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COMMUNITY ASSISTANCE PLANNING REPORT NUMBER 183

KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN: 1991-1995

CITY OF KENOSHA, WISCONSIN

Prepared by the

Southeastern Wisconsin Regional Planning Commission P. O. Box 1607 Old Courthouse 916 N. East Avenue Waukesha, Wisconsin 53187-1607

The preparation of this report was financed in part through a planning grant from the U.S. Department of Transportation, Urban Mass Transportation Administration.

September 1991

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SOUTHEASTERN W

916 N. EAST AVENUE

WISCONSIN

P.O. BOX 1607

REGIONAL PLANNING

WAUKESHA, WISCONSIN 53187-1607



September 30, 1991

TO: The Honorable Mayor and Members of the City of Kenosha Common Council

Ladies and Gentlemen:

In October 1989, the City of Kenosha requested the assistance of the Southeastern Wisconsin Regional Planning Commission in the preparation of a new five-year development plan for the City's public transit system. The plan was to identify needed transit improvements for the period 1991 through 1995 and was intended to replace the previous transit system development plan completed in June 1984. To advise and assist the Commission staff in the preparation of the plan, the City created the Kenosha Public Transit Planning Advisory Committee composed of elected and appointed public officials, businessmen, and concerned citizens.

The Commission staff, working with the Advisory Committee, has now completed and is pleased to provide to you herewith on behalf of the Committee this report setting forth a new five-year transit system development plan for the City of Kenosha. The report presents transit service objectives and related performance measures as formulated under the study; the findings of inventories of pertinent demographic, economic, and land use characteristics of the City of Kenosha and environs and the travel characteristics of city residents; the results of an assessment of both systemwide and route-by-route transit system performance considering operating characteristics, ridership, and financial return; and recommended operational changes that would expand the transit services provided by, and improve the performance of, the city transit system.

The plan recommends a number of changes in the existing routes of the city transit system to expand transit service to areas of new or expanding residential, commercial, or industrial development within the study area; to provide for more direct crosstown routing; and to eliminate or reduce service on existing route segments with low ridership. The plan proposes modification of all seven of the existing regular routes in the transit system plus the creation of an eighth regular route serving the northern half of the City. The plan also proposes changes to the two existing shuttle routes and the creation of a third shuttle route to serve new commercial development in the outlying portions of the study area. Finally, the plan recommends that the regular routes of the transit system continue to use a central transfer terminal located in the central business district.

The findings and recommendations of this report were carefully reviewed and approved by the Advisory Committee and are herewith submitted on behalf of that Committee for consideration and action by the City. If adopted, the recommended plan can provide valuable guidance to Kenosha officials concerned with transit system development in a period when the transit system will have to be responsive to changing development patterns and service needs in the City while also becoming more effective and efficient.

The Regional Planning Commission is appreciative of the assistance and support given to the plan preparation by the City of Kenosha Department of Transportation through the Director of Transportation, as well as by the Advisory Committee. The Commission staff stands ready to assist the City in presenting the recommended transit system development plan to the public for review and evaluation and in implementing the recommended service improvements and capital projects over time.

Sincerely,

Kurt W. Bauer Executive Director

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Chapter I

INTRODUCTION

On October 19, 1989, the City of Kenosha requested the assistance of the Regional Planning Commission in the preparation of a new transit system development plan for the City of Kenosha. The previous transit system development plan, prepared by the Commission for the city transit system in 1984, covering the period 1984 through 1988, was now outdated. The new plan was also needed in order for the transit system to respond properly to the major changes in industrial and commercial development which were occurring in the Kenosha area.

The requested transit system development plan is documented in this report. The plan is based on a thorough evaluation of the performance of the existing transit system operated by the City of Kenosha; analyses of the personal travel habits, patterns, and needs of the residents of the City and environs; analysis of the transportation needs of existing land use patterns and major land use developments which have been proposed or are occurring within the area; and a careful evaluation of alternative courses of action for providing the needed transit services. The plan also identifies the financial commitment and actions necessary by the various levels and units of government concerned to implement the plan.

STUDY PURPOSE

The purpose of this transit system development plan is fourfold:

- 1. To evaluate the effectiveness of the existing route structure and schedules in serving the population concentrations, major trip generators, and travel habits and patterns of the greater Kenosha area.
- 2. To evaluate the financial performance of the current transit system with regard to operating costs, passenger revenues, operating deficits, and proportion of operating costs recovered by passenger revenues.
- 3. To recommend potential changes which should be considered in the operation of, and the area served by, the existing routes of the transit system including:

- a. The extension of transit service by the City of Kenosha to serve new areas of development which are occurring within the City of Kenosha and environs beyond the limits of the current transit system service area;
- b. The relocation of the common transfer site for the existing transit system routes from its current location in downtown Kenosha to a more central location to the west of downtown; and
- c. Other changes needed to address routing and scheduling problems identified in the evaluation of the performance of the transit system.
- 4. To provide a sound basis for monitoring the implementation status of the plan and the updating required to maintain a valid plan throughout the five-year planning period.

SCOPE OF WORK

Seven specific steps were involved in the preparation of this transit system development plan. The first step was the formation of appropriate transit service development objectives and supporting performance standards and design criteria. The second step was 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. The third step was the analysis of the operation of the existing transit system, including the identification of any potential deficiencies in that system. The fourth step was the development and evaluation of alternative potential changes in transit service which could address the problems and deficiencies that were identified. The fifth step was the preparation of a program of recommended changes in the transit system. The sixth step was the preparation of a financial plan presenting data on the estimated capital and operating expenses, passenger revenues, and operating deficits for the modified system, and on the portion of the associated capital costs and operating deficits that can be funded through federal and state transit assistance programs and the portion that

needs to be funded through local taxes. The seventh step was the identification of the actions which must be taken by the City of Kenosha and by each of the other concerned levels and units of government to implement the recommended changes in the transit system and thereby achieve the recommended modified system and associated necessary services.

STUDY AREA

The study area considered in this report comprises the eastern portion of Kenosha County and includes all the City of Kenosha, the Village of Pleasant Prairie, and the Town of Somers, as well as the eastern one-third of the Towns of Bristol and Paris. The location of the study area within the Southeastern Wisconsin Region is shown on Map 1. The study area includes the entire area served by the fixed-route bus system operated by the City of Kenosha in 1990.

STUDY ORGANIZATION

The preparation of this transit system development plan was a joint effort by the staffs of the City of Kenosha and of the Southeastern Wisconsin Regional Planning Commission. Additional staff assistance was obtained as necessary from certain other agencies concerned with transit development in the Kenosha area, 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, the City of Kenosha acted in November 1990 to create a Kenosha Public Transit Planning Advisory Committee. The full membership of the Committee is listed on the inside front cover of this report.

SCHEME OF PRESENTATION

This planning report consists of eight chapters. Following this introductory chapter, Chapter II,

"Existing Transit System," presents a description of the public transit system serving the City of Kenosha and environs as that system existed in 1990, including descriptions of fixed-route bus service, specialized transportation service for the disabled, equipment, fares, ridership, administrative structure, costs, and financing. Chapter III, "Land Use and Travel Patterns," describes the pertinent land use, demographic and economic characteristics, and major person trip generators in the study area, as well as the travel habits and patterns of transit system riders currently using the transit system. Chapter IV, "Transit Service Objectives and Standards," sets forth a set of transit service objectives and supporting performance standards and design criteria used to identify existing problems and deficiencies in the service provided by the city transit system in 1990 and to design and evaluate alternative and recommended actions to alleviate such problems and deficiencies. Chapter V, "Transit System Performance Evaluation," presents an evaluation of the performance of the existing transit system, identifying service-related problems and deficiencies. Chapter VI, "Alternative and Recommended Transit Service Changes," identifies, describes, and evaluates a series of changes that should be considered to improve the overall performance of the transit system and presents the recommendations of the Advisory Committee on the alternative transit system changes. Chapter VII, "Recommended Transit System Development Plan," describes the recommended transit system development plan for the City of Kenosha and environs, including recommendations pertaining to both fixed-route and specialized transit services, capital and operating costs, a financing plan identifying sources of funds for capital projects and operating deficits, and the actions required to be taken by each level and unit of government concerned to carry out the recommended plan in an orderly and timely manner. Chapter VIII, "Summary and Conclusions," provides a summary of the summary of the significant findings and recommendations of the planning effort.



Source: SEWRPC.

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EXISTING TRANSIT SYSTEM

INTRODUCTION

An understanding of the existing public transit system within the study area is basic to the preparation of any sound transit system development plan. This understanding should be based upon a thorough inventory of current transit operations and appropriate survey data describing the travel habits and patterns and socioeconomic characteristics of the existing transit ridership.

This chapter documents the findings of an inventory of public transit services serving the City of Kenosha and environs. The operations of the Kenosha transit system, the main supplier of public transit service in the City, are described. So also are the operations of other major suppliers of public transit service serving the Kenosha area. A description of the travel habits and patterns and socioeconomic characteristics of the existing Kenosha transit system ridership, based upon a survey conducted in December 1989, is provided in the following chapter.

THE KENOSHA TRANSIT SYSTEM

Urban public transit service has been available in the City of Kenosha since 1903, when street railway operations were initiated. Public transit service in the Kenosha area was provided exclusively by streetcars until 1931, when the service was replaced by a system of electric "trackless trolley" bus routes. The trolleybus system was converted to motor bus operation after World War II. Continuous declines in ridership and profits during the post war period resulted in several changes of private ownership until February 1971, when, due to extreme financial difficulties, the last private operator ceased local bus operations. In September 1971, after almost eight months without local transit service, the City of Kenosha acquired the transit system from the last private transit operator, which it had subsidized for the previous two years, and began public operation of the Kenosha transit system.

Thus, the major supplier of local public transit service in the Kenosha area is the City of Kenosha. The following sections describe the existing operations of the transit system in terms of administration and management; fixedroute and specialized transit services; fare structure; facilities and equipment; ridership levels; and financial status.

Administrative Structure

The Kenosha transit system is owned by the City of Kenosha and operated with public employees under the direct supervision of the City of Kenosha Department of Transportation. The policymaking body of the transit system is the Kenosha Transit Commission, which consists of seven members appointed by the Mayor and confirmed by the Common Council. The powers of the Transit Commission are substantial and include essentially all the powers necessary to acquire, operate, and manage the transit system. However, the Kenosha Common Council has the ultimate responsibility for review and approval of certain important matters, including the annual budget of the public transit program. The management and policy making structure of the Kenosha transit system is summarized on the organization chart shown in Figure 1.

Fixed-Route Bus Service

During 1990 fixed-route bus service was provided by the Kenosha transit system over seven regular local bus routes, nine special peak-hour tripper routes, and two special shuttle routes. The current operating and service characteristics of the routes operated by the Kenosha transit system are summarized in Table 1.

As shown on Map 2, all the seven fixed routes providing regular local bus service are primarily radial in design to provide direct, no-transfer bus service to the City of Kenosha's central business district. The seven regular bus routes primarily serve the City of Kenosha, but one bus route extends into the Town of Somers to serve the University of Wisconsin-Parkside. Bus service on these regular routes is provided for 12 hours per day, 6:00 a.m. to 6:00 p.m., Mondays through Saturdays. No bus service is provided on Sundays or holidays. On weekdays the regular routes are operated with headways of 30 to 60 minutes during the morning and afternoon peak periods and 60 minutes during the midday off-peak period. On Saturdays the routes are operated with headways of 60 minutes during the entire day.

The schedules for the seven regular bus routes are designed so that buses on all routes meet at the central business district at the intersection of 56th Street and 6th Avenue every half hour or every hour, depending on their headways. This intersection is located at the north end of the South Port Mall and serves as the central transfer point for the transit system. The cycle, or pulse, scheduling utilized allows bus passengers the opportunity to transfer conveniently between bus routes and complete a trip with a minimum of delay.

The peak-hour tripper bus routes operated by the transit system are shown on Map 3. The peak-hour tripper bus routes are designed to provide additional service to accommodate the movement of junior and senior high school students and alleviate overcrowded conditions on the regular bus routes. Bus service on these routes is provided on regular school days only, from 6:45 a.m. to 8:30 a.m. and from 2:30 p.m. to 4:00 p.m.

The transit system also operates two special shuttle routes, shown on Map 4, to provide access to major commercial, recreational, and employment centers which have developed outside the regular service area of the transit system. One such route serves the Dairyland Greyhound Park and the commercial development near the intersection of IH 94 and STH 50. including the Factory Outlet Centre. A total of three bus trips in each direction are operated over this route on weekdays and Saturdays. The second shuttle bus route is designed to serve employees of the Manu-Tronics Corporation in the LakeView Corporate Park under development in the Village of Pleasant Prairie. Two bus trips are operated in each direction over this route each weekday. Both shuttle routes use the same central transfer point as the regular routes of the transit system as their terminus within the City.

Transportation Service for the Disabled

In addition to fixed-route bus service, the City of Kenosha currently supports a dual strategy for providing transportation services for disabled persons. This strategy consists of the provision of on-call accessible fixed-route bus service on the regular city bus routes and the participation

Figure 1

ORGANIZATION CHART FOR MANAGEMENT OF THE KENOSHA TRANSIT SYSTEM



Source: City of Kenosha Department of Transportation and SEWRPC.

in the "Care-A-Van" program, a specialized door-to-door transportation service which operates throughout the City of Kenosha and which is administered by the Kenosha County Department of Aging. The operating and service characteristics of these transportation services for disabled persons during 1990 are summarized in Table 2.

As of October 1990, five of the 35 buses in the Kenosha transit system fleet were equipped with wheelchair lifts. The City anticipates that four additional buses will be retrofitted with wheelchair lifts by January 1991, when the rehabilitation of these vehicles is completed. The City uses these buses to provide a limited level of accessible bus service by assigning the buses to scheduled bus trips on an advance reservation basis. Handicapped individuals intending to use the service must call the transit system and indicate on what routes and at what time they would like to travel. Such requests must, if possible, be made at least 24 hours in advance

Table 1

OPERATING AND SERVICE CHARACTERISTICS BY ROUTE OF THE KENOSHA TRANSIT SYSTEM: 1990

		Service Availability					
		Weekdays		Satu	rdays		
Bus Route	Round-Trip Route Length (miles)	Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)	Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)		
Regular Routes							
No. 1	27.9	6:02	5:06	6.02	5.06		
No. 2	12.8	6:00	5:03	6:00	5:03		
No. 3	26.8	6:02	5:05	6:02	5:05		
No. 4	26.6	6:00	5:05	6:00	5:05		
No. 5	13.1	6:00	5:06	6:00	5:06		
No. 6	14.5	5:57	5:07	5:57	5:07		
No. 7	15.9	6:01	5:05	6:01	5:05		
Subtotal	137.6						
Peak-Hour Tripper Routes	209.0	6:30	2:30				
Shuttle Routes							
Manu-Tronics Shuttle	13.5	6:25	3:45				
Outlet Mall Shuttle	24.6	8:30	4.45	8.30	4.45		
	21.0	0.00	4.40	0.00	-110		
Subtotal	38.1						
Total	384.7			••			

	Service Frequency (minutes)				Buses Required			
	Weekdays			Saturdays	Weekdays			Saturdays
Bus Route	A.M. Peak	Off-Peak	P.M. Peak	All Day	A.M. Peak	Off-Peak	P.M. Peak	All Day
Regular Routes								
No. 1	30	60	30	60	4	2	4	2
No. 2	30	60	30	60	2	1	2	1
No. 3	30	60	30	60	4	2	4	2
No. 4	30	60	30	60	4	2	4	2
No.5	30	60	30	60	2	1	2	1
No.6	60	60	60	60	1	1	1	1
No. 7	30	60	60	60	2	1	1	1
Subtotal	30/60	60	30/60	60	19	10	18	10
Peak-Hour Tripper Routes	9 trips		9 trips		9		9	
Shuttle Routes		_						
Manu-Tronics Shuttle	1 trip		1 trip		a		a	
Outlet Mall Shuttle	1 trip	1 trip	1 trip	3 trips	a	1	a	1
Subtotal	2 trips	1 trip	2 trips	3 trips	a	1	a	1
Total					28	11	27	11

^aBuses used to operate the peak-hour tripper routes are also used to operate the shuttle routes.

Source: City of Kenosha Department of Transportation and SEWRPC.

Map 2

REGULAR FIXED-ROUTE PUBLIC TRANSIT SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1990



Source: City of Kenosha Department of Transportation and SEWRPC.

Map 2 Inset



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Map 3

FIXED-ROUTE PEAK-HOUR TRIPPER BUS SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1990



Source: City of Kenosha Department of Transportation and SEWRPC.

Map 4

FIXED-ROUTE SHUTTLE BUS SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1990



Source: City of Kenosha Department of Transportation and SEWRPC.

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Table 2

OPERATING AND SERVICE CHARACTERISTICS OF THE SPECIALIZED TRANSPORTATION SERVICES FOR DISABLED PERSONS PROVIDED BY THE CITY OF KENOSHA: 1990

Characteristic	Characteristics of On-Call Accessible Transit Service Provided over Regular Routes of the Kenosha Transit System	Characteristics of Specialized Transportation Service Provided by Care-A-Van Program		
Eligibility	All disabled individuals who must use a wheelchair	All persons 60 years of age or older and disabled persons with any disability who do not have physical, economic, or geographic accessibility to other means of transportation		
Response Time	Advance notice of 24 hours suggested, but not required	Service on a 24-hour advance reservation basis		
Restrictions or Priorities Placed on Trips	None	Priority given first to medical trips, then to nutritional, employment, adult day care, educational, and recreational trips, respectively ^a		
Fares	One-way fare of \$0.30 all day. Transfers free	One-way fare of \$0.50 to nutritional sites One-way fare of \$1.00 to all other destinations		
Hours and Days of Operation	Weekdays: 6:00 a.m. to 6:00 p.m. Saturdays: 6:00 a.m. to 6:00 p.m. Sundays and holidays: No service	Weekdays: 7:30 a.m. to 6:00 p.m. (except on Tuesdays and the fourth Wednesday of every month, when service is extended to 9:00 p.m.) Saturdays: 9:00 a.m. to 5:30 p.m. Sundays and holidays: No service		
Service Area	Service provided on demand over all seven regular bus routes	Service provided within portion of Kenosha County east of IH 94, including the entire City of Kenosha and Kenosha transit system service area		

^aAll trip priorities are proposed to be removed during 1991.

Source: City of Kenosha Department of Transportation, Kenosha County Department of Aging, and SEWRPC.

of the time service is needed to enable the transit system to adjust its daily vehicle assignments to accommodate the requests.

As the second part of its dual, special effort, strategy, the City of Kenosha participates in and contributes funds toward the operation of the "Care-A-Van" program, a specialized door-todoor transportation service jointly sponsored by the City of Kenosha and the Kenosha County Department of Aging. The Care-A-Van program is one of several specialized transportation services sponsored by Kenosha County and is provided under contract to both the City of Kenosha and Kenosha County by the Kenosha Achievement Center. The Kenosha Achievement Center is a private, nonprofit agency that provides rehabilitation and training services and sheltered workshop programs for physically, mentally, and emotionally disabled persons. The Care-A-Van program is a countywide program which provides different levels of specialized transportation service to county residents, depending upon whether they reside within the program's urban or rural service areas. The participation of the City of Kenosha in the Care-





HISTORIC TREND OF TRANSIT FARES ON THE KENOSHA TRANSIT SYSTEM: 1971-1990

Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

A-Van program allows a much higher level of specialized transportation service to be provided within the urban service area of the program for city residents who find it difficult to use, or who cannot use, the regular local bus system.

The urban service area for the Care-A-Van program includes all Kenosha County east of IH 94 and includes all areas served by any Kenosha transit system bus route. To be assured of receiving service, eligible users must request service at least 24 hours in advance of the time service is needed. During 1990, priority was given to scheduling medical, nutritional, adult day care, employment, and educational trips, in that order, before scheduling trips for other purposes. The advance reservation system allows the program to refuse requests for nonprioritized trips when the total number of requests exceeds the available capacity of the service. All trip priorities have been proposed to be removed during 1991 in an effort to make the service more usable. Currently, the specialized service provided within the urban service area of the program is available on weekdays between 7:30 a.m. and 6:00 p.m. except on Tuesdays and the fourth Wednesday of the month, when service hours are extended until 9:00 p.m. On Saturdays, service is available from 9:00 a.m. to 5:30 p.m. No service is available on Sundays or holidays.

The specialized transportation service provided under the Care-A-Van program is intended to serve persons 60 years of age or older and disabled persons with any disability who are unable to use other means of transportation. However, the main population targeted for the urban service is the elderly and nonelderly disabled persons who have difficulty using or cannot use the fixed-route bus service provided by the City of Kenosha. Currently, eligible individuals are enrolled in the program through the first request for reservations with the completion of enrollment data identifying the person's age and/or disability. While no documentation is required to prove age or disability, any passenger must be able to present evidence if requested. A change in the enrollment process will be implemented beginning in 1991, which will require applicants for eligibility to provide some proof of age or disability. Disabled persons with both permanent and temporary disabilities and who are residents of Kenosha County are eligible to use the service offered under the Care-A-Van program.

<u>Fares</u>

The historic transit fares for the Kenosha transit system since it began public operation in 1971 are shown in Figure 2. When the City began operation of the transit system in September 1971, fares were reduced from those formerly charged by the private transit operator to \$0.25 per one-way trip for adults age six to 64 years old, and \$0.10 per one-way trip for elderly persons 65 years of age or older and disabled individuals. This fare structure remained in effect until January 1, 1979, when adult cash fares were raised to \$0.30 per one-way trip and a new fare category for students age six through high school was established at \$0.25 per one-way trip. Since 1979 the transit system has regularly implemented fare increases of \$0.05 per one-way trip in all three fare categories with, on the average, increases in adult and student fares occurring every two years and increases in elderly and disabled fares occurring every three years.

The adult fare on the fixed-route bus service offered by the Kenosha transit system is currently \$0.60 per passenger trip. Children under six years of age ride free if accompanied by an adult. Students age six to 18 are charged a cash fare of \$0.50 per passenger trip. In addition, the Kenosha Unified School District has an agreement with the Kenosha whereby eligible students are provided with special student passes, at no cost to the student, that can be used to obtain a bus ride to and from school. To be eligible, a student must live in the City more than two miles from school. The School District reimburses the transit system \$0.40 for each ride made with a student pass.

A half-fare program is in effect for elderly and disabled persons during all times of system operation. Individuals belonging to these groups, including wheelchair-bound individuals using the on-call accessible bus service offered by the transit system, may ride for \$0.30 with a Medicare card or special reduced fare identification card. To qualify for this special identification card, the person must be at least 65 years of age, have a doctor's certification of disability, or obtain a certification of disability from a local agency for disabled persons. A half-fare identification card, which includes a photograph, is issued to disabled persons qualifying for the program and must be shown to the bus driver upon request at the time the half fare is paid.

Persons who use the bus system must pay with exact cash fare, since bus drivers are not allowed to make change. However, passengers may purchase a monthly pass which is good for unlimited riding during all hours of system operation for a fee of \$18. Free one-hour transfers are issued upon request at the time the fare is paid and may be used to transfer to any route, including the route from which the transfer was issued.

The current fare for a one-way trip on the specialized transportation service for the disabled provided by the Care-A-Van program is \$1.00 for all trips except for trips to nutrition sites, for which a fare of \$0.50 per one-way trip is charged. All fares apply to both the certified user and any necessary attendant.

Operating Equipment and Facilities

Buses: The current bus fleet of the Kenosha transit system consists of 35 buses owned by the City. This bus fleet includes 24 General Motors Corporation "new look" buses purchased new in 1975, and 11 General Motors Corporation advanced-design buses, of which five were purchased new in 1981 and six in 1987. Table 3 presents a categorical listing of the buses in the bus fleet by type of bus, including bus make and model, year of manufacture, number of seats per bus, and special equipment on each bus.

The transit system is currently engaged in a program to rehabilitate the 24 "new look" buses purchased in 1975 to extend their service life by eight to ten years. As of October 1990 the rehabilitation of 10 "new look" buses had been completed, five in 1989 and five in 1990. Of the remaining 14 "new look" buses, at least 12 will be rehabilitated, with four additional vehicles expected to be rehabilitated by January 1991 and four vehicles each year are scheduled for rehabilitation during both 1991 and 1992. As a result of the rehabilitation program, four of the 35 vehicles in the vehicle fleet are currently unavailable to meet daily service needs, leaving a total active fleet of 31 buses. Twenty-eight of the 31 buses in the active fleet are needed to provide weekday peak-hour bus service on the fixed routes operated by the transit system.

All buses in the fleet have been equipped with a front entrance special-assist grab rail and with signs designating seats adjacent to the front entrance for use by elderly and/or disabled persons. In addition, the five advanced design buses purchased in 1981 are equipped with wheelchair lifts and air conditioning. All 11 advanced design buses are equipped with a special "kneeling" feature which reduces the height of the first step on the bus by lowering

Table 3

						Spec			
Make	Model	Number of Buses	Year of Manufacture	Year of Rehabilitation	Number of Seats	Air Conditioning	Wheelchair Lift	Kneeling Feature	Original Age/ Rehabilitation Age (years)
General Motors Corporation	4523	14	1975		45	No	No	No	15.5/15.5
General Motors Corporation	4523	5	1975	1989	45	No	No	No	15.5/1.0
General Motors Corporation	4523	5	1975	1990	45	No	Yes	No	15.5/0.25
General Motors Corporation	100YT82W	5	1981	••	46	Yes	Yes	Yes	9.25/9.25
General Motors Corporation	T80204	6	1987		46	No	No	Yes	3.5/3.5
Total		35					Average	e Age	12.6/8.3

KENOSHA TRANSIT SYSTEM BUS FLEET: 1990

Source: City of Kenosha Department of Transportation and SEWRPC.

the front curbside corner of the bus. In accordance with current federal guidelines, the rehabilitation program has been modified to include the installation of wheelchair lifts on the four "new look" buses which will be rehabilitated during 1991 and on all buses rehabilitated in future years.

Bus Passenger Shelters: A total of 40 bus passenger waiting shelters have been placed at various locations throughout the transit service area. Most of the shelters are of a modular design with the size of the shelter being determined by the number of back and side wall panels used. All shelters include a bench for waiting transit patrons. The location of each existing bus passenger shelter is shown on Map 5.

Office and Maintenance Facilities: Activities related to the management and operation of the Kenosha transit system are conducted in two city-owned building complexes located in separate areas of the City of Kenosha: the bus storage and maintenance garage; and the Kenosha Municipal Building. The location of these facilities is shown on Map 6.

The Kenosha transit system bus storage facility and maintenance garage is located in the City's municipal yard at 3735 65th Street and consists of a single-story building built in 1975 and expanded in 1982. The building is used exclusively for transit program functions, including bus storage and maintenance, vehicle cleaning and servicing, parts storage, employee activities, and the general management offices of the public transit system. The building also houses the offices of the City of Kenosha Department of Transportation. Transit system services provided by the Department of Transportation to the public consist of the sale of monthly bus passes and the distribution of transit system information, including route maps and schedules.

The Kenosha Municipal Building is located at the northern edge of the Kenosha central business district at 625 52nd Street. Transit program functions conducted in this building are carried out in the offices and public meeting rooms of the Mayor of the City of Kenosha, of the members of the Kenosha Common Council, and of the members of the Kenosha Transit and Parking Commission, which are responsible for developing and approving the major policy and budgetary matters related to the City's federally assisted public transportation program. Another public service performed in this building is the issuing of photograph identification cards to qualified applicants who want to participate in the transit system's half-fare program.

Trends in Ridership and Service Levels

The historic trends in transit ridership and service levels for the Kenosha transit system since it began public operation in 1971 are shown in Figures 3 through 5. Transit ridership increases experienced during the early years of system operation through 1978 occurred during a period of transit service improvement and expansion which included the restructuring and the addition of bus routes, the improvement and expansion of service area coverage, and the reduction of operating headways to provide increased service levels. Also during this period, transit fares were not increased and a fleet of new buses was placed into service over the entire

Map 5

LOCATION OF BUS PASSENGER SHELTERS FOR THE KENOSHA TRANSIT SYSTEM: 1990



Source: City of Kenosha Department of Transportation and SEWRPC.

Map 6

LOCATION OF OFFICE AND MAINTENANCE FACILITIES FOR THE KENOSHA TRANSIT SYSTEM: 1990



Source: City of Kenosha Department of Transportation and SEWRPC.

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Figure 3



HISTORIC TREND OF TRANSIT RIDERSHIP ON FIXED-ROUTE TRANSIT SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM

Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation, and SEWRPC.



PERCENTAGE CHANGE IN ANNUAL RIDERSHIP ON FIXED-ROUTE TRANSIT SERVICES PROVIDED BY THE KENOSHA TRANSIT SYSTEM:1973-1989^a

Figure 4

^a BECAUSE RIDERSHIP DATA FOR 1971 REFLECT LESS THAN 12 MONTHS OF TRANSIT SERVICE, CHANGES IN ANNUAL RIDERSHIP WERE MEASURED BEGINNING WITH 1973 OVER 1972, AS 1972 REPRESENTS THE FIRST FULL YEAR OF TRANSIT SYSTEM OPERATION BY THE CITY OF KENOSHA.

Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation, and SEWRPC.

Figure 5

HISTORIC TREND IN REVENUE VEHICLE MILES ON THE KENOSHA TRANSIT SYSTEM: 1971-1989



Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

transit system. A substantial increase in gasoline prices in the years 1979 and 1980 were major factors in transit ridership increases during those years. Both transit system ridership and service levels reached their highest levels under public operation in 1980 when the transit system carried about 1,343,000 revenue passengers, an increase of about 167 percent over the 503,000 revenue passengers carried in 1972, while operating about 862,000 revenue vehicle miles of service, an increase of about 178 percent over the 310,000 revenue vehicle miles operated in 1972.

The transit system generally experienced declining transit ridership during the early 1980s. The decreases in transit ridership which occurred in the years 1981 through 1983 may be attributed to several factors. During this period the transit system implemented two fare increases which increased transit fares from \$0.30 in early 1980 to \$0.40 by the end of 1983, an increase of 33 percent. Also contributing to the decline in ridership was a severe economic recession and attendant loss of jobs, which resulted in high unemployment levels within the City of Kenosha. In addition, transit service was reduced from about 862,000 revenue bus miles in 1980 to about 697,000 revenue bus miles in 1983, resulting in a total reduction in service of about 165,000 revenue bus miles, or 19 percent. A modest increase in transit ridership occurred on the transit system in 1984 as a result of an upturn in the economy, which reduced unemployment levels in the Kenosha area. However, transit system ridership declined again in 1985, to about 1,194,000 revenue passengers, after fares in the transit system were increased from \$0.40 to \$0.45, and the Kenosha area economy declined again. By 1985 bus miles of service had decreased to about 662,000 revenue vehicle miles, or by about 23 percent from 1980 levels.

Recent trends in ridership and service levels on the transit system are shown in Table 4 for the period 1985 through 1989. During this period ridership on the transit system fluctuated, declining during both 1986 and 1987 before increasing during 1988 and 1989. Service levels were not a significant factor in the observed ridership changes, as they remained stable between 1985 and 1988 before increasing slightly in 1989. Rather, the declines in transit ridership in 1986 and 1987 may be attributed to a substantial decline in gasoline prices during 1986, an increase in passenger fares from \$0.45 to \$0.50 in 1987, and a continuing weak economy and

Table 4

ANNUAL RIDERSHIP AND SERVICE LEVELS OF FIXED-ROUTE TRANSIT BUS SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1985-1989

	Year						
Characteristic	1985	1986	1987	1988	1989		
Transit Service Area Population ^a	76,300	76,200	76,200	77,100	77,800		
Transit Service Levels Annual Revenue Vehicle Miles Operated Annual Revenue Vehicle Hours Operated	662,000 52,300	658,900 52,200	650,800 52,100	663,800 52,700	683,300 54,600		
Transit Ridership and Service Utilization Annual Revenue Passengers	1,194,300 15.7 1.80	1,137,600 14.9 1.73	1,098,300 14.4 1.69	1,180,500 15.3 1.78	1,192,200 15.3 1.74		
Revenue Passengers per Revenue Vehicle Hour	22.8	21.8	21.1	22.4	21.8		

^aBased upon the estimated resident population of the City of Kenosha.

Source: Wisconsin Department of Administration; Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

mild winter weather during both years. Increases in transit system ridership of about 6 percent in 1988 and 2 percent in 1989 brought system ridership back to about 1,192,000 revenue passengers, close to the 1985 ridership level. Increases during these years have been attributed to increased enrollments at area schools, a general upturn in the local economy, and the introduction of new transit services designed to serve new commercial and employment centers located outside the regular transit system service area. An increase in passenger fares, from \$0.50 to \$0.55, in January 1989 may have held down the ridership increase experienced during 1989. During 1989 the transit system operated about 683,000 revenue miles of service.

A disaggregation of average weekday and Saturday ridership on the fixed-route services provided by the Kenosha transit system is presented in Table 5. The vast majority of all passenger trips are made on the regular routes of the transit system, which accounts for about 69 percent of the weekday ridership and virtually all the Saturday ridership. The peak-hour tripper routes, which are operated only on weekdays to serve the high schools and junior high schools within the City of Kenosha, account for about 30 percent of all weekday passenger trips. The shuttle routes operated by the transit system account for a very small proportion, less than 1 percent, of the weekday and Saturday ridership on the transit system.

A disaggregation of the total weekday and Saturday ridership on the regular routes of the transit system, based on passenger counts conducted by the transit system during the week of December 4 through 9, 1989, is presented in Table 6. As indicated in this table, weekday ridership is highest on Route No. 3, with about 940 passengers, followed by Route No. 1 with about 694 passengers, Route No. 4 with 671 passengers, and Route No. 2 with 470 passengers. On Saturdays, Routes No. 2 and 4 had the highest ridership, with about 350 passengers, followed by Route No. 3 with 282 passengers and Route No. 1 with 247 passengers. Together, these four routes accounted for about 76 percent of the weekday ridership and about 79 percent of the Saturday ridership on the Kenosha transit system during the week of December 4 through 9, 1989.

As previously noted, the Kenosha transit system also participates in, and contributes funding for, the Care-A-Van specialized transportation pro-
AVERAGE WEEKDAY AND SATURDAY RIDERSHIP ON THE FIXED-ROUTE BUS SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989

		Wee	kday		Saturday				
	Reve Passe	Revenue Passengers		Total Passengers ^a		Revenue Passengers		Total Passengers ^a	
Service	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	
Regular Routes	2,998	69.4	3,639	73.3	1,239	99.5	1,542	99.6	
Peak-Hour Tripper Routes	1,300	30.1	1,300	26.2					
Shuttle Routes	24	0.5	24	0.5	6	0.5	6	0.4	
Total	4,322	100.0	4,963	100.0	1,245	100.0	1,548	100.0	

^aTotal Passengers represent all boarding passengers, including transfer and fee passengers.

Source: City of Kenosha Department of Transportation and SEWRPC.

Table 6

		Wee	kday		Saturday				
	Reve Passe	enue ngers	To Passe	Total Passengers ^a		Revenue Passengers		tal ngers ^a	
Route Number	Number	Percent of Total	Percent Number of Total		Number	Percent of Total	Number	Percent of Total	
1	570	19.0	694	19.1	193	15.8	247	15.8	
2	356	11.9	470	12.9	262	21.5	349	22.4	
3	822	27.4	940	25.9	246	20.2	282	18.1	
4	545	18.2	671	18.4	270	22.2	351	22.5	
5	365	12.2	449	12.3	91	7.5	131	8.4	
6	132	4.4	175	4.8	73	6.0	99	6.4	
7	208	6.9	240 6.6		83 6.8		99	6.4	
Total	2,998	100.0	3,639	100.0	1,218	100.0	1,558	100.0	

AVERAGE WEEKDAY AND SATURDAY RIDERSHIP ON THE REGULAR BUS ROUTES OPERATED BY THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9,1989

^aTotal Passengers represent all boarding passengers, including transfer and fee passengers.

Source: City of Kenosha Department of Transportation and SEWRPC.

gram for elderly and disabled individuals administered by the Kenosha County Department of Aging. The ridership on the Care-A-Van program within its urban service area east of IH 94 in Kenosha County is presented in Table 7 for the most recent five-year period from 1985 through 1989. During 1989 about 13,600 one-way trips were made using the urban service offered under the Care-A-Van program east of IH 94.

Trends in Operating Costs,

Revenues, and Deficits

Experience indicates that it is not desirable at present or probably possible to recover the total cost of the public transit service from passenger revenues alone. To charge fares that would completely recover the cost of operating such a service would result in a diversion of choice riders to other modes of transportation, leaving the captive riders alone to bear the high cost of the service provided. If a reasonable level of transit service is to be provided at a reasonable cost to the user, such transportation must be publicly subsidized. The regular riding of the captive rider alone cannot sustain the cost of supplying the community with a public transportation system.

The financial condition of the Kenosha transit system reflects the foregoing rationale. The total operating expenses for the city transit system for calendar year 1989 were approximately \$2,145,000. The total operating revenue for the system for this period was about \$479,000, or about 22 percent of the total system operating expenses, leaving an operating deficit of about \$1,666,000. To cover this shortfall in operating revenues in 1989, the U.S. Department of Transportation, Urban Mass Transportation Administration, provided about \$580,000, or about 27 percent of total operating expenses. The Wisconsin Department of Transportation provided about \$815,000, or about 38 percent, and the City of Kenosha provided the remaining \$271,000, or 13 percent.

The historic trend of the operating expenses, revenues, and deficits of the transit system since it began public operation in 1971 are shown in Figure 6 in actual year-of-expenditure dollars and constant 1971 dollars. Operating expenses for the transit system rose dramatically in both actual and constant dollar terms between 1972 and 1980, the period of transit system improvement and expansion undertaken to spur

Table 7

ANNUAL RIDERSHIP ON THE CARE-A-VAN SPECIALIZED TRANSPORTATION SERVICE PROVIDED BY THE KENOSHA ACHIEVEMENT CENTER, INC., EAST OF IH 94: 1985-1989

Year	Number of One-Way Trips
1985	13,000
1986	13,100
1987	14,200
1988	13,600
1989	13,600

Source: Kenosha Achievement Center, Inc., and SEWRPC.

increased transit ridership immediately after the City began operation of the transit system. Increases in diesel fuel costs and drivers' wages between 1977 and 1980 also contributed to escalating operating expenses. While the transit system did experience significant increases in transit ridership during the same period, attendant increases in operating revenues did not keep pace with increases in operating expenses. Consequently, the operating deficit for the transit system also increased substantially in both actual and constant dollars. Between 1981 and 1985 actual operating expenses and deficits fluctuated, decreasing somewhat between 1981 and 1983 as service levels were reduced on the transit system, before increasing again in 1984 and 1985. The operating expenses and operating deficits, however, had actually declined during this period in constant dollars.

A summary of the recent trends in operating expenses, revenues, and deficits of the transit system is shown in Table 8 for the period 1985 through 1989. Between 1985 and 1989 the total actual operating expenses increased by about \$388,000, or by about 22 percent, from \$1,757,000 in 1985 to \$2,145,000 in 1989. After accounting for the effects of general price inflation, operating expenses for the transit system during this period in constant 1971 dollars increased by about 8 percent. As shown in Figure 7, the trend in the operating expense per vehicle mile for the transit system during this period is similar. While the actual operating expense per mile increased by \$0.46 between 1985 and 1989, or by

Figure 6





Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

about 19 percent, the operating expense per mile in constant 1971 dollars increased by about 4 percent.

Total actual operating revenues increased by about \$59,000, or about 14 percent, from \$420,000 in 1985 to approximately \$479,000 in 1989. This increase in operating revenues reflects the increase in passenger fares implemented by the City of Kenosha in 1987 and 1989. Total operating revenues in constant 1971 dollars increased by only about 1 percent over this period.

A comparison of the costs and revenues indicates that the operating deficit has increased substantially since 1985 in terms of both actual and constant dollar expenditures. As shown in Table 8, the actual operating deficit for the system increased from about \$1,337,000 in 1985 to about \$1,666,000 in 1989, an increase of about \$329,000, or 25 percent. In constant 1971 dollars, the operating deficit for the system over the period increased by about 10 percent. The operating deficit per passenger has followed a trend similar to that for the total system operating deficit. Over all, the actual operating deficit per revenue passenger has increased a total of \$0.28, or about 25 percent, from \$1.12 in 1985 to \$1.40 in 1989. In constant 1971 dollars, the operating deficit per passenger has increased by about 10 percent from 1985 to 1989.

OPERATING EXPENSES, REVENUES, AND DEFICITS FOR THE KENOSHA TRANSIT SYSTEM: 1985-1989

			Year		
Characteristic	1985	1985	1987	1988 ^a	1989
Transit Services Levels and Utilization					j.
Total Vehicle Hours	56,800	56,800	56,700	56,800	59,000
Total Vehicle Miles	718,100	713,800	708,500	708,400	735,900
	1,194,300	1,137,600	1,098,300	1,180,500	1,192,200
Service Costs and Revenue ^a					
Operating Expenses				-	
Total Expenses	\$1,756,900	\$1,897,700	\$1,875,400	\$1,926,500	\$2,144,900
Cost per Vehicle Hour	30.93	33.41	33.08	33.92	36.35
Cost per Vehicle Mile	2.45	2.66	2.65	2.72	2.91
Expense per Passenger	1.4/	1.67	1.71	1.63	1.80
Operating Revenues					
Total Revenues	\$ 420,000	\$ 415,700	\$ 431,200	\$ 455,600	\$ 479,100
Revenue per Passenger	0.35	0.37	0.39	0.39	0.40
Base Adult Cash Fare	0.45	0.45	0.50	0.50	0.55
Percent of Expenses					
Recovered through Revenues	23.9	21.9	23.0	23.6	22.3
Operating Deficit					
Total Deficit	\$1,336,900	\$1,482,000	\$1,444,200	\$1,470,900	\$1,665,800
Deficit per Passenger	1.12	1.30	1.31	1.24	1.40
Public Funding			e.		
Sources of Required Public Funds					
Federal Operating Assistance	\$ 743,500	\$ 821.000	\$ 628,400	\$ 618,200	\$ 579,400
State Operating Assistance	593,400	711,650	703,300	722,400	815,100
Local Operating Assistance	0	-50,650	112,500	130,300	271,300
Percentage Change in Required					
Public Funds from Previous Year					
Federal Operating Assistance	3.8	10.4	-23.5	-1.6	-6.3
State Operating Assistance	5.5	19.9	-1.2	2.7	12.8
Local Operating Assistance		··	322.1	15.8	108.2

^aBased on audits conducted by the Wisconsin Department of Transportation reflecting costs, revenues, and deficits as defined for the state urban mass transit operating assistance program.

Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

As is true of virtually all publicly operated transit systems in the United States, the City of Kenosha has depended heavily on federal transit operating assistance to help support the costs of operating its system. The City also benefits from the availability of financial operating assistance from the Wisconsin Department of Transportation. Together, funding from these two sources has served to greatly reduce the share of the transit system operating expenses which must be paid by the City of Kenosha. As shown in Figure 8, the proportion of total operating expenses funded by the City of Kenosha in 1985 varied significantly from that for 1989. In this Figure 7

OPERATING EXPENSE PER TOTAL VEHICLE MILE FOR THE KENOSHA TRANSIT SYSTEM: 1971-1989



Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

respect, about 42 percent of transit system operating expenses in 1985 were paid using federal funds; about 34 percent were paid using state funds; and the remaining 24 percent were paid through operating revenues. No funds were required from the City of Kenosha in 1985 to support the operating expenses of the transit system. By 1989, however, federal funds covered only about 27 percent of system operating expenses, state funds about 38 percent of operating expenses, and operating revenues about 22 percent of operating expenses. City funds were necessary to cover about 13 percent of total system operating expenses. The relative shares of the operating expenses contributed by the City of Kenosha, the State of Wisconsin, and the U. S. Department of Transportation have varied, depending upon the method of allocating transit operating assistance funds, as well as upon the availability of state and federal funds.

Figure 8



OTHER PUBLIC TRANSIT SERVICES

The City of Kenosha is the principal provider of public transit service within the greater Kenosha area. However, a number of other public transit services are also provided to area residents, including local and intercity bus service, railway passenger train service, taxicab service, and specialized transportation services for the elderly and disabled population.

Additional Local and Intercity Bus Services

Additional local fixed-route bus service is provided within the study area by the City of Racine, which operates one route between the Racine central business district and the University of Wisconsin-Parkside. The Racine bus route serving the University of Wisconsin-Parkside is one of 10 local bus routes operated by the City of Racine's Belle Urban System to serve the greater Racine area. Transit patrons who desire to travel between points served by the Racine and Kenosha transit systems can do so by transferring between the Racine and Kenosha bus routes at the University of Wisconsin-Parkside. Passengers transferring between the two transit systems are required to pay the appropriate fare for the bus service to which they are transferring. The local bus route operated by the City of Racine is shown on Map 7.

Map 7 also identifies the location of commuter and intercity bus routes operated by two private transit operators: Wisconsin Coach Lines, Inc.; and Greyhound Lines, Inc. Wisconsin Coach Lines, Inc., provides commuter bus service between downtown Milwaukee and the Cities of Racine and Kenosha, with several intermediate stops within the study area. A total of eight bus runs in each direction each weekday and four bus runs in each direction on Saturdays, Sundays, and holidays are operated over this route. Prior to 1985 the route was operated without public subsidy; the passenger and freight revenues were sufficient to offset the operating costs. Since 1985 the City of Racine, the City of Kenosha, Racine County, and Kenosha County have jointly agreed to help provide Wisconsin Coach Lines, Inc., with the financial assistance necessary to operate the bus service. The City of Racine has assumed responsibility as the lead agency for the commuter bus project by acting as the applicant/grantee for the state urban transit assistance funds needed to subsidize the operation of the service.

Greyhound Lines, Inc., operates two local runs southbound and one local run northbound daily between Milwaukee and Chicago over STH 32 within the study area, making an intermediate stop in the City of Kenosha. The company also operates 31 runs southbound and 30 runs northbound daily between Milwaukee and Chicago over IH 94. Ten of these southbound runs and 12 of these northbound runs stop within the study area at the Best Western Executive Inn at IH 94 and STH 50, and also stop at General Mitchell International Airport in Milwaukee County and O'Hare International Airport in Chicago. Greyhound Lines, Inc., currently does not receive public financial assistance for the bus services they provide through the study area.

Railway Passenger Service

Commuter railway passenger service in the study area was provided by the Chicago & North



ADDITIONAL BUS AND RAILWAY PASSENGER SERVICE IN THE KENOSHA TRANSIT DEVELOPMENT PLAN STUDY AREA: 1990

Western Transportation Company (C&NW) under an agreement with the Northeast Illinois Railroad Corporation (Metra), the commuter rail division of the Regional Transportation Authority (RTA) in northeastern Illinois. The C&NW operates nine trains departing Kenosha southbound to Chicago and eight trains departing Chicago northbound to Kenosha on weekdays, six trains departing Chicago northbound to Kenosha and four trains departing Kenosha southbound to Chicago on Saturdays, and three trains in each direction between Kenosha and Chicago on Sundays and holidays. The commuter rail line is shown on Map 7.

The City of Kenosha is now the only Wisconsin stop on this line. The rail terminal at 5414 13th Avenue provides very convenient turn-around and storage facilities for this railway. The City of Kenosha has provided assistance in improving the terminal facilities in the recent past, including the renovation of the passenger station and the construction of a commuter parking lot. The terminal is currently served directly by one of the seven regular local city bus routes.

It should be noted that the quasi-public National Railway Passenger Corporation (Amtrak) operates five passenger trains daily in each direction between Milwaukee and Chicago over Soo Line Railroad Company trackage through the center of the study area. While four of the five trains in each direction stop in the Village of Sturtevant in Racine County, no scheduled stops are currently made within the study area. Amtrak is, however, currently considering adding a stop within the study area near CTH K. The additional stop has been requested to serve patrons of the Dairyland Greyhound Park, currently under construction, who would be traveling to the racetrack from either Chicago or Milwaukee.

Yellow School Bus Service

The Kenosha Unified School District provides transportation to and from public, private, and parochial schools for all pupils in the School District who reside two or more miles from the nearest public, private, or parochial school they are entitled to attend. In addition, the School Board provides transportation for those students living less than two miles from the nearest public school they are entitled to attend who would otherwise face hazardous walking conditions on their journey to and from school. The School District currently contracts for yellow school bus service from Jelco Wisconsin, Inc., for about 4,600 students residing within the School District. In addition, some students eligible for transportation within the School District and residing within the service area of the Kenosha transit system are provided, as mentioned above, with special student passes, at no cost to the student, that can be used to obtain a bus ride to and from school. The School District reimburses the Kenosha Transit Commission for each trip made with a student pass. About 1,800 students within the School District were eligible for student passes issued by the School District during the 1989-1990 school year.

Taxicab Service

During 1990 taxicab service was provided in the study area by five private taxicab companies. Black and White, Veterans' Cab Company, Checker Cab Company, Peppie's Courtesy Cab Company, Kenosha Cab Company, and Yellow Cab Company are licensed to operate within the City of Kenosha. All five companies serve the entire study area, as well as to the major airports, General Mitchell International Airport in Milwaukee and O'Hare International Airport in Chicago. All five companies provide service on a shared-ride basis, whereby more than one fare may occupy the cab at the same time. The five taxicab companies operate 24 hours a day, seven days a week.

Specialized Transportation Services

In addition to the above transportation services available to the general public and area students, specialized transportation services are also provided to the elderly and disabled population within the study area. In general, the services do not use fixed routes or regular schedules but, instead, provide service on demand if trips to be made are by eligible clientele, are requested in advance, are to be made within the hours and operation of the particular service, and have origins and destinations within the area served. During 1990 the major providers of these services were the Kenosha County Department of Aging and the Kenosha County Department of Community Programs, both of which contract with the Kenosha Achievement Center, Inc., to provide the specialized transportation services. Table 9 describes the service characteristics, including the sponsor, service provider, service area, service hours, response time, eligible users, fares, type of vehicles used, and annual ridership, for

SUMMARY OF THE MAJOR SPECIALIZED TRANSPORTATION SERVICES FOR ELDERLY AND DISABLED PERSONS PROVIDED WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

	SI SI	pecialized Transportation Service or Progra	m
Service Characteristic	Care-A-Van Specialized Transportation Service	Volunteer Driver Escort Program	Kenosha Achievement Center, Inc., Client Routes
Service Sponsor	Kenosha County Department of Aging	Kenosha County Department of Aging	Kenosha County Department of Community Programs
Service Provider	Kenosha Achievement Center, Inc.	Kenosha Achievement Center, Inc., and Kenosha Voluntary Action Center	Kenosha Achievement Center, Inc.
Service Area	Urban service: All Kenosha County east of IH 94 Rural service: All Kenosha County west of IH 94	Kenosha and surrounding counties, with trips to Milwaukee and Madison medical centers	Kenosha County and northern Lake County, Illinois
Service Hours	Urban service Weekdays: 7:30 a.m. to 6:00 p.m. ^a Saturdays: 9:00 a.m. to 5:30 p.m. Rural service Weekdays: 9:00 a.m. to 3:00 p.m. ^b	By special arrangement	Weekdays: 7:00 a.m. to 9:00 a.m. 3:00 p.m. to 5:00 p.m.
Response Time	24-hour advance reservation	48-hour advance reservation	Scheduled per-client needs
Eligible Users	Residents of Kenosha County who are 60 years of age or older; or who have a disability that makes them unable to use other means of public transportation	Residents of Kenosha County who are unable to use the Care-A- Van or other transportation ser- vices because their age or disa- bility makes them unable to travel alone	Disabled clients of public and pri- vate agencies and organizations participating in the rehabilitation, training, or employment services offered by the Kenosha Achieve- ment Center, Inc., who have been assessed as unable to use other public transportation services
Fares	\$1.00 per one-way trip for all trips except trips to adult nutrition sites \$0.50 per one-way trip for trips to adult nutrition sites	\$3.00 to \$6.00 per round trip for trips within Kenosha County \$6.00 to \$50 per round trip for trips to surrounding counties or to Milwaukee and Madison medi- cal centers	Donation suggested
Vehicles Used	Mixed fleet of wheelchair- accessible and nonaccessible vans and buses	Private automobiles	Mixed fleet of wheelchair- accessible and nonaccessible vans and buses
Annual Ridership in 1989 (one-way trips)	19,400	60 ^c	61,300

^aService is provided until 9:00 p.m. on every Tuesday and the fourth Wednesday of each month.

^bService is oriented to fixed destinations on certain days as follows:

- Mondays through Fridays: Trips to adult nutrition sites
- First Tuesday of each month: Trips to Antioch, Illinois
- Second Tuesday of each month: Trips to Burlington
- All other Tuesdays and every Friday of each month: Trips to Kenosha Outlet Mall and the City of Kenosha

^cThe volunteer driver escort program was initiated in October 1989.

Source: Kenosha County Department of Aging, Kenosha Achievement Center, Inc., and SEWRPC.

each of the three major specialized transportation services available to elderly and/or disabled study area residents.

The Kenosha County Department of Aging serves in a supervisory capacity and administers two major projects for specialized transportation provided under a contract with the Kenosha Achievement Center, Inc. The first major project is the Care-A-Van specialized transportation program which provides door-to-door transportation to eligible elderly and/or disabled individuals within Kenosha County. The Care-A-Van program provides different levels of service within the urban and rural portions of Kenosha County. Within the urban service area for the Care-A-Van program, all Kenosha County east of IH 94, specialized transportation service is provided to meet individual requests for travel between specific origins and destinations. As previously noted, the City of Kenosha provides funding for the urban service provided by the Care-A-Van program and relies upon the program to serve disabled persons who are unable to use the City's fixed-route bus service. Within the rural service area of the program, which includes all Kenosha County west of IH 94, the service provided primarily serves specific fixed destinations, including senior citizen centers, adult nutrition sites, and shopping centers in Kenosha, Burlington, and Antioch. Illinois. During 1989 approximately 19,400 one-way trips were made on the specialized transportation service provided by the Care-A-Van program, including approximately 13,600 one-way trips on its urban service and about 5,800 one-way trips on its rural service.

The second major project administered by the Kenosha County Department of Aging is the volunteer driver escort program. Under this program the Department of Aging contracts with the Kenosha Achievement Center, Inc., and the Kenosha Voluntary Action Center to provide transportation and escort services to Kenosha County residents, including the frail elderly. whose age or disabilities make them unable to travel alone and unable to use the Care-A-Van or other transportation services. The volunteers, using their own cars, provide the transportation service needed as well as any assistance the eligible user may need in getting to or from their residence, boarding or alighting the vehicle used. and in conducting the personal business for their trip. The Department of Aging serves as the sponsor for the program and contracts with the Kenosha Voluntary Action Center for the recruitment and screening of the volunteers used to provide the service and with the Kenosha Achievement Center for the orientation and training of volunteers, the inspection of the private vehicles used, and the dispatching of volunteers to meet trip requests. About 60 oneway trips were made under the volunteer driver escort program in 1989. Service under the program was initiated in October 1989.

The Kenosha Achievement Center also provides contract service for the Kenosha County Department of Community Programs to disabled clientele of public and private organizations and agencies participating in the rehabilitation, training, or employment services provided to disabled individuals at Kenosha Achievement Center, Inc., facilities. The majority of the scheduled services are provided during the early morning and late afternoon periods, with some field trips and interfacility connecting trips scheduled as needed. During 1989 approximately 16,300 one-way trips were made on these client services provided by Kenosha Achievement Center, Inc.

SUMMARY

The major current supplier of local public transit service in the Kenosha area is the City of Kenosha, which has operated the Kenosha transit system since September 1971. The City of Kenosha owns the facilities and equipment for its fixed-route transit system and operates it with municipal employees under the direction of the Department of Transportation. The policy making body of the transit system is the Kenosha Transit Commission. However, the Kenosha Common Council has the ultimate responsibility for review and approval of certain important matters, including the annual program budget.

During 1990 the fixed-route transit system consisted of seven regular bus routes, nine peakhour tripper routes, and two shuttle routes. All seven of the regular local bus routes are radial in design and provide direct, no-transfer bus service to the Kenosha central business district. Cycle, or pulse, scheduling is used by the transit system so that all buses meet at the common transfer site in downtown Kenosha at approximately the same time to facilitate transfers between routes. Headways of 30 to 60 minutes during weekday peak periods, and 60 minutes during weekday middays and all day Saturday, are operated on the regular routes. The six regular bus routes primarily serve the City of Kenosha, but one bus route extends into the Town of Somers to serve the University of Wisconsin-Parkside. The special peak-hour tripper routes operate only on regular school days and are designed to accommodate the movement of junior and senior high school students within the City, although they can be used by the general public. The two special shuttle routes are operated to provide access to major commercial and employment centers which have developed in the recent past outside the regular service area of the transit system. Both shuttle routes share a common transfer point with the regular routes of the transit system as a terminus within the City.

In addition to fixed-route transit service, the transit system also provides a specialized transportation service which is designed to serve any disabled person who is unable to use the City's regular bus service due to the nature of his or her physical disability. The City of Kenosha provides funds for the service provided under the Care-A-Van program administered by the Kenosha County Department of Aging to provide this service. The Kenosha Achievement Center, Inc., provides this service on a contract basis for the Department of Aging and the City of Kenosha.

The City of Kenosha transit system experienced steadily increasing transit ridership each year from 1972 through 1980, primarily because of new and expanded transit service, new operating equipment, stable passenger fares, and substantial increases in gasoline prices. Both transit system ridership and service levels reached their highest plateaus under city operation in 1980, when the transit system carried about 1,343,000 passengers, operating about 862,000 revenue vehicle miles of service. The transit system generally experienced steadily declining transit ridership between 1981 and 1985 because of a number of factors including increases in passenger fares, reductions in service, and a severe economic recession resulting in high unemployment levels within the Kenosha area, particularly during 1981 through 1983. By 1985, bus miles of service had declined to about 662,000 revenue vehicle miles, or by about 23 percent from 1980 levels; ridership had declined to about 1,194,000 revenue passengers, or about 11 percent below 1980 levels. Since 1985 ridership on

the transit system has fluctuated, declining during both 1986 and 1987 before increasing during 1988 and 1989. During 1989 the transit system carried about 1,192,000 revenue passengers, or approximately the same number of passengers as carried by the system in 1985. Currently, Routes No. 1, 2, 3, and 4 are the most heavily used of the seven regular routes in the transit system. The transit system operated about 683,000 revenue vehicle miles of service during 1989.

Over the past five years the total annual operating expenses for the transit system have increased by about 22 percent, from about \$1,757,000 in 1985 to about \$2,145,000 in 1989. Operating revenues have increased by about 14 percent, from about \$420,000 in 1985 to approximately \$479,000 in 1989. The operating deficit has increased substantially since 1985, from about \$1,337,000 in 1985 to abut \$1,666,000 in 1989, an increase of about 25 percent. Although the local bus system is not financially self sufficient, the Kenosha Transit Commission has managed to minimize the public funding requirement for the City of Kenosha by using available federal and state transit assistance funds. During 1989 about 22 percent of the transit system operating expenses were obtained from operating revenues, about 27 percent were obtained from the federal transit operating assistance program, about 38 percent were obtained from the state transit assistance program, and the remaining 13 percent were obtained from property taxes levied by the City of Kenosha.

In addition to the public transit services provided by the City of Kenosha, there are also other transit services provided within the study area. Local bus service is also provided within the study area by the City of Racine, which extends one route of its transit system into Kenosha County to serve the University of Wisconsin-Parkside. Intercity bus service is provided by two private carriers, Wisconsin Coach Lines, Inc., and Greyhound Lines, Inc., which operate routes connecting Kenosha with Milwaukee, Racine, and Chicago. Commuter railway passenger service between Kenosha and Chicago is provided by the Chicago & North Western Transportation Company, Inc., for the Northeast Illinois Railroad Corporation (Metra). The Kenosha Unified School District provides special school transportation for regular education within the study area to pupils who either reside within the District two miles or more from the school they are entitled to attend or who would otherwise face hazardous walking conditions on their journey to and from school. Also, several specialized transportation services intended to serve the needs of elderly and/or disabled individuals are provided within the study area, the principal sponsors of which are the Kenosha County Department of Aging and the Kenosha County Department of Community Programs, both of which contract with the Kenosha Achievement Center, Inc., to provide the specialized transportation services.

Chapter III

LAND USE AND TRAVEL PATTERNS

INTRODUCTION

In order properly to evaluate the transit services currently provided by the City of Kenosha transit system and to consider the potential for transit service improvements, it is necessary to consider those factors which affect, or are affected by, the provision of transit service. These factors include the land use pattern and the size and distribution of resident population and employment in the study area. These factors also include the travel habits and patterns of the population of the study area, including the existing transit system riders. This chapter presents the results of an inventory of these important determinants of the need for transit service in the Kenosha area.

LAND USE

Historic Urban Growth

The pattern of urban growth in the Kenosha transit system development plan study area from 1850 through 1985 is depicted on Map 8. During the century from 1850 to 1950, urban development within the study area occurred in relatively tight, concentric rings outward from the central portion of the City of Kenosha. However, in about 1950, a dramatic change occurred in the pattern of development within the district. Urban development after 1950 became discontinuous and diffused, with such urban development occurring in scattered enclaves throughout much of the remaining rural areas of the Village of Pleasant Prairie and the Towns of Somers, Paris, and Bristol. Since 1960 development and urbanization within the study area have intensified, and urban land uses within the study area have increased from about 15,000 acres in 1963 to about 19,000 acres in 1985, or by about 27 percent. During this same period, the resident population of the study area increased from about 93,000 persons in 1963 to about 97,000 persons in 1985, or by only 4 percent. This rapid urbanization has been marked by lower overall population densities, a diffusion of both commercial and residential development, and declining use of the downtown shopping district.

An important conclusion with respect to the potential for transit facilities and services within the study area can be drawn from Map 8, which portrays the extent of urban development within the study area. Specifically, based upon the pattern of urban development within the study area, the only sizeable areas in the study area that are currently fully developed for urban use and could, thus, support efficient local transit service are within the City of Kenosha.

It should be noted that Map 8 does not reflect the significant urban growth which has occurred within the study area since 1985, including the expansion of the commercial development around the intersection of IH 94 and STH 50, the development of the LakeView Corporate Park in the Village of Pleasant Prairie, and the development of the Dairyland Greyhound Park within the City of Kenosha. A continuation of growth in residential, commercial, and industrial development within the study area may be expected in the near future based upon recent development trends and proposals. Tables 10 and 11 and Maps 9 and 10 set forth areas of new development which have occurred since 1985 or which are currently under construction, along with developments which have been proposed for completion in the near future.

Land Use

Table 12 and Map 11 set forth the distribution of land uses in 1985 within the study area. As shown in the table, single- and two-family residential development were the predominant types of land use within the urban portion of the study area. It is important to note that, despite rapid urbanization, much of the land within the study area is still in open, rural uses.

The overall pattern of intensity, or density, of urban land use in 1985 in the study area is shown in Map 12. This depiction of land use density reflects the density of residential land use and the density of other urban land use activity, including commercial and industrial land uses in the study area. High-density land uses and substantial areas of medium density land uses currently exist only in the City of Kenosha. Such land use densities are necessary to support economic, efficient, and effective provision of traditional forms of local transit services.



Source: SEWRPC.

AREAS OF PROPOSED NEW OR EXPANDING RESIDENTIAL DEVELOPMENT WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

			s	ize		
Number on Map 9	Name	Location	Number of Housing Units	Type of Housing	Status	
1	Balk Addition	City of Kenocha	25	Single-family	Evpanding	
2	Chateau Plaines Addition	Village of Pleasant Prairie	128	Single-family	Expanding	
3	Civic Center II	City of Kenosha	150	Multi-family	Linder construction	
4	Fairfield Heights	Town of Somers	40	Single-family	Under construction	
5	Gangler Addition	City of Kenosha	25	Single-family	Expanding	
6	Greentree Estates	Village of Pleasant Prairie	90	Single-family	Proposed	
7	Hawthorn Creek	Town of Somers	25	Single-family	Proposed	
8	Hunters Ridge	City of Kenosha	107	Single-family	Proposed	
-			32	Condominiums	Proposed	
9	Jamestown	City of Kenosha	14	Single-family	Expanding	
10	Eagle Ridge	Town of Somers	25	Single-family	Proposed	
11	Marc Development	Village of Pleasant Prairie	391	Single-family	Proposed	
			132	Town homes	Proposed	
			144	Multi-family	Proposed	
12	Meadowdale Farms	Village of Pleasant Prairie	146	Single-family	Proposed	
13	Orchard View Addition	City of Kenosha	70	Single-family	Expanding	
14	Parkview Heights	Village of Pleasant Prairie	58	Single-family	Proposed	
15	Patretti Apartments	City of Kenosha	96	Multi-family	Expanding	
16	Pleasant Homes	Village of Pleasant Prairie	125	Single-family	Proposed	
17	Pleasant Trails	Village of Pleasant Prairie	211	Single-family	Proposed	
		-	144	Town homes	Proposed	
			144	Multi-family	Proposed	
18	Prairie Lake Estates	City of Kenosha	100	Mobile homes	Under construction	
19	Provincial Heights	City of Kenosha	40	Single-family	Expanding	
20	Raven Hills	City of Kenosha	30	Single-family	Expanding	
21	Rosewood	City of Kenosha	40	Single-family	Proposed	
22	Southport Marina	City of Kenosha		Mixed-use	Under construction	
23	Spring Meadows	City of Kenosha	70	Single-family	Under construction	
			64	Condominiums	Under construction	
24	Stanich Development	Village of Pleasant Prairie	123	Town homes	Under construction	
25	Tirabassi Heights	City of Kenosha	105	Single-family	Proposed	
26	Unnamed Development	Town of Somers	96	Multi-family	Proposed	
27	Unnamed Development	Town of Somers	20	Single-family	Proposed	
			20	Condominiums	Proposed	
28	Westwood Estates	Village of Pleasant Prairie	24	Mobile homes	Expanding	
29	Whittier Heights	Village of Pleasant Prairie	76	Single-family	Proposed	
30	Woodlands Park Estates	Town of Somers	12	Single-family	Proposed	
31	Whitecaps	City of Kenosha	873	Single-family	Under construction	
32	Maple Ridge	Town of Somers	68	Single-family	Proposed	
. 33	Northgate Commons	City of Kenosha	88	Condominiums	Under construction	
34	Hannan Farm Hills	City of Kenosha	35	Single-family	Under construction	
			10	Duplexes	Proposed	
35	Parkview Terrace	City of Kenosha	64	Condominiums	Under construction	
36	Highview Heights	City of Kenosha	15	Single-family	Proposed	
37	Perri Estates	City of Kenosha	23	Single-family	Under construction	
38	Oakwood Mobile Home Park	City of Kenosha	70	Mobile homes	Expanding	
39	Country Home Estates					
	Units 5 and 6	City of Kenosha	17	Single-family	Expanding	
40	Shagbark Apartments	City of Kenosha	72	Multi-family	Expanding	

AREAS OF PROPOSED NEW AND EXPANDING RESIDENTIAL DEVELOPMENT IN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990



AREAS OF PROPOSED NEW OR EXPANDING COMMERCIAL AND INDUSTRIAL DEVELOPMENT WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Number on Map 10	Name	Location	Status
	Commercial		
] 1	Bonnie Hame Development	City of Kenosha	Proposed
2	Bristol Mills Development	Town of Bristol	Proposed
3	Celano Development	City of Kenosha	Proposed
4	Dairyland Greyhound Park	City of Kenosha	Under construction
5	Lakeside Marketplace	Village of Pleasant Prairie	Expanding
6	LakeView Corporate Center	Village of Pleasant Prairie	Proposed
7	LakeView West Office Park	Village of Pleasant Prairie	Proposed
8	Manufacturers' Outlet Mall	Town of Bristol	Proposed
9	Marc Development-Neighborhood		
	Commercial	Village of Pleasant Prairie	Proposed
10	Marc Development-Office and		
	Convention Center	Village of Pleasant Prairie	Proposed
11	Mauro Auto Mall	Town of Bristol	Proposed
12	Shopko Plaza Addition	City of Kenosha	Expanding
13	Sportsman's Mall	Town of Somers	Proposed
14	Village at Gateway Center	City of Kenosha	Proposed
	Industrial		
15	LakeView Corporate Park	Village of Pleasant Prairie	Under construction
16	Mann-Built Homes	City of Kenosha	Proposed
17	West View Industrial Park	City of Kenosha	Proposed

Source: SEWRPC.

POPULATION AND EMPLOYMENT

General Population Characteristics

The estimated 1990 resident population of the study area was 101,500 persons, of whom about 79,400, or 78 percent, resided within the City of Kenosha. As shown in Table 13, the population within the City of Kenosha and within the study area has remained virtually unchanged since 1970.

The density of the population in the study area, measured in terms of persons per square mile, is shown on Map 13. The map indicates substantial areas of medium to high population densities exist only in the City of Kenosha and, thus, this area has the highest current potential to support efficient local transit service.

Table 14 indicates the historic change in the number of households in the study area over the period 1960 to 1990. The percentage increase in the number of households over the period 1960 to 1970 of 18 percent for the City of Kenosha and 14 percent for the entire study area is very similar to the percentage increases in population over the same period for the City of Kenosha and the study area of 16 and 11 percent, respectively. However, while population levels within the City and the study area remained essentially stable between 1970 and 1980, the number of households within the City and the study area actually increased by about 16 percent and 17 percent, respectively. Between 1980 and 1990 the number of households within the City and the study area continued to grow, albeit at a much slower rate of about 6 percent and 7 percent, respectively. Travel in urban areas is more strongly related to the number of households than to the size of the population, since the number of households is a better indicator of the size of the labor force and, hence, the amount of work travel, as well as other travel, including that for shopping and personal business purposes.

AREAS OF PROPOSED NEW AND EXPANDING COMMERCIAL AND INDUSTRIAL DEVELOPMENT IN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990



DISTRIBUTION OF LAND USES IN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1985

Land Use Category ^a	Area (acres)	Percent of Land Use Area	Percent of Total Study Area
Urban			
Single- and Two-Family Residential	8,896	47.3	12.6
Multi-Family Residential	299	1.6	0.4
Commercial	728	3.9	1.0
Manufacturing and Wholesale Industrial	932	4.9	1.3
Transportation, Communication, and Utilities	5,602	29.7	8.0
Governmental and Institutional	1,170	6.2	1.7
	1,206	6.4	1.7
Subtotal	18,833	100.0	26.7
Rural			· · · · ·
Agricultural and Other Open Lands	44,136	85.5	62.7
Woodlands and Wetlands	6,789	13.1	9.6
Extractive Industrial	288	0.6	0.4
Surface Water	396	0.8	0.6
Subtotal	51,609	100.0	73.3
Total	70,442		100.0

^aIncludes associated parking.

Source: SEWRPC.

Transit-Dependent Population Characteristics

Generally, there are certain segments of the population whose dependence on, and use of, public transit are greater than that of the population as a whole. These segments of the population historically have had less access to the automobile as a form of travel than the population in general and therefore have had to rely more heavily on alternative transportation modes for mobility. These groups include schoolage children, the elderly, low-income families, minorities, and the disabled. One source which was used to obtain information about these groups in the Kenosha transit system development plan study area was the 1980 U.S. census. The only data currently available from the 1990 U.S. census are population and household counts for each municipality. Selected 1980 population characteristics for the census tracts within the study area are set forth in Tables 15 and 16. Inasmuch as over 90 percent of the

population served by the City's local bus system resides within the City of Kenosha, data are presented within these tables for the City of Kenosha component of total census tract population and household figures.

Census tracts within the study area which display concentrations of those population groups that depend most heavily on transit service were identified as high priority areas for transit service. These high priority census tracts within the City of Kenosha, including Census Tracts No. 6, 7, 8, 9, 10, 11, and 16, are graphically summarized on Map 14. The categories considered in these analyses were concentrations of the elderly, low-income households, nonwhite and Hispanic minorities, and households with no automobiles available. The census tracts defined as high priority had above average concentrations in three or more categories.

LAND USE WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1985



GENERALIZED LAND USE DENSITY WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1985



POPULATION IN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1960-1990

		Рорг	ulation	
Area	1960	1970	1980	1990 ^a
City of Kenosha	67,900 89,600	78,800 99,300	77,700 99,400	79,400 101,500

	Change in Population							
	1960-	1970	1970-	1980	1980-1990			
Area	Number	Percent	Number	Percent	Number	Percent		
City of Kenosha	10,900 9,700	16.1 10.8	-1,100 100	-1.4 0.1	1,700 2,100	2.2 2.1		

^aEstimated.

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

Table 14

					Change in Households					
Number of Households by Year			y Year	1960-1970 1970-1980 1980-1990			-1990			
Area	1960	1970	1980	1990 ^a	Number	Percent	Number	Percent	Number	Percent
City of Kenosha Total Study Area	20,600 26,400	24,200 30,000	28,000 35,100	29,700 37,700	3,600 3,600	17.5 13.6	3,800 5,100	15.7 17.0	1,700 2,600	6.1 7.4

NUMBER OF HOUSEHOLDS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1960-1990

^aEstimated.

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

Places frequently used by the elderly for care and recreation purposes, along with the location of retirement homes, elderly housing complexes, and nutrition sites, were also identified in the study area for the year 1990. These facilities for the elderly are listed in Table 17. The locations of special federally subsidized rental housing for low-income families and individuals were also identified in the study area for 1990 and are listed in Table 18. Finally, the locations frequently used by disabled individuals for housing or residential care, rehabilitation, or sheltered employment or educational purposes are listed in Table 19.

Employment Characteristics

The estimated 1990 employment in the study area was 42,000 jobs. About 35,000 jobs, or about 85 percent of the study area total, were located within the City of Kenosha. As shown in





POPULATION DENSITIES IN PERSONS PER SQUARE MILE WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1985

SELECTED CHARACTERISTICS OF THE CITY OF KENOSHA RESIDENT POPULATION BY CENSUS TRACT: 1980

1				-							
									Min	ority	
		School-A	ge Children ^a	Elc	lerly ^b	Low Income ^C		Nonwhite		Hispanic	
Census Tract Number	Population	Number	Percent of Tract Population	Number	Percent of Tract Population	Number	Percent of Tract Population	Number	Percent of Tract Population	Number	Percent of Tract Population
							-				
1 ⁰	1,236	128	10.4	112	9.1	93	7.5	78	6.3	19	1.5
2	934	143	15.3					50	5.3	7	0.7
30	3,557	453	12.7	600	16.9	247	7.0	96	2.7	126	3.5
4 ⁰	3,983	631	15.8	534	13.4	156	3.9	36	0.9	42	1.0
5 ^u	5,168	1,011	19.6	602	11.6	285	5.5	168	3.2	104	2.0
6 ⁰	1,501	123	8.2	221	14.7	153	10.2	77	5.1	30	2.0
70	4,131	741	17.9	314	7.6	430	10.4	923	22.3	295	7.1
8	2,468	377	15.2	298	12.0	328	13.2	406	16.3	145	5.8
9	4,191	532	12.7	484	11.5	679	16.2	317	7.6	375	8.9
10	1,608	170	10.6	262	16.4	320	19.9	271	16.8	214	13.3
11	3,406	406	11.9	489	14.3	666	19.5	439	12.9	510	15.0
12	4,229	524	12.4	566	13.4	336	7.9	193	4.6	186	4.4
13 ^d	3,783	635	16.8	278	7.3	328	8.7	90	2.4	110	2.9
14 ^d	5,885	1,157	19.7	415	7.0	104	1.8	83	1.4	66	1.1
15 ^d	3,991	565	14.2	573	14.4	187	4.7	48	1.2	52	1.3
16	3,512	563	16.0	310	8.8	713	20.3	841	23.9	287	8.2
17	2,874	437	15.2	398	13.8	207	7.2	153	5.3	111	3.9
18	2,492	324	13.0	275	11.1	167	6.7	146	5.9	110	4.4
19	2,704	412	15.2	471	17.4	105	3.9	24	0.9	47	1.7
20 ^d	8	···									
21 ^d	4,206	673	16.0	369	8.8	245	5.8	138	3.3	108	2.6
22	3,925	548	14.0	605	15.4	65	1.6	24	0.6	38	1.0
23 ^d	4,805	888	18.5	644	13.4	161	3.4	88	1.8	87	1.8
24 ^d	2,894	587	20.2	197	6.8	43	1.5	56	1.9	37	1.3
25 ^d	176	36	20.5	8	4.5	8	4.5			4	2.3
		l		-	•					· ·	

		Related Children Under 18 Year								
Size of Family Unit	Poverty Threshold	None	1	2	3	4	5	6	7	8 or More
One Person (unrelated individual)	\$ 3,686									
Under 65 Years	3,774	\$ 3,774								• •
65 Years and Older	3,479	3,479								
Two Persons	4,723								• •	
Householder										
Under 65 Years	4,876	4,858	\$ 5,000				••			
65 Years and Older	4,389	4,385	4,981						••	
Three Persons	5,787	5,674	5,839	\$ 5,844						
Four Persons	7,412	7,482	7,605	7,356	\$ 7,382				••	
Five Persons	8,776	9,023	9,154	8,874	8,657	\$ 8,525				
Six Persons	9,915	10,378	10,419	10,205	9,999	9,693	\$ 9,512			
Seven Persons	11,237	11,941	12,016	11,759	11,580	11,246	10,857	\$10,429		
Eight Persons	12,484	13,356	13,473	13,231	13,018	12,717	12,334	12,936	\$11,835	
Nine Persons or More	14,812	16,066	16,144	15,929	15,749	15,453	15,046	14,677	14,586	\$14,024

^aAges 10 through 18 inclusive.

^bAges 65 and older.

^CFamily income below poverty threshold. Poverty thresholds for families in 1979 as defined by the U. S. Bureau of the Census.

^dData presented for only that portion of the census tract within the City of Kenosha.

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

DISTRIBUTION OF HOUSEHOLDS WITHIN THE CITY OF KENOSHA WITH NO OR ONE AUTOMOBILE AVAILABLE BY CENSUS TRACT: 1980

Census		Households with No Automobile Available		Household Automobile	s with One e Available	Households with No or One Automobile Available		
Tract Tota Number Houser	Total Households	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	
1 ^a	592	22	3.7	306	51.7	328	55.4	
2	5	b		b		b		
3 ^a	1,322	211	16.0	696	52.6	907	68.6	
4 ^a	1,430	68	4.8	627	43.8	695	48.6	
5 ^a	1,753	266	15.2	552	31.5	818	46.7	
6 ^a	694	22	3.2	470	67.7	492	70.9	
7 ^a	1,396	120	8.6	574	41.4	694	49.7	
8	952	173	18.2	413	43.4	586	61.6	
9	1,635	299	18.3	768	46.9	1,067	65.2	
10	595	139	23.4	319	53.6	458	77.0	
11	1,321	304	23.0	708	53.6	1,012	76.6	
12	1,708	233	13.6	829	48.6	1,062	62.2	
13 ^a	1,311	60	4.6	511	39.0	571	41.6	
14 ^a	1,829	72	3.9	485	26.5	557	30.4	
15 ^a	1,487	165	11.1	569	38.3	734	49.4	
16	1,304	256	19.6	529	40.6	785	60.2	
17	1,021	113	11.1	424	41.5	537	52.6	
18	916	120	13.1	418	45.6	538	58.7	
19	1,090	69	6.3	475	43.6	544	49.9	
21 ^a	1,483	49	3.3	625	42.1	674	45.4	
22	1,488	54	3.6	648	43.6	702	47.2	
23 ^b	1,656	175	10.6	535	32.3	710	42.9	
24 ^b	924	70	7.6	253	27.4	323	35.0	
25 ^b	52	b						
Total	27,964	3,060	10.9	11,734	42.0	14,794	52.9	

^aData presented for only that portion of the census tract within the City of Kenosha.

^bData suppressed by the U. S. Bureau of the Census.

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

Table 20, employment in the study area and in the City of Kenosha increased dramatically between 1963 and 1980 before decreasing between 1980 and 1985. The nationwide recession, which began in about 1979 and from which local recovery did not begin until 1984, accounts for the decrease in employment during this period. This recession severely affected the State of Wisconsin and, particularly, the Southeastern Wisconsin Region. Employment levels in the study area also suffered a major setback in December 1988 with the closing of the Chrysler Motors automotive body assembly plants within the City of Kenosha and the loss of approximately 5,000 jobs at these facilities.¹ It is anticipated, however, that the number of jobs lost through the closing of the Chrysler Motors

¹The Chrysler Motors engine assembly plant was not closed in 1988 and continues to provide about 1,200 jobs.

HIGH-PRIORITY AREAS FOR TRANSIT SERVICE WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT STUDY AREA: 1980



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

FACILITIES FOR THE ELDERLY WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Facility	Address ^a
Nursing Homes/Group Homes/Day Care Centers Brookside Care Center Claridge House Dayton Residential Center Hospitality Manor Nursing Home Mapleridge Adult Day Care Center St. Andrew's Place St. Joseph's Home for the Aged Pennoyer Home Shady Lawn Nursing Home Transitional Living Transitional Living Washington Manor Nursing Home Woodstock Kenosha Health Center	3506 Washington Road 1519 60th Street 521 59th Street 8633 32nd Avenue 1760 22nd Avenue 6603 26th Avenue 9244 29th Avenue, Village of Pleasant Prairie 6305 7th Avenue 1703 60th Street 8400 Sheridan Road 4930 42nd Avenue 1834 60th Street 3100 Washington Road 3415 Sheridan Road
Retirement Homes/Housing Complexes Birch Garden Apartments Joanne Apartments Kenosha Gardens Lakeside Towers Apartments ^b Saxony Manor, Inc. St. Joseph's Villa Tanglewood Apartments Tuscan Villas Villa Nova Apartments	1666 Birch Road 8828 41st Avenue 5308 64th Avenue 5800 3rd Avenue 1876 22nd Avenue 9250 29th Avenue, Village of Pleasant Prairie 3020 87th Place 8051 25th Avenue 2401 18th Street
Senior Centers Kenosha Senior Citizen Center ^b	2717 67th Street
Nutrition Centers Parkside Baptist Church St. Paul's Lutheran Church Second Baptist Church	2620 14th Place 8760 37th Avenue 3925 32nd Avenue
Employment/Training/Volunteer Services Older Worker Program Retired Senior Volunteer Program Seniors in Community Service Senior Community Services of Southeastern Wisconsin, Inc.	520 58th Street 714 58th Street 1607 65th Street 5516 10th Avenue

^aAll addresses are in the City of Kenosha, unless otherwise noted.

bFacility also serves as a nutrition site.

Source: Kenosha County Department of Aging and SEWRPC.

FEDERALLY SUBSIDIZED RENTAL HOUSING WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Project Name	Number of Units ^a	Address ^b
Arbor Green	48	6001 55th Street
Birch Garden Apartments	72	1654 Birch Road
Briar Cliff Apartments	60	2150 89th Street
Casa Nova Duplexes	18	1524-68 17th Avenue
Forest Court		
Birch Road	46	1745-93 Birch Road
52nd Street	16	52nd Street and 56th Avenue
50th Street	6	50th Street and 47th Avenue
Glenview Apartments	24	5218 42nd Avenue
Joanne Apartments	68	8828 41st Avenue
Kenosha Gardens	89	5308 64th Avenue
Lakeside Towers Apartments	182	5800 3rd Avenue
Saxony Manor, Inc	223	1876 22nd Avenue
Sheridan Meadows	40	901-1101 82nd Street
Tanglewood Apartments	99	3020 87th Place
Tuscan Villas	111	8051 25th Avenue
Villa Nova Apartments	102	2401 18th Street

^aExcludes units known to be used as offices or as resident manager or caretaker units.

^bAll addresses are in the City of Kenosha.

Source: U. S. Department of Housing and Urban Development, Wisconsin Housing Authority, and SEWRPC.

Table 19

Facility	Address ^a
Housing/Residential Care Facility Dayton Residential Care	521 59th Street 1519 60th Street 6024 18th Avenue 5905 19th Avenue 3415 Sheridan Road
Rehabilitation/Training/Employment Facility Developmental Disabilities Service Center, Inc. ^b	3734 7th Avenue 1218 79th Street 8600 Sheridan Road 1760 22nd Avenue
Referral Facility Kenosha County Department of Aging and Long Term Care Kenosha County Social Services	5407 8th Avenue 714 52nd Street
Special Education Facility with Special Programs Gateway Technical College	3520 30th Avenue

FACILITIES FOR THE DISABLED WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

^aAll addresses are in the City of Kenosha.

^bAlso provides special education facility.

	Total Employment by Year					
Area	1963	1972	1980	1985	1990	
City of Kenosha	31,000 36,000	33,000 38,200	39,200 46,500	32,700 38,700	35,200 41,600	

TOTAL EMPLOYMENT IN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1963-1990

	Change in Employment							
	1963	1972 1972-1980		1980	-1985	1985	-1990	
Area	Number	Percent	Number	Percent	Number	Percent	Number	Percent
City of Kenosha	2,000 2,200	6.5 5.7	6,200 8,300	18.8 17.8	-6,500 -7,800	-16.6 -16.8	2,500 2,900	7.5 7.5

Source: Wisconsin Department of Industry, Labor and Human Relations; and SEWRPC.

automotive body assembly plants will with time be more than offset by employment opportunities at new commercial, office, and industrial developments which have recently been completed, are currently underway, or which have been proposed to be completed in the near future within the study area. In this respect, the LakeView Corporate Park, which is currently under development in the Village of Pleasant Prairie, is envisioned to ultimately provide 8,000 to 10,000 jobs when fully developed. The Dairyland Greyhound Park in the City of Kenosha, which opened in June 1990, provides approximately 800 jobs.

The density of employment in the study area in 1985 is shown in Map 15. Within the study area the major concentrations in employment in 1985 were located in the City of Kenosha within those quarter-sections which contained one or more major employment centers. These included the quarter-section containing the Kenosha central business district, in which several governmental and retail and service employers were located; the quarter-section containing St. Catherine's Hospital; the quarter-section containing Gateway Technical Institute, Bradford High School, the Brookside Care Center, and the Washington Manor Nursing Home; the quarter-section containing Kenosha Memorial Hospital; the quartersection containing Anaconda American Brass Company and the Frost Company; the quartersection containing Snap-On Tools; and the two quarter-sections containing the automobile body and engine assembly plants of the former American Motors Corporation. Importantly, it should be noted that Chrysler Motors closed the automotive body assembly plants in December 1988 after having acquired them from the American Motors Corporation in 1987.

MAJOR TRAFFIC GENERATORS

For public transit planning purposes, major traffic generators were identified as specific land uses or concentrations of such land uses which attract a relatively large number of person trips and, therefore, have the potential to attract a relatively large number of transit trips. The following categories of land uses were identified as major traffic generators for public transit planning purposes within the study area: 1) retail, service, and office centers; 2) educational institutions; 3) hospitals and medical centers; 4) governmental and public institutional centers: 5) major employment centers: and 6) recreational areas. The major traffic generators identified within each category are listed in Tables 21 through 26.

EMPLOYMENT DENSITY IN JOBS PER SQUARE MILE WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1985



RETAIL, SERVICE, AND OFFICE CENTERS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Shopping Center or Area	Location ^a
Major Commercial Office Center ^b	
Downtown Business District	6th Avenue between 55th Street and 59th Street
Major Community Shopping Center ^C K-Mart Department Store Pershing Plaza Shopko Department Store Wal-Mart Department Store	4100 52nd Street 75th Street and Pershing Boulevard 5300 52nd Street 4404 52nd Street
Secondary Community Shopping/Strip Commercial Areas ^d Sun Plaza Factory Outlet Centre Friars Wood Country Village Greenwood Plaza Lakeside Marketplace Shopping Center Midtown Shopping District	3500 52nd Street IH 94 and STH 50, Town of Bristol 80th Street and 39th Avenue 80th Street and 39th Avenue IH 94 and CTH Q, Village of Pleasant Prairie 52nd Street between 19th Avenue
Old Market Square Shopping Mall	and 23rd Avenue 8600 Sheridan Road Between 30th Avenue and 39th Avenue 7709 Sheridan Road 22nd Avenue between 75th Street and 80th Street
Town and Country Shopping Center	4623 75th Street 22nd Avenue between 61st Street and Roosevelt Road 2121 21st Street

^aAll locations are in the City of Kenosha unless otherwise noted.

^bDefined as concentrations of retail, service, and office establishments with a combined employment of at least 3,500 jobs.

^cDefined as including at least one large department store and any associated shops and services.

^dDefined as either a large concentration of stores and services, usually lacking a major department store or strip commercial areas consisting of a mixture of retail and service establishments located along a major traffic artery.

EDUCATIONAL INSTITUTIONS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Educational Institutions	Address ^a	Approximate Enrollment ^b
Universities and Technical Schools Carthage College Gateway Technical College University of Wisconsin-Parkside	2001 Alford Drive 3520 30th Avenue Wood Road, Town of Somers	2,000 10,130 ^c 4,980
Public Junior and Senior High Schools Bradford High School Reuther Alternative High School Tremper High School Bullen Junior High School Lance Junior High School Lincoln Junior High School McKinley Junior High School Washington Junior High School	3700 Washington Road 913 57th Street 8560 26th Avenue 2804 39th Avenue 4515 80th Street 6729 18th Avenue 5710 32nd Avenue 811 Washington Road	1,420 360 1,560 680 810 720 690 650
Major Parochial and Private Schools Armitage Academy	6032 8th Avenue 2110 75th Street 8900 34th Avenue, Village of Pleasant Prairie	60 120 350
Friedens Lutheran Elementary School	5043 20th Avenue 4400 22nd Avenue 5400 19th Avenue 1011 Washington Road 2401 69th Street 7207 14th Avenue 7400 39th Avenue 2020 91st Street 6218 25th Avenue 9026 12th Street, Town of Somers	180 330 160 80 310 310 390 100 100 110 180
Victory Baptist Academy	3401 Springbrook Road, Village of Pleasant Prairie	40

^aAll addresses are in the City of Kenosha unless otherwise noted.

^bColleges and technical school enrollments are indicated for spring 1990, while the high school, junior high school, and major parochial school enrollments are indicated for school year 1989-1990.

^cThe enrollment at Gateway Technical College is 6,718 students for students with a City of Kenosha zip code.

Source: Kenosha Unified School District, the Archdiocese of Milwaukee, Wisconsin Department of Public Instruction, and SEWRPC.

COMMUNITY AND SPECIAL MEDICAL CENTERS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Hospital or Medical Center	Address ^a
Community Medical Centers ^b Kenosha Memorial Hospital and Professional Building St. Catherine's Hospital	6308 8th Avenue 3556 7th Avenue
Special Medical Centers ^C Dominican Medical Building Doctor's Park Lakeshore Medical Building Northside Professional Building Romani Neighborhood Clinic St. Catherine's Family Practice Center, University of Wisconsin-Parkside	3734 7th Avenue 6530 Sheridan Road 3618 8th Avenue 3200 Sheridan Road 4536 22nd Avenue 900 Wood Road, Town of Somers

^aAll addresses are in the City of Kenosha unless otherwise noted.

^bDefined as a hospital having a least 100 beds and providing in- and outpatient facilities and laboratory and clinical services.

^cDefined as all other major medical facilities and special clinics offering multi-specialty medical services.

Source: SEWRPC.

Table 24

GOVERNMENTAL AND PUBLIC INSTITUTIONAL CENTERS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Institutional Center	Address ^a
Regional and County	
G. M. Simmons Main Library	711 59th Place
Kenosha County Courthouse	912 56th Street
Kenosha County Historical Society and Museum	6300 3rd Avenue
Kenosha City/County Safety Building	1000 55th Street
Kenosha County Social Services Department	714 52nd Street
Kenosha County Department of Aging and Long Term Care	5407 8th Avenue
Kenosha County Health Department	3418 Washington Boad
Kenosha County Job Center	8600 Sheridan Boad
Social Security Administration	5624 6th Avenue
Wisconsin Department of Health and Social Services	
Division of Vocational Rehabilitation	712 55th Street
Community and Other	
Kenosha Municipal Building	625 52nd Street
Kenosha Public Library	
Northside Branch	2053 22nd Avenue
Southwest Branch	7979 38th Avenue
West Branch Branch	2419 63rd Street
Kenosha Public Museum	5608 10th Avenue
Kenosha Unified School District Offices	3600 52nd Street
Kenosha Water Center	812 56th Street
Pleasant Prairie Village Hall	9915 39th Avenue,
	Village of Pleasant Prairie
Somers Town Hall	7511 12th Street.
	Town of Somers
U. S. Post Office	
Kenosha Main Office	5605 Sheridan Road
Pleasant Prairie Office	8451 104th Avenue,
	Village of Pleasant Prairie
Somers Office	8116 12th Street,
	Town of Somers

^aAll addresses are in the City of Kenosha unless otherwise noted. Source: SEWRPC.

MAJOR EMPLOYMENT CENTERS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

		Approximate Employment ^a			t ^a
Employment Center	Address ^b	100-249	250-499	500-999	1,000 or More
Industrial/Manufacturing					
American Brass Company	1420 63rd Street			x	
Chrysler Motors	5626 25th Avenue				x
Eaton Corporation	3122 14th Avenue	x			
Frost Company	6523 14th Avenue	x			
Jelco Wisconsin, Inc	6015 52nd Street	x			
Jockey International, Inc.	2300 60th Street			x	
Jupiter Transportation Company	4314 39th Avenue	X			
Kenosha Beef International, Ltd.	3111 152nd Avenue,				
	Town of Paris			X	
Kenosha Industrial Park	52nd Street at 68th Avenue		-X		
Lakeview Corporate Park	Town of Pleasant Prairie			X .	
	5718 52nd Street	X			
G. LeBlanc Corporation	7019 30th Avenue				
	2906 14th Avenue		X		
Spon On Table Comparation	7800 60th Avenue		X		
	2801 80th Street				х
	9201 Wilmot Road,				
West View Industrial David	Village of Pleasant Prairie			X	
	50th Street at 55th Avenue	X ^C		· ••	
Betail/Service					
Brookside Care Center	3506 Washington Boad		X		
Clairidge House	1519 60th Street	x			
First National Bank-Main Office	5522 6th Avenue	x			
Kenosha Memorial Hospital	6308 8th Avenue			x	
Kenosha Savings and Loan Association	5935 7th Avenue	x			
K-Mart Department Store	4100 52nd Street	X			
Lakeside Marketplace	Town of Pleasant Prairie		x		
St. Catherine's Hospital	3556 7th Avenue			x	
St. Joseph's Home for the Aged	9244 29th Avenue			X	
	Village of Pleasant Prairie	x			
Sears, Roebuck and Company	7630 Pershing Boulevard	x			
Sentry Markets, Inc.	2055 22nd Avenue	x			
Sheridan Nursing Home	8400 Sheridan Road	x			
Shopko Stores, Inc.	5300 52nd Street	x			
United Communications Corporation,					
Kenosha News	715 58th Street		х		
Wal-Mart Department Store	4404 52nd Street	X			
Wisconsin Electric Power Company—					
Pleasant Prairie Generating Station	Town of Pleasant Prairie	X			
Woodstock Kenosha Health Center	3415 Sheridan Road	Х			
Government	1000 FEAL Care of				
Kenosha City/ County Satety Building	1000 SSIN Street	X	 V		
Kenosha County Courtnouse	SIZ DOIN STREET	 V	X		
Kenosha Unified Sebeel District Offices	225 52nd Street	×			
I S Postal Service	Sour Sand Street	^			
Kenosha Office	5605 Sheridan Road	v	_		
		^			
Educational					
Bradford High School	3700 Washington Road	X			
Carthage College	2001 Alford Drive		x		
Gateway Technical College	3520 30th Avenue		x		
Iremper High School	8560 26th Avenue	X			
University of Wisconsin-Parkside	Wood Road,				
	Lown of Somers		X		

Table 25 (continued)

		Approximate Employment ^a			
Employment Center	Address ^b	100-249	250-499	500-999	1,000 or More
Recreational Dairyland Greyhound Park	STH 158 and CTH HH			x	

^aOnly major employment centers having an employment of 100 or more persons are listed, except as noted.

^bAll addresses are in the City of Kenosha unless otherwise noted.

^cApproximate employment between 50 and 99.

Source: SEWRPC.

Table 26

MAJOR RECREATIONAL AREAS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Recreational Area	Civil Division		
Regional ^a			
Petrifying Springs Park	Town of Somers		
Major Community ^b			
Alford Park	City of Kenosha		
Carol Beach Park	Village of Pleasant Prairie		
James Anderson Park	City of Kenosha		
J. F. Kennedy Park	City of Kenosha		
Kemper Center	City of Kenosha		
Lincoln Park	City of Kenosha		
Nash Park	City of Kenosha		
Pennoyer Park	City of Kenosha		
Petretti Park	City of Kenosha		
Petzke Park	City of Kenosha		
Pleasant Prairie Ball Park	Village of Pleasant Prairie		
Poerio Park	City of Kenosha		
Simmons Island Park	City of Kenosha		
Somers Athletic Field	Town of Somers		
Southport Park	City of Kenosha		
University of Wisconsin-Parkside	Town of Somers		
Washington Park and Golf Course	City of Kenosha		
Special ^C			
Dairyland Greyhound Park	City of Kenosha		
Kenosha County Ice Area	City of Kenosha		
Prairie Harbor Marina	Village of Pleasant Prairie		
Simmons Athletic Field	City of Kenosha		
Southport Marina	City of Kenosha		

^aDefined as public recreation sites of at least 250 acres in size offering multiple recreational opportunities.

^bDefined as multiple-use public recreation sites which are community-oriented in service area and which contain community recreation facilities such as baseball or softball diamonds, swimming pools, or tennis courts.

^cComparises public and private recreational areas used primarily for special purposes.

1980 ESTIMATED TOTAL PERSON TRIPS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA AND BETWEEN THE STUDY AREA AND OTHER COUNTIES IN THE SOUTHEASTERN WISCONSIN REGION BY ANALYSIS AREA

Anglusia		Total Person Trips by Analysis Area ^a						
Area	Analysis Area Description	1	2	3	4	5	6	7
Kenosha Transit	Kenosha central business district	1,510						
System Development	Northern Kenosha	14,370	47,390					
Plan Study Area	Southern Kenosha	19,570	48,580	98,860				
	Somers	1,780	15,530	7,160	5,800			
	Pleasant Prairie	2,270	6,960	26,960	1,790	10,310		
	Paris ^D	60	470	510	550	230	550	 '
	Bristol ^D	190	680	1,560	310	990	120	2,530
Kenosha County	Western Kenosha County	410	1,260	2,460	630	1,440	460	4,330
Racine County	Racine	1,500	11,660	7,410	9,290	1,790	970	370
	Caledonia	170	1,230	900	770	290	250	80
	Mt. Pleasant/Sturtevant	550	3,970	2,780	3,760	850	910	240
	Western Racine County	170	1,210	1,400	840	590	1,230	810
	Burlington	50	270	370	120	160	110	230
Walworth County	Walworth County	60	420	590	120	220	50	300
Waukesha County	Waukesha County	40	360	510	240	230	90	80
Washington County	Washington County	0	10	20	0	10	10	10
Ozaukee County	Ozaukee County	10	20	30	10	10	10	0
Milwaukee County	Northern Milwaukee County	50	430	490	200	160	150	160
	Southern Milwaukee County	180	1,700	1,840	960	720	660	340
	Milwaukee central business district	10	300	240	110	70	100	60

^aBoundaries of analysis areas are shown on Map 16.

^bIncludes only that portion of analysis area within the Kenosha transit system development plan study area.

Source: SEWRPC.

TRAVEL HABITS AND PATTERNS

This section of the chapter presents information on the travel habits and patterns of the study area residents relevant to the provision and use of public transit services. Presented first is an estimate of the amount and pattern of the total travel generated by households, employment, and other land uses in the study area, including travel generated within the study area and travel generated between the study area and the remainder of southeastern Wisconsin. An analysis of a survey of users on the City of Kenosha transit system, conducted by the Regional Planning Commission in December 1989 to gather current data on the socioeconomic and travel characteristics, as well as comments and suggestions of transit system users for use in transit planning and marketing efforts, follows.

Total Person Travel Characteristics

Based upon Commission travel simulation model applications, it is estimated that 398,000 trips with one end or both ends in the Kenosha transit system development plan study area occurred on an average weekday in 1980. The generalized pattern of those trips, including origin and destination, is shown in Table 27.

<u>Internal Person Travel</u>: Of the 398,000 person trips estimated to have originated in the study area on an average weekday in 1980, approxi-
mately 318,000 trips, or 80 percent, were made to destinations internal to the study area. About 7,000 of these person trips, or about 2.2 percent, were made on the City transit system. Based upon the growth in households and employment that has occurred since 1980 within the study area and the City of Kenosha, the number of person trips made on an average weekday in 1990 within the study area may be estimated to total 327,000 trips. The number of person trips using the City transit system, however, has decreased to about 4,300 trips per average weekday and now represents about 1.3 percent of all internal person trips within the study area.

To facilitate further analysis of internal person trip characteristics, the density of tripmaking was calculated and for each of the traffic analysis zones within the study area. Map 16 graphically illustrates total person trip density within each zone, as expressed in total trip origins and destinations, or total trip ends, per square mile. As would be expected, the map shows that person tripmaking activity within the study area in 1980 was heavily concentrated in the densely developed urban areas within and surrounding the City of Kenosha. The zones constituting the Kenosha central business district and the Pershing Plaza shopping area contained the highest concentrations of trip ends.

External Person Travel: Of the 398,000 trips that are estimated to have originated within the study area on an average weekday in 1980, about 81,000 trips, or 20 percent, were made to areas within the Southeastern Wisconsin Region external to the study area. The locations of these external person trip destinations within the Southeastern Wisconsin Region are shown on Map 17. As indicated on this map, the largest concentrations of external total person trip destinations were located in the City of Racine, which attracted about 33,000 trips; in the Village of Sturtevant and Town of Mt. Pleasant, which together attracted about 13,100 trips; in western Kenosha County, which attracted about 11,000 trips; in western Racine County, which attracted about 7,500 trips; and in southern Milwaukee County, which attracted about 6,400 trips.

The preceding discussion has described the travel patterns of the 398,000 person trips with origins within the Kenosha transit system development plan study area and destinations in

areas within the seven-county Southeastern Wisconsin Region on an average weekday. It should be noted that in 1980 an additional 17,000 person trips were estimated to be made between the study area and surrounding counties outside the Region. The most significant amount of such total person travel in 1980 occurred between the study area and Lake County, Illinois, with an estimated 13,700 person trips occurring on an average weekday. Du Page and Cook Counties in Illinois together accounted for another estimated 1,900 trips from the study area on an average weekday. The combined trips made to these three Illinois counties account for over 91 percent of the trips made from the study area to areas outside the Region.

City of Kenosha Transit User Survey

An on-board bus survey was conducted on the regular and peak-hour tripper bus routes of the Kenosha transit system by the Regional Planning Commission on December 5, 6, 7, and 13, 1989, to ascertain the current socioeconomic and travel characteristics of transit users in the Kenosha area. Survey forms were distributed to, and collected from, passengers on approximately three-fourths of the bus runs on the seven regular routes and on about one-half the bus runs on the peak-hour tripper routes operated by the transit system. Provision was also made for mail return of any survey forms which could not be collected on the bus. The on-board bus survey form used is reproduced in Appendix A of this report.

Actual ridership on the survey days totaled about 5,000 boarding passengers, including transfer and free passengers, with about 3,800 passengers on the regular routes and about 1,200 passengers on the peak-hour tripper routes. Approximately 3,100 passengers, including about 2,400 passengers on the regular routes and about 700 passengers on the peak-hour tripper routes, or about 62 percent of total system boarding passengers, rode on the surveyed bus runs on the survey days and were asked to complete a survey form. Usable survey forms were returned by about 975 passengers on the regular routes and by about 575 passengers on the special peak-hour tripper routes. The total of about 1,550 usable survey questionnaires returned represents about 31 percent of the boarding passengers on the Kenosha transit system on the survey days.

TOTAL PERSON TRIP DENSITY BY ANALYSIS ZONE WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1980







The information gathered by the on-bus survey included socioeconomic characteristics of the transit users, characteristics of the trips made by the transit users, and comments and service suggestions of the transit users. The following sections summarize the results of the survey with respect to this information.

Socioeconomic Characteristics: The socioeconomic characteristics generally considered relevant to the provision of transit facilities and services include sex, age, licensed driver status, income, household size, and vehicle availability. A summary of this information for all transit system users is presented in Table 28. Similar information for the users of each of the seven regular bus routes is presented in Appendix B.

As indicated in Table 28, about 61 percent of the Kenosha transit system users are female and about 76 percent do not possess a valid driver's license. This is consistent with national figures, which indicate that women and unlicensed drivers constitute the overwhelming majority of transit riders.

By age group, use of the Kenosha transit system by persons 18 years of age or under is prominent, and represents 55 percent of system ridership. This age group includes students at secondary and elementary schools in the City. Other age cohorts of transit system riders representing substantial proportions of the transit system ridership include the age groups 19 through 24 years and 25 through 34 years. These age groups represent passengers probably just starting out in the labor force, with lower household incomes and lower household automobile availability. However, members of the former age group could also be attending a technical school, college, or university. Based upon the survey results, the median household income of the transit riders on the Kenosha transit system was between \$10,000 to \$15,000, while the predominant household income of transit riders is under \$10,000.

Automobile availability is an important factor influencing transit usage. Those households without an automobile are dependent upon other persons, or upon public transit, for the provision of essential transportation services. Also, in those households where there are more household members, particularly those of driving age, than there are automobiles, some members of the household may also be dependent upon others or public transit. Table 29 provides a complete tabulation of automobile availability by household size for the surveyed transit ridership. The survey indicated that, overall, about 28 percent of the Kenosha transit system riders were members of households with no vehicles available, and 26 percent were members of households with one vehicle available; a total of about 54 percent of system riders have limited automobile availability. The proportion is much higher for riders on the regular routes making work trips; about 77 percent of these riders are members of households with no vehicles or only one vehicle available. A relatively large number of total system riders, about 28 percent, resided in households with two or more automobiles available. This can probably be attributed to the larger household size, four or more persons, characterizing this category and to the use of the transit system by school-age members of these households. By comparison, the 1980 census data indicated that about 11 percent of households within the City of Kenosha had no vehicle available, and that about 42 percent of the households had only one vehicle available.

<u>Trip Characteristics</u>: As would be expected, the vast majority, approximately 98 percent, of tripmakers using the Kenosha transit system reside within the City of Kenosha,. The remaining 2 percent of transit system riders are residents of the City of Racine, the Village of Pleasant Prairie, and the Town of Somers. The distribution of residency of transit system riders by quarter-section within the study area is shown on Map 18.

The purpose of trips made on the Kenosha transit system as identified by the passenger survey is shown in Table 28. Approximately 62 percent of all transit trips involved travel that was school-based, that is, at least one end of the trip had school as an origin or destination. An additional 14 percent of transit trips involved travel between home and work.

To facilitate the further analyses of person trip characteristics, it is convenient to express travel in terms of trip ends, with one end of the trip the "production end" and the other end the "attraction end." For trips beginning or ending at home, or home-based trips, the production end is always considered the home end of the trip, while the attraction end is always considered the

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE CITY OF KENOSHA TRANSIT SYSTEM FOR VARIOUS RIDERSHIP CHARACTERISTICS: DECEMBER 5-7 AND 13, 1989

	Perc	ent of Revenue Passenge	ers
Ridership Characteristic	Regular Routes	Peak-Hour Tripper Routes	Total System
Age			
5 and Under	0.0	0.0	00
6-12	1.9	9.6	4.2
13-15	10.5	55.1	23.6
16-18	24.3	34.3	27.1
19-24	14.1	1.0	10.3
25-34	17.3	0.0	12.2
35-44	12.1	0.0	8.5
45-54	5.2	0.0	37
55-64	6.2	0.0	44
65 and Older	8.4	0.0	6.0
			0.0
Total	100.0	100.0	100.0
Sex			
Male	36.6	45.9	39.4
Female	63.4	54.1	60.6
Total	100.0	100.0	100.0
Bace			
Black	24.8	11 3	20.9
White	66.3	80.7	70.6
American Indian/Alaskan	1 4	19	1.5
Asian/Pacific Islander		0.3	0.6
Other	67	5.8	6.0
		0.0	0.4
Total	100.0	100.0	100.0
Licensed Driver			
Yes	29.6	9.6	237
No	70.4	90.4	76.3
Total	100.0	100.0	100.0
Household Income			
Under \$5,000	20.3	a	20.3
\$5,000-\$9,999	23.4		23.4
\$10,000-\$14,999	12 5		12 5
\$15,000-\$19,999	76		76
\$20,000-\$24,999	81	-	9.0 8.1
\$25,000-\$29,999	8.3		8.3
\$30,000-\$34,999	7.5		75
\$35.000-\$39.999	21		21
\$40,000 or Over	9.2		9.1
	0.2		J.2
Total	100.0		100.00

	Perc	ent of Revenue Passenge	ers
Ridership Characteristic	Regular Routes	Peak-Hour Tripper Routes	Total System
Trip Purpose ^b Home-Based Work	20.5 12.3 14.8 7.1 45.3 100.0	0.0 0.0 0.0 0.0 100.0 100.0	14.4 8.7 10.4 5.0 61.5 100.0
Work Trip Vehicle Availability No Vehicle One Vehicle Two Vehicles Two Vehicles Three or More Vehicles Total	47.0 30.3 15.2 7.5 100.0		47.0 30.3 15.2 7.5 100.0

^aHousehold income was not asked on the school routes.

^bThe trip data were grouped into five categories of travel purpose: home-based work, home-based shopping, homebased other, nonhome-based, 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 at a shopping destination. Homebased 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 area, or school. Such trips would include trips made for social, recreational, medical, and personal business purposes. Nonhome-based trips are defined as trips that neither originate nor end at home. School-based trips are defined as trips having at least one end at school.

Source: SEWRPC.

nonhome end, regardless of the actual direction of the trip. The number of home-based trips produced within a specified area, for example, would be the number of trips from homes in that area to places of employment in all other areas plus the number of trips from places of employment in all other areas to homes in the specified area. Conversely, the number of home-based work trips attracted to a specified area would be the number of trips from homes in all other areas to a place of employment within that specified area plus the number of trips from places of employment in that specified area to homes in all other areas. Such a designation is helpful in defining the residential distribution of trip-makers and also the concentrations of work,

shopping, and school facilities. For trips having neither end at home, or nonhome-based-trips, the origin of the trip is defined as the production end, while the destination is defined as the attraction end.

Based upon this distinction, Maps 19 and 20 illustrate graphically the distribution of transit person trip productions and attractions by quarter-section within the study area. In general, the map of transit trip productions reflects the residential concentrations of the users of the Kenosha transit system. The heaviest concentrations of transit trip attractions are located in the quarter-sections containing Bradford High School and Gateway Technical College, which

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE CITY OF KENOSHA TRANSIT SYSTEM BY VEHICLE AVAILABILITY AND HOUSEHOLD SIZE: DECEMBER 5-7 AND 13, 1989

		Household Size					
Vehicle Availability	One Person	Two Persons	Three Persons	Four Persons	Five Persons	Six or More Persons	Total
Regular Routes No Vehicle	16.0	9.1	4.6	4.6	3.0	2.0	39.3
One Vehicle	1.2	7.6	7.0	6.7	3.4	3.2	29.1
Two Vehicles	0.3	2.3	4.8	5.7	3.2	3.4	19.7
Three or More Vehicles	0.1	0.9	1.7	3.3	3.3	2.6	11.9
Total	17.6	19.9	18.1	20.3	12.9	11.2	100.0
Peak-Hour Tripper Routes							
No Vehicle	0.0	0.3	0.7	1.8	0.6	0.2	3.6
One Vehicle	0.0	4.3	4.5	4.3	2.0	3.4	18.5
Two Vehicles	0.0	1.5	6.8	17.0	12.7	7.7	45.7
Three or More Vehicles	0.0	0.0	2.7	9.3	9.9	10.3	32.2
Total	0.0	6.1	14.7	32.4	25.2	21.6	100.0
Total System							
No Vehicle	11.1	6.4	3.4	3.8	2.2	1.5	28.4
One Vehicle	0.8	6.6	6.2	6.0	3.0	3.3	25.9
Two Vehicles	0.2	2.0	5.4	9.2	6.1	4.7	27.6
Three or More Vehicles	0.1	0.6	2.0	5.1	5.4	4.9	18.1
Total	12.2	15.6	17.0	24.1	16.7	14.4	100.0

Source: SEWRPC.

attracted about 900 transit trips; the Kenosha central business district, which attracted about 500 transit trips; Bullen Junior High School, which attracted about 400 transit trips; and Tremper High School, which attracted about 300 transit trips.

The hourly distributional pattern of transit riders is shown in Figure 9. This figure indicates that most of the travel on the transit system occurs during two peak periods of transit ridership, between 6:30 a.m. and 8:30 a.m. and between 2:30 p.m. and 4:00 p.m. Approximately 61 percent of the total daily ridership occurs during these two periods. The ridership peak between 6:30 a.m. and 8:30 a.m., when about 83 percent of the trips made are destined to school, is the most pronounced, accounting for about 35 percent of the total daily ridership. Volumes during the afternoon peak period was smaller than during the morning peak period. About 27 percent of the total daily ridership occurring during this period, when about 84 percent of the trips are school-based trips.

During the on-bus survey, information was also collected on the transfer movement of all boarding passengers between bus routes. Approximately 25 percent of the revenue passengers surveyed indicated that they would transfer to a different route to complete their trip. A detailed analysis of the transfer movements of transit system passengers is provided in Chapter V of this report.

<u>Transit Passenger Comments</u>: Kenosha transit passengers were also given the opportunity to make comments or service suggestions on the

RESIDENCY OF REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: DECEMBER 5-7, 1989



TRIP PRODUCTIONS OF REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: DECEMBER 5-7, 1989



TRIP ATTRACTIONS OF REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: DECEMBER 5-7 AND 13, 1989



Figure 9



HOURLY DISTRIBUTION OF TRIPS MADE BY REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: DECEMBER 5-7 AND 13, 1989

survey form. A summary of the comments and suggestions made by passengers on the seven regular bus routes is presented in Table 30. The most frequent comments received were suggestions calling for expansion of the days or hours of transit system operation and reduction of operating headways, particularly during the midday period, when buses operate one hour apart. A large number of surveyed passengers also suggested that present routes should be extended or new routes added to the transit system. Other service improvements suggested by many passengers included better on-time performance and adding amenities at bus stops, including more bus shelters.

SUMMARY

This chapter has presented pertinent information on those factors which affect, or are affected by, the provision and use of transit service in the City of Kenosha transit planning study area, including land use patterns, the size and distribution of population and employment, major traffic generators, and the travel habits and patterns of the resident population. These factors must be considered in any transit planning effort.

With respect to land use, historic urban development in the study area generally occurred in relatively tight, concentric rings outward from the center of the City of Kenosha until about 1950. Urban development after 1950 became discontinuous and diffused throughout much of the study area, with few major concentrations of complete urban development. The City of Kenosha is one of only a few substantial areas in the County which are fully developed for urban uses at truly urban densities and, therefore, has a good potential to support efficient local transit service. Since 1960, population growth and urbanization within the Kenosha transit system

Source: SEWRPC.

development plan study area has intensified, with the urban land uses within the study area having increased by about 27 percent. This rapid urbanization has been marked by a diffusion of both commercial and residential development in the study area, and a declining importance in the central business district as an employment and shopping center.

Also particularly reviewed was the density of urban development within and around the study area, since traditional forms of local transit service may generally be efficiently provided only in areas of medium- to high-density land uses. High-density land uses and substantial areas of medium-density land uses currently exist within the study area only in the City of Kenosha.

The population within the City of Kenosha and the study area was identified as remaining virtually unchanged since 1970. The estimated 1990 population of the study area was 101,500, of whom about 79,400, or 78 percent, resided within the City of Kenosha. With respect to the number of households in the City of Kenosha and the study area, increases of about 15 percent and 17 percent, respectively, occurred over the period 1970 to 1980. A much slower growth in households of about 6 percent within the City and 7 percent within the study area occurred between 1980 and 1990.

Six population groups which exhibit typically high dependence on public transportation for mobility were identified within the study area: school-age children, the elderly, low-income families, minorities, the disabled, and persons residing in households with limited automobile availability. As part of this process, the locations of facilities used by elderly and disabled persons for housing, residential care, rehabilitation or training, and recreation, along with the location of special federally subsidized rental housing for low-income families and individuals, were identified. These facilities identified in the Kenosha area are summarized in Table 31 and their locations shown on Map 21. Identification of the place of residence of these groups within the study area indicated that, except for schoolage children, the highest concentrations are located within the older, intensively developed portions of the City of Kenosha, making this area one of high need for transit service.

Table 30

SUMMARY OF COMMENTS AND SUGGESTIONS RECEIVED FROM SURVEYED PASSENGERS ON THE CITY OF KENOSHA TRANSIT SYSTEM REGULAR ROUTES

Comments and Suggestions	Percent of Survey Respondents
Change Service Times or Frequency Add Evening Service	12 5 2 14
Change Routes Add/Extend Routes Add Stops	2 1
Other Service Improvements Reduce Fares Be On Time Improve Condition of Buses Improve Stops (add shelters, lights, other amenities) Improve Driver Friendliness	2 5 2 2 3
No Improvements Needed	6

Source: SEWRPC.

Also identified were the locations of all major traffic generators in the study area, including shopping areas, educational institutions, community and special medical centers, governmental and public institutional centers, employment centers, and recreational areas. The major traffic generators identified are summarized in Table 32 and their locations shown on Map 22. Identification of the locations of these generators indicates that the vast majority are well concentrated in the highly urbanized areas of the City of Kenosha.

It is estimated that 327,000 person trips are currently made to or from points internal to the study area, with the greatest concentrations of internal trip ends in the Kenosha central business district and the Pershing Plaza shopping area. The number of person trips using the City of Kenosha transit system, however, has decreased to about 4,300 trips per average weekday and now represents about 1.3 percent of all internal person trips within the study area.

FACILITIES FOR THE ELDERLY AND DISABLED AND LOW-INCOME HOUSING WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

		Facility Type			
Number on Map 21	Name	Facility for the Elderly	Facility for the Disabled	Low-Income Housing	
1	Arbor Green	·		x	
2	Birch Garden Apartments	Х		X	
3	Briar Cliff Apartments			X	
4	Brookside Care Center	х			
5	Casa Nova Duplexes			X	
6	Clairidge House	х	l X		
7	Davton Residential Center	х	x		
8	Developmental Disabilities Service Center, Inc.		X X		
9	Forest Court—Birch Road		·	X	
10	Forest Court—52nd Street			x	
11	Forest Court—50th Street			X	
12	Gateway Technical College		x		
13	Glenview Apartments			X	
14	Hospitality Manor Nursing Home	х			
15	Joanne Apartments	x		x	
16	Kenosha Achievement Center		x I		
17	Kenosha County Department				
	of Aging and Long Term Care		x x		
10	Kanasha Caunty Joh Canter		x		
10	Kenosha County Sob Center		x	• •	
19		v		x	
20	Kenosha Gardens	l 🗘			
21		l 🗘		X	
22)	× ×		
23		l û	^		
24	Older Worker Program				
25					
26	Pennoyer Home				
27	Retired Senior Volunteer Program		••		
28	St. Andrew's Place				
29	St. Joseph's Home for the Aged	X			
30	St. Joseph's Villa				
31	St. Paul's Lutheran Church				
32	Saxony Manor, Inc.			×	
33	Second Baptist Church	X			
34	Senior Community Services of				
	Southeastern Wisconsin, Inc.	X			
35	Seniors in Community Service	X			
36	Shady Lawn Nursing Home-West	l X			
37	Sheridan Meadows			X	
38	Sheridan Nursing Home	X			
39	Tanglewood Apartments				
40	Transition House I		X		
41	Transition House II				
42	Transitional Living—42nd Avenue	X			
43	Transitional Living—60th Street	X		••	
44	Tuscan Villas	X		X	
45	Villa Nova Apartments	X			
46	Washington Nursing Home	X			
47	Woodstock Kenosha Health Center	X	X		

TOWN OF MT. PLEASANT RACINE KENOSHA ME (94) LEGEND ELDERLY OR DISABLED FACILITY / LOW INCOME HOUSING TOWN OF SOMERS TOWN OF PARIS FACILITY IDENTIFICATION NUMBER (SEE TABLE 31) 13 TRANSIT SERVICE AREA MB MB 12 MICHIGAN 46 . 33 4-0 KENO SHA 20 🜑 Q 0 LAKE 44 38 BB BB 39 0 15 TOWN OF BRISTOL 30 29 MMN VILLAGE OF PLEASANT PRAIRIE 65 MB M ML (ML) 32 SRAP SCAL WISCONSIN KENOSHA

FACILITIES FOR ELDERLY AND DISABLED PERSONS AND LOW-INCOME HOUSING IN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

MAJOR TRAFFIC GENERATORS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990

Number on Map 22	Name	Service and Retail Center	Educational Institution	Hospital and Medical Center	Governmental and Public Institutional Center	Major Employment Center	Park and Recreational Area
. 1	Alford Park	· · ·					x
2	American Brass Company					x	•-
3	Armitage Academy		x				
4	Bethany Lutheran Elementary						
_	and Junior High School		x				
5	Bradford High School		X			X	
7	Builen Junior High School		 V			X	••
8	Carol Beach Park		^				·
9	Carthage College		x			x	Â
10	Christian Life High School and Elementary School		v				
11	Chrysler Motors		Â			x	
12	Clairidge House			•••		x	
13	Dairyland Greyhound Park					x	x
14	Doctors' Park		••	x			• •
15	Dominican Medical Building			x			
16	Downtown business district	x					
						×	
18	Factory Outlet Centre						
20	Frist National Bank-Main Office	 v				x	••
21	Friedens Lutheran Elementary School	Â	×			••	
22	Frost Company		Â.			x	
23	Gateway Technical College		x			x	
24	Greenwood Plaza	x				• •	••
25	Holy Rosary Elementary School		x				
26	James Anderson Park	••				••	x
27				•-		X	
28	Jockey International, Inc.			••		X	
30				••		X	
31	J. F. Kennedy Park						Ŷ
32	Kenosha Beef International, Ltd.					x	<u>.</u>
33	Kenosha City/County Safety Building				x	x	
34 35	Kenosha County Courthouse			••	x	x	
	and Long Term Care				x	••	
36	Kenosha County Health Department				x		
37	Kenosha County Historical						
	Society and Museum				х		••
38	Kenosha County Ice Arena						x
39	Kenosha County Job Center			••	X	'	
40	Kenosha County Social Services Department	••			×		
42	Kenosha Memorial Hospital				•••	^	••
	and Professional Building	·		x		x	
43	Kenosha Municipal Building				x	x	
44	Kenosha Public Library-Southwest Branch				×		(
45	Kenosha Public Library-Northside Branch				x		
40	Kenosha Public Library-West Branch				X	••	••
47	Kenosha Savings and Loan Association		••		×	~	
49	Kenosha Unified School District Offices				x	$\hat{\mathbf{x}}$	<u> </u>
50	Kenosha Water Center	• •			x l	<u>.</u>	••
51	K-Mart Department Store	x	1	••		×	
52	Lakeshore Medical Building			x			
53	Lakeside Marketplace Shopping Center	x				x	
54	LakeView Corporate Park					×	•- [
55 50	Laminated Products, Inc.			• •		×	
50	G. LeBlanc Corporation		x			-;	
58	Lincoln Junior High School		 x			<u></u>	
59	Lincoln Park				••		x
60	MacWhyte Company	.				x 1	
61	McKinley Junior High School		x	x			

۹. ۱			1				
Number on Map 22	Name	Service and Retail Center	Educational Institution	Hospital and Medical Center	Governmental and Public Institutional Center	Major Employment Center	Park and Recreational Area
62	Midtown Shopping District	x			••		
63	Nash Park				••		x
64	Northside Professional Building			x			
65	Ocean Spray Cranberries, Inc.					x	
66	Old Market Square Shopping Mall	x					
67	Our Lady of Mt. Carmel Elementary School		x	••	••		
68	Pennoyer Park						x
69	Pershing Plaza	x					••
70	Petretti Park						x
71	Petrifying Springs Park						^т Х
72	Petzke Park				••		x
73	Pleasant Prairie Village Hall				х		
74	Pleasant Prairie Ball Park		• -				X
75	Poerio Park						x
76	Prairie Harbor Marina				••		x
77	Reuther Alternative High School		l x			•• •	
78	Romani Neighborhood Clinic			x	••		• •
79	Roosevelt Road Shopping District	X		••			
80	St. Casimir Elementary School		×		'		
81	St. Catherine's Family Practice Center,						
00	University of Wisconsin-Parkside			X			••
82				X	••		••
83			X	••			
84 95	St. Joseph's Home for the Aged					×	
00	St. Mark's Elementary School				••		••
00 07	St. Mary S Elementary School						
07	St. Feler's Elementary School			••		···	
80	St. Therese Elementary School						
90	Sears Boebuck and Company		^				
91	Sentry Markets Inc				••	Î	
92	Sheridan Nursing Home				••	l û	
93	Shonko Department Store	x				l û	
94	Shoreland Lutheran High School		x				
95	Simmons Athletic Field						×
96	G. M. Simmons Main Library				x	· • •	
97	Simmons Island Park						x
98	Simmons Plaza	x					
99	Snap-On Tools Corporation					l x	
100	Social Security Administration				х		
101	Somers Athletic Field					· · ·	x
102	Somers Town Hall		·		х		
103	Southport Marina						x
104	Southport Park	· · ·	·				x
105	Sun Plaza	x			••		
106	Sunnyside Shopping Center	x			••		
107	Town & Country Shopping Center	X			••		
108	Tremper High School		X	'		X	
109	Tri-Clover, Inc.				••	X	
110	United Communications Corporation,						1
	Kenosha News					X	
111	University of Wisconsin-Parkside		X			X	x
112	Uptown Business District	X				· · -	••
113	U. S. Post Office-Kenosha				х	X	
114	U. S. Post Office-Pleasant Prairie				х	'	
115	U. S. Post Office-Somers	••	••		х		
116	Victory Baptist Academy		x		••	••	••
117	Villa Capri Shopping Center	X					
118	vval-iviart Department Store	X				×	
119	Washington Junior High School		X	••		••	••
120	Washington Park and Golf Course				• •		x
121	west View Industrial Park	· · ·	í	••		×	
122	wisconsin Department of Health						
	and Social Services, Division of						
100			••		x		
123	VVISCONSIN Electric Power Company-						
124	Woodstock Kappaba Haakh Casta						
124			••			X	

MAJOR TRAFFIC GENERATORS WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA: 1990



An on-board bus survey was conducted on the Kenosha transit system bus routes by the Regional Planning Commission on December 5, 6, 7, and 13, 1989, to ascertain the socioeconomic and travel characteristics of the users of the City's transit system. The survey data collected indicated that the current transit users were predominantly female, 18 years of age and under, and without a valid driver's license. Transit riders were also found to come predominantly from households having three or more persons, no automobile or only one automobile available, and an annual income of less than \$10,000. Similar survey data concerning the trip characteristics of the transit passengers indicated that the plurality of trips made on the transit system were school-based and home-based work trips, with about 62 and 14 percent, respectively, of all transit trips made for these purposes. Some comments and suggestions were also received calling for expansion of the days and hours of transit system operation, reduction of operating headways, the modification of existing routes or addition of new routes, improved on-time performance, and improving bus stops by adding additional passenger amenities.

Chapter IV

TRANSIT SERVICE OBJECTIVES AND STANDARDS

INTRODUCTION

A critical step in the preparation of any transit system development plan is the articulation of the objectives to be served by the transit system and the identification of supporting standards used to measure the degree of attainment of the objectives. The objectives and standards provide the criteria upon which the performance of the existing transit system may be assessed, alternative service plans designed and evaluated, and recommendations for improvement made. The objectives should, therefore, comprehensively set forth the transit service and system performance desired by the City of Kenosha. The standards should permit direct measurement of the extent to which the objectives are being attained. Only if the objectives and standards clearly reflect transit-related goals will the recommended transit system plan provide the desired level of service within the limits of available financial resources.

The following sections of this chapter present the public transit objectives, principles, and standards formulated and approved by the advisory committee guiding the city transit system development plan preparation effort, and used in the performance evaluation of the existing transit system, and in the subsequent design and evaluation of the alternative shortrange transit system development plans. In addition, these objectives and standards are also intended to be used for the conduct of the routine service planning and monitoring done by transit system management following the completion of this transit system development plan. Finally, these objectives and standards can also be drawn upon by the transit system in conducting an assessment of transit system compliance with current federal regulations governing compliance with Title VI of the Civil Rights Act of 1964 which pertain to the provision, planning, and programming of transit services in a manner which is not discriminatory to minority communities or minority users. A glossary of technical terms which are used in this chapter or which will appear in later sections of this report is presented in Appendix C.

OBJECTIVES

Transit service objectives and standards should reflect the underlying values of the elected officials and citizens of the community to be served. Accordingly, the task of formulating objectives and standards should involve actively interested and knowledgeable public officials and private citizens representing a broad crosssection of interests in the community, as well as transit technicians. Accordingly, one of the important functions of the Kenosha Public Transit Planning Advisory Committee was to articulate transit service objectives and supporting standards for the City of Kenosha transit system. 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 public transit system performance desired by the City of Kenosha was obtained, and a relevant set of transit service objectives and supporting standards defined.

The specific objectives adopted basically envision a transit system which will effectively serve the City while minimizing the costs entailed. More specifically, the following objectives were adopted by the Advisory Committee:

- 1. Public transit should serve those areas of the City and its immediate environs which can be efficiently served, including those areas which are fully developed to medium or high densities, and, in particular, the transit dependent population within those areas.
- 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.

PRINCIPLES AND STANDARDS

Complementing each of the foregoing transit service objectives is a planning principle and a set of service and design standards, as set forth in Table 33. The planning principle supports each objective by assessing its validity. Each set of standards is directly related to the transit service objective, and serves several purposes including: to facilitate quantitative application of the objectives in the evaluation of the performance of the existing transit system; to provide guidelines for the consideration of new or improved transit services; and to provide warrants for capital projects. The standards are intended to include all relevant and important measures which would help to indicate the degree to which existing or proposed transit services contribute to the attainment of each objective.

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.

In addition, a number of the service standards set forth in Table 33 can provide guidance toward meeting certain requirements which the Wisconsin Department of Transportation has attached to the use of state urban transit operating assistance funds. As a condition of eligibility for receiving state urban transit operating assistance, applicants must annually establish multi-year service and performance goals, and assess the effectiveness of the applicant's transit system in relation to those goals on a quarterly basis. At a minimum, systemwide goals must be established for the following performance indicators: operating expense per total vehicle mile; operating expense per platform hour; operating expense per revenue passenger; the proportion of operating expenses recovered from operating revenues; revenue passengers per revenue vehicle mile; and revenue passengers per service area population. The

service standards set forth in this chapter which can be drawn upon to establish the staterequired performance goals are set forth in Table 34.

OVERRIDING CONSIDERATIONS

The objectives and standards set forth in Table 33 were intended to be used to guide the evaluation of the performance of existing transit system and the design and evaluation of public transit system service and facility improvements. However, any application of the objectives and standards in the preparation of a transit system development plan for the City of Kenosha transit system must recognize several overriding considerations.

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

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

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

PUBLIC TRANSIT SERVICE OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE KENOSHA TRANSIT SYSTEM

Objective	Principle	Standards
1. Public transit should serve those areas of the City and its immediate environs which can be efficiently served, including those areas of urban development which are fully developed to medium or high densities and, particularly, the tran- sit dependent population within those areas	Public transit can provide an important means of access for all segments of the population, but particularly for low- to middle-income households, the youth and elderly, and the transportation-disabled	 Local fixed-route transit service should be provided only within areas of contiguous high- and medium-density urban development^a Public transit service to residential neighborhoods^b and major nonresidential land use areas should be maximized. Major nonresidential land use areas served should include the following: Major regional, community, and neigh- borhood retail and service centers^c Educational institutions including universities, colleges, vocational schools, secondary schools, and parochial schools^d Major community and special medical centers^c Major governmental and public institu- tional centers^d Major recreational areas^f The population served and, particularly that portion which is transit-dependent, should be maximized The number of jobs served should be maximized Specialized transportation service should be available within the transit service area to meet the transportation needs of those portions of the disabled^g population unable to avail themselves of regular transit service
2. The public transit system should promote effective utilization of pub- lic 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	 Ridership on the public transit system should be maximized. The following mini- mum systemwide effectiveness levels^h, however, should be maintained: 13 rides per capita 1.4 revenue passengers per revenue vehicle mile 18 revenue passengers per revenue vehicle hour

Objective	Principle	Standards
No. 2 (continued)		2. Existing bus routes with ridership and effectiveness levels which are less than 80 percent of the average for each route type of the Kenosha transit system, regu- lar, peak-hour tripper, and shuttle, should be reviewed for potential service changes unless special circumstances warrant otherwise. ¹ The measures used to evalu- ate individual route ridership and
		effectiveness levels should include: ^j a. Total boarding passengers per route b. Boarding passengers per route mile
		 c. Boarding passengers per revenue vehicle mile d. Boarding passengers per revenue vehicle hour e. Percent of weekday ridership carried on Saturday
		3. The fare policy for the public transit system should encourage transit ridership by providing special or discounted fares for certain population groups, including transit-dependent persons and frequent transit riders
		4. Public transit service should be designed to provide adequate capacity to meet existing and projected demand. The aver- age maximum load factor ^k for local tran- sit service during peak periods should not exceed 1.25. During off-peak periods and at the 10-minute point, ¹ the maximum load factor should not exceed 1.0
		 The following minimum travel speeds for local transit service should be provided on the transit system:
		a. Five miles per hour within the central business districtb. Ten miles per hour outside the central business district
		6. The public transit system should provide a level of service commensurate with potential demand. Operating headways for all fixed-route public transit service should be capable of accommodating pas- senger demand at the recommended load standards
		 The public transit system should be designed and operated to maximize schedule adherence and be "on time" at least 95 percent of the time^m
		 Transit stops for fixed-route local transit service should be located two to three blocks apart along the entire route

Objective	Principle	Standards
No. 2 (continued)		 Public transit routes should be direct in alignment, with a minimum of turns, and arranged to minimize transfers and dupli- cation of service, which would discourage transit use
		10. Local transit service should have route spacings of one-half mile in high-density and medium-density areas
		11. To provide protection from the weather, bus passenger shelters of an attractive design should be constructed at all major loading points ⁿ
		12. Paved passenger loading areas should be provided at all fixed-route transit loading and unloading points, and all such points should be clearly marked by easily recognized bus stop signs
		13. Consideration should be given in the identification of stop locations, the design of passenger facilities, and the purchase or rehabilitation of public transit vehicles to ensuring the personal safety and secu- rity of transit system patrons
		14. 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:
		 a. For standard size heavy duty (approximately 35 to 40 feet) transit buses, normal service life is considered to be at least 12 years or at least 500,000 miles; b. For medium size heavy duty (approximately 30 feet) transit buses, normal service life should be considered to be
		at least 10 years or 350,000 miles; c. For small medium duty (under 30 feet) transit buses, normal service life should be considered to be at least seven years or at least 200,000 vehicles miles; and d. For other vehicles such as automobiles and regular or specialized
		vans, normal service life should be considered to be at least four years or at least 100,000 vehicle miles
		15. Preventive maintenance program standards should be established to achieve, at a minimum, 4,000 miles without an in-service breakdown

Objective	Principle	Standards
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 pas- senger transportation capacity, which can alleviate peak loadings on arte- rial street facilities and assist in reducing the demand for land neces- sary for parking facilities at major centers of land use activity. Efficient public transit service also has the potential to reduce energy consump- tion and air pollutant emissions	 The total amount of energy, and the total amount of energy per passenger mile consumed in operating the total transpor- tation system of which the transit system is an integral part, particularly petroleum- based fuels, should be minimized The amount of highway system capacity which must be provided to serve travel demand should be minimized
4. The transit system should be economical and efficient, meeting all other objectives at the lowest possible cost	The total resources of the City are limited, and any undue investment in 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	 The total operating and capital investment for the public transit system should be minimized and reflect efficient utilization of resources The operating expense per total vehicle mile, per platform hour, and per revenue passenger; and the operating deficit per revenue passenger should be minimized.^O Any increase in such costs which may be incurred year should not exceed the average percentage increase experienced by small urban bus systems statewide
		 3. Transit system operating revenues generated from passenger fares and sources other than general public operating subsidies should be maximized. The transit system should recover at least 23 percent of operating expenses from such revenues^p 4. Periodic increases in passenger fares other black and the periodic increases in passenger fares.
		 should be considered to maintain the financial stability of the transit system^q 5. Existing bus routes with financial performance levels which are less than 80 percent of the average for each route type of the Kenosha transit system, regular, peak-hour tripper, and shuttle, should be reviewed for service changes unless special circumstances warrant otherwise¹. The measures used to evaluate individual route financial performance should include:¹ a. Operating expense per boarding passenger b. Operating deficit per boarding passenger c. Percent of operating expenses recovered from operating revenues, excluding general public operating

^aThe categories of urban residential land use development densities shall be defined as follows:

Category	Number of Dwelling Units per Net Residential Acre
High-Density Urban	7.0-17.9
Medium-Density Urban	2.3-6.9
Low-Density Urban	0.7-2.2
Suburban	0.2-0.6
Rural	Less than 0.2

^bResidential neighborhoods shall be considered as served by local fixed-route public transit service when located within a one-quarter mile walking distance of a bus route.

^cShall be considered as served if located within one block of a bus route.

^dShall be considered as served if located within one-eighth mile of a bus route.

^eA major employment center shall be defined as an existing or planned concentration of industrial, commercial, or institutional establishments providing employment for more than 100 persons. Employment centers shall be considered as served if located within one-eighth mile of a bus route.

^fShall be considered as served if located within one-quarter mile of a bus route.

^gThe disabled shall be defined as individuals who, by reason of illness, injury, congenital malfunction, or other permanent or temporary incapacity or disability, are unable without special facilities or special planning or design to utilize public transit services.

^hThe minimum systemwide effectiveness levels specified within this standard are based upon the average annual ridership per capita, per revenue vehicle mile, and per revenue vehicle hour for small, urban bus systems within Wisconsin. During 1989, the Kenosha transit system carried 15.3 revenue passengers per capita, 1.74 revenue passengers per revenue vehicle mile, and 21.8 revenue passengers per revenue vehicle hour.

¹A 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.

^JBased on passenger counts by fare category, the route operating characteristics, the systemwide average operating cost per total vehicle mile, and average revenue per trip for each fare category, the average daily performance levels for the three types of routes operated by the Kenosha transit system during the period December 4 through 9, 1989, were as follows:

	Regular Routes		Peak-Hour Tripper Routes		Shuttle Routes	
Performance Measure	Weekdays	Saturdays	Weekdays	Saturdays	Weekdays	Saturdays
a. Total Boarding Passengers per Route	520	223	144		12	10
b. Boarding Passengers per Route Mile c. Boarding Passengers per	26.5	11.3	6.2		0.7	0.5
Revenue Vehicle Mile	1.70	0.94	4.47		0.26	0.17
Revenue Vehicle Hour	22.5	13.0	40.6		4.6	2.5
Carried on Saturday		42.8				43.5
Boarding Passenger	\$1.79	\$3.23	\$0.79		\$13.44	\$20.13
Boarding Passenger	\$1.44	\$2.90	\$0.36		\$12.96	\$19.65
from Operating Revenues	19.7	10.0	54.6		3.6	2.4

^kThe average maximum load factor is calculated by dividing the number of passengers at the maximum loading point of a route by the number of seats at that point during the operating period.

¹The 10-minute point is a point located 10 minutes travel time from the maximum loading point on a route. This means that passengers generally should not have to stand on board the public transit vehicle for longer than 10 minutes.

^m"On time" is defined as schedule adherence within the range of one minute early and three minutes late.

ⁿConstruction of bus passenger shelters at transit loading points should generally be considered where one or more of the following conditions exist: 1) the location serves major facilities designed specifically for the use of, or is frequently used by, elderly or disabled persons; 2) the location has a boarding passenger volume of 50 or more passengers per day; 3) the location is a major passenger transfer point between bus routes; or 4) the location is in a wide open space where waiting patrons would be unprotected from harsh weather conditions.

⁰During 1989, the systemwide average operating expense per total vehicle mile on the Kenosha transit system was \$2.92; the total operating expense per platform vehicle hour was \$36.38; the total operating expense per revenue passenger was \$1.80; and the total operating deficit per revenue passenger was \$1.40.

^pSince 1980, the Kenosha transit system has recovered an average of about 23 percent of its operating expenses from operating revenues. During 1989, the transit system recovered about 22.4 percent of its operating expenses from passenger and other revenues, excluding federal, state, and city operating assistance funds.

^qIncreases in passenger fares should generally be considered when: 1) the actual cost recovery rate for the transit system goes below the rate prescribed in Standard No. 3 under Objective 2; 2) operating expenses for the transit system have increased by 10 to 15 percent since fares were last raised; or 3) 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.

Source: SEWRPC.

Table 34

TRANSIT SERVICE OBJECTIVES AND STANDARDS WHICH CAN BE USED TO DEVELOP STATE-REQUIRED PERFORMANCE GOALS

Objectives and Standards	Performance Measures
Objective No. 2—Promote Transit Utilization and Provide for User Comfort, Convenience, and Safety <u>Standard No. 1</u> : Maximize Transit System Ridership	13 rides per capita; 1.4 revenue passengers per revenue vehicle mile; 18 revenue passengers per revenue vehicle hour ^a
Objective No. 4—Provide Economical and Efficient Service Standard No. 2: Minimize Operating Expenses and Operating Deficit per Unit of Transit Service and per Transit Ride	Increases in operating expenses per total vehicle mile, per platform hour, and per revenue passenger and increases in operating deficit per revenue passenger should not exceed the average percentage increase for small urban bus systems statewide
<u>Standard No. 3</u> : Maximize Percent of Operating Expenses Recovered through Operating Revenues	Recover at least 23 percent of operating expenses from operating revenues, excluding general public subsidies ^b

^aThe specified performance levels are based upon average annual performance levels for small urban bus systems within Wisconsin. During 1989, the Kenosha transit system carried 15.3 passengers per capita; 1.74 revenue passengers per revenue vehicle mile; and 21.8 revenue passengers per revenue vehicle hour.

^bSince 1980, the Kenosha transit system has recovered an average of 23 percent of its operating expenses from operating revenues. During 1989, the transit system recovered 22.4 percent of its operating expenses from operating revenues, excluding federal, state, and city operating assistance funds. It should be noted that the adopted regional transportation system plan specifies that public transit services should recover 50 percent of their operating expenses from operating revenues. The highest recovery rate for the Kenosha transit system since it began public operation in 1971 was 51 percent of expenses from operating revenues in 1973. Source: SEWRPC.

Chapter V

TRANSIT SYSTEM PERFORMANCE EVALUATION

INTRODUCTION

This chapter evaluates the performance of the Kenosha transit system based upon the transit service objectives and standards set forth in the previous chapter of this report. As a result of this evaluation, areas of efficient and inefficient operation are defined.

Four base objectives to be met in the provision of transit service were established in Chapter IV of this report. Table 35 lists these objectives and summarizes the key standards which were used to determine whether these objectives were met. Not all the listed standards under each objective were used in the evaluation process as not all were deemed appropriate for such use. Standards not used were primarily intended to serve as guidelines in the design of new services. Based upon examination of the existing routes by the Commission staff, it was found that 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 capital equipment and facilities for the transit system. These standards will be used in the development of a program of recommended capital projects developed for the recommended transit system plan.

The performance evaluation was conducted at two levels using the sets of performance measures set forth in Table 36. These measures summarize quantitative application of the standards used in the performance evaluation. At the first level, an assessment of transit performance was made on a systemwide basis to ascertain the extent to which the transit system currently serves the existing land use pattern and resident population of the City of Kenosha and environs, 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. At the second level of evaluation, the performance of each regular route of the transit system was evaluated on the basis of performance with respect to ridership and effectiveness levels, operating headways and peak passenger loading characteristics, on time performance, directness of route alignment, and accommodation of transfers. The following sections of this chapter present the findings of the evaluation process. These findings were used to develop the alternative transit system plans described in Chapter VI of this report.

SYSTEMWIDE PERFORMANCE EVALUATION

Service to Existing Land

Uses and Population Groups

Performance measures used to evaluate the existing transit service provided to Kenosha area land uses and population groups included measures of the total resident population served. the major nonresidential land use centers served. the areas of new and expanding development served, the facilities used by transit-dependent persons served, and the residential concentrations of population groups served. The evaluation was based upon the extent of geographic coverage provided by the existing transit system, as shown on Map 2 in Chapter II, and the locations of major traffic generators, areas of new or expanding development, and the facilities used by and the residential concentrations of transit-dependent population groups within the study area and, in particular, the City of Kenosha, which were identified in Chapter III.

The performance of the existing transit system with respect to these performance measures is summarized in Tables 37 through 39 and on Maps 23 and 24. Based upon this information, the following conclusions were reached:

1. The existing transit system provides excellent areal coverage of the existing residential areas of the City of Kenosha located east of Green Bay Road, together with coverage of the most densely populated residential areas located adjacent to the City within the Village of Pleasant Prairie. The major portion of the population within the study area not served by the transit system is located in rural areas, where residential densities are generally too low to support conventional fixed-route transit service. This would include the population residing within areas of the City west of

STANDARDS USED IN THE PERFORMANCE EVALUATION OF THE EXISTING TRANSIT SYSTEM

Objectives and Standarde	Standards Used in Transit System
	Performance Evaluation
Objective No. 1—Provide Service to Portions of City that Can be Efficiently Served Standard 1: Provide Local Fixed-Boute Transit Service within Areas of	
Contiguous High- and Medium-Density Development	X
Standard 2: Maximize the Residential and Nonresidential	X
Standard 2: Maximize the Deputation Conved	X
Standard 3. Maximize the lobe Served	X
Standard 5: Maximize Transportation Service Provided	
to Serve Disabled Persons	x
Objective No. 2Promote Transit Utilization and Provide	
for User Comfort, Convenience, and Safety	
Standard 1: Maximize Transit System Ridership	×
Standard 2: Review Routes with Substandard Ridership	
and Effectiveness Levels	x
Standard 3: Provide Special or Discounted Fares for	
Transit-Dependent Persons and Frequent Riders	
Standard 4: Provide Adequate Capacity So as	
Not to Exceed Load Factors	X
Standard 5: Provide Service Which Meets or Exceeds	
Minimum Vehicle Speeds	
Standard 6: Provide Service at Headways Capable	
of Accommodating Demand	X
Standard 7: Achieve Minimum Acceptable Schedule Adherence	X
Standard 8: Provide Stops Meeting Minimum Stop Spacing	
Standard 9: Minimize Indirect Routing, Duplication of Service, and	
Transfers Which Discourage Transit Use	X
Standard 10: Provide Local Routes at Intervals of No More than One-Half Mile	
in High-Density and Medium-Density Residential Areas	
Standard 11: Construct Bus Passenger Shelters at	
Major Passenger Loading Areas	
Standard 12: Provide Signs and Paved Passenger Loading Areas at Bus Stops	·
Standard 13: Give Consideration to Personal Safety of Passengers	
in Locating Transit System Stops and Facilities	
Standard 14: Replace Public Transit Vehicles at End of	
Maximum Service Life for Vehicles	
Standard 15: Minimize In-Service Breakdowns of Revenue Vehicles	
Objective No. 2. Dramata Efficienza in the T. tol T	
Objective No. 3Promote Efficiency in the Total Transportation System	
standard 1. Winninize the Energy Consumed in Operating	V
Standard 2: Minimize the Amount of Highway System Consolity	X
Needed to Serve Travel Demand	· · · · · · · · · · · · · · · · · · ·
	A
Objective No. 4—Provide Economical and Efficient Service	· · · · · · · · · · · · · · · · · · ·
Standard 1: Minimize Total Transit System Operating and Capital Costs	
Standard 2: Minimize Operating Expenses and Public Subsidy per	
Unit of Transit Service and per Transit Ride	x
Standard 3: Maximize Percent of Operating Expenses	
Recovered through Operating Revenues	x
Standard 4: Consider Periodic Increases in Passenger Fares	
Standard 5: Review Routes with Substandard Financial Performance	x

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 to Portions		
1. Population Served	х	
2. Major Nonresidential Land Use Centers Served	Х	
 Areas of Proposed New or Expanding Development Served Facilities Used by Elderly Persons, Disabled Persons, 	X	
and Low-Income Households Served	X	·
Population Groups Served	· X	
Objective No. 2Promote Transit Utilization and Provide for		
User Comfort, Convenience, and Safety		×
1. Ridership per Capita	X	
2. Revenue Passengers per Revenue Vehicle Mile	X	
3. Revenue Passengers per Revenue Vehicle Hour	Х	,
4. Total Boarding Passengers		X
5. Boarding Passengers per Revenue Vehicle Hour		X
6. Boarding Passengers by Scheduled Bus Run		X
7. Saturday Ridership as a Percent of Weekday Ridership		X
8. Percent On-Time Adherence		X
9. Travel Distance and Time by Transit versus		
Travel Distance and Time by Automobile		• X
10. Route-to-Route Transfers	Х	
······		
Objective No. 3—Promote Efficiency in the Total Transportation System		
1. Passenger Miles per Gallon of Petroleum-Based Fuel	х	
2. Impacts on Highway Capacity Due to Transit System Operation	х	
Objective No. 4—Provide Economical and Efficient Service		
1. Operating Expense per Total Vehicle Mile	х	
2. Operating Expense per Platform Hour	х	
3. Operating Expense per Revenue Passenger	x	. -
4. Operating Deficit per Revenue Passenger	x	
5. Operating Expense per Boarding Passenger		x
6. Operating Deficit per Boarding Passenger		x
7. Percent of Operating Expenses		
Recovered by Operating Revenues	X	x
· · · · · · · · · · · · · · · · · · ·	-	

Source: SEWRPC.

Green Bay Road which have been annexed in recent years. Unserved residential areas of the City east of Green Bay Road include only small sections located on the western and northern fringes of the service area.

2. The transit system also provides good coverage of the existing major nonresidential land use centers in the study area, serving 123 of the 141 centers identified. Of the 18 centers considered not served, 17 are located outside the City of Kenosha, and, therefore, outside the primary service area of the transit system. The remaining unserved center is located within onequarter mile of a bus route, the maximum walking distance for transit users based upon accepted standards within the transit industry.

TRANSIT SERVICE PROVIDED TO KENOSHA AREA LAND USES AND POPULATION GROUPS: 1990

Performance Measure	Systemwide Performance Characteristics
Population Served ^a Service Area Population Within City	76,100
Total	82,300
Percent of City of Kenosha Resident Population Served	97.8
Major Nonresidential Land Use Centers Served ^b Retail, Service, and Office Centers Educational Institutions Medical Centers Governmental and Institutional Centers Employment Centers Recreational Areas	17 of 18 24 of 26 8 of 8 17 of 22 40 of 44 17 of 23
Facilities Used by Elderly Persons, Disabled Persons, and Low-Income Households Served ^b Elderly Facilities Disabled Facilities Federally Subsidized Rental Housing	30 of 31 12 of 12 14 of 14
Residential Concentrations of Transit-Dependent Population Groups ^b Elderly	Served Served Served
Areas of Proposed New or Expanding Development Served ^C Residential	16 of 40 5 of 14 1 of 3

^aResidential areas were considered served by the transit system if they were located within one-quarter mile of a bus route. Population figures are based on 1989 estimates.

^bThe facilities for elderly and/or disabled persons and low-income households and the major nonresidential land use centers which were identified within the Kenosha transit system development plan study area are presented in Tables 17 through 26 and in Chapter III. The concentrations of transit-dependent persons identified in the study area are shown on Map 14 in Chapter III. Those centers, facilities, and concentrations not served by the existing transit system are identified in Table 38 and on Map 23.

^cAreas of proposed new or expanding residential, industrial, commercial, and office development within the Kenosha transit system development plan study area are presented in Table 10 and shown on Map 9 in Chapter III. Those areas of new and expanding development not served by the existing transit system are identified in Table 39 and shown on Map 24.

EXISTING MAJOR TRAFFIC GENERATORS; FACILITIES FOR ELDERLY, DISABLED, AND LOW-INCOME PERSONS; AND CONCENTRATIONS OF TRANSIT-DEPENDENT PERSONS NOT SERVED BY THE KENOSHA TRANSIT SYSTEM: 1990

Number on Map 23	Name	Location/Address ^a
1	Unserved Retail, Service, and Office Centers ^b Lakeside Marketplace	120th Avenue and 110th Street, Village of Pleasant Prairie
2 3	Unserved Educational Facilities ^b Shoreland Lutheran High School	9026 12th Street, Town of Somers 3401 Springbrook Road, Village of Pleasant Prairie
• •	Unserved Medical Centers ^b None (all served)	
4 5 6	Unserved Governmental and Public Institutional Facilities ^b Kenosha County Historical Society and Museum	6300 3rd Avenue 9915 39th Avenue, Village of Pleasant Prairie 7511 12th Street, Town of Somers
7 8	U. S. Post Office Pleasant Prairie Branch	8451 104th Avenue, Village of Pleasant Prairie 8116 12th Street, Town of Somers
9 1 10 11	Unserved Employment Centers ^b Kenosha Beef International, Ltd	3111 152nd Avenue, Town of Paris 120th Avenue and 110th Street, Village of Pleasant Prairie 9201 Wilmot Road, Village of Pleasant Prairie 78th Avenue and Fergusson Drive, Village of Pleasant Prairie
12 13 14 15 16 17	Unserved Recreational Centers ^b Carol Beach Park	Village of Pleasant Prairie Town of Somers Village of Pleasant Prairie Village of Pleasant Prairie Town of Somers City of Kenosha
18	Unserved Facilities for Elderly and/or Disabled Persons ^b Transitional Living	4930 42nd Avenue
* •	Population Groups ^u None (all served)	••

^aExcept where otherwise noted, all addresses are in the City of Kenosha.

^bCenters and facilities are considered as served by the transit system under the following conditions:

- 1. Retail, service, and office centers must be located within one block of a bus route.
- 2. Educational centers must be located within one-eighth mile of a bus route.
- 3. Medical centers must be located within one block of a bus route.
- 4. Governmental and public institutional facilities must be located within one-eighth mile of a bus route.
- 5. Employment centers must be located within one-eighth mile of a bus route.
- 6. Recreational centers must be located within one-quarter mile of a bus route.
- 7. Facilities for elderly and/or disabled persons must be located within one block of a bus route.
- 8. Subsidized housing for low-income persons must be located within one-quarter mile of a bus route.

AREAS OF PROPOSED NEW OR EXPANDING RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA NOT SERVED BY THE EXISTING KENOSHA TRANSIT SYSTEM: 1990

Number on Map 24	Name	Location	Status
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Unserved Areas of New or Expanding Residential Development ^a Chateau Plaines Addition Fairfield Heights Gangler Addition ^b Greentree Estates Hawthorn Creek Hunters Ridge ^b Jamestown Eagle Ridge Marc Development ^b Meadowdale Farms Patretti Apartments Pleasant Homes Pleasant Trails Prairie Lake Estates Raven Hills Stanich Development Unnamed Development Westwood Estates Whittier Heights Woodlands Park Estates White Caps Development	Village of Pleasant Prairie Town of Somers City of Kenosha Village of Pleasant Prairie Town of Somers Town of Somers City of Kenosha Town of Somers Village of Pleasant Prairie Village of Pleasant Prairie Village of Pleasant Prairie City of Kenosha Village of Pleasant Prairie City of Kenosha City of Kenosha City of Kenosha City of Kenosha Village of Pleasant Prairie Town of Somers Town of Somers Village of Pleasant Prairie Town of Somers Village of Pleasant Prairie Town of Somers Village of Pleasant Prairie Village of Pleasant Prairie Village of Pleasant Prairie Village of Pleasant Prairie	Expanding Under construction Expanding Proposed
24	Maple Ridge	Town of Somers	Proposed
25 26 27 28 29 30	Unserved Areas of New or Expanding Commercial Development ^a Lakeside Marketplace LakeView Corporate Center LakeView West Office Park Manufacturers' Outlet Mall ^b Mauro Auto Mall ^b Sportsman's Mall	Village of Pleasant Prairie Village of Pleasant Prairie Village of Pleasant Prairie Town of Bristol Town of Bristol Town of Somers	Expanding Proposed Proposed Proposed Proposed Proposed
31 32	Unserved Areas of New or Expanding Industrial Development ^a LakeView Corporate Park ^b West View Industrial Park ^b	Village of Pleasant Prairie City of Kenosha	Under construction Proposed

^aTo be considered served, areas must be located within one-quarter mile of a bus route.

^bArea would be partially served by existing route structure.



MAJOR TRAFFIC GENERATORS AND FACILITIES FOR ELDERLY AND/OR DISABLED NOT SERVED BY THE EXISTING KENOSHA TRANSIT SYSTEM: 1990

AREAS OF PROPOSED NEW OR EXPANDING RESIDENTIAL, INDUSTRIAL, AND COMMERCIAL DEVELOPMENT WITHIN THE KENOSHA TRANSIT SYSTEM DEVELOPMENT PLAN STUDY AREA NOT SERVED BY THE EXISTING KENOSHA TRANSIT SYSTEM: 1990



- 3. The transit system provides excellent areal coverage of residential concentrations of transit-dependent population groups and good coverage of facilities used by elderly and/or disabled persons. All of the 12 identified facilities for the disabled and 30 of the 31 identified facilities for the elderly are located within one block of a bus route. The remaining elderly facility is located within a short walking distance from a bus route which ambulatory elderly individuals should be capable of negotiating. Nonambulatory and semiambulatory disabled persons are also provided with specialized door-to-door transportation service within the Kenosha transit system development plan study area by the Care-A-Van program operated by the Kenosha Achievement Center under contract with the City of Kenosha and the Kenosha County Department of Aging.
- 4. The existing route structure of the transit system does not serve much of the proposed new or expanding residential, commercial, retail, office, and industrial development within the Kenosha transit system development plan study area. In particular, most of the existing and proposed urban development within portions of the City of Kenosha and Village of Pleasant Prairie located between Green Bay Road and IH 94, as well as at major intersections along IH 94, are not served by the existing route structure. Some route changes will, therefore, be needed in the near future if those developments within this area which warrant transit service are to be served.
- 5. Some changes to the common transfer site and schedules used by the transit system may also be needed to accommodate the westward expansion of transit service. Consideration should be given to relocating the central transfer terminal for the regular routes from its current downtown location to a more central location west of the downtown area. This action would provide for shorter running times for new or revised routes serving the western portion of the study area which, in turn, would make it easier for headways on such routes to conform with the pulse headways currently used. Consideration should also

be given to adjusting the current operating headways to allow for more running time on the longer routes which will be needed to serve the existing and proposed urban development along IH 94.

Ridership and Financial Performance

The systemwide ridership and financial performance of the Kenosha transit system was evaluated using the key measures of ridership performance specified under Objective No. 2, Standard No. 1; and the key measures of financial performance specified under Objective No. 4. Standards No. 2 and No. 3. The performance measures used to evaluate existing transit system ridership included annual ridership per capita, annual revenue passengers per revenue vehicle mile, and annual revenue passengers per revenue hour. The measures used to evaluate the financial performance of the transit system included operating expense per total vehicle mile and per platform hour, operating expense and operating deficit per revenue passenger, and percent of operating expenses recovered from operating revenues, which is often referred to as the farebox recovery rate. The observed performance levels of the Kenosha transit system for these measures were compared with minimum performance levels specified under the aforementioned transit service standards, and also with the average performance levels for small and medium-size urban bus systems statewide.¹ The ridership data used were for calendar year 1988. while the financial data used were for the fiveyear period from 1984 through 1988. This period represents the most recent five-year period for which complete ridership and financial information are available for small and medium-size urban bus systems in Wisconsin.

¹Averages for key performance indicators were developed based on information reported by a group of 12 Wisconsin small and medium-size urban bus systems, including those for Appleton, Beloit, Eau Claire, Green Bay, Janesville, Kenosha, LaCrosse, Oshkosh, Racine, Sheboygan, the City of Waukesha, and Wausau. This group of transit systems is the same as that used in a peer group and trends analysis of six small and medium-size small urban bus systems, including the Kenosha transit system, which was recently completed by the Wisconsin Department of Transportation.

The performance of the existing transit system with respect to these performance measures is summarized in Table 40. Based upon this information, the following conclusions were reached:

- 1. In terms of ridership, the Kenosha transit system exceeds the minimum systemwide effectiveness levels of 13 rides per capita; 1.4 revenue passengers per vehicle mile; and 18 revenue passengers per revenue vehicle hour specified under Standard No. 1 of Objective No. 2. Because these minimum performance levels are based upon recent averages for small and medium-size urban bus systems within Wisconsin, it may be concluded that the ridership and effectiveness levels of the Kenosha transit system are above average when compared to other similar size urban bus systems within Wisconsin.
- 2. In terms of financial performance, the trends for the Kenosha transit system also compare favorably with the trends for small and medium-size urban bus systems statewide observed over the period 1984 through 1988. In this respect, operating expenses per vehicle mile and per vehicle hour for the Kenosha transit system increased at a rate slightly below the rate experienced by the comparable group of urban bus systems statewide over this period, that is, by between and 4 and 6 percent for the Kenosha transit system compared with between 5 and 6 percent for the State's small and medium-size urban bus systems. Increases in the operating expense and operating deficit per revenue passenger for the Kenosha transit system. however, have occurred at about one-half the rate for small and medium-size urban bus systems within the State during this period, that is, by between 5 and 6 percent for the Kenosha transit system compared with between 10 and 12 percent for the comparable group of urban bus systems statewide. Finally, the Kenosha transit system has been able to maintain a more stable farebox recovery rate than the average farebox recovery rate for small and medium urban bus systems statewide. The proportion of operating expenses recovered from operating revenues for the Kenosha transit system declined by about 2 percent between 1984 and 1988 compared

with an average decline of about 5 percent for the comparable group of urban bus systems statewide.

3. For the five-year period examined, 1984 through 1988, the farebox recovery rate for the Kenosha transit system exceeded the minimum level of 23 percent specified under the transit service standards. It should be noted that the transit system recovered about 22 percent of its operating expenses from operating revenues during 1989, an amount slightly below the specified performance level. However, the transit system implemented an increase in the adult passenger fare from \$0.55 to \$0.60 per one-way trip in March 1990. This action may increase the farebox recovery rate to close to the specified level of 23 percent during 1990.

<u>Contributions to the Efficiency of</u> the Total Transportation System

The third transit service objective concerns the operation of public transit services and facilities which promote both economy and efficiency in the total transportation system. This objective is supported by two standards relating to utilization of energy and the provision of adequate highway system capacity.

The first standard under this objective requires that the amount of energy, particularly petroleum-based 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 City of Kenosha transit system. To measure compliance with this standard, a comparison of relative energy efficiency of the current transit operation with that of automobile travel was undertaken. Based on 1988 average weekday operating information for the City of Kenosha transit system, approximately 2,205 revenue bus miles on an average weekday were operated on the city transit system at an operating efficiency of about 4.3 bus miles per gallon. Approximately 4,705 total boarding passengers, at about 3.8 miles per unlinked trip, used the transit system to make about 18.062 passenger miles of travel on an average weekday in 1988. Based on these figures, the transit system provided about 35.1 passenger miles of travel for every gallon of diesel fuel consumed in providing
KEY INDICATORS OF RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE KENOSHA TRANSIT SYSTEM IN COMPARISON TO THE AVERAGE FOR WISCONSIN SMALL AND MEDIUM-SIZE BUS SYSTEMS: 1986-1988

Performance Measure	Kenosha Transit System	Average for Wisconsin Small and Medium-Size Bus Systems ^a
Ridership: 1988 Ridership per Capita Revenue Passengers per Vehicle Mile Revenue Passengers per Revenue Vehicle Hour	15.3 1.78 22.4	12.4 1.34 18.2
Financial Performance: 1984-1988 Operating Expense per Vehicle Mile		
1984 1988 1988 1988 Average Annual Percentage Change 1984-1988	\$2.30 \$2.72 4.3	\$1.96 \$2.41 5.3
Operating Expense per Platform Vehicle Hour		
1984	\$27.40 \$33.92	\$24.89 \$31.13
Average Annual Percentage Change 1984-1988	5.5	5.8
Operating Expense per Revenue Passenger		
1984	\$1.34	\$1.27
	\$1.63	\$1.88
Average Annual Percentage Change 1984-1988	5.0	10.3
Operating Deficit per Revenue Passenger		
1984	\$1.00	\$0.93
1988	\$1.25	\$1.46
Average Annual Percentage Change 1984-1988	5.7	12.0
Percent of Operating Expenses Recovered from Operating Revenues		
1984	25.3	26.9
	23.5	22.1
	-1.8	-4.8

^aAverages for key performance indicators were developed based on information reported by a group of 12 Wisconsin small and medium-size urban bus systems including those for Appleton, Beloit, Eau Claire, Green Bay, Janesville, Kenosha, LaCrosse, Oshkosh, Racine, Sheboygan, the City of Waukesha, and Wausau. This group of transit systems is the same as that used in a peer group and trends analysis of six small and medium-size bus systems, including the Kenosha transit system, which was recently completed by the Wisconsin Department of Transportation.

Source: Wisconsin Department of Transportation, Bureau of Transit; and SEWRPC.

		Average W	/eekday	Peak Hour				
Location	Vehicle Count	Transit Passenger Count	Potential Percent Increase in Vehicle Traffic if Transit Trips Use Automobile ⁸	Vehicle Count	Transit Passenger Count	Potential Percent Increase in Vehicle Traffic if Transit Trips Use Automobile ^a		
N. 22nd Avenue (between W. 38th						· · · ·		
Street and 35th Street)	14,800	390	2	1,480	45	2		
52nd Street and 55th Street)	7,900	1,690	16	790	300	28		
13th Avenue and 14th Avenue)	4,400	410	7	440	85	14		
W. 75th Street and W. 76th Street) W. 30th Avenue (between	14,900	130	6	1,490	15	1		
73rd Street and 75th Street)	9,000	150	1	900	30	2		

TOTAL VEHICLE AND TRANSIT PASSENGER VOLUMES ON SELECTED SURFACE ARTERIALS WITHIN THE CITY OF KENOSHA: 1989

^aAssumes an average automobile occupancy of 1.2 persons per auto for work trips and 1.4 persons per auto for all other trips. About 21 percent of weekday trips on the transit system are home-based work trips.

Source: City of Kenosha Transit System and SEWRPC.

the service. This compares with an estimated 13.0 to 16.9 passenger miles of travel provided per gallon of gasoline consumed if the transit trips had, instead, been made by automobile during 1988. This estimated range of automobile efficiency assumes a 13.0-mile-per-gallon fuel efficiency for an automobile in city travel. Furthermore, the upper end of the range assumes that the comparable automobile travel is made at the average automobile occupancy in the Kenosha area, or about 1.3 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, as in this analysis, to have an automobile available for their travel.

The second standard under Objective No. 2 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 that is provided by the public transportation system on peak traffic loadings on arterial street and highway facilities, and on the need for improvements to existing arterial streets and highways. Table 41 provides a comparison for selected arterial street segments within the City of Kenosha of the current total vehicle traffic volume and the transit passenger volume. The street segments selected include arterial streets carrying a major route of the transit system and streets within the central business district. where, generally, more than one route uses the same street to serve the district. In reviewing this information, it should be noted that information presented on an average weekday basis understates somewhat the transportation system benefits of public transit. This is because a higher percentage of average weekday transit passenger volumes, about 17 to 19 percent for the Kenosha transit system, is typically carried during the morning or evening peak traffic hour, than vehicle traffic volumes, the latter peaking at 8 to 10 percent of the average weekday total. For this reason, information is also provided for peak-hour traffic and transit passenger volumes.

COMPARISON OF WEEKDAY ENERGY EFFICIENCY OF URBAN PUBLIC TRANSIT SYSTEMS WITHIN SOUTHEASTERN WISCONSIN: 1988

	<u></u>	1	Transit System ^a		
Characteristic	Waukesha County Transit System	Milwaukee County Transit System	City of Racine Transit System	City of Kenosha Transit System	City of Waukesha Transit System
Weekday Energy Efficiency					
of Travel by Transit					
Annual Unlinked Transit					
Passenger Trips ^b	969	243.528	8 862	4 705	1 000
Transit Passenger Miles	13,975	638,520	22.020	18 062	5 154
Passenger Miles per Unlinked Trip	14.4	2.6	2.5	38	27
Revenue Bus Miles	1,187	52,409	4.277	2,205	1 390
Average Bus Miles per				_,	1,000
Gallon of Diesel Fuel	5.3	3.5	4.0	4.3	4.6
Transit Passenger Miles per				-	
Gallon of Diesel Fuel	62.4	42.3	20.4	35.1	17.2
Estimated Weekday Energy Efficiency If				· · ·	
Transit Trips Were Made by Automobile					
Automobile Passenger Miles	13,975	638 620	22.020	19.062	E 1 E A
Vehicle Miles (at 1.0 person		000,020	22,020	10,002	0,104
per automobile)	13,975	638,520	22.020	18.062	5 1 5 4
Vehicle Miles per Gallon of Gasoline ^C	20.0	13.0	13.0	13.0	13.0
Automobile Passenger Miles					
per Gallon of Gasoline	20.0-28.0	13.0-18.2	13.0-16.9	13.0-16.9	13.0-16.9

^aTransit system data are based upon information reported by each transit operator in its annual UMTA Section 15 report except as noted.

^bRepresents all boarding passengers including transfer and free passengers.

^CEstimated based on average auto fuel efficiency of 19 miles per gallon, with average efficiency of 13.0 miles per gallon for central city standard arterial travel and 24.0 miles per gallon for freeway and expressway travel.

Source: SEWRPC.

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

1. The overall energy efficiency of the Kenosha transit system in serving travel on an average weekday within the Kenosha area is higher than that of the private automobile. Consequently, the transit service provided by the system does reduce the use of petroleum-based motor fuels by Kenosha residents on a daily basis. A comparison of average weekday energy efficiency of the five urban public transit systems within the Southeastern Wisconsin Region is shown in Table 42. The information presented in this table would indicate that each of the transit systems is more energy efficient than the automobile, and that the transit system serving Milwaukee County is substantially more energy efficient than the private automobile, as is the Waukesha County transit system, which serves primarily commuter travel between Waukesha County and the Milwaukee central business district. 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 central business district. 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 the Milwaukee central business district and to the limitation of a sizable portion of its service to the morning and afternoon peak traffic periods.

Each of the transit systems generally operates at levels substantially higher than their average energy efficiency during the weekday peak traffic periods and generally substantially lower than their average levels during off-peak periods. In addition, each of the transit systems generally operates at substantially higher than their average energy efficiency levels on routes which carry more than their average passenger loadings and, conversely, generally operate at substantially lower than their average energy efficiency levels on routes which carry less than their average passenger loadings.

In general, it can be stated that the public transit systems in the City of Kenosha and the other urban areas within southeastern Wisconsin do, on a daily systemwide basis, provide energy savings compared to the automobile, and that public transit is more energy efficient than the automobile on more heavily traveled routes and during peak traffic periods but only marginally more energy efficient, or, in some cases, less energy efficient, than the automobile on its more lightly traveled routes and during off-peak traffic periods.

2. It would appear that the Kenosha transit system may contribute to efficiency in the utilization of the total capacity of the transportation system. If the people traveling by public transit were, instead, traveling by automobile, there would be an increase in automobile traffic utilizing arterial streets of the area of from 2 to 28 percent during the peak traffic hour. The effect would be most pronounced on the streets within the City of Kenosha central business district, where the potential exists for traffic congestion to occur during peak traffic hours.

ROUTE PERFORMANCE EVALUATION

Route Ridership and Financial Performance The ridership and financial performance characteristics of the regular bus routes composing the City of Kenosha transit system are shown in Table 43 and in Figures 10 through 17. The data presented within this table and in the figures are based upon the operating characteristics and the total daily ridership, revenue passengers and transfer passengers, for each regular bus route from passenger counts taken by the transit system during the period December 4 through 9, 1989, and on an average systemwide cost per vehicle mile for operation of the transit system during 1989.

The performance measures included in the table provide an indication of the ridership, productivity, and financial performance of each bus route. For each performance measure, a minimum performance level equal to 80 percent of the average for each route type was set under Standard No. 2 of Objective No. 2 of the transit service objectives and standards presented in Chapter IV of this report. Use of the average for each route type 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.

To supplement this route ridership and financial information, the boarding and alighting passenger activity along each regular bus route was also examined to help identify productive and nonproductive route segments. Information concerning the number of boarding and alighting passengers by location for each regular bus route was obtained from passenger counts conducted by Commission staff during the period December 5 through 7, 1989. To facilitate the analysis of the passenger boarding and alighting information, the regular bus routes were divided into segments based upon distance and land uses served. Information on the total passenger activity, boarding passengers and alighting passengers for each route segment, is provided in Figure 18, while the route segments are identified on Map 25. Approximately 7,630 boarding and alighting passengers were recorded over the 64 route segments identified on the system. About 4,980 passengers, or about 65 percent of the total recorded, boarded or alighted on the 20 most productive route segments, which include the segment on each route containing the central transfer terminal for the transit system. In contrast, only about 570 passengers, or fewer than 8 percent of the total recorded, boarded or alighted on the 20 route

AVERAGE DAILY PERFORMANCE CHARACTERISTICS OF KENOSHA TRANSIT SYSTEM BUS ROUTES: DECEMBER 4-9, 1989

		r															
										Perfo	mance	Character	istic				
						Total	Total Boarding Passengers			Во	Boarding Passengers per Route Mile				Boarding Passengers per Revenue Vehicle Hour		
	Length (round-trip	Reve Vehicle	enue Hours	Reve	Revenue		Weekdays		Saturdays		days	Saturdays		Weekdays		Saturdays	
	route				Г — — — — — — — — — — — — — — — — — — —		Route		Route		Route		Route		Route		Route
Bus Route	miles)	Weekdays	Saturdays	Weekdays	Saturdays	Number	Rank ^a	Number	Rank ^a	Number	Rank ^a	Number	Rank ^a	Number	Rank ^a	Number	Rank ^a
Regular Routes							-										
No. 1	27.7	33.0	24.0	443.2	332.4	694	2	247	4	25.1	4	8.9	5*	21.0	4	10.3	5*
No. 2	13.8	17.0	12.0	220.8	165.6	470	4	349	2	34.1	3	25.3	1	27.6	2	29.1	
No. 3	27.1	33.0	24.0	433.6	325.2	940	1	282	3	34.7	2	10.4	4	28.5	1	11.8	3
No. 4	27.4	33.0	24.0	438.4	328.8	671	3	351	1	24.5	5	12.8	2	20.3	5	14.6	2
No. 5	12.2	17.0	12.0	195.2	146.4	449	5	131	5*	36.8	1	10.7	3	26.4	3	10.9	4
No. 6	13.6	13.0	12.0	163.2	163.2	175	7*	99	6*	12.9	7*	7.3	6*	13.5	7*	8.3	6*
No. 7	15.6	16.0	12.0	249.6	187.2	240	6*	99	6*	15.4	6*	6.3	7*	15.0	6*	8.3	6*
Subtotal	137.4	162.0	120.0	2,144.0	1,648.8	3,639		1,558		26.5		11.3	• •	22.5		13.0	
Peak-Hour Tripper Routes	209.0	32.0		291.0		1,300	••			6.2				40.6			
Shuttle Routes	33.5	5.0	4.0	87.0	60.0	23		10		0.7		0.5		4.6	••,	2.5	
Total	379.9	199.0	124.0	2,522.0	1,708.8	.4,962		1,568	••	13.1	••	10.0		24.9		12.6	

								Perf	ormance C	haracter	ristics							
	Boarding Passengers per Revenue Vehicle Mile Weekdays Saturdays			s lile days	Operating Cost per Boarding Passenger ^b Weekdays Saturdays			Operating Deficit per Boarding Passenger ^b Weekdays Saturdays			Percent of Operating Costs Recovered through Operating Revenues ^b Weekdays Saturdays			Saturday Ridership as a Percent of Weekday Ridership				
Bus Route	Number	Route Rank ^a	Number	Route Rank ^a	Number	Route Rank ⁸	Number	Route Rank ^a	Number	Route Rank ⁸	Number	Route Rank ^a	Number	Route Rank ^a	Number	Route Rank ⁸	Number	Route Rank ^a
Regular Routes											-							
No. 1	1.57	4	0.74	5*	\$ 1.96	4	\$ 4.19	5*	\$ 1.60	4	\$ 3.87	5*	18.0	4	7.6	5*	35.6	5
No. 2	2.13	3	2.11	1	1.42	3	1.44	1	1.09	3	1.11	1	23.6	3	23.0		74.3	1
No. 3	2.17	2	0.87	4	1.38	2	3.46	4	1.00	1	3.14	4	27.1	1	9,4	3	30.0	6*
No. 4	1.53	5	1.07	2	1.99	5	2.90	2	1.65	5	2.58	2	17.3	5	11.1	2	52.3	3
No. 5	2.30	1	0.89	3	1.35	1	3.40	3	1.02	2	3.12	3	24.5	2	8.3	4	29.2	7*
No. 6	1.07	6*	0.61	6*	2.81	6*	4.96	6*	2.46	6*	4.58	6*	12.5	6*	7.5	5*	56.6	2
No. 7	0.96	7*	0.53	7*	3.13	7*	5.65	7*	2.75	7*	5.33	7*	12.0	7*	5.7	7*	41.3	4
Subtotal	1.70	••	0.94		\$ 1.79	••	\$ 3.23		\$ 1.44	·	\$ 2.90		19.7		10.0		42.8	
Peak-Hour Tripper Routes	4.47	••			\$ 0.79				\$ 0.36				54.6					
Shuttle Routes	0.26	••	0.17		\$13.44		\$20.13		\$12.96		\$19.65		3.6		2.4		43.5	
Total	1.97	••	0.92	•••	\$ 1.58		\$ 3.33		\$ 1.21		\$ 3.01		23.6		9.7		31.6	

⁸An • indicates a route that performs below 80 percent of the regular route average for a particular performance measure.

^bFigures represent estimates and are based upon systemwide average operating expenses and average passenger revenues. Estimates of average daily operating expenses per route were based upon the systemwide average operating cost for calendar year 1989 of \$2.92 per vehicle mile, and total daily vehicle miles for each route. Estimates of average daily revenues for each route were based upon passenger counts by fare category, full, student, elderly/disabled, monthly pass, student pass, or transfer, by route for the week of December 4 through 9, 1989, and the revenue per trip attendant to each fare category.

Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 12

TOTAL PASSENGERS FOR THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

TOTAL PASSENGERS PER REVENUE VEHICLE HOUR ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 11

TOTAL PASSENGERS PER ROUTE MILE ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 13

TOTAL REVENUE PASSENGERS PER REVENUE VEHICLE MILE ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9. 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 16

TOTAL OPERATING EXPENSE PER PASSENGER ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

PERCENT OF OPERATING EXPENSES RECOVERED FROM OPERATING REVENUES ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 15

TOTAL OPERATING DEFICIT PER PASSENGER ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 17

PERCENT OF WEEKDAY RIDERS ON SATURDAYS ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989



Source: City of Kenosha Department of Transportation and SEWRPC.



PASSENGER ACTIVITY BY ROUTE SEGMENT ON THE CITY OF KENOSHA TRANSIT SYSTEM: WEEKDAYS, DECEMBER 5, 6, AND 7, 1989

Source: SEWRPC.

segments having the lowest passenger boarding and alighting activity. The 20 most productive and 20 least productive route segments are also shown on Map 25.

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

- 1. Certain regular bus routes have weekday performance levels consistently above the specified performance standard of 80 percent of the average effectiveness level for all regular routes. Such routes include Routes No. 1, 2, 3, 4, and 5. Of these five routes, Routes No. 2, 3, and 5 are the best performers, with weekday effectiveness levels which exceed 100 percent of the regular route average. The remaining two routes, Routes No. 1 and 4, have acceptable weekday effectiveness levels which are within 80 to 100 percent of the regular route average. Based solely upon their ridership and financial performance, these routes could continue to be operated without change.
- 2. Other regular routes, including Routes No. 6 and 7, have weekday performance levels consistently below the specified performance standard. Ten of the 15 route segments which constitute Routes No. 6 and 7, including five of the seven segments on Route No. 6 and five of the eight segments on Route No. 7, are among the 20 least productive route segments in the transit system. Some service changes which may improve the performance of

Route No. 6 were made to this route in March 1990. However, the potential for making further service changes to both routes should be considered.

- 3. While Routes No. 6 and 7 had the most unproductive route segments, at least one unproductive route segment was also found on each of the other five regular routes. This information should be viewed as an indicator of where routing changes should be considered in the current route structure. This is particularly true of Routes No. 6 and 7, which, as noted above, are made up primarily of segments with very low passenger activity. It should be noted, however, that some of the route segments with the lowest passenger activity occur where bus routes pass through areas with little residential development or few major trip generators in order to reach other residential areas or trip generators within the Kenosha area which generate significant ridership. Consequently, if the transit system is to continue to provide extensive areal coverage of the Kenosha area, as has been the policy of the City, some bus routes must be expected to perform at relatively lower levels of efficiency than other bus routes because of the operating and service area characteristics of each route.
- 4. In general, the same regular routes perform above or below the specified minimum performance levels on Saturdays as

MAXIMUM LOAD FACTOR BY ROUTE FOR KENOSHA TRANSIT SYSTEM: DECEMBER 5-7, 1989

		Mor Peak P	ning Period ^a	Mid Off-Peak	lday A Period ^b	Afternoon Peak Period ^C		
Route	Direction	Maximum Passenger Volume	Maximum Load Factor ^d	Maximum Passenger Volume	Maximum Load Factor ^d	Maximum Passenger Volume	Maximum Load Factor ^d	
No. 1	Southbound	17	0.38	20	0.44	34	0.76	
	Northbound	30	0.67	19	0.42	18	0.40	
No. 2	Eastbound	23	0.51	21	0.47	20	0.44	
	Westbound	8	0.18	44	0.98	48	1.07	
No. 3	Southbound	24	0.53	26	0.58	44	0.98	
	Northbound	36	0.80	13	0.29	20	0.44	
No. 4	Southbound	18	0.40	19	0.42	32	0.71	
	Northbound	19	0.42	16	0.36	19	0.42	
No. 5	Northbound	18	0.40	14	0.31	32	0.71	
	Southbound	22	0.49	22	0.49	16	0.36	
No. 6	Eastbound	8	0.18	6	0.13	9	0.20	
	Westbound	5	0.11	10	0.22	17	0.38	
No. 7	Eastbound	17	0.38	10	0.22	10	0.22	
	Westbound	31	0.69	7	0.16	20	0.44	

^a6:00 a.m. to 8:30 a.m. Source: SEWRPC.

> on weekdays. An exception to this is Route No. 1, which has an acceptable weekday performance level of between 80 and 100 percent of the regular route average, but has Saturday performance levels which are less than 80 percent of the regular route average and, therefore, unacceptable. This may be attributed to a significant proportion of route ridership which uses Route No. 1 for school-related travel on weekdays, and not on Saturdays. This situation is similar to that on Routes No. 3 and 5, whose weekday ridership comprises largely students. Differences between weekday and Saturday performance levels must be expected on those bus routes serving major educational institutions in the Kenosha area.

b8:30 a.m. to 2:30 p.m.

Compliance with Operating Headway and Passenger Loading Standards

Standard No. 6 of Objective No. 2 states that operating headways for fixed bus routes should be capable of accommodating passenger demand at the recommended load standards. The recommended load standards, as specified under Standard No. 4 of Objective No. 2 call for maximum load factors not to exceed 1.25 during

^c2:30 p.m. to 6:00 p.m.

dAssumes 45 seats per bus.

peak periods and 1.0 at all other times. 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 the bus on a given route.

The performance of Kenosha bus routes against these two standards was determined from the weekday boarding and alighting passenger count data collected by the Commission staff from December 5 through 7, 1989. 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. Information on the total weekday boarding passengers by bus run for each of the regular bus routes is presented in Appendix D. The maximum load factors observed on each regular bus route are presented in Table 44.

Map 25

PRODUCTIVE AND UNPRODUCTIVE ROUTE SEGMENTS OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 5-7, 1989



ROUTE 2





ROUTE	SEGMENTS
	MOST PRODUCTIVE ROUTE SEGMENTS
	LEAST PRODUCTIVE ROUTE SEGMENTS
	OTHER ROUTE SEGMENTS





Map 25 (continued)





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

- 1. As would be expected, the regular routes of the transit system which carry the most weekday ridership, Routes No. 1, 2, 3, 4, and 5, also had the highest passenger loads. In no case, however, did the observed passenger loads result in load factors which exceeded the recommended maximums specified in the transit service standards. It may therefore be concluded that the existing headways operated on the regular routes of the transit system are capable of accommodating existing levels of passenger demand.
- 2. The highest passenger loadings and load factors were observed on Route No. 2, which carries a significant number of passengers between the downtown transfer terminal and shopping centers located along 52nd Street. Load factors for individual bus trips of 1.07 during the peak period and 0.98 during the off-peak period were observed on this route during the period which counts of boarding and alighting passengers were collected. While the route generally operates within the prescribed loading standards, it often approaches and sometimes exceeds the prescribed loading standards during the off-peak periods according to transit system management. Some consideration should therefore be given to providing additional bus service to the commercial development along 52nd Street, which could reduce the high off-peak period loadings which had been observed on Route No. 2.

Schedule Adherence

The provision of transit service that is reliable and on time is important to attracting and keeping transit riders. For the purpose of this study, "on time" has been defined as adherence to established schedules within the range of one minute early and three minutes late. The relatively long headways, 30 and 60 minutes, on the Kenosha transit system can involve considerable waiting times for passengers who miss service connections because buses depart ahead of schedule. Performance within these guidelines, therefore, becomes important to minimize passenger inconvenience. To obtain a measure of schedule adherence on the Kenosha transit system, random spot checks were made of departure times at bus stop locations along each regular route by the Commission staff on April 4, 5, and 10, 1990. The random spot checks were made on selected inbound and outbound bus trips during the morning peak, midday off-peak, and afternoon peak periods of transit system operation at the downtown transfer terminal located at 56th Street and 6th Avenue and at bus stops located along each route outside the downtown area. A total of 125 spot checks of schedule adherence were made on 99, or 47 percent of the 212 oneway bus trips operated on the regular routes on weekdays. Actual departure times were recorded at each bus stop and then compared with the scheduled departure times at the stop to determine if any problems in schedule adherence existed. The schedule adherence data collected are summarized in Table 45.

Based on this information, the following conclusions may be drawn:

- 1. For the 125 stops for which observed bus departure times were checked for adherence to published schedules, 106 departures, or 85 percent, were considered to be on time, in accordance with the above definition. This is somewhat below the recommended performance level of 95 percent on time set forth under the transit service objectives and standards. Only Route No. 4 was found to have an ontime performance which met the specified performance standard.
- Problems with schedule adherence were 2. found to exist only at bus stops located away from the downtown transfer terminal. The principal problems noted were early departures at bus stops. Early departures can occur where there are differences between the actual running times and scheduled time for a round trip for each bus route. This would allow bus drivers to complete a trip or segment of a trip on a route in less time than allotted by the schedule unless drivers constantly compensated for running time and scheduled time differences. To correct problems with early departures, the scheduled running times between stops should be reviewed and,

ON-TIME PERFORMANCE OF THE REGULAR ROUTE TRANSIT SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: APRIL 4, 5, AND 10, 1990

	Weekday One-Way Bus Trips						Schedule Adh Made at Dowr	erence Checks Itown Termina	;		
		Number of Ruo	Percent of	Тс	ətal	Early Departures		On-Time ⁸		Late Departures	
Route	Total	Trips Checked	Checked	Number	Percent	Number	Percent	Number	Percent	Number	Percent
No. 1	32	15	47	8	100	••		8	100		
No. 2	32	12	38	4	100			4	100		• -
No. 3	32	17	53	8	100			8	100		
No. 4	32	19	59	8	100			8	100		
No. 5	32	. 11	34	4	100			4	100		
No. 6	24	10	42	4	100			4	100		
No. 7	28	15	54	4	100			4	100		
Total	212	99	47	40	100			40	100		

			Scho Made a	edule Adh at Stops O	erence Ch utside Dov	ecks vntown			Schedule Adherence Checks Made Over Entire System							
	Total Early Departures On-Time ⁸ Late Departu							partures	Total Early Departures			partures	On-T	ïme ⁸	Late Departures	
Route	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
No. 1	13	100	3	23	9	69	1	8	21	100	3	-14	17	85	1	5
No. 2	10	100			9	90	1	10	14	100			13	93	1	7
No. 3	16	100	2	13	13	81	1	6	24	100	2	8	21	88	1	4
No. 4	15	100	1	7	14	93			23	100	1	4	22	96		l
No. 5	9	100	5	56	4	44			13	100	5	38	8	62		
No. 6	8	100	3	38	5	63	••		12	100	3	25	9	75		
No. 7	14	100	1	7	12	86	1	7	18	100	1	6	16	89	1	6
Total	85	100	15	18	66	78	4	5	125	100	15	12	106	85	4	3

^aDefined as adherence to published schedules within the range of one minute early and three minutes late.

Source: SEWRPC.

possibly, modified to reflect different passenger loading and traffic conditions which occur throughout the day, and which 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, since 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 regular bus routes, the over-the-road distance and travel time for travel between selected locations within the transit service area by transit and by automobile were compared. As noted in Chapter III, the Kenosha central business district both produces and attracts a significant number of total person trips made on an average weekday within the study area. In addition, the central transfer terminal for the regular transit routes is located within the Kenosha central business district. Accordingly, distances and travel times were measured for travel between the outlying termini of the seven regular city bus routes and the central transfer terminal for the transit system located at 56th Street and 6th Avenue. In addition, for those regular routes which also provide crosstown service, distances and travel times were measured for travel between the outlying termini of each crosstown route.

Table 46 presents the comparison of automobile and transit travel distances and times used to measure the directness of the current transit route alignments. From the information presented in this table the following conclusions were reached:

TRANSIT-TO-AUTOMOBILE TRAVEL DISTANCES AND TRAVEL TIMES BETWEEN SELECTED LOCATIONS SERVED BY THE CITY OF KENOSHA TRANSIT SYSTEM: 1990

								_	
			One-Way Trav	el Distance (mi	les) ^a		One-Way Tra	vel Time (minut	es) ^b
Bus Route	Termini for Travel Distance and Time Measurements	Transit	Automobile	Difference (transit to automobile)	Ratio (transit to automobile)	Transit	Automobile	Difference (transit to automobile)	Ratio (transit to automobile)
No. 1	University of Wisconsin-Parkside to St. Joseph's Home University of Wisconsin-Parkside	14.0	8.5	5.5	1.65	47	18	29	2.61
	to downtown terminal	7.5	6.3	1.2	1.19	25	12	13	2.08
	St. Joseph's Home to downtown terminal	7.3	4.3	3.0	1.70	21	10	11	2.04
No. 2	Industrial park to downtown terminal	5.8	3.4	2.4	1.72	23	8	15	2.73
No. 3	Wal-Mart to 39th Avenue and 80th Street	13.4	2.5	10.9	5.36	47	7	40	6.70
	39th Avenue and 80th	6.8	2.5	4.3	2.75	21	7	14	3.23
	Street to downtown terminal	6.7	3.1	3.6	2.16	24	9	15	2.71
No. 4	Carthage College to							· · · · · · · · · · · · · · · · · · ·	
	Conthese Colleged In Street	13.3	6.1	7.2	2.18	46	15	31	3.04
	39th Avenue and 80th	7.4	3.4	4.0	2.19	22	8	14	2.91
	Street to downtown terminal	6.3	3.1	3.2	2.03	22	9	13	2.48
No. 5	91st Street and 17th Avenue to downtown terminal	6.6	3.6	3.0	1.83	21	9	12	2.37
No. 6	60th Avenue and 75th Street to downtown terminal	7.3	4.0	3.3	1.82	25	10	15	2.44
No. 7	60th Avenue and 75th Street to downtown terminal	8.0	4.0	4.0	2.00	23	10	13	2.24

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

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

Source: City of Kenosha Department of Transportation and SEWRPC.

1. All the existing regular transit system routes have alignments which are less direct to some degree than the paths which would be followed by automobile travel. The indirectness of the current route alignments results from efforts made by the City maximize ridership by serving completely the residential areas and major travel generators within the City on each route while, at the same time, minimizing both the number of routes needed and the attendant total city expenditures for transit system operation. In addition, the alignments of several routes have been designed to provide direct transit service between the residential areas and major traffic generators, including schools, which are located along each route. The existing route alignments, consequently, do provide for relatively direct travel with only a minor

amount of inconvenience for the short trips made between the neighborhoods and the major traffic generators along each route.

2. For long crosstown trips made on the transit system, however, the existing alignments of Routes No. 3, 4, 6, and 7 have sections which are circuitous and do result in a significant amount of inconvenient travel. The absolute differences between the measured over-the-road distances and travel times for the transit and automobile travel paths for these routes, shown in Table 46, range from about three to nine miles and 13 to 40 minutes, respectively. The segments of these routes which are not considered to be direct in alignment are shown on Map 26. Alternatives which would improve the convenience of crosstown travel on these routes while maintainMap 26

ROUTE SEGMENTS NOT DIRECT IN ALIGNMENT ON THE KENOSHA TRANSIT SYSTEM: 1990



Source: SEWRPC.

ing the service provided for shorter trips should be explored. One such alternative would include relocating the site of the common transfer terminal from downtown Kenosha to a more centrally located site to the west of the downtown area.

3. Routes No. 1, 6, and 7 of the transit system, as shown on Map 26, also incorporate large one-way loops at the outer end of the routes to maximize the areas served by each route. While this results in only a small amount of inconvenience for passengers traveling between the outlying route termini and the Kenosha central business district or traveling crosstown, the one-way service along the loop portions of these routes can inconvenience passengers traveling between points along the loop. Reducing the size of the one-way loops or providing two-way service on these route segments would alleviate or eliminate the current inconvenience experienced by such passengers.

Accommodation of Transfers

Transferring is perceived as one of the most onerous part of any transit journey. Accordingly, minimizing transfers or the inconvenience of transferring between bus routes can help to promote transit ridership. The number and proportion of passengers transferring between routes can be an important indicator of the convenience of using a transit system, as well as the need for considering routing adjustments.

Information on the transfer movement of all boarding passengers on the regular routes of the transit system was collected during the week of December 4 through 9, 1989, by the transit system, at the same time that the Commission staff was conducting the on-bus survey of system users and the counts of boarding and alighting passengers by bus stop. The information on transfer movements was collected by having the bus operator on each regular route collect and save the transfer tickets received each day from boarding passengers, which indicated the route from which the passenger was transferring. At the end of the week, the transfer tickets collected were sorted by route of origin and destination and then tallied to produce the summary transfer matrices for weekdays and Saturdays, as shown in Table 47. The data collected indicated that, of the approximately 3,000 revenue passengers who use the transit system on weekdays, about 630,

or 21 percent, transfer between bus routes. The proportion of revenue passengers transferring on Saturdays was higher, about 340, or 28 percent, of the 1,220 revenue passengers using the regular routes on Saturday.

Where transfers between bus routes are required to complete a trip, the degree to which the routes and schedules of the transit system are coordinated is an important factor in determining the convenience of the transit service for the transit patron. As noted in Chapter II of this report, the Kenosha transit system uses pulse scheduling for the seven regular bus routes so that the buses on these routes meet at a common transfer point in the central business district at regular intervals.

Table 48 indicates which routes of the Kenosha transit system currently have coordinated arrival and departure times at the central transfer terminal during the course of the service day.

From the information presented in these tables, the following conclusions were reached:

- 1. For transferring passengers, a substantial degree of coordination exists among and between the routes and schedules of the Kenosha transit system. This results primarily from the design of the transit system, which has all regular routes terminating at a common transfer point in the Kenosha central business district. The use of pulse scheduling which provides for buses operating on the regular routes to meet at the common transfer point at approximately the same time, thereby presenting passengers with the opportunity to transfer between bus routes with a minimum of delay. The high proportion of revenue passengers transferring between routes indicates that this system is satisfactory to most transit riders.
- 2. Some problems do exist for transferring passengers because all bus routes do not meet at the common transfer point at the same time at all times. In this respect, the 60-minute headways operated on Route No. 6 during both the morning and afternoon peak periods, and on Route No. 7 during only the afternoon peak period, can cause problems for passengers who wish to transfer between these routes and Routes No. 1 through 5, which are operated with 30-minute headways during both the morn-

SUMMARY OF TRANSFERS BETWEEN REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 4-9, 1989

	Average Weekday												
From Route	1	1 2 3 4 5 6 7											
No. 1	4	25	32	25	15	10	8	119					
No. 2	20	5	21	23	12	7	3	91					
No. 3	45	28	6	38	26	9	8	160					
No. 4	23	33	28	4	23	10	5	126					
No. 5	17	15	20	24	1	4	5	86					
No. 6	5	5	6	5	3		2	26					
No. 7	6	2	4	6	4	1		23					
Total	120	113	117	125	84	41	31	631					

		Saturday									
		To Route Number									
From Route	1	2	3	4	5	6	7	Total			
No. 1		19	10	12	4	3	7	55			
No. 2	16	2	8	21	8	6	1	62			
No. 3	15	16	4	24	15	7	4	85			
No. 4	11	29	9	4	10	4	2	69			
No. 5	3	15	4	11		. 5	2	40			
No. 6	2	4		5				11			
No. 7	7		1	4	3	1		16			
Total	54	85	36	81	40	26	16	338			

Source: City of Kenosha Department of Transportation and SEWRPC.

ing and afternoon peak periods. Passenger loads on Routes No. 6 and 7, however, are not considered high enough to warrant operation of these routes with 30 minute headways during both weekday peak periods.

3. Significant transfer movements were observed on weekdays between Routes No. 1 and 3, with 77 transfer passengers; Routes No. 3 and 4, with 66 transfer passengers; and Routes No. 2 and 4, with 56 transfer passengers; and on Saturdays between Routes No. 2 and 4, with 50 transfer passengers. However, as shown in Table 49, these transfer passengers do not represent a large proportion of the total ridership, including both revenue passengers and transfer passengers, on the specified route pairs. For example, the 77 passengers who were observed to transfer between Routes No. 1 and 3 included 45 passengers transferring from Route No. 3 to Route No. 1, which represented less than 7 percent of the 690 total weekday passengers carried on Route No. 1. The remaining 32 passengers who transferred from Route No. 1 to Route No. 3 represented only about 3 percent of the 940 total

······································					Weekday	3		
	Route Number ^a							
1	2	3	4	5	6	7	Arrival Times	Departure Times
x	x	×	x	x	x	x	6:20-6:22 a.m.	6:25 a.m.
Х		X	X	X		X	6:50-6:52 a.m.	6:55 a.m.
Х	X	X	X	X -	X	X	7:20 a.m.	7:25 a.m.
Х	X	X	X	X		X X	7:50 a.m.	7:55 a.m.
Х	X	X	X	X	X	X	8:20 a.m.	8:25 a.m.
Х	X	- X	X	X		X X	9:20 a.m.	9:25 a.m.
Х	X	X	x	X	X	X X	10:20 a.m.	10:25 a.m.
Х	X	X	X	X	x	X	11:30 a.m.	11:35 a.m.
Х	X	X	X	X	X	X	12:30 p.m.	12:35 p.m.
Х	X	X	x	X	x	x	1:30 p.m.	1:35 p.m.
Х	X	X	x	x	X	x	2:30 p.m.	2:35 p.m.
X	X	X	X	X	x	x	3:30 p.m.	3:35 p.m.
X	X	X	x	X			4:00 p.m.	4:05 p.m.
Х	X	X	x	X	X	X	4:30 p.m.	4:35 p.m.
Х	X	X	X	X			5:00 p.m.	5:05 p.m.
х	X	X	Х	X	x	x	5:35 p.m.	5:35 p.m.

COORDINATION OF BUS ARRIVAL AND DEPARTURE TIMES AT THE CENTRAL TRANSFER TERMINAL FOR THE REGULAR ROUTES OPERATED BY THE KENOSHA TRANSIT SYSTEM: 1990

Saturdays									
	Route Number ^a								
1	2 3 4 5 6			7	Arrival Times	Departure Times			
х	x	x	x	x	x	x	6:20-6:22 a.m.	6:25 a.m.	
Х	X	x	х	x	X	X	7:20 a.m.	7:25 a.m.	
х	X	X	х	X X	x	x	8:20 a.m.	8:25 a.m.	
Х	X	Х	Х	x	x	x	9:20 a.m.	9:25 a.m.	
Х	X	Х	Х	x	x	x	10:20 a.m.	10:25 a.m.	
Х	X	Х	х	x	x	x	11:30 a.m.	11:35 a.m.	
х	X	х	х	x	X	x	12:30 p.m.	12:35 p.m.	
Х	X	х	Х	x	X	x	1:30 p.m.	1:35 p.m.	
Х	X	х	х	X	x	x	2:30 p.m.	2:35 p.m.	
х	X	X	Х	x	X	X	3:30 p.m.	3:35 p.m.	
х		X	· X	X	X	x	4:30 p.m.	4:35 p.m.	
Х	X	x	х	X	l x	x	5:30 p.m.	5:35 p.m.	

^aAn "X" indicates a bus arrives and departs at the times shown. The ability to transfer conveniently from one route to another can be determined by comparing the indicated arrival time for the originating route with the closest departure time for the route to which the passenger is transferring.

Source: City of Kenosha Department of Transportation and SEWRPC.

passengers carried on Route No. 3. In total, the 77 transfer passengers represented less than 5 percent of the 1,630 total weekday passengers carried on both Routes No. 1 and 3. Based on this information, it would appear that a recombining of routes or route segments principally to eliminate the need for transfers between these routes, or the other routes with significant transfer movement, is not warranted at this time.

PERCENT OF TOTAL BOARDING PASSENGERS ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM TRANSFERRING FROM OTHER REGULAR ROUTES: DECEMBER 4-9, 1990

	Percent of Average Weekday Boarding Passengers Transferring from:										
Bus Route	Route No. 1	Route No. 2	Route No. 3	Route No. 4	Route No. 5	Route No. 6	Route No. 7	All Routes			
No. 1	0.6	2.9	6.5	3.3	2.4	0.7	0.9	17.3			
No. 2	5.3	1.1	6.0	7.0	3.2	1.1	0.4	24.1			
No. 3	3.4	2.2	0.6	3.0	2.1	0.6	0.4	12.3			
No. 4	3.7	3.4	5.7	0.6	3.6	0.7	0.9	18.6			
No. 5	3.3	2.7	5.8	5.1	0.2	0.7	0.9	18.7			
No. 6	5.7	4.0	5.1	5.7	2.3		0.6	23.4			
No. 7	3.3	1.3	3.3	2.1	2.1	0.8		12.9			
Total	3.3	2.5	4.4	3.5	2.4	0.7	0.6	17.4			

	Percent of Saturday Boarding Passengers Transferring from:										
Bus Route	Route No. 1	Route No. 2	Route No. 3	Route No. 4	Route No. 5	Route No. 6	Route No. 7	All Routes			
No. 1		6.5	6.1	4.5	1.2	0.8	2.8	21.9			
No. 2	5.4	0.6	4.6	8.3	4.3	1.1		24.3			
No. 3	3.5	2.8	1.4	3.2	1.4		0.4	12.7			
No. 4	3.4	6.0	6.8	1.1	3.1	1.4	1.1	22.9			
No. 5	3.1	6.1	11.5	7.6			2.3	30.6			
No. 6	3.0	6.1	7.1	4.0	5.1		1.0	26.3			
No. 7	7.1	1.0	4.0	2.0	2.0			16.1			
Total	3.5	4.0	5.5	4.4	2.6	0.7	1.0	21.7			

Source: City of Kenosha Department of Transportation and SEWRPC.

SUMMARY

This chapter has evaluated the performance of the Kenosha transit system. The performance evaluation was conducted at two levels, using specific performance measures related to the attainment of key transit system objectives and standards.

On the first level, an assessment of the performance was made on a systemwide basis. This assessment examined the extent to which the transit system serves the existing land use pattern and resident population of the City of Kenosha and environs, the overall ridership and financial performance of the transit system, and the transit system's contribution to the efficiency of the total transportation system. The conclusions reached from this systemwide performance assessment include:

- 1. The existing transit system provides excellent areal coverage of the existing residential areas of the City of Kenosha located east of Green Bay Road, together with some coverage of the more densely populated residential areas located adjacent to the City within the Village of Pleasant Prairie.
- 2. The transit system also provides good coverage of the existing major nonresidential land use centers in the study area, serving 123 of the 141 centers identified.

- 3. The transit system provides excellent areal coverage of the residential concentrations of transit-dependent population groups and of the facilities used by elderly and/or disabled persons. Nonambulatory and semi-ambulatory disabled persons within the transit system service area are also provided with specialized door-to-door transportation service by the Care-A-Van program operated by the Kenosha Achievement Center under contract with the City of Kenosha and the Kenosha County Department of Aging.
- 4. The existing route structure of the transit system is unable to serve fully much of the proposed new or expanding residential, industrial, commercial, and office development within the western portion of the study area. Some routing changes will therefore be needed in the near future if those developments which warrant transit service are to be served as they are completed.
- 5. To accommodate the westward expansion of transit service, consideration should be given to relocating the site of the common transfer terminal to a more central location outside the downtown area and to adjusting the current pulsed headways used on the transit system.
- 6. In terms of ridership and financial performance, the Kenosha transit system compares favorably to other urban bus systems of similar size within Wisconsin. In this respect, the ridership and effectiveness levels of the Kenosha transit system are above average when compared to those for small and medium-size urban bus systems within Wisconsin. The trends observed for the Kenosha transit system with respect to operating expenses per vehicle mile and per vehicle hour, and operating expenses and deficits per passenger, also compare favorably with the trends observed for small and medium-size urban bus systems statewide during the period 1984 through 1988.
- 7. The overall energy efficiency of the city transit system in serving travel on an average weekday within the Kenosha area is higher than that of the private automobile. Consequently, the transit service

provided by the system does reduce the use of petroleum-based motor fuel by Kenosha area residents on a daily basis.

8. The transit system may contribute to the efficiency in the provision of total capacity on the transportation system by reducing peak-hour automobile traffic and the potential for congestion on streets within the Kenosha central business district.

The second part of the performance evaluation was an assessment of the performance of the regular routes of the transit system based upon their ridership, productivity, and financial performance. Further analyses of each route were then conducted to identify the productive and nonproductive route segments, the operating headways and peak passenger loading characteristics, any problems with schedule adherence, the directness of route alignments, and the ability to conveniently accommodate transfers. The following conclusions were drawn from this assessment of route performance:

- 1. Certain regular bus routes have weekday performance levels consistently above the specified minimum performance standard of 80 percent of the average effectiveness level for all regular routes. These include Routes No. 1, 2, 3, 4, and 5. Based solely on their ridership and financial performance, these routes could continue to be operated without change.
- 2. Other regular routes, including Routes No. 6 and 7, have weekday performance levels consistently below the specified performance standard. Service changes on these routes should be considered.
- 3. At least one unproductive route segment was found on each of the seven regular bus routes, with Routes No. 6 and 7 containing the most unproductive route segments: five of the seven segments on Route No. 6 and five of the eight segments on Route No. 7. This information should be viewed as an indicator of where routing changes should be considered in the current route structure.
- 4. Because some bus routes must pass through areas of little residential development or few major trip generators in order to reach other residential areas or trip generators, such bus routes must be

expected to perform at somewhat lower levels of efficiency than other bus routes if the transit system is to continue to provide extensive areal coverage of the City of Kenosha and environs.

- 5. With the exception of Route No. 1, the same regular routes perform above or below the specified minimum performance levels on Saturdays as on weekdays. The failure of Route No. 1 to achieve the specified minimum performance levels on Saturdays was attributed to a significant proportion of route ridership which uses Route No. 1 for school-related travel on weekdays and not on Saturdays.
- 6. The existing headways operated on the regular routes of the transit system are capable of accommodating existing levels of passenger demand at the recommended load standards. However, the load factors on Route No. 2 often approach, or sometimes exceed, prescribed loading standards during off-peak periods. Consequently, some consideration should be given to providing additional bus service to the commercial development along 52nd Street to reduce the high off-peak period loadings which have been observed on Route No. 2.
- 7. Based upon random spot checks of schedule adherence, the on-time performance of the existing transit system was found to be somewhat below the recommended performance level of 95 percent on time, as set forth under the transit service objectives and standards. Problems with schedule adherence were found to exist only at bus stops located away from the downtown terminal; the principal problem noted was early departures at bus stops. To correct such problems, the scheduled running time between stops should be reviewed and, possibly, modified to reflect different passenger loading and traffic conditions which occur throughout the day and which affect actual running time between stops.
- 8. The existing alignments of the bus routes of the transit system are relatively direct and result in only a minor amount of inconvenient travel for short trips made

between the neighborhoods and major traffic generators located along each route. However, the existing alignments of Routes No. 3, 4, 6, and 7 have sections which are circuitous and do result in a significant amount of inconvenience in travel for longer crosstown trips. In addition, the large one-way loops incorporated at the outer ends of Routes No. 1, 6, and 7 can inconvenience passengers traveling between points along the loop. Efforts should be made to provide for more direct crosstown routing and to reduce the size or eliminate large one-way loops to reduce the inconvenience to passengers traveling crosstown or along the existing loop segments.

9. A substantial degree of coordination exists among the routes and schedules of the regular routes of the Kenosha transit system which, consequently, allows for most transfers between routes to be conveniently accommodated. Significant transfer movements were found to occur on weekdays between Routes No. 1 and 3, Routes No. 3 and 4, and Routes No. 2 and 4; and on Saturdays between Routes No. 2 and 4. However, the number of passengers making these transfer movements was found to represent a relatively small proportion of the total ridership on the specified routes. Consequently, changes which would combine portions or segments of one route with a different route were not found to be warranted.

The analyses documented in this chapter indicated that changes in the route configuration of the existing transit system will be needed if the City is to maintain its policy of providing complete geographic coverage to all areas of the City, including areas proposed for new and expanding development which are located east of Green Bay Road in areas recently annexed by the City. The analyses also indicated that changes in some bus routes should be considered to improve their individual 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. (This page intentionally left blank)

ALTERNATIVE AND RECOMMENDED TRANSIT SERVICE CHANGE

INTRODUCTION

Previous chapters of this report have described the land use and travel patterns of the City of Kenosha transit planning study area and analyzed the effectiveness with which the existing public transit system serves those patterns. In addition, the ridership levels and financial performance of the transit system have been documented. All this information was intended to be used in the development and evaluation of alternative transit service modifications and improvements for the City of Kenosha transit system. The evaluation of the alternatives developed is intended to identify those alternatives that are operationally and economically feasible, as well as politically acceptable. From among such alternatives, a plan can be selected which can clearly identify recommended changes in the system and the financial resources required to operate the changed system. This chapter describes the alternative transit service plans considered and describes those ultimately chosen by the Advisory Committee for adoption and implementation.

TRANSIT SERVICE ALTERNATIVES

The alternative transit service plans evaluated for the City of Kenosha transit system were developed in response to the findings of the performance evaluation of the existing system. In the development of proposed changes, recently proposed changes in the street system of the central business district of the City were considered.

The findings of the systemwide performance evaluation indicated that some routing changes would be needed in the near future if the transit system were to serve proposed new and expanded areas of urban development in the City and in the immediately adjacent areas of the Town of Somers and the Village of Pleasant Prairie. Since much of this new development is occurring, or proposed to occur, in the portion of the study area west of Green Bay Road, it was also suggested that consideration be given to moving the central transfer terminal for the regular routes of the transit system from its current downtown site to a location west of the downtown area and more central to the needed transit service area in order to accommodate the proposed westward expansion of transit service. The findings of the performance evaluation of the regular routes indicated that additional bus service should be considered to augment the service currently provided by Route No. 2 to the commercial development along 52nd Street; and also that efforts should be made to realign routes to eliminate or reduce service on unproductive route segments and to provide for more direct crosstown routing.

With respect to proposed changes for the street system within downtown Kenosha, the City has recently proposed and approved the reconstruction of the 6th Avenue pedestrian mall, located on 6th Avenue between 56th Street and 59th Street, to reopen this segment of 6th Avenue to two-way vehicular traffic. This action will require the existing central transfer terminal for the regular routes of the transit system, to be relocated from its current site at the intersection of 6th Avenue and 56th Street on the northern end of the 6th Avenue pedestrian mall. In light of the findings of the performance evaluation of the existing transit system, a decision concerning a new location for the central transfer facility should consider both a site located further west and more centrally within the proposed transit service area and a new site in the central business district.

With these considerations in mind, three alternative transit service plans were formulated and evaluated for the City of Kenosha transit system: 1) a status quo alternative, under which no changes would be made to the existing transit system as operated during 1991 aside from relocation of the central transfer terminal to a new downtown location; 2) an alternative which would also retain a downtown location for the central transfer terminal, but which would propose changes to the alignments of the existing seven regular bus routes, plus the addition of one new regular bus route and one new shuttle route; and 3) an alternative which would relocate the central transfer terminal to a more centrally located site generally along 52nd Street between 30th Avenue and 39th Avenue, would propose

LOCATION OF ALTERNATIVE DOWNTOWN SITES FOR RELOCATED CENTRAL TRANSFER TERMINAL



EXISTING CENTRAL TRANSFER TERMINAL SITE ALTERNATIVE CENTRAL TRANSFER TERMINAL SITE D-2 SITE IDENTIFICATION NUMBER (SEE TABLE 50)

Source: SEWRPC.

changes to the alignments of the existing regular routes and shuttle routes to serve the new transfer terminal location, and would add one new regular route and one new shuttle route.

A number of alternative site locations for the central transfer terminal for the regular routes of the transit system were identified by city and Commission staff. The locations of the three alternative sites identified within the Kenosha central business district are shown in Figure 19, and the basic characteristics of each site are presented in Table 50. Three alternative locations for a western site are shown on Figure 20 and the basic characteristics of each site are presented in Table 51.

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A fourth alternative downtown site was also identified by Commission staff. The fourth alternative site was the passenger station for the existing commuter railway passenger service provided between Chicago and Kenosha by the Chicago & North Western Transportation Company under an agreement with the Northeast Illinois Railroad Corporation, Metra. The station is located at 54th Street and 13th Avenue and includes a passenger depot and accompanying areas for commuters to park and to drop off or pick up passengers. Use of this site as a central transfer terminal for the transit system routes would provide for convenient access to commuter rail services provided at this facility, since the City's local transit system would, in effect, be

CHARACTERISTICS OF ALTERNATIVE DOWNTOWN BUS PASSENGER CENTRAL TRANSFER SITE LOCATIONS FOR THE CITY OF KENOSHA TRANSIT SYSTEM

		Central Business District Sites	·
Characteristic	Site D1 Located on North Side of of 56th Street between 7th Avenue and 8th Avenue	Site D2 Located on East Side of 8th Avenue between 52nd Street and 55th Street	Site D3 Located on West Side of of 4th Avenue between 57th Street and 58th Street
Available Area ^a	0.50 acre	1.20 acres	0.65 acre
Distance from Current Central Transfer Terminal (56th Street and		A A	
6th Avenue)	650 feet	1,700 feet	1,200 feet
Current Ownership	City of Kenosha	City of Kenosha	City of Kenosha
Current Land Use	Public parking lot	Public parking lot	Public parking lot
Proposed Land Use ^b	Parking structure of four to five stories, street-level bus transfer, and conve- nience service/retail	Mixed commercial uses: office, retail, and parking structure one to two stories, terrace on top, 54th Street promenade with landscaped edge and reflecting pool	Townhouses, apartments two to three stories, and surface parking
Potential Vehicle Parking Spaces Lost through Development of Facility			
on Site	35 to 50	60 to 70	45 to 60

^aIt is estimated that an area 0.3 to 0.5 acre in size would be required to develop a modest central transfer facility. Such a facility would be envisioned to consist of a raised concrete platform from which passengers would board buses lined up on either side and an adjacent passenger waiting area of sufficient size to accommodate at least two large modular passenger waiting shelters.

^bKenosha Downtown Plan, A Guide for Urban Design & Development, Planning and Design Institute, Inc., January 1991.

Source: SEWRPC.

able to provide no-transfer feeder-bus service for commuter railway patrons. However, the demands placed upon the available space at this site, along with difficulties associated with transit vehicle access, egress, and circulation, currently make this site a very difficult candidate in the short term to replace the existing site. At the present time, all available areas reserved for passenger parking at the site are needed to satisfy commuter parking demands. Downtown redevelopment plans and plans for expansion of county facilities will make it difficult to acquire additional land for the bus terminal adjacent to the site or to replace the parking it would displace. In addition, the circulation of buses through the site would be difficult because the

narrowness of 13th Avenue would cause conflicts with vehicular traffic and traffic on Sheridan Road would make it difficult for buses to enter or leave the site via 54th Street. While this site was, therefore, not considered a viable alternative at the present time, its use could again be reconsidered in the future should attempts be made to implement long-range plans calling for the provision of commuter rail service between the City of Kenosha and the Cities of Racine and Milwaukee. In this event, the number of commuter patrons using the station could be expected to increase significantly the need for commuter parking and feeder-bus services. Current downtown plans call for the development of a parking structure on the site of the

LOCATION OF ALTERNATIVE OUTLYING WESTERN SITES FOR RELOCATED CENTRAL TRANSFER TERMINAL



LEGEND ALTERNATIVE CENTRAL TRANSFER TERMINAL SITE W-2 SITE IDENTIFICATION NUMBER (SEE TABLE 51)

Source: SEWRPC.

existing commuter park-ride lot and a central transfer terminal facility for the routes of the Kenosha transit system could possibly incorporated into the plans for the parking structure.

For the purposes of identifying and evaluating the impacts upon systemwide ridership, operating, and service characteristics, and financial performance of a downtown transfer site location, as proposed under Alternatives 1 and 2, versus an outlying western transfer site location, as proposed under Alternative 3, it was assumed that the three alternative downtown site locations and the three alternative outlying western site locations would result in similar impacts on systemwide performance for the alternative

under which they would be considered. In this respect, while each alternative location would be expected to have a specific set of advantages and disadvantages associated with it, differences between the alternative site locations would be expected to be most notable for the aspects of each site affecting facility design, cost, and downtown routing alignments. Each alternative site location would be expected to serve equally the proposed system of routes for the specific alternative service plan with which it was associated. Consequently, a detailed examination and evaluation of the alternative downtown and outlying western site locations need not be undertaken until after a specific alternative transit service plan using either a downtown or

CHARACTERISTICS OF ALTERNATIVE WESTERN CENTRAL TRANSFER SITE LOCATIONS FOR THE CITY OF KENOSHA TRANSIT SYSTEM

		Western Sites								
Characteristics	Site W1 Located on North Side of of 52nd Street between 30th Avenue and 32nd Avenue	Site W2 Located on West Side of 30th Avenue between 53rd Street and 54th Street	Site W3 Located on North Side of 52nd Street between 37th Avenue and 38th Avenue							
Available Area ^a	2.75 acres	1.70 acres	1.50 acres							
Distance from Current Central Transfer Terminal (56th Street and										
6th Avenue)	1.6 miles	1.6 miles	1.6 miles							
Current Ownership	Private	Private	Kenosha Unified School District							
Current Land Use	Vacant	Vacant	Parking lot							
Proposed Land Use	Commercial development	Commercial development	Surface parking							
Potential Vehicle Parking Spaces Lost through Development of Facility										
on Site	None	None	45 to 60							

^aIt is estimated that an area 0.3 to 0.5 acre in size would be required to develop a modest central transfer facility. Such a facility would be envisioned to consist of a raised concrete platform from which passengers would board buses lined up on either side and an adjacent passenger waiting area of sufficient size to accommodate at least two large modular passenger waiting shelters.

Source: SEWRPC.

outlying western central transfer terminal site location is recommended.

It should be noted that, in order to prepare the projections of transit system operating characteristics, service levels, and annual operating expenses which serve as quantitative measures by which the alternative service plans can be compared and evaluated, it was necessary to assume specific downtown and outlying western sites for the central transfer terminal. For Alternatives 1 and 2, which propose retaining a downtown site for the central transfer terminal. it was assumed that the central transfer terminal would be located on the north side of 56th Street between 7th Avenue and 8th Avenue. Site D1. This site was selected for the systemwide evaluation of alternative service plans because it is centrally located among the alternative downtown sites. For Alternative 3, which proposes relocating the central transfer terminal to a more central location west of the downtown area, it was assumed that the central transfer terminal would be located on the north side of 52nd Street between 37th and 38th Avenues, Site W3. This site was selected for the systemwide evaluation of alternative service plans because it represents the westernmost location under consideration and, consequently, is closest to areas of proposed new and expanding development identified in the western portion of the study area.

The basic assumptions concerning the factors affecting transit ridership and the required local funding for the City of Kenosha transit system which were applied in the analysis of each alternative transit service plan are presented in Table 52. The basic operating characteristics of the transit system under each of the alternative transit service plans are summarized in Table 53. The projected ridership, financial performance, capital project costs and local subsidy requirements for each alternative are

ASSUMPTIONS CONCERNING BASIC FACTORS AFFECTING FORECAST TRANSIT RIDERSHIP AND REQUIRED LOCAL FUNDS

Factor	Assumption
Economic Conditions	Modest growth in the local economy resulting from continuation of current urban development trends within the study area
Motor Fuel Prices	Motor fuel prices increase with inflation
Days and Hours of System Operation	No change from 1991 days and hours of operation
Passenger Fares	No change from 1991 fare structure
Transit Operating Expenses	Increases of approximately 4 percent per year per unit of service during 1991-1995
Federal Transit Assistance	Operating assistance available for City of Kenosha transit system remains stable at the 1991 level of about \$547,300. Sufficient capital assistance funds available to fund City needs for alterna- tive service changes during entire period ^a
State Transit Assistance	State transit operating assistance increases from 38.5 percent of eligible operating expenses available in 1991 to 42 percent of eli- gible operating expenses in 1992 and 1993, and to 45 percent of eligible operating expenses by 1995 ^b

^aChanges to the Federal Urban Mass Transportation Administration (UMTA) transit operating and capital assistance programs are currently being considered by the U. S. Congress. The most significant change under consideration would reduce the federal share of eligible transit capital project costs from the current 75 to 80 percent of total costs under the UMTA Section 3 Discretionary and Section 9 Formula Grant programs, respectively, to 60 percent of total costs.

^bAn increase in the state aid formula to 42 percent of operating expenses has been approved for calendar years 1992 and 1993. It is assumed that the proportion of operating expenses covered by state aid will continue to increase, to 43.5 percent in 1994, and 45 percent in 1995.

Source: SEWRPC.

summarized in Table 54. More detailed information on the operating characteristics of the transit system, the ridership and financial performance levels projected for each year in the planning period, the capital projects and the attendant costs required under each alternative, and the incremental changes in this information from Alternative 1, are presented in the tables included in Appendix E. The following sections provide a brief description of each alternative and its projected performance.

<u>Alternative 1: Status Quo Alternative</u>

This alternative service plan essentially represents a base line alternative for the City of Kenosha transit system for the period between 1991 and 1995. Under this alternative the City would continue to operate the transit system with the same routes and service levels which were in effect during 1991 during the period 1991 through 1995. A new location for the downtown central transfer facility would, however, be provided. The regular and shuttle bus routes and the service area coverage of the existing transit system are shown on Map 27. Under this alternative annual ridership on the transit system is projected to increase to about 1,229,000 revenue passengers by 1995, a 4 percent increase over the projected 1991 ridership of about 1,181,000 revenue passengers. This level of ridership growth, about 1 percent per year, is based on assumptions that the Kenosha area will continue to experience modest growth in the local economy as a result of the continuation of

SUMMARY OF BASIC OPERATING CHARACTERISTICS OF THE CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE TRANSIT SERVICE PLANS

Operating Characteristic ^a	Alternative 1	Alternative 2	Alternative 3
Route Information			· · · ·
Number of Routes			
Regular Routes	7	8	8
Peak-Hour Tripper Routes ^b	9	9	9
Shuttle Routes	2	3	3
Total	18	20	20
Round-Trip Route Miles			
Regular Routes	133.2	148.1	157.7
Peak-Hour Tripper Routes ^D	253.8	253.8	253.8
Shuttle Routes	37.5	65.9	55.9
Total	424.5	467.8	467.4
Service Levels			
Regular Route Headways			
Weekdays			
Peak	6 routes with 30-minute headways	7 routes with 30-minute headways	6 routes with 30-minute headways
	1 route with 60-minute headways	1 route with 60-minute headways	2 routes with 60-minute headways
	7 routes with 60-minute headways	8 routes with 60-minute headways	8 routes with 60-minute headways
Saturdays	7 routes with 60-minute headways	8 routes with 60-minute headways	8 routes with 60-minute headways
Number of Round-Trip Bus Trips			
Weekdays			
Regular Routes	106	124	120
Peak-Hour Tripper Routes ^b	18	18	18
Shuttle Routes	4	7	7
Total	128	149	145
Saturdays			
Regular Routes	84	96	96
Shuttle Routes	3	6	6
Total	87	102	102
Vehicle Requirements			
For System Operation			
Weekdays			
Peak ^D	28	30	29
Off-Peak	11	13	13
Saturdays	11	13	13
Total Fleet ^C	31	34	33

^aDetailed information on the changes in operating characteristics proposed for each route in the transit system under the alternative transit service plans is presented in Appendix E.

^bData shown are for weekdays during the school year. Peak-hour tripper routes operate to serve students at Kenosha area schools on schooldays only.

^cIncludes vehicles needed for repairs.

Source: SEWRPC.

current urban development trends; that gasoline prices will increase at rates at least equal to general price inflation; and that passenger fares will not be increased over the planning period from the current 1991 fares. While federal transit operating assistance funds would be expected to remain stable over the planning period at about the 1991 dollar level, it was assumed that state transit operating assistance funds would increase over the period from 38.5 percent of transit system operating expenses in 1991 to 45 percent of transit system operating expenses by 1995. With the increases assumed in state transit operating assistance funds over the period, the local share of the annual operating deficit for the transit system would be projected to increase from about \$309,000 in 1991 to about \$351,000 in 1995, an increase of about \$42,000, or 14 percent.

The capital projects required under this alternative to maintain the existing transit system include the remanufacture of 13 buses in the existing bus fleet, including eight "new look" buses purchased new in 1975 and five "RTS" buses purchased new in 1981. In addition, a new

PROJECTED SERVICE LEVELS, RIDERSHIP, AND FINANCIAL REQUIREMENTS FOR THE CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE TRANSIT SERVICE PLANS: 1991-1995

							_					
		<u> </u>	Projected 1991-1995 ⁸									
					Under Alternative 2				Under Alternative 3			
		Under Alternative 1		Incremental Change Under Alternative 1 Total Sys		System Ove		al Change rnative 1	Total System			
Characteristic	1990	1991	1992	1995	1992	1995	1992	1995	1992	1995	1992	1995
Annual Service Provided Revenue Vehicle Hours Revenue Vehicle Miles	52,200 634,300	52,300 634,500	52,500 636,900	52,300 634,500	6,100 84,700	6.000 84,400	58,500 721,600	58.300 718,900	5,100 111,200	5,100 110,800	57,600 748,100	57,400 745,300
Annual Ridership Revenue Passengers	1,169,000	1,180,900	1,193,100	1,228,800	73,600	107,900	1,266,700	1,336,700	85,400	130,100	1,278,500	1,358,900
Operating Costs ^b Total Annual Operating Expenditure Total Annual Operating Revenue Total Annual Operating Deficit Sources of Required Public Funds Federal Operating Assistance State Operating Assistance	\$2,135,100 491,200 1,643,900 576,800 822,000 245,100	\$2,220,200 510,800 1,711,400 547,300 855,500 308,600	\$2,319,500 515,900 1,803,600 547,300 974,200 282,100	\$2,599,700 531,400 2,068,300 547,300 1,169,900 351,100	\$238,200 ^c 32,000 206,200 100,000 106,200	\$206,500 47,000 159,500 92,900 66,600	\$2,557,700 ^C 547,900 2,009,800 547,300 1,074,200 388,300	\$2,806,200 578,400 2,227,800 547,300 1,262,800 417,700	\$215,000 ^C 37,200 177,800 	\$200,900 56,600 144,300 90,400 53,900	\$2,534,500 ^c 553,100 1,981,400 547,300 1,064,500 369,600	\$2,800,600 588,000 2,212,600 547,300 1,260,300 405,000
Capital Costs ⁴ Total Capital Costs ⁹ Sources of Required Public Funds Federal Capital Assistance Local Capital Assistance	\$ 447,700 358,200 89,500	\$1,6 \$4	\$2,191,400 43,600-\$1,753 38,300-\$547,8	,100 00	\$622 \$467,000 \$124,500	.,700 \$498,200 \$155,700	\$2,814 \$2,110,600- \$562,800-	\$2,251,300 \$703,500	\$421 \$315,900- \$84,200-1	,300 \$337,100 \$105,400	\$2,61 \$1,959,500- \$522,500-	2,700 \$2,090,200 \$653,200

^a Based upon assumptions affecting ridership and financial projections shown in Table 52. Detailed projections for each alternative during the antire five-year period 1991-1995 are presented in Appendix E.

^bAll operating costs are presented in projected year-of-expenditure dollars and include costs of providing both fixed-route transit service for the general public and specialized transportation service for disabled persons.

^CIncludes the cost of leasing vehicles needed for service expansion, including three vehicles under Alternative 2 and two vehicles under Alternative 3, during 1992 and 1993 until new vehicles can be delivered in 1994.

^dAssumes federal transit operating assistance funds will remain at the same dollar levels received during 1991 over the entire planning period. The federal operating assistance funds available during 1991 would be expected to cover about 25 percent of projected 1991 operating expenses. However, the federal operating assistance funds assumed to be evailable in 1995 would be expected to cover only about 20 percent of projected 1995 operating expenses.

^e Assumes that the proportion of operating expanses covered by state aid will increase from 38.5 percent of eligible operating expanses in 1991 to 42 percent in 1992 and 1993; 43.5 percent in 1994; and 45 percent in 1995. While an increase in state aid levels to 42 percent of eligible operating expanses has been approved for calendar years 1992 and 1993; the further increases assumed for calendar years 1994 and 1995 are not guaranteed and will be subject to favorable action by the Wisconsin Legislature and the Governor. If state aid levels remain at 42 percent of eligible expenses during the entire period from 1992 through 1995, local operating assistance levels in 1995 would be expected to be about \$423,000 under Alternative 1, \$502,000 under Alternative 2, and \$489,000 under Alternative 3.

^fAll capital costs are presented in constant 1991 dollars.

^gCapital costs for the transit service alternatives are for the projects to be undertaken over the five-year period from 1991 through 1995. A detailed listing of these projects and their associated costs is presented in Appendix E.

Source: SEWRPC.

central transfer facility would be built and the transit garage facility constructed in 1975 would be rehabilitated. The total cost of these capital projects would be estimated to be \$2,191,000,

¹The capital projects for Alternative 1 assume the remanufacture of four "new look" buses in 1991 and four "new look" buses in 1992. The remanufacture of the four buses scheduled for 1992 will depend on an assessment of the condition of the remaining six original "new look" buses, which were purchased new in 1975 and will have been in service for 17 years by 1992, in the vehicle fleet to determine if remanuwith the City's share of these projected capital project costs estimated at between \$438,000 and \$548,000 under existing federal transit capital assistance programs.¹

facturing four of those buses would be economically viable based upon the work required; or if four new buses should be purchased to replace these buses. With the purchase of four new 30foot-long replacement buses, the total costs of the capital projects required under Alternative 1 would increase to about \$2,488,100, with the City's share of these costs estimated at between \$497,600 and \$622,000 under existing federal transit capital assistance programs.

<u>Alternative 2: Modified System with</u> Downtown Central Transfer Terminal

This alternative proposes retaining a downtown central transfer terminal used by the regular routes of the transit system, albeit at a new location. Routing changes would simultaneously be made to expand transit service to areas of new or expanding residential, commercial, or industrial development within the study area; to provide for more direct crosstown routing; and to eliminate or reduce service on existing route segments with low ridership. The specific routing changes proposed under this alternative are shown on Map 28 and summarized in Table 55.

With respect to the regular routes of the transit system, this alternative proposes modifications to all seven of the existing regular routes plus the addition of an eighth regular route serving the northern half of the City of Kenosha. With the new eighth regular route, transit service could be extended to residential areas in the Town of Somers immediately adjacent to the City, which have been identified by city staff as potential areas for transit service expansion. The new eighth route would also enable the existing regular routes serving the northern half of the City to be realigned to provide for more direct crosstown service.

In addition, this alternative proposes modification of the two shuttle routes currently operated by the transit system to provide access to major commercial, recreational, and employment centers which have developed outside the service area of the regular routes of the transit system. Modifications proposed to the existing shuttle route serving the LakeView Corporate Park would enable the route to operate past several existing or proposed industrial employers within the park, including Lawter International, Inc., Manu-Tronics, Inc., Wrought Washer, Inc., and the Wisconsin Electric Power Company. A survey conducted by Commission staff of the work shift times of these firms indicated that these employers have common starting and ending times for one of their work shifts which could be served by the existing shuttle schedule. While this alternative assumes that one round trip would be provided over the route each weekday as at present, at least one additional round trip over this shuttle route

could be needed by the end of the planning period as additional firms locate within the LakeView Corporate Park and their work shift times become known. Changes proposed for the existing shuttle route operated to serve the Dairyland Greyhound Park and the Factory Outlet Centre would permit the gradual expansion of bus service to areas of new residential and commercial development which have been proposed along 75th Street west of Green Bay Road. Service over this route has also been assumed to remain at the current level of three round trips per day. It is possible, however, that hourly service over this route could become warranted should the proposed developments along 75th Street occur at a more rapid pace than currently envisioned. Finally, this alternative proposes the creation of a third shuttle route which would serve the Lakeside Marketplace Shopping Center in the Village of Pleasant Prairie. It is proposed that this third shuttle route also operate through the LakeView Corporate Park to provide additional service to the businesses located there and to serve a new medical clinic which was recently located there. The alignments of the regular and shuttle routes of the transit system and the changes to the service area coverage as proposed under this alternative are shown on Map 29.

The changes to the transit system proposed under this alternative would result in an increase in revenue vehicle hours of approximately 11 percent and an increase in revenue vehicle miles of approximately 13 percent, an average increase in service levels of approximately 12 percent. With this increase in service, annual ridership on the transit system would be projected to increase to about 1,337,000 revenue passengers by 1995, about a 13 percent increase over the projected 1991 ridership of about 1,181,000 revenue passengers and about a 9 percent increase over the projected 1995 ridership under Alternative 1 of about 1,229,000 revenue passengers. With the increases assumed in state transit operating assistance funds over the period, the local share of the annual operating deficit of the transit system would be projected to increase to about \$418,000 by 1995, an increase of about \$109,000, or 35 percent, over the projected operating deficit in 1991 and an increase of about \$67,000, or 19 percent, over the

Map 27

REGULAR FIXED-ROUTE PUBLIC TRANSIT SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1990



Source: City of Kenosha Department of Transportation and SEWRPC.

Map 27 Inset



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Map 28

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PROPOSED CHANGES TO CITY OF KENOSHA TRANSIT SYSTEM BUS ROUTES UNDER ALTERNATIVE 2 ROUTE I ROUTE 3 NO VER UNIVER S CREEK 10 OMERS PIKE INC MICHIGAN 1 1 CITY OF KENOSHA 17 M CITY OF KENOSHA 4174 12 60TH AVE AVE AVE Jun 18TH (4TH 22ND ST & 8 9 LAKE LAKE 2 ROUTE 2 ROUTE 4 SPRINGS SPRING OF W OF WE TY INSIN CREEK CREEK 8 HH H PIKE PIKE LINE LINE EA EA MICHIGAN MICHIGAN 1 1 ST. CITY OF KENOSHA L CITY OF KENOSHA 14 AVE 10 20 IBTH JATH 2NO Ξ LAKE LAKE

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Map 28 (continued)



ROUTE 6





L	E	G	E	N	D

ROUTE SEGMENTS

- EXISTING ROUTE SEGMENT TO BE RETAINED
- EXISTING ROUTE SEGMENT TO BE DROPPED
- ROUTE SEGMENT TO BE ADDED




Table 55

SUMMARY OF ROUTING AND SERVICE CHANGES PROPOSED FOR THE CITY OF KENOSHA TRANSIT SYSTEM BUS ROUTES UNDER ALTERNATIVE 2

Bus Route	Description of Proposed Routing ^a and Service Changes ^b
Regular Routes No. 1	 Modify northern portion of route to: Provide for more direct service over 22nd Avenue between 18th Street and 52nd street Provide service to both the University of Wisconsin-Parkside and Gateway Technical College over one route Replace service currently provided by Route No. 4 to Saxony Manor Modify southern portion of route to: Replace service current provided by Route No. 6 along Roosevelt Road between 22nd Avenue and 26th Avenue Provide for two-way service along 85th Street and 32nd Avenue past Tromper High School
No. 2	Modify route to: 1. Reduce running time along 52nd Street between downtown and K-Mart 2. Replace service currently provided by Route No. 7 between 52nd Street and 75th Street
No. 3	 Modify northern portion of route to: Augment bus service to be provided by Route No. 2 along 52nd Street between 44th Avenue and 56th Avenue Replace bus service provided by Route No. 2 along 52nd Street, 59th Avenue, and 55th Street between 56th Street and 64th Avenue Modify southern portion of route to: Replace service currently provided by Route No. 5 along 7th Avenue, 68th Street, 5th Avenue and 75th Street between 65th Street and Sheridan Road Eliminate existing unproductive route segments along 85th Street and 51st Avenue
No. 4	 Modify northern portion of route to: Extend limited service, five round trips each day, along Sheridan Road in the Town of Somers between Carthage College and 12th Street Replace service currently provided by Route No. 1 along Sheridan Road between Washington Road and 52nd Street Modify southern portion of route to: Replace bus service currently provided by Route No. 6 along 39th Avenue between 67th Street and 75th Street Extend bus service to serve expanding residential area along 81st Street between 43rd Avenue and 39th Avenue
No. 5	 Modify route to: 1. Provide more direct service and reduce running time between downtown and 85th Street and Sheridan Road 2. Replace bus service currently provided by Route 6 along 65th Street between Sheridan Road and 18th Avenue 3. Replace bus service provided by Route No. 1 along 22nd Avenue between 85th Street and 89th Street
No. 6	 Modify route to: 1. Replace service currently provided by Route No. 3 along 63rd Street and 30th Avenue between Sheridan Road and Roosevelt Road 2. Eliminate existing unproductive loop segment of route along 39th Avenue between Wilson Road and Pershing Boulevard; and unproductive segments along 75th Street and 51st Avenue 3. Extend bus service to expanding residential area west of 60th Avenue and south of 80th Place 4. Reduce peak hour headways from 60 minutes to 30 minutes on weekdays

Table 55 (continued)

Bus Route	Description of Proposed Routing ^a and Service Changes ^b
Regular Routes (continued) No. 7	 Modify route to: Replace bus service currently provided by Routes No. 1 and 4 along 38th Street, 14th Avenue, Washington Road, and 7th Avenue between 18th Avenue and 52nd Street Replace bus service currently provided by Route No. 3 along 26th Avenue, 35th Street, and 30th Avenue between 31st Street and Washington Road Extend bus service to expanding residential area west of 47th Avenue and south of 41st Street Replace service currently provided by Route No. 2 along Green Bay Road between 45th Street and 57th Street, and to the Kenosha industrial park
No. 8 (new route)	 Add a new, eighth route serving the north side of the City of Kenosha which would: Replace bus service provided over Route No. 1 along 15th Street and 39th Avenue between 30th Avenue and 13th Place Extend bus service to new residential development along 13th Street between 30th Avenue and 39th Avenue Extend limited bus service, five round trips per day, to new residential development in the Town of Somers east of 47th Avenue and south of 15th Street Replace service currently provided over Route No. 3 along 27th Street and 39th Avenue between 30th Avenue and 50th Street Augment bus service to be provided over Route No. 2 along 52nd Street between downtown and 39th Avenue Provide service at 30-minute headways during weekday peak periods, and at 60 minutes during weekday off-peak periods, and all day Saturdays
Shuttle Routes LakeView Corporate Park ^C	Modify route to operate along 93rd Street, Green Bay Road and Fergusson Drive, 88th Avenue, and local roads within the LakeView Corporate Park to
Dairyland/Outlet Mall	Modify route to provide one-way loop service along Green Bay Road, 75th Street, CTH HH, and 52nd Street to enable route to potentially serve new residential and commercial development as it develops along 75th Street
Lakeside Marketplace (new route)	Add a new shuttle route running from downtown Kenosha through the LakeView Corporate Park to the Lakeside Marketplace

^aThe specific routing changes proposed under Alternative 2 are shown on Map 28.

^bThe specific changes to the operating characteristics of the existing transit system are shown in Table E-2 in Appendix E.

^cThe existing route is currently operated as an employment shuttle to the Manu-Tronics Corporation, Inc., in the LakeView Corporate Park.

^dWith the proposed modifications the route would have the potential to serve additional industrial employers within the LakeView Corporate Park working the same shift times, including Manu-Tronics, Inc., Calumet Diversified Meats, Inc., Lawter International, Inc., and Wrought Washer, Inc.

projected local operating deficit in 1995 under Alternative 1.²

Implementation of all routing and service changes proposed under this alternative would ultimately require the City to purchase three new buses and other related equipment, assumed to be available by 1994. All routing and service changes have, however, been assumed to be implemented at the start of 1992, using leased vehicles. The total cost of the capital projects required under this alternative is estimated at \$2,814,000, with the City's share of these projected capital project costs estimated at between \$563,000 and \$704,000 under existing federal transit capital assistance programs.

Alternative 3: Modified System with Outlying Central Transfer Terminal

This alternative proposes that the central transfer terminal for the regular routes of the transit system be relocated to a location west of the

Kenosha central business district, but more central to the transit service area. This action would facilitate the westward expansion of transit service to areas of new or expanding development in the western portion of the study area. Historically, the Kenosha central business district has been the major commercial and employment center within the area and was, therefore, a logical area upon which to focus the transit system. However, with the development of outlying commercial and employment centers, there are those who believe that the importance of the central business district as a focus for transit service has declined; and the focus of the transit system should therefore be shifted to be closer to the new centers of activity. Accordingly, this alternative examines the potential impacts upon transit system service characteristics, ridership, and financial performance of relocating the central transfer terminal to an outlying site near the commercial development along 52nd Street between 30th Avenue and 39th Avenue. As noted for Alternative 2, this alternative also proposes modifications to routes in order to serve areas of new and expanding development, to provide for more direct crosstown routing, and to eliminate or reduce service on route segments with low ridership. The specific routing changes proposed under this alternative are shown on Map 30 and summarized in Table 56.

The relocation of the central transfer terminal to the west of the central business district will have substantial impacts on the transit system. The Kenosha central business district has been identified in Chapter III as containing the highest concentration of trip ends by existing transit system riders. The central business district, as the current central transfer terminal. now is served by all seven regular routes of the system. However, under an alternative proposing relocation of the transfer terminal outside the central business district, the central business district will be served by fewer routes. This alternative attempts to retain a significant level of transit service to the commercial and office development in downtown Kenosha; however, it only provides three regular routes serving downtown Kenosha. Another impact of this alternative is that it requires realignment of all routes since they must terminate and initiate at the new transfer terminal and must do so at the same time to provide for convenient transfer.

²These costs for Alternative 2 are based upon maintaining existing service levels over the shuttle route serving the LakeView Corporate Park and the shuttle route serving the Dairyland Greyhound Park and Factory Outlet Centre. As noted within the text, additional service over these routes may be warranted by 1995. The addition of one weekday round trip over the shuttle routes proposed under Alternative 2 to serve the LakeView Corporate Park would be expected to increase projected 1995 systemwide ridership and expenditures as follows: increase systemwide ridership by about 4,100 revenue passengers; increase total system operating expenses by about \$8,700; increase total system operating deficit by about \$2,500; and increase the local share of the operating deficit by about \$6,400. The provision of hourly service between 8:30 a.m. and 5:30 p.m. over the shuttle route proposed under Alternative 2 to serve the Dairyland Greyhound Park and the Factory Outlet Centre would be expected to increase projected 1995 systemwide ridership and expenditures as follows: increase system ridership by about 16,000 revenue passengers; increase the total operating expenses of the transit system by about \$50,000; increase the total operating deficit of the system by about \$52,000; and increase the local share of the operating deficit for the system by about \$25,000.

Map 29



REGULAR AND SHUTTLE BUS ROUTES PROPOSED TO BE OPERATED BY THE CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 2

Map 29 Inset



INSET GRAPHIC SCALE

Map 30

PROPOSED CHANGES TO CITY OF KENOSHA TRANSIT SYSTEM BUS ROUTES UNDER ALTERNATIVE 3





Map 30 (continued)



ROUTE 6





LEGEND

ROUTE SEGMENTS

EXISTING ROUTE SEGMENT TO BE RETAINED

EXISTING ROUTE SEGMENT TO BE DROPPED

- ROUTE SEGMENT TO BE ADDED





LAKESIDE MARKETPLACE ROUTE

1161

(31)

M)





Table 56

SUMMARY OF ROUTING AND SERVICE CHANGES PROPOSED FOR THE CITY OF KENOSHA TRANSIT SYSTEM BUS ROUTES UNDER ALTERNATIVE 3

Bus Route	Description of Proposed Routing ^a and Service Changes ^b
Regular Routes	
No. 1	 Modify northern portion of route to: 1. Provide for more direct service over 22nd Avenue between 18th Street and 52nd street 2. Provide service to both the University of Wisconsin-Parkside and Gateway Technical College over one route
	3. Replace service currently provided by Route No. 4 to Saxony Manor Modify southern portion of route to:
	 Replace service current provided by Route No. 2 along Roosevelt Road between 22nd Avenue and 26th Avenue Provide for two-way service along 85th Street and 32nd Avenue past
-	Tremper High School
No. 2	Modify route to: 1. Replace service currently provided by Route No. 7 between 52nd Street and 75th Street
	 Replace service currently provided by Route No. 6 along 60th Avenue, 82nd Street, and 51st Avenue between 75th Street and 80th Street Extend bus service to expanding residential area west of 60th Avenue and south of 80th Place
No. 3	 Modify the northern portion of the route to: Replace service currently provided by Route No. 1 on 15th Street and 39th Avenue between 30th Avenue and 13th Place Extend bus service to new residential development along 13th Street between 30th Avenue and 39th Avenue Extend limited bus service, five round trips per day, to new residential development in the Town of Somers east of 47th Avenue and south of 15th Street Replace bus service currently provided by Route No. 4 along 15th Street and 15th Avenue east of Birch Road
	 Modify southern portion of route to: 1. Replace service currently provided by Route No. 4 along 60th Street between 39th Avenue and Sheridan Road 2. Replace service currently provided by Route No. 5 along 7th Avenue, 68th Street, 5th Avenue, and 75th Street between 65th Street and Sheridan Road 3. Extend bus service to proposed new residential development south of 85th Street between 32nd Avenue and 39th Avenue 4. Eliminate existing unproductive route segments along 85th Street and 51st Avenue
No. 4	 Modify northern portion of route to: 1. Extend limited service, five round trips each day, along Sheridan Road in the Town of Somers between Carthage College and 12th Street 2. Replace service currently provided by Route No. 1 along Sheridan Road between Washington Road and 50th Street 3. Replace service currently provided over Routes No. 3 and 7 along 50th Street, 17th Avenue, 43rd Street, and 45th Street between Sheridan Road and 30th Avenue
	 Modify southern portion of route to: 1. Replace bus service currently provided by Route No. 6 along 39th Avenue between 67th Street and 75th Street 2. Extend bus service to serve expanding residential development along 81st Street between 43rd Avenue and 39th Avenue 3. Extend the route to Tremper High School to replace bus service currently provided by Route No. 3 between 85th Street and 89th Street

Table 56 (continued)

Bus Route	Description of Proposed Routing ^a and Service Changes ^b
Regular Routes (continued) No. 5	 Modify route to: 1. Replace bus service currently provided by Route No. 1 along 56th Street between 22nd Avenue and Sheridan Road 2. Provide more direct service and reduce running time between downtown and 85th Street and Sheridan Road 3. Replace bus service provided by Route No. 6 along 65th Street between Sheridan Road and 18th Avenue 4. Replace bus service provided by Route No. 1 along 22nd Avenue between 85th Street and 89th Street
No. 6	 Modify route to: 1. Replace service currently provided by Route No. 2 along 52nd Street between 38th Avenue and downtown Kenosha 2. Replace service currently provided by Route No. 5 to the Lakeside Towers apartments 3. Replace service currently provided by Route No. 3 along 63rd Street and 30th Avenue between Sheridan Road and Roosevelt Road
No. 7	 Modify route to: 1. Replace service currently provided by Route No. 3 along 26th Avenue, 35th Street, and 30th Avenue between 31st Street and Washington Road 2. Replace service currently provided over Routes No. 1 and 4 along 38th Street, 14th Avenue, Washington Road, and 7th Avenue between 18th Avenue and downtown 3. Augment bus service to be provided by Route No. 6 along 52nd Street between downtown and 38th Avenue
No. 8 (new route)	 Add a new eighth route to serve the north side of the City of Kenosha which would: 1. Replace bus service currently provided by Routes No. 3 and 7 along 39th Avenue and Washington Road between 50th Street and 45th Avenue 2. Extend bus service to an expanding residential area west of 47th Avenue and south of 41st Street 3. Replace bus service currently provided over Route No. 2 along Green Bay Road between 45th Street and 52nd Street west of Green Bay Road to the Kenosha industrial park and south of 52nd Street between 65th Avenue and 56th Avenue 4. Augment bus service to be provided over Route No. 2 along 52nd Street between 56th Avenue 5. Replace service currently provided by Route No. 7 along Pershing Boulevard between 52nd Street and 43rd Avenue 6. Provide service at 60-minute headways all day on weekdays and Saturdays
Shuttle Routes LakeView Corporate Park ^C	Modify route to operate from outlying central transfer terminal along 52nd Street, Green Bay Road, Fergusson Drive, 88th Avenue, and local roads within the LakeView Corporate Park to potentially serve additional industries within the park ^d
Dairyland/Outlet Mall	Modify route to operate from outlying central transfer terminal, and provide loop service along Green Bay Road, 75th Street, CTH HH, and 52nd Street to serve new residential and commercial development as it develops along 75th Street
Lakeside Marketplace (new route)	Add a new shuttle route operating from outlying western central transfer terminal through the LakeView Corporate Park to serve the Lakeside Marketplace

^aThe specific routing changes proposed under Alternative 3 are shown on Map 30.

^bThe specific changes to the operating characteristics of the existing transit system are shown in Table E-3 in Appendix E.

^CThe existing route is currently operated as an employment shuttle to the Manu-Tronics Corporation, Inc., in the LakeView Corporate Park.

^dWith the proposed modifications the route would have the potential to serve additional industrial employers within the LakeView Corporate Park working the same shift times, including Manu-Tronics, Inc., Calumet Diversified Meats, Inc., Lawter International, Inc., and Wrought Washer, Inc.

The latter requirement limits the ability to provide direct routes between the central business district and areas on the northeastern fringe of the City and between the central business district and areas on the southwestern fringe of the City. Both these travel markets are well served by the existing transit system and are productive transit routes.

This alternative proposes the addition of a new eighth regular route to serve areas of the City west of 39th Avenue, generally between Washington Road and 52nd Street. Changes proposed for the shuttle routes operated by the transit system are basically the same as those proposed under Alternative 2, with those routes also modified to serve the outlying central transfer terminal. The alignments of the regular and shuttle routes and the changes in the service area coverage as proposed under this alternative are shown on Map 31.

The proposed changes to the transit system under this alternative would result in an increase in revenue vehicle hours of approximately 10 percent and an increase in revenue vehicle miles of approximately 17 percent over those operated by the existing system, an average increase in service levels of about 14 percent. With this increase in service, annual ridership on the transit system would be projected to increase to about 1,359,000 revenue passengers by 1995, representing about a 15 percent increase over the projected 1991 ridership of about 1,181,000 revenue passengers and about a 10 percent increase over the projected 1995 ridership of about 1,229,000 revenue passengers under Alternative 1. With the increases assumed in state transit operating assistance funds over the period, the local share of the annual operating deficit would be projected to increase to about \$405,000 by 1995, an increase of about \$96,000, or 31 percent, over the projected 1991 local operating deficit and an increase of about \$54,000, or 15 percent, over the projected local operating deficit in 1995 under Alternative $1.^3$

Implementation of all proposed routing and service changes under this alternative would ultimately require the City to purchase two new buses and other related operating equipment, assumed to be available by 1994. As under Alternative 2, all changes for this alternative have been assumed to be implemented at the beginning of 1992, using leased vehicles. The total cost of the capital projects required under this alternative would be approximately \$2,613,000, with the City's share of these projected capital project costs estimated at between \$523,000 and \$653,000 under existing federal transit capital assistance programs.

Alternative Evaluation and Recommendations

An evaluative comparison of the alternative transit service plans considered for the City of Kenosha transit system was conducted on the basis of information about the additional geographic coverage provided by each transit service plan, the annual ridership and service productivity of the proposed transit system, the projected public costs for each alternative, and the efficiency and effectiveness of the proposed

³These costs for Alternative 3 are based upon maintaining existing service levels over the shuttle route serving the LakeView Corporate Park and the shuttle route serving the Dairyland Greyhound Park and Factory Outlet Centre, As noted within the text, additional service over these routes may be warranted by 1995. The addition of one weekday round trip over the shuttle routes proposed under Alternative 3 to serve the LakeView Corporate Park would be expected to increase projected 1995 systemwide ridership and expenditures as follows: increase systemwide ridership by about 4,100 revenue passengers; increase total system operating expenses by about \$8,100; increase total system operating deficit by about \$5,800; and increase the local share of the operating deficit by about \$2,200. The provision of hourly service between 8:30 a.m. and 5:30 p.m. over the shuttle route proposed under Alternative 3 to serve the Dairyland Greyhound Park and the Factory Outlet Centre2 would be expected to increase projected 1995 systemwide ridership and expenditures as follows: increase system ridership by about 15,000 revenue passengers; increase the total operating expenses of the transit system by about 46,000; increase the total operating deficit of the system by about \$38,000; and increase the local share of the operating deficit for the system by about \$17,300.

Map 31



REGULAR AND SHUTTLE BUS ROUTES PROPOSED TO BE OPERATED BY THE CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 3



200 400 FEET

transit service plans. This comparison of the alternative transit service plans is summarized in Table 57.

Alternative 1 proposes maintaining the existing transit system throughout the planning period. Consequently, the area served by the transit system would remain the same as that served during 1991, and there would be no expansion of service to new or expanding areas of development within the City and surrounding areas. Service levels under this alternative would remain stable over the planning period. As a result, Alternative 1 would require the lowest

Table 57

EVALUATIVE COMPARISON OF ALTERNATIVE TRANSIT SERVICE PLANS FOR THE CITY OF KENOSHA TRANSIT SYSTEM

Evaluative Criteria	Alternative 1	Alternative 2	Alternative 3
Geographic Coverage ^a			
Population Served			
Within City	76,100	76.600	76.600
Outside City	6.200	7.100	7,100
Total	82,300	83 700	83 700
	02,000		00,700
Additional Kenosha Area			
Land Uses Fully Served			
Existing Major Traffic Generators		1	1
Existing Facilities for		3	1
Elderly or Disabled Persons		1	1
Proposed New or Expanding			1
Areas of Development		1/	14
	••	14	14
Ridership and Service Productivity			
Total Annual Revenue			
Passengers in 1995	1 288 800	1 336 700	1 358 900
Revenue Vehicle Hours in 1995	52 300	58 300	57 400
Revenue Vehicle Miles in 1995	634 500	719 900	745 200
Annual Revenue Passengers	034,500	/18,500	/45,300
Per Bevenue Vehicle Hour in 1995	22.5	22.0	227
Per Revenue Vehicle Mile in 1995	23.5	1.96	23.7
	1.94	1.00	1.82
Costb			
Annual Operating Expenses			
Bevenues and Deficits in 1992			
Operating Expansion	¢ 2 210 500	A 2 557 700	A 3 534 500
	\$ 2,319,500	\$ 2,557,700	\$ 2,534,500
	515,900	547,900	553,100
	1,803,600	2,009,800	1,981,400
Local Share of Operating Deficit ²	282,100	388,300	369,600
Annual Operating Expenses			
Bevenues and Definits in 1995			
Operating Expanses	\$ 2 500 700	A 2 806 200	A 3 900 600
	\$ 2,599,700	\$ 2,800,200	\$ 2,800,600
	531,400	578,400	588,000
	2,068,300	2,227,800	2,212,600
	351,000	417,700	405,000
Total Operating Expenses Revenues			
and Deficits Between 1001 and 1005			
Total Operating Expansion	612 060 000	¢12 157 000	e12 002 000
Total Operating Expenses		\$13,157,000	\$13,093,900
	2,005,400	2,821,100	2,863,100
	9,455,400	10,335,900	10,230,800
Total Local Share of Operating Deficit	1,615,600	2,020,400	1,942,100
Total Conital Project Conta	1		
I otal Capital Project Costs			
Detween 1991 and 1995			
I otal Capital Project Costs	\$ 2,191,400	\$ 2,814,100	\$ 2,612,700
Local Share of Capital Project Costs	\$438,300-\$547,800	\$562,800-\$703,500	\$522,500-\$653,200
Average Annual Public Cost			
I OTAL PUBLIC Funding Requirement			
	\$ 1,891,100	\$ 2,067,200	\$ 2,046,200
	216,000	268,100	251,400
16101	\$ 2,107,100	\$ 2,335,300	\$ 2,297,600

Table 57 (continued)

Evaluative Criteria	Alternative 1	Alternative 2	Alternative 3
Cost (continued) Local Public Funding Requirement Operating Deficit	\$ 323,100 \$43,200-\$54,000 \$366,300-\$377,100	\$ 404,100 \$53,600-\$67,000 \$457,700-\$471,100	\$ 388,400 \$50,300-\$62,800 \$438,700-\$451,200
Efficiency/Effectiveness Total Operating Expense per Bevenue Passenger in 1995	\$2.12	\$2.10	62.06
Total Operating Deficit per Revenue Passenger in 1995	1.68	1.67	1.63
Local Share of Operating Deficit per Revenue Passenger in 1995 Percent of Operating Expenses	0.42	0.45	0.43
Recovered from Operating Revenues in 1995	20.4	20.6	21.0

^aThe additional geographic coverage provided by Alternatives 2 and 3 over Alternative 1 is shown on Maps 28 and 30.

^bAll costs are presented in projected year of expenditure dollars and reflect the assumptions affecting ridership and financial performance presented in Table 52.

^CIncludes the costs of leasing vehicles needed for service expansion, three vehicles under Alternative 2 and two vehicles under Alternative 3, during 1992 and 1993 until new vehicles can be delivered in 1994.

^dAssumed federal transit operating assistance funds would remain at 1991 dollar levels over the planning period; and that the proportion of operating expenses covered by state operating assistance funds would increase from 38.5 percent in 1991 to 42 percent in 1992 and to 45 percent by 1995.

^eIncludes only the costs of capital projects which would be required to be undertaken under each alternative transit service plan over the five-year planning period.

^fBased upon the expected useful life of the operating equipment and facilities included in the required capital projects.

Source: SEWRPC.

commitment of local funds for the transit system over the planning period. By 1995 the local share of the annual transit system operating deficit would be projected to increase to about \$351,000, representing a total increase of about 14 percent over the projected 1991 operating deficit for the transit system, an average annual increase of about 3 percent.

Unlike Alternative 1, Alternatives 2 and 3 propose an expansion of transit service to serve the growth of the Kenosha community. Whereas the level of transit service under Alternative 1 would remain static, Alternatives 2 and 3 propose an average increase in service levels of between 12 and 14 percent. The additional service would enable the Kenosha transit system to fully serve 14 additional areas of proposed new or expanding development along with two existing major traffic generators and facilities for elderly or disabled persons. Some increase in local costs would be associated with the proposed expansion of transit service. In this respect, the local share of the operating deficit under Alternatives 2 and 3 would be expected to increase to between \$405,000 and \$418,000 by 1995, an increase of between \$54,000 and \$67,000, or 15 to 18 percent, over the local share of the annual operating deficit expected for the transit system in 1995 under Alternative 1.⁴ However, if the transit system is to continue to be responsive to the growth which is occurring within the Kenosha area, then the expansion of transit services proposed under Alternatives 2 and 3, even with the projected increases in local costs, should be considered preferable to maintaining the existing transit system as proposed under Alternative 1.

The selection of a recommended transit system development plan for the City of Kenosha should, therefore, be based upon the relative merits of Alternative 2 and Alternative 3. Based on the information presented in Table 57, it may be concluded that there are no significant differences between Alternatives 2 and 3 with respect to the criteria presented in the table. In this respect, the expanded transit systems proposed under Alternatives 2 and 3 would provide for virtually identical service area coverage of the population and land uses within the City of Kenosha and immediate environs, including identical coverage of the areas of proposed new or expanding urban development. Both alternatives would also result in similar projected ridership increases of between 4 and 5 percent of 1991 levels by 1995. In terms of costs, similar levels of local operating assistance are projected to be required under each alternative, with the local share of the operating deficit projected to increase over 1991 levels by 1995 to about \$418,000 under Alternative 2, an increase of about 35 percent, or 8 percent per year, and to about \$405,000 under Alternative 3, an increase of about 31 percent, or 7 percent per year. The total average annual public costs for both operating subsidies and capital expenditures would also be expected to be very similar, with the total average annual public cost expected to range from about \$2,298,000 under Alternative 3 to about \$2,335,000 under Alternative 2. The local share of these average annual public costs would be expected to be virtually identical. ranging from between \$439,000 and \$451,000 under Alternative 3 to between \$458,000 and \$471,000 under Alternative 2.⁵ Alternatives 2 and 3 would also be expected to be similar in terms of the effectiveness and efficiency of the transit services provided as a result of similar projected levels of ridership and costs.

Based on the foregoing comparative evaluation, it may be concluded that both Alternative 2 and Alternative 3 may be expected to perform equally with respect to projected systemwide ridership levels, public costs, and measures of system effectiveness and efficiency. However, there would be major differences between these alternatives because of the different focus of the transit system under each alternative, namely, downtown Kenosha under Alternative 2 and the outlying commercial development along 52nd Street between 30th Avenue and 39th Avenue under Alternative 3.

The major advantage of retaining downtown as the focus for the routes of the transit system, as proposed under Alternative 2, would be its ability to serve the existing and planned downtown business development and the trips which it generates. A review of current information for the Kenosha area concerning the distribution of

⁴The local share of the operating deficit for the alternatives discussed above assumes that the state aid levels will be increased to 45 percent of eligible operating expenses by 1995. Such an increase will require action by the Wisconsin Legislature and the Governor for calendar years 1994 and 1995. Should stat operating assistance levels remain at 42 percent of eligible expenses during the entire period 1992 through 1995, the local share of the operating deficit in 1995 would be expected to be about \$429,000 under Alternative 1, \$502,000 under Alternative 2, and \$489,000 under Alternative 3. The local share of the operating deficit for Alternative 1 in 1995 would then represent a total increase of about 39 percent over the projected 1991 local operating deficit for the transit system, an annual increase of about 8.5 percent. The local share of the operating deficits for Alternatives 2 and 3 in 1995 would then represent an increase of between \$60,000 and \$73,000, or 14 to 17 percent. over the local share of the operating deficit in 1995 for Alternative 1.

⁵The above average annual local costs for Alternatives 2 and 3 assume that state aid levels will increase to 45 percent of eligible operating expenses by 1995. If state aid levels were to remain at 42 percent of operating expenses during the entire period from 1992 through 1995, somewhat higher average annual local costs would be incurred. Under this latter assumption, the average annual local costs would be expected to range from between \$465,000 and \$475,000 under Alternative 3 to between \$484,000 and \$497,000 under Alternative 2.

employment, total person trip ends, and transit trip ends indicates that the Kenosha central business district contains the highest concentration of jobs and total person trips ends in the study area and is still an important transit person trip generator. Total employment within the quarter-sections containing the Kenosha central business district was estimated to number some 5,500 jobs in 1985, an equivalent density of about 21,800 jobs per square mile. With the closing of Chrysler Motors' automotive plants in the City of Kenosha in 1988 and the recent economic recession, employment within the Kenosha central business district is estimated to have declined to 4,000 jobs by 1990, an equivalent density of about 17,000 jobs per square mile. The central business district also attracted an estimated 40,000 total person trip ends in the study area in 1990 (see Map 16 in Chapter III), and the highest concentration of transit person trip attractions (see Map 20 in Chapter III) on the regular routes of the transit system in 1990, approximately 500. By comparison the quarter-section which contains the site assumed for the outlying western transfer terminal had an estimated 1990 employment total of some 600 jobs, an equivalent density of about 2,400 jobs per square mile, attracted approximately 13,000 total person trips ends in 1990, and attracted approximately 75 transit person trips in 1990. Under Alternative 2 all eight regular routes would provide service to the concentrations of employment and trips in the Kenosha central business district, whereas under Alternative 3 only three regular routes would serve the downtown area.

A downtown transfer terminal location would also provide for more convenient access to existing and proposed commuter rail services operated out of the Chicago & North Western Railway and Metra station located at 54th Street and 13th Avenue. While the railroad station is not an alternative downtown site currently under consideration for the central transfer terminal, the proximity of the regular routes which would be operated through the downtown area to the railway station under Alternative 2 would, in all likelihood, provide for a maximum walking distance of only two or three blocks for passengers on all bus routes. Retaining a downtown location for the central transfer terminal would, therefore, essentially enable all routes of the Kenosha transit system to act as a feeder-bus system for the commuter rail service. However, with an outlying western transfer terminal, only a limited number of routes would serve the downtown area and be able to provide such direct no-transfer feeder-bus service.

It should be noted that, while commuter train service is currently limited to service between the city of Kenosha and the city of Chicago, current long-range plans call for the provision of commuter rail service between the Cities of Kenosha, Racine, and Milwaukee. Interest in establishing commuter rail service in this corridor has increased significantly in the recent past. The establishment of this commuter rail service in the near future could place increased importance upon providing convenient transit service to and from the commuter rail station by the City of Kenosha's local transit system.

The major advantage of an outlying western central transfer terminal, as proposed under Alternative 3, would be that it would facilitate the extension of bus routes to new or expanding areas of development located outside the existing transit system service area, in particular, within portions of the City of Kenosha and Village of Pleasant Prairie located between Green Bay Road and IH 94, as well as at major intersections along IH 94. This action would provide for shorter running times for new or revised routes proposed to serve such development which, in turn, would make it easier for headways on such routes to conform with the pulse headways currently used. These factors will be of increasing importance in the future as areas within the City of Kenosha between Green Bay Road and IH 94, and in the Village of Pleasant Prairie and the Town of Somers and at major intersections along IH 94 become fully developed for urban land uses at densities which warrant being served by the regular routes of the transit system. However, over the five-year planning period it is currently envisioned that the areas of development which warrant transit service will be discontinuous, limited in number, and warrant only limited service provided by regular or shuttle bus routes.

In addition, an outlying western transfer terminal location would ultimately have advantages over a downtown location with respect to routing alignments and transit system operation. In this respect, a more centrally located outlying transfer terminal location should ultimately allow for more convenient crosstown travel as all bus routes would not need to be altered to serve the downtown area. Some routes could, instead, have a more direct north-south orientation. Reducing the number of routes serving the downtown area would also serve to increase operating speeds on those routes not serving downtown. This should enable buses operating over such routes to travel a greater distance during the time allotted for a bus trip under the pulse schedule used, thereby extending the service area for such routes. This should serve to limit the number of routes needed to cover the desired transit service area. The full impacts of these advantages, however, will not be fully realized until significant areas outside the current service area of the transit system are sufficiently developed for urban land uses to warrant expansion of regular transit service.

In summary, the major advantage of retaining downtown as the focus for the routes of the transit system as proposed under Alternative 2 would be the ability of all routes of the transit system to serve the existing and planned downtown business development and the significant concentrations of employment and trips which this development generates. In addition, a downtown transfer terminal location would also provide more convenient access to existing and proposed commuter rail services operated out of the downtown Kenosha railroad station. The major advantage of an outlying western central transfer terminal as proposed under Alternative 3 would be its ability to provide for shorter running times on new or revised routes proposed to serve new or expanding areas of development located outside the existing transit system service area, thereby facilitating the extension of bus routes to such areas. In addition, a more centrally located outlying transfer terminal could ultimately allow for more convenient crosstown travel and also increase operating speeds on routes not serving downtown, which would enable buses operating over such routes to serve a broader area, thereby limiting the number of routes needed to cover the desired transit service area.

Given the finding that the two transit service alternatives do not differ significantly with regard to the implications for the costeffectiveness of the transit service itself, the Commission staff recommends adoption of the transit service alternative which includes a downtown transfer terminal, Alternative 2. The adopted regional land use plan identifies the central business district of the City of Kenosha as a potential major retail and service center within the Region, a center which deserves to be promoted and strengthened within the context of the adopted regional land use plan. The regional transportation plan, moreover, recognizes that Chicago-based commuter rail service presently

terminates in the central business district of Kenosha and that the importance of this service may be expected to increase as the influence of the northeastern Illinois housing market expands into Kenosha County. Moreover, the adopted regional transportation system plans propose the extension of commuter rail service from Kenosha through Racine, Oak Creek, South Milwaukee, Cudahy, and St. Francis into Milwaukee along the Chicago & North Western Railway lakeshore line. The provision of a downtown transfer terminal for the Kenosha transit system would provide for a more effective coordination of the local transit service with the regional commuter rail service. In this respect, it should be noted that a recently adopted city plan element, as set forth in the report entitled Kenosha Downtown_Plan-A Guide for Urban Design and Development, seeks to promote the revitalization of the central business district of Kenosha. A central transfer terminal would clearly support the objectives of that plan element. Thus, the Commission staff recommendations with respect to the selection of a recommended transit service alternative is based upon broad, comprehensive planning considerations rather than upon narrower, single-purpose transit service planning considerations.

The Advisory Committee at its July 29, 1991, meeting voted to accept the Commission staff recommendation for adoption of Alternative 2.

SUMMARY

This chapter has described the alternative transit service plans identified for the City of Kenosha transit system, the evaluation of those transit service plans, and the final recommendation of the Advisory Committee concerning the plan which should be adopted and implemented.

The alternative transit service plans identified for the City of Kenosha transit system were developed in response to the findings of the performance evaluation of the existing transit system and also considered recently proposed changes in the street system of the Kenosha central business district. In this respect, the findings of the systemwide performance evaluation indicated that some routing changes would be needed in the near future to serve proposed new and expanding areas of urban development in the City and in the immediately adjacent areas of the Town of Somers and the Village of Pleasant Prairie, and also to realign existing bus routes to eliminate or reduce service on unproductive route segments and to add service for the commercial development along 52nd Street. With respect to proposed changes for the street system of downtown Kenosha, the alternatives consid-

ered that the reopening of the 6th Avenue mall to two-way vehicular traffic would require that the existing central transfer terminal for the regular routes of the transit system be relocated from its current site at the intersection of 6th Avenue and 56th Street. Toward the better accommodation of the proposed western expansion of transit service to serve areas of development occurring or proposed to occur in the portion of the study area west of Green Bay Road, the alternatives developed included consideration of a new location for the central transfer facility located further west and more centrally within the proposed transit service area, as well as a new site in the central business district. A total of six potential site locations, three in downtown Kenosha and three along 52nd Street between 30th Avenue and 38th Avenue, were identified for the central transfer facility.

With these considerations in mind, three alternative transit service plans were formulated and evaluated for the City of Kenosha transit system. These alternatives included:

- A status quo alternative, Alternative 1. under which no changes would be made to the existing transit system as operated during 1991, aside from relocation of the central transfer terminal to a new downtown location. By 1995 the annual ridership on the transit system under this alternative was projected to increase to about 1,229,000 revenue passengers, or by about 4 percent over the projected 1991 ridership level of about 1,181,000 revenue passengers. The annual city operating subsidy for the transit system was projected to increase to about \$351,000 by 1995, or by about 14 percent over the projected 1991 level of about \$309,000. The total cost of capital projects required to maintain the existing transit system, which included the remanufacture of 13 buses in the existing bus fleet, the construction of a new central transfer terminal facility, and the rehabilitation of the transit garage, was estimated to be \$2,191,000, with the City's share estimated at between \$438,000 and \$548,000 under existing federal transit capital assistance programs.
- Another alternative, Alternative 2, would also retain a downtown location for the central transfer terminal but would also propose changes to the existing regular and shuttle routes operated by the transit system. The changes proposed under this alternative included changes to the align-

ments of all seven of the existing regular routes plus the addition of an eighth regular route serving the northern half of the City of Kenosha. The alternative also proposed modification to the two shuttle routes currently operated by the transit system, one serving the Dairyland Greyhound Park and the Factory Outlet Centre, the other serving LakeView Corporate Park, plus the creation of a third shuttle route, which would serve the Lakeside Marketplace Shopping Center. By 1992 the annual ridership on the city transit system under this alternative was projected to increase to about 1,337,000 revenue passengers, or by about 13 percent over the projected 1991 ridership level and about 9 percent over the projected 1995 ridership level under Alternative 1. The annual city operating subsidy was projected to increase to about \$418,000 by 1995, or by about 35 percent over that projected in 1991 and about 19 percent over the projected city operating subsidy in 1995 under Alternative 1. The total cost of capital projects required for this alternative, which included the projects required for Alternative 1 plus the purchase of three new buses and other related equipment, was estimated at \$2,814,000, with the City's share estimated at between \$563,000 and \$704,000 under the existing federal transit capital assistance program.

• An alternative, Alternative 3, which would relocate the central transfer terminal to a more centrally located site generally along 52nd Street between 30th Avenue and 39th Avenue, as well as propose changes to the existing regular and shuttle routes operated by the city transit system. This alternative proposed service changes to all seven of the existing regular bus routes to serve the outlying central transfer terminal location, as well as the addition of a new eighth regular route to serve areas of the City west of 39th Avenue and north of 52nd Street. Service changes proposed for the shuttle routes operated by the transit system were basically the same as those proposed under Alternative 2, with those routes also modified to serve the new outlying central transfer terminal location. By 1995 the annual ridership on the transit system under this alternative was projected to increase to about 1,359,000 revenue passengers, or by about 15 percent over the projected 1991 ridership level and about 11 percent over the projected 1995 ridership level under Alternative 1. The annual city

operating subsidy was projected to increase to about \$405,000 by 1995, or by about 31 percent over the projected 1991 city operating subsidy and about 15 percent over the projected city operating subsidy in 1995 under Alternative 1. The total cost of capital projects required for this alternative, which included the projects required for Alternative 1 plus the purchase of two new buses and other related operating equipment, was estimated at \$2,613,000, with the City's share estimated at between \$523,000 and \$653,000 under existing federal transit capital assistance programs.

An evaluative comparison of the alternative transit service plans considered for the City of Kenosha transit system was conducted on the basis of information about the additional geographic coverage provided by each transit service plan, the annual ridership and service productivity of the proposed transit system, the projected public cost for each alternative, and the efficiency and effectiveness of the proposed transit service plans. This comparison of alternatives found that Alternative 1 would require the lowest commitment of local funds for the transit system over the planning period of the three alternatives considered. However, unlike Alternatives 2 and 3, Alternative 1 would not provide for any expansion of transit service to new or expanding areas of development in the City and surrounding areas. It was concluded that, if the transit system was to continue to be responsive to the growth which is occurring within the Kenosha area, the expansion of transit service proposed under Alternatives 2 and 3, even with the projected higher local costs for these alternatives, should be considered preferable to maintaining the existing transit system proposed under Alternative 1.

It was also concluded that there were no significant differences between Alternatives 2 and 3 with respect to the quantitative measures examined in the comparative evaluation. In this respect, both Alternative 2 and Alternative 3 could be expected to perform equally with respect to projected systemwide ridership levels, public costs, and measures of system effectiveness and efficiency. However, it was determined that there would be major differences between, and advantages associated with, these alternatives due to the different focus of the transit system under the each alternative, namely, downtown Kenosha under Alternative 2 and the outlying commercial development along 52nd Street between 30th Avenue and 39th Avenue under Alternative 3.

The major advantage of retaining downtown as the focus for the routes of the transit system as proposed under Alternative 2, would be the ability of all routes of the transit system to serve the existing and planned downtown business development and the significant concentration of employment and trips which this development would generate. In addition, the downtown transfer terminal location would also provide more convenient access to existing and proposed commuter rail service operated out of the existing station in downtown Kenosha. The major advantage of an outlying western central transfer terminal as proposed under Alternative 3 would be its ability to provide for shorter running times on the new or revised routes which were proposed to serve new or expanded areas of development located outside the existing transit system service area, thereby facilitating the extension of bus service to such areas. In addition, a more centrally located outlying transfer terminal could ultimately allow for more convenient crosstown travel and also increase operating speeds on routes not serving downtown. This would enable buses operating over such routes to serve a broader area, thereby limiting the number of bus routes needed to cover the desired transit service area.

Given the findings that the two transit service alternatives did not differ significantly with respect to the implications for the costeffectiveness of the transit service itself, the Commission staff recommended adoption of the transit service alternative which included a downtown transfer terminal, Alternative 2. This recommendation recognized the importance of the central business district of the City of Kenosha as a potential major retail and service center within the Region which deserved to be promoted and strengthened within the context of the adopted regional land use plan. The staff recommendation also recognized that the adopted regional transportation system plan proposed improvement of commuter rail service in the Kenosha-Racine-Milwaukee travel corridor along the Chicago & North Western Transportation Company lakeshore line. The provision of a downtown transfer terminal for the Kenosha transit system as proposed under Alternative 2 would, consequently, provide for transit service for the concentrations of employment and trips generated by existing and planned downtown development and would provide for more effective coordination of the local transit service with the proposed regional commuter rail service.

The Advisory Committee at its July 29, 1991, meeting voted unanimously to accept the Commission staff recommendation for the adoption and implementation of Alternative 2.

Chapter VII

RECOMMENDED TRANSIT SYSTEM DEVELOPMENT PLAN

INTRODUCTION

Three basic alternative transit service plans for the City of Kenosha transit system were described in Chapter VI of this report. Based upon careful evaluation of these alternatives, the Advisory Committee recommended the adoption and implementation of Alternative 2, which proposed retaining a location for the central transfer terminal for the regular routes of the transit system within the Kenosha Central business district, along with significant changes to the existing regular and shuttle bus routes operated by the transit system.

This chapter describes the recommended transit system development plan for the five-year period 1991 through 1995. The first section of the chapter summarizes the recommended transit services, including the changes in fixed-route transit service which were proposed under Alternative 2 and described in detail in Chapter VI of this report. Included in this section is a description of the changes in the alignments and service characteristics of the routes of the city transit system, along with a description of the projected system ridership. This section also describes the city program for providing specialized transportation service to disabled persons within the area served by the City's regular fixed-route transit services. The second section presents a summary of the financial requirements entailed in implementing the recommended plan. The final section of the chapter identifies the actions required by various agencies to achieve plan implementation.

RECOMMENDED TRANSIT SERVICE

Operating and Service Changes

The recommended plan for Kenosha fixed-route transit service calls for a number of changes in the existing route structure of the city transit system to expand transit service to areas of new or expanding residential, commercial, or industrial development within the study area; to provide for more direct crosstown routing; and to eliminate or reduce service on existing route segments with low ridership. The specific routing changes are those proposed under Alternative 2 as described in Table 55 and shown on Map 28 in Chapter VI. The extent of fixed-route bus services that would be provided by the regular and shuttle routes of the city transit system, assuming the implementation of all proposed service changes, is shown on Map 32.

With respect to the regular routes of the transit system, the recommended plan proposes modification to all seven existing regular routes in the system. In addition, the recommended plan calls for the creation of an eighth regular route to serve the northern half of the City of Kenosha. This new eighth regular route would permit the city transit system to serve residential areas in the Town of Somers immediately adjacent to the City. This area has been identified by city staff as a high priority area for transit service expansion. The new route would also enable the existing regular routes serving the northern half of the City to be realigned to provide more direct crosstown service. The recommended plan also proposes that the regular routes of the transit system continue to use a central transfer terminal located in the central business district, albeit at a new location as discussed below.

The recommended plan also calls for changes to the shuttle routes currently operated by the transit system to provide access to major commercial, recreational, and employment centers which have developed outside the service area of the regular routes of the transit system. The proposed changes include modifying the alignment of the existing shuttle routes serving Manu-Tronics, Inc., in the LakeView Corporate Park, to enable a route to operate past more existing and proposed industrial employers within the park. The changes which are recommended for the existing shuttle route serving the Dairyland Greyhound Park and the Factory Outlet Centre would permit the gradual expansion of bus service to areas of new residential and commercial development which has been proposed to occur along 76th Street west of Green Bay Road. Finally, the recommended plan also proposes that a new shuttle route be established to serve the Lakeside Marketplace Shopping Center in the Village of Pleasant Prairie. It is recommended that this third shuttle route also operate through the LakeView Corpo-

Map 32

RECOMMENDED REGULAR AND SHUTTLE BUS ROUTES FOR THE CITY OF KENOSHA TRANSIT SYSTEM



Source: SEWRPC.



INSET GRAPHIC SCALE

Table 58

EXISTING AND RECOMMENDED DEPARTURE TIMES FOR REGULAR TRANSIT ROUTES AT THE CENTRAL TRANSFER TERMINAL IN THE KENOSHA CENTRAL BUSINESS DISTRICT

Scheduled Departure Times at Central Transfer Terminal ^a					
Weekdays		Satu	rdays		
Existing	Proposed	Existing	Proposed		
6:25 a.m. 6:55 a.m. 7:25 a.m. 7:55 a.m. 8:25 a.m. 9:25 a.m. 10:25 a.m. 10:25 a.m. 11:35 a.m. 12:35 p.m. 1:35 p.m. 2:35 p.m. 3:35 p.m. 4:05 p.m.	6:25 a.m. 6:55 a.m. 7:25 a.m. 7:55 a.m. 8:30 a.m. 9:30 a.m. 10:30 a.m. 11:30 a.m. 12:30 p.m. 1:30 p.m. 2:30 p.m. 3:30 p.m. 4:00 p.m.	6:25 a.m. 7:25 a.m. 8:25 a.m. 9:25 a.m. 10:25 a.m. 11:35 a.m. 12:35 p.m. 1:35 p.m. 2:35 p.m. 3:35 p.m. 5:35 p.m.	6:25 a.m. 7:25 a.m. 8:30 a.m. 9:30 a.m. 10:30 a.m. 11:30 a.m. 12:30 p.m. 1:30 p.m. 2:30 p.m. 3:30 p.m. 4:35 p.m. 5:35 p.m.		
5:05 p.m. 5:35 p.m.	5:05 p.m. 5:35 p.m.				

^aScheduled arrival times at the central transfer teminal are currently three to five minutes before scheduled departure times. It is recommended that this interval be maintained for the recommended transit system.

Source: SEWRPC.

rate Park to provide additional services to businesses located there.

It is recommended that the transit system also continue to operate the special system of peakhour trip routes which are designed to provide additional service to accommodate the movement of junior and senior high school students and to alleviate overcrowded conditions on the regular bus routes. No specific changes in this system of routes have, however, been proposed under the recommended plan. Changes to these routes are generally considered on an annual basis by transit system and school system officials in response to changes in the locations of junior and senior high school students within the Kenosha area.

The recommended routing changes for the city transit system would increase the number of regular routes from seven to eight and the shuttle routes from two to three. As shown on Map 29 in Chapter VI, the recommended routing changes would result in a modest expansion in the service area of the transit system into those new areas of development which most warrant regular transit service.

Table E-2 in Appendix E summarizes the service characteristics of the recommended plan. While no change in the existing service levels for Routes No. 1 through 5 is recommended, it is proposed that operating headways on Route No. 6 during weekday peak periods be reduced from 60 minutes to 30 minutes; that operating headways on Route No. 7 during the weekday morning peak period be increased to 60 minutes: and that operating headways on the new eighth regular route of the transit system be established at 30 minutes during weekday peak periods and 60 minutes during weekday off-peak periods and all day Saturday. Service levels on the existing shuttle route serving the LakeView Corporate Park and the existing shuttle route serving Dairyland Greyhound Park and the Factory Outlet Centre are proposed to remain at the existing 1991 levels over the planning period. Service levels on the new shuttle route recommended to serve the Lakeside Marketplace Shopping Center are proposed to be established at three round trips per day. Additional service could, however, be warranted over one or more of these shuttle routes by the end of the planning period if the areas proposed to be served by these routes develop at a more rapid pace than currently envisioned.

It is also recommended that some minor adjustments be made to the scheduled pulsed arrival and departure times for the regular routes of the transit system at the central transfer terminal in the Kenosha central business district. The existing and recommended departure times at the central transfer terminal are presented in Table 58. The recommended changes entail adjusting the departure times for the regular routes by approximately five minutes for nine of the 16 weekday bus trips and for seven of the 12 Saturday bus trips which leave the central transfer terminal between 8:30 a.m. and 4:00 p.m. The changes would result in departure times being scheduled to occur on the exact hour or half-hour of the clock during this period of the day and would result in departure times which are easier for transit system riders to remember. No changes are proposed for the

scheduled arrival and departure times at the central transfer terminal during the remaining morning and afternoon peak periods, since these times generally serve well the starting and ending times of the work shifts of individuals employed within the central business district.

Implementation of the recommended routing and service changes may be expected to increase the number of vehicles required to operate the system during weekday peak periods from 28 to 30 and the total active fleet in the transit system from 31 to 34 vehicles.

It is recommended that all routing and service changes be implemented as soon as they are determined by the city staff to be practicable. For the purposes of preparing projections of ridership and financial requirements for the recommended transit system, it was assumed that all service changes would be implemented by January 1, 1992. Implementation of the service changes at the start of 1992 would require the City to lease the additional vehicles it would need to operate the expanded transit system until new vehicles can be purchased with federal funds and delivered. This would most likely not occur before 1994. In addition, the implementation of the service changes proposed for Route No. 7 by 1992 would require that this route be operated temporarily over a modified route alignment. This is because the recommended route alignment would traverse a short segment of 41st Street between 49th and 51st Avenues which has not yet been constructed, but which should be completed during the planning period. The temporary alignment for Route No. 7 is shown on Map 33.

Central Transfer Terminal Location

As noted within Chapter VI of this report, the City of Kenosha has recently proposed and approved the reconstruction of the 6th Avenue Pedestrian Mall, located on 6th Avenue between 56th Street and 59th Street, to reopen this segment of 6th Avenue to two-way vehicular traffic. This action will require the existing central transfer terminal for the regular routes of the transit system to be relocated from its current site at the intersection of 6th Avenue and 56th Street, on the north end of the 6th Avenue Pedestrian Mall. Three alternative potential site locations for the central transfer terminal within the Kenosha central business district were identified in the previous chapter of this report. These included a municipal parking lot located on the north side of 56th Street between 7th Avenue and 8th Avenue, Site D-1; a municipal parking lot located on the east side of 8th Avenue between 52nd Street and 55th Street, Site D-2; and a municipal parking lot located on the west side of 4th Avenue between 57th Street and 58th Street, Site D-3. The three alternative potential site locations are shown on Figure 19 and information on the basic characteristics of each site are presented in Table 50 in Chapter VI.

The three alternative sites share common characteristics with respect to site ownership, size, and current land use. All three sites are owned by the City of Kenosha. Thus, no acquisition costs would be entailed for any of the site locations.

All three sites are of sufficient size to accommodate the modest central transfer facility envisioned by transit system officials. Such a facility would consist of a raised concrete platform from which passengers would board buses lined up on either side and an adjacent passenger waiting area of sufficient size to accommodate at least two large modular waiting shelters.

All three sites are also currently used as public parking areas. Similar amounts of off-street parking would be lost through the conversion of any site to a downtown transfer facility.

The three alternative potential sites would differ principally with respect to proximity to the existing central transfer facility and with respect to the planned land use for each site. Site D-1 is located the shortest distance from the existing central transfer facility, one block away from that facility. Because the existing central transfer facility is centrally located with respect to the majority of trip origins and destinations within the central business district of the existing transit system passengers, this site would inconvenience the existing transit ridership least. Site D-3 is located on the eastern edge of the central business district, approximately three blocks from the existing transfer facility. Site D-2 is located on the northern edge of the central business district, approximately three to four blocks from the existing transfer facility.

Only Site D-1 would be fully in accord with the land use proposals in a recently completed development plan for the central business

Map 33





district¹. These specifically include a transfer site. The proposed land use for Site D-2 includes mixed office and retail commercial uses and a parking structure. The proposed land use for Site D-3 is residential, town house and apartment, development with surface parking.

Certain other characteristics of Site D-2 and Site D-3 should also be considered. Most of the property comprising Site D-2 is at a lower elevation than the property immediately to the south within the central business district. This would result in the site having poor visual contact with the development immediately to the south, and would require construction of special stairs or ramps to provide access to the central business district via 7th Avenue. Site D-3 is currently located close to the Lake Michigan shoreline and adjacent to large open areas which are proposed to be developed as part of the Southport Marina project. However, until these areas are fully developed, the site would be unsheltered by surrounding development and fully exposed to harsh weather conditions along the Lake Michigan shoreline during the winter months.

Based upon the above information, it is recommended that Site D-1 be selected as the location of the new central transfer facility for the regular routes of the transit system. The development of the central transfer facility on this site would not result in a great inconvenience to existing transit passengers with trip origins or destinations within the central business district. In addition, the development of the central transfer facility on this site would be specifically consistent with the proposed land use for the site as set forth under the recently completed development plan for the Kenosha central business district.

Specialized Transportation

Service for Disabled Persons

In addition to providing fixed-route transit service for the general public, the City of Kenosha transit system also provides transit services which are designed to be used by disabled persons. These transit services were described in Chapter II of this report and consist of "on-call" accessible fixed-route bus service on the regular city bus routes and specialized doorto-door transportation service which is provided throughout the transit system service area by the "Care-A-Van" program administered by the Kenosha County Department of Aging. The actual service under this program is provided on a contract basis by the Kenosha Achievement Center, Inc.

The City of Kenosha transit system has provided such public transportation services for disabled persons since 1980 to comply with federal regulations. The current city program of transit services for the disabled was developed in response to regulations issued by the U.S. Department of Transportation, Urban Mass Transportation Administration (UMTA), on May 23, 1986. Those regulations required recipients of UMTA Section 9 funds which operated a bus system serving the general public, such as the City of Kenosha, to document and submit to UMTA a program for providing public transportation services for disabled persons. The report presenting the City of Kenosha's proposed transportation program for disabled persons was completed by the Regional Planning Commission staff at the request of the City of Kenosha and transmitted to UMTA in June 1987.² The City's plan was subsequently approved by UMTA in October 1987.

No significant changes to the City's public transit services for disabled persons are proposed to be made as a result of the routing service changes recommended for the city fixedroute transit system. The City may, however, be able to increase the amount of accessible bus service which it provides over the bus routes of the transit system as more vehicles in its bus fleet become equipped with wheelchair lifts through either the remanufacture of older vehicles in the bus fleet or the purchase of new vehicles. In this respect, nine of the 31 buses in the active fleet of the city transit system, or about 29 percent of the active fleet, are currently equipped with wheelchair lifts. By the end of the planning period, a total of 25 of the 34 buses in

¹See <u>Kenosha Downtown Plan—A Guide for</u> <u>Urban Design and Development</u>, Planning and Design Institute, January 1991.

²See SEWRPC Memorandum Report No. 23, <u>A</u> <u>Public Transit Program for Handicapped Per-</u> <u>sons—City of Kenosha Transit System</u>, June 1987.

the active fleet for the recommended transit system, or about 74 percent of the bus fleet, may be expected to be equipped with wheelchair lifts. The number of accessible buses in the fleet would then be sufficient to enable the transit system to provide accessible bus service during all times of system operation over all of its regular bus routes. This would eliminate the current on-call system, whereby disabled individuals are required to make an advance reservation at least 24 hours in advance of the time service is needed by accessible bus service on regular system routes.

Some changes are also likely to be required in the City's specialized transportation service for disabled persons provided through the Care-A-Van program as a result of new federal regulations implementing the Americans with Disabilities Act of 1990 as it pertains to transportation for individuals with disabilities. The Act, which became law on July 26, 1990, may be characterized as an omnibus civil rights bill for persons with disabilities since it supersedes or replaces many previous protections and rights for disabled persons which were enforced piecemeal through various specific laws, legal interpretations, and regulations. With respect to public transit service, the Americans with Disabilities Act of 1990 includes two specific provisions which may be expected to have an impact on the operation of public transit services. One provision requires that all vehicles acquired after August 26, 1990 for use in providing fixed-route transit service must be accessible to persons with disabilities, including those confined to wheelchairs. A second provision requires that all public entities providing fixedroute transit service also provide complementary paratransit service to disabled persons unable to use the fixed-route transit service they provide, with such paratransit service being comparable to the fixed-route services available to the general public. Acting in response to these provisions of the aforereferenced Act, the U.S. Department of Transportation has issued new regulations addressing the acquisition of accessible vehicles by transit operators and the paratransit requirements for public entities providing fixed-route transit services.³

With respect to accessible vehicles, the city transit system would be in conformance with the new federal regulations under the recommended transit system development plan. The plan calls for all buses which are to be remanufactured or purchased new during the planning period be equipped with wheelchair lifts or ramps.

With respect to complementary paratransit service, it is possible that some modifications may need to be considered for the specialized transportation service currently provided by the city transit system through the Care-A-Van program in order for it to be approved by UMTA as the required paratransit service. The new federal regulations specify detailed criteria concerning eligibility requirements and minimum service operating characteristics for the complementary paratransit service. The City of Kenosha must compare the existing eligibility requirements and service characteristics for the specialized transportation service it provides through the Care-A-Van program with the eligibility and service requirements for complementary paratransit service specified under the federal legislation to determine areas of significant difference. Based on this information, transit system officials will then need to determine what changes are proposed for the service provided under the Care-A-Van program in order so that program properly complements any paratransit service.

The new federal regulations also require that the City document the aforedescribed analyses of the City's existing specialized transportation service for disabled persons, along with any proposed changes to this service, in a formal plan for providing the required complementary paratransit service. An initial description of the City's paratransit service plan must be submitted to UMTA by January 26, 1992, with plan updates to be submitted annually thereafter. The development of the initial paratransit service plan and the annual updates of that plan should be done through a locally developed continuing public participation process which includes a public hearing, the opportunity for public comment, and consultation with individuals with disabilities and with members of groups representing such individuals. The final plan should have the approval of city officials and also the endorsement of the Southeastern Wisconsin Regional Planning Commission as the metropolitan planning organization for the Kenosha

³See "Transportation for Individuals with Disabilities: Final Rule," <u>Federal Register</u>, Vol. 56, No. 173, September 6, 1991.

Table 59

PROJECTED ANNUAL SERVICE LEVELS AND RIDERSHIP FOR THE CITY OF KENOSHA TRANSIT SYSTEM UNDER THE RECOMMENDED PLAN: 1990-1995

		Projected				
Operating Characteristic	Actual 1990	1991	1992	1993	1994	1995
Annual Service Provided Revenue Vehicle Hours Revenue Vehicle Miles	52,200 634,300	52,300 634,500	58,500 721,600	58,500 721,600	58,500 721,200	58,300 718,900
Annual Ridership Total Revenue Passengers ^a Per Revenue Vehicle Hour Per Revenue Vehicle Mile Per Capita ^b	1,169,000 22.4 1.84 14.2	1,180,900 22.6 1.86 14.3	1,266,700 21.7 1.76 15.1	1,304,300 22.3 1.81 15.6	1,323,600 22.6 1.84 15.8	1,336,700 22.9 1.86 16.0

^aIncludes ridership on specialized transportation services provided for disabled persons who are unable to use regular fixed-route transit service.

^bBased on a total estimated service area population of 82,300 persons in 1990 and 1991 and of 83,700 persons in 1992 through 1995.

Source: SEWRPC.

Urbanized Area. Implementation of the proposed paratransit service plan is to begin immediately upon its submittal to UMTA pending notice of the approval or disapproval of the plan, with a maximum of five years allowed to complete implementation actions.

The City of Kenosha has requested that the Southeastern Wisconsin Regional Planning Commission prepare the federally required paratransit service plan for the city transit system in much the same manner as the Commission prepared the similar plan required by previous federal regulations. Work on the new paratransit service plan is currently underway and is scheduled to be completed in time for the City to submit an approved plan to UMTA by the required filing date of January 26, 1992.

Ridership Projections

The projections of ridership and service productivity for the recommended transit system over the period 1991 through 1995 are presented in Table 59. As previously noted, these projections assume that all service changes would be implemented by the start of calendar year 1992. The recommended changes to the city transit system may be expected to increase revenue vehicle hours of service by approximately 11 percent and revenue vehicle miles of service by approximately 13 percent over the levels operated in 1991. With this increase in service, the recommended transit system would be expected to generate an annual ridership of about 1,267,000 revenue passengers in 1992, an increase of about 7 percent over the projected 1991 ridership level of about 1,181,000 revenue passengers. By 1995, ridership on the recommended transit system may be expected to increase to about 1,337,000 revenue passengers, representing a total increase of about 13 percent over 1991 ridership levels and an average increase in ridership of about 3 percent per year over the planning period. With the projected increases in service and ridership for the recommended transit system, vehicle productivity may be expected to remain relatively constant over the planning period at about 23 passengers per revenue vehicle hour. Total annual ridership per capita may be expected to increase slightly, from about 14 passengers per capita in 1991 to about 16 passengers per capita by 1995.

FINANCIAL COMMITMENT

Public funds will be required to subsidize the annual operation of the recommended transit system. Both the available state and federal funds are recommended to be drawn upon to reduce the City's financial contribution toward the annual operating costs of the transit system and the costs of acquiring necessary operating capital equipment. This section of the chapter identifies the financial commitment required to carry out the recommended plan over the planning period and suggests how this requirement might be shared among available funding sources. An analysis of the capacity of available funding sources to provide the required funding over the planning period is presented in Appendix F of this report.

Financial Performance

Projections of ridership, expenses, revenues, and public subsidies assume that all recommended service changes will be implemented by the start of calendar year 1992. Implementation of service changes at this time will require the City to lease the additional vehicles it will need to operate the expanded transit system until new vehicles can be purchased with federal funding and delivered. This is not likely to occur before 1994. The costs of operating the recommended transit system during 1992 and 1993 reflect the costs of leasing vehicles.

All financial projections are consistent with the assumptions concerning factors affecting forecast transit ridership and local funding levels described in the previous chapter (see Table 52 in Chapter VI). Table 60 presents information on the ridership and financial performance of the city transit system with the recommended service changes for the period 1991 through 1995. The financial projections in this table include projections made in constant 1991 dollars, which assume no inflationary changes in transit system operating expenses over the planning period. Under these projections, operating revenues and levels of federal transit assistance have been adjusted to reflect the declining value which would be expected, given the continuation of general price inflation at levels experienced in the recent past. Financial projections for the recommended transit system are also presented in projected "year of expenditure" dollars and reflect the assumed impacts which general price inflation could be expected to have over the planning period. In this respect, while passenger fares have been assumed to remain stable over the planning period to promote system ridership, transit system operating expenses would be assumed to increase modestly over the planning period and federal transit system funds would be assumed to remain stable. These three factors could be expected to have a significant impact on the projected operating deficits for the recommended transit system.

With the implementation of the recommended service changes, by 1995 total system vehicle hours of operation may be expected to increase by about 12 percent and total system vehicle miles of operation may be expected to increase by about 14 percent over 1991 levels. Operating expenses for the transit system in constant 1991 dollars may be expected to increase by about 8 percent over the same period, from about \$2,222,000 in 1991 to about \$2,399,000 in 1995, because of the increase in service provided. The operating deficit in constant 1991 dollars would be expected to increase by about 11 percent, from about \$1,711,000 in 1991 to about \$1,904,000 in 1995. The total local operating subsidy for the transit system in constant 1991 dollars would be expected to increase by about 16 percent over the period, from about \$309,000 in 1991 to about \$357,000 in 1995. The increase in both the total operating deficit and the local share of the operating deficit reflects an assumption that even if passenger fares and federal aid levels remain stable at 1991 levels over the planning period, their actual dollar values will decline, given the historical differential impact which general price inflation has had on transit operating costs, total system deficits, and local funding requirements.

Operating expenses for the transit system in projected year of expenditure dollars may be expected to increase by about 26 percent over the same period, from about \$2,222,000 in 1991 to about \$2,806,000 in 1995, because of both the increase in service provided and the effects of general price inflation. Assuming no changes in passenger fares, operating revenues for the transit system may be expected to increase at the same rate as ridership, or by about 13 percent over the planning period, from about \$511,000 in 1991 to about \$578,000 in 1995. As a result, the total operating deficit in estimated

Table 60

PROJECTED ANNUAL RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE CITY OF KENOSHA TRANSIT SYSTEM UNDER THE RECOMMENDED PLAN, ASSUMING ESTIMATED YEAR OF EXPENDITURE DOLLARS: 1990-1995

	r					
	Actual		Projected i	n 1991 Consta	nt Dollars ^a	
Operating Characteristic	1990	1991	1992	1993	1994	1995
Annual Service Provided Total Vehicle Hours Total Vehicle Miles	56,300 704,200	56,400 704,700	63,400 803,200	63,400 803,200	63,400 802,600	63,200 800,100
Annual Ridership Total Revenue Passengers ^b	1,169,000	1,180,900	1,266,700	1,304,300	1,323,600	1,336,700
Service Cost Total Annual Operating Expenses ^C Total Annual Operating Revenue Total Annual Operating Deficit	\$2,135,100 491,200 1,643,900	\$2,222,200 510,800 1,711,400	\$2,461,600 526,600 1,935,000	\$2,461,600 521,500 1,940,100	\$2,406,200 509,500 1,896,700	\$2,398,900 494,700 1,904,200
Sources of Required Public Funds Federal Operating Assistance State Operating Assistance Local Operating Assistance	\$ 576,800 822,000 245,100	\$ 547,300 855,500 308,600	\$ 526,300 1,033,900 374,800	\$ 506,000 1,033,900 400,200	\$ 486,500 1,046,700 363,500	\$ 467,800 1,079,500 356,900
Service Effectiveness Total Expense per Passenger Total Revenue per Passenger Total Deficit per Passenger Percent of Expenses Recovered through Operating Revenues	\$1.83 0.42 1.41 23.0	\$1.88 0.43 1.45 23.0	\$1.94 0.41 1.53 21.4	\$1.89 0.40 1.49 21.2	\$1.82 0.39 1.43 21.2	\$1.79 0.37 1.42 20.6

	Projected in Year of Expenditure Dollars ^d					
Operating Characteristic	1990	1991	1992	1993	1994	1995
Annual Service Provided Total Vehicle Hours Total Vehicle Miles	56,300 704,200	56,400 704,700	63,400 803,200	63,400 803,200	63,400 802,600	63,200 800,100
Annual Ridership Total Revenue Passengers ^b	1,169,000	1,180,900	1,266,700	1,304,300	1,323,600	1,336,700
Service Cost Total Annual Operating Expenses ^C Total Annual Operating Revenue Total Annual Operating Deficit	\$2,135,100 491,200 1,643,900	\$2,222,200 510,800 1,711,400	\$2,557,700 547,900 2,009,800	\$2,658,200 564,300 2,093,900	\$2,706,200 572,700 2,133,500	\$2,806,200 578,400 2,227,800
Sources of Required Public Funds Federal Operating Assistance State Operating Assistance Local Operating Assistance	\$ 576,800 822,000 245,100	\$ 547,300 855,500 308,600	\$ 547,300 1,074,200 388,300	\$ 547,300 1,116,400 430,200	\$ 547,300 1,177,200 409,000	\$ 547,300 1,262,800 417,700
Service Effectiveness Total Expense per Passenger Total Revenue per Passenger Total Deficit per Passenger Percent of Expenses Recovered through Operating Revenues	\$1.83 0.42 1.41 23.0	\$1.88 0.43 1.45 23.0	\$2.02 0.43 1.59 21.4	\$2.04 0.43 1.61 21.2	\$2.04 0.43 1.61 21.1	\$2.10 0.43 1.67 20.6

^aBased on assumptions concerning fares and levels of federal and state operating assistance as shown in Table 52. Assumes no inflationary increases in operating expenses over the period. While passenger fares and federal transit operating assistance levels have been assumed to remain stable over the planning period, the amounts of passenger revenues and federal aid have been adjusted to reflect a decrease in the future value of these funds based upon the impacts which general price inflation has had in the past on transit system operating costs, total operating deficits, and local funding requirements.

^bIncludes ridership on specialized transportation services provided for disabled persons who are unable to use regular fixed-route transit service.

^cCosts include those associated with providing the existing specialized transportation service for disabled persons.

^dBased on assumptions affecting ridership and financial performance shown in Table 52, including inflationary increases in transit system operating expenses.

year of expenditure dollars may be expected to be 30 percent higher by 1995 than in 1991, increasing from about \$1,711,000 to about \$2,228,000. Assuming federal transit operating assistance funds remain stable over the period and state operating assistance funds increase from 42 to 45 percent of eligible operating expenses by 1995, the total local operating subsidy for the transit system may be expected to increase by about 35 percent, from about \$309,000 in 1991 to about \$418,000 by 1995.⁴

Fares

The preceding analysis was conducted assuming that no changes in the existing fare structure for the City of Kenosha transit system would be made over the planning period. As previously indicated by Figure 2 in Chapter II of this report, the transit system has regularly implemented fare increases in all fare categories since 1979, with increases in adult and student fares occurring about every two years, and increases in elderly and handicapped fares about every three years. Generally, ridership has declined in the years following such fare increases. For example, base adult cash fares were raised most recently in 1990, from \$0.55 to \$0.60 per passenger trip. Total annual ridership on the fixedroute transit system subsequently declined by about 2 percent from the 1989 ridership level of about 1,192,000 revenue passengers to the 1990 level of about 1,169,000 revenue passengers without any significant changes in service levels between those years. The decision to assume no

⁴The local share of the operating deficit for the alternatives discussed above assume that state aid levels will be increased to 45 percent of the eligible operating expenses by 1995. Such an increase will require future action by the Wisconsin Legislature and the Governor for calendar years 1994 and 1995. Should state operating assistance levels remain at 42 percent of eligible expenses during the entire period from 1992 through 1995, the local share of the operating deficit in 1995 may be expected to be about \$429,000 in constant 1991 dollars and about \$502,000 in estimated year of expenditure dollars, under the recommended plan. changes from the existing 1991 system passenger fares under the recommended transit service plan was made in light of the impacts of past fare increases on system ridership so that ridership changes projected under the recommended plan would reflect only the impacts of proposed changes in transit system routes and service levels.

Some changes in passenger fares over the planning period may, however, be warranted, both to reduce the annual local funding requirement for the transit system and to maintain the existing farebox recovery rate. In this respect, projected increases in the total system operating deficit resulting from general price inflation. increased service levels, and assumed stable amounts of federal transit operating assistance funds are expected to increase significantly the amount of city funding required annually to operate the transit system. In this event, a policy determination will have to be made by the responsible city officials as to whether to raise fares or increase the local public funding requirement. The farebox recovery rate for the transit system has remained relatively stable since 1987, with about 23 percent of system operating expenses recovered through system operating revenues in the recent past. In the absence of fare increases, by 1995 the recommended transit system may be expected to recover about 21 percent of its operating expenses from operating revenues.

If the City determines that fares should be increased, it is recommended that the City follow a policy under which the fare increases would be based on increases in operating expenses resulting from the effects of general price inflation. Under such a policy, fares for the transit system would keep pace with increases in operating expenses and it should be possible to maintain the existing fare box recovery rate for the transit system. Under such a policy, increases in fares should be considered to be warranted when operating expenses per unit of service provided have escalated by between 10 and 15 percent since the last fare increase. At that time, the fares should be increased by a comparable percentage. This policy could result in the implementation of fare increases every two or three years in amounts equivalent to \$0.05 to \$0.10 for the adult cash fare. This policy would also relate increases in fares directly to increases in the costs of providing transit service.

Capital Project Expenditures

The total capital expenditures associated with implementing the recommended transit system plan are estimated at \$2,814,000. These capital expenditures would be required for projects necessary to maintain the existing transit system over the period, as well as for implementing the recommended transit service changes. The capital projects and expenditures required for implementation of the recommended transit system are presented in Table 61.

The capital projects required to maintain the existing transit system include the remanufacture of 13 buses in the existing bus fleet, eight of which were purchased new in 1975 and five of which were purchased new in 1981;⁵ the purchase and installation of 20 bus passenger shelters throughout the transit system service area; the design and construction of a new central transfer terminal facility in downtown Kenosha; and the rehabilitation of portions of the transit garage facility, constructed new in 1975. The total cost of these capital projects is estimated at \$2,191,000. The additional capital projects required to implement the recommended transit service changes would include the purchase of three new 30-foot-long urban transit coaches equipped with wheelchair lifts or ramps, radios, and fareboxes; and the purchase and installation of approximately 170 bus stop signs. The total cost of these additional projects would be approximately \$623,000. Of the total cost of approximately \$2,814,000, between \$2,111,000 and \$2,251,000, or 75 to 80 percent, could be funded through the federal Urban Mass Transportation Administration Section 3 Discretionary or Section 9 Formula Transit Assistance Programs, respectively. The remaining 20 to 25 percent of total transit costs, amounting to between \$563,000 and \$704,000, would need to be funded by the City of Kenosha.

Sources of Funding

The distribution of the projected annual operating deficit for the recommended City of Kenosha transit system is presented in Table 60. There are currently two major nonlocal sources of funds which could be drawn upon to reduce the local financial commitment required for the implementation and subsequent operation of the recommended transit system: the U. S. Department of Transportation, Urban Mass Transportation Administration, and the Wisconsin Department of Transportation. It is recommended that the transit assistance funds available under the various programs offered by these governmental agencies continue to be sought, as they have in the past, by the City of Kenosha.

More specifically, it is also recommended that federal transit formula assistance funds continue to be sought to defray a portion of the annual operating deficit of the City of Kenosha transit system. The current source of such funds is the UMTA Section 9 Formula Transit Assistance Program, which makes federal transit assistance available to designated recipients within urbanized areas for planning, capital improvement, and operating assistance projects. The City of Kenosha has historically made use of federal Formula Transit Operating Assistance funds available under the UMTA Section 9 program, and its predecessor the UMTA Section 5 program, with the use of such funds dating back to 1975. The amount of federal transit operating assistance funds available to the City of Kenosha over the planning period was assumed to decline in terms of constant 1991 base year dollars from the current 1991 level of approximately \$547,000 to about \$468,000 by 1995. In estimated year of expenditure dollars, federal funds were assumed to remain stable at the 1991 level over the entire period. This amount would be sufficient to cover from about 25 percent of total system operating expenses in 1991 to about 20 percent of total system operating expenses in 1995.

⁵The capital projects for the recommended transit system assume the remanufacture of four "new look" buses in 1991 and four "new look" buses in 1992. The remanufacture of the four buses scheduled for 1992 will be dependent upon an assessment of the condition of the remaining six original "new look" buses, purchased new in 1975 and which will have been in service for 17 years by 1992, to determine if the remanufacture of four of those buses would be economically viable, or if four new buses should be purchased to replace these buses. With the purchase of four new 30-foot-long replacement buses, the total costs of the capital projects required under the recommended plan would increase to about \$3,110,800, with the city share of these costs estimated at between \$622,200 and \$777,700 under the existing federal transit capital assistance programs.

Table 61

CAPITAL PROJECT EXPENDITURES REQUIRED FOR THE CITY OF KENOSHA TRANSIT SYSTEM UNDER THE RECOMMENDED PLAN

	Capital Equipment or Project		
Quantity	Description	Unit Cost	a Total Cost ^a
8	Remanufactured GMC "New Look" buses with wheelchair lifts and new radios and fareboxes	\$112,500	\$ 900,000
5	Remanufactured GMC "RTS" buses with wheelchair lifts and new radios and fareboxes	112,500	562,500
3	30-foot-long, air-conditioned, heavy-duty urban transit coaches equipped with wheelchair lifts or ramps, radios, and fareboxes	177,000	531,000
170	Bus stop signs	7!	5 ^b 12,800
20	Bus passenger shelters	5,000	0 ^b 100,000
	Design and construction of a new central transfer terminal facility		200,000
	Rehabilitate transit garage facility		150,000
Total Acquis Contingenci Project Adm	ition and Construction Costs	· · · · · · · · · · · · · · · · · · ·	\$2,456,300 239,000 118,800
Total Capital	Project Costs		\$2,814,100
Federal SI Local Sha	nare of Eligible Capital Costs ^e	\$ 2	,110,600-2,251,300 \$562,800-703,500

^aExpressed in constant 1991 dollars.

b_{Installed.}

^cEstimated at 10 percent of total acquisition costs for buses, and 5 percent of total acquisition and construction costs for all other equipment and facilities.

^dEstimated at 5 percent of total acquisition costs for buses, and 2 percent of total acquisition and construction costs for all other equipment and facilities.

^eAssumes 75 to 80 percent of eligible capital costs could be funded through the federal Urban Mass Transportation Administration Section 3 Discretionary or Section 9 Formula Grant programs, respectively.

^fIncludes the 20 to 25 percent local matching funds required under the federal Urban Mass Transportation Administration grant programs.

It is also recommended that the City of Kenosha continue to seek funds to offset a portion of the operating deficit from the Wisconsin Urban Mass Transit Operating Assistance Program administered by the Wisconsin Department of Transportation. This program, authorized under Section 85.20 of the Wisconsin Statutes, provides operating assistance to all communities with a resident population of 2,500 or more persons with publicly supported transit systems. Operating assistance levels under this program have recently been increased from the 38.5 percent of total operating expenses available during 1991 to 42 percent of total operating expenses for calendar years 1992 and 1993. It has been assumed that state operating assistance under this program will be increased to 45 percent of total operating expenses by calendar year 1995. The state funds available to the City of Kenosha over the planning period were consequently assumed to range from about \$856,000 in 1991 to about \$1,080,000 in 1995, assuming constant 1991 dollars, and to about \$1,263,000 in 1995. assuming estimated year of expenditure dollars.

At the present time, the City of Kenosha has assumed responsibility for providing virtually the entire local share of the total operating deficit for the transit system not covered by federal or state operating assistance funds. The total local share of the operating deficit for the recommended transit system may be expected to range from the 1991 level of about \$309,000 to the 1995 level of about \$357,000 in constant 1991 dollars, or about \$418,000 in estimated year of expenditure dollars, which is about 14 percent of the total transit system operating expenses over this period. The recommended transit system, like the existing transit system, will include routes which extend to serve major traffic generators and areas of development outside the corporate limits of the City of Kenosha. In this respect, the existing transit system serves the University of Wisconsin-Parkside in the Town of Somers, employers in the LakeView Corporate Park in the Village of Pleasant Prairie, and the Factory Outlet Centre in the Town of Bristol. Transit service under the recommended plan would be extended to serve new areas of residential development adjacent to the City of Kenosha in the Town of Somers and to the Lakeside Marketplace Shopping Center in the Village of Pleasant Prairie. In the past, the City has indicated that it has been willing to assume responsibility for

the local share of the costs of such services in order that transit service which directly benefits the City of Kenosha residents can be provided. However, the City may in the future consider requesting local financial assistance for the costs of such service from the local jurisdictions which also benefit from its provision. Based upon the significant increase in the total local share of the transit system operating deficit which has been projected for the recommended transit services, local financial assistance from the Towns of Somers and Bristol, the Village of Pleasant Prairie, and the University of Wisconsin-Parkside could be needed in the future to insure the implementation and continued operation of the recommended transit services. The City would then need to enter into an intergovernmental agreement with these public entities to secure the necessary financial assistance.

It is also recommended that the City seek federal funds to offset a portion of the costs incurred in purchasing necessary capital equipment for the implementation of the recommended transit system. The source of these funds would be either the UMTA Section 3 Discretionary Capital Assistance Program, which would provide assistance to fund up to 75 percent of eligible project costs, or the UMTA Section 9 Formula Transit Assistance Program, which would provide assistance to fund up to 80 percent of eligible project costs. The federal capital assistance funds potentially available from these two programs could cover between about \$2,111,000 and \$2,251,000 of the total capital expenditures of about \$2,814,000.

The availability of federal transit capital assistance from either of these programs for the recommended transit system, however, cannot be guaranteed. Grants under the UMTA Section 3 program are made at the discretion of the Secretary of the U.S. Department of Transportation. Competition for the limited amount of Section 3 funds available nationwide for projects such as those proposed for the City of Kenosha is intense. The limited amount of UMTA Section 9 funds currently allocated to the State of Wisconsin also makes the availability of funding under this program uncertain. The current policy of the Wisconsin Department of Transportation in allocating the Section 9 funds available to the State among the transit properties eligible to use such funds is to maximize the use of available

funds for operating assistance, with only those funds not needed for operating assistance being made available for capital assistance projects. At the present time, the amount of UMTA Section 9 funds available in the State is not sufficient to fund the full 50 percent of operating deficits allowed under the Section 9 program. Consequently, no funds are currently made available for capital assistance projects under the Section 9 program. The use of the Section 9 program to fund the recommended capital projects for the City of Kenosha transit system would, therefore, require either a significant increase in the annual allocation of UMTA Section 9 formula assistance funds to the State of Wisconsin or a change in the current administrative policy of the Wisconsin Department of Transportation concerning the annual allocation of Section 9 funds for transit projects within the State. The limitations associated with both federal transit capital assistance programs could require the City of Kenosha to delay implementation of some of the recommended capital projects, or, possibly, to increase its local funding for the recommended capital projects.

PLAN IMPLEMENTATION

The operating characteristics and the financial requirements of the recommended transit system have been described in the previous sections of this chapter. In a practical sense, however, the plan is not complete until the steps required for implementation have been specified. Full implementation of the recommended plan will be dependent upon the coordinated actions of several agencies of government, including the City of Kenosha Common Council, the Village of Pleasant Prairie, the Towns of Somers and Bristol, the University of Wisconsin-Parkside, the Southeastern Wisconsin Regional Planning Commission, the Wisconsin Department of Transportation, and the U.S. Department of Transportation, Urban Mass Transportation Administration. These public bodies have vital roles in providing the necessary endorsement and operational and financial support required to achieve plan implementation.

City of Kenosha

The City will have the primary responsibility for the actions necessary to implement the recommended transit system development plan, since the City both owns the transit equipment and is responsible for the administration of the transit system. Accordingly, it is recommended that the City adopt the transit system development plan set forth herein and use it as a guide in taking the actions needed to make the recommended service changes, including refining the recommended routing and service changes affecting transit service within the City of Kenosha.

The City will also need to consider whether the local costs of the recommended transit services should continue to be borne principally by the City, as at present, or if local funds from other public bodies, such as the Towns of Bristol and Somers, the Village of Pleasant Prairie, and the University of Wisconsin-Parkside, should be sought in recognition of the transit service provided to the major traffic generators and residential development within each jurisdiction served by the city transit system. In the past, the City has indicated a willingness to use city funds to pay the local share of transit system operating deficits so that transit service to major traffic generators outside the City of Kenosha corporate limits which directly benefitted city residents be provided without interruption. However, the substantial increase in the total local funding requirement which is projected in the future for the transit system with the recommended service changes could influence the City to change its past policy on this matter. In this event, it is recommended that the City of Kenosha, in the interest of equity, establish a policy whereby transit service would not be extended at the expense of city taxpayers to areas or major trip generators located outside the City if such service extensions would primarily benefit noncity residents, unless the local costs of such service would be covered by subsidies from sources other than the City of Kenosha. If local financial assistance is to be requested from a unit or agency of government, it is recommended that the City enter into an intergovernmental agreement with the governmental unit or agency for the financial assistance needed.

The City will also be responsible for satisfying all federal administrative regulations associated with the use of federal funds. While the City is currently in compliance with all such regulations, the regulations will require the City to schedule and hold a public hearing prior to the
implementation of the recommended routing changes. In addition, the City will need to consider whether changes are warranted to its existing specialized transportation service for disabled persons in response to the new federal regulations which have been issued on this matter. As previously noted, the City has requested the assistance of the Commission staff in the preparation of a plan which would document any necessary changes in its existing specialized transportation service in order to meet the new federal requirements.

<u>The Village of Pleasant Prairie,</u> <u>Town of Somers, Town of Bristol,</u> and University of Wisconsin-Parkside

The recommended plan proposes the operation of bus routes which extend outside the City of Kenosha corporate limits to serve major traffic generators and residential areas within the Village of Pleasant Prairie, the Town of Somers. the Town of Bristol, and also the University of Wisconsin-Parkside. It is recommended that these four agencies of government work with the City of Kenosha as needed in refining the recommended routing and service changes affecting each entity in order that these service changes can be implemented in a timely manner. Since the transit services which have been proposed to be provided to each of these entities are an integral part of the recommended transit system plan, it is also recommended that these governmental units consider providing local funds in recognition of the transit service provided by the City. The City may request the provision of such funds in the future to support the implementation or continued operation of the recommended transit system.

Southeastern Wisconsin

Regional Planning Commission

The Southeastern Wisconsin Regional Planning Commission has the statutory authority to carry out the continuing, comprehensive, and cooperative areawide land use and transportation planning process required by federal regulations in the seven-county Southeastern Wisconsin Region. The Commission has regularly prepared short- and long-range transportation plans for the Region, which are consistent with federal laws and regulations. Under such regulations the Commission is responsible for developing and annually updating a transportation improvement program for the Region which identifies both highway- and transit-related improvement projects for an upcoming five-year period; provides for the staging of improvements over the five-year program period, including estimates of the costs and revenues over the program period; and relates the improvements recommended in the program to the adopted transportation system plan for the Region.

In order for the City of Kenosha to receive the federal transit assistance funds necessary to fully implement the recommended transit plan, operating assistance and capital projects for the recommended transit system must be included in the transportation improvement program annually submitted by the Commission to the U.S. Department of Transportation. Accordingly, it is recommended that the Southeastern Wisconsin Regional Planning Commission adopt the city transit system development plan and, at the specific request of the City of Kenosha, include the recommended operating and capital projects for the city transit system in the transportation improvement program for the Southeastern Wisconsin Region.

U. S. Department of Transportation, Urban

Mass Transportation Administration, and

the Wisconsin Department of Transportation Both the U.S. Department of Transportation, Urban Mass Transportation Administration, and the Wisconsin Department of Transportation administer programs which provide financial assistance to public transit systems. It is recommended that the City of Kenosha continue to make use of funds available under such programs to minimize the local public costs of the recommended transit plan. It is also recommended that both the state and federal agencies concerned endorse the recommendations of the transit plan as a guide for the programming, administration, and granting of federal and state assistance funds in support of the city public transportation program.

Subsequent Plan Adjustment

No plan can be permanent in all its aspects. Monitoring of changing conditions and of the effectiveness of implemented plan recommendations is essential if the validity and viability of the adopted plan are to be maintained. It is recommended that the City of Kenosha, with the assistance of the Regional Planning Commission, assume responsibility for periodically reviewing and updating the adopted plan as new urban development occurs and travel patterns and trip-making characteristics change and as data on the effectiveness of implemented service changes become available. The plan updating will require the same close cooperation among local and state agencies that was evident in the preparation of the transit system development plan itself. To achieve this necessary coordination and, therefore, the timely implementation and updating of the plan, it is recommended that the City of Kenosha Transit Planning Advisory Committee remain active and meet at the specific request of the City of Kenosha to address any problems which may develop in the implementation of plan recommendations.

SUMMARY

The recommended plan for the City of Kenosha's fixed-route transit service calls for a number of changes in the existing route structure of the city transit system to expand transit service to areas of new or expanding residential, commercial, or industrial development within the study area; to provide for more direct crosstown routing; and to eliminate or reduce service on existing route segments with low ridership. The recommended plan proposes modifications to all seven existing regular routes in the transit system, plus the creation of a new eighth regular route serving the northern one-half of the City of Kenosha. This new eighth regular route would permit the city transit system to extend transit service to residential areas in the Town of Somers, immediately adjacent to the City, which had been identified as high priority areas for transit service expansion. The recommended plan also proposes changes to the two existing shuttle routes operated by the transit system to enable the routes to expand their coverage to areas of new residential, commercial, and industrial development within the study area. In addition, the plan proposes the creation of a new shuttle route to serve the Lakeside Marketplace Shopping Center in the Village of Pleasant Prairie. Finally, the plan proposes that the City continue to operate the special system of peak-hour tripper routes for junior and senior high school students.

The recommended plan also proposes that the regular routes of the transit system continue to

use a central transfer terminal located in the Kenosha central business district, albeit, at a new location. In this respect, recently proposed changes in the street system of the Kenosha central business district will require the existing central transfer terminal to be relocated from its current site at the intersection of 6th Avenue and 56th Street, on the northern end of the 6th Avenue pedestrian mall. The characteristics of three potential sites for the relocated central transfer terminal within the central business district were reviewed with respect to site ownership, size, proximity to the existing central transfer terminal facility, and existing and planned land use. After this review of characteristics for each site, it was recommended that the site of the new central transfer terminal facility be a city-owned parking lot located on the north side of 56th Street between 7th Avenue and 8th Avenue. The development of the central transfer facility on this site would not result in a great inconvenience to existing transit passengers with trip origins or destinations within the central business district because it would be located within one block of the existing central transfer terminal facility. The existing facility is considered to be centrally located with respect to the trip origins and destinations of transit passengers within the central business district. In addition, the development of the facility on this site would be consistent with the proposed land use for the site as set forth under the recently completed development plan for the Kenosha central business district.

It was recommended that all routing and service changes be implemented as soon as they are determined to be practicable by the city staff. For the purposes of preparing projections of ridership and financial requirements for the recommended system, it was assumed that all routing and service changes would be implemented at the start of 1992.

The recommended plan also calls for the City to continue to provide transit services designed to be used by disabled persons, including on-call accessible fixed-route bus service on the regular city bus routes and specialized door-to-door transportation service provided throughout the transit system service area through the Kenosha County Department of Aging Care-A-Van program. No significant changes to the City's current public transit services for disabled

persons are proposed to be made as a result of the routing and service changes recommended for the City's fixed-route transit system. The City may, however, be able to increase the amount of accessible bus service which it provides over the bus routes of the transit system as more vehicles in its bus fleet become equipped with wheelchair lifts through either the remanufacture of older vehicles in the bus fleet or the purchase of new vehicles as called for under the recommended program of capital projects. Some changes may be required for the City's specialized transportation service for disabled persons provided through the Care-A-Van program because of new federal regulations. The City of Kenosha has requested that the staff of the Southeastern Wisconsin Regional Planning Commission prepare a plan which will assist the City in meeting the new federal regulations.

With the assumed implementation of the recommended transit service changes in 1992, ridership levels on the transit system by 1995 would be expected to increase by about 13 percent over 1991 levels, from about 1,181,000 revenue passengers to about 1,337,000 revenue passengers. While operating revenues would also be expected to increase by about 13 percent, from about \$511,000 in 1991 to about \$578,000 in 1995, total operating expenses for the transit system would be expected to increase by about 26 percent over the same period, from about \$2,222,000 in 1991 to about \$2,806,000 in 1995. As a result, the total 1995 operating deficit for the transit system of about \$2,228,000 would be expected to be about 30 percent higher than the total 1991 operating deficit of about \$1,711,000.

It is recommended that federal and state funds be drawn upon to reduce the local financial commitment required for the implementation of the recommended service improvements and subsequent annual operation of the transit system. It is recommended that federal transit operating assistance funds through the UMTA Section 9 Formula Transit Assistance Program continue to be sought to the portion of the annual operating deficit of the City of Kenosha transit system. Assuming that the amount of federal transit operating assistance funds available to the City of Kenosha would remain stable at the current 1991 level of approximately \$547,000, federal operating assistance would be sufficient to cover from about 32 percent of the

total system operating deficit in 1991 to about 25 percent of the total system operating deficit in 1995. Assuming that state operating assistance funds would increase from 42 to 45 percent of eligible operating expenses by 1995, the state funds available to the City of Kenosha would be expected to range from about \$856,000 in 1991 to about \$1,263,000 in 1995, representing between 50 and 57 percent of the total system operating deficit, respectively. The use of available federal and state operating assistance funds would result in a total local funding requirement for the recommended transit system which would range from about \$309,000 in 1991 to about \$418,000 in 1995, representing about 18 percent of the total system operating deficit in both 1991 and 1995.

It is also recommended that federal transit assistance be obtained to offset a portion of the total expenditures for capital improvements identified for the recommended transit system during the planning period. The cost of the recommended capital projects was estimated at \$2,814,000. Of this amount, between approximately \$2,111,000 and \$2,251,000, or 75 to 80 percent, could be funded through the federal Urban Mass Transportation Administration, Section 3 Discretionary, or Section 9 Formula Transit Assistance Programs, respectively. The remaining 20 to 25 percent of the total capital project costs, between \$563,000 and \$704,000, would need to be funded by the City of Kenosha.

The City of Kenosha would bear most of the responsibility for implementation of the recommended transit plan. Such responsibility will include refining the recommended routing and service changes; determining whether funding from other local governments and public agencies which are served by the routes of the transit system will be required; applying for federal and state transit assistance funds; and satisfying the various administrative regulations associated with the receipt and use of federal transit assistance funds. In addition, other plan implementation actions will be required from the Southeastern Wisconsin Regional Planning Commission, from the U.S. Department of Transportation Urban Mass Transportation Administration, and from the Wisconsin Department of Transportation to ensure that federal and state funds are available to support the implementation and subsequent annual operation of the recommended transit system.

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Chapter VIII

SUMMARY AND CONCLUSIONS

INTRODUCTION

This report sets forth a transit system development plan for the city of Kenosha. The new plan is intended to update the previous transit system development plan prepared for the City by the Regional Planning Commission covering the period 1984 through 1988, completed in 1983. This new plan was prepared by the Regional Planning Commission at the request of the City of Kenosha.

The Kenosha transit system development plan is a short-range action plan, covering a period of five years. The plan is based upon a thorough evaluation of the performance of the existing transit system, an analysis of the person travel habits and patterns of the residents of the City and the transportation needs associated with the existing land use pattern, and upon a careful evaluation of alternative service options. It recommends a coordinated set of service and capital improvements which, if implemented, should provide efficient and effective public transit service consistent with available financial resources. The transit system development plan includes a five-year staging plan for transit improvements and identifies the financial commitment and actions required of the various levels and units of government involved in implementation of the plan. It has been prepared in sufficient detail for the first two years of the five-year program to provide an operational plan that is immediately implementable.

PURPOSE OF THE TRANSIT SYSTEM DEVELOPMENT PLAN

The new transit system plan was intended to serve four purposes. First, the plan was to evaluate the effectiveness of the existing transit system routes in serving the population, major trip generators, and travel patterns within the City. Second, the plan was to evaluate the financial performance of the existing transit system with respect to operating costs, passenger revenues, operating deficit, and proportion of operating costs recovered from passenger revenues. Third, the plan was to recommend potential changes to the existing transit services with respect to operations and areas served. Fourth, the plan was to provide a sound basis for monitoring the implementation status of the plan and the updating required to maintain a valid plan throughout the five-year planning period.

STUDY ORGANIZATION

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

To provide guidance to the technical staffs in the preparation of this plan, and to more directly and actively involve concerned and affected public officials and citizen leaders in the development of transit service policies and improvement proposals, the City of Kenosha acted in November 1990 to create a Kenosha Public Transit Planning Advisory Committee. The full membership of this Committee is listed on the inside front cover of this report.

EXISTING TRANSIT SYSTEM

During 1990, the major supplier of local public transit service in the Kenosha area is the City of Kenosha, which has operated the Kenosha transit system since September 1971. The City of Kenosha owns the facilities and equipment for its fixed-route transit system and operates it with municipal employees under the direction of the Department of Transportation. The policymaking body of the transit system is the Kenosha Transit Commission. However, the Kenosha Common Council has the ultimate responsibility for review and approval of certain important matters, including the annual program budget.

<u>Fixed-Route and Specialized Transit Services</u> During 1990 the fixed-route transit system consisted of seven regular bus routes, nine peakhour tripper routes, and two shuttle routes. The alignments of these bus routes are shown on Maps 2 through 4 in Chapter II.

All seven of the regular local bus routes are radial in design and provide direct, no-transfer bus service to the Kenosha central business district. Cycle, or pulse, scheduling is used by the transit system so that all buses meet at the common transfer site in downtown Kenosha at approximately the same time to facilitate transfers between routes. Headways of 30 to 60 minutes during weekday peak periods and 60 minutes during weekday middays and all day Saturday are maintained on the regular routes. The seven regular bus routes serve the City of Kenosha primarily, with one bus route extending into the Town of Somers to serve the University of Wisconsin-Parkside.

The special peak-hour tripper routes operate only on regular school days and are designed to accommodate the movement of junior and senior high school students within the City, although they can also be used by the general public. The two special shuttle routes are operated to provide access to major commercial and employment centers which have developed recently outside the regular service area of the transit system. Both shuttle routes use the common transfer point for the regular routes of the transit system as a terminus within the City.

In addition to fixed-route transit service, the transit system also provides a specialized transportation service which is designed to serve any disabled person who is unable to use the City's regular bus service because of the nature of his or her physical disability. The City of Kenosha provides funds for the service, provided under the Care-A-Van program administered by the Kenosha County Department of Aging. The Kenosha Achievement Center, Inc., provides this service on a contract basis for the Department of Aging and the City of Kenosha.

Ridership

The City of Kenosha transit system experienced steadily increasing transit ridership each year from 1972 through 1980, primarily because of new and expanded transit service, new operating equipment, stable passenger fares, and substantial increases in gasoline prices. Both transit system ridership and service levels reached their highest levels under city operation in 1980, when the transit system carried about 1,343,000 passengers and operated about 862,000 revenue vehicle miles of service. The transit system generally experienced steadily declining transit ridership between 1981 and 1985 because of increases in passenger fares, reductions in service, and a severe economic recession resulting in high unemployment within the Kenosha area, particularly during 1981 through 1983. By 1985, bus miles of service had declined to about 662,000 revenue vehicle miles, or by about 23 percent from 1980 levels; ridership had declined to about 1,194,000 revenue passengers, or by about 11 percent from 1980 levels. After 1985 ridership on the transit system has fluctuated, declining during both 1986 and 1987 before increasing during 1988 and 1989 and then declining again during 1990. During 1990, the transit system carried about 1,169,000 revenue passengers, or approximately 20 percent less than carried by the system in 1985. Currently, Routes No. 1, 2, 3, and 4 are the most heavily used of the seven regular routes in the transit system. The transit system operated about 634,000 revenue vehicle miles of service during 1990.

Financial Performance

Since 1985 the total annual operating expenses for the transit system have increased by about 22 percent, from about \$1,757,000 in 1985 to about \$2,135,000 in 1990. Operating revenues have increased by about 17 percent, from about \$420,000 in 1985 to approximately \$491,000 in 1990. The operating deficit has increased substantially since 1985, from about \$1,337,000 in 1985 to about \$1,644,000 in 1990, an increase of about 23 percent. Although the local bus system is not financially self-sufficient, the Kenosha Transit Commission has managed to minimize the public funding requirement for the City of Kenosha by using available federal and state transit assistance funds. During 1990 about 23 percent of the transit system operating expenses were obtained from operating revenues, about 27 percent were obtained from the federal transit operating assistance program, about 38 percent were obtained from the state transit assistance program, and the remaining 12 percent were obtained from property taxes levied by the City of Kenosha.

Other Transit Services

In addition to the public transit services provided by the City of Kenosha, there are also other transit services provided within the study area. Local bus service is also provided within the study area by the City of Racine, which extends one route of its transit system into Kenosha County to serve the University of Wisconsin-Parkside. Intercity bus service is provided by two private carriers, Wisconsin Coach Lines, Inc., and Greyhound Lines, Inc., which operate routes connecting Kenosha with Milwaukee, Racine, and Chicago. Commuter railway passenger service between Kenosha and Chicago is provided by the Chicago & North Western Transportation Company, Inc., for the Northeast Illinois Railroad Corporation (Metra). The Kenosha Unified School District provides special school transportation for regular education within the study area to pupils who either reside two miles or more from the school they are entitled to attend within the School District or who would otherwise face hazardous walking conditions on their journey to and from school. Also, several specialized transportation services intended to serve the needs of elderly and/or disabled individuals are provided within the study area, the principal sponsors of which are the Kenosha County Department of Aging and the Kenosha County Department of Community Programs, both of which contract with the Kenosha Achievement Center, Inc., to provide the specialized transportation services.

LAND USE, SOCIOECONOMIC, AND TRAVEL CHARACTERISTICS OF THE STUDY AREA

Study Area

The study area considered in this report comprises the eastern portion of Kenosha County and includes all the City of Kenosha, the Village of Pleasant Prairie, and the Town of Somers, as well as the eastern one-third of the Towns of Bristol and Paris. The location of the study area within the Southeastern Wisconsin Region is shown on Map 1 in Chapter I. The study area includes the entire area served by the fixed-route bus system operated by the City of Kenosha in 1990.

Land Use

With respect to land use, historic urban development in the study area generally occurred in relatively tight, concentric rings outward from the center of the City of Kenosha until about 1950. Urban development after 1950 became discontinuous and diffused throughout much of the study area, with few major concentrations of complete urban development. The City of Kenosha is one of only a few substantial areas within the County which are fully developed for urban uses at truly urban densities and, therefore, has a good potential to support efficient local transit service. Since 1960, population growth and urbanization within the Kenosha transit system development plan study area has intensified; urban land uses within the study area increased by about 27 percent. This rapid urbanization has been marked by a diffusion of both commercial and residential development in the study area and by a declining importance of the central business district as an employment and shopping center.

Also reviewed was the density of urban development within and around the study area, as, particularly, traditional forms of local transit service may generally only be efficiently provided in the areas of medium- to high-density land uses. As shown on Map 10 in Chapter III, high-density land uses and substantial areas of medium-area land uses currently exist within the study area only in the City of Kenosha.

Population

The population within the City of Kenosha and the study area was identified as remaining virtually unchanged since 1970. The 1990 population of the study area was estimated to be 101,500, of which about 79,400 persons, or 78 percent, resided within the City of Kenosha. The number of households in the City of Kenosha increased from about 24,200 to 28,000 households, or by about 16 percent, between 1970 and 1980, while the number of households within the study area increased from about 30,000 to 35,100, or by about 17 percent, during this period. A much slower growth in households of about 6 percent within the City and 7 percent within the study area occurred between 1980 and 1990, with an increase to about 29,700 within the City and to about 37,700 households within the study area.

Six population groups which exhibit typically high dependence on public transportation for mobility were identified within the study area: school-age children, the elderly, low-income families, minorities, the handicapped, and persons residing in households with limited automobile availability. As part of this process, the locations of facilities used by elderly and disabled persons for housing, residential care, rehabilitation or training, and recreational purposes, along with the location of special federally subsidized rental housing for lowincome families and individuals, were identified. The facilities identified in the Kenosha area are summarized in Table 31 and their locations are shown on Map 21 in Chapter III. Identification of the place of residence of these groups within the study area indicated that, except for schoolage children, the highest concentrations were located within the older, intensively developed portions of the City of Kenosha, making this area one of high need for transit service.

Employment Characteristics

The estimated 1990 employment within the Kenosha study area was 42,000 jobs. About 35,000 jobs, or about 85 percent of the study area total, were located within the City of Kenosha. Employment in the study area and in the City of Kenosha increased dramatically between 1972 and 1980. Employment increased from about 33,000 to about 39,200 jobs, or by about 19 percent, within the City of Kenosha; and from about 38,200 to about 46,500 jobs, or by about 18 percent, within the study area. Employment levels in the City of Kenosha and the study area decreased by about 10 percent between 1980 and 1990. The nationwide recession, which began in about 1979 and from which local recovery did not begin until 1984, accounted for the decrease in employment during this period. Employment levels in the study area also suffered a major setback in December 1988 with the closing of the Chrysler Motors automotive body assembly plants within the City of Kenosha and the associated loss of approximately 5,000 jobs. It is anticipated, however, that the number of jobs lost through the closing of the Chrysler Motors plants will with time be more than offset by employment opportunities at new commercial, office, and industrial developments which have recently been completed, are currently underway, or which have been proposed to be completed in the near future within the study area.

The density of employment in the study area in 1990 is shown on Map 15 in Chapter III. Within the study area the major concentrations in employment in 1990 were located in the City of Kenosha within those quarter-sections which contained one or more major employment centers.

Major Traffic Generators

Also identified were the locations of all major traffic generators in the study area, including shopping areas, educational institutions, community and special medical centers, governmental and public institutional centers, employment centers, and recreational areas. The major traffic generators identified are summarized in Table 32 and their locations shown on Map 22 in Chapter III. Identification of the locations of these generators indicated that the vast majority were well concentrated in the highly urbanized areas of the City of Kenosha.

Travel Habits and Patterns

<u>Total Person Travel Characteristics</u>: It is estimated that 327,000 person trips are currently made on an average weekday to or from points inside the study area, with the greatest concentrations of internal trip ends found within the Kenosha central business district and the Pershing Plaza shopping area. The number of person trips using the city transit system, however, has decreased to about 4,300 trips per average weekday and now represents about 1.3 percent of all internal person trips within the study area.

Transit Person Travel Characteristics: An onboard bus survey was conducted on the Kenosha transit system bus routes by the Regional Planning Commission on December 5, 6, 7, and 13, 1989, to ascertain the socioeconomic and travel characteristics of the users of the City's transit system. The survey data collected indicated that the current transit users were predominantly female, 18 years of age and under, and without a valid driver's license. Transit riders were also found to come predominantly from households having three or more persons, no automobile or only one automobile available, and an annual income of less than \$10,000. Similar survey data concerning the trip characteristics of the transit passengers indicated that the plurality of trips made on the transit system were school-based and home-based work trips, with about 62 and 14 percent, respectively, of all transit trips made for these purposes. Some comments and suggestions were also received calling for expansion of the days and hours of transit system operation, reduction of operating headways, the modification of existing routes or addition of new routes, improved on-time performance, and improving bus stops by adding certain passenger amenities.

TRANSIT SERVICE OBJECTIVES AND STANDARDS

A set of transit service objectives were developed to provide criteria against which the performance of the existing transit system could be assessed, by which alternative service options and plans could be designed and evaluated, and according to which recommendations for improvement could be made. Complementing each of the objectives is a planning principle and a set of service and design standards. Each set of standards is directly related to an objective and serves to facilitate quantitative application of the objectives in the evaluation of the performance of the existing transit system, provide guidelines for the consideration of new or improved services, and provide warrants for capital projects.

The specific objectives basically envision a transit system which will effectively serve the City while minimizing the costs entailed. More specifically, the following objectives were adopted by the Kenosha Public Transit Planning Advisory Committee:

- 1. Public transit should serve those areas of the City and its immediate environs which can be served efficiently, including those areas which are fully developed to medium or high densities, and, in particular, the transit dependent population within those areas.
- 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.

TRANSIT SYSTEM PERFORMANCE EVALUATION

A performance evaluation of the City of Kenosha transit system was conducted at two levels, using specific performance measures related to the attainment of key transit system objectives and standards.

mance was made on a systemwide basis. This

Systemwide Performance Evaluation At the first level, an assessment of the perforassessment examined the extent to which the transit systems served the existing land use pattern and resident population of the City of Kenosha and environs, the overall ridership and financial performance of the transit system, and the transit system's contribution to the efficiency of the total transportation system. The conclusions reached from this systemwide performance assessment included:

- 1. The existing transit system provides excellent areal coverage of the existing residential areas of the City of Kenosha located east of Green Bay Road, together with some coverage of the more densely populated residential areas located adjacent to the City within the Village of Pleasant Prairie.
- 2. The transit system also provides good coverage of the existing major nonresidential land use centers in the study area, serving 123 of the 141 centers identified.
- 3. The transit system provides excellent areal coverage of the residential concentrations of transit dependent population groups and of the facilities used by elderly and/ or disabled persons. Nonambulatory and semi-ambulatory disabled persons within the transit system service area are also provided with specialized door-to-door transportation service by the Care-A-Van program operated by the Kenosha Achievement Center under contract with the City of Kenosha and the Kenosha County Department of Aging.
- 4. The existing route structure of the transit system is unable to serve fully much of the proposed new or expanding residential, industrial, commercial, and office development within the western portion of the study area. Some routing changes will therefore be needed in the near future if those developments which warrant transit service are to be served as they are completed.
- 5. To accommodate the westward expansion of transit service, consideration should be given to relocating the site of the common transfer terminal to a more central location outside the downtown area, and also to adjusting the current pulsed headways used on the transit system.

- 6. In terms of ridership and financial performance, the Kenosha transit system compares favorably to other similar sized urban bus systems in Wisconsin. In this respect, the ridership and effectiveness levels of the Kenosha transit system are above average when compared to that for small and medium-sized urban bus systems within Wisconsin. The trends observed for the Kenosha transit system with respect to operating expenses per vehicle mile and per vehicle hour and operating expenses and deficits per passenger also compare favorably with the trends observed for small and medium-sized urban bus systems statewide during the period 1984 through 1988.
- 7. The overall energy efficiency of the city transit system in serving travel on an average weekday within the Kenosha area is higher than that of the private automobile. Consequently, the transit service provided by the system does reduce the use of petroleum-based motor fuel by Kenosha area residents on a daily basis.
- 8. The transit system may contribute to the efficiency in the provision of total capacity on the transportation system by reducing peak-hour automobile traffic and the potential for congestion on streets within the Kenosha central business district.

Route Performance Evaluation

The second part of the performance evaluation was an assessment of the performance of the regular routes of the transit system based upon their ridership, productivity, and financial performance. Further analyses of each route were then conducted to identify the productive and nonproductive route segments, the operating headways and peak passenger loading characteristics, any problems with schedule adherence, the directness of route alignments, and the ability to conveniently accommodate transfers. The following conclusions were drawn from this assessment of route performance:

1. Certain regular bus routes have weekday performance levels consistently above the specified minimum performance standard of 80 percent of the average effectiveness level for all regular routes, including Routes No. 1, 2, 3, 4, and 5. Based solely on their ridership and financial performance, these routes could continue to be operated without change.

- 2. Other regular routes have weekday performance levels consistently below the specified performance standard, including Routes No. 6 and 7. Service changes on these routes should be considered.
- 3. At least one unproductive route segment was found on each of the seven regular bus routes, with Routes No. 6 and 7 containing the most unproductive route segments, five of the seven segments on Route No. 6 and five of the eight segments on Route No. 7. This information should be viewed as an indicator of where routing changes should be considered in the current route structure.
- 4. As some bus routes must pass through areas of little residential development or few major trip generators in order to reach other residential areas or trip generators, such bus routes must be expected to perform at somewhat lower levels of efficiency than other bus routes if the transit system is to continue to provide extensive areal coverage of the City of Kenosha and environs.
- 5. With the exception of Route No. 1, the same regular routes perform above or below the specified minimum performance levels on Saturdays as on weekdays. The failure of Route No. 1 to achieve the specified minimum performance levels on Saturdays was attributed to a significant proportion of route ridership which uses Route No. 1 for school-related travel on weekdays and not on Saturdays.
- 6. The existing headways operated on the regular routes of the transit system are capable of accommodating existing levels of passenger demand at the recommended load standards. However, the load factors on Route No. 2 often approach, or sometimes exceed, prescribed loading standards during off-peak periods. Consequently, some consideration should be given to providing additional bus service to the commercial development along 52nd Street to reduce the high off-peak period loadings which have been observed on Route No. 2.

- 7. Based upon random spot checks of schedule adherence, the on-time performance of the existing transit system was found to be somewhat below the recommended performance level of 95 percent on time, as set forth under the transit service objectives and standards. Problems with schedule adherence were found to exist only at bus stops located away from the downtown terminal, with the principal problems noted being early departures at bus stops. To correct such problems, the scheduled running time between stops should be reviewed and, possibly, modified to reflect different passenger loading and traffic conditions which occur throughout the day and which affect actual running time between stops.
- The existing alignments of the bus routes of 8. the transit system are relatively direct and result in only a minor amount of inconvenient travel for short trips made between the neighborhoods and major traffic generators located along each route. However, the existing alignments of Routes No. 3, 4, 6, and 7 have sections which are circuitous and do result in a significant amount of inconvenience in travel for longer crosstown trips. In addition, the large one-way loops incorporated at the outer ends of Routes No. 1, 6, and 7 can inconvenience passengers traveling between points along the loop. Efforts should be made to provide for more direct crosstown routing, and to reduce the size or eliminate large one-way loops reduce the inconvenience to passengers traveling crosstown or along the existing loop segments.
- 9. A substantial degree of coordination exists among the routes and schedules of the regular routes of the Kenosha transit system, allowing for most transfers between routes to be conveniently accommodated. Significant transfer movements were found to occur on weekdays between Routes No. 1 and 3, Routes No. 3 and 4, and Routes No. 2 and 4, and on Saturdays between Routes No. 2 and 4. However, the number of passengers making these transfer movements was found to represent a relatively small proportion of the total ridership on the specified routes. Consequently, changes

which would combine portions or segments of one route with a different route were not found to be warranted.

<u>Conclusions</u>

The performance evaluation indicated that changes in the route configuration of the existing transit system will be needed if the City is to maintain its policy of providing complete geographic coverage to all areas of the City, including areas proposed for new and expanding development which are located west of Green Bay Road, including within areas recently annexed by the City. The analyses also 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 TRANSIT SERVICE CHANGES

The alternative transit service plans identified for the City of Kenosha transit system were developed in response to the findings of the performance evaluation of the existing transit system, as previously noted in this chapter, and also considered recently proposed changes in the street system of the Kenosha central business district. With respect to proposed changes for the street system within the central business district, the alternatives considered that the planned reopening of the 6th Avenue mall to two-way vehicular traffic would require that the existing central transfer terminal for the regular routes of the transit system be relocated from its current site at the intersection of 6th Avenue and 56th Street. In order to better accommodate the proposed western expansion of transit service to serve areas of development which is occurring or is proposed to occur in the portion of the study area west of Green Bay Road, the alternatives developed included consideration of a new location for the central transfer facility located further west and more centrally within the proposed transit service area, as well as a new site in the central business district. A total of six potential site locations, three in downtown Kenosha and three along 52nd Street between 30th Avenue and 38th Avenue, were identified for the central transfer facility.

Alternative Transit Service Plans

With these considerations in mind, three alternative transit service plans were formulated and evaluated for the City of Kenosha Transit system. <u>Alternative 1—Status Quo</u>: Under this alternative, no changes would be made to the existing transit system as operated during 1991, aside from relocation of the central transfer terminal to a new location within the Kenosha central business district. The extent of service which would be provided by the transit system under this alternative is shown on Map 27 in Chapter VI.

By 1995 the annual ridership on the transit system under this alternative was projected to increase to about 1,229,000 revenue passengers. or by about 4 percent over the projected 1991 ridership level of about 1,181,000 revenue passengers. The annual local operating subsidy for the transit system was projected to increase to about \$351,000 by 1995, or by about 14 percent over the projected 1991 level of about \$309,000. The total cost of capital projects required to maintain the existing transit system, which included the remanufacture of 13 buses in the existing bus fleet, the construction of a new central transfer terminal facility, and the rehabilitation of the transit garage, was estimated to total \$2,191,000, with the City's share estimated at between \$438,000 and \$548,000 under existing federal transit capital assistance programs.

Alternative 2-Modified System with Downtown Central Transfer Terminal: This alternative would also retain a downtown location for the central transfer terminal within the Kenosha central business district. The alternative would also propose changes to the existing regular and shuttle routes operated by the transit system. The changes proposed under this alternative included changes to the alignments of all seven of the existing regular routes plus the addition of an eighth regular route serving the northern half of the City of Kenosha. The alternative also proposed modification to the two shuttle routes currently operated by the transit system serving the Dairyland Greyhound Park and the Factory Outlet Centre, and the LakeView Corporate Park, plus the creation of a third shuttle route which would serve the Lakeside Marketplace Shopping Center. The routing changes and extent of transit service proposed under this alternative are shown on Maps 28 and 29 in Chapter VI.

By 1992 the annual ridership on the city transit system under this alternative was projected to increase to about 1,337,000 revenue passengers, or by about 13 percent over the projected 1991 ridership level and by about 9 percent over the projected 1995 ridership level under Alternative 1. The annual local operating subsidy was projected to increase to about \$418,000 by 1995, or by about 35 percent over the projected local operating subsidy in 1991, and about 19 percent over the projected local operating subsidy in 1995 under Alternative 1. The total cost of capital projects required for this alternative, which included the projects required for Alternative 1 plus the purchase of three new buses and other related equipment, was estimated at \$2,814,000, with the City's share estimated at between \$563,000 and \$704,000 under the existing federal transit capital assistance program.

Alternative 3—Modified System with Outlying Western Central Transfer Terminal: This alternative would propose relocating the central transfer terminal to a more centrally located site generally along 52nd Street between 30th Avenue and 39th Avenue. The alternative would also propose changes to the existing regular and shuttle routes operated by the city transit system. The proposed service changes under this alternative included changes to all seven existing regular bus routes to serve the outlying central transfer terminal location and the addition of a new eighth regular route to serve area of the City west of 39th Avenue and north of 52nd Street. Service changes proposed for the shuttle routes operated by the transit system were basically the same as those proposed under Alternative 2, with those routes also modified to serve the new outlying central transfer terminal location. The routing changes and extent of transit service proposed under this alternative are shown on Maps 30 and 31 in Chapter VI.

By 1995 the annual ridership on the transit system under this alternative was projected to increase to about 1,359,000 revenue passengers, or by about 15 percent over the projected 1991 ridership level and about 11 percent over the projected 1995 ridership level under Alternative 1. The annual local operating subsidy was projected to increase to about \$405,000 by 1995, or by about 31 percent over the projected 1991 local operating subsidy and about 15 percent over the projected local operating subsidy in 1995 under Alternative 1. The total cost of capital projects required for this alternative, which included the projects required for Alternative 1 plus the purchase of two new buses and other related operating equipment, was estimated at

\$2,613,000, with the City's share estimated at between \$523,000 and \$653,000 under existing federal transit capital assistance programs.

Evaluation of Alternative Service Changes

An evaluative comparison of the alternative transit service plans considered for the City of Kenosha transit system was conducted on the basis of information about the additional geographic coverage provided by each transit service plan, the annual ridership and service productivity of the proposed transit system, the projected public cost for each alternative, and the efficiency and effectiveness of the proposed transit service plans. This comparison of alternatives found that Alternative 1 would require the lowest commitment of local funds for the transit system over the planning period of the three alternatives considered. However, unlike Alternatives 2 and 3, Alternative 1 would not provide for any expansion of transit service to new or expanding areas of development in the City and surrounding areas. It was concluded that, if the transit system was to continue to be responsive to the growth which is occurring within the Kenosha area, the expansion of transit service proposed under Alternatives 2 and 3, even with the projected higher local costs for these alternatives, should be considered preferable to maintaining the existing transit system as proposed under Alternative 1.

It was also concluded that there were no significant differences between Alternatives 2 and 3 with respect to the quantitative measures examined in the comparative evaluation. In this respect, both Alternative 2 and Alternative 3 could be expected to perform equally well with respect to projected systemwide ridership levels, public costs, and measures of system effectiveness and efficiency. However, it was determined that there would be major differences between. and advantages associated with, these alternatives because of the different focus of the transit system under the each alternative: the Kenosha central business district under Alternative 2 and the outlying commercial development along 52nd Street between 30th Avenue and 39th Avenue under Alternative 3.

The major advantage of retaining the central business district as the focus for the routes of the transit system, as proposed under Alternative 2, would be the ability of all routes of the transit system to serve the existing and planned business development within the central business district, and the significant concentration of employment and trips which this development would generate. In addition, a transfer terminal location in the central business district would also provide more convenient access to existing and proposed commuter rail service operated from the existing station located there.

The major advantage of an outlying western central transfer terminal as proposed under Alternative 3 would be its ability to provide for shorter running times on the new or revised routes which were proposed to serve new or expanded areas of development located outside the existing transit system service area, thereby facilitating the extension of bus service to such areas. In addition, a more centrally located outlying transfer terminal could ultimately allow for more convenient crosstown travel and also increase operating speeds on routes not serving downtown. This would enable buses operating over such routes to serve a broader area, thereby limiting the number of bus routes needed to cover the desired transit service area.

Recommendation

Given the findings that the two transit service alternatives did not differ significantly with respect to the cost-effectiveness of the transit service itself, the Commission staff recommended adoption of the transit service alternative which included a transfer terminal location within the Kenosha central business district. Alternative 2. This recommendation recognized the importance of the central business district of the City of Kenosha as a potential major retail and service center within the Region which deserved to be promoted and strengthened within the context of the adopted regional land use plan. The staff recommendation also recognized that the adopted regional transportation system plan proposed improvement of commuter rail service in the Kenosha-Racine-Milwaukee travel corridor along the Chicago & North Western Transportation Company lakeshore line. The provision of a downtown transfer terminal for the Kenosha transit system within the central business district as proposed under Alternative 2 would, consequently, provide for transit service for the concentrations of employment and trips generated by existing and planned development and also for more effective coordination of the local transit service with the proposed regional commuter rail service.

The Advisory Committee at its July 29, 1991, meeting unanimously voted to accept the Commission staff recommendation for the adoption and implementation of Alternative 2.

THE RECOMMENDED TRANSIT SYSTEM DEVELOPMENT PLAN

Recommended Fixed-Route

and Specialized Transit Service

The recommended plan for the City of Kenosha's fixed-route transit service calls for a number of changes in the existing route structure of the city transit system to expand transit service to areas of new or expanding residential, commercial, or industrial development within the study area, to provide for more direct crosstown routing, and to eliminate or reduce service on existing route segments with low ridership. The recommended plan proposes modifications to all seven of the existing regular routes in the transit system, plus the creation of a new eighth regular route serving the northern one-half of the City of Kenosha. This new eighth regular route would permit the city transit system to extend transit service to residential areas in the Town of Somers immediately adjacent to the City, which had been identified as high priority areas for transit service expansion. The recommended plan also proposes changes to the two existing shuttle routes operated by the transit system to enable the routes to expand their coverage to areas of new residential, commercial, and industrial development within the study area. In addition, the plan proposes the creation of a new shuttle route to serve the Lakeside Marketplace shopping center in the Village of Pleasant Prairie. Finally, the plan proposes that the City continue to operate the special system of peakhour tripper routes for junior and senior high school students.

The recommended plan also proposes that the regular routes of the transit system continue to use a central transfer terminal located in the Kenosha central business district, but at a new location. In this respect, recently proposed changes in the street system of the Kenosha central business district will require the existing central transfer terminal to be relocated from its current site at the intersection of 6th Avenue and 56th Street on the northern end of the 6th Avenue Pedestrian Mall. Three alternative site locations in the central business district for the relocated central transfer terminal were identified, and the characteristics of the three potential sites were reviewed with respect to site ownership, size, proximity to the existing central transfer terminal facility, and existing and planned land use. After reviewing these characteristics for each site, it was recommended that the site of the new central transfer terminal facility be a municipal parking lot located on the north side of 56th Street between 7th Avenue and 8th Avenue. The development of the central transfer facility on this site would not result in a great inconvenience to existing transit passengers with trip origins or destinations within the central business district as it would be located within one block of the existing central transfer terminal facility. The existing facility is considered to be centrally located with respect to the trip origins and destinations of transit passengers within the central business district. In addition, the development of the facility on this site would be consistent with the proposed land use for the site as set forth under the recently completed development plan for the Kenosha central business district.

It was recommended that all routing and service changes be implemented as soon as they are determined to be practicable by the city staff. For the purposes of preparing projections of ridership and financial requirements for the recommended system, it was assumed that all routing and service changes would be implemented at the start of 1992.

The recommended plan also calls for the City to continue to provide transit services designed to be used by disabled persons, including on-call accessible fixed-route bus service on the regular city bus routes and specialized door-to-door transportation service provided throughout the transit system service area through the Kenosha County Department of Aging Care-A-Van program. No significant changes to the City's current public transit services for disabled persons are proposed to be made as a result of the routing and service changes recommended for the City's fixed-route transit system. The City may, however, be able to increase the amount of accessible bus service which it provides over the bus routes of the transit system as more vehicles in its bus fleet become equipped with wheelchair lifts through either remanufacture of older vehicles in the bus fleet or purchase of new vehicles as called for under the recommended program of capital projects. Some changes may be required for the City's specialized transportation service for disabled persons provided through the Care-A-Van program because of new federal regulations. The City of Kenosha has requested that the staff of the Southeastern Wisconsin Regional Planning Commission prepare a plan which will assist the City in meeting the new federal regulations.

Projected Ridership

With the assumed implementation of the recommended transit service changes in 1992, revenue vehicle hours of service may be expected to increase by approximately 11 percent and revenue vehicle miles of service by approximately 13 percent. With this increase in service, ridership levels on the transit system by 1995 would be expected to increase by about 13 percent over the 1991 level of about 1,181,000 revenue passengers to about 1,337,000 revenue passengers. With the projected increases in service and ridership for the recommended transit system. vehicle productivity may be expected to remain relatively constant over the planning period at about 23 passengers per revenue vehicle hour. Total annual ridership per capita may be expected to increase slightly from about 14 passengers per capita in 1991 to about 16 passengers per capita by 1995.

Financial Projections and Sources of Funding

Projections of the operating expenses, revenues, deficits and sources of public subsidies for the recommended transit system were set forth in Table 60 in Chapter VII. These projections assumed modest inflationary increases of about 4 percent annually in the unit costs of providing transit service, stable passenger fares, stable levels of federal transit operating assistance, and an increase in state transit operating assistance to 45 percent of operating expenses by 1995. Under these assumptions, operating expenses for the transit system in projected year of expenditure dollars may be expected to increase by about 26 percent over the planning period from about \$2,222,000 in 1991 to about \$2,806,000 in 1995 because of the increase in service provided and the effects of general price inflation.¹ Assuming no changes in passenger fares, operating revenues for the transit system may be expected to increase at the same rate as ridership, or by about 13 percent over the planning period, from about \$511,000 in 1991 to about \$578,000 in 1995. As a result, the total operating deficit may be expected to be about

30 percent higher by 1995 than in 1991, increasing from about \$1,711,000 to about \$2,228,000. The total local operating subsidy for the transit system may be expected to increase by about 35 percent, from about \$309,000 in 1991 to about \$418,000 by 1995.²

¹The local share of the operating deficit for the alternatives discussed above assume that state aid levels will be increased to 45 percent of the eligible operating expenses by 1995. Such an increase will require future action by the Wisconsin Legislature and the Governor for calendar years 1994 and 1995. Should state operating assistance levels remain at 42 percent of eligible expenses during the entire period from 1992 through 1995, the local share of the operating deficit in 1995 may be expected to be about \$429,000 in constant 1991 dollars and about \$502,000 in estimated year of expenditure dollars, under the recommended plan.

²Financial projections for the recommended transit system were also prepared in constant 1991 dollars. These projections also assumed modest inflationary increases in operating expenses over the planning period, stable passenger fares and levels of federal operating assistance, and an increase in state operating assistance levels to 45 percent of operating expenses by 1995. Rather than inflating the operating expenses for transit service, however, these projections of transit system operating expenses were based upon the projected 1991 unit costs of service for the entire period. The projected passenger revenues and federal aid levels were reduced at the assumed rate of inflation to reflect a decrease in their actual dollar value in relation to expenses which would be expected, given the historical differential impact which general price inflation has had in the past, on transit system operating expenses, total system operating deficits, and local funding requirements. Under these assumptions, operating expenses for the transit system would be expected to increase by about 8 percent from about \$2,222,000 in 1991 to about \$2,399,000 in 1995 because of the increase in service provided. The total operating deficit would be expected to be increased by about 11 percent over the period, from about \$1,711,000 in 1991 to about \$1,904,000 in 1995. The total local operating subsidy for the transit system may be expected to increase by about 16 percent, from about \$309,000 in 1991 to about \$357,000 in 1995.

It is recommended that federal and state funds be drawn upon to reduce the local financial commitment required for the implementation of the recommended service improvements and subsequent annual operation of the transit system. It is recommended that federal transit operating assistance funds through the Urban Mass Transportation Administration Section 9 Formula Transit Assistance Program continue to be sought to the portion of the annual operating deficit of the City of Kenosha transit system. The federal transit operating assistance funds available to the City of Kenosha were assumed to remain stable at the current 1991 level of approximately \$547,000 through 1995. This level of federal operating assistance would be sufficient to cover from about 32 percent of the total system operating deficit in 1991 to about 25 percent of the total system operating deficit in 1995. Assuming that state operating assistance funds would increase from 45 percent of eligible operating expenses by 1995, the state funds available to the City of Kenosha would be expected to range from about \$856,000 in 1991 to about \$1,263,000 in 1995, some 50 and 57 percent of the total system operating deficit, respectively. The use of available federal and state operating assistance funds would result in a total local funding requirement for the recommended transit system which would range from about \$309,000 in 1991 to about \$418,000 in 1995. representing about 18 percent of the total system operating deficit in both 1991 and 1995.

It is also recommended that federal transit assistance be obtained to offset a portion of the total expenditures for capital improvements identified for the recommended transit system during the planning period. The recommended capital projects which would be required to maintain the existing transit system over the planning period would include the remanufacture of 13 buses in the existing fleet, eight of which were purchased new in 1975 and five of which were purchased new in 1981; the purchase and installation of 20 bus passenger shelters throughout the transit system service area; the design and construction of the new central transfer facility in the Kenosha central business district; and the rehabilitation of portions of the transit garage facility constructed in 1975. Additional capital projects would be required to implement the recommended transit service changes, including the purchase of three 30-footlong urban transit buses equipped with wheelchair lifts or ramps, radios, and fareboxes plus the purchase and installation of about 170 bus stop signs. The cost of the recommended capital projects was estimated at \$2,814,000. Of this amount, between approximately \$2,111,000 and \$2,251,000, or 75 to 80 percent, could be funded through the federal Urban Mass Transportation Administration, Section 3 Discretionary, or Section 9 Formula Transit Assistance Programs, respectively. The remaining 20 to 25 percent of the total capital project costs amounting to between \$563,000 and \$704,000 would need to be funded by the City of Kenosha.

Plan Implementation

The City of Kenosha would bear most of the responsibility for implementation of the recommended transit plan. Such responsibility will include refining the recommended routing and service changes, applying for federal and state transit assistance funds, and satisfying the various administrative regulations associated with the receipt and use of federal transit assistance funds.

The City must also consider whether the local costs of the recommended transit services should continue to be borne principally by the City as at present, or if local funds from other governmental agencies or institutions, such as the Towns of Bristol and Somers, the Village of Pleasant Prairie, and the University of Wisconsin-Parkside, should be sought in recognition of the transit service provided to each governmental entity by the city transit system. In the past, the City has indicated a willingness to use city funds to pay the local share of transit system operating deficits in order that transit service to major traffic generators outside its corporate limits which directly benefitted its residents be provided without interruption. However, with the substantial increase in the total local funding requirement which may be expected in the future for the transit system with the recommended service changes, the City could desire to change its past policy on this matter. In this event, it is recommended that the City of Kenosha, in the interest of equity, establish a policy whereby transit service would not be extended at the expense of City of Kenosha taxpayers to areas or major trip generators located outside the City if such service extensions would primarily benefit noncity residents,

unless the local costs of such service would be covered by subsidies from sources other than the City of Kenosha.

In addition, the following governmental agencies would be responsible for the following plan implementation actions:

- 1. The U.S. Department of Transportation, Urban Mass Transportation Administration, and the Wisconsin Department of Transportation should endorse the recommendations of this transit system development plan as a guide for the programming, administration, and granting of federal and state transit assistance funds for the City's public transportation program.
- 2. The Southeastern Wisconsin Regional Planning Commission should adopt the recommendations of this transit system development plan and, at the request of the City of Kenosha, include recommended operating and capital projects for the City's public transportation program annually in the transportation improvement program for the Southeastern Wisconsin Region.

CONCLUSION

If adopted, the new transit system development plan for the City of Kenosha transit system can serve as a valuable guide to the City for the upcoming five-year period. During this period, the transit system will have to be responsive to the changing development patterns and service needs of the City, while at the same time improving the effectiveness and efficiency of the public transit services provided. The plan is based upon extensive inventories and analyses of the socioeconomic and land use characteristics of the Kenosha area, of the travel habits and patterns of the resident population, and of the operating and performance characteristics of the existing public transit system. The plan identifies existing problem areas on the public transit system as evidenced by low performance routes and unproductive route segments. The plan also recommends specific transit service improvement actions designed to be responsive to changing service needs within the City, while emphasizing the most cost-effective means of system operation. Implementation of the recommended transit system would concentrate available resources and capabilities on actions which will have the most significant positive impact on transit system performance, thus assuring the most effective use of limited public financial resources.

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APPENDICES

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Appendix A

KENOSHA TRANSIT SYSTEM USER SURVEY FORMS

Figure A-1

SURVEY FORM DISTRIBUTED ON PEAK-HOUR TRIPPER ROUTES

Please Complete and Return on Bus, or Deposit in Any U. S. Mailbox

PUBLIC TRANSPORTATION SURVEY

This study of transit riding is being conducted in order to plan better public transportation in your area. Your cooperation is essential. All replies will be kept entirely confidential and will be used for statistical purposes only. When you have completed the card, please return it to the survey officer on the bus or deposit it in any U. S. mailbox. This survey is being conducted by the Southeastern Wisconsin Regional Planning Commission in cooperation with the U. S. Department of Transportation, the Wisconsin Department of Transportation, and the City of Kenosha.

Please Print	Information
1. WHERE DID YOU GET ON THIS BUS?	2. HOW DID YOU PAY FOR YOUR TRIP? Enter 1. In cash (give amount) cents Number 2. By monthly pass 3. By student pass 4. By ticket/token
3. I WILL GET OFF THIS BUS AT THE INTERSECTION OF:	and
4. WILL YOU TRANSFER TO ANOTHER CITY BUS TO COMPLETE TH	IIS TRIP? (check one)
Yes, I will transfer to:	; and get off at (name of stop or street intersection)
5. WHERE IS THE PLACE LOCATED WHERE YOU ARE GOING?	
(nearest street intersection, building name, or stre	et address) (city, village, or town)
6. IS THE PLACE WHERE YOU ARE GOING YOUR HOME? (check of Yes No If no, please indicate where you home residence is le	ne)
(nearest street intersection, street name and hundred bloc	k, or street address) (city, village, or town)
7. DID YOU USE THE CITY BUS TO GET TO SCHOOL THIS MORNIN Yes If yes, record time of your bus trip in the morning. No AM PM (record time and	G같 (check one) d circle AM or PM)
8. LAM A LICENSED DRIVER (check one).	9. I AM: (check one) Male Female
10. MY RACE IS: Enter 1. Black Number 2. White 3. American Indian/Alaskan 4. Asian/Pacific Islander 5. Other	11. MY AGE IS: Enter 1. 5 or under Number 2. 6-12 3. 13-15 4. 16-18 5. 19 and over
12. OUR HOUSEHOLD HAS VEHICLES AVAILABLE FOR P	ERSONAL USE.
13. THE NUMBER OF PERSONS LIVING IN OUR HOUSEHOLD IS	
14. WHAT SUGGESTIONS DO YOU HAVE FOR IMPROVING ROUTES	S OR SCHEDULES?

Thank you for your participation; your cooperation is greatly appreciated.

Figure A-2

SURVEY FORM DISTRIBUTED ON REGULAR BUS ROUTES

Please Complete and Return on Bus, or Deposit in Any U. S. Mailbox

PUBLIC TRANSPORTATION SURVEY

This study of transit riding is being conducted in order to plan better public transportation in your area. Your cooperation is essential. All replies will be kept entirely confidential and will be used for statistical purposes only. When you have completed the card, please return it to the survey officer on the bus or deposit it in any U. S. mailbox. This survey is being conducted by the Southeastern Wisconsin Regional Planning Commission in cooperation with the U. S. Department of Transportation, the Wisconsin Department of Transportation, and the City of Kenosha.

	Fieldse Frint Information
1. WHERE DID YOU GET ON THIS BUS?	2. WHAT TIME OF DAY WAS IT WHEN YOU GOT ON?
(name of stop or nearest street intersection)	circle AM or PM)
3. HOW DID YOU GET TO THE BUS STOP WHERE Y Enter 1. Walking Number 2. Private auto/truck 3. City bus Route No (s 4. Other	DU GOT ON? 4. HOW DID YOU PAY FOR YOUR TRIP? Enter 1. In cash (give amount) cents Number 2. By monthly pass 3. By student pass 4. By ticket/token 5. By free transfer
5. WHERE IS THE PLACE LOCATED FROM WHICH Y	OU BEGAN YOUR TRIP?
(nearest street intersection, building] name, or street address) (city, village, or town)
6. WHAT WAS YOUR MAIN REASON FOR BEING AT 1. Home 3. School 5. Sr 2. Work 4. Shopping 6. Rr	THE PLACE WHERE YOU BEGAN YOUR TRIP? Enter number scial activity/eat meal 7. Conducting personal business/medical/dentis acreational activity 8. Other (specify)
7. I WILL GET OFF THIS BUS AT THE INTERSECTION	OF: and
8. WILL YOU TRANSFER TO ANOTHER CITY BUS TO Yes, I will transfer to: No, I will not transfer	COMPLETE THIS TRIP? (check one); and get off at ute) (name of stop or street intersection)
9. WHERE IS THE PLACE LOCATED WHERE YOU AR	E GOING?
0. WHAT IS YOUR MAIN REASON FOR GOING THER 1. Home 3. School 5. Sc 2. Work 4. Shopping 6. Re	E? Enter number clal activity/eat meal 7. Conducting personal business/medical/dentis creational activity 8. Other (specify)
1. PLEASE INDICATE WHERE YOUR HOME RESIDEN	CE IS LOCATED.
(nearest street intersection, street name and	I hundred block, or street address) (city, village, or town)
IS THIS PART OF A ROUND TRIP BY BUS TODAY? Yes If yes, record the actual or expected ti No	(check yes or no) me of your bus trip in the <u>opposite</u> direction. ecord time and circle AM or PM)
3. I AM A LICENSED DRIVER (check one). Yes No 4. I AM: (check one) Male Female	17. MY AGE IS: Enter 1. 5 or under 6. 25-34 Number 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
5. MY RACE IS: Enter 1. Black Number 2. White 3. American Indian/Alaskan 4. Asian/Pacific Islander 5. Other	18. OUR HOUSEHOLD INCOME IS: 6. \$25,000-\$29,999 Enter 1. Under \$5,000 6. \$25,000-\$24,999 Number 2. \$5,000-\$14,999 7. \$30,000-\$34,999 3. \$10,000-\$14,999 8. \$35,000-\$39,999 4. \$15,000-\$19,999 9. \$40,000 or over 5. \$20,000-\$24,999 9. \$40,000 or over
3. OUR HOUSEHOLD HAS VEHICLES AVAILABLE FOR PERSONAL USE	19. THE NUMBER OF PERSONS LIVING IN OUR HOUSEHOLD IS

20. WHAT SUGGESTIONS DO YOU HAVE FOR IMPROVING ROUTES OR SCHEDULES?

Appendix B

CHARACTERISTICS OF PASSENGERS ON KENOSHA TRANSIT SYSTEM REGULAR ROUTES, BASED ON SEWRPC ON-BUS SURVEY CONDUCTED DECEMBER 5-7 AND 13, 1989

Table B-1

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY SEX BY ROUTE: DECEMBER 5-7, 1989

	r		
	Percen	t of Ridership	by Sex ^a
Route	Male	Female	Total
Regular Route			
No. 1	36.1	63.9	100.0
No. 2	27.4	72.6	100.0
No. 3	35.8	64.2	100.0
No. 4	34.5	65.5	100.0
No. 5	47.0	53.0	100.0
No. 6	41.0	59.0	100.0
No. 7	43.8	56.2	100.0
Average	36.6	63.4	100.0

^aIndividual route percentages are based upon total route ridership including transfer passengers. The regular route average percentage is based upon total revenue passengers.

Source: SEWRPC.

Table B-2

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY RACE BY ROUTE: DECEMBER 5-7, 1989

	Percent of Ridership by Race ^a										
Route	Black	White	American Indian	Asian or Pacific Islander	Other	Total					
Regular Route											
No. 1	22.8	69.8	0.6	1.9	4.9	100.0					
No. 2	30.9	61.8	1.8	1.8	3.6	100.0					
No. 3	23.5	65.4	1.2		9.9	100.0					
No. 4	21.2	65.5	2.7	0.9	9.7	100.0					
No. 5	29.4	65.9	1.8		2.9	100.0					
No. 6	21.7	76.7			1.7	100.0					
No. 7	25.5	66.7	0.6		7.3	100.0					
Average	24.8	66.3	1.4	0.8	6.7	100.0					

^aIndividual route percentages are based upon total route ridership, including transfer passengers. The regular route average percentage is based upon total revenue passengers.

Table B-3

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY AGE BY ROUTE: DECEMBER 5-7, 1989

			Percen	t of Ridership	by Age Grou	p ^a	
Route	6-12	13-18	19-24	25-54	55-64	65 and Older	Total
Regular Route							
No. 1	1.2	29.7	19.1	28.3	7.4	14.2	100.0
No. 2	0.9	22.9	15.6	45.0	10.1	5.5	100.0
No. 3	2.5	46.3	9.9	30.9	3.7	6.8	100.0
No. 4	2.7	29.4	14.3	37.5	8.0	8.0	100.0
No. 5	2.9	34.3	14.5	40.7	2.9	47	100.0
No. 6	1.6	16.4	11.5	39.3	11.5	19.7	100.0
No. 7	0.6	50.6	13.1	27.3	3.0	5.4	100.0
Average	1.9	34.8	14.1	34.6	6.2	8.4	100.0

^aIndividual route percentages are based upon total route ridership, including transfer passengers. The regular route average percentage is based upon total revenue passengers.

Source: SEWRPC.

Table B-4

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY FAMILY INCOME BY ROUTE: DECEMBER 5-7, 1989

	Percent of Ridership by Income Level ^a											
Route	Under \$5,000	\$5,000- \$9,999	\$10,000- \$14,999	\$15,000- \$19,999	\$20,000- \$24,999	\$25,000- \$29,999	\$30,000 or More	Total				
Regular Route					-							
No. 1	16.4	26.1	9.7	9.0	10.4	9.0	19.4	100.0				
No. 2	37.2	21.4	11.2	7.9	5.6	5.6	11.1	100.0				
No. 3	13.3	27.2	17.2	5.5	8.6	10.2	18.0	100.0				
No. 4	22.1	22.1	11.6	9.3	4.7	8.1	22.1	100.0				
No. 5	24.8	14.3	11.3	6.8	7.5	5.3	30.0	100.0				
No. 6	18.8	20.8	10.4	8.3	16.7	12.5	12.5	100.0				
No. 7	13.4	22.7	10.9	7.6	8.4	8.4	28.6	100.0				
Average	20.3	23.3	12.5	7.6	8.1	8.3	19.8	100.0				

^aIndividual route percentages are based upon total route ridership, including transfer passengers. The regular route average percentage is based upon total revenue passengers.

Table B-5

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY VEHICLE AVAILABILITY BY ROUTE: DECEMBER 5-7, 1989

	Pe	Percent of Ridership by Number of Vehicles Available ^a										
Route	None	One	Two	Three or More	Total							
Regular Route												
No. 1	33.1	34.5	20.9	11.5	100.0							
No. 2	54.0	22.0	14.0	10.0	100.0							
No. 3	36.0	30.7	19.3	14.0	100.0							
No. 4	42.3	28.8	21.2	7.7	100.0							
No. 5	35.5	25.3	23.4	15.8	100.0							
No. 6	42.0	34.0	18.0	6.0	100.0							
No. 7	36.6	28.8	18.6	16.0	100.0							
Average	39.1	29.3	19.6	12.0	100.0							

^aIndividual route percentages are based upon total route ridership, including transfer passengers. The regular route average percentage is based upon total revenue passengers.

Source: SEWRPC.

Table B-6

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY HOUSEHOLD SIZE BY ROUTE: DECEMBER 5-7, 1989

	Percent of Ridership by Household Size ^a											
Route	One Person	Two Persons	Three Persons	Four Persons	Five Persons	Six or More Persons	Total					
Regular Route												
No. 1	18.2	22.8	15.6	24.0	9.7	9.7	100.0					
No. 2	26.9	26.0	13.5	11.5	10.6	11.5	100.0					
No. 3	12.1	15.4	21.5	23.5	14.1	13.4	100.0					
No. 4	20.8	18.9	21.6	17.9	10.4	10.4	100.0					
No. 5	17.5	18.1	18.1	15.6	18.8	11.9	100.0					
No. 6	22.6	26.5	17.0	17.0	7.5	9.4	100.0					
No. 7	11.0	15.5	20.0	24.5	15.5	13.5	100.0					
Average	17.8	19.7	18.5	19.9	12.5	11.6	100.0					

^aIndividual route percentages are based upon total route ridership, including transfer passengers. The regular route average percentage is based upon total revenue passengers.

Table B-7

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM BY TRIP PURPOSE BY ROUTE: DECEMBER 5-7, 1989

	Percent of Ridership by Trip Purpose ^a										
Route	Home-Based Works	Home-Based Shopping	Home-Based Other	Nonhome Based	School	Total					
Regular Route											
No. 1	14.6	17.1	17.1	6.1	45.1	100.0					
No. 2	22.5	22.5	24.3	11.8	18.9	100.0					
No. 3	15.1	8.5	12.2	5.4	58.8	100.0					
No. 4	25.8	13.2	11.5	9.7	39.8	100.0					
No. 5	31.2	4.7	8.3	6.4	49.4	100.0					
No. 6	34.9	12.9	27.0	3.1	22.1	100.0					
No. 7	16.3	4.2	10.6	4.2	64.7	100.0					
Average	20.5	12.3	14.8	7.1	45.3	100.0					

^aIndividual route percentages are based upon total route ridership, including transfer passengers. The regular route average percentage is based upon revenue passengers.

Appendix C

GLOSSARY OF TECHNICAL TERMS

The following list provides definitions of certain technical terms used in this planning report. It should be recognized that while some of these terms may have different meanings when used in a study not related to transportation, or even slightly different meanings when used in other transportation studies, the definitions set forth herein are those used in the preparation of the transit system development plan for the City of Kenosha.

- AVERAGE SPEED: The speed which a transit vehicle achieves between stops, including acceleration, deceleration, and dwell time.
- CAPITAL EXPENSE: The outlay of funds for the acquisition of operating equipment and the construction of support facilities necessary to implement a particular plan or project.
- CIRCULATION DISTRIBUTION SERVICE: Local public transit service provided for the movement of passengers within major urban activity centers.
- CYCLE SCHEDULING: A scheduling technique for providing fixed-route urban public transit service under which the vehicles providing service meet at a common location at the same time, thus maximizing the opportunity for transfer of passengers between routes.
- DEADHEAD: The movement of a revenue vehicle without passengers on board, such as from a storage area to the beginning of a regular route.
- DEMAND-RESPONSIVE SERVICE: A range of local public transit services characterized by the flexible routing and scheduling of relatively small vehicles to provide shared-occupancy, door-to-door personalized transportation on demand.
- DEPRECIATION EXPENSE: A portion of the original cost of capital facilities or equipment allocated to the annual cost of operation. Depreciation expenses are derived by spreading in some equitable manner the original cost of the facility or piece of equipment, less any salvage value, over the useful life of the facility or piece of equipment.
- DISABLED PERSON: A person who, by reason of illness, injury, congenital malfunction, or other permanent or temporary incapacity or disability, is physically unable to use regular bus service.
- ELDERLY PERSON: A person 65 years of age or older.
- EXPRESS SERVICE: That component of the urban public transportation system which serves moderate-length trips, generally over arterial streets and highways, with limited stops located only at intersecting transit routes, intersecting arterial streets, and major traffic generators.
- FAREBOX RECOVERY RATE: The ratio of revenues generated by passenger fares to operating expenses expressed as a percent.
- FAREBOX REVENUE: See "Passenger Revenue."
- FAR-SIDE STOP: A transit stop located on the far side of a street intersection, requiring the transit vehicle to cross the intersection before stopping to pick up or discharge passengers.
- FIXED EXPENSE: A cost of providing transit service that remains relatively constant, irrespective of the level of operational activity.
- FIXED-ROUTE: Refers to a transit service or system wherein buses or other vehicles operate over a predetermined route with specific stops or station locations and regular schedule.

- GRID ROUTING: A routing technique for providing fixed-route urban transit service under which bus routes are laid out in a distinct grid or rectangular pattern, and do not focus on a single geographic location. Because passengers must transfer at route intersections, systems using grid routing usually must operate with a high level of service, that is, with short headways, to minimize waiting time.
- HANDICAPPED PERSON: See "Disabled Person."
- HEADWAY: The time interval between any two successive transit vehicles providing service on the same route in the same direction.
- INCREMENTAL EXPENSE: The net difference in cost between two alternative plans or programs.
- LEVEL OF SERVICE: A set of characteristics that indicate the quality and quantity of public transportation services being provided, including characteristics that are readily quantifiable, such as headway, travel time, travel cost, and number of transfers, and those that are difficult
 - to quantify, such as comfort and modal image.
- LOAD FACTOR: The ratio of passengers carried on a public transit vehicle to the seated capacity of the vehicle.
- LOCAL SERVICE: That component of the urban public transportation system which serves the shortest trips and operates at lowest average speeds. Local transit services can provide a collection-circulation-distribution service for rapid or express transit services and include fixed-route, demand-responsive, and route-deviation transit services.
- MAJOR TRAFFIC GENERATOR: A land use area or specific facility which attracts a high volume of person trips.
- MASS TRANSPORTATION: See "Transit."
- NEAR-SIDE STOP: A transit stop located on the near side of a street intersection, permitting the transit vehicle to pick up or discharge passengers before crossing the intersection.
- NONCYCLE SCHEDULING: A scheduling technique for providing fixed-route urban public transit service under which each transit route in a community has transit service scheduled on an individual basis, independent of the schedules of other routes.
- **OPERATING DEFICIT:** The operating expense less the operating revenue.
- OPERATING EXPENSE: The sum of all transit system costs incurred in providing transportation and incidental services and in maintaining transit system equipment and property.
- OPERATING REVENUE: Revenue derived from the provision of public transit service including: 1) fares paid by transit riders; 2) charter and special contract service revenues; and 3) revenues, for example, from the sale of advertising space aboard transit vehicles, income from concession rentals or from contract maintenance services.
- OVERALL TRAVEL SPEED: The over-the-road travel distance divided by the overall travel time.
- OVERALL TRAVEL TIME: The total door-to-door time for travel between the origin and destination of a trip, including all the major components of travel time which, for transit travel time, include walking or automobile access at origin, wait time for the first transit vehicle boarded, transfer time, total line-haul or in-vehicle time, and egress time at the destination.
- PASSENGER REVENUE: Revenue derived from fares paid by passengers traveling aboard public transit vehicles operating in regular service.

- PEAK PERIOD: The hours, usually during weekday mornings or afternoons, when the demand for transportation service is the heaviest.
- PLATFORM HOURS: The total driver pay hours for a transit system, including time spent in scheduled revenue service, checkin and checkout time, deadhead time, guaranteed time, preparatory time, and penalty time.
- PRIVATE PROVIDER: A privately owned entity that owns facilities and vehicles used to provide transit services.
- PUBLIC PROVIDER: Any transit service provider not defined as a private provider.
- PUBLIC TRANSIT: Transit systems and services that may be used by the general public and which are not restricted to use by specific population groups.
- PULSE SCHEDULING: See "Cycle Scheduling."
- RADIAL ROUTING: A routing technique for providing fixed-route urban transit service under which bus routes originate in outlying areas and converge on a central location, usually the central business district. The routes generally follow a radial street system and coincide with the locations of major travel corridors. Because routes focus on a central location, systems using radial routing frequently use cycle scheduling to provide for convenient transfers between routes.
- RAPID TRANSIT SERVICE: That component of the urban public transportation system which provides the highest average speeds by generally operating over freeways, thus serving the longest trips along the most heavily traveled corridors, with stops generally limited to the ends of the route, including park-ride lots.
- REVENUE PASSENGERS: Includes all boarding passengers who pay a fare, or for whom a fare is paid by another under contract or other special arrangement, for travel between a specific origin and destination; excludes boarding passengers who are not required to pay a fare or who are transferring to a different bus route to complete a trip started on another route.
- REVENUE VEHICLE HOURS: The number of hours spent by transit vehicles in providing scheduled revenue transit service. Excludes all deadhead and driver time not spent in revenue service.
- REVENUE VEHICLE MILES: The number of miles traveled by transit vehicles in providing scheduled revenue transit service. Excludes deadhead miles.
- ROUTE DEVIATION SERVICE: A type of service which includes both fixed-route and demandresponsive elements in which buses provide service at regular intervals between checkpoints along an established route, but are permitted to deviate off the route between checkpoints to make doorstop pickups and drop-offs.
- SEATED CAPACITY: The number of seated passengers capable of being carried in a transit vehicle.
- SHARED-RIDE TAXICAB: A taxicab which is legally able to transport simultaneously passengers having different origins and destinations.
- SMALL URBAN AREA: An area that includes a city or village having a population of at least 2,500, but not more than 49,999, persons.
- SPECIALIZED TRANSIT: Transit systems and services that are designed for, and whose use is restricted to, specific subgroups of the general population, such as the elderly, disabled, and school children.
- STOP: An area usually designated by distinctive signs or by curb or pavement markings at which passengers wait for, and board or alight from, public transit vehicles.

- TERMINAL: The end of a transit route or an elaborate transit station which is designed to handle not only the movement of transit vehicles in the boarding and alighting of passengers, but also the transfer of movements between routes and/or different modes.
- TOTAL EXPENSE: The sum of operating and capital costs.
- TOTAL VEHICLE HOURS: See "Platform Hours."
- TOTAL VEHICLE MILES: The total number of miles traveled by transit vehicles, including miles traveled in scheduled revenue service, deadhead miles, charter miles, and driver training miles.
- TOTAL PASSENGERS: Includes all boarding passengers regardless of whether they paid a fare or transferred from another transit route.
- TRANSFER TIME: The time required to effect a transfer between routes or a change of mode.
- TRANSIT: A general term used to refer to any type of passenger transportation services and facilities both in urbanized areas and in outlying or rural areas surrounding urbanized areas. Transit services can include fixed-route bus systems, rail systems, demand-responsive services, specialized services for the elderly and disabled, and any other type of passenger transportation means.
- TRANSIT-DEPENDENT PERSON: A person for whom the transit system is the principal means of mobility because of a lack of transportation options.
- TRANSPORTATION DISABLED: See "Disabled Person."
- TRIPPER SERVICE: Local public transit service operated over a limited the time period of each weekday and, in some cases, over a special route to accommodate peak ridership demand or to serve special community needs.
- TRIP PURPOSE: The primary reason for making a trip, such as work, shopping, or personal business.
- USER-SIDE SUBSIDY: Financial assistance provided directly to a transit user, usually in the form of a voucher from a local public body or sponsoring agency, for use in payment of a fare for a trip taken on a public transit system or specialized transit service.
- URBANIZED AREA: An urban area officially designated by the U. S. Bureau of the Census which has a population concentration of at least 50,000 persons and which meets specific population density criteria. Urbanized areas generally consist of a central city and the surrounding, closely settled, contiguous suburbs.
- VEHICLE CAPACITY: The maximum number of passengers that a vehicle is designed to accommodate comfortably, including both seated and standing passengers.

WAIT TIME: Time spent at a bus stop waiting for a transit vehicle.

Appendix D

WEEKDAY BOARDING PASSENGERS BY BUS RUN ON THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: DECEMBER 5-7, 1989

Figure D-1

WEEKDAY BOARDING PASSENGERS ON ROUTE 1, UW-PARKSIDE/ST. JOSEPH'S HOME: DECEMBER 5, 1989



Source: SEWRPC.



WEEKDAY BOARDING PASSENGERS ON ROUTE 2, WEPCO/MALL: DECEMBER 5, 1989



WESTBOUND FROM MALL



Figure D-3

WEEKDAY BOARDING PASSENGERS ON ROUTE 3, WAL-MART/39TH AVENUE AND 80TH STREET: DECEMBER 6, 1989



Source: SEWRPC.



WEEKDAY BOARDING PASSENGERS ON ROUTE 4, CARTHAGE COLLEGE/80TH STREET AND 39TH AVENUE: DECEMBER 7, 1989





Figure D-5

WEEKDAY BOARDING PASSENGERS ON ROUTE 5, MALL/17TH AVENUE AND 89TH STREET: DECEMBER 6, 1989



Source: SEWRPC.



WEEKDAY BOARDING PASSENGERS ON ROUTE 6, MALL/60TH AVENUE AND 75TH STREET: DECEMBER 7, 1989



EASTBOUND FROM 60TH AVE. & 75TH ST.



Figure D-7

WEEKDAY BOARDING PASSENGERS ON ROUTE 7, MALL/60TH AVENUE AND 75TH STREET: DECEMBER 6 AND 7, 1989



Appendix E

DETAILED OPERATING CHARACTERISTICS AND PROJECTIONS OF RIDERSHIP AND FINANCIAL PERFORMANCE FOR ALTERNATIVE SERVICE PLANS

Table E-1

OPERATING AND SERVICE CHARACTERISTICS OF CITY OF KENOSHA BUS ROUTES UNDER ALTERNATIVE 1

······	r										
			Service	Characte	ristics und	er Alternativ	e 1: Stat	us Quo			
		Daily B	ue Trine	Service	Frequenc	y (minutes)	Buses	Required fo	or Daily Sche	eduled S	ervice
	Round-Trip	ound-Trip (round-trip)		Wee	Weekdays		We	ekdays	Saturdays		_
Bus Route	(miles)	Weekdays	Saturdays	Peak ^a	Off-Peak	All Day	Peak ^a	Off-Peak	All Day	Spare Buses	Fleet
Regular Routes											
No. 1	27.9	16	12	30	60	60	4	2	2		
No. 2	11.5	16	12	30	60	60	2	1	1		
No. 3	28.4	16	12	30	60	60	4	2	2		
No. 4	24.1	16	12	30	60	60	4	2	2	·	
No. 5	12.6	16	12	30	60	60	2	1	1		
No. 6	13.5	12	12	30	60	60	1	1	1		
No. 7	15.2	14	12	30/60	60	60	2/1	1	1		
Subtotal	133.2	106	84	30	60	60	19/18	10	10	2	21
Peak-Hour Tripper Routes ^b	253.8	18			••		9			1	10
Shuttle Routes											
LakeView Corporate Park	17.6	1									
Dairyland/Outlet Mall	19.9	3	3	••				1	1		
Subtotal	37.5	4	3		"			1	1		
Total	424.5	128	87				28/27	11	11	3	31

^aBased on weekday peak requirements during the school year. Route No. 7 operates with 60-minute headways and one vehicle during the afternoon peak period.

^bPeak-hour tripper routes operate only during the school year to serve students at Kenosha area schools.

Table E-2

OPERATING AND SERVICE CHARACTERISTICS OF CITY OF KENOSHA BUS ROUTES UNDER ALTERNATIVE 2

			·								
			Increm	ental Ch	nange from	Alternative	1: Status	s Quo			
		Daily B	ue Trine	Servic	e Frequenc	y (minutes)	Buses	Required fo	or Daily Sch	eduled S	ervice
	Round-Trip	(round-trip)		Weekdays		Saturdays	Weekdays		Saturdays		
Bus Route	(miles)	Weekdays	Saturdays	Peak ^a	Off-Peak	All Day	Peak ^a	Off-Peak	All Day	Spare Buses	Total Fleet
Regular Routes				_							
No. 1	0.1								l		
No. 2	-1.5										
No. 3	-1.1										
No. 4	3.0							· • •			• •
No. 5	-2.2							••	•-		
No. 6	-0.4	4		-30			1		'		
No. 7	0.1	-2		30			-1				
No. 8 (new route)	16.9	16	12	30	60	60	2	1	1		
Subtotal	14.9	18	12				2	1	1	1	3
Peak-Hour Tripper Routes ^b	0.0			••							
Shuttle Routes LakeView Corporate Park Dairyland/Outlet Mall Lakeside Marketolace	2.2 0.4			•••							
(new route)	25.8	3	3					1	1		• •
Subtotal	28.4	3	3				0	1	1		
Total	43.3	21	15				2	2	2	1	3

			Se	ervice Ch	rvice Characteristics under Alternative 2								
		Daily B	us Trins	Servic	e Frequenc	y (minutes)	Buses	uses Required for Daily Scheduled Service					
	Round-Trip	(roun	(round-trip)		ekdays	Saturdays	We	ekdays	Saturdays	•			
Bus Route	(miles)	Weekdays	Saturdays	Peak ^a	Off-Peak	All Day	Peak ^a	Off-Peak	All Day	Spare Buses	Total Fleet		
Regular Routes								· · · ·					
No. 1	28.0	16	12	30	60	60	4	2	2		1		
No. 2	10.0	16	12	30	60	60	2	1	1				
No. 3	27.3	16	12	30	60	60	4	2	2				
No. 4	27.1	16	12	30	60	60	4	2	2				
No. 5	10.4	16	12	30	60	60	2	1	1				
No. 6	13.5	16	12	30	60	60	1	1	1				
No. 7	15.3	12	12	60	60	60	2	1	1				
No. 8 (new route)	16.9	16	12	30	60	60	2	1	1				
Subtotal	148.1	124	96	30/60	60	60	21	11	11	3	24		
Peak-Hour Tripper Routes ^b	253.8	18		• •			9		••	1	10		
Shuttle Routes											· · ·		
LakeView Corporate Park	19.8	1											
Dairyland/Outlet Mall	20.3	3	3					1	1				
(new route)	25.8	3	3					1	· 1				
Subtotal	65.9	7	6					2	2				
Total	467.8	149	102				30	13	13	4	- 34		

^aBased on weekday peak requirements during the school year.

^bPeak-hour tripper routes operate only during the school year to serve students at Kenosha area schools.
OPERATING AND SERVICE CHARACTERISTICS OF CITY OF KENOSHA BUS ROUTES UNDER ALTERNATIVE 3

			Increm	ental Ch	ange from	Alternative	1: Status	i Quo			
		Deilu P	ue Trine	Service	Frequency	y (minutes)	Buses Required for Daily Scheduled Service				
	Round-Trip	(round	d-trip)	We	ekdays	Saturdays	We	ekdays	Saturdays	C	Tatal
Bus Route	(miles)	Weekdays	Saturdays	Peak ^a	Off-Peak	All Day	Peak ^a	Off-Peak	All Day	Buses	Fleet
Regular Routes											
No. 1	0.4	·		30					••		
No. 2	1.5			30							
No. 3	2.0			30						. .	
No. 4	6.5			30	••			••			
No. 5	0.7		·	30							
No. 6	-0.3	4		-30							
No. 7	-3.1	-2		30			-1				
No. 8 (new route)	16.8	12	12	60	60	60	1		1		
Subtotal	24.5	14	12				1	o	1	1	2
Peak-Hour Tripper Routes ^b	0.0										
Shuttle Routes											
LakeView Corporate Park	-1.0										
Dairyland/Outlet Mall	-3.2				• •						
Lakeside Marketplace							l				
(new route)	22.6	3	3					,	1		••
Subtotal	18.4	3	3	••				1	1		
Total	42.9	17	15				1	2	2	1	2

-		Service Characteristics under Alternative 3									
		Doilu B		Service	e Frequenc	y (minutes)	Buses	Required fo	or Daily Sche	eduled S	ervice
	Round-Trip	roun	d-trip)	We	Weekdays		We	ekdays	Saturdays	C	Tetal
Bus Route	Route Length (miles)	Weekdays	Weekdays Saturdays		Off-Peak	All Day	Peak ^a	Off-Peak	All Day	Buses	Fleet
Regular Routes											
No. 1	28.3	16	12	30	60	60	4	2	2		
No. 2	13.0	16	12	30	60	60	2	1	1		
No. 3	30.4	16	12	30	60	60	4	2	2		
No. 4	30.6	16	12	30	60	60	4	2	2		
No. 5	13.3	16	12	30	60	60	2	1	1	•-	
No. 6	13.2	16	12	30	60	60	2	1	1		
No. 7	12.1	. 12	12	60	60	60	1	1	1	• •	
No. 8 (new route)	16.8	12	12	60	60	60	1	1	1		
Subtotal	157.7	120	96	30/60	60	60	20	11	11	3	23
Peak-Hour Tripper Routes	253.8	18					9			1	10
Shuttle Routes											
LakeView Corporate Park	16.6	1									
Dairyland Outlet Mall	16.7	3	3					1	1		
Lakeside Marketplace											
(new route)	20.6	3	3					1	1		
Subtotal	55.9	7	6					2	2		
Total	467.4	145	102		••		29	13	. 13	4	33

^aBased on weekday peak requirements during the school year.

^bPeak-hour tripper routes operate only during the school year to serve students at Kenosha area schools.

CHANGE IN PROJECTED ANNUAL RIDERSHIP AND FINANCIAL PERFORMANCE OF THE CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 2 OVER ALTERNATIVE 1: 1989-1995

			1		-											
									Projected ⁸							
											Under	Alternative 2	Alternative 2			
	Ac	tual		Ur	der Alternative	e 1		Incremental Change			Total System					
Operating Characteristic	1989	1,990	1991	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995	
Annual Service Provided Revenue Vehicle Hours	54,600 59,000 683,300 735,900	52,200 56,300 634,300 704,200	52,300 56,400 634,500 704,700	52,500 56,600 636,900 707,400	52,500 56,600 636,900 707,400	52,400 56,500 636,500 706,900	52,300 56,400 634,500 704,700	6,100 6,900 84,700 95,800	6,100 6,900 84,700 95,800	6,000 6,800 84,400 95,700	58,500 6,800 84,400 95,400	58,500 63,400 721,200 803,200	58,500 63,400 721,600 803,200	58,500 63,400 721,200 802,600	58,500 63,200 718,900 800,100	
Service Productivity Annual Revenue Passengers Revenue Passengers per	1,205,800	1,169,000	1,180,900	1,193,100	1,204,900	1,216,800	1,228,800	73,600	99,400	106,800	107,900	1,266,700	1,304,300	1,323,600	1,336,700	
Revenue Vehicle Hour Revenue Vehicle Mile Capita	22,1 1.76 11.9	22,4 1.84 11.5	22,6 1.86 11.6	22.7 1.87 11.8	23.0 1.89 11.9	23.2 1.91 12.0	23.5 1.94 12.1	12.1 0.87 0.7	16.3 1,17 1.0	17.5 1.26 1.1	18.0 1.28 1.1	21.7 1.76 12.5	22.3 1.81 12.9	22.6 1.84 13.0	22.9 1.86 13.2	
Service Cost ^b Total Annual Operating Expenses Total Annual Operating Revenue Total Annual Operating Deficit	\$2,144,900 479,100 1,665,800	\$2,135,100 491,200 1,643,900	\$2,222,200 510,800 1,711,400	\$2,319,500 515,900 1,803,600	\$2,412,200 521,100 1,891,100	\$2,507,000 526,200 1,981,000	\$2,599,700 531,400 2,068,300	\$238,200 ^C 32,000 206,200	\$246,000 ^C 43,200 202,800	\$199,000 46,500 152,500	\$206,500 47,000 159,500	\$2,557,700 ^C 547,900 2,009,800	\$2,658,200 ^C 564,300 2,093,900	\$2,706,200 572,700 2,133,500	\$2,806,200 578,400 2,227,800	
Sources of Required Public Funds Federal Operating Assistance ^d State Operating Assistance ^e Local Operating Assistance	\$ 579,400 815,100 271,300	\$ 576,800 822,000 245,100	\$ 547,300 855,500 308,600	\$ 547,300 974,200 282,100	\$ 547,300 1,013,100 330,700	\$ 547,300 1,090,600 343,100	\$ 547,300 1,169,900 351,100	\$100,000 106,200	\$103,300 99,500	\$ 86,600 65,900	\$ 92,900 66,600	\$ 547,300 1,074,200 388,300	\$ 547,300 1,116,400 430,200	\$ 547,300 1,177,200 409,000	\$ 547,300 1,262,800 417,700	
Percentage Change in Required Public Funds from Previous Years Federal Operating Assistance State Operating Assistance Local Operating Assistance Total Operating Assistance	-6.3 12.8 105.1 13.1	-0.4 0.8 -9.7 -1.3	-5.1 4.1 25.9 4.1	 13.9 -8.6 5.4	4.0 17.2 4.9	7.6 3.7 4.8	7.3 2.3 4.4	11.7 34.4 12.0	10.6 35.3 11.2	8.5 19.9 8.1	 8.5 19.4 8.1	25.6 25.8 17.4	14.6 52.5 16.1	 16.2 23.7 12.8	15.8 21.7 12.5	
Service Effectiveness Total Expense per Passenger Total Revenue per Passenger Total Deficit per Passenger Percent of Expenses Recovered through Operating Revenues	\$1.78 0.40 1.38 22.3	\$1.83 0.42 1.41 23.0	\$1.88 0.43 1.45 23.0	\$1.94 0.43 1.51 22.2	\$2.00 0.43 1.57 21.6	\$2.06 0.43 1.63 21.0	\$2.12 0.44 1.68 20.4	\$3.24 0.44 2.80 13.4	\$2.47 0.43 2.04 17.6	\$1.86 0.43 1.43 23.4	\$1.91 0.43 1.48 22.8	\$2.02 0.43 1.59 21.4	\$2.04 0.43 1.61 21.2	\$2.04 0.43 1.61 21.2	\$2.10 0.43 1.67 20.6	

⁸Based upon assumptions affecting ridership and financial projections shown in Table 52.

^bAll operating costs are presented in projected year-of-expenditure dollars and include costs of providing both fixed-route transit service for the general public and specialized transportation service for disabled persons.

^CIncludes the cost of leasing vehicles needed for service expansion, three vehicles under Alternative 2, during 1992 and 1993 until new vehicles can be delivered in 1994.

^dAssumes federal transit operating assistance funds will remain at the same dollar levels received during 1991 over the entire planning period. The federal operating assistance funds available during 1991 would be expected to cover about 25 percent of projected 1991 operating expenses. However, the federal operating assistance funds assistanc

^eAssumes that the proportion of operating expenses covered by state aid will increase from 38.5 percent of eligible operating expenses in 1991 to 42 percent in 1992 and 1993, 43.5 percent in 1994, and 45 percent in 1995. While an increase in state aid levels to 42 percent of eligible operating expenses in 1991 to 42 percent in 1993, 43.5 percent in 1994, and 45 percent in 1995. While an increase in state aid levels to 42 percent of eligible operating expenses has been approved for calendar years 1992 and 1993, the further increases assumed for calendar years 1994 and 1995 are not guaranteed and will be subject to favorable action by the Wisconsin Legislature and the Governor. If state aid levels remain at 42 percent of eligible operating expenses during the entire period from 1992 through 1995, local operating assistance levels would be expected to be about \$380,700 in 1994 and \$429,100 in 1995 under Alternative 1; and about \$449,600 in 1994 and \$501,900 in 1995 under Alternative 2.

CHANGE IN PROJECTED ANNUAL RIDERSHIP AND FINANCIAL PERFORMANCE OF THE CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 3 OVER ALTERNATIVE 1: 1989-1995

									Projected ^a						
											Unde	Alternative 3			
	Act	ual		Ur	der Alternativ	e 1		Incremental Change			Total System				
Operating Characteristic	1989	1990	1991	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
Annual Service Provided Revenue Vehicle Hours Total Vehicle Hours Revenue Vehicle Miles Total Vehicle Miles	54,600 59,000 683,300 735,900	52,200 56,300 634,300 704,200	52,300 56,400 634,500 704,700	52,500 56,600 636,900 707,400	52,500 56,600 636,900 707,400	52,400 56,500 636,500 706,900	52,300 56,400 634,500 704,700	5,100 5,800 111,200 119,300	5,100 5,800 111,200 119,300	5,100 5,800 111,800 119,200	5,100 5,800 111,800 118,800	57,600 62,300 748,100 826,600	57,600 62,300 748,100 826,600	57,500 62,300 747,700 826,100	57,400 62,100 745,300 823,500
Service Productivity Annual Revenue Passengers	1,205,800	1,169,000	1,180,900	1,193,100	1,204,900	1,216,800	1,228,800	85,400	117,800	128,800	130,100	1,278,500	1,322,700	1,345,600	1,358,900
Revenue Vehicle Hour Revenue Vehicle Mile	22.1 1.76 11.9	22.4 1.84 11.5	22.6 1.86 11.6	22.7 1.87 11.8	23.0 1.89 11.9	23.2 1.91 12.0	23.5 1.94 12.1	16.7 0.77 0.8	23.1 1.06 1.2	25.3 1.16 1.3	25.5 1.17 1.3	22.2 1.71 12.6	23.0 1.77 13.0	23.4 1.80 13.3	23.7 1.82 13.4
Service Cost ^b Total Annual Operating Expenses Total Annual Operating Revenue Total Annual Operating Deficit	\$2,144,900 479,100 1,665,800	\$2,135,100 491,200 1,643,900	\$2,222,200 510,800 1,711,400	\$2,319,500 515,900 1,803,600	\$2,412,200 521,100 1,891,100	\$2,507,200 526,200 1,981,000	\$2,599,700 531,400 2,068,300	\$215,000 37,200 ⁰ 177,800	\$222,800 51,200 ^C 171,600	\$193,500 56,100 137,400	\$200,900 56,600 144,300	\$2,534,500 553,100 ^C 1,981,400	\$2,635,000 572,300 ^C 2,062,700	\$2,700,700 582,300 2,118,400	\$2,800,600 588,000 2,212,600
Sources of Required Public Funds Federal Operating Assistance ^d State Operating Assistance ^e Local Operating Assistance	\$ 579,400 815,100 271,300	\$ 576,800 822,000 245,100	\$ 547,300 855,500 308,600	\$ 547,300 974,200 282,100	\$ 547,300 1,013,100 330,700	\$ 547,300 1,090,600 343,100	\$ 547,300 1,169,900 351,100	\$ 90,300 87,500	\$ 93,600 78,000	\$ 84,200 53,200	\$ 90,400 53,900	\$ 547,300 1,064,500 369,600	\$ 547,300 1,106,700 408,700	\$ 547,300 1,174,800 396,300	\$ 547,300 1,260,300 405,000
Percentage Change in Required Public Funds from Previous Years Federal Operating Assistance State Operating Assistance Local Operating Assistance Total Operating Assistance	-6.3 12.8 105.1 13.1	-0.4 0.8 -9.7 -1.3	-5.1 4.1 25.9 4.1	 13.9 -8.6 5.4	 4.0 17.2 4.9	 7.6 3.7 4.8	 7.3 2.3 4.4	10.5 28.4 10.4	9.6 27.7 9.5	 8.3 16.1 7.3	8.3 15.7 7.3	24.4 19.8 15.8	13.6 44.9 14.4	 16.0 19.8 12.0	15.6 18.0 11.7
Service Effectiveness Total Expense per Passenger Total Revenue per Passenger Total Deficit per Passenger Percent of Expenses Recovered through Operating Revenues	\$1.78 0.40 1.38 22.3	\$1.83 0.42 1.41 23.0	\$1.88 0.43 1.45 23.0	\$1.94 0.43 1.51 22.2	\$2.00 0.43 1.57 21.6	\$2.06 0.43 1.63 21.0	\$2.12 0.44 1.68 20.4	\$2.52 0.44 2.08 17.3	\$1.89 0.43 1.46 23.0	\$1.50 0.43 1.07 29.0	\$1.54 0.43 1.11 28.2	\$1.98 0.43 1.55 21.8	\$1.99 0.43 1.56 21.7	\$2.01 0.43 1.571.63 21.6	\$2.06 0.43 21.0

^aBased upon assumptions affecting ridership and financial projections shown in Table 52.

^bAll operating costs are presented in projected year-of-expenditure dollars and include costs of providing both fixed route transit service for the general public and specialized transportation service for disabled persons.

^CIncludes the cost of leasing vehicles needed for service expansion, two vehicles under Alternative 3, during 1992 and 1993 until new vehicles can be delivered in 1994.

^dAssumes federal transit operating assistance funds will remain at the same dollar levels received during 1991 over the entire planning period. The federal operating assistance funds available during 1991 would be expected to cover about 25 percent of projected 1991 operating expenses. However, the federal operating assistance funds assistanc

^eAssumes that the proportion of operating expenses covered by state aid will increase from 38.5 percent of eligible operating expenses in 1991 to 42 percent in 1992, 43.5 percent in 1994, and 45 percent in 1995. While an increase in state aid levels to 42 percent of eligible operating expenses for calendar years 1992 and 1993, the further increases assumed for calendar years 1994 and 1995 are not guaranteed and will be subject to favorable action by the Wisconsin Legislature and the Governor. If state aid levels remain at 42 percent of eligible operating expenses during the entire period from 1992 through 1995, local operating assistance levels would be expected to be about \$380,700 in 1994 and \$429,100 in 1995 under Alternative 1; and about \$436,800 in 1994 and \$489,000 in 1995 under Alternative 3.

Source: SEWRPC.

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CAPITAL PROJECT EXPENDITURES REQUIRED FOR CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 1: 1991-1995

	Capital Equipment or Project			•
Quantity	Description	Unit Cost ^a		Total Cost ^a
8	Remanufactured GMC "New Look" buses with wheelchair lifts and new radios and fareboxes ^b	\$1 1	2,500	\$ 900,000
5	Remanufactured GMC "RTS" buses with wheelchair lifts and new radios and fareboxes	11	12,500 5.000 ^c	562,500 100.000
	Design and construction of a new central transfer facility	20	00,000	200,000
 Total Acquis	sition Costs		50,000	\$1,912,500
Contingenci Project Adm	ninistration ^e	· · ·		92,600
Total Capita Federal S Local Sha	Il Project Costs	· · ·	\$1,643,6 \$438	\$2,191,400 ^b 00-\$1,753,100 ,300-\$547,800

^aExpressed in constant 1991 dollars.

^bAssumes the remanufacture of four "new look" buses in 1991 and four new look buses in 1992. The remanufacture of the four buses scheduled for 1992 will be dependent upon an assessment of the condition of the remaining six original new look buses, which were purchased new in 1975 and which will have been in service for 17 years by 1992, in the vehicle fleet to determine if the remanufacture of four of those buses would be economically viable based on the work required; or if four new buses should be purchased to replace these buses. The cost of purchasing four new 30-foot-long, air-conditioned, heavy-duty buses equipped with wheelchair lifts or ramps is estimated to be \$782,000, including contingencies and project administration. With the purchase of four new replacement buses the total cost of the capital projects required under Alternative 1 would increase to about \$2,488,100, with the City's share of these costs estimated at between \$497,600 and \$622,000 under existing federal transit capital assistance programs.

^CInstalled.

^dEstimated at 10 percent of total acquisition costs for buses, design and construction costs of the new transfer center, and garage rehabilitation; 5 percent of total acquisition and construction costs for all other equipment and facilities.

^eEstimated at 5 percent of total acquisition costs for buses, design and construction costs of the new transfer center, and garage rehabilitation; 2 percent of total acquisition and construction costs for all other equipment and facilities.

[†]Assumes 75 to 80 percent of eligible capital costs could be funded through the Federal Urban Mass Transportation Administration (UMTA) Section 3 Discretionary or Section 9 Formula Grant programs, respectively.

^gIncludes the 20 to 25 percent local matching funds required under the federal Urban Mass Transportation Administration grant programs.

CAPITAL PROJECT EXPENDITURES REQUIRED FOR CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 2: 1991-1995

	Capital Equipment or Project		<u>_</u> .	
Quantity	Description	Unit	: Cost ^a	Total Cost ^a
3 3 3 170 	30-foot-long, air-conditioned, heavy-duty urban motor coaches equipped with wheelchair lifts or ramps Registering locked-vault fareboxes Mobile radio units Bus stop signs Capital projects required under Alternative 1 to maintain existing transit system	\$17	0,000 4,500 2,500 75 ^b 	\$ 510,000 13,500 7,500 12,800 1,912,500 ^c
Total Acquis Contingenc Project Adm	sition and Construction Costs	••••		\$2,456,300 239,000 118,800
Total Capita Federal S Local Sha	Il Project Costs	•••	\$2,110,6 \$562	\$2,814,100 ^c 00-\$2,251,300 ,800-\$703,500

^aExpressed in constant 1991 dollars.

bInstalled.

^cAssumes the remanufacture of four "new look" buses in 1991 and four new look buses in 1992. The remanufacture of the four buses scheduled for 1992 will be dependent upon an assessment of the condition of the remaining six original new look buses, which were purchased new in 1975 and which will have been in service for 17 years by 1992, in the vehicle fleet to determine if the remanufacture of four of those buses would be economically viable based on the work required; or if four new buses should be purchased to replace these buses. The cost of purchasing four new 30-foot-long, air-conditioned, heavy-duty buses equipped with wheelchair lifts or ramps is estimated to be \$782,000, including contingencies and project administration. With the purchase of four new replacement buses the total cost of the capital projects required under Alternative 2 would increase to about \$3,110,800, with the City's share of these costs estimated at between \$622,200 and \$777,700 under existing federal transit capital assistance programs.

^dEstimated at 10 percent of total acquisition costs for buses and 5 percent of total acquisition and construction costs for all other equipment and facilities.

^eEstimated at 5 percent of total acquisition costs for buses and 2 percent of total acquisition and construction costs for all other equipment and facilities.

^fAssumes 75 to 80 percent of eligible capital costs could be funded through the federal Urban Mass Transportation Administration (UMTA) Section 3 Discretionary or Section 9 Formula Grant programs, respectively.

⁹Includes the 20 to 25 percent local matching funds required under the federal Urban Mass Transportation Administration grant programs.

CAPITAL PROJECT EXPENDITURES REQUIRED FOR CITY OF KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE 3: 1991-1995

	Capital Equipment or Project			
Quantity	Description	Uni	t Cost ^a	Total Cost ^a
2	30-foot-long, air-conditioned, heavy-duty urban motor coaches equipped with wheelchair lifts or ramps	\$17	70.000	\$ 340.000
2	Registering locked-vault fareboxes		4,500	9,000
2	Mobile radio units		2,500	5,000
190	Bus stop signs		75 ^b	14,300
	Capital projects required under Alternative 1 to maintain existing transit system			1,912,500 ^c
Total Acquis Contingenci Project Adm	sition and Construction Costs	••••		\$2,280,800 221,700 110,200
Total Capita Federal S Local Sha	Il Project Costs	· · · ·	\$1,959,5 \$522	\$2,612,700 ^c 00-\$2,090,200 ,500-\$653,200

^aExpressed in constant 1991 dollars.

bInstalled.

^cAssumes the remanufacture of four "new look" buses in 1991 and four new look buses in 1992. The remanufacture of the four buses scheduled for 1992 will be dependent upon an assessment of the condition of the remaining six original new look buses, which were purchased new in 1975 and which will have been in service for 17 years by 1992, in the vehicle fleet to determine if the remanufacture of four of those buses would be economically viable based on the work required; or if four new buses should be purchased to replace these buses. The total cost of purchasing four new 30-foot-long, air-conditioned, heavy-duty buses equipped with wheelchair lifts or ramps is estimated to be \$782,000, including contingencies and project administration. With the purchase of four new replacement buses the total cost of the capital projects required under Alternative 3 would increase to about \$2,909,000, with the City's share of these costs estimated at between \$581,900 and \$727,300 under existing federal transit capital assistance programs.

^dEstimated at 10 percent of total acquisition costs for buses and 5 percent of total acquisition and construction costs for all other equipment and facilities.

^eEstimated at 5 percent of total acquisition costs for buses and 2 percent of total acquisition and construction costs for all other equipment and facilities.

^fAssumes 75 to 80 percent of eligible capital costs could be funded through the federal Urban Mass Transportation Administration (UMTA) Section 3 Discretionary or Section 9 Formula Grant programs, respectively.

^gIncludes the 20 to 25 percent local matching funds required under the federal Urban Mass Transportation Administration grant programs.

Appendix F

ASSESSMENT OF FINANCIAL CAPACITY FOR THE CITY OF KENOSHA TRANSIT SYSTEM

INTRODUCTION

The purpose of this appendix is to document the findings of an analysis of the financial capacity of the City of Kenosha to implement the plan recommendations presented in Chapter VII of this report. This analysis was conducted in accordance with current federal guidelines and included an assessment of the past financial condition of the City of Kenosha Transit System, along with the City's probable future financial capacity to fund the operation of the recommended transit system.

FINANCIAL CAPACITY ASSESSMENT

The existing financial condition and the future financial capacity of the City were assessed on the basis of a number of key indicators utilizing information on historical and projected expenditures, revenues, service levels and service utilization, as shown in Table F-1. These indicators were drawn from a broader checklist used by the federal Urban Mass Transportation Administration (UMTA) in assessing the financial capacity of recipients of UMTA funds during its review of the projects proposed by each transit operator for federal funding.

The historic and anticipated ridership and service levels of the transit system for a 10-year period, including the five years from 1986 through 1990 immediately preceding the planning period and the five-year planning period from 1991 through 1995, are shown in Figure F-1. The transit system operating expenses, revenues, and deficits for this period are shown in Figure F-2. Based upon this information, it may be concluded that the projections made for the recommended transit system, including those for ridership, operating expenses, operating revenues, and operating deficits, are reasonable, based upon historic trends observed for the transit system and projected service levels under the recommended plan. In this respect, past trends in system ridership have closely followed trends in service levels, except in 1987, when passenger fares were increased. The increases in ridership projected to occur over the planning period are directly related to increases in service levels on the transit system resulting from implementation of the recommended service changes in 1992, with the recommended service changes expected to generate some continued ridership growth through 1995. The projected increases in service levels are expected to result in increases in the total operating expenses for the transit system. However, due to the significant increases in system ridership also projected, the total operating cost per passenger and per passenger mile, as shown in Figure F-3, is projected to remain relatively stable over the planning period.

Trends in operating revenues are expected to continue to follow trends in transit system ridership over the planning period. Because total system operating expenses are projected to increase at a faster rate than operating revenues over the planning period, however, a significant increase in the total operating deficit for the transit system under the recommended transit plan may be expected. Overall, the operating deficit may be expected to increase by about 30 percent by 1995 over 1991 levels, an average annual increase of about 7 percent per year. Accordingly, the major focus of this financial capacity analysis was on the ability of the available funding sources to provide the moneys needed to support the operating expenses for the transit system over the planning period. The actual and projected amounts of operating expenditures for the City of Kenosha transit system between 1986 and 1995 are shown in Figure F-4. Figure F-5 shows the percent of total transit system operating expenditures covered by each of these funding sources over the same period.

Between 1986 and 1990, federal transit operating assistance funds available to the City transit system decreased from a high of \$821,000 in 1986 to about \$577,000 in 1990. Federal transit operating assistance funds made available to the City during 1991 amounted to approximately \$547,000. The

Table F-1

KEY INDICATORS OF FINANCIAL CAPACITY FOR THE CITY OF KENOSHA TRANSIT SYSTEM: 1986-1995

			Actual				Projected u	nder Recomm	ended Plan	_
Financial Capacity Indicator	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Transit Service Levels and Utilization										
Annual Revenue						berner service				
Vehicle Miles Operated	658,900	650,800	663,800	683,300	634,300	634,500	721,200	721,600	721,200	718,900
Vehicle Hours Operated	52,200	52,100	52,700	54,600	52,200	52,300	58,500	58,500	58,500	58,500
Annual Revenue Passenger Trips	1,150,700	1,112,500	1,194,100	1,205,800	1,169,000	1,180,900	1,266,700	1,304,300	1,323,600	1,336,700
Annual Total Passenger Trips	1,249,500	1,210,200	1,309,100	1,235,500	1,199,300	459,700	493,100	509,600	517,100	522,300
Annual Passenger Miles	4,795,300	3,753,000	4,028,300	4,067,700	3,943,600	3,983,700	4,273,200	4,451,500	4,516,600	4,562,500
Revenue Passengers per				1.4.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.						
Revenue Vehicle Mile	1.75	1.71	1.80	1.76	1.84	1.86	1.76	1.81	1.84	1.86
Revenue Vehicle Hour	22.0	21.4	22.7	22.1	22.4	22.6	21.7	22.3	22.6	22.9
Transit Service Financial Information										
Total System Operating Expenses	\$1,897,700	\$1,875,400	\$1,926,500	\$2,144,900	\$2,135,100	\$2,222,200	\$2,557,700	\$2,658,200	\$2,706,200	\$2,806,200
Total System Operating Revenues	415,700	431,200	455,600	479,100	491,200	510,800	547,900	564,300	572,700	578,400
Total System Operating Deficit										
Federal Share of Deficit ^a	821,000	628,400	618,200	579,400	576,800	547,300	547,300	547,300	547,300	547,300
State Share of Deficit ^b	661,000	703,300	722,400	815,100	822,000	855,500	1,074,200	1,116,400	1,177,200	1,262,800
City Share of Deficit ^C		112,500	130,300	271,300	245,100	308,600	388,300	430,200	409,000	417,700
Subtotal	\$1,482,000	\$1,444,200	\$1,470,900	\$1,665,800	\$1,643,900	\$1,711,400	\$2,009,800	\$2,093,900	\$2,133,500	\$2,227,800
Percent of Operating										
Expenses Recovered	}									
through Operating Revenues	21.9	23.0	23.6	22.3	23.0	23.0	21.4	21.2	21.2	20.6
Operating Expense per										
Revenue Vehicle Mile	\$ 2.88	\$ 2.88	\$ 2.90	\$ 3.14	\$ 3.37	\$ 3.50	\$ 3.55	\$ 3.68	\$ 3.75	\$ 3.90
Revenue Vehicle Hour	36.35	36.00	36.56	39.28	40.90	42.49	43.72	45.44	46.26	47.97
Revenue Passenger	1.65	1.69	1.61	1.78	1.83	1.88	2.02	2.04	2.04	2.10
Passenger Mile	0.40	0.50	0.48	0.53	0.54	0.56	0.60	0.60	0.60	0.62

^aConsists of funds provided through the Section 9 Formula Transit Assistance program administered by the lederal Urban Mass Transportation Administration.

^bConsists of funds provided through the state urban mass transit operating assistance program administered by the Wisconsin Department of Transportation.

^cConsists of funds provided through city property taxes and the Kenosha Parking Commission

Source: Wisconsin Department of Transportation, Bureau of Transit; City of Kenosha Department of Transportation; and SEWRPC.

Figure F-1

ANNUAL RIDERSHIP AND SERVICE LEVELS ON THE CITY OF KENOSHA TRANSIT SYSTEM: 1986-1995



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure F-2

ANNUAL OPERATING EXPENSES, REVENUES, AND DEFICITS ON THE CITY OF KENOSHA TRANSIT SYSTEM: 1986-1995



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure F-3



TOTAL OPERATING COST PER PASSENGER AND PER PASSENGER MILE ON THE CITY OF KENOSHA TRANSIT SYSTEM: 1986-1995



decline in federal transit operating assistance funds for the City transit system is a direct result of a decline in federal transit operating assistance funds allocated to the State of Wisconsin for small urbanized areas under the UMTA Section 9, Formula Transit Assistance Program. In this respect, the total allocation of Section 9 funds to the State, from which federal operating assistance funds for the City of Kenosha Transit System are drawn, has declined from about \$7.4 million in 1986 to about \$6.4 million in 1991. Projections of federal transit operating assistance funds available to the City of Kenosha assume that such funds will remain stable at the 1991 levels through 1995. However, with projected increases in transit system operating expenses resulting from planned service changes, the proportion of transit system operating expenses which are covered by federal funds may be expected to continue to decline through 1995.

State urban mass transit operating assistance funds available to the City of Kenosha transit system have increased steadily since 1986. In

Figure F-4

AMOUNTS OF OPERATING REVENUES AND PUBLIC FUNDS FOR THE CITY OF KENOSHA TRANSIT SYSTEM: 1986-1995



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure F-5



Source: City of Kenosha Department of Transportation and SEWRPC.

1990, the City received approximately \$822,000 in state aid, or about 16 percent more than the approximately \$712,000 it received during 1986. The increased levels of state assistance during this period was a direct result of an increase from 37.5 to 38.5 percent in the amount of state aids for operating expenses each transit system was eligible to receive. An increase in the amount of these aids for operating expenses to 42 percent, effective January 1, 1992, was recently approved by the Wisconsin Legislature. The amount of state aid available to the City has been projected to continue

Table F-2

PROPORTION OF APPROPRIATIONS FROM THE STATE TRANSPORTATION FUND FOR TRANSIT OPERATING ASSISTANCE FOR THE CITY OF KENOSHA: 1986-1995

	_			Sta	ate Transportaion	Revenue Fund	Appropriatio	ns			
			Appropri Operatio	ations for Urban ng Assistance Pr	Transit ogram						
	Assistance for City of Kenosha Transit System		Assista Other Trans	nce for sit Systems	Te	otal Operating istance Program		Appropriatic Other Programs	ons for and Costs	ions	
Year	Number	Percent of Program Total	Number	Percent of Program Total	Number	Percent of Program Total	Percent of Fund Total	Number	Percent of Fund Total	Number	Percent of Fund Total
1986	\$ 661,000	1.72	\$ 37,724,000	98.28	\$ 38,385,000	100.00	6.55	\$ 548,059,600	93,45	\$ 586,444,600	100.00
1987	703,300	1.61	42,916,700	98.39	43,620,000	100.00	6.74	603,660,300	93.26	647,280,300	100.00
1988	722,400	1.61	44,012,600	98.39	44,735,000	100.00	6.66	627,262,600	93.34	671,997,600	100.00
1989	815,100	1.68	47,721,900	98.32	48,537,000	100.00	6.73	673,147,900	93.27	721,684,900	100.00
1990	822,000	1.74	46,454,100	98.26	47,276,100	100.00	6.05	733,773,000	93.95	781,049,100	100.00
Total	\$3,723,800	1.67	\$218,829,300	98.33	\$222,553,100	100.00	6.53	\$3,185,903,400	93.47	\$3,408,456,500	100.00
1991	\$ 855,500	1.68	\$ 50,161,700	98.32	\$ 51,017,200	100.00	6.39	\$ 746,753,251	93.61	\$ 797,770,451	100.00
1992	1,074,200	2.01	52,500,300	97.99	53,574,500	100.00	6.40	784,084,500	93.60	837,659,000	100.00
1993	1,116,400	1.84	59,673,300	98.16	60,789,700	100.00	6.91	818,752,300	93.09	879,542,000	100.00
1994	1,177,200	1.84	62,652,000	98.16	63,829,200	100.00	6,91	859,689,900	93.09	923,519,100	100.00
1995	1,262,800	1.88	65,757,900	98.12	67,020,700	100.00	6,91	902,674,400	93.09	969,695,100	100.00
Total	\$5,486,100	1.85	\$290,745,200	98.15	\$296,231,300	100.00	6.72	\$4,111,954,351	93.28	\$4,408,185,651	100.00

Source: Wisconsin Department of Transportation, Bureau of Transit; and SEWRPC.

to increase through 1995, based upon the past history of the state aid program in providing for increases in state transit operating assistance funds to offset decreases in federal transit operating assistance funds. By 1995, it is assumed that state transit operating assistance funds would be increased to cover 45 percent of eligible transit system operating expenses. The amount of state aid the City of Kenosha would be able to receive in 1995 would be about 48 percent more than the amount received by the transit system during 1991.

The funds distributed under the Wisconsin urban mass transit operating assistance program are obtained through the state transportation fund, which receives revenues from state motor fuel taxes, motor vehicle registration fees, drivers license fees, and other miscellaneous fees. Table F-2 indicates the historic trend in funding of the City of Kenosha transit system from Wisconsin's urban mass transit operating assistance program and compares the level of state support for this program to the total state transportation funding provided for the years 1986 through 1990. Over this period, the operating assistance provided by the State to the City's transit system has represented less than 2 percent of the total transit operating assistance program funds available. The table also indicates that both the transportation revenue fund and appropriations for the urban transit operating assistance program from the fund have increased steadily over the period. Some increase in the total trust fund and in appropriations for the operating assistance program was, therefore, projected for future years.

While annual increases in the trust fund from 1986 through 1991 averaged over 6 percent, a more modest 5 percent rate of increase in the total trust funds revenues was projected for 1992 through 1995. The proportion of the trust fund revenues appropriated for the urban transit operating assistance program during the period 1991 through 1995 was assumed to be about the same as that for the period

Table F-3

				City of Kenosha P	roperty Taxe	S	· · ·
	Total City	For Transit Operating As	System ssistance	For Oth Programs an	er d Costs	Total	
Year	Transit System Operating Defict ^a	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
1986			+ -	\$10,700,200	100.00	\$10,700,200	100.00
1987	\$ 112,500	\$ 62,600	0.53	11.793.400	99.47	11.856.000	100.00
1988	130,300	70.200	0.58	12.122.500	99.42	12,192,700	100.00
1989	271,300	271,300	1.99	13.379.900	98.01	13,651,200	100.00
1990	245,100	238,600	1.63	14,433,900	98.37	14,672,500	100.00
Total	\$ 759,200	\$ 642,700	1.02	\$62,429,900	98.98	\$63,072,600	100.00
1991	\$ 308,600	\$ 255,600	1.63	\$15,444,000	98.37	\$15,699,600	100.00
1992	388,300	388,300	2.25	16,881,300	97.75	17,269,600	100.00
1993	430,200	430,200	2.26	18,566,300	97.74	18,996,500	100.00
1994	409,000	409,000	1.96	20,487,200	98.04	20,896,200	100.00
1995	417,700	417,700	1.82	22,568,100	98.18	22,985,800	100.00
Total	\$1,953,800	\$1,900,800	1.98	\$93,946,900	98.02	\$95,847,700	100.00

PROPORTION OF CITY OF KENOSHA PROPERTY TAX LEVY FOR TRANSIT OPERATING ASSISTANCE: 1986-1995

^aBetween 1988 and 1991 a portion of the city share of transit system operating deficits was provided through funds transferred from the Kenosha Parking Commission.

Source: City of Kenosha Department of Transportation and SEWRPC.

1986 through 1990. Based upon these projections, the proportion of state funds that would need to be committed to the City of Kenosha Transit System over the planning period would be about the same as the proportion committed during the previous five years.

As necessary, the City of Kenosha has relied on the property tax as the principal local source of funds to subsidize the transit system operating deficit since it began operation in 1971. Table F-3 presents information on the actual total amount of property taxes levied by the City and those taxes applied to the transit system operating deficit between 1986 and 1990 and on projections of these figures for 1991 through 1995. During 1986, no city funds were required to support transit system operation since operating revenues and available federal and state operating assistance funds were sufficient to cover all the transit system operating expenses. Between 1987 and 1990, the actual municipal operating subsidy for the transit system provided through property taxes has increased from about \$63,000 in 1987 to about \$239,000 in 1990, an increase of about \$176,000, or 179 percent. During the same period, the total City of Kenosha property tax levy increased from about \$11.9 million in 1987 to about \$14.7 million in 1990, or by about 24 percent. The proportion of the tax levy spent on operating subsidies for the City transit system during this period has been very small, averaging about 1 percent per year.

Operating subsidy from the City for the transit system in 1991 was estimated to be \$309,000, an increase of about \$64,000, or 26 percent, over the 1990 subsidy level. By 1995, the City's subsidy for the transit system operations is projected to increase to about \$418,000, an increase of about \$109,000, or 35 percent, over the 1991 funding requirement. During the same period, some increases in the total City property tax receipts may also be expected, as a result of increases in assessed valuation as land use development and redevelopment proceeds within the City. Information provided by the City

would indicate that the total property taxes are projected to increase from about \$15.7 million in 1991 to about \$23.0 million in 1995, or by about 46 percent. With the projected increase, the proportion of total Kenosha property tax dollars that would be required to subsidize the projected municipal funding requirement for the transit system over this period would average about 2 percent per year.

CONCLUSION

On the basis of this analysis, it may be concluded that the amount of public funds that would be required over the planning period from the identified federal, state, and city funding sources appears to be within the funding capability of each public agency. With respect to the City of Kenosha, in particular, the proportion of total tax dollars that would be required to be committed to the transit system by the City over the planning period would remain a relatively small proportion of the City's total tax revenues, increasing from an average of about 1 percent to about 2 percent per year. While the transit system, the absolute increase in the proportion of total tax dollars levied for operation of the transit system would still be substantial, totalling about \$109,000 between 1991 and 1995. This increase would, however, be only about 44 percent of the total increase in the City's property tax revenues provided for operating subsidies of about \$246,000 which occurred between 1987 and 1991. This would indicate that the City of Kenosha should be able to fund the recommended transit system during the five-year planning period with a reasonable increase in its past levels of total local funding commitment.

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