terms of farebox recovery and local funding rates.
4. An evaluation of the ridership, service effectiveness, and cost effectiveness of each Waukesha County bus route identified the best and poorest performing routes in the system based on March 1999 operating data and the route performance measures identified under the transit service standards. Poor performing routes, identified in red type in Table 44 in Chapter V, were considered to be those with performance values that did not meet the minimum levels. The route evaluation found that:
 - Wisconsin Coach Lines, Inc., Route No. 4; Milwaukee County Transit System Route Nos. 6, 8, 10, and 79; and Waukesha Metro Transit System Route No. 1 each had week-day performance levels that were consistently above the minimum specified levels. Based solely on their ridership and financial performance, all six routes could continue to be operated without change.
 - Wisconsin Coach Lines, Inc. Route Nos. 5 and 6, and Milwaukee County Transit System Route Nos. 9 and 106 had mixed performance levels that generally met the minimum performance levels for passengers per bus

trip, per vehicle-mile, and per vehicle-hour but did not meet minimum performance levels for operating cost and assistance per passenger. The cost effectiveness of these routes has been affected by the special reduced fares charged, the significant dead-head time and miles associated with providing service to remote areas in the County, or the low-density development in the areas served. While significant changes to these routes may not be immediately needed, their performance should be monitored and service adjustments considered where it would improve the cost effectiveness of the routes.

- Wisconsin Coach Lines, Inc., Route Nos. 1, 2, 3, 7, and 8 had weekday performance levels which, in most cases, consistently did not meet specified minimum performance levels. Of these routes, Route Nos. 7 and 8 are clearly the worst performers, showing weekday performance levels well below minimum specified levels for all measures. Changes to all of these routes to improve performance should be considered immediately.
 - The limited number of routes which operate on weekends have similar performance characteristics to their weekday operations. Milwaukee County Transit System Route Nos. 6, 8, and 10, and Waukesha Metro Transit System Route No. 1 all have acceptable weekend performance levels. Wisconsin Coach Lines, Inc., Route No. 1 remains a poor performer on weekends, aside from when more extensive special service is operated to serve ridership to festivals on the Milwaukee lakefront. The weekend service levels on Route No. 1 should be reviewed to determine if performance levels can be improved.
5. Random checks of schedule adherence conducted by Commission staff indicated that about 86 percent of all scheduled bus trips on the County routes was observed to be on time. This is somewhat below the performance level of 90 percent, set forth under the transit service objectives and standards. Problems with on-time performance were observed primarily on Wisconsin Coach Lines, Inc., Route Nos. 1, 4, and 6, and Milwaukee County Transit System Route Nos. 10 and 79 where about 76 percent of the scheduled bus trips were observed to be on-time. Most of the schedule adherence problems on these routes were found result from late departures at bus stops,

rather than from early departures or missed trips. To correct this problem, the scheduled running times between timepoints on the routes should be reviewed and, possibly, adjusted as necessary..

ALTERNATIVE AND RECOMMENDED SERVICE CHANGES

The recommended transit system development plan for Waukesha County as approved by the Waukesha County Public Transportation Planning Advisory Committee identifies a number of routing and service changes directed at improving the convenience of using, and the performance of, the existing transit services, along with expanding transit service to employment centers in the County. The plan was developed in two phases, with the first for the years 1999 through 2001 implemented by the County while the plan recommendations for the second phase from 2002 through 2006 were being completed.

Transit Service Changes: 2000 and 2001

A number of changes to the Waukesha County transit system were implemented from December 1999 through September 2001 to partially address the route performance and service expansion issues raised in the performance evaluation documented in Chapter V. These changes included:

- Replacing in December 1999 the extension of Milwaukee County Transit System (MCTS) bus service over Route No. 18 to the New Berlin Industrial Park with a new shuttle route, Route No. 218;
- Implementing in May 2000 three new demonstration routes: Waukesha Metro Transit (WMT) Route Nos. 302-New Berlin and 304-Pewaukee, and Wisconsin Coach Lines, Inc. (WCL) Route No. 303-Hartland; discontinuing service over existing WCL express Route No. 3 and WCL shuttle Route Nos. 7 and 8; and instituting a new route numbering system for non-MCTS routes which designated rapid and express routes as "900" series routes and local and shuttle routes as "300" series routes;
- Implementing in January 2001 a fourth new demonstration route, MCTS Route No. 263, to serve the Kohl's Corporate Park in the Village of Menomonee Falls; and
- Expanding in June 2001 on a demonstration basis MCTS Route No. 10 service along Blue Mound Road in Waukesha County to include Saturday evenings and Sundays.

Using the same performance standard used in evaluating the 1999 transit system, the Commission staff reexamined key route ridership and financial performance measures for each route and service during the first six months of 2001 prior to completing the plan recommendations for 2002 through 2006. This evaluation indicated that

- Three of the 15 routes in the system—MCTS Route Nos. 8, 10, and 79—were clearly the best performers in the system, having average performance levels that were consistently above the specified minimum levels.
- Six other routes in the system—WCL Route Nos. 901, 905, 906; MCTS Route Nos. 6 and 106 weekdays first shift service; and WMT Route No. 1—had mixed performance levels that generally met either the minimum performance levels for service effectiveness or for cost effectiveness. The overall performance of these routes was not poor enough to warrant drastic changes but each route's performance should continue to be monitored.
- The remaining six routes of the system—one established route, MCTS Route No. 9 for both weekday and Saturday service, and seven demonstration routes or services including WCL Route No. 303; MCTS Route No. 106 for weekday evenings and Saturdays, Route No. 218, and Route No. 263; and WMT Route Nos. 302 and 304—had average performance levels that for the most part did not come close to meeting the specified minimum performance levels for the measures examined. Based solely on their ridership and financial performance, the continuation of these routes was not considered to be warranted.

The County discontinued route No. 263 at the end of August 2001. Route Nos. 303 and 304 have been proposed for elimination by the County at the end of 2001.

Recommended Transit Services: 2002-2006

The recommended plan calls for a number of changes in alignments and schedules of the fall 2001 bus routes in the Waukesha County transit system that are envisioned as needed by 2006 for the County to fully address the transit service needs of County residents and employment centers.

Rapid Bus Service

- Waukesha-Milwaukee service over Route No. 901 would be modified to formally identify an express branch, Route No. 901X, that would operate exclusively over the freeway between the Goerkes Corners Public Transit Station and downtown Milwaukee with more weekday peak period bus trips than included in the current schedule.
- Oconomowoc-Milwaukee service over Route No. 905 would be modified to eliminate service over STH 16 between Oconomowoc and Hartland and to create a new Route No. 904 operating between Hartland and downtown Milwaukee over STH 16, Capitol Drive, USH 45, and IH 94. Route No. 904 would serve three new park-ride lots at privately owned shopping center lots in the Village of Pewaukee and in the City of Brookfield.
- Service over Route No. 905 operated over IH 94 would remain largely unchanged except for the addition of one bus trip to serve the City of Oconomowoc.
- No changes would be proposed for the Menomonee Falls-Milwaukee service provided over Route No. 79 or the Mukwonago-Milwaukee service provided over Route No. 906.

Express Bus Service

- No changes would be proposed for from the exiting alignment for Route No. 901 between the City of Waukesha and central Milwaukee County. However, the plan recommends changes in the daily service levels and times of route operation including: adding bus trips over Wisconsin Avenue between N. 35th and N. 11th Streets during the weekday morning and afternoon peak periods to allow for operation with 30-minute headways in both directions of travel; shifting bus trips currently operated early on weekday evenings and adding additional bus trips to provide late evening service for second and third shift workers using the shuttle routes connecting with Route No. 901 at the Goerkes Corners Public Transit Station and a proposed park-ride lot at IH 94 and Moorland Road; and reducing weekend and holiday service to three round trips operated per day.
- The plan retains without change Route Nos. 6 and 8 that serve Quad Graphics, Inc. plants located in Sussex and New Berlin.

Local Bus and Shuttle Service

- Route No. 302 would be restructured and split into two routes, Route Nos. 301 and 302. Route No. 301 would provide service over Moorland Road between the Brookfield Square Shopping Center and the New Berlin Industrial Park. Route No. 302 would continue to operate over W. National Avenue between West Allis and Moorland Road, and would be extended to serve the Westridge Business Park located both north and south of the IH 43 and Moorland Road interchange in the City of New Berlin.
- Route No. 303 would be restructured to move the eastern terminus of the route from the Goerkes Corners Public Transit Station to N. 124th Street and W. Capitol Drive where transfer connections would be available with several MCTS local bus routes serving central Milwaukee County. The route would operate via W. Capitol Drive (STH 190) and STH 16 to the Hartland Industrial Park and Bark River Commerce Center.
- Route No. 304 would be restructured to move the southern terminus of the route from the Goerkes Corners Public Transit Station to the proposed new transfer center for the Waukesha Metro Transit System in downtown Waukesha. Transfer connections would still be available with Route No. 901 at this location, along with connections to all Waukesha Metro local bus routes.
- A new shuttle route, Route No. 305, would be created to serve the Blue Mound and Blue Mound East, Jericho, and Brookfield Industrial Parks, and Elmbrook Memorial Hospital. The route would provide for transfer connections with Route Nos. 1 and 901 at the Goerkes Corners Public Transit Station.
- The plan assumes no changes for Route Nos. 1, 9, 10, 106, and 218 from the service each route provided in the fall 2001.

Employer Operated Shuttle Services

- For the employment centers that would not be directly served by the recommended local and shuttle bus routes, and for the employment centers served by local bus and shuttle services that have major evening or weekend work shifts for which no service would be available, the plan recommended that employers assume responsibility for developing privately sponsored shuttle services. Waukesha County should consider making staff services available to advise in the formation of

such services and making available funds through the community development block grant program to help with the start-up of private shuttle routes.

The plan proposes no significant changes to the County's complementary paratransit service for disabled individuals in response to the routing and service changes described in the preceding sections. In order for the recommended transit services to be successful, the plan recommends that a public information and promotional campaign be established by the County. This will be particularly important for the success of the new demonstration services recommended for the County. To this end, it is recommended that the County participate in the Southeastern Wisconsin Transit Marketing Partnership, a coalition of the public transit systems serving Ozaukee, Milwaukee, and Washington Counties and the Cities of Kenosha and Racine, throughout the planning period.

Plan Performance and Costs

The forecast service levels, ridership, and costs for the recommended plan from 2002 through 2006 are presented in Table 56 in Chapter VI. The financial forecasts for the plan assume operating costs per vehicle-hour will increase by 3 percent per year over the planning period and that fare increases of 5 to 10 percent on all transit services will occur in 2003 and again in 2006. The forecasts may be summarized as follows:

- The Waukesha County transit system would operate an average of about 65,700 revenue vehicle-hours of service and 1,303,600 revenue vehicle-miles of service annually over the planning period, a decrease of about 4,800 vehicle-hours and about 141,200 vehicle-miles, or about 7 to 10 percent, from the service levels operated in 2001.
- The transit system may be expected to carry an average of about 896,600 revenue passengers annually over the period, representing an increase of about 99,300 revenue passengers, or about 12 percent, over the 2001 ridership level on the system. The ridership increase under the plan largely reflects the expected effects of a combination of the proposed routing changes to rapid and express routes and continued ridership increases on the local routes serving the Blue Mound Road Corridor.
- The total cost of providing the recommended local transit service, including the operating and capital costs, would be expected to be about \$6,018,800 annually over the planning period representing an increase of about \$283,300, or about 5 per-

cent, over the estimated total expenses in 2001 for the system. The average annual total operating assistance would amount to approximately \$4,778,200, or about \$62,100—1 percent—over the estimated total operating assistance level for the system in 2001.

- Federal and State funds amounting to approximately \$3,710,400 may be expected to be available to cover about 62 percent of the total operating costs, and about 78 percent of the total required operating assistance.
- The total local operating assistance for the plan would average about \$1,153,600 per year over the period, and would represent an increase of about \$144,200, or 14 percent, over the total local operating assistance requirement for 2001. Of this amount, about \$1,046,200 would have to be provided by the Waukesha County, an increase of about 12 percent over the operating assistance funds provided by the County in 2001.

Plan Staging

To assist the County in staging the implementation of the plan, an implementation priority for the proposed service changes was identified (see Table 52 in Chapter VI) indicating those changes which should be pursued immediately in 2002 and 2003, and those changes which would be pursued in the short-term future to be in place by 2006 at the end of the planning period. The recommended bus routes and services proposed in the plan were also grouped into three tiers based upon the forecast ridership and financial performance of each route or service (see Tables 57 and 58 in Chapter VI). The routes and services identified in the first two tiers were forecast to be the best or better performing routes of the system and the plan proposes these services be fully implemented. The bus services in the third tier consist of services intended to serve the major employment centers in the less densely developed portions of the County that would be needed in order for the County to fully address the transit service needs of the County's employers. Because the routes and services in the third tier are forecast to have the lowest performance levels, the plan recommends that their implementation be pursued at the discretion of Waukesha County, possibly with financial support from the local municipalities or private businesses served.

Plan Implementation

Following adoption of the transit system development plan, Waukesha County will have the primary

responsibility for the necessary plan implementation actions through the following steps:

- Subject to the approval of the Public Works Committee of the Waukesha County Board of Supervisors, County staff in the Waukesha County Department of Public Works would need to prepare detailed operating plans which refine the service changes proposed by the plan.
- Pursuant to Federal regulations, the County should conduct one or more public hearings for the specific service and fare changes proposed under the plan.
- County staff will need to undertake one or more competitive procurement processes to select the provider(s) of recommended transit services prior to the expiration of existing service contracts at the end of 2003 and for new services such as Route No. 305. The procurement actions should be structured to meet all Federal and State requirements.
- The Wisconsin Department of Transportation and Waukesha County should undertake a cooperative effort directed at the construction of a new park-ride lot near the intersection of Moorland Road (CTH O) and IH 94 in the City of Brookfield, and the reconstruction the existing park-ride lot near the intersection STH 83 and USH 16 in the Village of Hartland.

CONCLUSIONS

The transit system development plan for the Waukesha County transit system was formally approved by the Waukesha County Public Transportation Advisory Committee at a meeting held on November 27, 2001. The plan recommended by the Advisory Committee addresses the need to improve the performance of the existing transit services, along with expand service to employment centers in the County. The plan attempts to minimize the costs to Waukesha County for proposed new and improved services by proposing to eliminate service over the most unproductive routes and services currently operated so that funds can be redirected toward new or improved services with the potential for attracting higher levels of ridership. Where service improvements or new services that will entail additional costs have been recommended, such as the restructuring of Route Nos. 303 and 304 and the new Route No. 305, the plan proposes that such services initially be

undertaken on a trial or demonstration basis using Federal funds available for this purpose. The plan also identifies an increased responsibility for the private sector, namely employers, in establishing transit services

for employment centers in low density areas to address their needs and demonstrating the worth of such services prior to the County becoming the public sponsor for such services.

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APPENDICES

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Appendix A

**SURVEY FORMS USED DURING THE PREPARATION OF THE
WAUKESHA COUNTY TRANSIT SYSTEM DEVELOPMENT PLAN**

Figure A-1

EMPLOYER TRANSPORTATION NEEDS SURVEY FORM USED BY WAUKESHA-OZAUKEE-WASHINGTON PRIVATE INDUSTRY COUNCIL

EMPLOYER TRANSPORTATION NEEDS SURVEY

R/98

The Private Industry Council is conducting this survey to work towards identifying the transportation needs of employers in Waukesha County. This information is very important as it will be used as one of the sources to develop recommendations for transit changes in the near future. Your cooperation in these efforts is greatly appreciated. Please attach an additional page if you need more room for information. Please fax the completed form to the attention of Joan Arlette at 414-695-7890.

Company Name _____ Contact/ Title _____
City/Town _____ Phone No. _____
Type of Business _____

Questions:

1. Size of Workforce: Under 100 250 - 500 750+
 100 - 250 500 - 750
- | | Hours | Number of Workers |
|-----------------------|-------|-------------------|
| First Shift | | |
| 2 nd shift | | |
| 3 rd shift | | |
| Other shift | | |
2. Number of projected new hires needed this year _____
 3. Do you have problems recruiting workers? Yes No
If yes, are transportation problems a significant factor? Yes No
 4. Do you have problems retaining new workers? Yes No
If yes, are transportation problems a significant factor? Yes No
 5. Can your company be flexible on start and end times of shifts where transportation issues are of concern? yes no

If yes, please note where and how much you could be flexible for each of the following?
1st shift
2nd shift
3rd shift
Other shift
 6. Approximately what percentage of your current workforce resides in Milwaukee County? under 10% 10 - 25% 25% - 50% over 50%
 7. What percentage of your workforce currently resides in counties other than Milwaukee and Waukesha County? under 10% 10-25% over 25%

8. Is your company currently served by a public transportation route?
 Yes No
If so, does it meet the needs of your employees adequately?
 9. What type of changes would you like to see in public transportation?
 addition of evening service
 addition of services for other shifts (please identify _____)
 expansion of current routes in your area
 new routes for your area
 other (please identify _____)
 none
 10. Is a privately-sponsored transportation service available for your employees? Yes No
If so, please complete the following:
This service is company sponsored/completely employer paid;
 company sponsored/employee paid; or other (please identify) _____
- | Type of Service
(i.e., van, bus) | Who Can Use It? | Cost of Fare |
|-------------------------------------|-----------------|--------------|
| | | |
-
- | What Area is Covered? | Days & Hours | No. of Vehicles |
|-----------------------|--------------|-----------------|
| | | |
-
- Average length of weekday one-way trips: _____ miles
- If this is a cooperative effort involving other employers, please identify the other employers.
11. Would your company be willing to make a contribution to expand transportation services in your area? Yes No
If yes, please indicate the type of contribution:
 provide financial support;
 willingness to work with other employers to establish/maintain a privately-sponsored route; or
 other - please identify _____

Please call Joan Arlette at 414-695-7886 if you have any questions.

Figure A-2

WAUKESHA COUNTY TRANSIT SYSTEM ON-BUS SURVEY FORM

PLEASE COMPLETE THIS SURVEY EVEN IF
YOU HAVE ALREADY FILLED ONE OUT TODAY
Please Complete and Deposit in any U.S. Mailbox, or Return on Bus

If you have difficulty in completing this form please call 547-6721.

PUBLIC TRANSPORTATION SURVEY

Please tell us about this bus trip.

1. ON THIS BUS TRIP, I AM COMING FROM: ☐ Enter Number
 1. Home 3. School 5. Social activity/meal 7. Conducting personal business/medical/dentist
 2. Work 4. Shopping 6. Recreational activity 8. Other (specify) _____

2. WHICH IS LOCATED AT: _____

(nearest street intersection or street address)

(name of community)

3. ON THIS TRIP, I AM GOING TO: ☐ Enter Number

1. Home 3. School 5. Social activity/meal 7. Conducting personal business/medical/dentist
 2. Work 4. Shopping 6. Recreational activity 8. Other (specify) _____

4. WHICH IS LOCATED AT: _____

(nearest street intersection or street address)

(name of community)

5. WILL YOU TRANSFER TO ANOTHER BUS TO COMPLETE THIS TRIP? (check one)

- ☐ No, I will not transfer ☐ Yes, I will transfer to
☐ Waukesha Metro Route(s) No. ____ and ____
☐ Milwaukee County Transit System (MCTS) Route(s) No. ____ and ____
☐ Wisconsin Coach Lines (WCL) Route(s) No. ____ and ____

6. HOW DID YOU GET TO THE BUS STOP WHERE YOU GOT ON THIS BUS?

- ☐ Enter 1. I transferred from Number
☐ Waukesha Metro Route(s) No. ____ and ____
☐ Milwaukee County Transit System (MCTS) Route(s) No. ____ and ____
☐ Wisconsin Coach Lines (WCL) Route(s) No. ____ and ____
 2. I walked 3. By private auto/truck 4. Other (specify) _____

7. HOW DID YOU PAY FOR THIS BUS TRIP?

- ☐ Enter Number 1. In cash (give amount) \$ ____ 4. Saturday Supertransfer 7. By WCL transfer
 2. By weekly or monthly pass 5. By ticket or token 8. By MCTS transfer
 3. By student pass 6. By Metro transfer 9. By UPASS

8. WHAT TIME OF DAY WAS IT WHEN YOU GOT ON THIS BUS?

☐ : ☐ AM PM
 (enter time) (circle one)

9. IS THIS PART OF A ROUND TRIP BY BUS TODAY?

(check one) ☐ Yes ☐ No

10. IN TOTAL HOW OFTEN DO YOU MAKE A ROUND TRIP BY BUS?

- ☐ Enter Number 1. Less than once a month
 2. One to three times a month
 3. Once or twice a week
 4. Three to five times a week
 5. More than five times a week

11. HOW LONG AGO DID YOU BEGIN USING TRANSIT?

- ☐ Enter Number 1. Less than three months
 2. More than three months, but less than one year
 3. One to two years
 4. Three to four years
 5. Five years or longer

Please tell us about yourself and your household.

12. MY HOME IS LOCATED AT: _____

(nearest street intersection or street address)

(name of community)

13. OUR HOUSEHOLD HAS _____ VEHICLES AVAILABLE FOR PERSONAL USE

14. THE NUMBER OF PERSONS LIVING IN OUR HOUSEHOLD IS _____

15. I AM A LICENSED DRIVER (check one)

☐ Yes ☐ No

16. MY AGE IS:

- ☐ Enter Number 1. 5 or under 6. 25-34
 2. 6-12 7. 35-44
 3. 13-15 8. 45-54
 4. 16-18 9. 55-64
 5. 19-24 10. 65 and over

17. I AM: (Check one)

☐ Male ☐ Female

18. MY RACE IS: (Circle any that apply)

1. Black or African American
 2. White
 3. American Indian or Alaska Native
 4. Asian
 5. Native Hawaiian or Other Pacific Islander
 6. Other _____

19. OUR TOTAL HOUSEHOLD INCOME IS:

- ☐ Enter Number 1. Under \$5,000 8. \$25,000-\$29,999
 2. \$5,000-\$9,999 7. \$30,000-\$34,999
 3. \$10,000-\$14,999 8. \$35,000-\$39,999
 4. \$15,000-\$19,999 9. \$40,000-\$49,999
 5. \$20,000-\$24,999 10. \$50,000 and over

18a. CHECK IF YOU ARE OF HISPANIC OR LATINO ORIGIN ☐

20. WHAT SUGGESTIONS DO YOU HAVE FOR IMPROVING BUS SERVICE? _____

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Appendix B

OPERATING DATA USED IN THE PERFORMANCE EVALUATION OF THE EXISTING TRANSIT SYSTEM

Table B-1

**RIDERSHIP, SERVICE LEVELS, AND OPERATING COSTS FOR FIXED-ROUTE
PUBLIC TRANSIT SYSTEMS IN SOUTHEASTERN WISCONSIN: 1993 AND 1997**

Transit System	1993 ^a												
	Service Area Population ^b	Utilization			Level of Service				Financial Data				
		Revenue Passengers	Total Boarding Passengers	Passenger-Miles	Revenue Vehicle-Hours	Revenue Vehicle-Miles	Total Vehicle-Hours	Total Vehicle-Miles	Operating Cost	Farebox and Other Operating Revenues	Public Operating Assistance		
											Federal and State Share	Local Share	Total
Kenosha Transit System	85,300	1,132,000	1,332,900	4,477,700	63,800	860,800	68,200	921,200	\$ 2,484,400	\$ 509,800	\$ 1,570,500	\$ 404,100	\$ 1,974,600
Milwaukee County Transit System.....	1,007,900	48,843,300	60,654,300	150,423,200	1,469,900	17,567,900	1,561,200	19,448,000	80,924,600	29,976,200	39,052,700	11,895,700	50,948,400
Racine Belle Urban System.....	114,300	1,781,700	2,450,300	6,046,600	100,500	1,226,900	109,700	1,310,600	3,723,400	897,800	2,363,900	461,700	2,825,600
Milwaukee-Racine-Kenosha Commuter Bus	414,900	79,500	79,500	1,193,000	9,100	268,300	13,300	298,900	516,800	238,500	278,300	--	278,300
Waukesha Metro Transit System.....	61,200	456,200	588,200	1,853,000	42,500	561,500	45,200	603,770	1,459,300	244,100	822,300	392,900	1,215,200
Total	1,683,600	52,292,700	65,105,200	163,993,500	1,685,800	20,485,400	1,797,600	22,582,470	\$ 89,108,500	\$ 31,866,400	\$ 44,087,700	\$ 13,154,400	\$ 57,242,100
Waukesha County Transit System.....	318,800	316,000	316,000	4,790,700	24,800	498,100	31,100	647,900	\$ 1,840,100	\$ 460,700	\$ 1,317,800	\$ 61,600	\$ 1,379,400

Transit System	1997 ^a												
	Service Area Population ^b	Utilization			Level of Service				Financial Data				
		Revenue Passengers	Total Boarding Passengers	Passenger-Miles	Revenue Vehicle-Hours	Revenue Vehicle-Miles	Total Vehicle-Hours	Total Vehicle-Miles	Operating Cost	Farebox and Other Operating Revenues	Public Operating Assistance		
											Federal and State Share	Local Share	Total
Kenosha Transit System	89,200	1,340,700	1,541,500	5,009,800	67,700	952,200	74,200	1,039,300	\$ 2,906,800	\$ 671,200	\$ 1,615,900	\$ 619,700	\$ 2,235,600
Milwaukee County Transit System.....	993,900	51,681,100	61,593,400	183,072,300	1,428,200	17,164,900	1,537,700	19,368,500	93,110,200	38,251,000	46,231,200	8,628,000	54,859,200
Racine Belle Urban System.....	117,600	1,544,600	2,036,000	4,856,500	100,900	1,259,200	110,700	1,342,200	4,555,200	1,327,200	2,489,000	739,000	3,228,000
Milwaukee-Racine-Kenosha Commuter Bus	415,900	73,800	73,800	1,107,000	8,700	265,400	13,200	295,000	610,800	220,400	390,400	--	390,400
Waukesha Metro Transit System.....	64,500	569,100	727,500	2,386,100	54,500	746,500	59,800	782,300	2,095,500	410,800	1,209,100	475,600	1,684,700
Total	1,681,100	55,209,300	65,972,200	196,431,700	1,660,000	20,388,200	1,795,600	22,827,300	\$ 103,278,500	\$ 40,880,600	\$ 51,935,600	\$ 10,462,300	\$ 62,397,900
Waukesha County Transit System.....	341,300	517,400	517,400	6,695,000	39,000	713,500	52,400	938,700	\$ 3,185,100	\$ 753,800	\$ 2,133,000	\$ 298,300	\$ 2,431,300

^aBased on ridership and service data obtained from annual reports submitted by each transit system to the Wisconsin Department of Transportation and to the Federal Transit Administration. Financial data based on annual audits conducted by the Wisconsin Department of Transportation and each transit system. All data is for fixed route bus operations only and excludes data for complementary paratransit service for disabled individuals.

^bFor the Kenosha, Racine, and Waukesha Metro transit systems, population figures are based on the local one-quarter mile walk service area for each transit system. For the Milwaukee and Waukesha County transit systems, population figures are based on the local one-quarter mile walk service area, three-mile automobile drive service area, and connecting local bus service area for each transit system. All population figures are based on data from the 1990 census allocated to U.S. Public land Survey quarter sections by Commission staff and adjusted to reflect estimated year data using population estimates prepared by the Wisconsin Department of Administration.

Source: SEWRPC.

Table B-2

**EFFECTIVENESS AND EFFICIENCY OF FIXED ROUTE PUBLIC
TRANSIT SYSTEMS IN SOUTHEASTERN WISCONSIN: 1993 AND 1997**

Transit System	1993 ^a												
	Average Length of Revenue Passenger Trip (miles)	Service Effectiveness		Service Efficiency				Cost Effectiveness				Local Contribution	
		Total Passengers per Revenue Vehicle-Hour	Total Passengers per Revenue Vehicle-Mile	Operating Cost per Revenue Vehicle-Hour	Operating Cost per Revenue Vehicle-Mile	Operating Cost per Total Vehicle-Hour	Operating Cost per Total Vehicle-Mile	Per Total Passenger		Operating Assistance		Farebox Recovery Rate	Farebox and Local Funding Rate
								Operating Cost	Operating Assistance	Operating Cost	Operating Assistance		
Kenosha Transit System	4.0	20.9	1.55	\$38.94	\$2.89	\$36.43	\$2.70	\$1.86	\$1.48	\$0.55	\$0.44	20.5%	36.8%
Milwaukee County Transit System	3.1	41.3	3.45	55.05	4.61	51.83	4.16	1.33	0.84	0.54	0.34	37.0%	51.7%
Racine Belle Urban System	3.4	24.4	2.00	37.05	3.03	33.94	2.84	1.52	1.15	0.62	0.47	24.1%	36.5%
Milwaukee-Racine-Kenosha Commuter Bus	15.0	8.7	0.30	56.79	1.93	38.86	1.73	6.50	3.50	0.43	0.23	46.1%	46.1%
Waukesha Metro Transit System	4.1	13.8	1.05	34.34	2.60	32.29	2.42	2.48	2.07	0.79	0.66	16.7%	43.7%
Average ^b	5.9	21.8	1.67	\$44.43	\$3.01	\$38.67	\$2.77	\$2.74	\$1.81	\$0.59	\$0.43	28.9%	43.0%
Waukesha County Transit System	15.2	12.7	0.63	\$74.20	\$3.69	\$59.17	\$2.84	\$5.82	\$4.37	\$0.38	\$0.29	25.0%	28.4%

Transit System	1997 ^a												
	Average Length of Revenue Passenger Trip (miles)	Service Effectiveness		Service Efficiency				Cost Effectiveness				Local Contribution	
		Total Passengers per Revenue Vehicle-Hour	Total Passengers per Revenue Vehicle-Mile	Operating Cost per Revenue Vehicle-Hour	Operating Cost per Revenue Vehicle-Mile	Cost per Total Vehicle-Hour	Cost per Total Vehicle-Mile	Per Total Passenger		Operating Assistance		Farebox Recovery Rate	Farebox and Local Funding Rate
								Operating Cost	Operating Assistance	Operating Cost	Operating Assistance		
Kenosha Transit System	3.7	22.8	1.62	\$42.94	\$3.05	\$39.18	\$2.80	\$1.89	\$1.45	\$0.58	\$0.45	23.1%	44.4%
Milwaukee County Transit System	3.5	43.1	3.59	65.19	5.42	60.55	4.81	1.51	0.89	0.51	0.30	41.1%	50.3%
Racine Belle Urban System	3.1	20.2	1.62	45.15	3.62	41.15	3.39	2.24	1.59	0.94	0.66	29.1%	45.4%
Milwaukee-Racine-Kenosha Commuter Bus	15.0	8.5	0.28	70.21	2.30	46.27	2.07	8.28	5.29	0.55	0.35	36.1%	36.1%
Waukesha Metro Transit System	4.2	13.3	0.97	38.45	2.81	35.04	2.68	2.88	2.32	0.88	0.71	19.6%	42.3%
Average ^b	5.9	21.6	1.62	\$52.39	\$3.44	\$44.44	\$3.15	\$3.36	\$2.31	\$0.69	\$0.49	29.8%	43.7%
Waukesha County Transit System	12.9	13.3	0.73	\$81.67	\$4.46	\$60.78	\$3.39	\$6.16	\$4.70	\$0.48	\$0.36	23.7%	33.0%

^aBased on ridership and service data obtained from annual reports submitted by each transit system to the Wisconsin Department of Transportation and to the Federal Transit Administration. Financial data based on annual audits conducted by the Wisconsin Department of Transportation and each transit system. All data is for fixed route bus operations only and excludes data for complementary paratransit service for disabled individuals.

^bAverages for all performance measures represent the mean of the individual values calculated for each system.

Source: SEWRPC.

Table B-3

**AVERAGE DAILY OPERATING AND FINANCIAL DATA FOR THE ROUTES
COMPRISING THE WAUKESHA COUNTY TRANSIT SYSTEM: MARCH 1999**

Type of Service	Bus Route ^b	Service Levels ^a								
		Scheduled Bus trips			Revenue Vehicle-Miles			Revenue Vehicle-Hours		
		Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays
Rapid/Express	WCL Nos. 1, 2	43	12	8	1,124.0	276.0	184.0	52.0	12.0	8.0
	WCL No. 3	4	--	--	107.0	--	--	5.0	--	--
	WCL No. 4	8	--	--	236.0	--	--	10.8	--	--
	WCL No. 5	2	--	--	74.0	--	--	3.0	--	--
	WCL No. 6	4	--	--	132.0	--	--	4.0	--	--
	MCTS No. 6	4	4	4	65.1	65.0	65.0	3.9	3.8	3.8
	MCTS No. 8	4	4	4	111.7	111.5	111.5	5.2	5.1	5.1
	MCTS No. 79	8	--	--	248.1	--	--	10.0	--	--
	Subtotal	77	20	16	2,097.9	452.5	360.5	93.9	20.9	16.9
Local/Local Shuttle	WCL No. 7	10	--	--	108.0	--	--	10.0	--	--
	WCL No. 8	10	--	--	184.0	--	--	10.0	--	--
	MCTS No. 9	22	--	--	126.0	--	--	8.7	--	--
	MCTS No. 10	44	32	--	228.8	88.4	--	17.2	9.1	--
	MCTS No. 106 ^c	6	--	--	53.2	--	--	2.8	--	--
	WMT No. 1 ^d	80	52	--	301.6	189.8	--	20.0	13.9	--
	Subtotal	172	84	--	1,001.6	278.2	--	68.7	23.0	--
All	Systemwide Total	249	104	16	3,099.5	730.7	360.5	162.6	43.9	16.9

Type of Service	Bus Route ^b	Service Utilization ^a								
		Total Boarding Passengers			Passenger-Miles			Average Trip Length (miles)		
		Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays
Rapid/Express	WCL Nos. 1, 2	597	97	64	10,750	2,032	1,344	18.0	20.9	21.0
	WCL No. 3	58	--	--	1,044	--	--	18.0	--	--
	WCL No. 4	208	--	--	4,565	--	--	21.9	--	--
	WCL No. 5	50	--	--	1,108	--	--	22.2	--	--
	WCL No. 6	89	--	--	2,586	--	--	29.1	--	--
	MCTS No. 6	50	50	48	619	617	592	12.4	12.3	12.3
	MCTS No. 8	153	153	151	3,833	3,875	3,781	25.1	25.3	25.0
	MCTS No. 79	169	--	--	2,880	--	--	17.0	--	--
	Subtotal	1,374	300	263	27,385	6,524	5,717	19.9	21.7	21.7
Local/Local Shuttle	WCL No. 7	34	--	--	188	--	--	5.5	--	--
	WCL No. 8	31	--	--	156	--	--	5.0	--	--
	MCTS No. 9	140	--	--	700	--	--	5.0	--	--
	MCTS No. 10	543	172	--	1,503	476	--	2.8	2.8	--
	MCTS No. 106 ^c	46	--	--	365	--	--	7.9	--	--
	WMT No. 1 ^d	332	290	--	879	768	--	2.6	2.6	--
	Subtotal	1,126	462	--	3,791	1,244	--	3.4	2.7	--
All	Systemwide Total	2,500	762	263	31,176	7,768	5,717	12.5	10.2	21.7

Type of Service	Bus Route ^b	Operating Costs and Revenues ^a								
		Operating Costs			Operating Revenue			Operating Assistance		
		Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays
Rapid/Express	WCL Nos. 1, 2	\$5,288	\$1,220	\$ 814	\$1,087	\$177	\$116	\$4,201	\$1,043	\$698
	WCL No. 3	774	--	--	89	--	--	685	--	--
	WCL No. 4	1,596	--	--	394	--	--	1,202	--	--
	WCL No. 5	472	--	--	96	--	--	376	--	--
	WCL No. 6	857	--	--	218	--	--	639	--	--
	MCTS No. 6	263	256	256	156	156	156	107	100	100
	MCTS No. 8	330	324	324	292	292	292	38	32	32
	MCTS No. 79	464	--	--	313	--	--	151	--	--
	Subtotal	\$10,044	\$1,800	\$1,394	\$2,645	\$625	\$564	\$7,399	\$1,175	\$830
Local/Local Shuttle	WCL No. 7	\$477	--	--	\$ 17	--	--	\$ 460	--	--
	WCL No. 8	477	--	--	16	--	--	461	--	--
	MCTS No. 9	696	--	--	147	--	--	549	--	--
	MCTS No. 10	1,128	\$ 623	--	516	\$163	--	612	\$ 460	--
	MCTS No. 106 ^c	233	--	--	49	--	--	184	--	--
	WMT No. 1 ^d	840	584	--	199	174	--	641	461	--
	Subtotal	\$3,851	\$1,207	--	\$ 944	\$337	--	\$2,907	\$ 921	--
All	Systemwide Total	\$13,895	\$3,007	\$1,394	\$3,589	\$962	\$564	\$10,306	\$2,096	\$830

^a Unless otherwise noted, all data are based on the March 1999 operating reports submitted by each operator to Waukesha County. The operating costs and assistance levels for all WCL routes have been adjusted down from the total monthly invoice by removing the Federal share, or 80 percent, of the portion of total costs representing capital depreciation on equipment and facilities. The company estimates that such Federal capital assistance represents approximately 10 percent of the total WCL operating costs for Waukesha County bus services. The adjusted WCL operating costs include only the local share, or 20 percent, of capital depreciation costs. The costs for MCTS and WMT bus services also include only the local share of capital depreciation costs.

^b The following abbreviations have been used to identify the operator of each bus route; WCL for Wisconsin Coach Lines, Inc.; MCTS for the Milwaukee County Transit System; and WMT for the City of Waukesha Metro Transit System.

^c Passenger miles of travel for MCTS Route No. 106 are estimates based on Commission survey data. Revenue vehicle-miles and hours of service are estimates based on transit operator data.

^d Passenger miles of travel for WMT Route No. 1 are estimates based on Commission survey data. Operating costs, passenger and other revenues, and operating assistance are estimates based on transit operator data.

Source: Waukesha County Department of Public Works and SEWRPC.

**SOUTHEASTERN WISCONSIN REGIONAL
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