COMMUNITY ASSISTANCE
PLANNING REPORT NO. 101

KENOSHA AREA TRANSIT SYSTEM PLAN AND PROGRAM: 1984-1988

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NUMBER 101

KENOSHA AREA TRANSIT SYSTEM PLAN AND PROGRAM: 1984-1988

City of Kenosha, Wisconsin

Prepared by the

Southeastern Wisconsin Regional Planning Commission
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SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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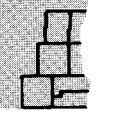

June 6, 1984

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

Ladies and Gentlemen:

In March 1983 the City of Kenosha requested the assistance of the Southeastern Wisconsin Regional Planning Commission in the preparation of a new five-year development plan and program for the City's public transit system. The plan and program, which was to identify needed transit improvements for the period 1984 through 1988, was intended to replace the previous transit system development plan and program completed in March 1976. To advise and assist the Commission staff in the preparation of the plan and program, Mayor John D. Bilotti created an 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 transmit to you herewith on behalf of the Committee, this report setting forth a new five-year transit system plan and program for the Kenosha area. More specifically, this report presents a set of transit service objectives and related performance measures formulated under the study; the findings of an inventory of the existing socioeconomic and land use characteristics of the greater Kenosha area as those characteristics relate to the provision of public transit service; the results of an assessment of both systemwide and route-by-route transit system performance considering operating characteristics, ridership, and financial return; and a set of recommended operational changes that would improve the performance of the transit system, together with estimates of the associated costs.

The findings of the analyses indicate that some changes in the City's public transit system should be considered to improve performance. Accordingly, the recommended transit system development plan and program includes a number of recommended changes to the current route structure and service levels. Changes recommended for immediate implementation include the elimination of one bus route serving the south side of the City; the realignment of five other existing bus routes; the addition of a new bus route to serve the north side of the City; and a systemwide reduction in the peak-period frequency of service on weekdays during the summer months and on Saturdays throughout the year. The plan also identifies the capital investment needs of the transit system over the next five years, including the need to replace, or rehabilitate, 13 buses.

The findings and recommendations of this report were carefully reviewed and unanimously approved by the Advisory Committee. Implementation of the recommended plan would, in the Committee's opinion, concentrate available resources and capabilities on areas which would have the most positive impact on transit system performance, thus assuring the most effective use of limited public financial resources.

The Regional Planning Commission is appreciative of the assistance and support given to the study by the City of Kenosha Department of Transportation through the Director of Transportation, as well as by the Advisory Committee, in the preparation of the transit system development plan and program. The Commission staff stands ready to assist the City in presenting the recommended transit system plan and program 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

This Kenosha area transit system plan and program is a short-range action plan, covering a period of about five years. 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 plan and program is based upon a thorough evaluation of the physical facilities and level of service provided by the existing system, and of the maintenance, marketing, and management practices of that system; a definition of the personal travel habits, patterns, and needs within the service area, and of the locations and characteristics of major traffic generators within that area; and a careful evaluation of alternative courses of action for providing improved transit service, including an evaluation of alternative capital and operational improvements.

A transit system plan and program includes a five-year staging plan for transit improvements and identifies the financial commitment and other actions required by the various levels and units of government involved in implementation of the plan. The transit system plan and program provides for the coordinated operation of all transit facilities in the area served, including facilities providing intercity transit service. The transit system plan and program 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.

NEED FOR A CURRENT TRANSIT SYSTEM PLAN AND PROGRAM

The preparation of this transit system plan and program for the Kenosha urbanized area appears warranted at this time for three reasons.

First, good management practice dictates the preparation of a transit system plan and program. The last such plan prepared for the Kenosha transit system is now out-of-date. It was completed in 1976 and recommended actions for transit improvement over the five-year period from 1976 through 1980.[1] Almost all of the recommendations contained in that plan have been implemented. Kenosha transit system ridership increased from about 766,500 revenue passengers in 1975 to a high of about 1,342,900 revenue passengers in 1980, in part because of the plan implementation actions and, in part, because of rising gasoline prices. Ridership on the transit system has since declined slightly to about 1,248,000 revenue passengers in 1981, and to about 1,224,100 revenue passengers in 1982. In addition, recent increases in transit operating costs and deficits have prompted local officials to express concern over the continued effectiveness and efficiency of the transit service currently being provided. Local officials have suggested that underutilized and unproductive transit service be eliminated in order to free resources to support transit service improvements on more productive transit routes.

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[1]See SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Program: 1976-1980, March 1976.

A second reason for the preparation of a new transit system plan and program at this time is that it is uncertain whether federal grants will continue to be awarded in support of the operation of the Kenosha transit system. The current federal administration has proposed the reduction of federal subsidies for transit operations, and has proposed elimination of such subsidies by 1985. The U. S. Congress has opposed such elimination, but has acted to reduce 1983 federal transit operating assistance allocations by 20 percent from 1982 levels. In 1983, federal transit operating assistance funds are expected to offset about $765,400, or about 42 percent, of the total estimated operating cost of the Kenosha public transit system of $1,805,800. Any substantial reduction in, or the total loss of, this level of federal funding may be expected to have a significant impact upon the transit system operating budget and, perhaps, on transit system operations. Local officials would be faced with finding additional program revenues to replace lost federal funds, reducing transit services to a level which can be supported by the reduced operating budget, or a combination of these actions. Accordingly, an examination of alternative transit service levels and funding scenarios for the public transit system seems particularly appropriate at this time.

The third reason for preparing a new transit system plan and program at this time is that an up-to-date plan and program is a requirement for continued state operating and federal capital and operating assistance for the Kenosha transit system.

PURPOSE OF THE TRANSIT SYSTEM PLAN AND PROGRAM

The transit system plan and program for the Kenosha area has five interrelated purposes:

1. To analyze the overall performance of the transit system and identify areas of efficient and effective operation and areas of inefficient and ineffective operation.

2. To develop a plan of recommended actions which will improve overall system effectiveness and efficiency, and which can serve as the basis for the making of capital investment and management and operating decisions related to public transit service.

3. To provide a sound basis for the establishment of a fiscal policy providing for the systematic scheduling of public transit system improvements, thereby ensuring effective use of limited resources in the provision of transit services.

4. To provide a sound basis for monitoring the implementation status of the plan and program, and the updating required to maintain a valid program throughout the five-year planning period.

5. To properly relate public transit service improvements to adopted long-range, areawide and local arterial street and highway plans, other transportation plans, and land use plans in order to ensure the development of a balanced and coordinated transportation system and to properly provide for the formulation and review of capital and operating assistance grant applications to state and federal agencies.

STUDY ORGANIZATION

The preparation of the needed transit system plan and program was a joint effort of 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 public transit development in the Kenosha urbanized area, including the Wisconsin Department of Transportation.

To provide guidance to the technical staff in the preparation of the new transit system plan and program, and to involve concerned and affected public officials and agency leaders in the development of transit service improvement proposals, City of Kenosha Mayor John D. Bilotti acted in September 1983 to create a Kenosha Public Transit Planning Advisory Committee. The Committee membership consists of knowledgeable and concerned local public officials and citizen leaders, as well as concerned regional, state, and federal officials. A complete committee membership list is set forth in Appendix A of this report. More specifically, the Committee was charged with the following tasks: advising the study staff on technical methods, procedures, and interpretations; aiding in the assembly and evaluation of pertinent planning and engineering data; assisting in the definition and review of system design and evaluation criteria; appraising alternative improvement plans; and recommending a transit system plan and program. The Committee was intended to be a working group actively involving citizens as well as concerned federal, state, and local officials in the planning process.

THE PLANNING PROCESS

A six-step planning process was employed in the development of the initial Kenosha area transit system plan and program. This process, developed by the Commission, was found to be effective, and was, therefore, retained for the preparation of the new Kenosha area transit system plan and program. The six steps constituting the process are: 1) preparation of objectives and standards; 2) inventory; 3) transit system analysis; 4) alternative plan design; 5) alternative plan test and evaluation; and 6) plan adoption. Plan implementation, the next step beyond the planning process, must be considered throughout the process if the plans are to be realized. Below is a brief description of each of the six steps as they relate to preparation of the updated transit system plan and program for the Kenosha area.

Preparation of Objectives and Standards

In its most basic sense, planning is a rational process for establishing and meeting objectives. Therefore, the formulation of objectives is an essential task which must be undertaken before plans can be prepared. Transit system development objectives and standards were formulated as part of the initial transit system plan and program. These areawide transit development objectives were reviewed and refined as necessary to meet current conditions in the Kenosha area, and were subsequently unanimously adopted by the Kenosha Public Transit Planning Advisory Committee. Basically, the objectives call for providing the Kenosha area with a public transportation system which will effectively serve the public transportation needs of the City of Kenosha and environs while minimizing the costs incurred in providing the desired level of

service. The objectives were supported by a set of standards and performance measures that permit the quantitative determination of the degree to which the existing transit system and alternative transit system development plans meet the objectives. The objectives and standards are set forth in Chapter II of this report.

Inventory

Certain data are essential to the formulation of a workable transit system plan and program. The inventory effort necessary to support the transit system plan and program was composed of four major elements: an inventory of the current relevant socioeconomic and physical characteristics of the Kenosha urban area, an area larger than the city proper and considered to comprise a reasonable urban public transit planning area; an inventory of the existing public transit system and service in the area; an inventory of past transit plan implementation efforts; and an inventory of transit legislation and regulation. The current characteristics of the service area important to public transit planning were identified and established in the inventory of socioeconomic and land use characteristics. These characteristics include the existing and probable future land use pattern; resident population levels, distribution densities, and characteristics; and the location of major traffic generators. The public transit service inventory identified the current utilization of, as well as the type and level of, public transit service provided in the study area. The inventory of past plan implementation efforts reviewed the implementation of the transit service recommendations made in the initial transit system plan and program for relevance to the formulation of a new plan and program. The inventory of transit legislation and regulation examined federal, state, and local legislation and regulations pertaining to public transit system development and operation in the study area. The findings of these inventories are presented in Chapters III, IV, and VI of this report.

Transit System Analysis

Following completion of the necessary inventories, it is necessary to analyze the performance of the existing transit system. This function was accomplished primarily by determining how well the existing service satisfied the adopted transit service objectives and standards. The performance evaluation of the Kenosha transit system was conducted at two levels--systemwide and route-by-route--using specific sets of performance measures set forth under the objectives and standards. In this manner, specific areas of need were identified and subsequently addressed. The results of the transit system analysis step are set forth in Chapter V of this report.

Alternative Plan Design

The findings of each of the above-described planning operations provided a sound basis for the alternative plan design process. Alternative policies and courses of action aimed at removing the identified deficiencies of the existing transit system were developed with respect to transit management, service improvements, and capital improvements over the five-year period. The knowledge and experience of federal, state, and local staff familiar with transit development and operation were applied in the alternative plan design process through interagency staff meetings and careful review of the plan

design work efforts by the Kenosha Public Transit Planning Advisory Committee. The various alternative transit plans considered are set forth in Chapter VII of this report.

Plan Test and Evaluation

In order to select a recommended plan and program from among the alternatives developed in the design stage of the planning process, the alternatives were quantitatively and qualitatively tested and comparatively evaluated. The plan test and evaluation process ascertained the degree to which the plans met the agreed-upon objectives; were technically, legally, and financially feasible; and were readily comprehensible and supportable by the public officials who ultimately are responsible for plan implementation. The alternative plans were evaluated against the objectives and standards with respect to such system performance characteristics as the number of people served, the capital and operating costs entailed, the farebox revenues received, and the amounts and sources of public funds required. While it is generally recognized that urban public transit service is not able to support itself from farebox revenues, certain measures of cost-effectiveness can be employed to balance the financial requirement against the level of service provided. The result of the evaluation process was a recommended transit system plan and program which could be certified to the levels, units, and agencies of government concerned for consideration, adoption, and implementation. The results of the evaluation of the alternative plans and the recommended plan and program are described in Chapters VII and VIII of this report.

Plan Adoption

In a practical sense, the transit system plan and program is not complete until the steps required for implementation--that is, the steps necessary to convert the plan into action--are specified. Plan implementation must begin with plan adoption or endorsement by the concerned implementing agencies, which include the Common Council of the City of Kenosha; the Southeastern Wisconsin Regional Planning Commission; the Wisconsin Department of Transportation; and the U. S. Department of Transportation, Urban Mass Transportation Administration. All implementation recommendations must follow and flow from such plan adoption. The implementation recommendations are described in Chapter VIII of this report.

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Chapter II

TRANSIT SERVICE OBJECTIVES AND STANDARDS

INTRODUCTION

One of the critical steps in the preparation of a transit system plan and program is the articulation of the objectives to be served by the transit system, together with the identification of supporting standards which can be used to measure the degree of attainment of the objectives. The objectives and standards provide the 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 represent the level of transit service and system performance desired by the Kenosha community. The standards should permit direct measurement of the extent to which the objectives are being attained. Only if the objectives and standards clearly reflect community transit-related goals will the recommended transit system plan and program provide the desired level of service within the limits of available financial resources.

The following sections of this chapter present the public transit service objectives and standards used in the performance evaluation of the existing transit system, and in the subsequent design and evaluation of the alternative short-range transit plans. 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 B.

OBJECTIVES

Any transit service objectives and standards implicitly reflect the underlying values of the residents 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 cross-section 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 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 Kenosha community 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 greater Kenosha area while minimizing the costs entailed. More specifically, the following objectives were adopted by the Kenosha Public Transit Planning Advisory Committee:

1. The public transit system should effectively serve the existing land use pattern of the City of Kenosha and environs, and promote the implementation of the adopted land use plan.

2. The public transit system should provide a ready means of access to areas of employment and essential services for all segments of the population, but especially for transit-dependent population groups.

3. The public transit system should promote transit utilization and provide for user convenience, comfort, and safety.

4. The public transit system should be economical and efficient, meeting all other objectives at the lowest possible cost.

These objectives are essentially the same as those adopted in the preparation of the initial transit system plan and program for the Kenosha area.[1]

STANDARDS

Complementing each of the foregoing transit service objectives is a set of service and design standards, as set forth in Table 1. 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.

Overriding Considerations

The objectives and standards set forth in Table 1 were intended to be used to guide the evaluation of the performance of the 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 plan and program for the 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 standards cannot be met practically and must be either modified or eliminated.

[1]See SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Program: 1976-1980, pp. 55-59.

Table 1

PUBLIC TRANSIT OBJECTIVES AND STANDARDS ESTABLISHED FOR USE IN THE KENOSHA AREA TRANSIT SYSTEM PLAN AND PROGRAM

Objective	Standards
1. The public transit system should effectively serve the existing land use pattern of the City of Kenosha and environs, and promote the implementation of the adopted land use plan.	1. Public transit service to residential neighborhoods[a] and major nonresidential land use areas within the urbanized area should be maximized. Major nonresidential land use areas served should include the following: a. Transportation terminal facilities, including intercity bus stations, park-ride lots, and scheduled air and rail transport facilities.[b] b. Major regional, community, and neighborhood retail and service centers.[c] c. Major employment centers.[d] d. Major regional, community, and special recreational sites.[e] e. Major educational institutions such as universities, colleges, vocational schools, and secondary schools.[f] f. Major governmental and public institutional centers such as community libraries and seats of state, county, and local governments.[f] g. Major community and special medical centers such as hospitals, medical clinics, and extended care facilities.[b] 2. Local public transit fixed routes should be provided at intervals of no more than one-half mile in high-density and medium-density residential areas, and no more than one mile in low-density residential areas.[g] 3. Circulation-distribution local public transit service should be provided as warranted within an urban center or other extensive land use complex to distribute passengers from automobiles or other public transit facilities throughout the land use complex to be served.
2. The public transit system should provide a ready means of access to areas of employment and essential services for all segments of the population, but especially for transit-dependent population groups.	1. The public transit system should provide a level of service within the urbanized area such that a maximum number of residents are within: a. 30 minutes overall travel time of at least 40 percent of the area's employment opportunities. b. 45 minutes overall travel time of a regional retail and service center. c. 30 minutes overall travel time of a major medical center or hospital or a medical clinic. d. 40 minutes overall travel time of a public outdoor regional recreational area. e. 40 minutes overall travel time of a vocational school, college, or university. 2. Public transit service to the residential concentrations of, and the facilities frequently used by, transit-dependent population groups should be maximized. 3. Specialized transportation service should be available within the transit service area to meet the transportation needs of those portions of the elderly[h] and handicapped[i] population unable to avail themselves of regular transit service. 4. Demand-responsive public transit service may be provided to low-density urban and rural areas or to other selected areas as a supplement or complement to fixed route public transit service and as a specialized service to improve the mobility of the elderly and handicapped.[j] 5. Adequate capacity and a sufficiently high level of geometric design of, and traffic management for, transportation facilities should be provided to achieve an overall travel speed for local transit service of at least five miles per hour, based on average weekday conditions within the central business district. Within urban areas outside the central business district, a minimum overall travel speed of 10 miles per hour should be provided by the public transit system. For rural areas a minimum overall travel speed of 30 miles per hour should be provided. 6. The number of jobs served by the public transit system should be maximized. Jobs at major employment centers should be considered served by local public transit service when located within one-eighth mile of a bus route which provides scheduled bus service at times which permit use by persons employed at the center.
3. The public transit system should promote transit utilization and provide for user convenience, comfort, and safety.	1. Ridership on the public transit system should be maximized. 2. Local public transit service should be designed to provide adequate capacity to meet existing and projected travel demand. The average maximum load factor[k] should not exceed 1.33 during the peak period; 1.00 during the off-peak period; and 1.00 at the 10-minute point.[l] 3. The public transit system should provide a level of service commensurate with potential demand. Operating headways for local, fixed route, public transit service within urban areas should be designed to provide service capable of accommodating passenger demand at the recommended load standards, but should not exceed 30 minutes during weekday peak periods nor 60 minutes during weekday off-peak periods and weekend periods. 4. 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] 5. Fixed route local public transit stops within urban areas outside the central business district should be spaced two to three blocks apart. 6. Public transit stops should be located sufficiently near concentrations of demand in the central business district so that 90 percent of the urban public transit users walk no more than one block. 7. Public transit routes should be direct in alignment, with a minimum number of turns, and arranged to minimize transfers and duplication of service which would discourage transit use. 8. Overall transit travel time on circulation-distribution urban public transit facilities should not exceed 10 minutes. 9. To provide protection from the weather, bus passenger shelters of an attractive design should be constructed at all park-ride terminals and other rapid transit service loading points, and should be constructed at major express and local service loading areas.[n]

Table 1 (continued)

Objective	Standards
	10. Public transit overall travel times should be comparable to arterial street overall travel times among component parts of the study area. 11. Paved passenger loading areas should be provided at all fixed route transit loading and unloading points, and all such points should be marked by easily recognized bus stop signs. 12. Each public transit vehicle should be rehabilitated or replaced at the end of its maximum service life, which shall be defined as follows: a. For diesel-powered buses with a seating capacity of more than 25 passengers, maximum service life should be considered to range from 12 years when the average mileage per year is more than 60,000 miles, to 15 years when the average mileage per year is fewer than 50,000 miles. b. For diesel- or gasoline-powered buses with a seating capacity of fewer than 25 passengers, the maximum service life should be considered to average five years, or 100,000 miles. 13. Preventive maintenance program standards should be established to achieve, at a minimum, 6,000 miles without an in-service breakdown.
4. The transit system should be economical and efficient, meeting all other objectives at the lowest possible cost.	1. The operating and capital investment expenses for the public transit system should be minimized and reflect efficient utilization of resources. 2. The amount of transit system operating expenses recovered through operating revenues should be maximized. 3. The local public subsidy required per transit ride should be minimized and reflect the most effective use of other subsidies.

[a]Considered as served by local public transit service when such land is located within one-quarter mile of a bus route.

[b]Considered as served if located directly on a bus route.

[c]Major regional shopping centers are defined by the Commission as concentrations of retail and service establishments within central business districts, strip shopping districts, and shopping centers which meet at least five of the following six criteria:

1. Contain at least two department stores.
2. Contain 10 additional retail and service establishments.
3. Generate a combined average annual sales totaling $30 million or more.
4. Have a combined net site area totaling 20 acres or more.
5. Are able to attract at least 3,000 shopping trips per average weekday.
6. Are accessible to a population of at least 100,000 persons within a radius of 10 miles or within 20 minutes one-way travel time.

A major community shopping area is defined as a large concentration of retail and service establishments including at least one large department store.

A neighborhood retail and service center or secondary community shopping area is defined as a large concentration of stores and services, usually lacking a major department store.

These centers shall be considered as served if located directly on a bus route.

[d]A 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.

[e]Major regional recreational areas are defined as public recreation sites of at least 250 acres in size, offering multiple recreational opportunities.

Community recreational areas are defined as multiple-use 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. Special recreational sites shall be defined as major single-use public recreational areas which are community oriented in service area.

Recreational areas should be considered as served if located within one-eighth mile of a bus route.

[f]Considered as served if located within one-eighth mile of a bus route.

[g]The categories of urban residential land use development densities shall be defined as follows:

Residential Density Category	Number of Dwelling Units per Net Residential Acre	Number of Persons per Gross Square Mile
Urban High Density.....	7.0-17.9	9,200-22,800
Urban Medium Density.....	2.3- 6.9	3,300- 9,199
Urban Low Density.....	0.7- 2.2	1,000- 3,299
Suburban.....	0.2- 0.6	300- 999

[h]The elderly are defined as persons aged 65 or older, in accordance with federal and state regulations.

[i]The handicapped shall be defined as individuals who, by reason of illness, injury, age, 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.

[j]The provision of demand-responsive public transit service could be applicable under the following general conditions:

- An urban area population density of at least 2,000 to 6,000 persons per square mile.
- A service area population of between 4,000 and 20,000 persons.
- A passenger demand of between 20 and 60 per square mile per hour. Lesser demands can be better served by taxi and greater demands can generally be better served by fixed route service when street systems and topography permit.
- A high proportion of potential riders in the age groups between 5 and 18 and over 65.
- Transit travel times to the major trip generators such as shopping centers, employment centers, schools, and transit stations from within the service area ranging from 10 to 20 minutes.

[k]The average maximum load factor is calculated by dividing the number of patrons at the maximum loading point of a route by the number of seats at that point during the operating period.

[l]The 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 zero minutes early and three minutes late.

[n]Construction of bus passenger shelters at major secondary and tertiary public transit loading points should generally be considered where one or more of the following conditions exist:

- The location has boarding passenger volumes of 50 or more passengers per day.
- The location is a major passenger transfer point between bus routes.
- The location serves major facilities designed specifically for the use of, or is frequently used by, elderly or handicapped persons.

Source: SEWRPC.

Second, it must be recognized that a transit system is unlikely to fully meet all the standards, and that the extent to which each standard is met, exceeded, or violated must serve as a 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 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 its 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.

SUMMARY

This chapter has presented a set of transit service objectives and standards developed and adopted by the study Advisory Committee as a basis for the analyses conducted during the preparation of the transit system plan and program for the Kenosha area. The four specific objectives have been developed within the context of the transit development objectives and standards prepared under the previous transit system plan and program.

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Chapter III

KENOSHA TRANSIT SERVICE AREA

INTRODUCTION

In order to properly evaluate the transit services currently provided within the Kenosha area, it is necessary to consider those factors which affect, or are affected by, the provision of transit service. These factors include certain physical characteristics of the study area, the land use, and the size and distribution of population and employment. Particularly, the size and location of transit-dependent population groups and major trip generators within the area should be identified, and the travel habits and patterns of the resident population of the study area should be described. This chapter presents the results of an inventory of these important determinants of the need for transit service in the Kenosha area.

THE STUDY AREA

The study area considered in this report is the Kenosha Urban Planning District, as defined by the Southeastern Wisconsin Regional Planning Commission. The area is comprised of the eastern portion of Kenosha County and is bounded by IH 94 on the west, the Kenosha-Racine County line on the north, Lake Michigan on the east, and the Wisconsin-Illinois state line on the south. Several special- and general-purpose units of government operate within the district and have important transportation responsibilities. These include the City of Kenosha; the Towns of Pleasant Prairie and Somers; Kenosha County; and the Kenosha Unified School District, which serves the entire study area. The locations of the civil divisions and of the study area within the Southeastern Wisconsin Region are shown on Map 1. As was deemed necessary, the inventories and analyses conducted under this study included certain major traffic generators located outside the study area boundary.

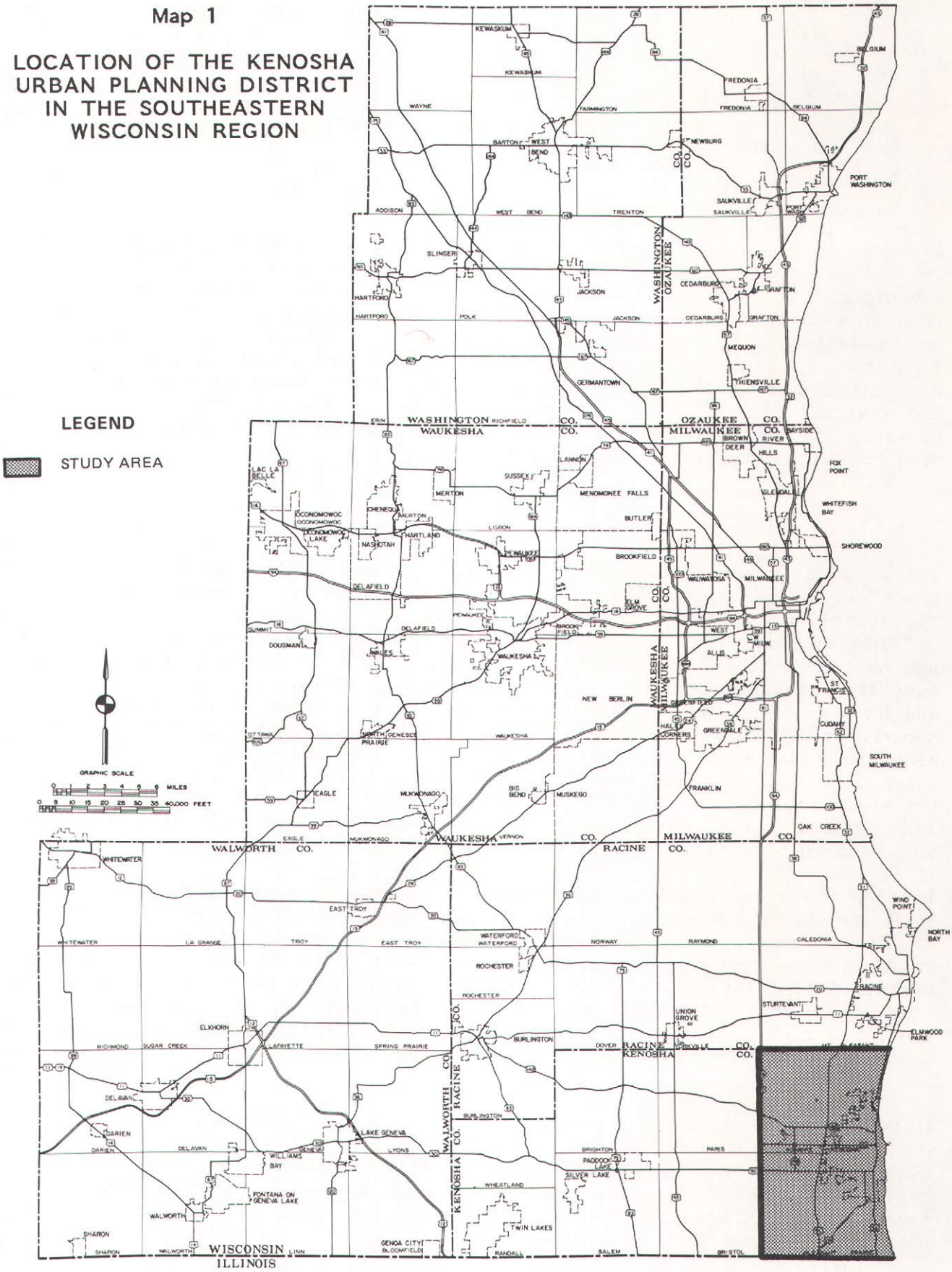
In 1980 the total resident population of the study area, as determined by the U. S. Bureau of the Census, was about 98,100 persons. Of this total, about 85,700 persons, or about 87 percent, resided within the Kenosha urbanized area as defined by the U. S. Bureau of the Census. As shown on Map 2, the Kenosha urbanized area includes all of the City of Kenosha and parts of the Towns of Pleasant Prairie and Somers. More than 77,700 persons, or about 79 percent of the study area population and about 91 percent of the urbanized area population, resided within the City of Kenosha in 1980.

CLIMATE

Like the rest of the Southeastern Wisconsin Region, the study area has a semi-humid, continental climate, with relatively extreme seasonal temperature fluctuations and moderate amounts of rainfall and sunshine. Because the weather may, particularly in winter, create discomfort for passengers waiting in unsheltered areas to board transit vehicles, the provision of transit shelter facilities is an important consideration in transit system planning and operation.

Map 1

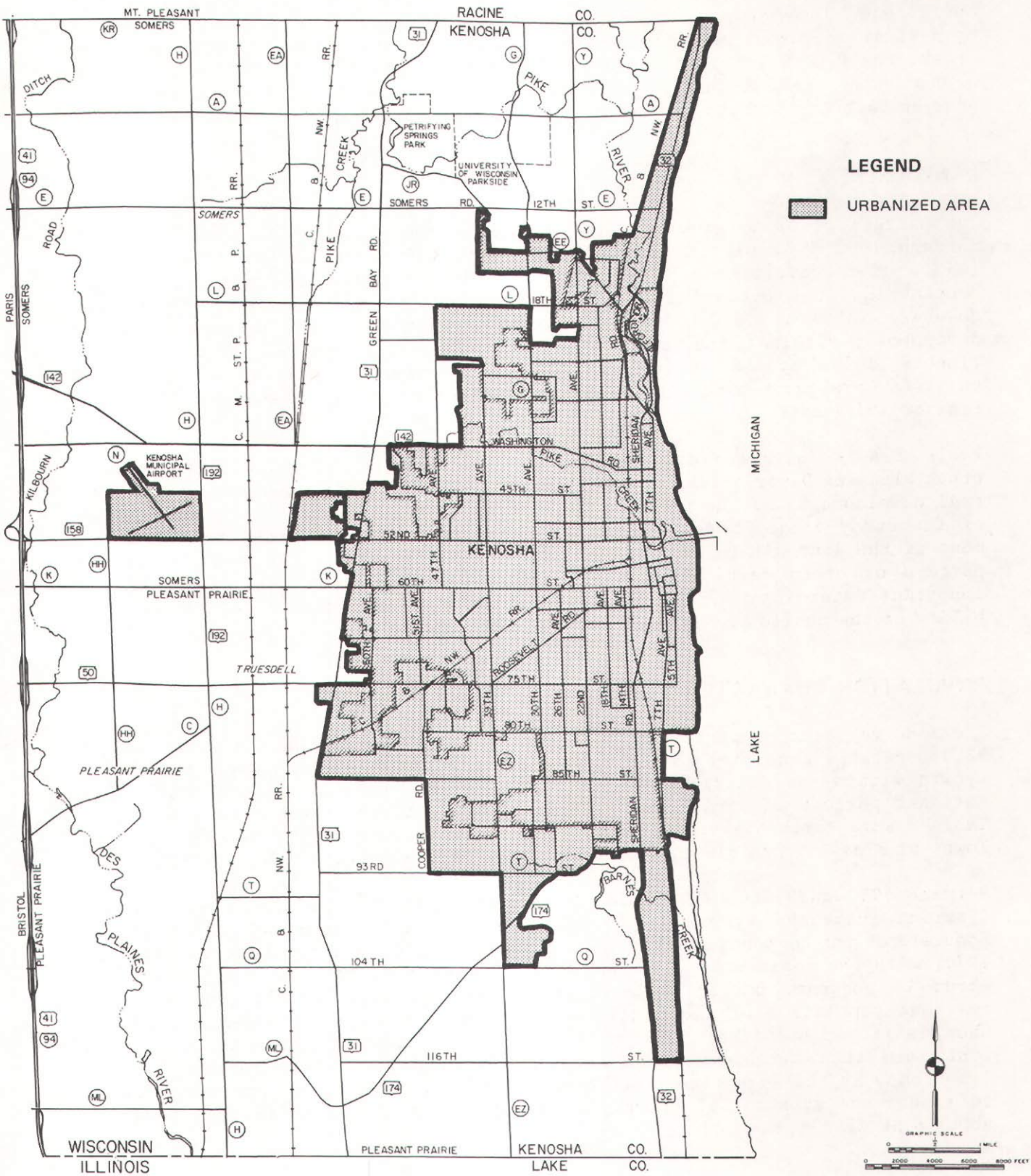
LOCATION OF THE KENOSHA URBAN PLANNING DISTRICT IN THE SOUTHEASTERN WISCONSIN REGION



Source: SEWRPC.

Map 2

KENOSHA URBANIZED AREA: 1980



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

TOPOGRAPHY

The topography of the study area creates few problems for transit system operations. The land in the Kenosha Urban Planning District has been shaped by glaciation, creating a broad, gently rolling topography. Barnes Creek, Pike Creek, the Pike River, and the Des Plaines River meander through various parts of the study area. A sufficient number of river crossings exist which can be used to interconnect the various parts of the study area with transit service.

LAND USE

The pattern of urban growth in the Kenosha Urban Planning District from 1850 through 1980 is depicted on Map 3. Over the 100-year period from 1850 to 1950, urban development within the District 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 urban 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 Towns of Pleasant Prairie and Somers.

Table 2 sets forth the distribution of land uses in 1980 within the Kenosha Urban Planning District. As shown in the table, single- and two-family residential development was the predominant type of land use within the urban portion of the study area. It is important to note that despite rapid urbanization, most of the land within the study area is still in open, rural uses. The future pattern of urban development within the study area can, therefore, be an important determinant of the future need for transit service and of the viability of the public transit system within the area.

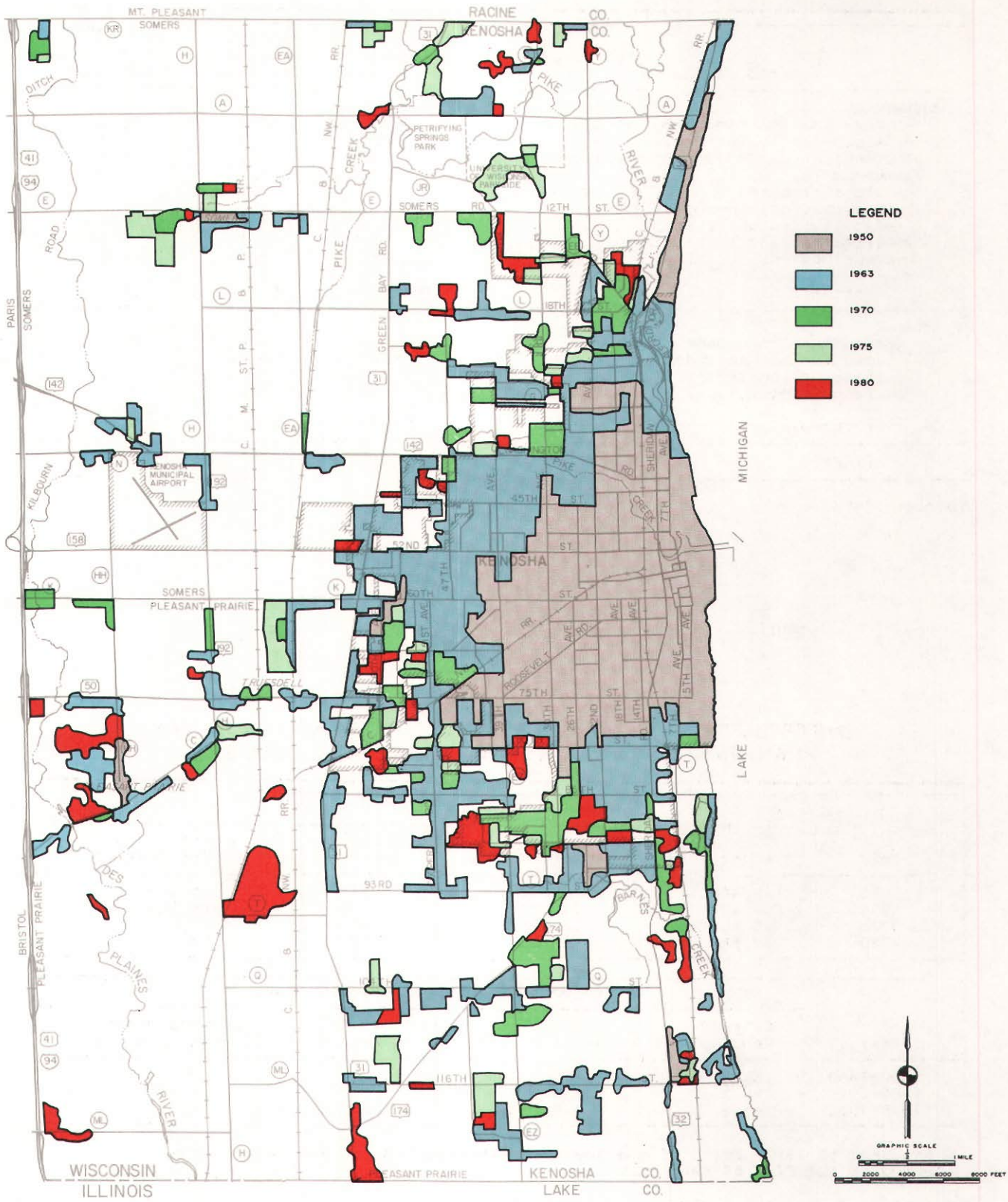
POPULATION CHARACTERISTICS

The 1980 resident population of the Kenosha Urban Planning District was about 98,100 persons according to the U. S. Bureau of the Census. Rates of population growth within the District have fluctuated from decade to decade, with significant periods of growth generally reflecting times of economic prosperity. Table 3 sets forth historical population data for the City of Kenosha and the Towns of Pleasant Prairie and Somers for the decades between 1950 and 1980.

Between 1950 and 1960, the resident population of the Kenosha Urban Planning District increased by nearly 19,300 persons, or approximately 29 percent. Population growth continued, but at a somewhat slower rate, between 1960 and 1970, with the resident population increasing by more than 12,700 persons, or about 15 percent. During the most recent decade, between 1970 and 1980, the resident population of the District remained virtually unchanged. Shifts in the district population distribution continued, however. The City of Kenosha lost more than 1,100 residents between 1970 and 1980--a decrease of about 1 percent. At the same time, the Towns of Pleasant Prairie and Somers continued to experience substantial growth, with population increases in both towns of about 6 percent.

Map 3

HISTORIC URBAN GROWTH IN THE KENOSHA URBAN PLANNING DISTRICT: 1850-1980



Source: SEWRPC.

Table 2

DISTRIBUTION OF LAND USE IN THE KENOSHA URBAN PLANNING DISTRICT: 1980

Land Use Category	Area (acres)	Percent of Land Use Area	Percent of Total Study Area
Urban			
Single- and Two-Family Residential	7,661	44.3	14.0
Multiple-Family Residential	190	1.1	0.4
Residential Land Under Development	681	3.9	1.2
Commercial	458	2.7	0.8
Manufacturing and Wholesale Industrial	796	4.6	1.4
Transportation, Communication, and Utilities	5,512	31.9	10.1
Governmental and Institutional	995	5.8	1.8
Recreational	987	5.7	1.8
Subtotal	17,280	100.0	31.5
Rural			
Agricultural and Open Lands	31,597	83.9	57.5
Woodlands and Wetlands	5,479	14.6	10.0
Extractive Industrial	250	0.7	0.4
Surface Water	320	0.8	0.6
Subtotal	37,646	100.0	68.5
Total	54,926	--	100.0

Source: SEWRPC.

Table 3

DISTRIBUTION OF POPULATION IN THE KENOSHA URBAN PLANNING DISTRICT BY CIVIL DIVISION: 1950-1980

Year	Population by Civil Division			
	City of Kenosha	Town of Pleasant Prairie	Town of Somers	Kenosha Urban Planning District
1950	54,368	6,207	5,530	66,105
1960[a]	67,899	10,287	7,139	85,325
1970	78,805	12,019	7,270	98,094
1980	77,685	12,703	7,724	98,112

Year	Percent Change by Civil Division			
	City of Kenosha	Town of Pleasant Prairie	Town of Somers	Kenosha Urban Planning District
1950-1960	24.9	65.7	29.1	29.1
1960-1970	16.1	16.8	1.8	15.0
1970-1980	-1.4	5.7	6.2	0.0

[a]Subsequent to 1960, parts of the Towns of Pleasant Prairie and Somers were annexed to the City of Kenosha.

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

Two important factors affecting the efficiency and cost-effectiveness of public transit service are population density and residential density. The overall gross population density of the Kenosha Urban Planning District in 1980 was about 1,150 persons per square mile. The overall residential density was approximately 4.4 dwelling units per net residential acre. The overall gross population density of the rural sections of the study area, consisting of major portions of the Towns of Pleasant Prairie and Somers, was about 300 persons per square mile, while the overall residential density of these areas was about 1.6 dwelling units per net residential acre. These densities are generally considered to be too low to support conventional, fixed route transit service. The developed urban portion of the study area, consisting of the City of Kenosha and adjacent portions of the Towns of Pleasant Prairie and Somers, had an overall gross population density in 1980 of about 5,200 persons per square mile. The overall residential density of this area was about 7.9 dwelling units per net residential acre. Residential densities within the developed urban portion of the study area ranged from a low of about 2.4 dwelling units per net acre of residential land to a high of 71.0 dwelling units per net acre of residential land. Within the same area, overall population densities ranged from about 100 persons per square mile to about 9,800 persons per square mile. Map 4 indicates the generalized net residential densities within the study area in 1980, while Map 5 indicates estimated gross population densities.

IDENTIFICATION OF SPECIAL POPULATION GROUPS

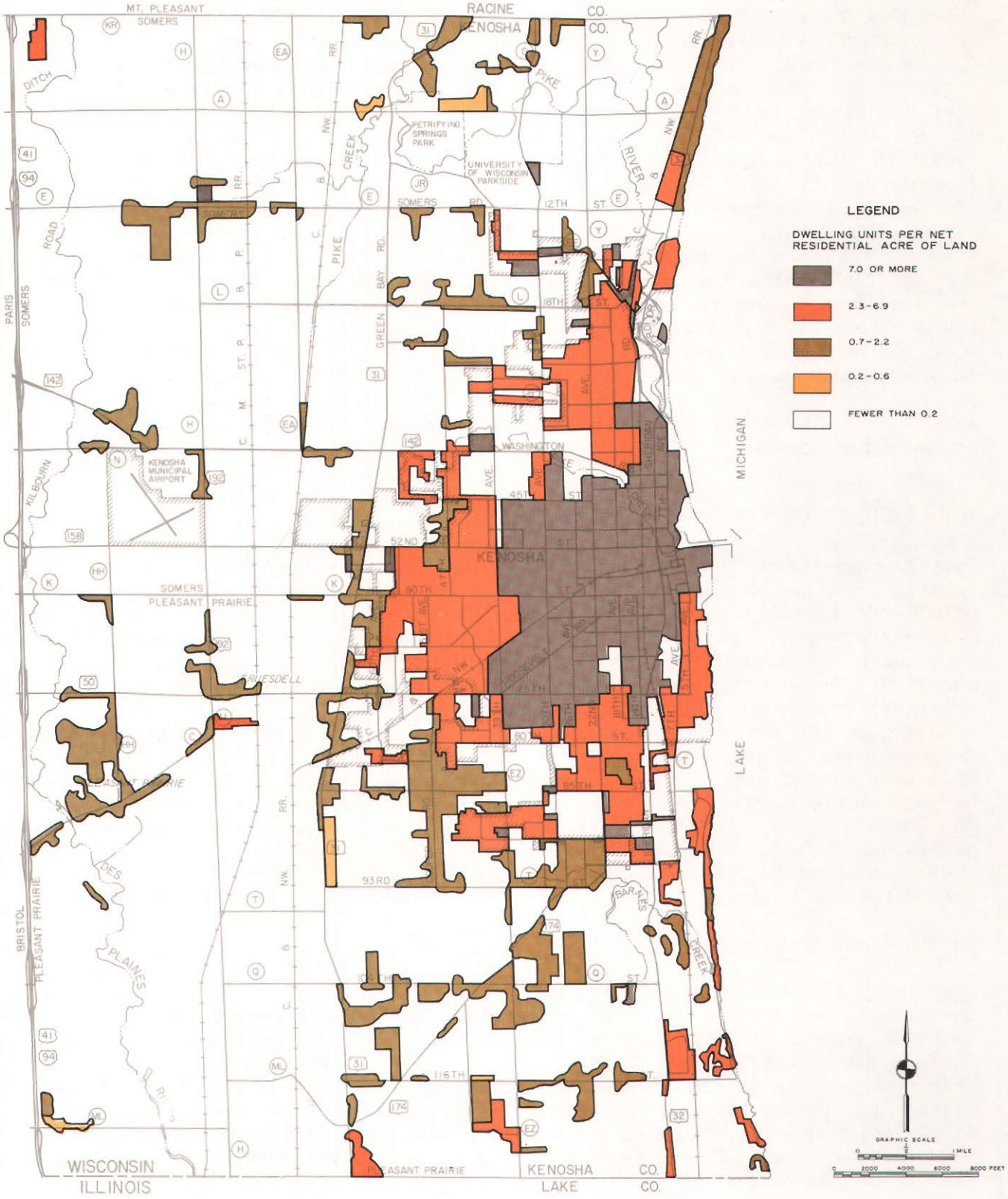
Certain segments of the population depend on, and make greater use of, public transit than the population as a whole. Six special population groups were considered in this study because, historically, members of these groups have had less access to the automobile as a form of travel than has the population in general and, therefore, have had to rely more heavily on public transit for mobility. These groups include school-age children, the elderly, low-income families, minorities, the handicapped, and those persons living in households with no or one automobile available. Information about these groups in the Kenosha Urban Planning District was obtained from 1980 U. S. Census data. Selected population characteristics for the census tracts within the Kenosha Urban Planning District are set forth in Tables 4 through 7. Inasmuch as almost 90 percent of the population served by the Kenosha transit system resides within the City of Kenosha, the data have been presented by two geographic areas: the Kenosha Urban Planning District as a whole and the City of Kenosha. The census tract boundaries for 1980 census information are shown on Map 6.

School-Age Children

School-age children aged 10 through 18 constituted about 16,000 persons in the Kenosha Urban Planning District in 1980, or about 16 percent of the total resident population. Of this total, 12,100 school-age children, or about 76 percent, reside in the City of Kenosha. As indicated in Tables 4 and 7, there were no significant concentrations of school-age children in any census tract, but rather an even distribution among all tracts. The locations of middle and high schools, and of colleges, universities, and technical schools--major destinations of home-to-school transit trips--are described in a later section of this chapter.

Map 4

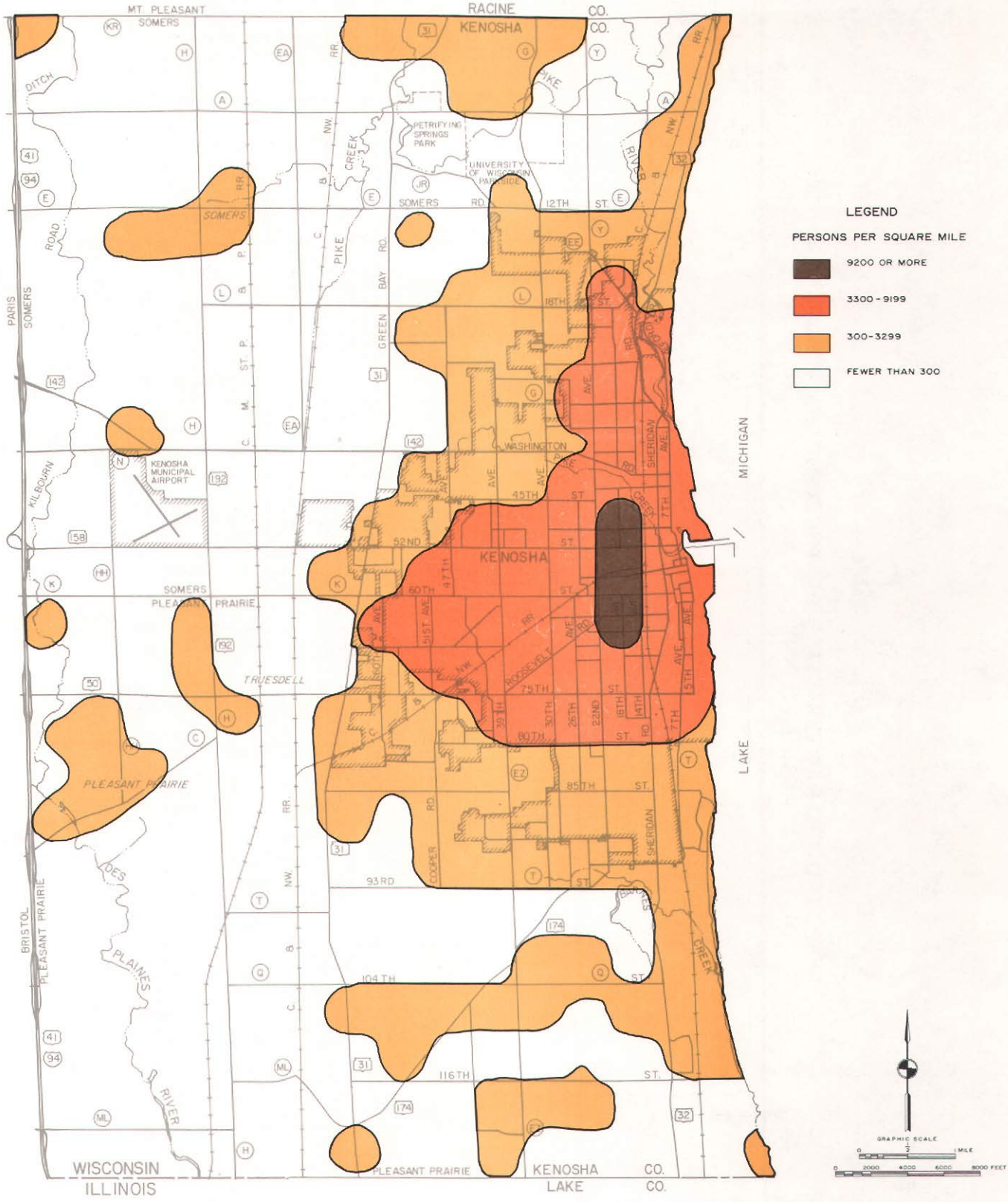
RESIDENTIAL DENSITY IN THE KENOSHA URBAN PLANNING DISTRICT: 1980



Source: SEWRPC.

Map 5

OVERALL POPULATION DENSITY IN THE KENOSHA URBAN PLANNING DISTRICT: 1980



Source: SEWRPC.

Table 4

SELECTED CHARACTERISTICS OF THE KENOSHA URBAN PLANNING DISTRICT RESIDENT POPULATION BY CENSUS TRACT: 1980

Census Tract Number	Tract Population	School-Age Children [a]		Elderly [b]		Low Income [c]		Minority			
								Nonwhite		Hispanic	
		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	3,571	455	12.7	336	9.4	185	5.2	131	3.7	72	2.0
2	934	143	15.3	--	--	--	--	50	5.3	7	0.7
3	3,693	481	13.0	607	16.4	254 [d]	6.9	105	2.8	132	3.6
4	3,997	631	15.8	536	13.4	156	3.9	36	0.9	42	1.0
5	5,243	1,022	19.5	613	11.7	285	5.4	174	3.3	104	2.0
6	6,349	1,072	16.9	574	9.0	475	7.5	151	2.4	92	1.4
7	4,409	781	17.7	355	8.0	430	9.8	953	21.6	319	7.2
8	2,486	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	3,821	639	16.7	285	7.4	328	8.6	91	2.4	110	2.9
14	6,533	1,264	19.3	492	7.5	108	1.6	84	1.3	68	1.0
15	4,059	572	14.1	589	14.5	187	4.6	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	15.1	471	17.3	105	3.8	24	0.9	47	1.7
20	3,228	673	20.8	160	4.9	105	3.2	31	1.0	24	0.7
21	4,376	706	16.1	385	8.8	245	5.6	138	3.1	108	2.4
22	3,925	548	14.0	605	15.4	65	1.6	24	0.6	38	1.0
23	5,707	1,037	18.2	805	14.1	219	3.8	92	1.6	92	1.6
24	4,419	876	19.8	419	9.5	83	1.9	68	1.5	51	1.1
25	1,326	315	23.8	67	5.1	35	2.6	7	0.5	16	1.2
26	5,020	1,030	20.5	283	5.6	167	3.3	87	1.7	71	1.4
Total	98,112	15,990	16.3	10,664	10.9	6,848	7.0	5,060	5.2	3,383	3.4

Footnotes to Table 4

[a] Ages 10-18 inclusive.

[b] Ages 65 and older.

[c] Family income below federal poverty threshold. Poverty thresholds for families in 1979 as defined by the U. S. Bureau of the Census.

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

[d] Includes only that portion of tract 4 within the City of Kenosha. The portion within the Town of Somers has been suppressed by the U. S. Bureau of the Census.

Source: U. S. Bureau of the Census.

Table 5

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

Census Tract Number	Tract Population	School-Age Children[a]		Elderly[b]		Low Income[c]		Minority			
								Nonwhite		Hispanic	
		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[d]	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
3[d]	3,557	453	12.7	600	16.9	247	7.0	96	2.7	126	3.5
4[d]	3,983	631	15.8	534	13.4	156	3.9	36	0.9	42	1.0
5[d]	5,168	1,011	19.6	602	11.6	285	5.5	168	3.2	104	2.0
6[d]	1,501	123	8.2	221	14.7	153	10.2	77	5.1	30	2.0
7[d]	4,131	741	17.9	314	7.6	430	10.4	923	22.3	295	7.1
8	2,486	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
Total	77,685	12,064	15.5	9,025	11.6	6,026	7.8	4,745	6.1	3,110	4.0

[a] Ages 10-18 inclusive.

[b] Ages 65 and older.

[c] Family income below federal poverty threshold (see footnote c in Table 4).

[d] Data presented for only that portion of the census tract within the City of Kenosha.

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

Table 6

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

Census Tract Number	Total Households	Households With No Automobile Available		Households With One Automobile Available		Households With No or One Automobile Available	
		Households	Percent of Total Households	Households	Percent of Total Households	Households	Percent of Total Households
1	1,585	70	4.4	664	41.9	734	46.3
2	5	--[a]	--	--[a]	--	--[a]	--
3	1,371	217	15.8	729	53.2	946	69.0
4	1,430	68[b]	4.8	627[b]	43.8	695	48.6
5	1,774	266	15.0	560	31.6	826	46.6
6	2,252	34	1.5	865	38.4	899	39.9
7	1,485	120	8.1	612	41.2	732	49.3
8	952	173	18.2	413	43.4	586	61.6
9	1,635	299	18.3	768	47.0	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	48.5	1,062	62.1
13	1,339	60	4.5	527	39.4	587	43.9
14	2,063	90	4.4	608	29.5	698	33.9
15	1,515	173	11.4	582	38.4	755	49.8
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
20	1,016	16	1.6	264	26.0	280	27.6
21	1,540	49	3.2	640	41.6	689	44.8
22	1,488	54	3.6	648	43.5	702	47.1
23	1,919	188	9.8	624	32.5	812	42.3
24	1,488	108	7.3	435	29.2	543	36.5
25	391	7	1.8	68	17.4	75	19.2
26	1,540	49	3.2	326	21.2	375	24.4
Total	34,743	3,275	9.4	13,662	39.3	16,937	48.7

[a]Data suppressed by the U. S. Bureau of the Census.

[b]Includes only that portion of tract 4 within the City of Kenosha. The portion within the Town of Somers has been suppressed by the U. S. Bureau of the Census.

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

Table 7

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

Census Tract Number	Total Households	Households With No Automobile Available		Households With One Automobile Available		Households With No or One Automobile Available	
		Households	Percent of Total Households	Households	Percent of Total Households	Households	Percent of Total Households
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	41.1	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	43.6
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

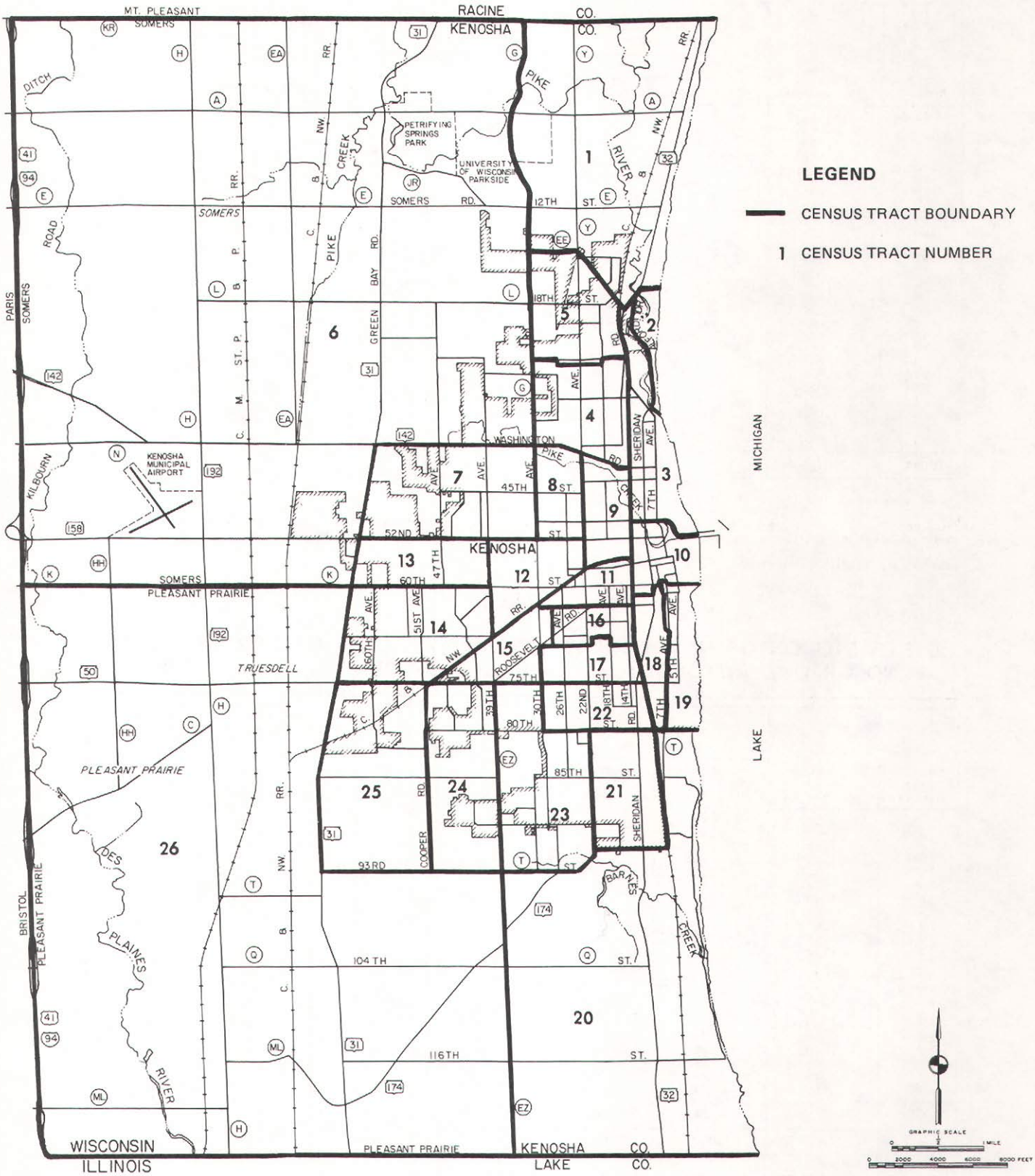
[a]Data presented for only that portion of the census tract within the City of Kenosha.

[b]Data suppressed by the U. S. Bureau of the Census.

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

Map 6

CENSUS TRACT LOCATIONS IN THE KENOSHA URBAN PLANNING DISTRICT: 1980



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

Elderly

In 1980, approximately 10,700 persons aged 65 years or older resided in the Planning District. This group represents about 11 percent of the total district population. Of this total, more than 9,000 persons, or about 85 percent, reside in the City of Kenosha. As indicated in Table 5, 11 tracts in the City of Kenosha contained higher concentrations of elderly than the 11.6 percent average for the City. Of these 11 tracts, tract numbers 3, 10, and 19 contained the highest concentrations, between 16 and 18 percent. In addition, tract numbers 4, 6, 11, 12, 15, 17, 22, and 23 contained significant concentrations of elderly, between 13 and 16 percent.

Although census information provides a general indication of residential location, it was considered important to identify specific locations of concentrations of elderly population groups, and of facilities frequently used by this group. To this purpose, places frequently used by the elderly for care and recreational purposes, along with the locations of retirement homes, elderly housing complexes, and nutrition sites, were identified in the Kenosha Urban Planning District in 1983. These facilities are listed in Table 8 and located on Map 7.

Low-Income Families

The results of the 1980 U. S. Census indicated that about 6,800 persons in the Planning District, or about 7 percent of the district population, lived in households with incomes below the federal poverty level. Of this total, 6,000 persons, or about 88 percent, reside in the City of Kenosha. As indicated in Table 5, seven tracts in the City of Kenosha contained significantly higher concentrations of low-income persons than the City average of 7.8 percent. Of these seven tracts, tract numbers 10, 11, and 16 contained the highest concentrations, between 19 and 21 percent. In addition, tract numbers 6, 7, 8, and 9 contained above average concentrations of between 10 and 16 percent. In 1983, the location of special federally subsidized rental housing for low-income families and individuals was identified in the District. These facilities are presented in Table 9 and located on Map 8.

Minorities

For the purposes of this report, two classifications were used in identifying minority population concentrations. Under the first classification, a minority individual was defined as anyone belonging to a racial group other than Caucasian. Using this definition, approximately 5,100 persons, or about 5 percent of the district population, were considered to be a member of a racial minority in 1980. Of this total, more than 4,700 persons, or about 94 percent, reside in the City of Kenosha. As indicated in Table 5, five tracts in the City of Kenosha contained significantly higher concentrations of this minority classification than the City average of 6.1 percent. Tract numbers 7 and 16 contained the highest concentrations, between 22 and 24 percent, and tract numbers 8, 10, and 11 contained above average concentrations of between 12 and 17 percent.

The second minority classification used in this study was based upon ethnic heritage and includes persons of Hispanic origin, as defined by the U. S. Bureau of the Census. Only about 3,400 individuals, or about 3 percent

Table 8

FACILITIES FOR THE ELDERLY IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 7	Facility	Address[a]
	Nursing Homes	
1	Brookside Care Center	3506 Washington Road
2	Dayton Residential Care	521 59th Street
3	Hospitality Manor Nursing Home	8633 32nd Avenue
4	Midway Manor Health Care Facilities	1519 60th Street
5	St. Joseph's Home for the Aged	9244 29th Avenue
6	Shady Lawn Memorial Home-East	920 61st Street
7	Shady Lawn Memorial Home-West	1703 60th Street
8	Sheridan Nursing Home	8400 Sheridan Road
9	Washington Manor Nursing Home	3100 Washington Road
10	Woodstock Kenosha Health Center	3415 Sheridan Road
	Retirement Homes/Housing Complexes	
11	Birch Garden Apartments	1654 Birch Road
12	Joanne Apartments	8828 41st Avenue
13	Kenosha Gardens	5308 64th Avenue
14	Lakeside Tower Apartments[b]	5800 3rd Avenue
15	Pennoyer Home	6305 7th Avenue
16	Saxony Manor, Inc.	1876 22nd Avenue
17	Tanglewood Apartments	3020 87th Street
18	Transition House II	5905 19th Avenue
19	Tuscan Villas	8051 25th Avenue
20	Villa Nova Apartments	2401 18th Street
	Senior Centers	
21	Kenosha Senior Citizens Center[b]	2717 67th Street
	Nutrition Services	
22	Messiah Lutheran Church	2026 22nd Avenue
23	St. Paul's Lutheran Church	8760 37th Avenue

[a]All addresses are in the City of Kenosha.

[b]Facility also serves as a nutrition site.

Source: Kenosha County Department of Aging and SEWRPC.

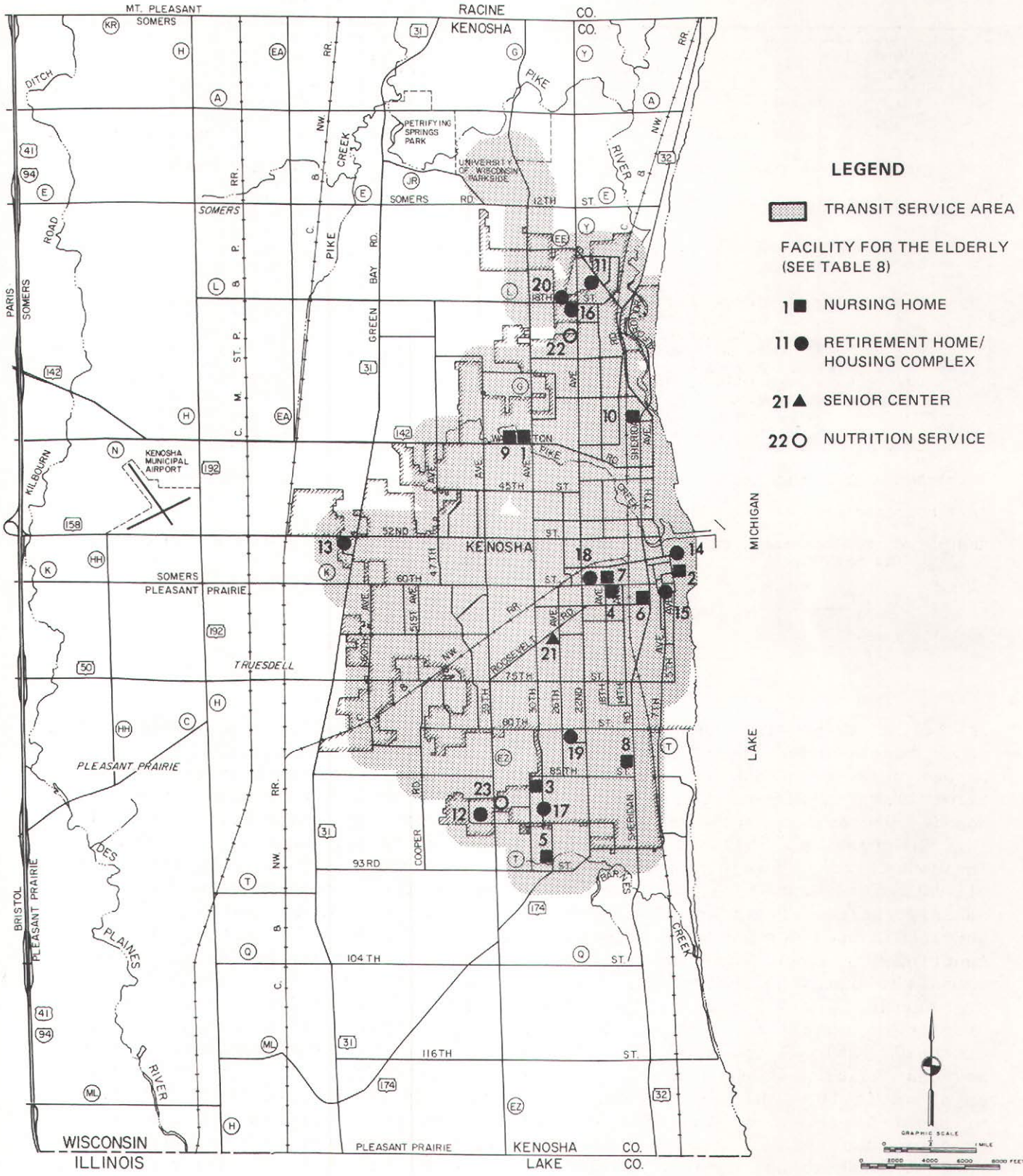
of the district population, were considered to be a member of this ethnic minority in 1980. Of this total, more than 3,100 persons, or about 92 percent, reside in the City of Kenosha. As indicated in Table 5, five tracts in the City of Kenosha contained significantly higher concentrations of this minority classification than the city average of 4.0 percent. Tract numbers 10 and 11 contained the highest concentrations, between 13 and 15 percent, and tract numbers 7, 9, and 16 contained above average concentrations of between 7 and 9 percent.

Handicapped

Section 55.06(18) of the Wisconsin Statutes prohibits the release of names and addresses of handicapped clients of the Wisconsin Department of Health and Social Services, Division of Vocational Rehabilitation. Therefore, the locations of such individuals cannot be readily ascertained. It is possible, however, to identify the locations frequently used by the handicapped for residential care or educational purposes. The locations include housing and residential care facilities, rehabilitation and sheltered employment facilities, and schools with special education programs. Such facilities in the District are listed in Table 10 and located on Map 9.

Map 7

LOCATION OF FACILITIES FOR THE ELDERLY IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



LEGEND

- TRANSIT SERVICE AREA
- FACILITY FOR THE ELDERLY (SEE TABLE 8)
- 1 ■ NURSING HOME
- 11 ● RETIREMENT HOME/ HOUSING COMPLEX
- 21 ▲ SENIOR CENTER
- 22 ○ NUTRITION SERVICE

Source: Kenosha County Department of Aging and SEWRPC.

Table 9

FEDERALLY SUBSIDIZED RENTAL HOUSING IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 8	Project Name	Number of Units[a]	Address[b]
1	Arbor Green.....	48	6001 55th Street
2	Birch Garden Apartments.....	72	1654 Birch Road
3	Casa Nova Duplexes.....	18	1524-68 17th Avenue
4	Forest Court (units are located at three sites).....	46	1745-93 Birch Road (Site 4a)
		16	52nd Street and 56th Avenue (Site 4b)
		6	50th Street and 47th Avenue (Site 4c)
5	Glenview Apartments.....	24	5218 42nd Avenue
6	Joanne Apartments.....	68	8828 41st Avenue
7	Kenosha Gardens.....	89	5308 64th Avenue
8	Lakeside Tower Apartments....	182	5800 3rd Avenue
9	Saxony Manor, Inc.	223	1876 22nd Avenue
10	Sheridan Meadows.....	40	901-1101 82nd Street
11	Tanglewood Apartments	99	3020 87th Place
12	Tuscan Villas.....	111	8051 25th Avenue
13	Villa Nova Apartments.....	102	2401 18th Street

[a]Excludes units known to be used as offices or as resident manager or caretaker units.

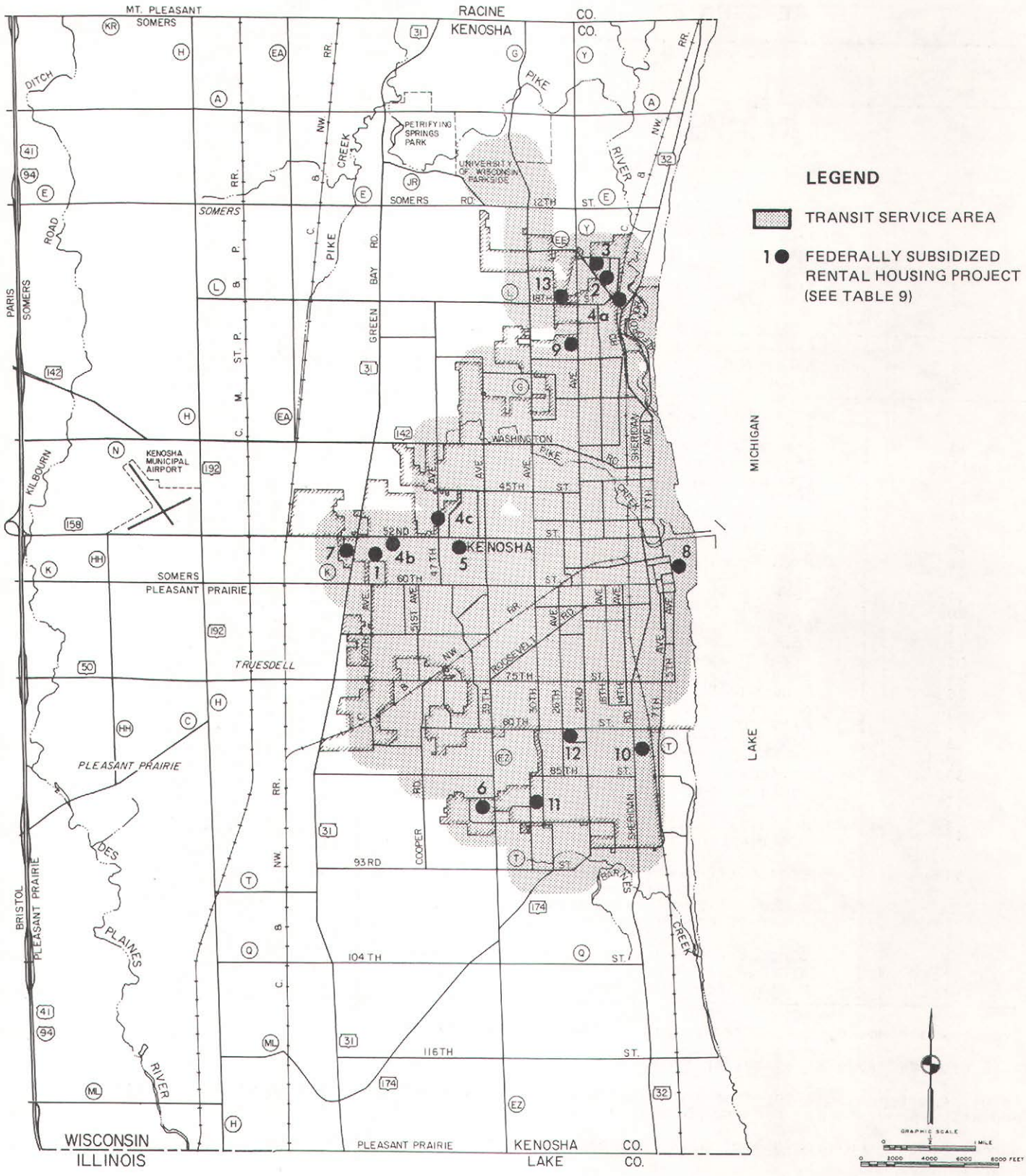
[b]All addresses are in the City of Kenosha.

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

In August 1976, the Regional Planning Commission undertook a comprehensive study to determine the special transportation needs of transportation handicapped persons in southeastern Wisconsin and how to accommodate those needs effectively. In preparing that plan, estimates of the number of transportation-handicapped persons residing within the Southeastern Wisconsin Region, including the Kenosha urbanized area, were obtained through the application of incidence rates obtained from secondary source materials to 1975 estimates of total resident population as estimated by the Wisconsin Department of Administration. Transportation-handicapped persons are defined as elderly and handicapped persons who, because of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability, including those who are wheelchair-bound and those with semi-ambulatory capabilities, are unable, without special facilities or special design, to utilize public transit facilities and services as effectively as those persons who are not so affected. Table 11 indicates the estimated number of transportation-handicapped persons residing in the Kenosha urbanized area in 1975 by type of limitation. As shown in the table, more than 3,200 persons in the Kenosha urbanized area, or about 4 percent of the 1975 estimated total population of the urbanized area of about 90,700 persons, were found to be transportation handicapped. Of these 3,200 persons, about 2,500, or over three-quarters, were estimated to be chronically disabled persons residing in private households.

Map 8

LOCATION OF FEDERALLY SUBSIDIZED RENTAL HOUSING IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



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

Table 10

FACILITIES FOR THE HANDICAPPED IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 9	Facility	Address[a]
	Housing/Residential Care Facility	
1	Dayton Residential Care	521 59th Street
2	Midway Manor Health Care Facilities	1519 60th Street
3	Transition House I	6024 18th Avenue
4	Transition House II	5905 19th Avenue
5	Woodstock Kenosha Health Center	3415 Sheridan Road
	Rehabilitation/Employment Facility	
6	Developmental Disabilities Service Center, Inc.[b]	3734 7th Avenue
7	Kenosha Achievement Center (two locations)	1218 79th Street (Site 7a) 6468 22nd Avenue (Site 7b)
	Referral Facility	
8	Able, Inc.	1006 56th Street
9	Kenosha County Social Services	714 52nd Street
	Special Education Facility With Special Programs	
10	Bradford High School	3700 Washington Road
11	Reuther Alternative High School	913 57th Street
12	Tremper High School	8560 26th Avenue
13	Bullen Junior High School	2804 39th Avenue
14	Lance Junior High School	4515 80th Street
15	Lincoln Junior High School	6729 18th Avenue
16	McKinley Junior High School	5710 32nd Avenue
17	Washington Junior High School	811 Washington Road
18	Bain Elementary School	2210 52nd Street
19	Bose Elementary School	1900 15th Street
20	Columbus Special Education Center	6410 25th Avenue
21	Durkee Elementary School	839 62nd Street
22	Forest Park Elementary School	6810 45th Avenue
23	Frank Elementary School	1816 57th Street
24	Grant Elementary School	1716 35th Street
25	Grewenow Elementary School	7714 20th Avenue
26	Harvey Elementary School	2012 19th Avenue
27	Hill Crest Special Education Center	2417 47th Avenue
28	Jane Vernon Elementary School	8518 22nd Avenue
29	Jefferson Annex[c]	1808 41st Street
30	Jefferson Elementary School	1832 43rd Street
31	Jeffery Elementary School	4011 87th Street
32	Lincoln Elementary School	6811 18th Avenue
33	McKinley Elementary School	5520 32nd Avenue
34	Prairie Lane Elementary School	10717 47th Avenue, Town of Pleasant Prairie
35	Pleasant Prairie Elementary School	9208 Wilmot Road, Town of Pleasant Prairie
36	Roosevelt Elementary School	3322 Roosevelt Road
37	Somers Elementary School	1245 72nd Avenue, Town of Somers
38	Southport Elementary School	723 76th Street
39	Strange Elementary School	5414 49th Avenue
40	Wilson Elementary School	4520 33rd Avenue

[a] Except where noted, all addresses are in the City of Kenosha.

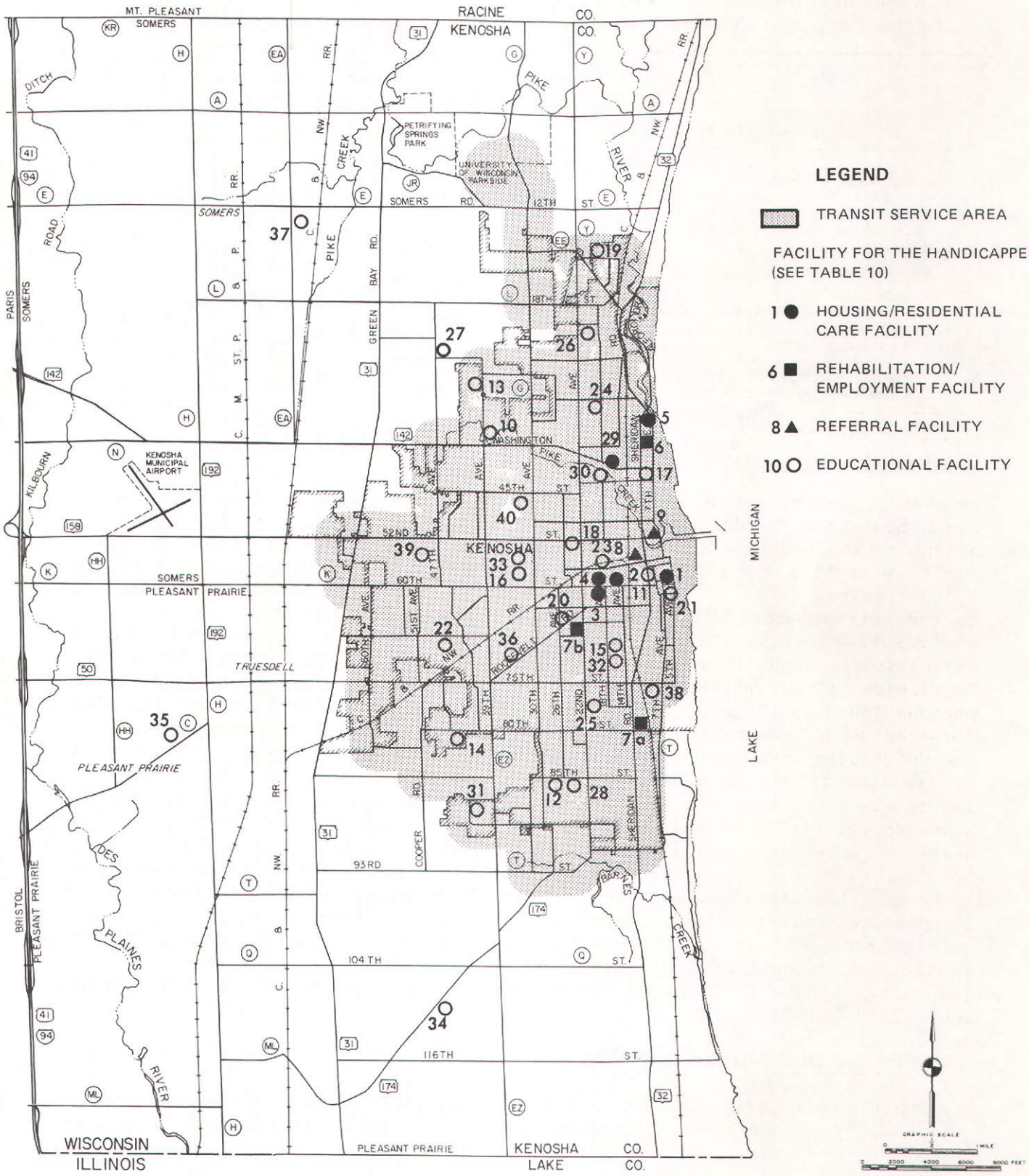
[b] Also provides special education facility.

[c] As of report publication, this facility did not have special education programs; however, special education programs are planned by the fall of 1984.

Source: Kenosha Unified School District, Special Education Department; and SEWRPC.

Map 9

LOCATION OF FACILITIES FOR THE HANDICAPPED IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



Source: Kenosha Unified School District, Special Education Department; and SEWRPC.

Table 11

ESTIMATES OF TRANSPORTATION-HANDICAPPED PERSONS IN THE KENOSHA URBANIZED AREA BY TYPE OF LIMITATION AS DERIVED FROM INCIDENCE RATES BASED ON SECONDARY SOURCE DATA: 1975

Type of Limitation	Transportation-Handicapped Persons		
	Number	Percent of Category	Percent of Total
Chronically Disabled Living in Private Households by Mobility Limitation			
Has Trouble Getting Around	1,057	42.3	32.6
Uses Aid Other than Wheelchair	475	19.0	14.6
Needs Help from Another Person	242	9.7	7.4
Uses Wheelchair	168	6.7	5.2
Confined to House	557	22.3	17.2
Subtotal	2,449	100.0	77.0
Acutely Disabled	253	100.0	7.8
Institutionalized	492	100.0	15.2
Total Transportation-Handicapped Persons	3,244	--	100.0

Source: SEWRPC.

In 1982, the consumer advocacy group ABLE[1] conducted a survey of every sixth household in the City of Kenosha in order to ascertain the nature and extent of the noninstitutionalized disabled population of the City of Kenosha, and to determine their housing and supportive services needs. Approximately 3,300 households, or 73 percent of the 4,500 households contacted, responded to the survey. About 13 percent of the respondents indicated that at least one disabled person was present in their household. However, a much broader definition of handicap was applied in conducting the ABLE survey than in the Commission study referenced above. Therefore, the number of handicapped persons found in the ABLE survey would be expected to be relatively large when compared with the total population. The definition of handicapped used in the Commission study was consistent with that employed by the U. S. Department of Transportation, Urban Mass Transportation Administration. While the ABLE survey was not designed to yield much information regarding the transportation handicapped, one question the survey did address was the respondent's primary means of transportation. Notably, 87 percent indicated an ability to drive or ride with family or friends as their primary means of transportation; 2 percent indicated walking as their primary means of transportation; and 11 percent indicated that some form of public transportation was their primary means of transportation. Among those citing public transportation as their primary means of transportation, 64 percent used city buses, 33 percent used Kenosha Achievement Center specialized transportation, and 3 percent used taxicabs.

No-Auto and One-Auto Households

One of the most reliable indicators of potential transit use is automobile availability. Those households which do not own an automobile are dependent

[1]Abolish Barriers for Lifetime Efficiency.

upon other persons or other transportation modes for the provision of essential transportation services. As shown in Table 6, approximately 3,300 households within the Kenosha Urban Planning District had no automobiles available in 1980. This represents about 9 percent of the total households within the District. Of this total, about 3,100 households, or about 94 percent, are located within the City of Kenosha. As indicated in Table 7, nine tracts in the City of Kenosha contained significantly higher concentrations of households with no automobiles than the average for the City of 11 percent. Tract numbers 10 and 11 contained the heaviest concentrations of about 23 percent, while tract numbers 3, 5, 8, 9, 12, 16, and 18 contained above average concentrations of between 13 and 20 percent.

In addition to persons residing in households with no automobile, persons residing in one-automobile households represent potential users of public transportation. In particular, such users would include those persons who reside in two-or-more-person households where the head of the household is employed full time. In such households the single available automobile is preempted for use by some member or members of the household, and the remaining houshold members become dependent upon others or on other transportation modes for tripmaking. Persons residing in one-person, one-auto households and in one-auto households where the head of the household is retired are not considered to be potentially transit-dependent. At the present time, census data are not available which would allow identification of potential transit-dependent, one-auto households. However, it is possible to identify the total number of one-auto households within the District. As shown in Table 6, approximately 13,700 households within the Kenosha Urban Planning District had one automobile available in 1980, about 39 percent of the total households within the District. Of this total, about 11,700, or about 85 percent, were located within the City of Kenosha, as shown in Table 7. Twelve tracts in the City of Kenosha contained significantly higher concentrations of households with one automobile than the average for the City of 42 percent. Tract number 6 contained the heaviest concentration of about 68 percent.

High-Priority Transit Service Areas

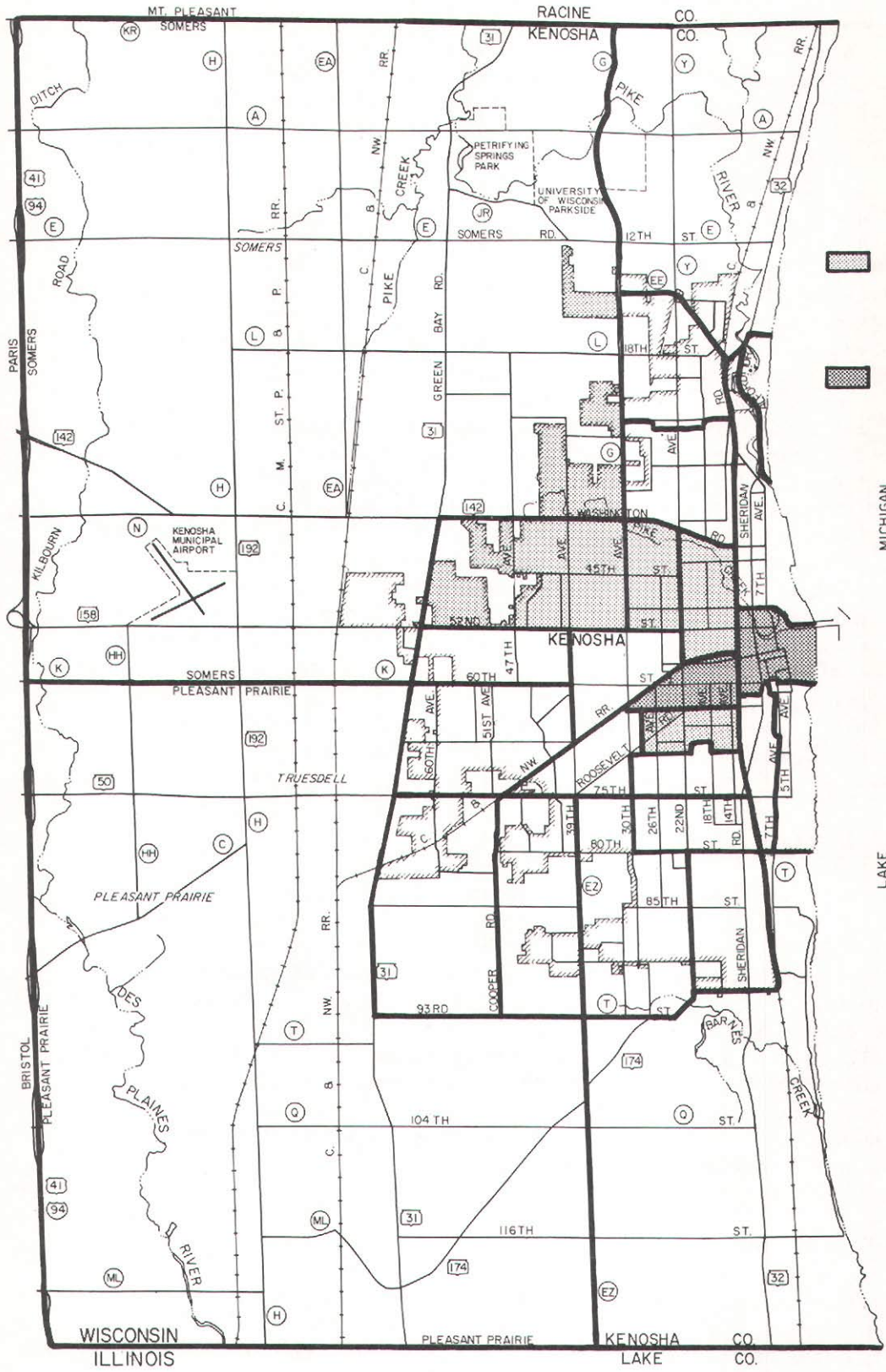
The preceding sections have identified the residential concentrations of those population groups that are likely to depend most heavily on transit service. With this information it is possible to identify those census tracts within the City of Kenosha which, because of their resident population characteristics, should be considered high-priority areas for transit service. These high-priority census tracts within the City of Kenosha, including census tract numbers 6, 7, 8, 9, 10, 11, and 16, are graphically summarized on Map 10. The categories considered in this analysis were the concentrations of the elderly, low-income households, minorities--nonwhite and Hispanic--and households with no automobiles available. The census tracts defined as high priority had above average concentrations in three or more categories.

MAJOR TRAFFIC GENERATORS

For public transit planning purposes, major traffic generators were defined 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

Map 10

HIGH-PRIORITY TRANSIT SERVICE AREAS IN THE CITY OF KENOSHA BY CENSUS TRACT: 1980



LEGEND

- CENSUS TRACTS CONTAINING ABOVE AVERAGE CONCENTRATIONS IN 3 OR 4 CATEGORIES OF TRANSIT DEPENDENT PERSONS
- CENSUS TRACTS CONTAINING ABOVE AVERAGE CONCENTRATIONS IN ALL 5 CATEGORIES OF TRANSIT DEPENDENT PERSONS

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 8000 FEET

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

land uses were identified as major traffic generators for public transit planning purposes within the study area: 1) shopping areas; 2) educational institutions; 3) community and special medical centers; 4) governmental and public institutional centers; 5) major employment centers; and 6) recreational areas.

Shopping Areas

The trip from home to shopping areas and back is a major component of total travel demand. Three classifications of shopping areas are of concern in this study. The first classification consists of major regional shopping centers, defined by the Commission as concentrations of retail and service establishments within central business districts, strip shopping districts, and shopping centers which meet at least five of the following six criteria:

1. Contain at least two department stores.
2. Contain 10 additional retail and service establishments.
3. Generate a combined average annual sales totaling $30 million or more.
4. Have a combined net site area totaling 20 acres or more.
5. Are able to attract at least 3,000 shopping trips per average weekday.
6. Are accessible to a population of at least 100,000 persons within a radius of 10 miles or within 20 minutes one-way travel time.

At the present time there is only one major regional shopping center within the study area--the Kenosha central business district.

The second classification consists of major community shopping areas, defined as including at least one large department store. Because of the large land requirements, these shopping centers usually are located in outlying areas and parking is almost always plentiful.

The third classification consists of secondary community shopping areas--defined as a large concentration of stores and services--usually lacking a major department store; and major strip commercial areas consisting of a mixture of retail and service establishments located along a major traffic artery. These shopping areas are often located in intensively developed parts of urban areas.

All three types of shopping areas are listed in Table 12, and their locations shown on corresponding Map 11. Some of the shopping centers are large enough to attract not only large volumes of shopping trips, but also significant numbers of work-related trips as well.

Educational Institutions

Middle schools, senior high schools, technical schools, colleges, and universities were identified as potential major transit trip generators. Public elementary schools were not considered to be major transit trip generators because students of these schools generally live in the surrounding neighborhood and are able to walk to school. The educational institutions identified as major trip generators are listed in Table 13 and shown on Map 12.

Table 12

SHOPPING AREAS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 11	Shopping Center or Area	Location[a]
1	Regional Shopping Area Downtown Business District.....	6th Avenue between 55th Street and 59th Street
	Major Community Shopping Area	
2	K-Mart Store.....	4100 52nd Street
3	Pershing Plaza.....	75th Street and Pershing Boulevard
4	Shopko Store.....	5300 52nd Street
5	Greenwood Plaza.....	80th Street and 39th Avenue
	Secondary Community Shopping/ Strip Commercial Areas	
6	Midtown Shopping District.....	52nd Street between 19th Avenue and 23rd Avenue
7	Old Market Square Shopping Mall....	8600 Sheridan Road
8	Roosevelt Road Shopping District...	Between 30th Avenue and 39th Avenue
9	Town and Country Shopping Center	4623 75th Street
10	Uptown Business District.....	22nd Avenue between 61st Street and Roosevelt Road
11	Villa Capri Shopping Center.....	2121 21st Street
12	Sunnyside Shopping Center.....	22nd Avenue between 75th Street and 80th Street

[a] All locations are in the City of Kenosha.

Source: City of Kenosha Planning Department and SEWRPC.

Community and Special Medical Centers

For transit planning purposes, a community medical center was defined as a hospital having at least 100 beds, and providing in- and out-patient facilities and laboratory and clinical services. Included in this category are the Kenosha Memorial and St. Catherine's Hospitals. The special medical center category was defined to include all other major medical centers and special clinics offering multi-specialty medical services. The major medical facilities identified in the District are listed in Table 14, and their locations are shown on Map 13.

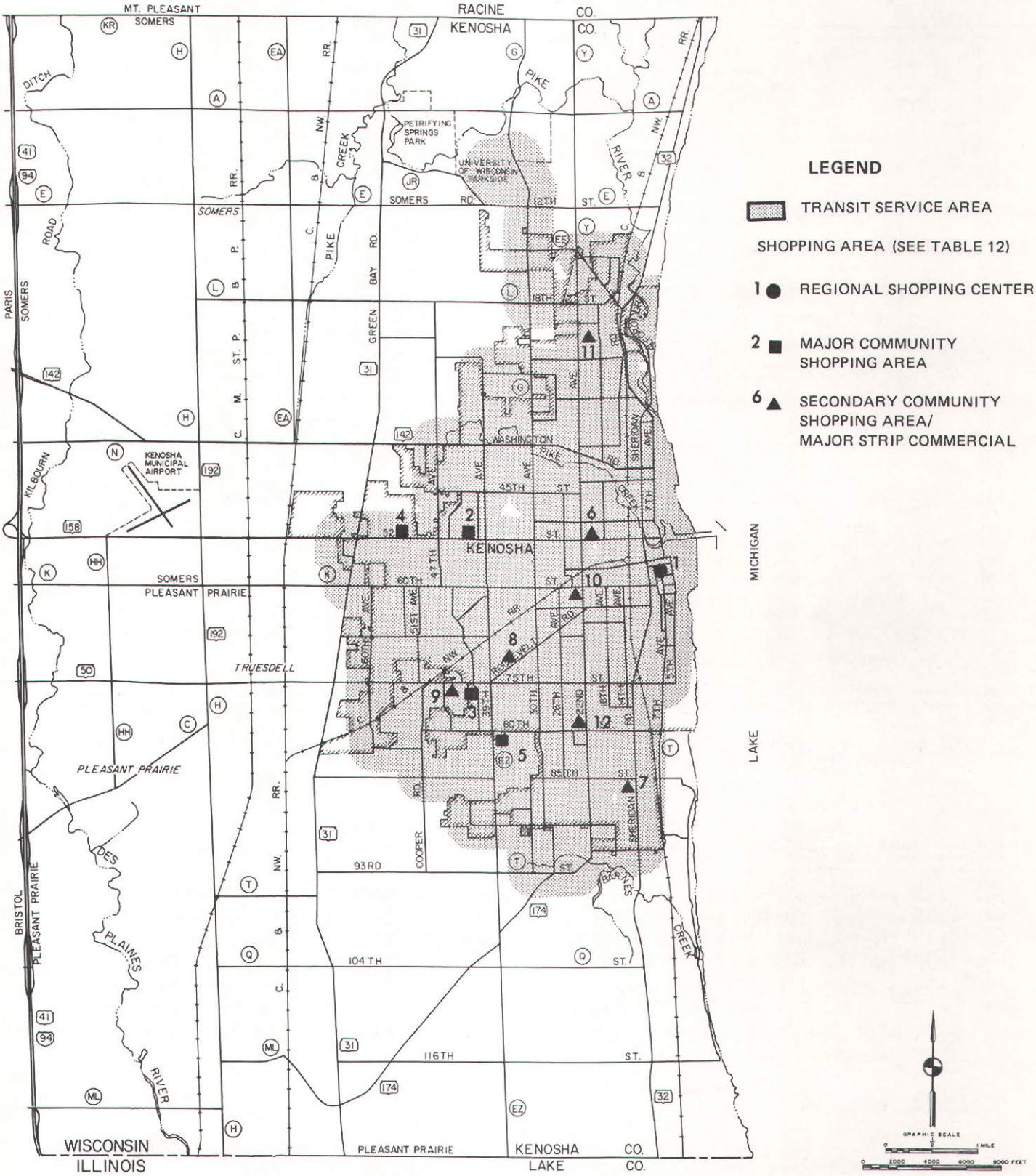
Governmental and Public Institutional Centers

Governmental and public institutional centers were considered to be potential major transit trip generators because they provide services to which every citizen should have ready access. Included under this category are the regional and county governmental and public institutional centers such as the Kenosha County Courthouse and the G. M. Simmons Main Library; the community governmental centers such as the Kenosha Municipal Building and the two town halls within the District; and the special and other governmental and public institutional centers, such as the U. S. Post Office.

The governmental and public institutional centers are listed in Table 15, and their locations are shown on Map 14.

Map 11

LOCATION OF SHOPPING AREAS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



Source: City of Kenosha Planning Department and SEWRPC.

Table 13

EDUCATIONAL INSTITUTIONS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 12	Educational Institutions	Address[a]	Approximate Enrollment[b]
	Universities and Technical Schools		
1	Carthage College	2001 Alford Drive	1,840
2	Gateway Technical Institute	3520 30th Avenue	5,970
3	University of Wisconsin-Parkside	Wood Road, Town of Somers	5,320
	Public Junior and Senior High Schools		
4	Bradford High School	3700 Washington Road	1,870
5	Reuther Alternative High School	913 57th Street	440
6	Tremper High School	8560 26th Avenue	1,890
7	Bullen Junior High School	2804 39th Avenue	820
8	Lance Junior High School	4515 80th Street	840
9	Lincoln Junior High School	6729 18th Avenue	750
10	McKinley Junior High School	5710 32nd Avenue	760
11	Washington Junior High School	811 Washington Road	700
	Major Parochial and Private Schools		
12	St. Joseph's High School	2401 69th Street	630
13	Shoreland Lutheran High School	9026 12th Street, Town of Somers	230
14	Friedens Lutheran Elementary School	5038 19th Avenue	120
15	Holy Rosary Elementary School	4400 22nd Avenue	260
16	Our Lady of Mount Carmel Elementary School	5400 19th Avenue	190
17	St. Casimir Elementary School	1011 Washington Road	160
18	St. George Elementary School	712 49th Street	130
19	St. Mark's Elementary School	7207 14th Avenue	280
20	St. Mary's Elementary School	7400 39th Avenue	400
21	St. Peter's Elementary School	2224 30th Avenue	150
22	St. Therese Elementary School	2020 91st Street	160
23	St. Thomas Aquinas Elementary School	6218 25th Avenue	200

[a] Except where noted, all addresses are in the City of Kenosha.

[b] Colleges and technical school enrollments are indicated for spring 1983, while the high school, junior high school, and major parochial school enrollments are indicated for school year 1982-1983.

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

Employment Centers

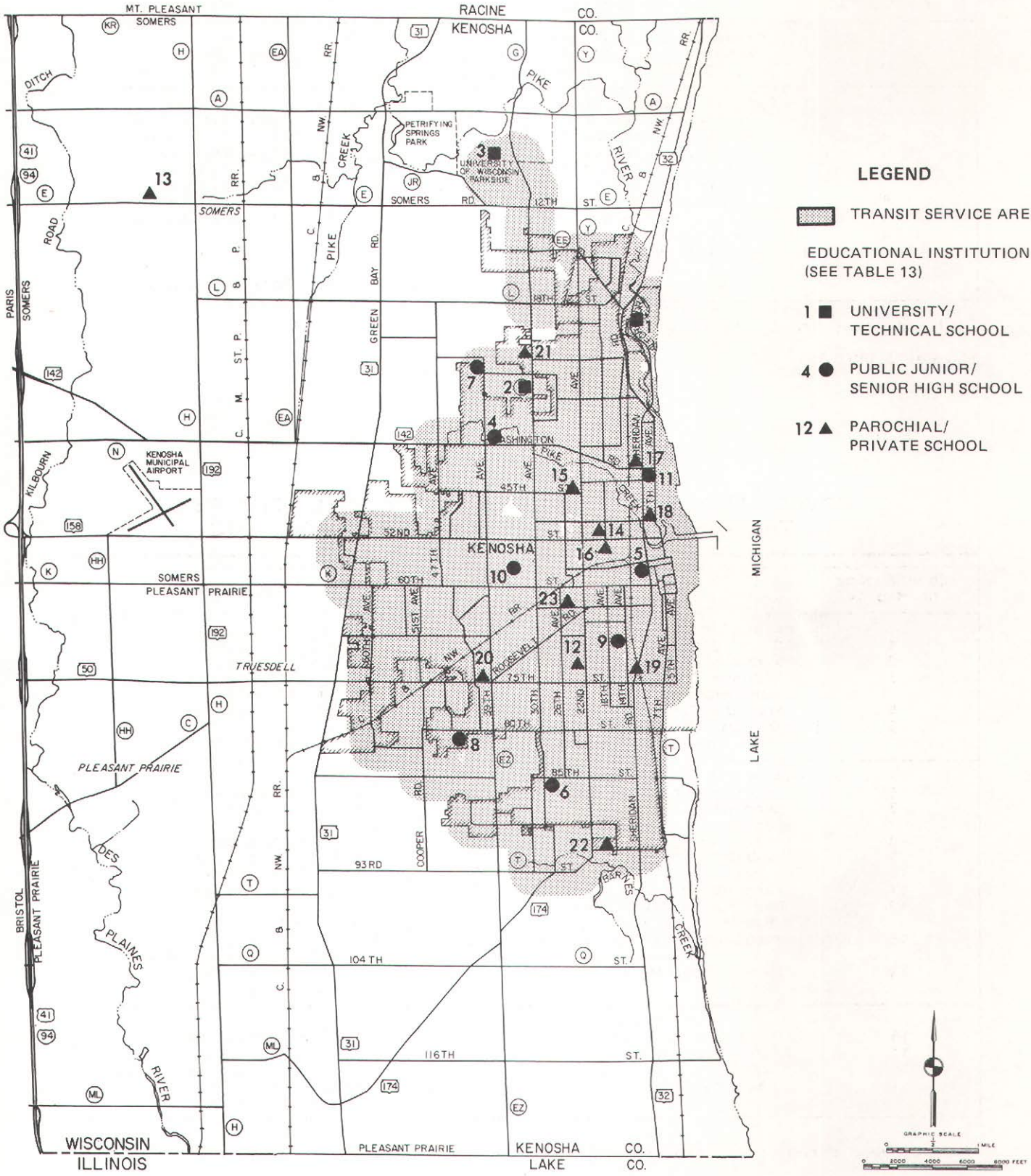
The trip from home to work and back constitutes a significant proportion of all person trips within the Kenosha Urban Planning District. It is, therefore, important for transit planning purposes to identify the major employment centers within the District as major generators of travel. Employment centers identified as major traffic generators were limited to public and private establishments employing 100 or more people. Table 16 lists the major employers and gives the approximate 1983 employment. Map 15 indicates the locations of major employers.

Recreational Areas

Recreational areas were grouped into three categories. The first category consists of major regional recreational areas, defined as public recreation sites of at least 250 acres in size offering multiple recreational opportuni-

Map 12

LOCATION OF EDUCATIONAL INSTITUTIONS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



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

Table 14

COMMUNITY AND SPECIAL MEDICAL CENTERS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 13	Hospital or Medical Center	Address[a]
	Community Medical Centers	
1	Kenosha Memorial Hospital.....	6308 8th Avenue
2	St. Catherine's Hospital.....	3556 7th Avenue
	Special Medical Centers	
3	Asthma and Allergy Clinic of Kenosha..	4906 39th Avenue
4	Dominican Medical Building.....	3734 7th Avenue
5	Doctors' Park.....	6530 Sheridan Road
6	Kenosha Medical Associates, Ltd.....	1015 65th Street
7	The Kenosha Urology Clinic, S.C.	6215 10th Avenue
8	Lakeshore Medical Building.....	3618 8th Avenue
9	Northside Professional Building.....	3200 Sheridan Road
10	Southeastern Family Practice Center--U. W. Parkside.....	Tallent Hall, Wood Road
11	Surgical Clinic.....	6027 7th Avenue

[a]All addresses are in the City of Kenosha.

Source: SEWRPC.

Table 15

GOVERNMENTAL AND PUBLIC INSTITUTIONAL CENTERS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

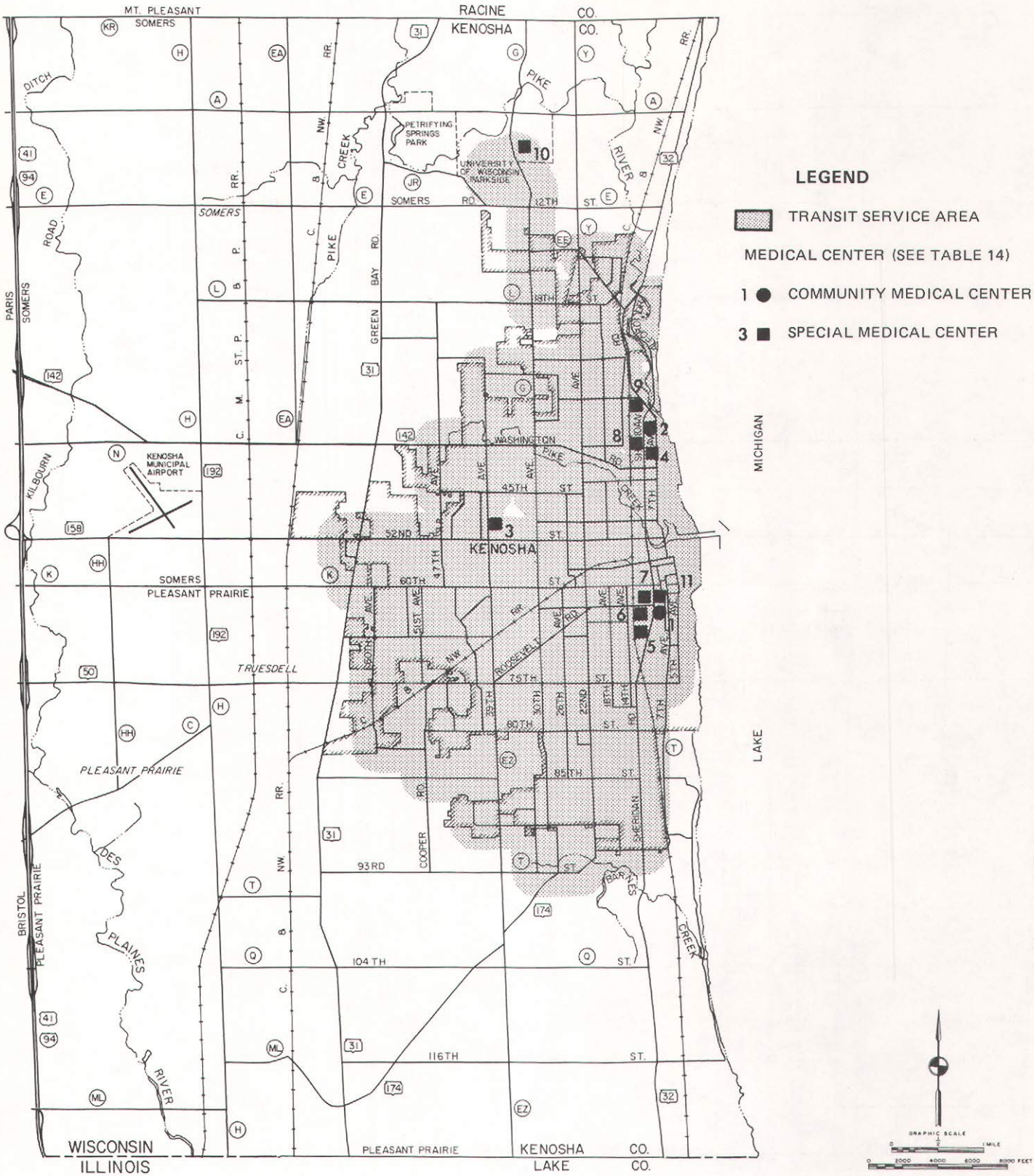
Code Number on Map 14	Institutional Center	Address[a]
	Regional and County	
1	G. M. Simmons Main Library.....	711 59th Place
2	Kenosha County Courthouse.....	912 56th Street
3	Kenosha County Historical Society and Museum.....	6300 3rd Avenue
4	Kenosha City/County Safety Building...	1000 55th Street
5	Kenosha County Social Services Department.....	714 52nd Street
	Community and Other	
6	Kenosha Municipal Building.....	625 52nd Street
7	Kenosha Civic Building.....	812 56th Street
	Kenosha Public Library	
8	Southwest.....	7979 38th Avenue
9	Washington.....	2053 22nd Avenue
10	West.....	2419 63rd Street
11	Kenosha Public Museum.....	5608 10th Avenue
12	Kenosha Unified School District Offices.....	625 52nd Street
13	Pleasant Prairie Town Hall.....	9915 39th Avenue, Town of Pleasant Prairie
14	Somers Town Hall.....	7511 12th Street, Town of Somers
	U. S. Post Office	
15	Kenosha Main Office.....	5605 Sheridan Road
16	Pleasant Prairie Office.....	8451 104th Avenue, Town of Pleasant Prairie
17	Somers Office.....	8116 12th Street, Town of Somers

[a]Except where noted, all addresses are in the City of Kenosha.

Source: SEWRPC.

Map 13

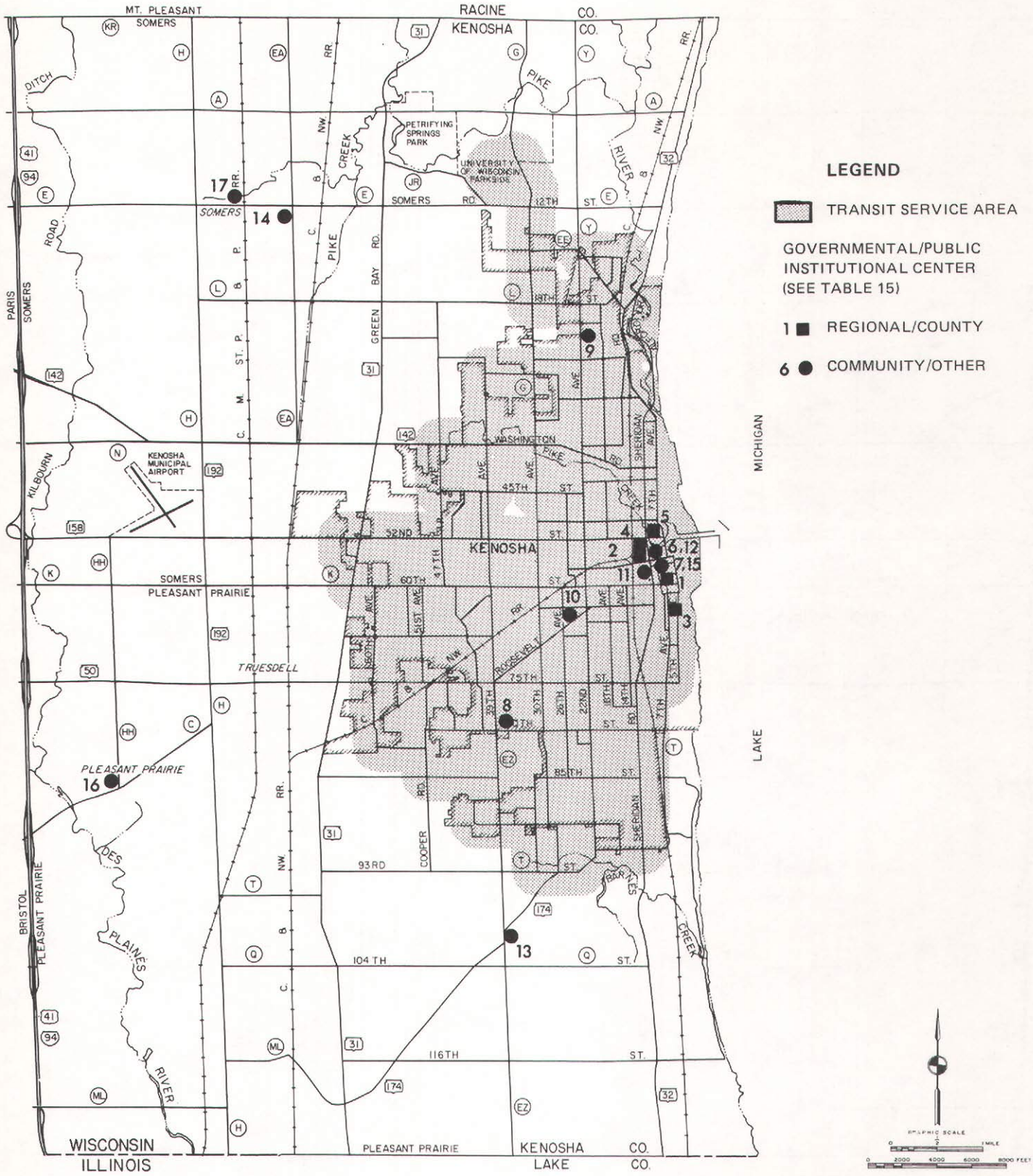
LOCATION OF COMMUNITY AND SPECIAL MEDICAL CENTERS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



Source: SEWRPC.

Map 14

LOCATION OF GOVERNMENTAL AND PUBLIC INSTITUTIONAL CENTERS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



LEGEND

TRANSIT SERVICE AREA

GOVERNMENTAL/PUBLIC INSTITUTIONAL CENTER (SEE TABLE 15)

1 ■ REGIONAL/COUNTY

6 ● COMMUNITY/OTHER

Source: SEWRPC.

Table 16

MAJOR EMPLOYMENT CENTERS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 15	Employment Center	Address[a]	Approximate Employment
	Industrial/Manufacturing		
1	American Motors Corporation (two locations)	5626 25th Avenue (site 1A) 5525 5th Avenue (site 1B)	7,780 2,500
2	Anaconda American Brass Company	1420 63rd Street	790
3	Eaton Corporation	3122 14th Avenue	350
4	Frost Company	6523 14th Avenue	160
5	Jelco Wisconsin, Inc.	6015 52nd Street	150
6	Jockey International, Inc.	2300 60th Street	500
7	Jupiter Transportation Company	4314 39th Avenue	130
8	Ladish Company--Tri-Clover Division	9201 Wilmot Road, Town of Pleasant Prairie	680
9	G. LeBlanc Corporation	7019 30th Avenue	200
10	MacWhyte Wire Rope Company	2906 14th Avenue	500
11	Manu-Tronics, Inc.	9115 26th Avenue	150
12	Ocean Spray Cranberries, Inc.	7800 60th Avenue	350
13	Snap-on Tools Corporation	2801 80th Street	970
	Retail/Service		
14	Brookside Care Center	3506 Washington Road	300
15	First National Bank-Main Office	5522 6th Avenue	160
16	Kenosha Memorial Hospital	6308 8th Avenue	1,000
17	Kenosha News Publishing	715 58th Street	200
18	K-Mart Corporation	4100 52nd Street	190
19	St. Catherine's Hospital	3556 7th Avenue	1,000
20	Sears, Roebuck and Company	7630 Pershing Boulevard	180
21	Super Valu Foods-South	3803 80th Street	100
22	U. S. Postal Service Kenosha Office	5605 Sheridan Road	160
23	Washington Manor	3100 Washington Road	120
24	Woodstock Kenosha Health Center	3415 Sheridan Road	160
	Government		
25	Kenosha County Courthouse	912 56th Street	410
26	Kenosha City/County Safety Building	1000 55th Street	140
27	Kenosha Municipal Building	625 52nd Street	110
	Educational		
28	Bradford High School	3700 Washington Road	140
29	Carthage College	2001 Alford Drive	260
30	Gateway Technical Institute	3520 30th Avenue	280
31	Tremper High School	8560 26th Avenue	140
32	University of Wisconsin-Parkside	Wood Road, Town of Somers	600

[a]Except where noted, all addresses are in the City of Kenosha.

Source: SEWRPC.

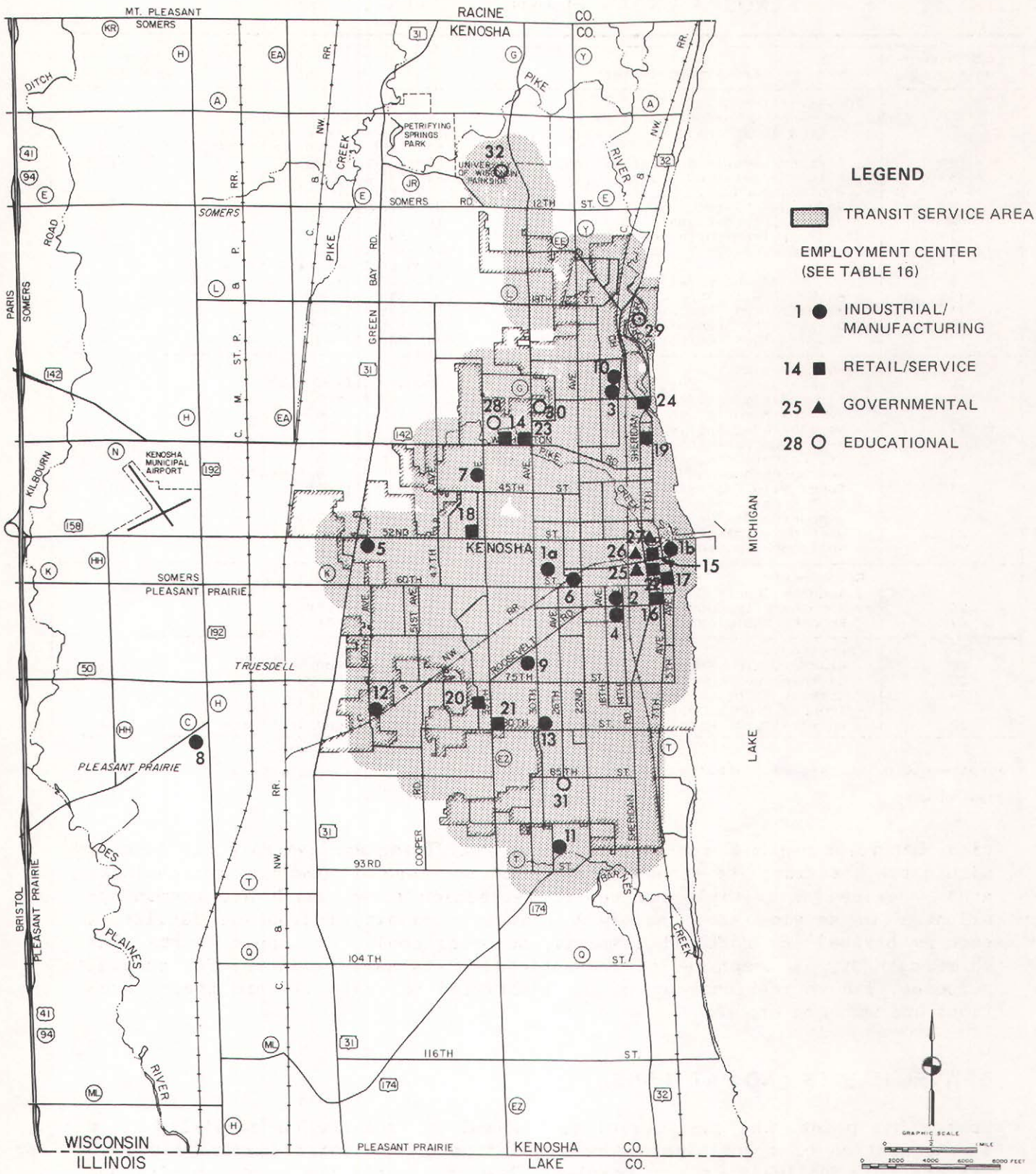
ties. One major regional recreational area, Petrifying Springs Park, is located within the District. The second category is comprised of community recreational areas, defined as multiple-use public recreation sites which are community-oriented in service area and which contain community recreation facilities such as baseball or softball diamonds, swimming pools, or tennis courts. The third category is comprised of recreational areas used primarily for special purposes. The recreational areas are identified in Table 17, and their locations are shown on Map 16.

TRAVEL HABITS AND PATTERNS

Up to this point, the analysis of the demand for transit has consisted of an identification of transit-dependent population groups and of major trip generators. The analysis is not complete, however, until the travel habits and patterns of the entire population within the District have been examined.

Map 15

LOCATION OF MAJOR EMPLOYMENT CENTERS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



Source: SEWRPC.

In 1963 and in 1972, the Southeastern Wisconsin Regional Planning Commission conducted a comprehensive inventory of travel within the Region. An important part of that inventory was a home interview survey to determine the characteristics of resident travel on an average weekday. Personal interviews were conducted of the members of a statistically valid representative sample of households providing information on all trips made by members of the household on an average weekday, including information on: trip origins and destinations, trip purposes, land uses at trip origins and destinations, mode of travel, auto availability, and parking information for auto trips. The sample information was then expanded to provide information on the travel habits and patterns of all residents of the Region. Using the 1972 survey results as a base, estimates of 1980 trip characteristics were prepared by adjusting the 1972 survey information using available information on population, household, and employment growth between 1972 and 1980.

The trip data were grouped into five categories of travel purpose: home-based work, home-based shopping, home-based 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. Home-based other trips are defined as trips having one end at the place of residence of the tripmaker and the other end at a place of destination other than home, work, shopping 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.

A breakdown by trip purpose of the 1972 and estimated 1980 total person trip data is presented in Table 18. As shown in this table, about 386,100 trips originated within the District on an average weekday in 1980, representing an increase of about 52,100 trips, or 16 percent, over 1972 tripmaking levels. Of this total, home-based work trips accounted for about 62,600 trips, or 16 percent; home-based shopping trips for about 62,600 trips, or 16 percent; home-based other trips for about 152,900 trips, or 40 percent; nonhome-based trips for about 67,100 trips, or 17 percent; and school-based trips for about 40,900 trips, or 11 percent.

Table 19 presents a breakdown of the 1980 total person trip data indicating the distribution of internal and external person trips by trip purpose. Of the 386,100 trips that originated within the District on an average weekday in 1980, about 36,000 trips, or 9 percent, were made to areas within the Southeastern Wisconsin Region external to the District. Of this number, about 11,000 trips, or 31 percent, were home-based work trips; about 4,300 trips, or 12 percent, were home-based shopping trips; about 10,600 trips, or 29 percent, were home-based other trips; about 6,600 trips, or 18 percent, were nonhome-based trips; and about 3,500 trips, or 10 percent, were school-based trips.

The locations of external total 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 19,700 trips; western Kenosha County, which attracted about 5,100 trips; the southeastern portion

Table 17

MAJOR RECREATIONAL AREAS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983

Code Number on Map 16	Recreational Area	Civil Division
	Regional	
1	Petrifying Springs Park.....	Town of Somers
	Community	
2	Alford Park.....	City of Kenosha
3	James Anderson Park.....	City of Kenosha
4	J. F. Kennedy Park.....	City of Kenosha
5	Kemper Center.....	City of Kenosha
6	Lincoln Park.....	City of Kenosha
7	Pennoyer Park.....	City of Kenosha
8	Petretti Park.....	City of Kenosha
9	Petzke Park.....	City of Kenosha
10	Pleasant Prairie Ball Park.....	Town of Pleasant Prairie
11	Poerio Park.....	City of Kenosha
12	Simmons Island Park.....	City of Kenosha
13	Somers Athletic Field.....	Town of Somers
14	Southport Park.....	City of Kenosha
15	University of Wisconsin-Parkside....	Town of Somers
16	Washington Park.....	City of Kenosha
17	Wolfenbuttel Park[a].....	City of Kenosha
	Special	
18	Simmons Athletic Field.....	City of Kenosha

[a]Includes Eichelman Park which is located immediately adjacent to Wolfenbuttel Park.

Source: SEWRPC.

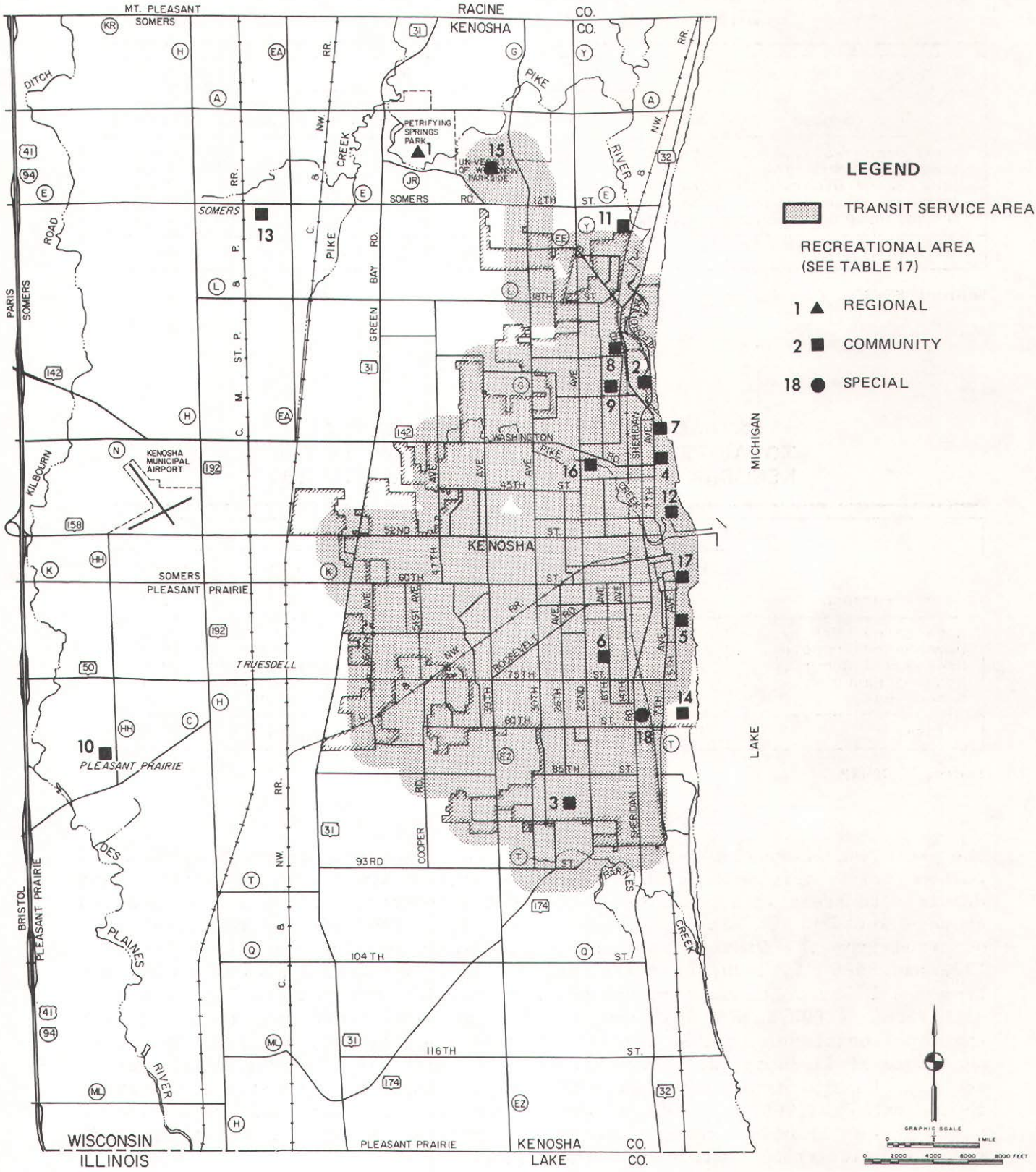
of Racine County, which attracted about 3,300 trips; Milwaukee County, which attracted about 3,000 trips; and western Racine County, which attracted about 2,200 trips.

Of the 386,100 trips that originated in the District on an average weekday in 1980, approximately 350,100 trips, or about 91 percent, were made to destinations internal to the District. Of this number, about 51,600 trips, or about 15 percent, were home-based work trips; about 58,300 trips, or about 17 percent, were home-based shopping trips; about 142,300 trips, or about 40 percent, were home-based other trips; about 60,500 trips, or about 17 percent, were nonhome-based trips; and about 37,400 trips, or about 11 percent, were school-based trips.

To facilitate further analysis of internal total person trip characteristics, the density of tripmaking was calculated and plotted for the traffic analysis zones within the Kenosha Urban Planning District. Map 18 graphically illustrates total person trip density within the District, as expressed in total trip origins and destinations--total trip ends--per square mile. As would be expected, the map shows that total person tripmaking activity within the District in 1980 was heavily concentrated in the densely developed urban areas within and immediately surrounding the City of Kenosha. The zones comprising the Kenosha central business district and the Pershing Plaza shopping area contained the highest concentrations of trip ends.

Map 16

LOCATION OF RECREATIONAL AREAS IN THE KENOSHA URBAN PLANNING DISTRICT: 1983



Source: SEWRPC.

Table 18

COMPARISON OF TOTAL PERSON TRIPS BY TRIP PURPOSE ORIGINATING IN THE KENOSHA URBAN PLANNING DISTRICT: 1972-1980

Trip Purpose	1972		1980		Increment 1972-1980	
	Number	Percent of Total	Number	Percent of Total	Number	Percent
Home-Based Work.....	55,600	16.6	62,600	16.2	7,000	12.6
Home-Based Shopping..	52,700	15.8	62,600	16.2	9,900	18.8
Home-Based Other.....	134,000	40.1	152,900	39.6	18,900	14.1
Nonhome Based.....	59,100	17.7	67,100	17.4	8,000	13.5
School Based.....	32,600	9.8	40,900	10.6	8,300	25.5
Total	334,000	100.0	386,100	100.0	52,100	15.6

Source: SEWRPC.

Table 19

ESTIMATED INTERNAL AND EXTERNAL TOTAL PERSON TRIPS ORIGINATING IN THE KENOSHA URBAN PLANNING DISTRICT: 1980

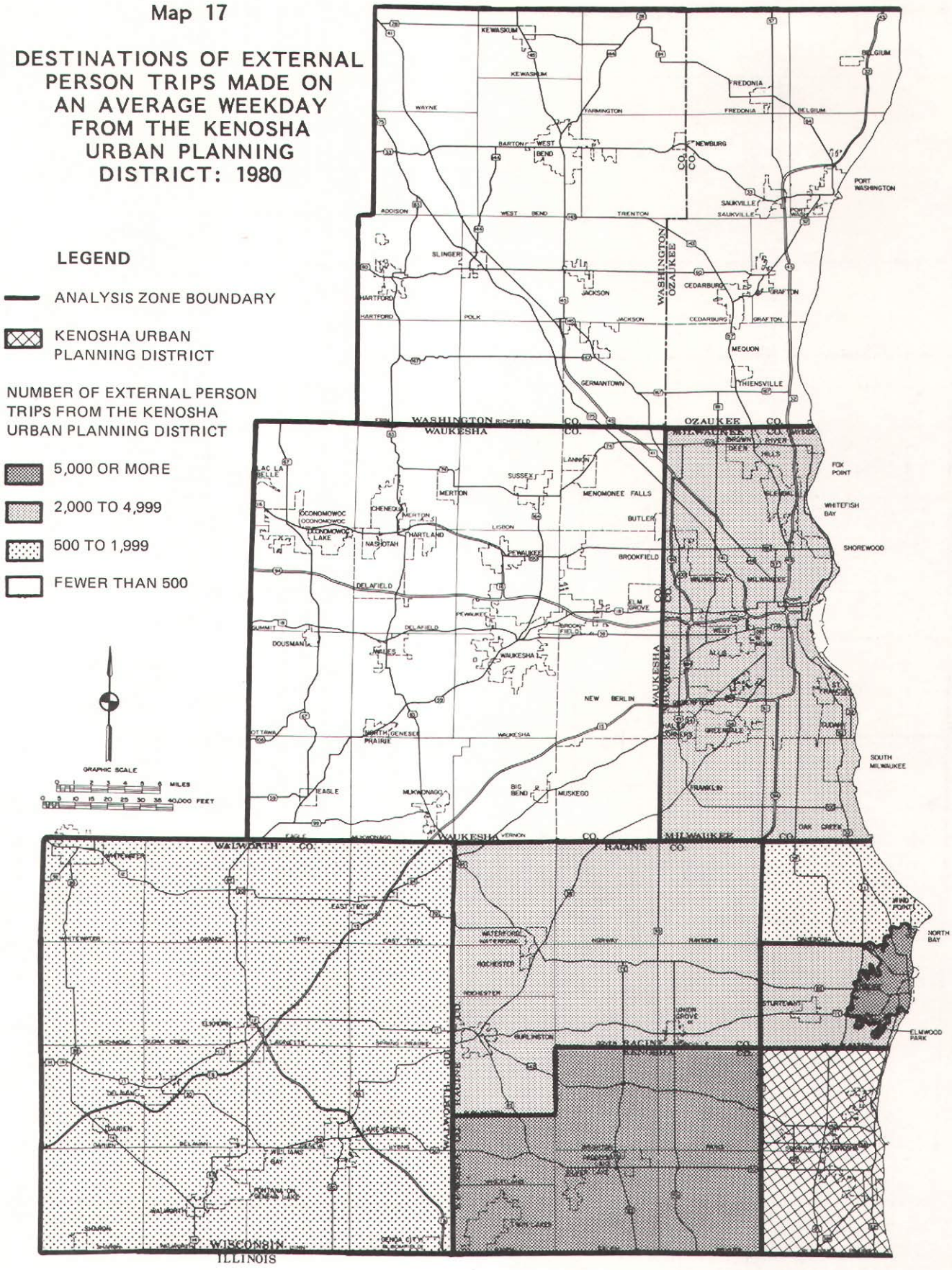
Trip Purpose	Internal		External		Total	
	Number of Trips	Percent of Total	Number of Trips	Percent of Total	Number of Trips	Percent of Total
Home-Based Work.....	51,600	14.7	11,000	30.6	62,600	16.2
Home-Based Shopping...	58,300	16.7	4,300	12.0	62,600	16.2
Home-Based Other	142,300	40.6	10,600	29.4	152,900	39.6
Nonhome Based.....	60,500	17.3	6,600	18.3	67,100	17.4
School Based.....	37,400	10.7	3,500	9.7	40,900	10.6
Total	350,100	100.0	36,000	100.0	386,100	100.0

Source: SEWRPC.

The preceding discussion has described the travel patterns of the 386,100 total person trips originating within the Kenosha Urban Planning District and destined to areas within the seven-county Southeastern Wisconsin Region on an average weekday. It should be noted that significant amounts of travel also occurred from the District to surrounding areas outside the Region in both 1972 and 1980. In 1980, an additional 17,000 trips were estimated to be made from the District to surrounding counties outside the Region. This compares with about 14,000 such trips made in 1972. The most significant amount of such total person travel in 1980 occurred between the District and Lake County in the State of Illinois, with approximately 13,700 trips occurring on an average weekday. Dupage and Cook Counties in Illinois together accounted for another approximately 1,900 trips on an average weekday. The combined trips made to these three Illinois counties account for over 91 percent of the trips made from the District to areas outside the Region.

Map 17

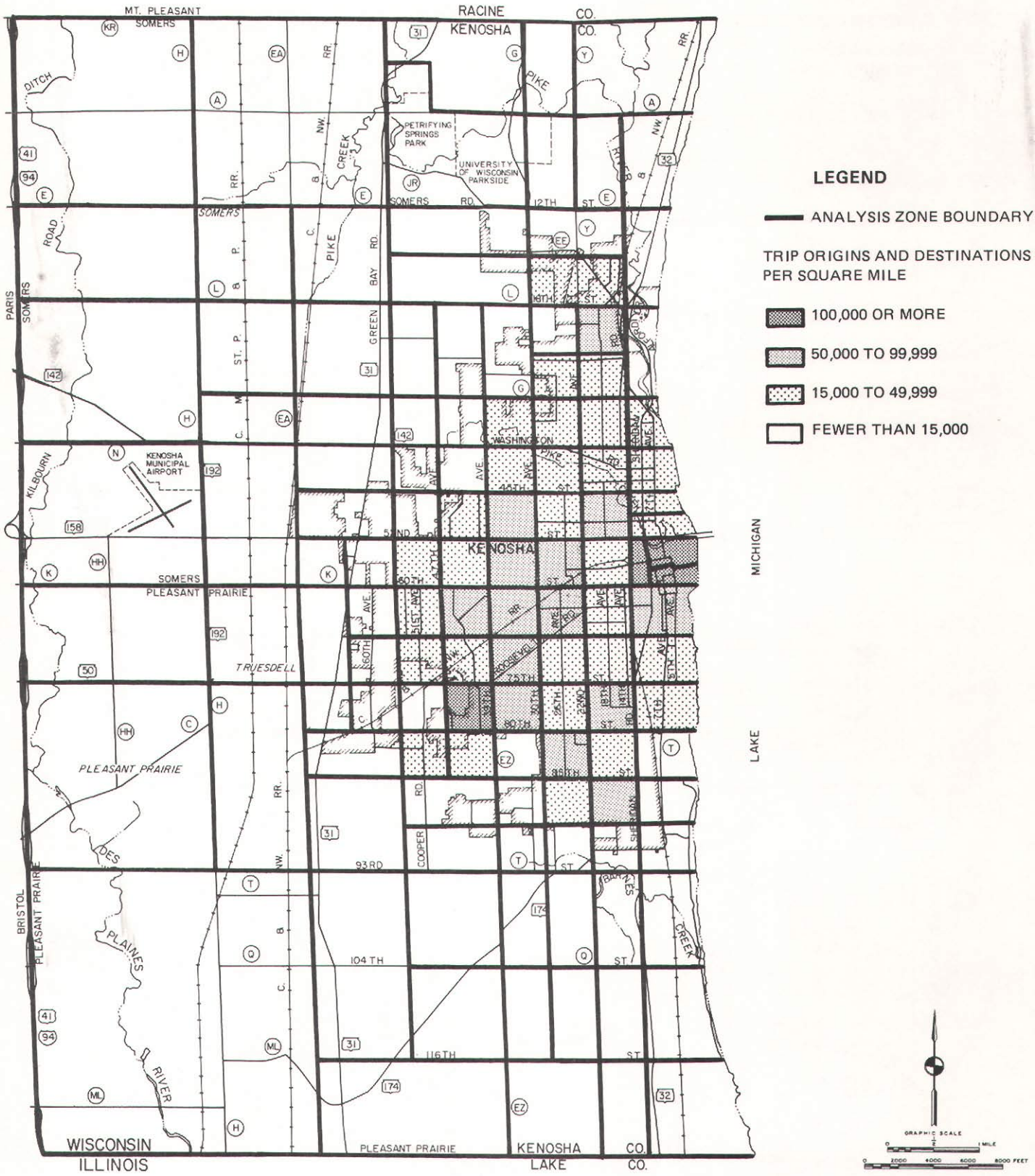
DESTINATIONS OF EXTERNAL PERSON TRIPS MADE ON AN AVERAGE WEEKDAY FROM THE KENOSHA URBAN PLANNING DISTRICT: 1980



Source: SEWRPC.

Map 18

TOTAL PERSON TRIP DENSITY IN THE KENOSHA URBAN PLANNING DISTRICT: 1980



Source: SEWRPC.

SUMMARY

The study area selected for the transit system plan and program in the Kenosha area was the Kenosha Urban Planning District, comprised of all that portion of Kenosha County lying east of IH 94. Several general and special units of government operate within the District and have important transportation responsibilities, including the City of Kenosha; the Towns of Pleasant Prairie and Somers, Kenosha County, and the Kenosha Unified School District. The total resident population of the District in 1980 was about 98,100 persons, of which about 77,700 persons, or about 79 percent, resided within the City of Kenosha.

Land uses in the District vary greatly from low-density agricultural uses in the Towns of Pleasant Prairie and Somers to high-density urban uses in the City of Kenosha. Despite rapid urbanization in the District in the recent past, most of the land within the study area is still in open, rural uses. Thus, the future pattern of urban development in the study area can be an important determinant of the future need for transit service and the viability of the public transit system of the area.

Six population groups which typically exhibit high dependence on public transportation for mobility were identified within the District: school-age children, the elderly, low-income families, minorities, the handicapped, and persons residing in households with no or one automobile available. The highest concentrations of these groups within the District were found to reside within the older, intensively developed, central portions of the City of Kenosha, making this area one of high need for transit service.

Also identified were the locations of all major traffic generators in the District, including shopping areas, educational institutions, community and special medical centers, governmental and public institutional centers, employment centers, and recreational areas. This identification indicated that the majority of the locations of these generators are concentrated in the highly urbanized area of the City of Kenosha.

In 1972, the Commission undertook a comprehensive inventory of travel habits and patterns within the Region to provide a benchmark of basic data for land use and transportation planning, and to determine what changes in travel habits and patterns had occurred since the Commission's 1963 inventory of travel. Estimates of travel habits and patterns within the District in 1980 were prepared by factoring the 1972 data, using changes in population, household size, and employment within the District between 1972 and 1980 as a basis for the factors. A total of 386,100 trips were estimated to have originated within the District on an average weekday during 1980. Of this total, 62,600, or 16 percent, were home-based work trips; 62,600, or 16 percent, were home-based shopping trips; 152,900, or 40 percent, were home-based other trips; 67,100, or 17 percent, were nonhome-based trips; and 40,900, or 11 percent, were school-based trips.

External to the District, the greatest concentrations of trip ends within the Southeastern Wisconsin Region were found in the City of Racine, in the southeastern portion of Racine County, in the central and western portions of Kenosha County, and in Milwaukee County. Lake, Dupage, and Cook Counties of the State of Illinois also attracted a significant volume of trip ends from

within the District on an average weekday. Internal to the District, the greatest concentrations of trip ends are found within the Kenosha central business district and the Pershing Plaza shopping area.

This chapter has described the geographic and land use characteristics of the Kenosha Urban Planning District pertinent to transit planning, and the socioeconomic characteristics and travel habits and patterns of the resident population within the District. This information provides a sound basis for the evaluation of the existing community transportation services and for the identification of needed service improvements. The following two chapters of this report provide a description and analysis of the existing public transportation services provided within the Kenosha Urban Planning District.

Chapter IV

EXISTING PUBLIC TRANSIT SERVICE

INTRODUCTION

An understanding of the existing public transit service within the study area is basic to the preparation of any sound transit system improvement plan and program. This understanding should be based upon a thorough inventory of current transit operations and appropriate survey data describing the travel habits and patterns of the existing transit ridership. This chapter documents the findings of such an inventory of public transit services and utilization in the Kenosha Urban Planning District. A brief history of transit development within the District is included, and the operations of the Kenosha transit system, the main supplier of public transit service in the District, are described. The chapter includes a description of the results of a survey of transit travel habits and patterns conducted in April 1980 of Kenosha transit system riders. A description is also provided of the implementation status of related transit projects recommended for the area in the previous transit system improvement plan and program. Finally, this chapter describes the operations of other major suppliers of public transit service in the District.

HISTORY OF TRANSIT DEVELOPMENT

Mass transit service in the City of Kenosha was initiated in 1903 when the Kenosha Electric Railway Company began street railway operations with seven cars operating over four miles of track. Although service was expanded in 1907, the inability of the line to return a profit resulted in its sale in 1909 to a British investment firm and again in 1912 to The Milwaukee Electric Railway and Light Company (TMER&L). TMER&L, which also operated the streetcar systems in Milwaukee and Racine, consolidated the Kenosha operation with other traction, gas, and electric utilities in the Racine-Kenosha area to form the Wisconsin Gas and Electric Company (WG&E). The common ownership of the traction properties in the three cities facilitated the introduction of electric interurban railway service between Kenosha, Racine, and Milwaukee. This required double-tracking of most of the Main Street line, which traversed what was formerly Main Street and now is Sixth Avenue in Kenosha, to accommodate the interurban cars. The WG&E also rehabilitated the system in the early 1920's. By the late 1920's the rapid growth of Kenosha increased demand for service, and routes were extended into new areas and additional equipment was borrowed from Milwaukee to provide service. The business remained unprofitable, however, and in 1931, with much of the trackage deteriorating, the company petitioned to abandon streetcar service. The petition was approved by the Wisconsin Public Service Commission and the streetcar service was replaced by a system of four electric "trackless trolley" bus routes. Figure 1 illustrates the type of streetcar used for public transit service in Kenosha until 1931, and Figure 2 illustrates the type of electric trackless trolley bus which served as its replacement.

The WG&E continued to operate the trolley coaches until 1942, when an independent corporation, Kenosha Motor Coach, Inc., acquired the operation. Following the dramatic increase and then the decline of ridership during and after World

Figure 1

STREETCAR USED IN PUBLIC TRANSIT SERVICE IN THE CITY OF KENOSHA CIRCA 1920

The street railway system in Kenosha began operation in 1903 as a single line operated by the Kenosha Electric Railway Company. However, the system was not profitable and was sold twice in the next 10 years, finally being acquired by The Milwaukee Electric Railway & Light Company in 1912. The company consolidated the Kenosha operation with other electric and gas subsidiaries in the Racine-Kenosha area to form the Wisconsin Gas and Electric Company. The new company double-tracked most of the Main Street line so that the electric interurban railway cars from Milwaukee could better operate into the downtown business district. The left view shows a portion of this line, which traversed what was formerly Main Street and is now 6th Avenue, looking north on Main Street from around 59th Street. The company also completely modernized the system in the early 1920's with the purchase of 15 new single-truck Birney Safety cars, such as the one shown in the right view. In June 1931, with much of the trackage deteriorating, the company abandoned the streetcar system, selling much of the equipment to the Louisville (Kentucky) Railway Company.

Photos courtesy of Russell E. Schultz.

War II, Kenosha Motor Coach, Inc., converted the entire system to motorbus operation. Figure 3 illustrates the type of motor bus used during this period in providing transit service in the City of Kenosha. Despite continually declining ridership during the 1950's, Kenosha Motor Coach operated the bus system until 1962, when Lakeshore Transit, Inc., assumed ownership of the system. The system was sold again in 1969 to Pathfinder City Transit Lines after a drivers' strike which halted bus operations for almost five months.

Even before Pathfinder assumed bus operations, it was clear that urban transit service in the area could not be sustained solely from the farebox. Accordingly, the Kenosha Common Council on May 20, 1969, adopted an ordinance which provided for the use of city parking meter funds to subsidize public transportation. Shortly after Pathfinder began bus operations on August 4, 1969, the Kenosha Parking Commission authorized a $2,500 per month subsidy in an effort to maintain the service. The amount of subsidy was further increased in October 1969 when the Kenosha Common Council began the provision of month-by-month subsidies in the range of $7,000 to $10,000 per month, in addition to the $2,500 per month subsidy provided by the Parking Commission. This subsidy arrangement continued until September 1970, when an advisory referendum was held to determine whether the subsidies should be continued. Fifty-four percent of the referendum voters rejected the continuation of the subsidies, prompting the Common Council to discontinue the subsidy after September 31, 1970, except for the $2,500 provided by the Parking Commission. Due in part to the reduction in the subsidies, Pathfinder on February 3, 1971, applied to the Wisconsin Public Service Commission for temporary discontinuation of service because of extreme financial difficulties. The application was approved and service was discontinued on February 12, 1971.

Figure 2

ELECTRIC TRACKLESS TROLLEY BUS USED IN PUBLIC TRANSIT SERVICE IN THE CITY OF KENOSHA CIRCA 1932

Upon abandoning the streetcar system in June 1931, the Wisconsin Gas and Electric Company began providing transit service using electric trackless trolley buses, such as the one shown in the top left view, which were enjoying a growing popularity in smaller cities at that time. The company established four routes with a total of 18.2 route miles, most of which directly replaced former streetcar routes. This replacement of service is illustrated in the top right view, which shows a trackless trolley bus operating on 6th Avenue over what was formerly the Main Street line on the street railway system. Streetcar trackage is also visible in the left view, which shows several trolley buses at Market Square in downtown Kenosha located at the intersection of 56th Street and 6th Avenue. This is also the location of the central transfer point for the Kenosha transit system today. The company continued to operate the trolley coaches until September 1942, when the independent Kenosha Motor Coach, Inc., acquired the system and gradually phased out trolley bus service after World War II. The last trolley buses were operated in the City of Kenosha in 1952.

Photos courtesy of Russell E. Schultz.

During this same period between 1969 and 1971, the City of Kenosha, anticipating possible discontinuation of private transit service, devoted much effort to exploring the feasibility and desirability of establishing a publicly owned and operated transit system. A referendum was held on April 7, 1970, to authorize the issuance of $25,000 in bonds to purchase the Pathfinder system. The referendum was defeated, with 57 percent voting against the proposal. Based in part upon the recommendations of a technical study completed in 1969, and in spite of past referenda results, the Kenosha Common Council in May 1971 established a seven-member Transit and Parking Commission to operate a local transit system. Following the acquisition of capital equipment from Pathfinder, the receipt of federal emergency employment assistance, and the official transfer of the common carrier certificate, the City of Kenosha on September 7, 1971, after a period of almost seven months without service, re-initiated local bus service. The Kenosha system thus became the first publicly owned and operated transit system in the Southeastern Wisconsin Region and the seventh such system in the State.

Figure 3

MOTOR BUS USED IN PUBLIC TRANSIT SERVICE IN THE CITY OF KENOSHA CIRCA 1950

The conversion of the local transit system in the City of Kenosha from trackless trolley to motor bus operation was completed in 1952 by Kenosha Motor Coach, Inc., which had acquired the system in 1942. Between the late 1940's and 1962, Kenosha Motor Coach, Inc., operated several types of buses in the City of Kenosha, such as the one shown above. Lakeshore Transit-Kenosha, Inc., acquired the transit system in October 1962 and continued to operate it with the equipment used by Kenosha Motor Coach until August 1969, when Pathfinder City Transit Lines, Inc., began operation of the system. Pathfinder City Transit Lines was the last private transit company to operate the transit system before the City of Kenosha began public operation of the system in September 1971.

Photo courtesy of Russell E. Schultz.

Starting with 10 leased buses in 1971, the City immediately restored bus service on the five routes which had previously been served by the private operator. Although initial levels of service on these five routes were similar to those provided by the private operator, the fare was reduced from the $0.40 per ride charged by the private operator since 1969 to $0.25 per ride, including one free transfer privilege. Subsequently, a referendum was held on April 4, 1972, to ascertain whether the City of Kenosha should continue to own and operate the bus system. Over 82 percent of the voters now supported public ownership and operation of the system.

Following the completion of an interim five-year transit system improvement plan and program in October 1973,[1] the City in 1974 applied for and received a federal capital assistance grant from the Urban Mass Transportation Administration (UMTA) in the amount of approximately $2.0 million. These funds were used to purchase:

- 24 new 45-passenger diesel transit buses;
- One supervisory vehicle;
- 24 electric locked-type registering fareboxes;
- 26 two-way radios;
- A spare diesel engine, maintenance tools, and related equipment;
- 550 bus stop signs (including installation);
- A bus storage garage and maintenance facility (including design and construction);
- An automatic bus washer and the installation of a water main; and
- An automatic vacuum-cleaning system (including installation).

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[1]Kenosha Transit and Parking Commission, Interim Kenosha Transit Development Program.

A second transit system improvement plan and program was prepared for the City by the Regional Planning Commission and adopted by the City in 1976.[2] In accordance with the recommendations set forth in that plan, and with the aid of federal transit operating and capital assistance funds and state transit operating assistance funds, the City continued to improve public transit service within the Kenosha urbanized area.

THE KENOSHA TRANSIT SYSTEM

Thus, the major supplier of local public transit service in the Kenosha Urban Planning District is the City of Kenosha, which, as already noted, has owned and operated the local bus system since September 1, 1971. The following sections describe the existing operations of the transit system in terms of administration and management; routes and schedules; fare structure; user characteristics; equipment and facilities; ridership levels; financial status; and implementation status of previous transit plan recommendations.

Administration and Management

The management and policy-making structure of the Kenosha transit system is summarized on the organization chart shown in Figure 4. The policy-making body for the local transit system operation is the City of Kenosha Transit and Parking Commission. The Commission consists of seven members appointed by the Mayor and confirmed by the Kenosha Common Council. The powers of the Transit and Parking Commission are substantial and include essentially all of the powers necessary to acquire, operate, and manage the transit system. These powers include the responsibility for receiving and filing complaints on, and petitions for, transit service and for holding public hearings on transit matters; the statutory authority to extend bus service into adjacent areas within the State of Wisconsin up to 30 miles from the nearest point marking the City of Kenosha corporate limits; the financial authority to collect and maintain as a separate fund all revenues derived from transit operations; the authority to borrow money and to issue revenue bonds for acquisition of facilities and equipment necessary for the operation of the transit system; and the responsibility to study and report to the Common Council on the feasibility of contracting with private organizations or other units of government for the provision of transportation services.

Primary responsibility for management of the bus system has been delegated to the City of Kenosha Department of Transportation. The Director of Transportation is responsible for the administrative affairs associated with transit program planning, federal and state grants administration, and marketing and policy implementation. The Director of Transportation also oversees the operations supervisor, who directs the day-to-day operations of the transit system. While the Kenosha Transit and Parking Commission and the City Department of Transportation are generally responsible, respectively, for the plan formulation for, and administration of, the public transportation program, the City of Kenosha Common Council has the ultimate responsibility for review and approval of certain important policy determinations, including the annual program of projects and the associated budget.

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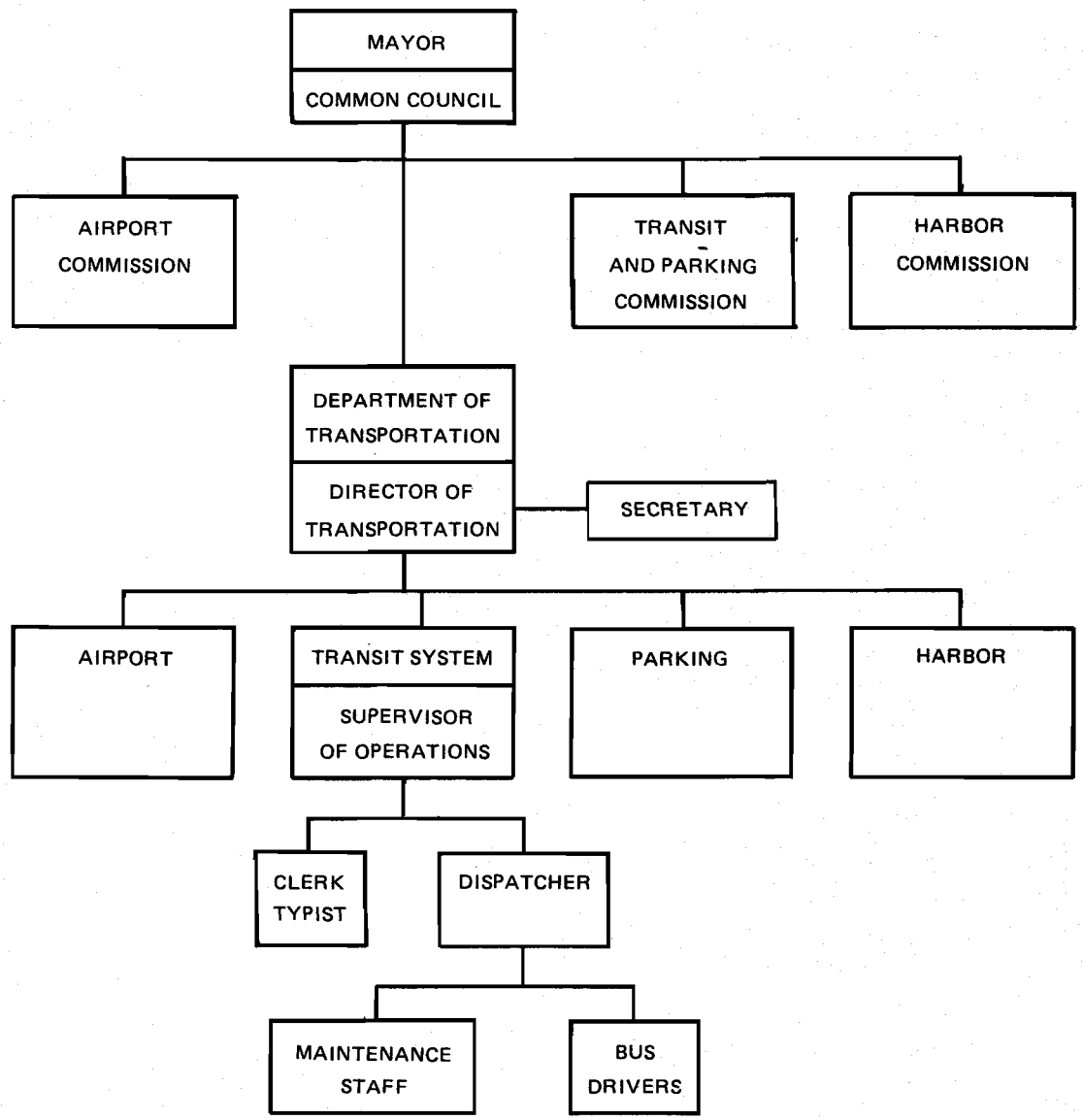
[2]See SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Program: 1976-1980.

Figure 4

ORGANIZATION CHART FOR MANAGEMENT
OF THE KENOSHA TRANSIT SYSTEM



Source: SEWRPC.

Routes and Schedules

Local bus service is currently provided by the Kenosha transit system over two distinct route systems: 1) a system of regular local bus routes; and 2) a system of special peak-hour "tripper" bus routes. Regular bus service is provided on six fixed routes throughout the day, while peak-hour tripper bus service is provided on eight fixed routes in the morning and nine fixed routes in the afternoon, only on regular school days. Maps 19 and 20 show the locations of the regular local bus routes and the special peak-hour tripper bus routes, respectively. The current operating and service characteristics of the Kenosha transit system are summarized in Table 20, and are briefly described below.

Regular Local Bus Service: In July 1983 the regular local transit system encompassed six bus routes totaling about 137 round-trip route miles. As shown on Map 19, all of the six fixed routes are primarily radial in design to provide direct, "no transfer" bus service to the City of Kenosha's central business district. Five of the six radial routes--Routes 2, 3, 4, 5, and 6--provide service primarily within the City of Kenosha, with only minor portions of the routes operated outside the City's corporate limits. The single remaining route--Route 1--extends approximately two miles north of the Kenosha corporate limits to serve the University of Wisconsin-Parkside, which has been defined in this report as a major traffic generator.

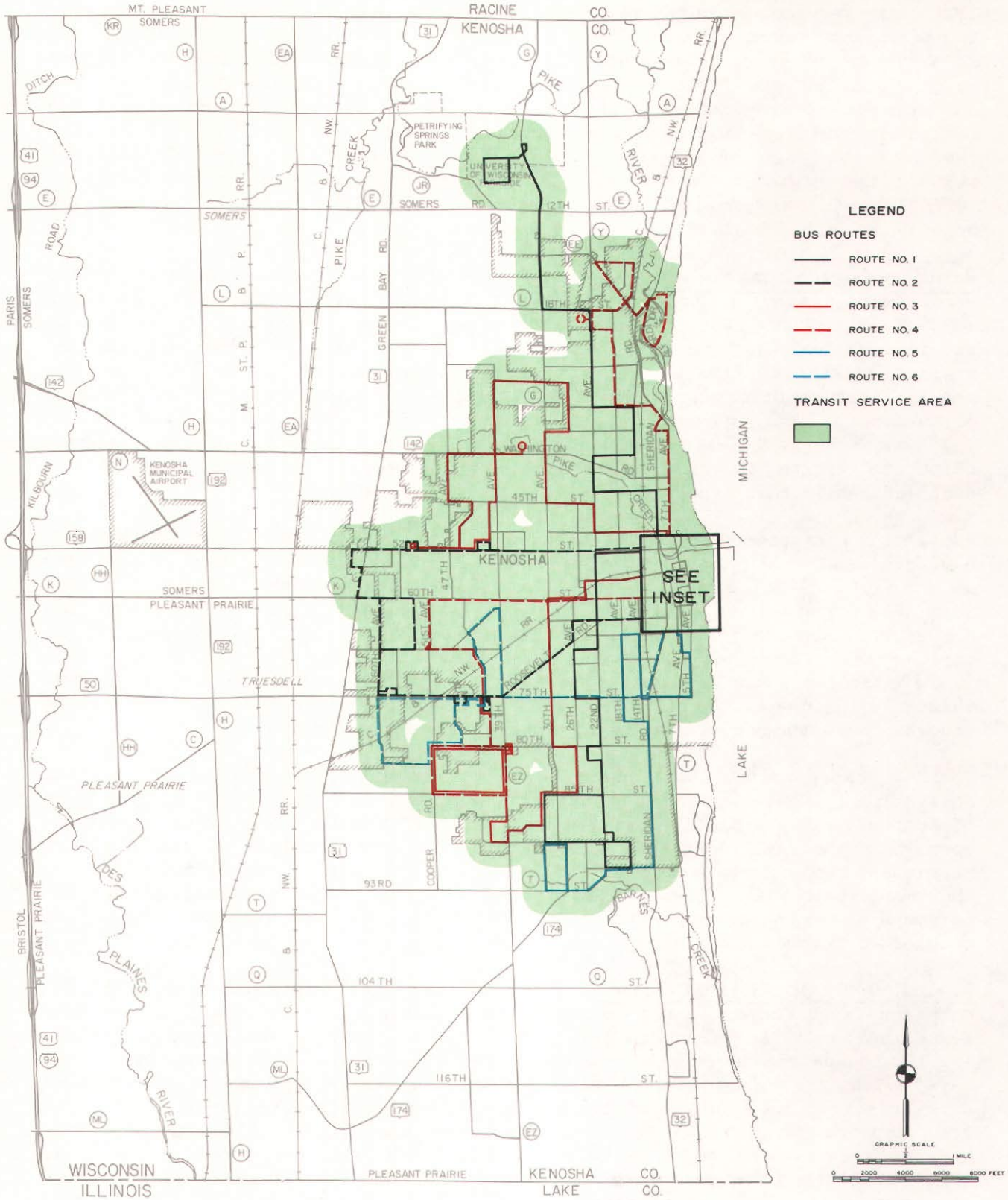
Bus service is provided by the transit system for 12 hours per day between 6:00 a.m. and 6:00 p.m., Mondays through Saturdays. No bus service is provided on Sundays or holidays. On weekdays, the Kenosha transit system provides 30-minute headways on Routes 1 through 5 between 6:00 a.m. and 9:00 a.m. and 3:00 p.m. and 6:00 p.m., with transit service during the remaining hours of service being provided on 60-minute headways. On Saturdays, Routes 1 through 5 are operated with 30-minute headways between 10:00 a.m. and 2:30 p.m., and 60-minute headways at all other times. Route 6 is operated with 60-minute headways throughout the service day Monday through Saturday.

Weekday schedules for buses operating on these six routes are designed so that buses on all routes meet in the central business district at the intersection of 56th Street and Sixth Avenue every one-half hour or every hour, depending upon the headways operated. The intersection is located at the northern terminus of the Southport Mall and serves as the central transfer point for the transit system. The cycle, or "pulse," scheduling utilized allows bus passengers the opportunity to conveniently transfer between bus routes and complete a trip with a minimum of delay.

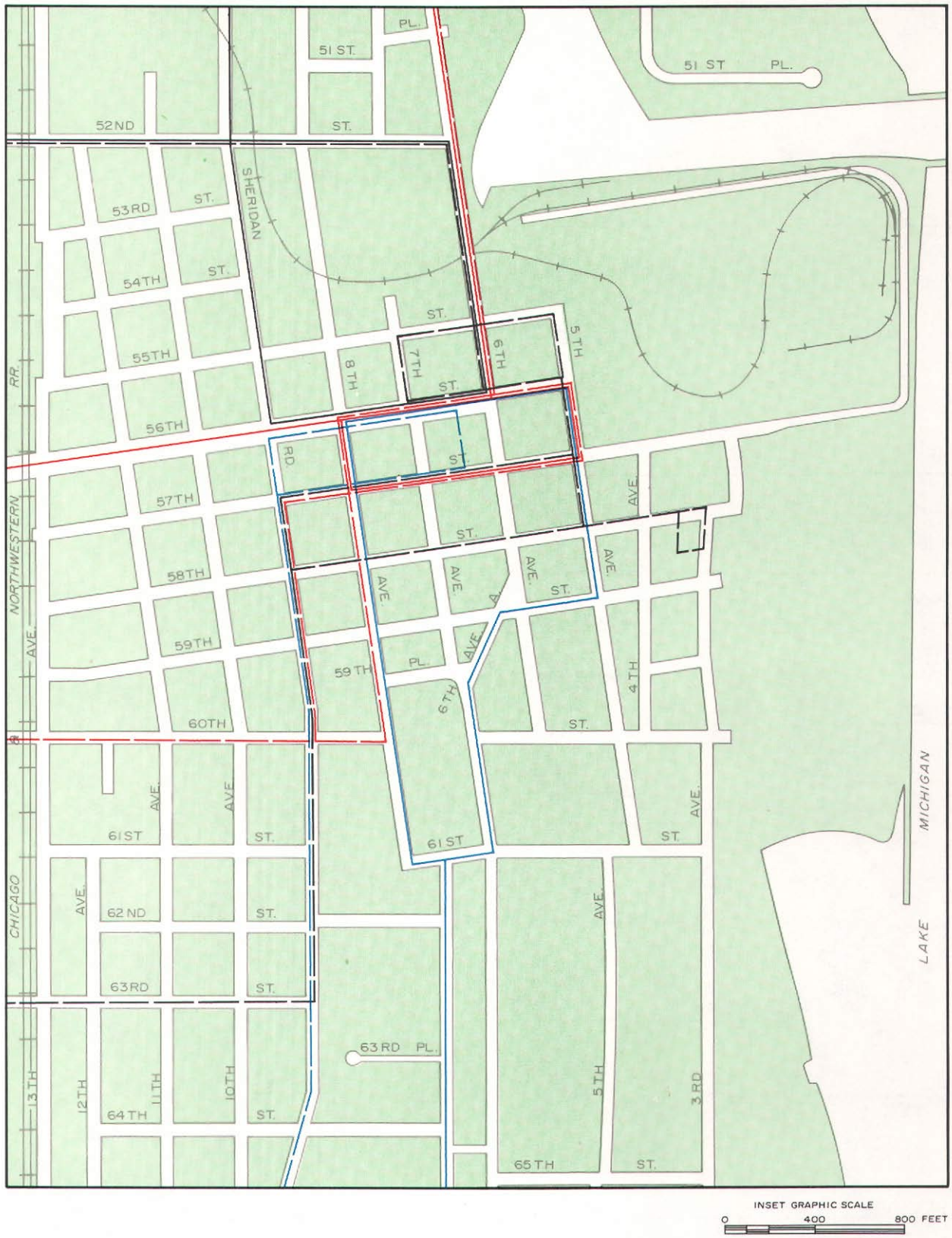
Peak-Hour Tripper Bus Service: Peak-hour tripper bus service is provided on eight fixed routes in the morning from 6:45 a.m. to 8:30 a.m., and on nine fixed routes in the afternoon from 2:15 p.m. to 4:00 p.m. These routes, totaling 153 round-trip route miles (shown on Map 20) operate only on regular school days, with a single one-way trip made on each route during the morning and a reverse trip made in the afternoon. A maximum of nine buses in the afternoon are required to provide transit service on the routes. Although peak-hour tripper service can be used by the public, the service schedule backs up regular routes to accommodate the movement of junior and senior high school students and alleviate overcrowded conditions on the regular bus routes. Ridership on the peak-hour tripper routes averaged about 1,800 passengers per day in March 1983.

Map 19

REGULAR FIXED ROUTE PUBLIC TRANSIT SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1983



Source: SEWRPC.


51 ST
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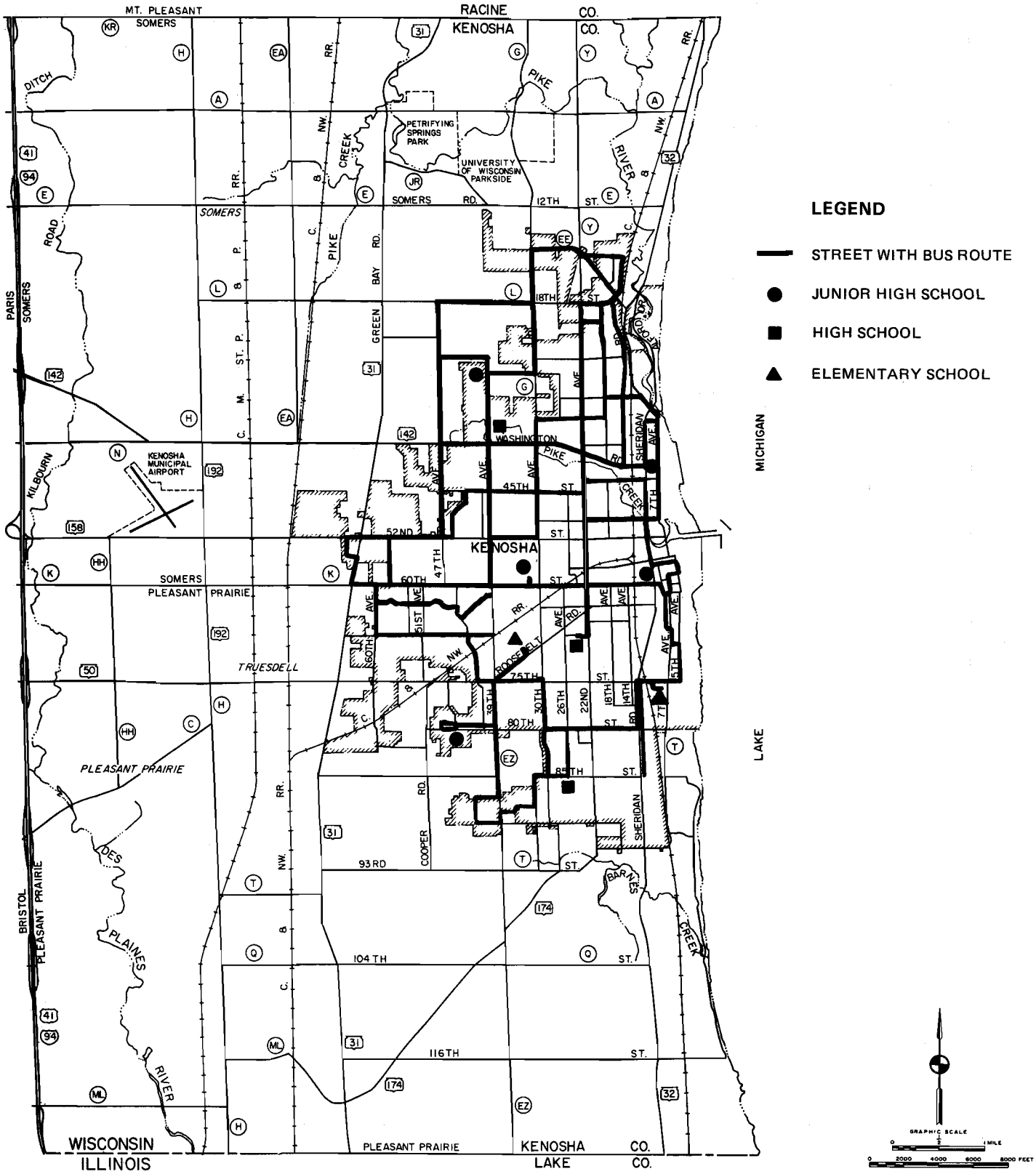
63RD PL.
65TH
RR.
NORTHWESTERN
CHICAGO
AVE.
RD.
5TH
6TH
7TH
8TH
9TH
4TH
3RD
LAKE
MICHIGAN
INSET GRAPHIC SCALE
0
400
800 FEET

Map 20

FIXED ROUTE PEAK-HOUR TRIPPER SERVICE PROVIDED BY THE KENOSHA TRANSIT SYSTEM: 1983



Source: City of Kenosha Department of Transportation and SEWRPC.

Table 20

OPERATING AND SERVICE CHARACTERISTICS BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM: 1983

Monday through Friday									
Route Number	Round-Trip Route Length (miles)	Service Hours		Service Frequency (minutes)		Daily Round Trips	Revenue Vehicle Hours	Vehicle Requirements	
		Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)	Peak	Off-Peak[b]			Peak[a]	Off-Peak[b]
Regular Routes									
1	27.1	6:02	5:15	30	60	16.0	31.5	4	2
2	26.0	6:02	5:12	30	60	16.0	31.6	4	2
3	26.3	6:02	5:12	30	60	16.0	31.6	4	2
4	28.4	6:00	5:15	30	60	16.0	31.6	4	2
5	15.3	6:02	5:40	30	60	16.0	15.7	2	1
6	14.0	6:00	5:40	60	60	12.0	12.1	1	1
Subtotal	137.1	--	--	--	--	92.0	154.1	19	10
Peak-Hour Tripper Routes	153.0	6:30	2:15	--	--	8.5[c]	30.0	9[d]	--
Total	290.1	--	--	--	--	100.5	184.1	28	10

Saturday									
Route Number	Round-Trip Route Length (miles)	Service Hours		Service Frequency (minutes)		Daily Round Trips	Revenue Vehicle Hours	Vehicle Requirements	
		Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)	Peak[e]	Off-Peak[f]			Peak[e]	Off-Peak[f]
Regular Routes									
1	27.1	6:07	5:15	30	60	16.0	30.5	4	2
2	26.0	6:07	5:12	30	60	16.0	30.6	4	2
3	26.3	6:07	5:12	30	60	16.0	30.6	4	2
4	28.4	6:05	5:15	30	60	16.0	30.6	4	2
5	15.3	6:07	5:40	30	60	16.0	15.3	2	1
6	14.0	6:05	5:40	60	60	13.0	12.0	1	1
Total	137.1	--	--	--	--	93.0	149.6	19	10

[a] 6:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.

[b] 9:00 a.m. to 3:00 p.m.

[c] A total of 17 one-way trips are made each school day, with eight made in the morning and nine made in the afternoon.

[d] Afternoon peak-period bus requirement. One fewer bus is required for the morning peak period.

[e] 10:00 a.m. to 2:30 p.m.

[f] 6:00 a.m. to 10:00 a.m. and 2:30 p.m. to 6:00 p.m.

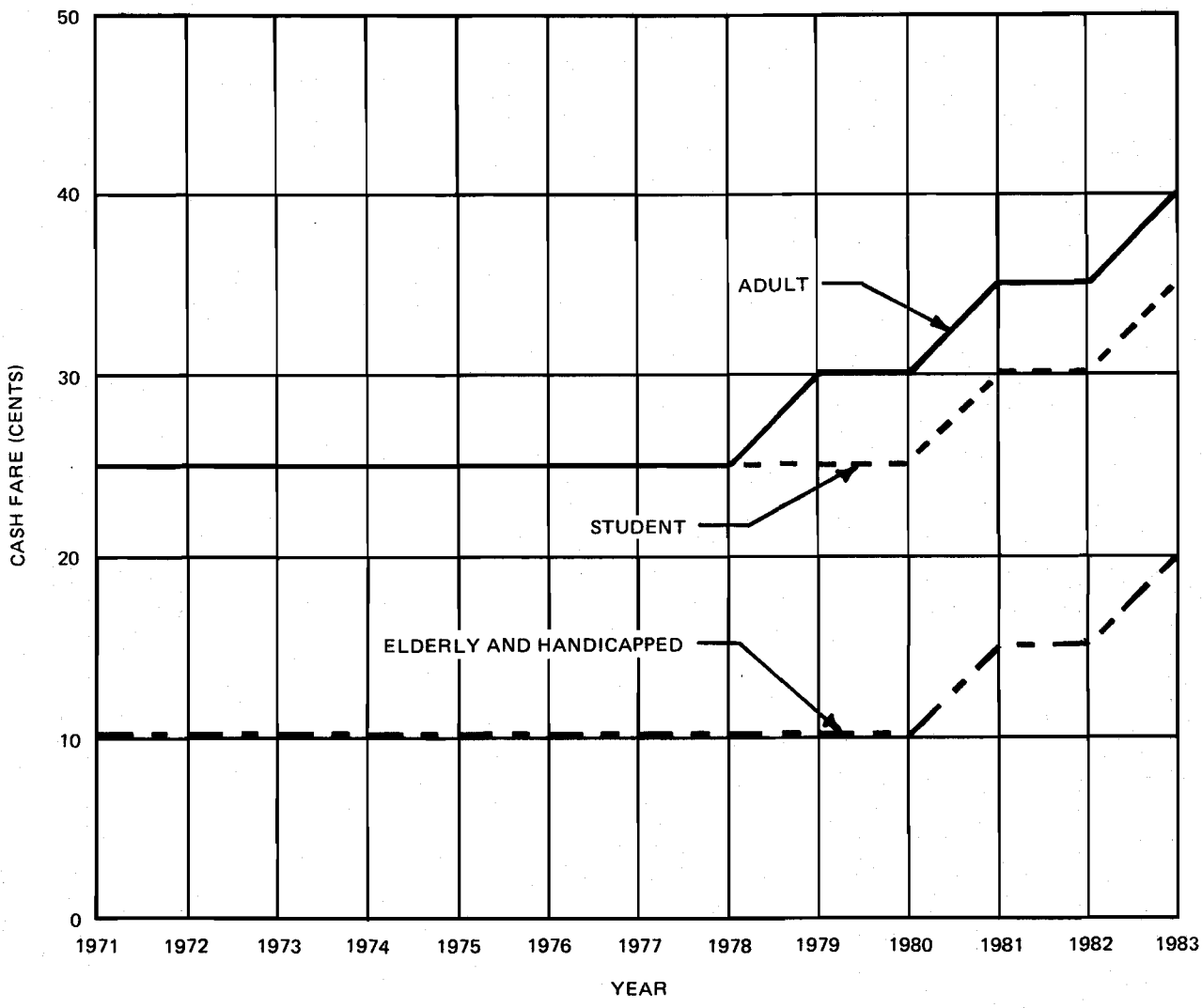
Source: City of Kenosha Department of Transportation and SEWRPC.

Fare Structure

As already noted, when the City assumed operation of the transit system in September 1971, fares were reduced from those formerly charged by the private operator. The basic cash fare charged for persons aged 6 to 64 years old was established at $0.25 per trip, and elderly and handicapped persons were charged $0.10 per trip. This fare structure remained in effect until January 1, 1979, when adult cash fares were raised to $0.30 per trip and a new fare category for students aged 6 through high school was established at $0.25 per trip. Fare increases of $0.05 per trip in all three categories have subsequently occurred in May 1981 and January 1983. The historical trend of fares for the Kenosha transit system is summarized in Figure 5.

Figure 5

HISTORIC TREND OF TRANSIT FARES ON THE KENOSHA TRANSIT SYSTEM: 1971-1983



Source: City of Kenosha Department of Transportation and SEWRPC.

The current one-way adult fare on the six local bus routes of the Kenosha transit system is $0.40 per passenger trip. Children under six years of age ride free if accompanied by an adult. Persons who use the bus system must pay the exact cash fare, as 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 $13. Free one-hour transfers are issued upon request at the time the fare is paid, and may be used to transfer to a route different from the route originally boarded for continuation of travel in the same general direction.

Special fare programs are in effect for students and for elderly and handicapped riders. Cash-paying students, ages 6 to 18, are eligible to ride buses of the Kenosha transit system on regular school days for $0.35. In addition, the Kenosha Unified School District has an agreement with the Kenosha Transit and Parking Commission whereby eligible students are provided with special student tickets (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 special student bus tickets are collected by the bus driver and the School District reimburses the Transit and Parking Commission $0.35 for each ticket collected. For the 1982-1983 school year, approximately 1,750 students living in the City of Kenosha were eligible for this special fare program.

A half-fare program is in effect for elderly and handicapped patrons during weekday nonpeak periods of travel and all day on Saturdays. Persons qualifying for this program are entitled to use the local bus services for a one-way fare of $0.20 during all hours of operation except on weekdays from 6:30 a.m. to 8:00 a.m. and from 3:30 p.m. to 4:30 p.m. To qualify for the half-fare program, a person must be at least 65 years of age, have a doctor's certification of handicap, or obtain a certification of handicap from a local agency for handicapped persons. A half-fare identification card, which includes a photograph, is issued to handicapped persons qualifying for the program and must be shown to the bus driver upon request at the time the half-fare is paid. Senior citizens qualify for the program by displaying their medicare card.

Equipment and Facilities

Buses: The current bus fleet of the Kenosha transit system consists of 30 buses. Table 21 presents a categorical listing of the buses in the bus fleet by type of bus, including bus make and model, number of seats per bus, and the year of manufacture. As shown in this table, the bus fleet is comprised of a total "active" fleet of 30 buses. The active bus fleet consists of 24 General Motors Corporation standard design, 45-passenger buses manufactured in 1975; one Twin Coach 31-passenger bus manufactured in 1971; and five General Motors Corporation advance design, 46-passenger buses manufactured in 1981. The buses regularly used by the Kenosha transit system to provide transit service are illustrated in Figure 6.

Table 21

BUS FLEET OF THE KENOSHA TRANSIT SYSTEM: JULY 1983

Type of Bus		Number of Buses	Seats per Bus	Year of Manufacture
Make	Model			
Twin Coach....	TC25	1	31	1971
GMC.....	4523	24	45	1975
GMC.....	1G0YT82W	5	46	1981
Active Fleet.....				30
Weekday Peak-Period Bus Requirement				
Regular Local Service.....				19
Peak-Hour Tripper Service.....				9
Total				28
Weekday Base-Period Bus Requirement.....				10

Source: Wisconsin Department of Transportation and SEWRPC.

Figure 6

GENERAL MOTORS CORPORATION BUSES OPERATED BY THE KENOSHA TRANSIT SYSTEM: JULY 1983

The Kenosha transit system currently uses two different motor buses manufactured by General Motors Corporation, Truck and Coach Division, to provide transit service. The left view illustrates one of 24 GMC new look buses purchased by the system in 1975. The right view illustrates one of five GMC advance-design buses added to the fleet in 1981.

Photo (left) by Albert A. Beck.
Photo (right) by James J. Hoegler.

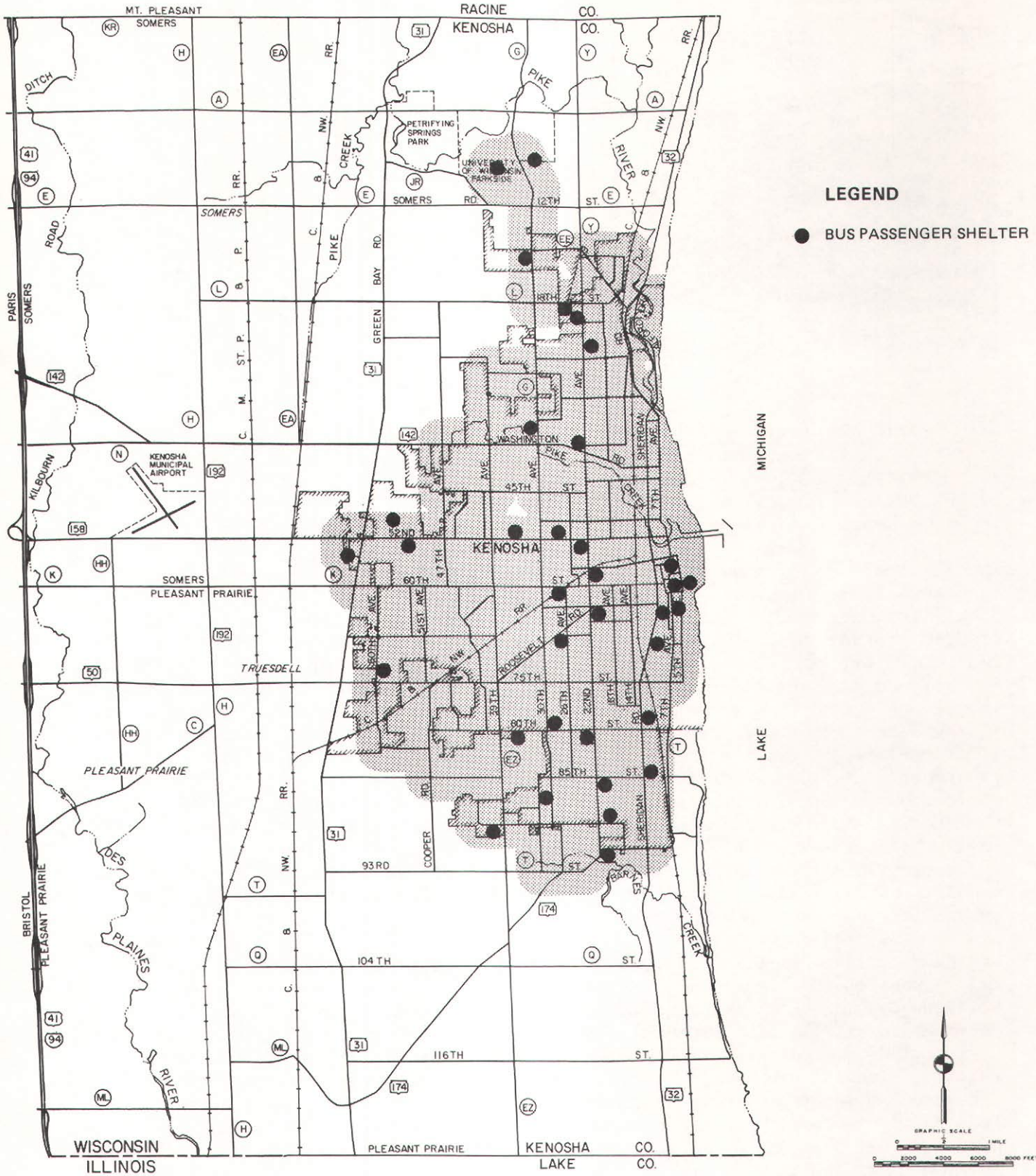
All buses in the fleet have been equipped with a front-entrance, special-assist grab rail, and with signs designating seats adjacent to the front entrance for use by elderly and/or handicapped persons. In addition, the five advance design buses are also equipped with a special "kneeling" feature--which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

Bus Passenger Shelters: In September 1971, when the City assumed operation of the transit system, there were no bus passenger shelters located along any of the routes of the Kenosha transit system. Since 1971 a total of 35 bus shelters have been constructed throughout the City. Of these 35 shelters, 29 were constructed by the City of Kenosha or by the transit system, and are made of modular building materials. Plexiglas panels are used for the walls and a translucent material is used for the molded roof to provide visibility and natural lighting. Each shelter is equipped with a front windscreen, two open access points, and a bench for waiting transit patrons. All shelters are erected on poured-in-place concrete pads. Of the remaining six shelters, two shelters were constructed by the City of Kenosha as part of the Southport Mall development. One shelter is located at the central transfer point of the transit system on the north end of the mall, at the intersection of 56th Street and 6th Avenue. The other shelter is located on the south end of the mall at the intersection of 59th Street and 6th Avenue. These joint-use pedestrian and transit-user shelters are of brick and Plexiglas construction, with benches located around the outside perimeter of each shelter.

The remaining four bus passenger shelters were constructed by private individuals or businesses in various designs and using a variety of materials. Of the four privately constructed bus shelters, two are located on the University of Wisconsin-Parkside campus, one is located at the Kenosha Memorial Hospital at 63rd Street and Sheridan Road, and one is located at Kenosha Garden Apartments at 54th Street and 64th Avenue. The location of each bus passenger shelter is shown on Map 21. Figure 7 illustrates the standard type of bus passenger shelter provided by the Kenosha transit system.

Map 21

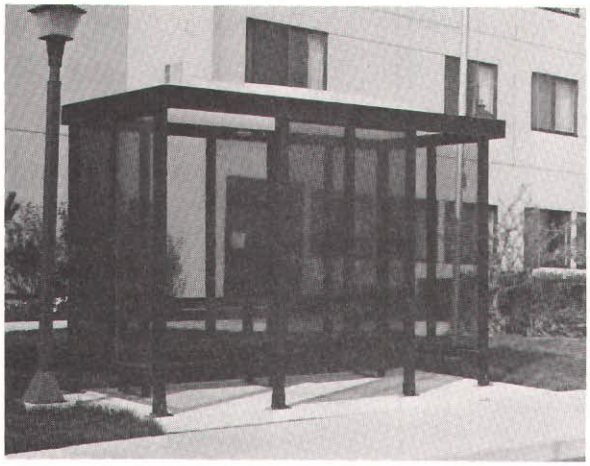
LOCATION OF BUS PASSENGER SHELTERS FOR THE KENOSHA TRANSIT SYSTEM



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 7

STANDARD BUS SHELTER PROVIDED BY THE KENOSHA TRANSIT SYSTEM



The Kenosha transit system uses one basic design of bus shelter for the majority of the shelters it erects throughout the transit system. Each shelter is constructed using Plexiglas panels for the walls and a molded translucent material for the roof, as shown in this view of a bus passenger shelter located near the Lakeside Tower Apartments in downtown Kenosha.

Photo by James J. Hoegler.

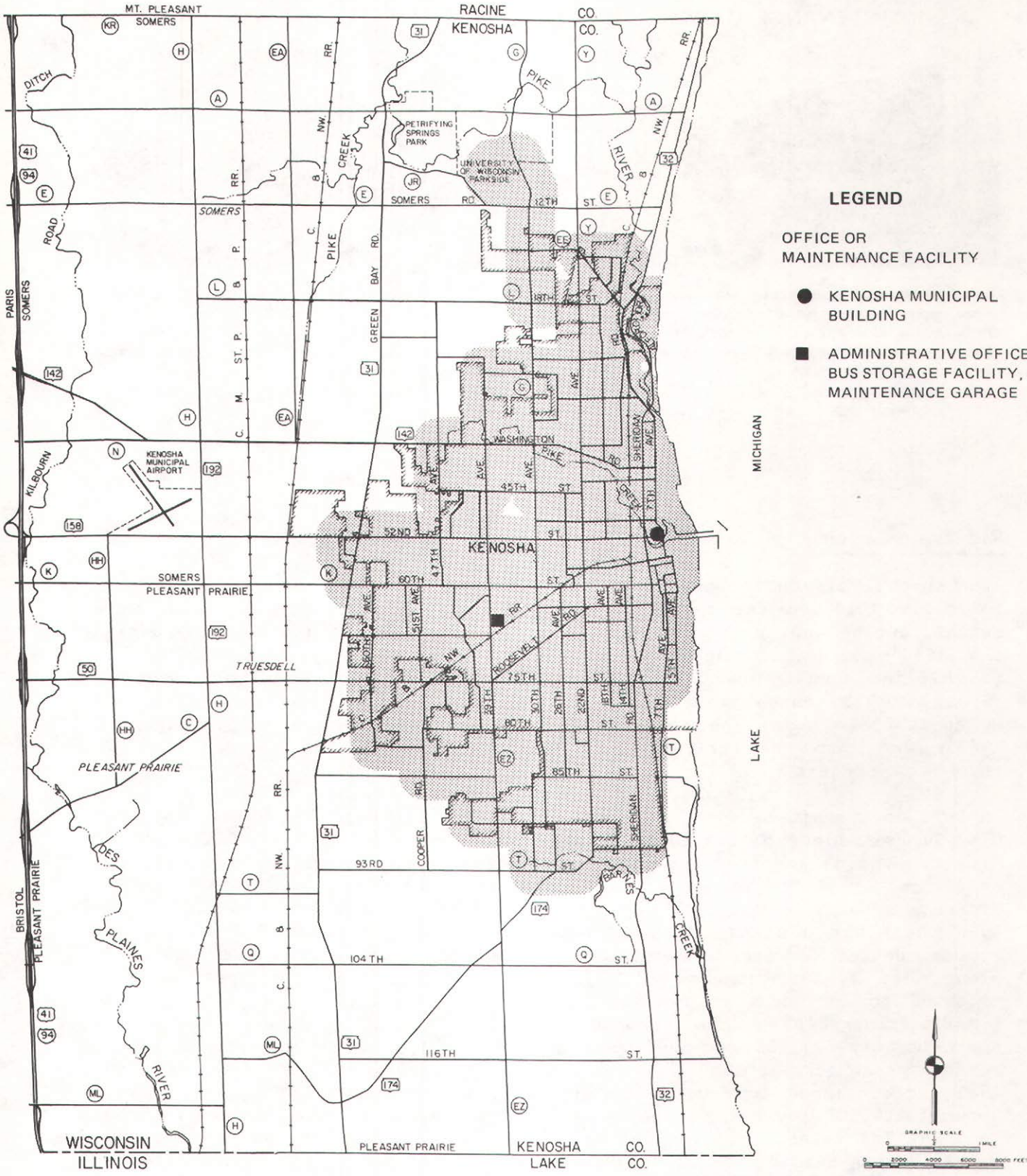
Office and Maintenance Facilities: Activities related to the management and operation of the Kenosha transit system are conducted in two city-owned buildings located in separate areas of the City of Kenosha. These facilities are: 1) the bus storage and maintenance garage, and 2) the Kenosha Municipal Building. The location of these facilities is shown on Map 22.

The Kenosha transit system bus storage facility and maintenance garage, shown in Figure 8, is located in the City's municipal yard at 3735 65th Street. This facility is a single-story building, built in 1975, and used exclusively for transit program-related functions, including bus maintenance, vehicle cleaning and servicing, parts storage, employee facilities (including locker and meeting rooms), and the general management offices of the Kenosha transit system. It should be noted that an expansion program of the Kenosha transit system bus storage and maintenance garage was begun in 1982. This expansion includes: an additional 4,200 square feet of bus storage space; the enlargement of the maintenance bay; the addition of one bus hoist; and the addition of extra office space. Additional transit program-related activities conducted within the Kenosha transit system bus storage and maintenance garage are carried out in the offices of the City of Kenosha Department of Transportation. Transit system services provided by the City 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, a multi-story building, as shown in Figure 9, is located on the northern edge of the Kenosha central business district at 624 52nd Street. Transit program functions conducted within this building are carried out in the offices and public meeting rooms of the Mayor of the City of Kenosha, the members of the Kenosha Common Council, and 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 wish to participate in the transit system's half-fare program.

Map 22

LOCATION OF OFFICE AND MAINTENANCE FACILITIES FOR THE KENOSHA TRANSIT SYSTEM



LEGEND

OFFICE OR MAINTENANCE FACILITY

- ● KENOSHA MUNICIPAL BUILDING
- ■ ADMINISTRATIVE OFFICE, BUS STORAGE FACILITY, AND MAINTENANCE GARAGE

Source: SEWRPC.

Figure 8

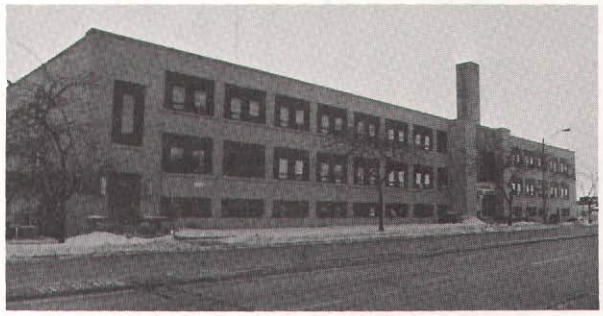
KENOSHA TRANSIT SYSTEM BUS STORAGE AND MAINTENANCE GARAGE

The Kenosha transit system bus maintenance and storage garage, shown above, consists of one building which houses the bus storage area, vehicle maintenance and servicing facilities, employee facilities, and the office of the City of Kenosha Department of Transportation.

Photo by James J. Hoegler.

Figure 9

KENOSHA MUNICIPAL BUILDING



The Kenosha Municipal Building houses the offices of the Mayor and Common Council of the City of Kenosha, and the Kenosha Transit and Parking Commission, both of which contribute in some manner to the City's public transportation program.

Photo by Albert A. Beck.

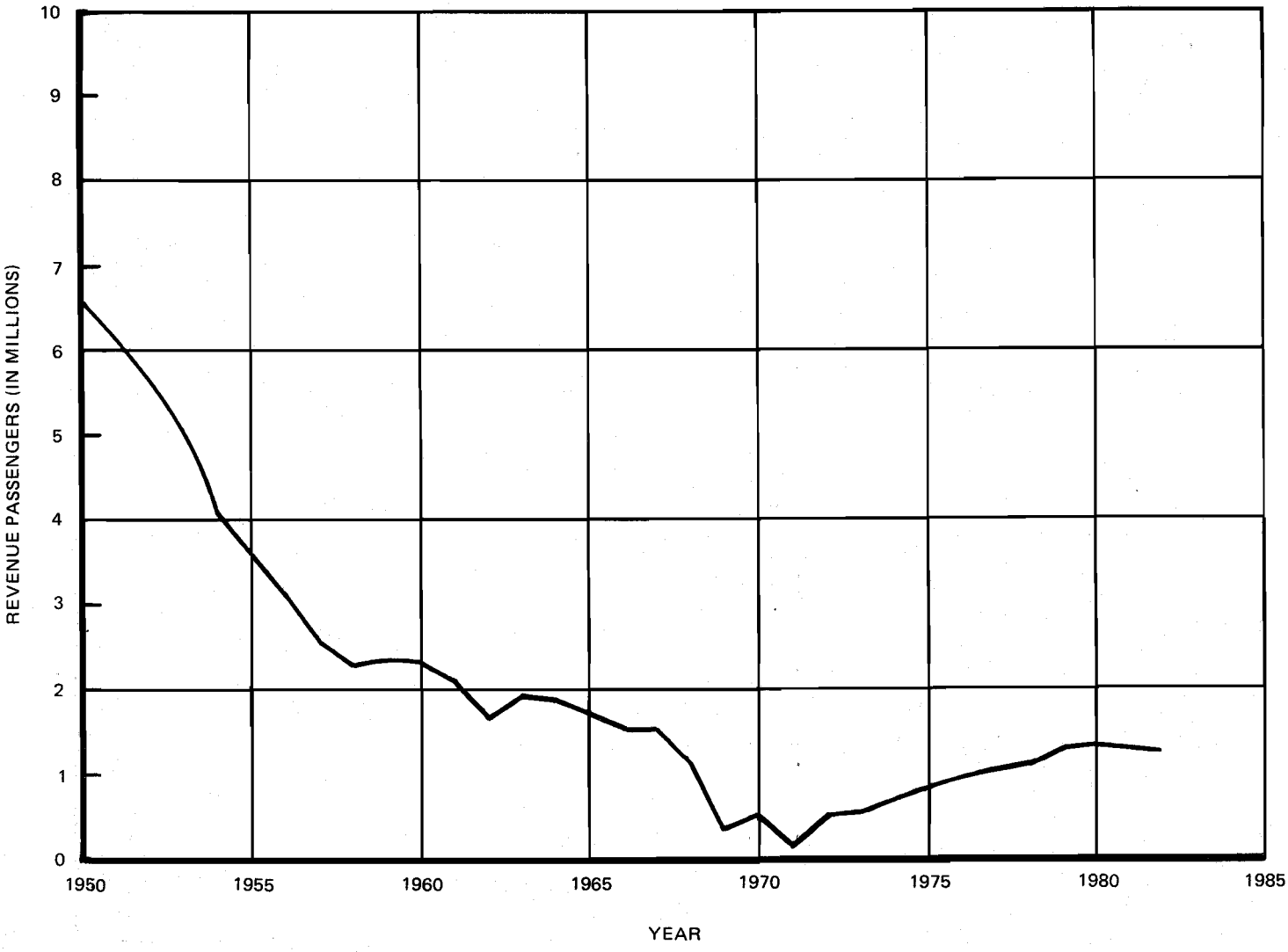
Ridership Levels

Ridership levels on the public transit system in the Kenosha area have historically followed the national trend. All-time-high ridership levels were reached during and just after World War II, but declined dramatically during the 1950's and into the early 1970's, as shown in Figure 10. More than 6.5 million annual revenue passengers were carried in the Kenosha area in 1950. By 1958, annual ridership had declined to 2.3 million passengers, or by about 65 percent. The downward trend in ridership continued through the 1960's and into the early 1970's, reaching a record low of about 187,500 revenue passengers in 1971.

In 1971 no transit service was provided between February 12, when Pathfinder City Transit Lines discontinued transit operations, and September 7, when the City of Kenosha acquired the rights to operate the transit system and began operations, a period of almost seven months. Between 1971 and 1983, the City of Kenosha has substantially upgraded and expanded bus service. From 1972 to 1980 there was a steady increase in annual ridership on the Kenosha transit system. Better service area coverage, new equipment, and improved marketing, along with fuel shortages and significant increases in fuel prices, contributed to increases in transit ridership. As a result of these actions, transit ridership on the Kenosha transit system more than doubled, from approximately 503,200 revenue passengers in 1972 to approximately 1,342,900 revenue passengers in 1980. Ridership declined slightly from this level during 1981 and continued to decline during 1982, when the transit system carried about 1,224,100 revenue passengers, or about 9 percent fewer passengers than in 1980. The recent downturn in the economy which has increased unemployment levels in the Kenosha area is considered to be the primary factor contributing to the recent ridership declines.

Figure 10

HISTORIC TREND OF TRANSIT RIDERSHIP IN THE KENOSHA URBANIZED AREA: 1950-1982



Source: SEWRPC.

Ridership on the Kenosha transit system has also grown at a faster rate than increases in the amount and level of service provided by the transit system, as measured by annual revenue vehicle miles and annual revenue vehicle hours. From 1972 through 1982, revenue vehicle miles and revenue vehicle hours for the Kenosha transit system increased nearly 100 percent and 72 percent, respectively, while transit ridership increased by 143 percent. Consequently, the system experienced significant increases in productivity over this period. As indicated in Table 22, passengers per vehicle mile on the transit system increased by about 25 percent--from about 1.6 passengers per mile in 1972 to about 2.0 passengers per mile in 1982. A slightly higher increase in productivity occurred in passengers per vehicle hour, which increased by about 42 percent--from about 15.6 passengers per vehicle hour in 1972 to about 22.1 passengers per vehicle hour in 1982.

Table 22

PASSENGERS PER VEHICLE MILE AND VEHICLE HOUR FOR THE KENOSHA TRANSIT SYSTEM: 1971-1982

Year	Revenue Passengers	Revenue Vehicle Miles	Passengers per Vehicle Mile	Revenue Vehicle Hours	Passengers per Vehicle Hour
1971[a]	187,500	155,500	1.21	14,300	13.11
1972	503,200	309,900	1.62	32,300	15.58
1973	572,800	319,600	1.79	29,500	19.42
1974	687,900	335,000	2.05	30,900	22.26
1975	766,800	391,600	1.96	30,900	24.82
1976	973,400	591,300	1.65	50,500	19.28
1977	1,064,400	589,100	1.81	50,300	21.16
1978	1,154,000	635,800	1.82	53,800	21.45
1979	1,323,500	715,000	1.85	54,300	24.37
1980	1,342,900	861,900	1.56	72,000	18.65
1981	1,274,700	751,500	1.70	64,100	19.89
1982	1,224,100	619,600	1.98	55,300	22.14

[a] Includes data for Pathfinder City Transit Lines for the period from January 1, 1971, through February 12, 1971. Data also reflect the period of almost seven months from February 12, 1971, through September 7, 1971, when transit service was not provided in the City of Kenosha.

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

The Regional Planning Commission conducted passenger counts on the regular routes of the Kenosha transit system over a three-day period from April 19 through 21, 1983. Based on these counts, average total ridership on the Kenosha transit system was about 4,600 passengers per day. A breakdown of the total average weekday ridership by route obtained from these counts is presented in Table 23. As indicated in this table, Route 3 had the highest ridership with about 1,100 total passengers per day. This route was followed by Route 1, also with 1,100 revenue passengers per day, and by Route 4 with about 900 total passengers per day. Together, these three routes accounted for about 65 percent of the average ridership on the entire transit system for the days counts were taken.

Table 23

AVERAGE WEEKDAY BOARDING PASSENGERS ON THE REGULAR LOCAL ROUTES OF THE KENOSHA TRANSIT SYSTEM APRIL 19-APRIL 21, 1983

Route Number	Total Boarding Passengers	
	Number	Percent of Total
1	1,060	22.8
2	790	17.0
3	1,110	23.9
4	860	18.5
5	600	12.9
6	220	4.7
Total	4,640	100.0

Source: SEWRPC.

User Characteristics

A survey of transit users was conducted by the Regional Planning Commission over a three-day period between April 22 and April 24, 1980, to ascertain the socioeconomic characteristics and travel patterns of transit users in the Kenosha area. This survey was the first major on-bus survey conducted in the Kenosha area since a similar survey was conducted by the Commission in 1972. For the most recent survey, personnel distributed and collected forms on approximately one-half of all bus runs on each of the six regular local bus routes of the transit system.

Table 24

RIDERSHIP BY ROUTE ON THE KENOSHA TRANSIT SYSTEM: APRIL 22-APRIL 24, 1980

Route Number	Revenue Passengers		Total Passengers[a]	
	Number	Percent of Total	Number	Percent of Total
1	1,060	19.1	1,220	19.2
2	1,290	23.2	1,410	22.2
3	870	15.7	1,010	15.9
4	1,310	23.6	1,420	22.4
5	550	9.9	740	11.6
6	470	8.5	550	8.7
Total	5,550	100.0	6,350	100.0

[a] Includes transfer passengers.

Source: SEWRPC.

Provision was also provided for return by mail of survey forms which could not be collected on the bus. The estimated ridership on each route on the survey day is shown in Table 24. Approximately 1,530 boarding passengers were surveyed over the three-day period, representing about 24 percent of total boarding passengers. Of the 1,530 boarding passengers surveyed over the three-day period, 960, or approximately 63 percent, returned usable survey questionnaires. Information gathered included the socioeconomic characteristics of the transit users; characteristics of the trips made by the transit users; and transfer movements. The following sections summarize the results of this survey. The six routes operated by the Kenosha transit system have remained relatively unchanged from the time of the survey (see Map 19).

Table 25

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM BY SEX BY ROUTE APRIL 22-APRIL 24, 1980

Route Number	Percent of Ridership by Sex[a]		
	Male	Female	Total
1	37.6	62.4	100.0
2	39.5	60.5	100.0
3	44.5	55.5	100.0
4	43.4	56.6	100.0
5	38.2	61.8	100.0
6	40.6	59.4	100.0
System Average	40.1	59.9	100.0

[a] Individual route percentages are based upon total route ridership, including transfer passengers. The system average percentage is based upon total revenue passengers.

Source: SEWRPC.

Socioeconomic Characteristics: The socioeconomic characteristics considered the most relevant to the transit planning process are sex, race, ethnic background, age, income, vehicle driver license status, and automobile availability.

As indicated in Table 25, the vast majority--about 60 percent--of riders using the routes of the Kenosha transit system were female. This is consistent with national figures which indicate that women have traditionally comprised the majority of transit ridership. However, the survey shows that the number of men using the transit system had risen significantly since 1972, from about 31 percent in 1972 to about 40 percent in 1980.

Table 26

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM BY RACE BY ROUTE: APRIL 22-APRIL 24, 1980

Route Number	Percent of Ridership by Race[a]					
	Black	White	American Indian	Asian or Pacific Islander	Other	Total
1	5.2	94.3	0.5	--	--	100.0
2	4.1	94.8	--	1.1	--	100.0
3	17.8	79.9	0.6	0.6	1.1	100.0
4	0.6	98.4	1.0	--	--	100.0
5	27.1	69.2	2.4	--	1.3	100.0
6	3.3	96.7	--	--	--	100.0
System Average	8.1	90.4	0.8	0.4	0.3	100.0

[a]Individual route percentages are based upon total route ridership, including transfer passengers. The system average percentage is based upon total revenue passengers.

Source: SEWRPC.

Nearly 91 percent of the surveyed riders were white, while 8 percent of the surveyed riders were black. The remainder of those surveyed belonged to relatively small racial groups. Table 26 provides a complete tabulation of route ridership by race. By comparison, about 94 percent of the city population is white, while about 6 percent of the total city population is black or belongs to other racial groups. As shown in Table 27, approximately 3 percent of the system riders responding to the survey were of Hispanic origin, slightly less than the proportion of persons of this ethnic background in the total city population.

Table 27

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM OF HISPANIC DESCENT BY ROUTE APRIL 22-APRIL 24, 1980

Route Number	Percent of Ridership[a]		
	Hispanic Descent	Other	Total
1	4.0	96.0	100.0
2	1.8	98.2	100.0
3	4.0	96.0	100.0
4	3.0	97.0	100.0
5	4.0	96.0	100.0
6	5.0	95.0	100.0
System Average	3.2	96.8	100.0

[a]Individual route percentages are based upon total route ridership, including transfer passengers. The system average percentage is based upon total revenue passengers.

Source: SEWRPC.

Regarding age groups, use of the transit system by school-age children and college-age students was prominent. Secondary school-aged riders 13 through 18 years of age accounted for about 57 percent of total ridership. By comparison, school-age children between 10 and 18 years of age accounted for about 16 percent of the total city population in 1980. An additional 11 percent of riders were between the ages of 19 and 24. Elderly persons 65 years of age or older accounted for about 8 percent of total ridership. Elderly persons accounted for about 12 percent of the total city population in 1980. Riders between the ages of 25 and 54, the age bracket that represents the bulk of the labor force,

accounted for only about 16 percent of total ridership. A complete tabulation of ridership by age bracket is presented in Table 28.

About 36 percent of transit riders surveyed who responded to the question on income reported a family income of less than $10,000 per year. Another 17 percent reported an income of between $10,000 and $15,000 per year, while only 11 percent reported an income of $30,000 or more per year. Table 29 provides a complete tabulation of ridership by income. It is important to note that over 30 percent of the riders surveyed did not report the family income characteristic. This could be attributed to the large percentage of school-aged children unaware of annual household income. This large percentage of respondents not reporting family income makes it difficult to accurately describe the income characteristics of the transit users. However, the median family income of transit riders responding to this question was about $13,500 per year. The median family income of the entire City of Kenosha population was about $23,800 in 1980.

About 61 percent of the riders surveyed indicated that they did not possess a driver's license, and about 39 percent indicated that they did. A somewhat higher percentage of females than males--59 percent versus 41 percent--did not possess a license. This would indicate that a large percentage of "captive" riders, those who are unable to use other means of transportation, utilize the transit system.

As noted in Chapter III, automobile availability is generally considered to be an important factor influencing transit usage. Those households that do not own an automobile are dependent upon other persons or other transportation modes for the provision of essential transportation services. In those households where a single automobile is available and it is preempted for use by some member or members of the household, the remaining household members become dependent upon others or other modes for tripmaking. Of those responding to the survey, about 19 percent indicated that they resided in households with no automobile available, and an additional 30 percent indicated that they resided in households with only one automobile available. By comparison, about 11 percent of all households within the City did not own an automobile, and about 42 percent owned only one automobile in 1980. Table 30 provides a complete tabulation of auto availability by household size for the surveyed transit ridership. It is interesting to note the relatively large number of riders--about 32 percent--residing in households with two 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.

From the socioeconomic data gathered in the survey, a profile of the typical rider on the Kenosha transit system can be drawn. The typical transit rider would be a white female between the ages of 13 and 24, not possessing a driver's license, and residing in a household of three or more persons with an annual income of less than $15,000.

Trip Characteristics: In addition to information on the socioeconomic characteristics of the transit riders, survey data were also collected concerning trip characteristics. Specifically, data were collected on the home location and the origin and destination of each transit rider, the trip

Table 28

PERCENT DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM BY AGE BY ROUTE: APRIL 22-APRIL 24, 1980

Route Number	Percent of Ridership by Age Group[a]						
	6-12	13-18	19-24	25-54	55-64	65 and Older	Total
1	1.4	58.7	18.1	9.0	3.0	9.8	100.0
2	1.2	56.8	10.2	16.0	7.2	8.6	100.0
3	0.6	58.4	11.6	16.2	7.2	6.0	100.0
4	5.3	53.6	11.2	14.7	6.3	8.9	100.0
5	3.3	58.7	10.4	16.9	5.2	5.5	100.0
6	1.7	18.1	13.4	30.0	11.8	25.0	100.0
System Average	2.4	56.9	10.8	15.9	5.6	8.4	100.0

[a] Individual route percentages are based upon total route ridership, including transfer passengers. The system average percentage is based upon total revenue passengers.

Source: SEWRPC.

Table 29

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM BY FAMILY INCOME BY ROUTE: APRIL 22-APRIL 24, 1980

Route Number	Percent of Ridership by Income Level[a]							
	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
1	19.0	16.5	13.1	22.2	15.6	4.3	9.3	100.0
2	24.1	14.1	20.6	10.9	7.6	9.0	13.7	100.0
3	17.6	23.0	12.4	12.3	10.7	11.1	12.9	100.0
4	15.5	16.2	16.3	18.3	11.7	10.7	11.3	100.0
5	16.4	25.3	21.3	6.2	9.7	7.0	14.1	100.0
6	29.4	17.6	11.8	19.7	3.7	7.9	9.9	100.0
System Average	18.4	17.5	16.9	15.7	11.0	9.1	11.4	100.0

[a] Individual route percentages are based upon total route ridership, including transfer passengers. The system average percentage is based upon total revenue passengers.

Source: SEWRPC.

purpose of each rider, the time of day for each trip start, and the mode of travel to reach the boarding location of each bus passenger. These trip characteristics are summarized below.

As would be expected, the vast majority of tripmakers using the Kenosha transit system reside within the City of Kenosha--approximately 94 percent. Other civil divisions within the District having a significant number of residents utilizing the transit system are the Towns of Pleasant Prairie and Somers, with each contributing about 3 percent of the total transit system riders. The distribution of home residences by traffic analysis zone of transit system riders is shown on Map 23.

Table 30

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM BY AUTOMOBILE AVAILABILITY AND HOUSEHOLD SIZE: APRIL 22-APRIL 24, 1980

Household Size	Percent of Revenue Passengers By Number of Vehicles Available				
	None	One	Two	Three or More	Total
One Person.....	9.2	1.9	--	--	11.1
Two Persons.....	5.1	7.5	1.9	0.3	14.8
Three Persons.....	1.6	5.7	5.4	1.2	13.9
Four Persons.....	2.1	7.4	10.2	4.9	24.6
Five Persons.....	0.6	4.3	6.5	6.9	18.3
Six or More Persons...	0.8	3.0	7.9	5.6	17.3
Total	19.4	29.8	31.9	18.9	100.0

Source: SEWRPC.

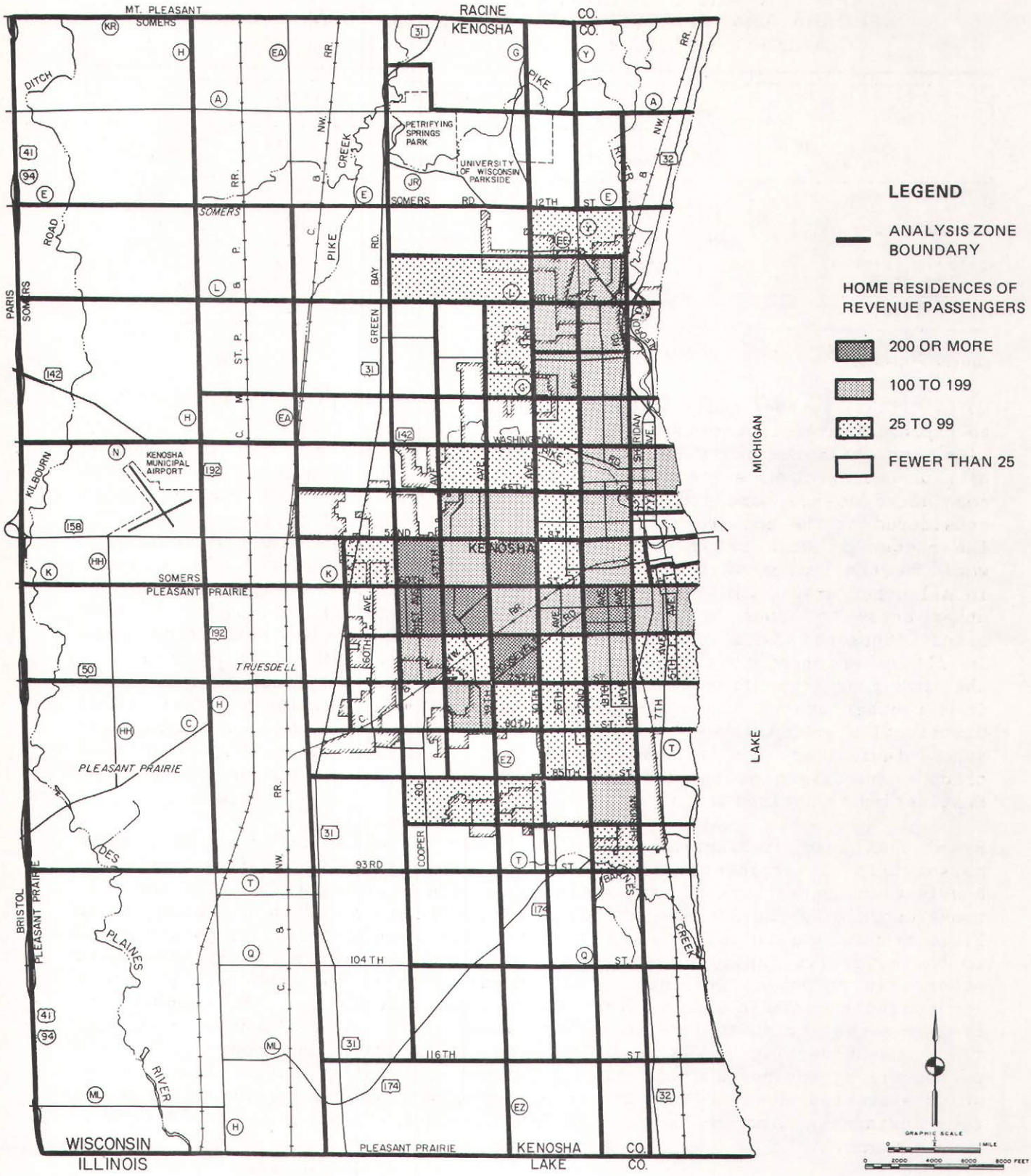
To facilitate further analysis of person trip characteristics, it is convenient to express travel in terms of trip ends, one end of the trip being the "production" end while the other end is termed the "attraction" end. For trips beginning or ending at home--termed "home-based trips"--the production end is always considered as the home end of the trip, while the attraction end is always considered as the nonhome end, regardless of the actual direction of the trip. The number of work 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 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 the specified area to homes in all other areas. Such a designation is helpful in defining the residential distribution of tripmakers and also the concentrations of work, shopping, and school facilities. For trips having neither end at home--termed "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, Map 24 illustrates the distribution of transit person trip attractions by traffic analysis zone within the study area. The heaviest concentrations of trip attractions were located in the three analysis zones containing the Kenosha central business district, which attracted about 2,220 transit person trips. The majority of the transit person trips attracted to these traffic analysis zones were for home-based shopping and home-based other trip purposes, indicating the concentration of business establishments located within the downtown area. Other zones attracting large numbers of transit person trips include: the zone north of the City of Kenosha which contains the University of Wisconsin-Parkside, which attracted about 270 transit person trips; the zones which contain Tremper and Bradford Senior High Schools, which attracted about 500 and 280 transit person trips, respectively; and the zone containing Lincoln Junior High School, which attracted about 240 transit person trips.

Map 25 illustrates the distribution of transit person trip productions by traffic analysis zone in the study area. In general, the map illustrates the residential concentrations of Kenosha tripmakers.

Map 23

HOME RESIDENCES OF REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: APRIL 22-APRIL 24, 1980



LEGEND

ANALYSIS ZONE BOUNDARY

HOME RESIDENCES OF REVENUE PASSENGERS

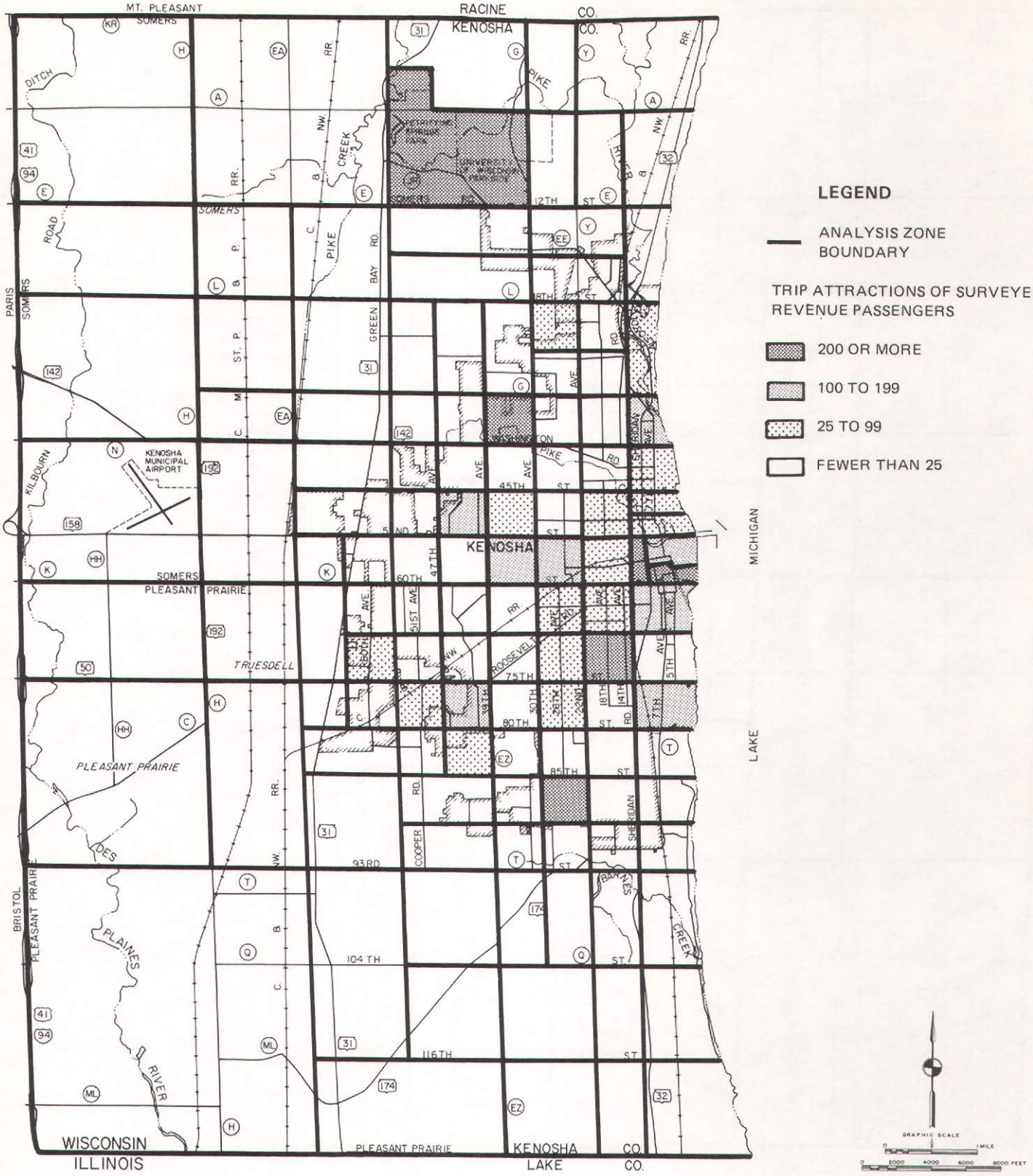
- 200 OR MORE
- 100 TO 199
- 25 TO 99
- FEWER THAN 25

GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 8000 FEET

Source: SEWRPC.

Map 24

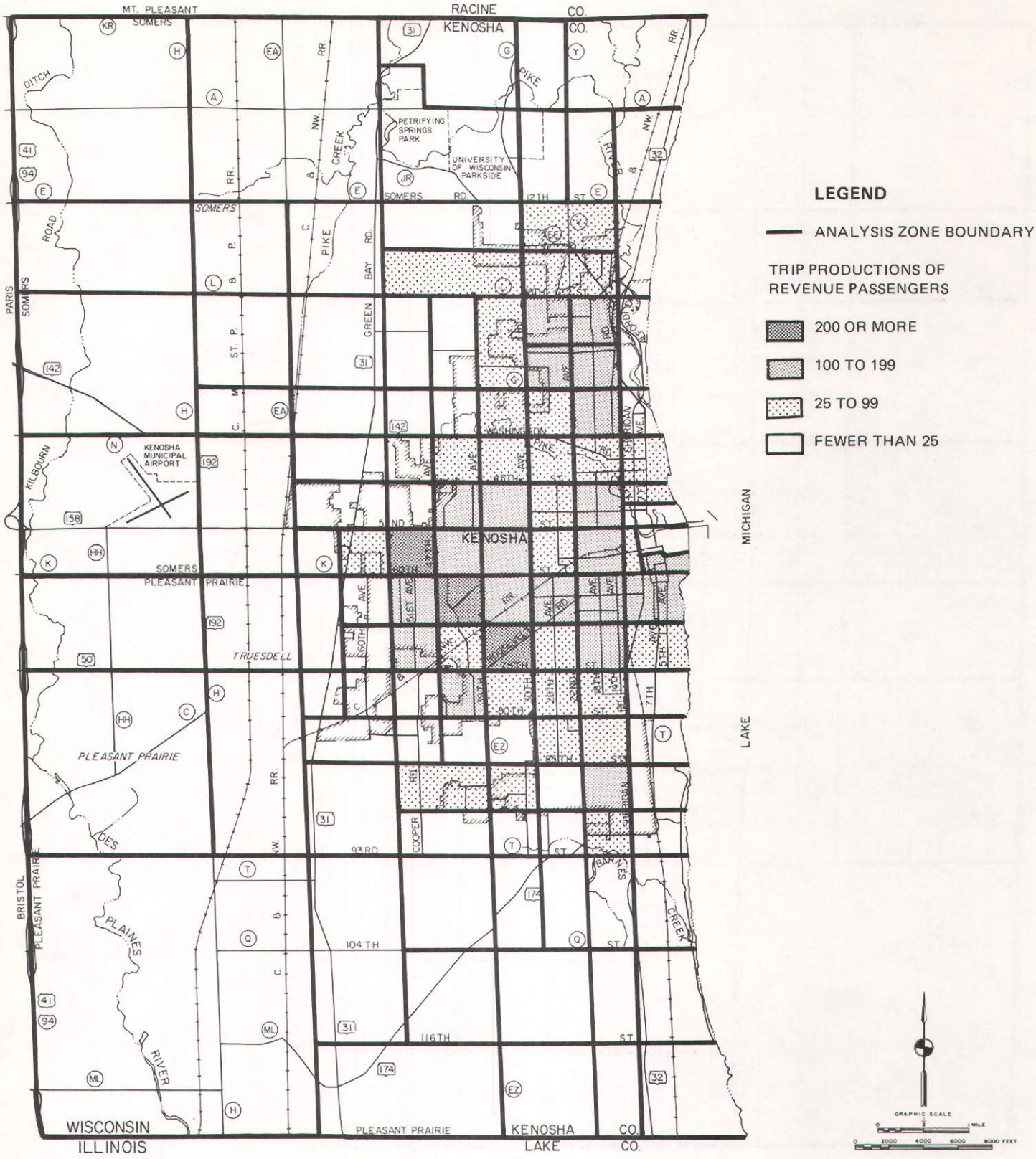
TRIP ATTRACTIONS OF REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: APRIL 22-APRIL 24, 1980



Source: SEWRPC.

Map 25

TRIP PRODUCTIONS OF REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM: APRIL 22-APRIL 24, 1980



Source: SEWRPC.

Table 31

PERCENTAGE DISTRIBUTION OF TRIP ORIGINS AND TRIP DESTINATIONS ON THE KENOSHA TRANSIT SYSTEM BY PURPOSE: APRIL 22-APRIL 24, 1980

Origin of Trip	Percent of Total Transit Trips	Destination of Trip	Percent of Total Transit Trips
Home	57.4	Home	36.8
Work	10.2	Work	11.5
School	19.9	School	35.5
Shopping	4.8	Shopping	5.5
Social-Recreational	4.5	Social-Recreational	5.8
Personal Business	3.2	Personal Business	4.9
Total	100.0	Total	100.0

Source: SEWRPC.

The importance of home or school as either trip origin or trip destination is shown in Tables 31 and 32. Only about 3 percent of all transit users made trips that did not either start or end at home or school. The plurality of trips on the transit system were school-related, with about 55 percent of the transit trips being school-based. Home-based work trips comprised the second largest category of tripmaking, with about 20 percent of transit trips being made for this purpose.

The hourly distributional pattern of transit riders is shown in Figure 11. This figure indicates that most of the travel on the transit system occurs during two peak periods of transit ridership, between the hours of 7:00 a.m. and 8:00 a.m. and 3:00 p.m. and 5:00 p.m., with approximately 55 percent of the total daily ridership occurring during these two periods. The ridership peak occurring between 7:00 a.m. and 8:00 a.m. is the most pronounced and accounts for about 30 percent of the total daily ridership. About 90 percent of the trips made during this hour are destined to school. Peaking during the afternoon peak period was less sharp than during the morning peak period, with about 25 percent of the total daily ridership occurring during this period. About 84 percent of the trips made during the afternoon peak period are trips returning to home.

Overall, about 98 percent of transit system riders arrived at their initial boarding location by walking. Fewer than 2 percent of the transit system riders used an automobile to get to their initial bus-boarding location, with almost all of these users being automobile passengers dropped off at the bus stop.

Transfer Movement: As part of the on-bus survey, information was collected on the transfer movement between bus routes of all boarding passengers. Approximately 23 percent of the revenue passengers surveyed indicated that they would transfer to a different bus route to complete their trip. Table 33 summarizes transfer movements by route for passengers transferring between routes. The largest transfer movement occurred between Route 3 and Route 4, with approximately 17 percent of all transfers systemwide occurring between these two routes. Other significant transfer movements were observed between Route 2 and Route 4, with approximately 11 percent of all systemwide transfers, and between Route 3 and Route 5, with about 8 percent of all systemwide transfers.

Financial Status

The total operating budget for the City of Kenosha federally assisted public transportation program for calendar year 1983 was $1,821,100. Revenue from bus passenger fares for this period is expected to amount to about $275,200, leaving an operating deficit of $1,545,900. To cover the shortfall in farebox revenues in 1983, it is anticipated that the U. S. Department of Transportation, Urban Mass Transportation Administration (UMTA), will provide about $772,950, or about 50 percent; the Wisconsin Department of Transportation (WisDOT) will provide about $548,100, or about 35 percent; the Kenosha Unified School District will provide about $132,650, or about 9 percent; and the City of Kenosha will provide about $92,200, or about 6 percent. Projected total ridership for calendar year 1983 on the City of Kenosha's federally assisted transit service is 1,275,000 revenue passengers. Based on these figures, the City of Kenosha public transportation program is projected to provide transportation service to the general public at a total cost of about $1.43 per revenue passenger in 1983 and at a net public subsidy cost supported by federal, state, and local tax dollars of $1.21 per revenue passenger, of which UMTA provides about $0.61, WisDOT provides $0.43, the Kenosha Unified School District provides about $0.10, and the City of Kenosha provides $0.07.

Table 32

PERCENTAGE DISTRIBUTION OF TRIPS ON THE KENOSHA TRANSIT SYSTEM BY TRIP PURPOSE APRIL 29-MAY 1, 1980

Trip Purpose	Percent of Total Trips
Home-Based Work.....	19.9
Home-Based Shopping...	8.7
Home-Based Other.....	12.8
Nonhome-Based.....	3.3
School Based.....	55.3
Total	100.0

Source: SEWRPC.

Operating expenses have increased dramatically since the City acquired the transit system in 1971. The total operating expense per revenue vehicle hour has increased steadily from $8.89 in 1972 to $28.38 in 1982, representing a relative increase of about 219 percent in operating expense per revenue vehicle hour between 1972 and 1982. A major portion of the increase in operating expenses is attributable to increases in diesel fuel costs and drivers' wages which occurred between 1977 and 1980. Operating expenses experienced a substantial increase--from $751,400 in 1977 to $1,586,000 in 1980, or about

Table 33

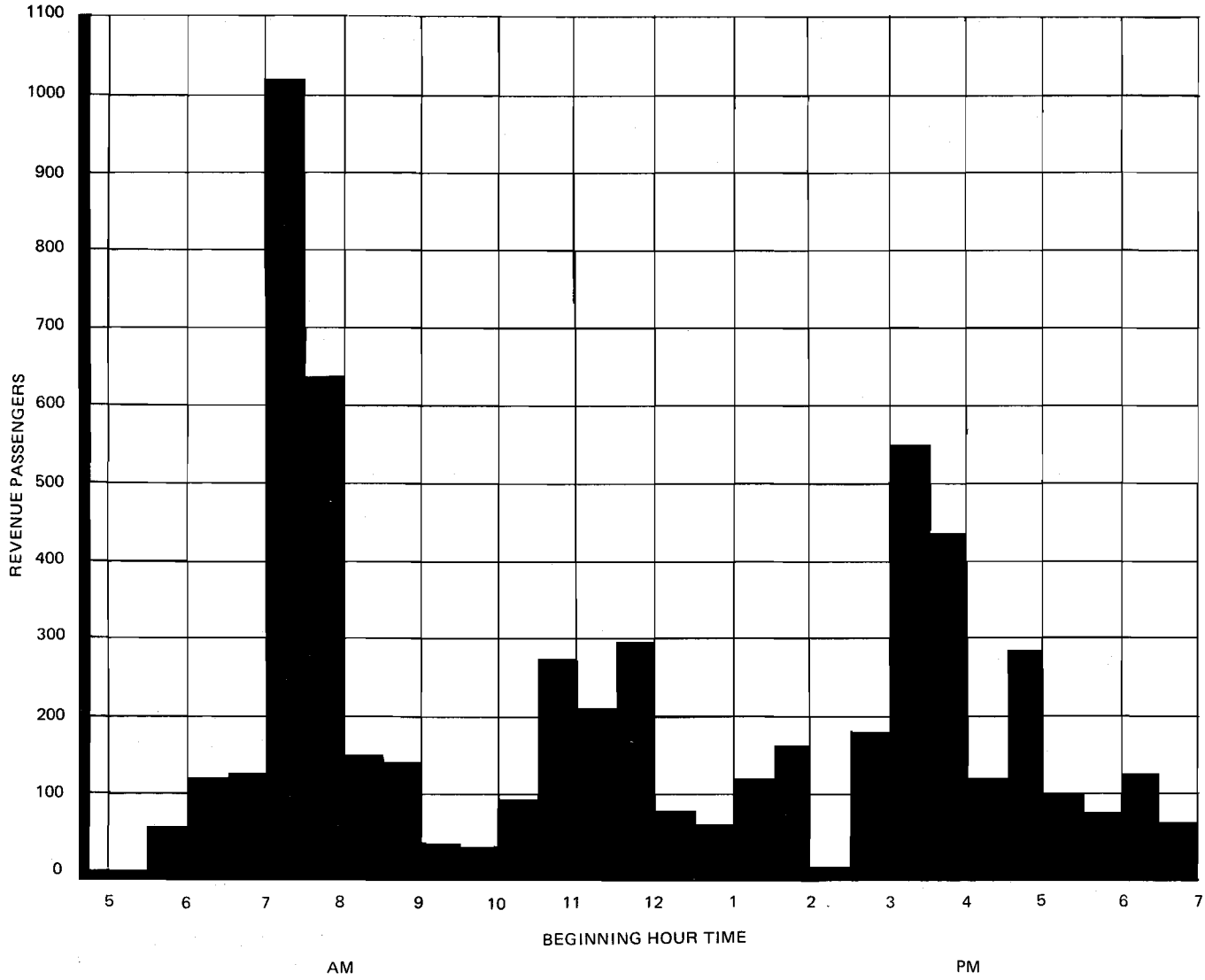
PERCENTAGE DISTRIBUTION OF TRANSFER PASSENGERS ON THE KENOSHA TRANSIT SYSTEM BY ROUTE: APRIL 22-APRIL 24, 1980

Route	Percent of Systemwide Transfer Passengers Transferring to Route:						
	1	2	3	4	5	6	Total
1	--	4.1	2.6	3.3	3.1	3.1	16.2
2	3.3	--	3.9	6.3	2.8	1.7	18.0
3	3.4	0.8	2.6	3.0	3.9	0.9	14.6
4	2.0	5.1	14.1	--	3.4	1.2	25.8
5	3.1	4.2	4.2	1.1	0.2	0.2	13.0
6	2.2	0.7	5.8	2.2	--	1.5	12.4
Total	14.0	14.9	33.2	15.9	13.4	8.6	100.0

Source: SEWRPC.

Figure 11

HOURLY DISTRIBUTION OF RIDERSHIP ON THE KENOSHA TRANSIT SYSTEM: APRIL 22-APRIL 24, 1980



Source: SEWRPC.

111 percent over the four-year period. Operating expense per passenger increased from $0.57 in 1972 to $1.28 in 1982, or by about 125 percent. The smaller increase in operating cost per passenger can be attributed to the growth in ridership since 1972. Table 34 provides a summary of operating expenses.

Operating revenue for the transit system also increased between 1972 and 1982 (see Table 34). Operating revenue per revenue vehicle hour increased by about 81 percent, from $3.65 in 1972 to $6.62 in 1982. Operating revenue per passenger increased slightly from $0.23 in 1972 to $0.30 in 1982. Between 1972 and 1979 the revenue per passenger remained relatively stable, reflecting the fact that the fare structure for the transit system remained unchanged during

Table 34

OPERATING EXPENSES, REVENUES, AND DEFICITS OF THE KENOSHA TRANSIT SYSTEM: 1972-1982

Year	Revenue Passengers	Operating Expenses[a]	Operating Revenues[a]	Operating Deficit[a]	
				Total	Local Share[b]
1972[c]	503,200	$ 287,000	$117,900	$ 169,100	$ --
1973	572,800	289,300	147,500	141,800	--
1974	687,900	376,800	180,700	196,100	65,300
1975	766,800	479,600	189,300	290,300	48,000
1976	973,400	660,900	245,600	319,700	82,500
1977	1,064,400	751,400	260,800	490,600	97,300
1978	1,154,000	921,900	284,000	637,900	155,000
1979	1,323,500	1,059,000	348,600	710,400	82,600
1980	1,342,900	1,586,000	350,100	1,235,900	217,800
1981	1,274,700	1,707,900	361,200	1,346,700	175,300
1982	1,224,100	1,569,400	366,300	1,203,100	67,000

[a] Per Wisconsin Department of Transportation guidelines.

[b] City of Kenosha share only.

[c] 1972 represents the first full year of operations for the Kenosha transit system.

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

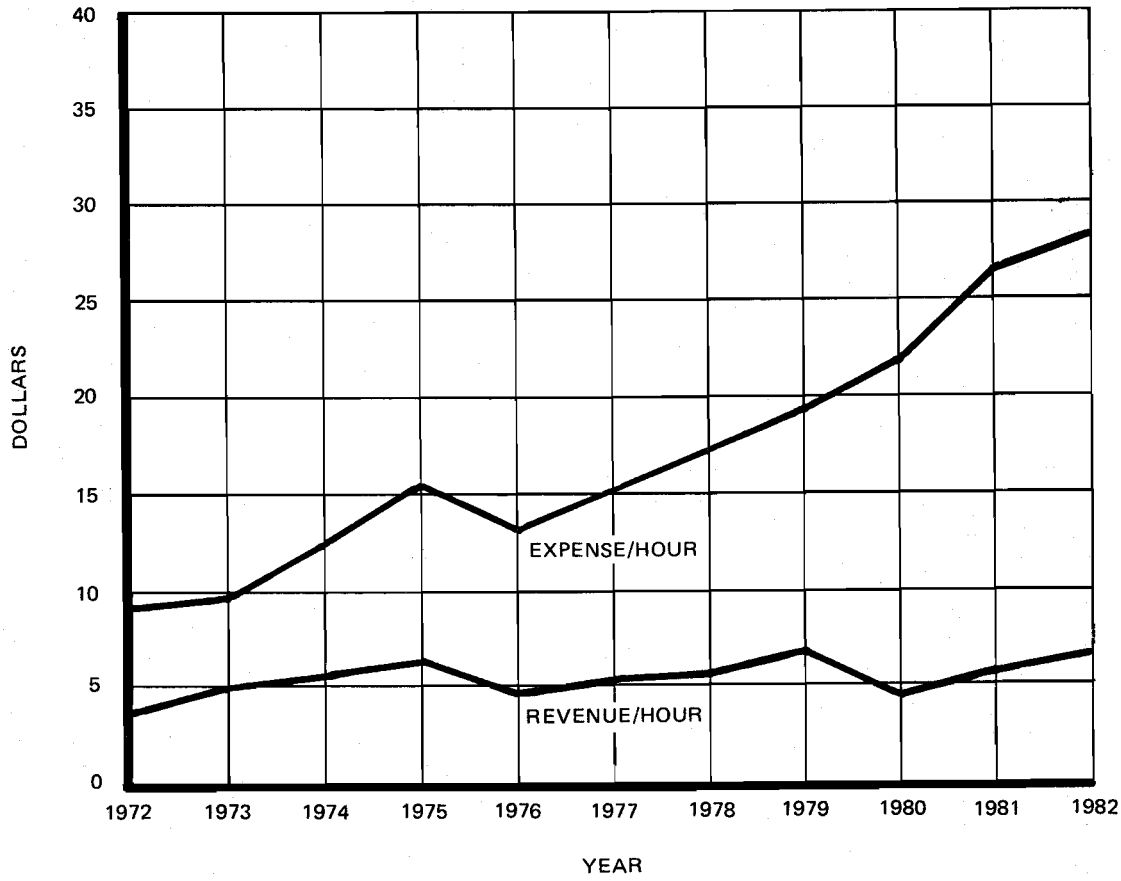
this time. The major reason for the increases in operating revenue per passenger between 1979 and 1982 was the fare increases implemented by the transit system in 1979 and again in mid-1981. The full effects of the 1981 fare increase on revenues per passenger are shown in the figure in Table 34 for 1982. Figures 12 and 13 graphically compare costs and revenues per hour to costs and revenues per passenger, respectively.

A comparison between costs and revenue indicates that the absolute deficit for operations has increased substantially since the City began public operation of the transit system in mid-1971. Between 1972--the first full year of public operation--and 1982, the total absolute operating deficit for the transit system increased more than eight times the 1972 operating deficit. Due primarily to the significant increases in transit ridership on the transit system, the operating deficit per passenger has not followed this trend to the same extent. After an initial decrease from $0.34 in 1972 to $0.25 in 1973, the operating deficit per passenger slightly increased to $0.38 in 1975, only to decrease again to $0.33 in 1976. From 1976 to 1982, the operating deficit per passenger increased steadily, with the most dramatic increase occurring between 1979 and 1980, when the deficit per passenger increased from $0.59 to $0.92, or by about 56 percent. As already noted, this period was marked by substantial increases in operating expenses for the transit system. While the transit system did increase fares over the period, the increases were not sufficient to generate enough additional passenger revenue to offset increases in operating expenses, resulting in the significant increases in operating deficits.

As with 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 operating deficit of the Kenosha transit system. The City has also benefited from the availability of operating assistance from the State through the Wisconsin Department of Transportation. Together, operating

Figure 12

OPERATING EXPENSE AND REVENUE PER HOUR FOR THE KENOSHA TRANSIT SYSTEM: 1972-1982



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

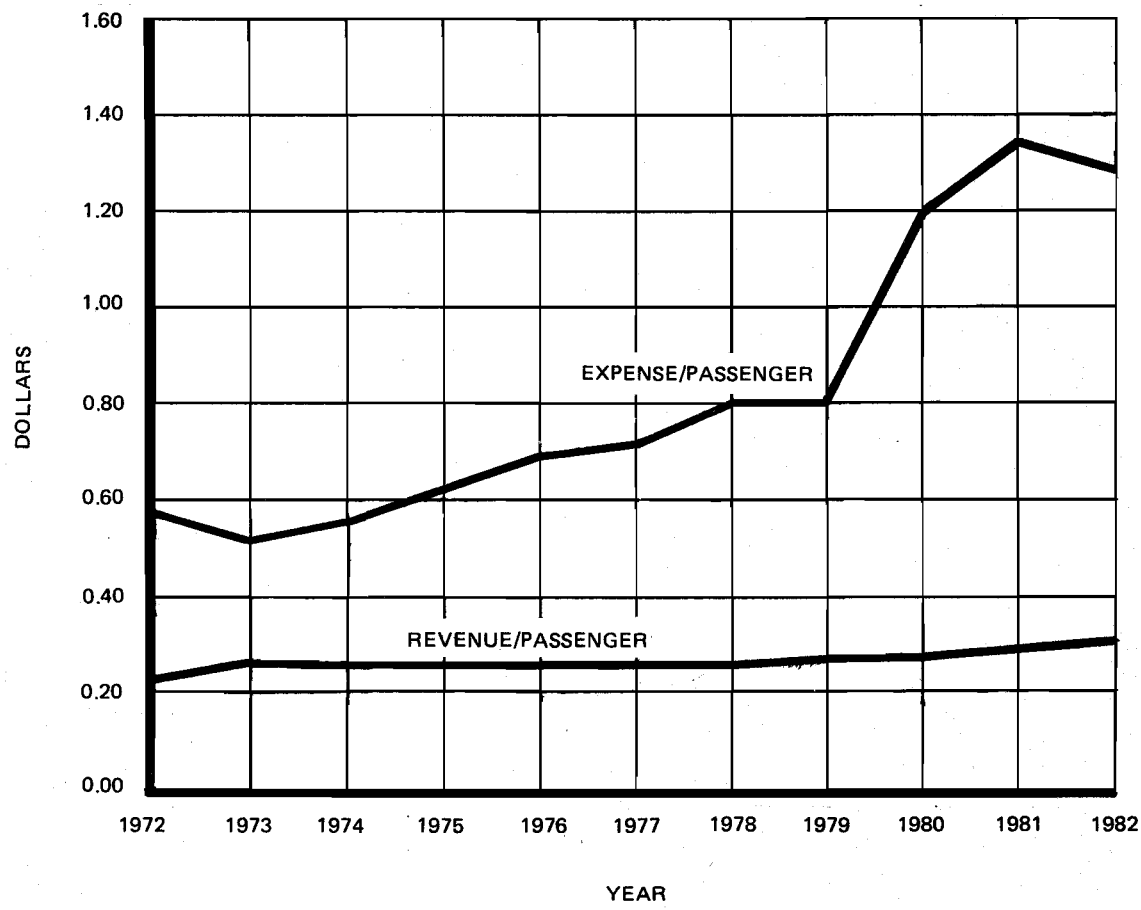
assistance funds from these two sources have reduced the local share of the transit system operating deficit which must be paid by the City of Kenosha. The City's share of the operating deficit per passenger has fluctuated between 1974 and 1982 from $0.06 per passenger in 1975 and 1979 to a high of $0.16 per passenger in 1980, and back down to $0.05 per passenger in 1982. The return to a lower deficit per passenger for the City in 1982 can be attributed primarily to a change in the method for allocating state transit operating assistance funds, which increased available state assistance funds for the transit system in 1982. Figure 14 graphically compares the total operating deficit per passenger and the City's share of the deficit per passenger for the transit system.

Implementation Status of Previous Plan Recommendations

As previously noted, the Regional Planning Commission, in cooperation with the City of Kenosha, completed a transit system plan and program for the Kenosha urbanized area in January 1976. The transit system plan and program was intended to provide a guide to future action by the City regarding the provision of public transit service for the Kenosha area. As such, the study addressed not only the continued need for public transit service in the area,

Figure 13

OPERATING EXPENSE AND REVENUE PER PASSENGER FOR THE KENOSHA TRANSIT SYSTEM: 1972-1982



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

but also desirable transit service levels, operating policies, ownership and management, and capital improvements required to maintain and improve transit service in the area. Specifically, the following recommendations were contained in the initial transit system planning program:

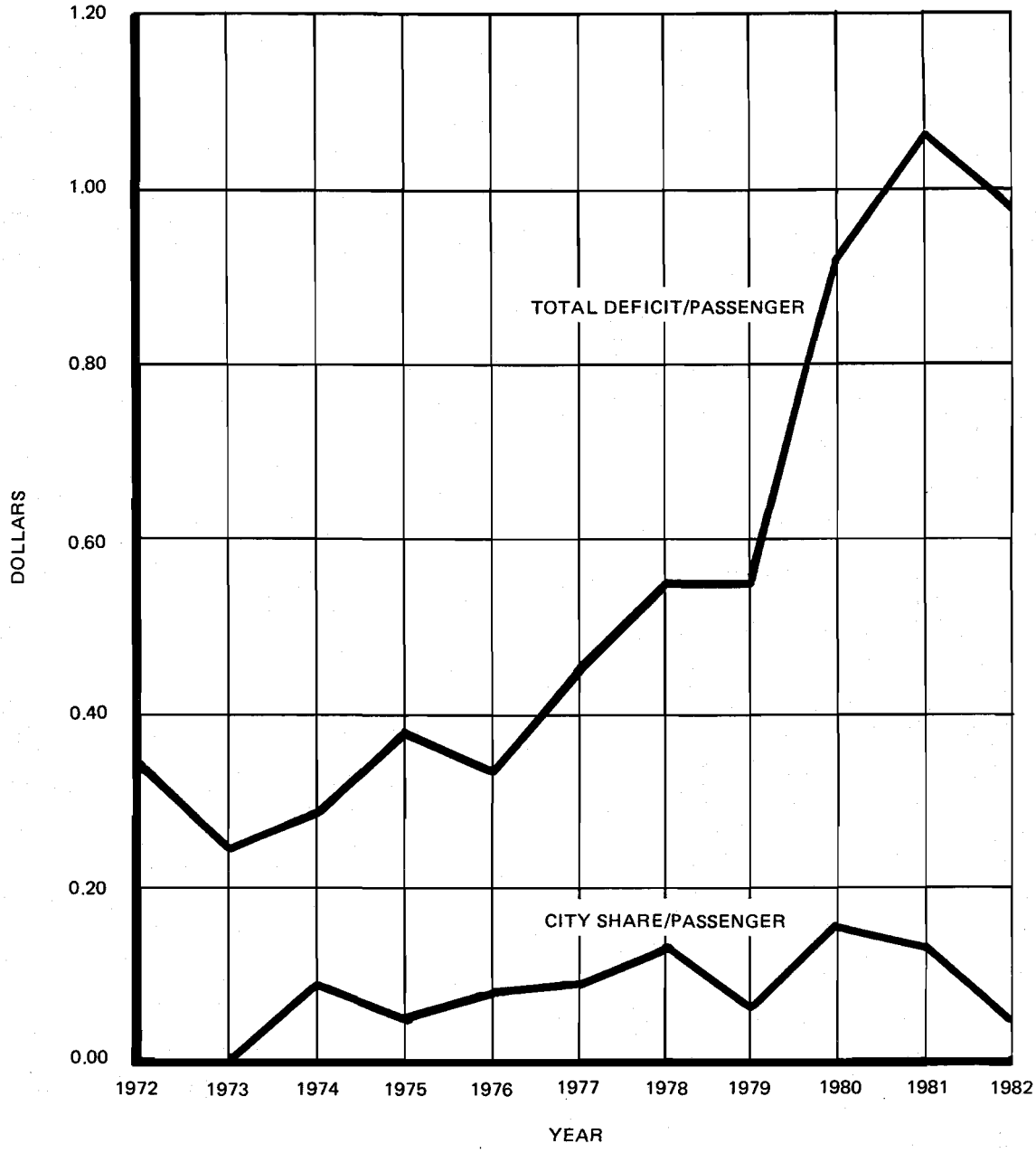
1. That adjustments be made in the configuration and scheduling of the then-existing five-route, regular local city system to increase total route coverage, eliminate unnecessary duplication of service, provide essential service to important travel generators, and coordinate transfers between intersecting routes.

2. That a sixth regular local city bus route be added to serve those areas without adequate coverage by the regular five-route system.

3. That a series of headway reductions be initiated whereby peak-hour headways would be reduced to 30 minutes in 1976; off-peak headways reduced to 30 minutes in 1977; and peak-hour headways further reduced to 20 minutes in 1978.

Figure 14

OPERATING DEFICIT PER PASSENGER FOR THE KENOSHA TRANSIT SYSTEM: 1972-1982



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

4. That the transit system install passenger waiting shelters at various locations throughout the City.

5. That a professional transit planner be hired by the City of Kenosha Department of Transportation to assume part of the increased responsibilities of the management staff.

6. That a demand-responsive transit service be established to serve the elderly and handicapped within the transit service area.

7. That an on-board bus survey be conducted to aid in the design of route and schedule changes based upon the surveyed travel patterns of the transit patrons.

8. That a unified marketing program be developed and initiated.

9. That a technical study be conducted to institute a uniform system of accounts and record-keeping as required under Section 15 of the Urban Mass Transportation Act of 1964, as amended.

The transit system plan and program was adopted by the Kenosha Common Council in March 1976. Since that time, the following progress in implementing the above recommendations has been made as of July 1983:

1. Adjustments were made to the alignment of several regular local bus routes between 1976 and 1978 to provide transit service to the residential areas and major traffic generators which were recommended to be served by the transit system.

2. A sixth regular local city bus route serving major outlying shopping areas of the City was added to the transit system in January 1978. The bus route implemented by the City covered the major portion of the sixth route recommended for implementation in the initial transit system plan and program.

3. Peak-hour headways on the transit system were reduced from 60 minutes to 30 minutes in 1976 on the regular local five routes operated at that time. Off-peak-period headways on the transit system were reduced from 60 minutes to 30 minutes in April 1980 on the six regular routes operated by the City at that time. However, off-peak-period headways were increased again to 60 minutes in June 1981 when significant increases in transit ridership failed to materialize. Further reductions in peak-period headways have not been considered.

4. Since the completion of the initial transit system plan and program, the City has constructed a total of 29 bus shelters at various locations throughout the City.

5. The hiring of an additional professional staff member has been deferred until additional funding from federal, state, or local sources is made available.

6. Rather than implement and operate its own demand-responsive, specialized transportation program, the City of Kenosha has provided financial support since 1978 to existing specialized transportation programs

serving the elderly and handicapped population within its transit service area. The transit system currently provides financial support to the Kenosha Achievement Center for a project (Project Accessibility) which provides door-to-door and door-through-door specialized transportation service to the elderly and handicapped population within the Kenosha Urban Planning District. The 1983 budget for the Kenosha transit system includes approximately $50,000 in financial support for this project. The project is described in more detail in a later part of this chapter.

7. An on-board bus survey of transit system passengers was conducted by the Regional Planning Commission on April 22 through April 24, 1980. The results of this survey were documented in a previous section of this chapter.

8. Since completion of the initial transit system plan and program in 1976, the City of Kenosha has taken a more aggressive attitude toward promoting mass transit. A marketing program has been established and is carried out by the City Department of Transportation. The program is primarily aimed at disseminating user information to all persons in the City who might avail themselves of the bus service offered by the transit system. In this respect, the program has included spot radio and newspaper campaigns and the printing of bus schedules and maps. Telephone information service is also available through the office of the City Department of Transportation.

9. The Kenosha Department of Transportation implemented the uniform system of accounts and records in January 1978, as required by federal regulation.

OTHER PUBLIC TRANSIT SERVICES

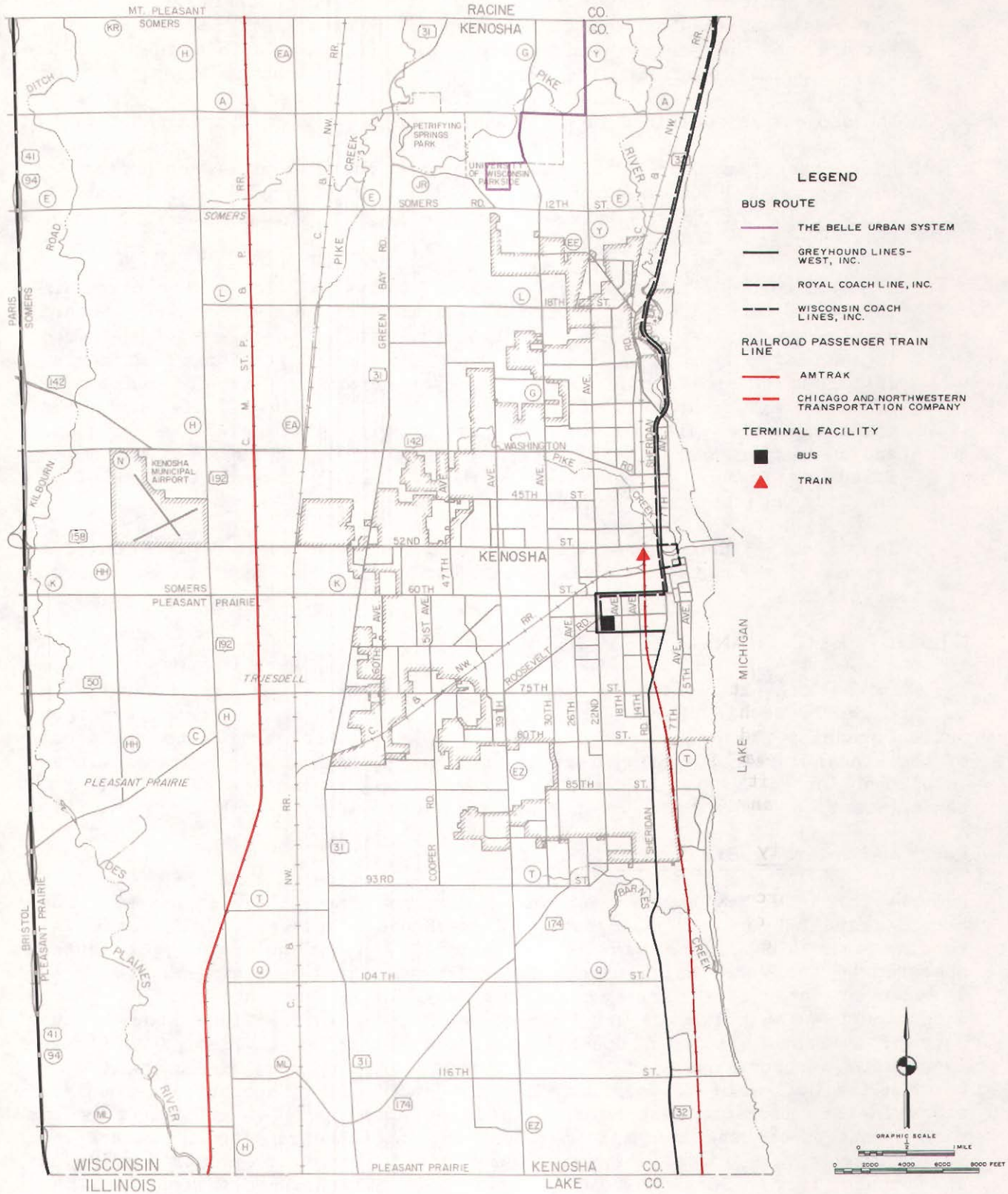
The Kenosha transit system is the only urban common carrier licensed to operate wholly within the Kenosha urbanized area. However, a number of other public agencies and private companies provided transit service to residents of the Kenosha Urban Planning District in 1983. These transit services included local and intercity bus service, commuter railway passenger train service, taxicab service, and specialized transportation services.

Local and Intercity Bus Service

Suburban or intercity bus service in the Kenosha Urban Planning District was provided in 1983 on a regular basis by Greyhound Lines-West, Inc., and Wisconsin Coach Lines, Inc. Map 26 identifies the location of the bus routes operated by these companies within the District. Greyhound Lines-West, Inc., a licensed interstate carrier, operated two local bus runs daily in each direction between Milwaukee and Chicago, making an intermediate stop in the City of Kenosha. Wisconsin Coach Lines, Inc., which is limited primarily to intrastate service, operated eight bus runs in each direction each weekday between the Cities of Kenosha and Milwaukee, with several other intermediate stops in the District. Wisconsin Coach Lines also operated six bus runs in each direction on Saturdays and four bus runs in each direction on Sundays and holidays over this route. The two companies share common terminal facilities at Kenosha Travel Services, Inc., located at 2105 Roosevelt Road, and the

Map 26

ADDITIONAL BUS AND RAILWAY SERVICE IN THE KENOSHA URBAN PLANNING DISTRICT: AUGUST 1983



Source: SEWRPC.

terminal is directly served by the local bus system. In addition to Greyhound Lines-West and Wisconsin Coach Lines, Royal Coach Lines, Inc., operated five scheduled trips in each direction on weekdays between Milwaukee and O'Hare International Airport in Chicago, with stops in the District at STH 50 and IH 94. The City of Racine provides fixed route local bus service on one route between the University of Wisconsin-Parkside and the Racine central business district. At the University of Wisconsin-Parkside cash transfers can be made between the Kenosha transit system and the system serving the City of Racine.

Commuter Railway Passenger Service

Commuter railway passenger service in the Kenosha Urban Planning District was provided in 1983 by the Chicago & North Western Transportation Company (C&NW). The C&NW operates nine trains departing Kenosha southbound to Chicago and eight trains departing Chicago northbound to Kenosha on weekdays. Six trains depart Chicago northbound to Kenosha and four trains depart Kenosha southbound to Chicago on Saturdays. On Sundays and holidays, three trains operate in each direction between Kenosha and Chicago.

The City of Kenosha is now the only Wisconsin stop on this line. The rail terminal at 5414 13th Avenue provides very convenient turnaround and storage facilities for this railway, making continued service to Kenosha attractive to the railway even if not profitable. While not directly served by the local transit system, the terminal is within two blocks of three of the six regular local city bus routes.

It should be noted that the quasi-public National Railroad Passenger Corporation--Amtrak--operates three passenger trains daily in each direction between Milwaukee and Chicago. These trains operate on a route which traverses the western portion of the Kenosha Urban Planning District. While two of the three trains in each direction stop in the Village of Sturtevant in Racine County, no scheduled stops are made within the District.

Taxicab Service

Taxicab service was provided in the Kenosha Urban Planning District during 1983 by six private taxicab companies: Black and White Veterans' Cab Company; Checker Cab Company; Courtesy Cab Company; Keno Cab Company; Peppie's Cab Company; and Yellow Cab Company. While licensed to operate within the City of Kenosha, all six taxicab companies provide service throughout the Kenosha Urban Planning District as well as to the major airports of General Mitchell Field in Milwaukee and O'Hare International Airport in Chicago. All six companies provide service on a shared-ride basis, where more than one fare may occupy the cab at the same time. Fares are charged based on a zone system, with a base or minimum fare of $2.00 and additional charges based upon the number of zones crossed. Additional passengers traveling from the same point of origin to the same destination ride for $0.75 for adults, and $0.50 for children under 12. The six taxicab companies operate 24 hours a day, seven days a week, with Black and White Veterans' Cab Company, Checker Cab Company, Keno Cab Company, and Yellow Cab Company operating a total of three taxicabs per shift during the summer season and a total of six taxicabs per shift during the winter season. Courtesy Cab Company and Peppie's Cab Company operate a total of three taxicabs per shift during the summer season and four taxicabs per shift during the winter season.

Specialized Transportation Services

In addition to the above transportation services available to the general public, specialized transportation services are provided to members of certain population groups within the District. During 1983, the major providers of these services were the Kenosha Unified School District and the Kenosha County Department on Aging.

The Kenosha Unified School District provides transportation to and from public, private, and parochial schools for all pupils who reside in the school district 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 students living less than two miles from the nearest public school they are entitled to attend when students 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 4,000 students residing within the Kenosha Urban Planning District, of whom about 700 students reside in the City of Kenosha, about 2,200 students reside in the Town of Pleasant Prairie, and about 1,100 students reside in the Town of Somers. In addition, some students eligible for transportation within the school district and residing within the service area of the Kenosha transit system are provided with special student tickets (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 and Parking Commission for each ticket collected. About 1,750 students within the school district were eligible for tickets issued by the school district during the 1982-1983 school year.

The Kenosha County Department on Aging serves in a supervisory capacity and administers three major projects for specialized transportation provided under contract by the Kenosha Achievement Center. The transportation service system is the only totally accessible transportation service available within the Kenosha Urban Planning District. The Kenosha Achievement Center owns and operates 13 specialized transportation vehicles, 11 of which are wheelchair lift-equipped. These specialized transportation projects are intended to serve both elderly persons, identified as 60 years of age or older, and handicapped persons with any disability who do not have physical, economic, or geographic accessibility to other means of transportation. Service priorities for scheduling trips have been established as follows:

1. Trips for medical, nutritional, and work-related activities are given first priority in that order;

2. Personal business trips are given second priority; and

3. Trips for social and/or recreational activities are given lowest priority.

Reservations must be made 24 hours in advance, which makes it possible to defer or deny requests for nonprioritized trips when the total requests for trips exceeds the available transportation capacity. Daily dispatching further permits late calls for the three major trip priorities to supersede the nonprioritized travel when the capacity of the service falls short of the demand placed upon it. A detailed analysis of the three major projects follows.

The first major project, Project Accessibility, provides the entire Kenosha Urban Planning District--identified as east of IH 94--with door-to-door and door-through-door services, Monday through Saturday, 8:30 a.m. to 7:00 p.m., with one vehicle available on Saturday evenings. Reservations are encouraged to be made between 10:00 a.m. and 3:30 p.m. to facilitate scheduling changes possibly necessitated by trip priorities. Enrollment into the program is obtained when a person first requests a reservation, at which time enrollment data is obtained which identifies 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 of the same if requested. Continuing previous practices, Kenosha County will require the payment of a $1.00 fare (co-payment) for each one-way trip, including all trip priorities. Exceptions on the co-payment/fare are made on a case-by-case basis for those individuals who are economically unable to pay because of their low income. Special arrangements are made with the elderly nutrition site programs, which issue passes to persons of low income for a three-month period which entitles them to one free ride to the nutrition site along with a fare ride to return home. The program is currently utilized by about 250 individuals enrolled as eligible transportation users. During the first six months of 1983, approximately 5,700 one-way trips, or about 950 one-way trips per month, were made on the services offered under this project administered by the Kenosha Achievement Center. As noted, this program is supported, in part, with funds from the Kenosha transit system.

The second major project, Project Circuit of Care, provides the western, urban portions of Kenosha County, identified as west of IH 94, with door-to-door service, Monday through Friday, 9:00 a.m. to 3:30 p.m. It should be noted that on Tuesdays, service is regularly provided to the City of Burlington in Racine County and to the City of Antioch in Lake County, Illinois, and on Fridays service is regularly provided to the City of Kenosha. Within the City of Kenosha, integration with the Kenosha transit system routes permits access to the major attractions in the City. The program is currently utilized by about 150 individuals enrolled as eligible transportation users. During the first six months of 1983, approximately 4,540 one-way trips, or about 760 one-way trips per month, were made on the services offered under this project. Between 20 and 24 one-way trips were made every Friday to the City of Kenosha.

The third major project, Client Route, provides all of Kenosha County and northern Lake County, Illinois, with door-to-door and curb pick-up transportation service for disabled clientele of public and private organizations providing rehabilitation, training, or employment services to handicapped individuals. Major trip schedules are between 7:00 a.m. and 9:00 a.m. and 3:30 p.m. and 5:30 p.m., with field trips randomly scheduled as necessary. Reservations for Client Route services are made by the intake counselor or case manager for that individual who requires specialized transportation service in order to have access to employment and training programs. Referrals are made by the Wisconsin Division of Vocational Rehabilitation, the Illinois Division of Vocational Rehabilitation, Kenosha County Comprehensive Board, Kenosha County Department of Social Services, and other advocacy agencies serving the handicapped. Kenosha County will exercise its option, on a case-by-case basis, to waive the co-payment requirement for those handicapped persons utilizing this means of transportation. To obtain additional operating revenue for the Client Route service, Kenosha Achievement Center staff will request donations from the passenger's parents or legal guardian to offset

part of the transportation expenses. The program is currently utilized by about 170 individuals enrolled as eligible transportation users. During the first six months of 1983, approximately 27,300 one-way trips, or about 4,550 one-way trips per month, were made on the services offered under this project administered by the Kenosha Achievement Center.

SUMMARY

Urban transit service has been available in the Kenosha Urban Planning District since 1903, when street railway operations were initiated. Public transit service in Kenosha was provided exclusively by streetcars until 1931, when the service was replaced by a system of "trackless trolley" bus routes. Following the dramatic increase in ridership during World War II, Kenosha Motor Coach, Inc., converted the entire system to motor buses. Declines in ridership during the postwar period resulted in several changes in the ownership of the transit system. On September 7, 1971, the City of Kenosha acquired the transit system from the last private operator, which it had subsidized for the previous two years, and began public operation of the Kenosha transit system.

The policy-making body of the Kenosha transit system is the Kenosha Transit and Parking Commission. However, the Kenosha Common Council has the ultimate responsibility for review and approval of certain important matters.

In July 1983, the local bus system consisted of six regular city routes totaling 137 weekday round-trip route miles, and nine special peak-hour tripper routes. All six of the regular local bus routes are radial in design to provide direct, "no-transfer" bus service to the downtown central business district. The six regular bus routes primarily serve the City of Kenosha, 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 be used by the general public. Ridership on the transit system has increased significantly since the City began public operation, more than doubling between 1972 and 1982. This rate of ridership growth has surpassed the rate at which the amount and level of transit service has been increased, resulting in increases in the productivity of the transit system between 1972 and 1982. Currently, Routes 1, 3, and 4 carry about 65 percent of the total passengers on the regular routes of the transit system on an average weekday.

Survey data to ascertain characteristics of the transit riders indicate that the typical transit rider is a white female between the ages of 13 and 24, not possessing a driver's license, and residing in a household of three or more persons with an annual income of less than $15,000. Similar survey data describing the trip characteristics of the transit riders indicated that about 94 percent of the transit riders resided within the City of Kenosha in 1980. Only about 3 percent of the transit users made trips that do not start or end at home or school. The plurality of trips made on the transit system were school-based and home-based work trips, with about 55 percent and 20 percent, respectively, of all transit trips made for these purposes.

The costs of operating the transit system have increased significantly since 1972, while operating revenues have increased at a slower rate. This has resulted in an increase in the operating deficit from about $5.23 per revenue

vehicle hour in 1972 to almost $21.76 per revenue vehicle hour in 1982, an increase of almost 316 percent. However, the operating deficit per passenger has not increased to the same extent. After an initial decrease from $0.34 in 1972 to $0.33 in 1976, due primarily to the significant growth of transit ridership on the system during this period, the operating deficit per passenger has increased to $0.98 in 1982, an increase of about 188 percent.

Although the local bus system is not financially self-sufficient, the Transit and Parking Commission has managed to minimize the public funding requirement for the City of Kenosha by utilizing available federal and state transit operating assistance funds.

Aside from the local bus system, local transit service within the Kenosha Urban Planning District is also provided by six private taxicab companies serving the entire District, and by the public transit system operated by the City of Racine--the Belle Urban System--which operates one route between the University of Wisconsin-Parkside and the Racine central business district. Intercity transit service includes bus service provided by two private carriers--Greyhound Lines-West, Inc., and Wisconsin Coach Lines, Inc.--which operate routes connecting Kenosha with Milwaukee, Racine, and Chicago, and one private carrier--Royal Coach Lines, Inc.--which operates a route between Milwaukee and O'Hare International Airport in Chicago. Commuter railway passenger service is provided by the Chicago & North Western Transportation Company, which provides train service between Kenosha and Chicago. Specialized transit service within the District is provided by the Kenosha Unified School District, which contracts with Jelco Wisconsin, Inc., for the provision of yellow school bus service to students residing both within and outside the service area of the Kenosha transit system, and also by the Kenosha County Department on Aging, which administers three programs providing specialized transportation service to transportation handicapped, developmentally disabled, and elderly persons residing both within and outside the Kenosha Urban Planning District.

This chapter has set forth a description of the history of transit development and the existing public transit services provided within the study area. This information, together with the land use, socioeconomic, and tripmaking data presented in Chapter III, will be used to evaluate the existing transit system and to identify areas of needed improvement. The results of this analysis will be reported in Chapter V.

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Chapter V

TRANSIT SYSTEM PERFORMANCE EVALUATION

INTRODUCTION

Previous chapters of this report have described the socioeconomic and land use characteristics of the study area, the general operating characteristics of the City of Kenosha's public transit system, and the travel habits and patterns served by that system. This chapter evaluates the performance of the transit system based upon the transit service objectives and standards set forth in Chapter II of this report. As a result of this evaluation, areas of efficient and inefficient operation are identified.

Four objectives in the provision of transit services were established in Chapter II. Table 35 lists these objectives and summarizes the key standards which will be used to determine whether these objectives have been met. Not all the listed standards were used in the evaluation process as they were not deemed appropriate for such use. The standards not used were intended to serve as warrants for new service and as guidelines in the design of new service. Table 36 summarizes the quantitative application of the standards.

The performance evaluation was conducted at two levels, utilizing the sets of performance measures set forth in Table 36. At the first level, an assessment of performance was made on a systemwide basis to ascertain the degree to which the existing transit system meets the selected transit service objectives and standards. In turn, this assessment was conducted in two parts. The first part examined the extent to which the transit system serves the major land uses and transit-dependent population groups within the Kenosha area. The second part compared the ridership and financial performance of the transit system with that observed on Wisconsin transit systems of similar size. By means of this comparative evaluation, areas of performance which differed markedly from those observed on similar size systems were identified. Further analyses to determine possible causes of the differences in performance were then conducted.

At the second level of evaluation, the performance of each route in the transit system was evaluated, and the routes rank-ordered on the basis of performance. Transit routes exhibiting the poorest performance were then reviewed to identify the reasons for the poor performance and to identify necessary changes. 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 VII of this report.

SYSTEMWIDE PERFORMANCE EVALUATION-- TRANSIT SERVICE PROVIDED TO LAND USES

A systemwide evaluation of the transit system was conducted against the transit service objectives and standards set forth in Chapter II of this report. A determination of the ability of the transit system to achieve the agreed-upon objectives was accomplished through the application of performance measures related to the first two transit service objectives. The performance

Table 35

STANDARDS USED IN PERFORMANCE EVALUATION OF THE EXISTING TRANSIT SYSTEM

Objectives and Standards	Standards Used in Transit System Performance Evaluation
Objective No. 1--Effectively Serve Existing Land Use Pattern	
Standard 1: Maximize service to residential neighborhoods and major land use areas.....	X
Standard 2: Provide local routes at intervals of no more than one-half mile in high-density and medium-density residential areas, and one mile in low-density residential areas.....	--
Standard 3: Provide circulation-distribution local transit service as warranted.....	--
Objective No. 2--Provide a Ready Means of Access to Areas of Employment and Essential Services for All Segments of the Population	
Standard 1: Maximize the number of residents within maximum overall travel times of selected major activity centers.....	--
Standard 2: Maximize the service provided to transit-dependent groups.....	X
Standard 3: Make available specialized transportation service for those unable to avail themselves of regular transit service.....	--
Standard 4: Provide demand-responsive public transit service to low-density and rural areas as warranted.....	--
Standard 5: Provide service which meets or exceeds minimum vehicle speeds.....	--
Standard 6: Maximize the number of jobs served.....	X
Objective No. 3--Promote Transit Utilization and Provide for User Comfort, Convenience, and Safety	
Standard 1: Maximize transit system ridership.....	X
Standard 2: Provide adequate capacity so as not to exceed load factors.....	X
Standard 3: Provide service within maximum peak-period and off-peak-period headways.....	X
Standard 4: Achieve minimum acceptable schedule adherence.....	--
Standard 5: Provide stops meeting minimum stop spacing.....	--
Standard 6: Maximize the number of users walking less than one block in downtown.....	--
Standard 7: Minimize indirect routing, duplication of service, and transfers which discourage transit use.....	--
Standard 8: Minimize transit travel times.....	--
Standard 9: Construct bus passenger shelters at major passenger loading areas.....	--
Standard 10: Provide travel times comparable to travel times over arterial street system.....	--
Standard 11: Provide signs and paved passenger loading areas at bus stops.....	--
Standard 12: Replace public transit vehicles at end of maximum service life for vehicles.....	--
Standard 13: Minimize in-service breakdowns of revenue vehicles.....	--
Objective No. 4--Provide Economical and Efficient Service	
Standard 1: Minimize operating and capital costs.....	X
Standard 2: Maximize percent of operating expenses recovered through operating revenues.....	X
Standard 3: Minimize local public subsidy per ride.....	X

Source: SEWRPC.

Table 36

APPLICATION OF SPECIFIC PERFORMANCE MEASURES IN THE PERFORMANCE EVALUATION PROCESS

Performance Measure by Objective	Application in Evaluation Process		
	Systemwide Performance Evaluation		
	Service to Land Uses	Ridership and Financial Performance	Route Performance Evaluation
Objective No. 1--Effectively Serve Existing Land Use Pattern			
1. Total population served by a bus route	X	--	--
2. Major nonresidential land use areas served by bus route	X	--	--
Objective No. 2--Provide a Ready Means of Access to Areas of Employment and Essential Services for All Segments of the Population			
1. Residential concentrations of transit-dependent population groups served by a bus route	X	--	--
2. Facilities utilized by transit-dependent population groups served by a bus route	X	--	--
3. Jobs served by a bus route	X	--	--
Objective No. 3--Provide User Convenience, Comfort, and Safety			
1. Revenue passengers	--	X	--
2. Total passengers	--	--	X
3. Revenue passengers per capita	--	X	--
4. Revenue passengers per revenue vehicle hour	--	X	--
5. Total passengers per revenue vehicle hour	--	--	X
6. Maximum load factor	--	--	X
7. Maximum peak-period and off-peak-period headways	--	--	X
Objective No. 4--Provide Economical and Efficient Service			
1. Operating expenses per vehicle hour by expense category	--	X	--
2. Percent of operating expenses recovered by operating revenues	--	X	X
3. Total operating deficit	--	X	--
4. Total operating deficit per passenger	--	X	X
5. Local share of operating deficit	--	X	--
6. Local share of operating deficit per passenger	--	X	--

Source: SEWRPC.

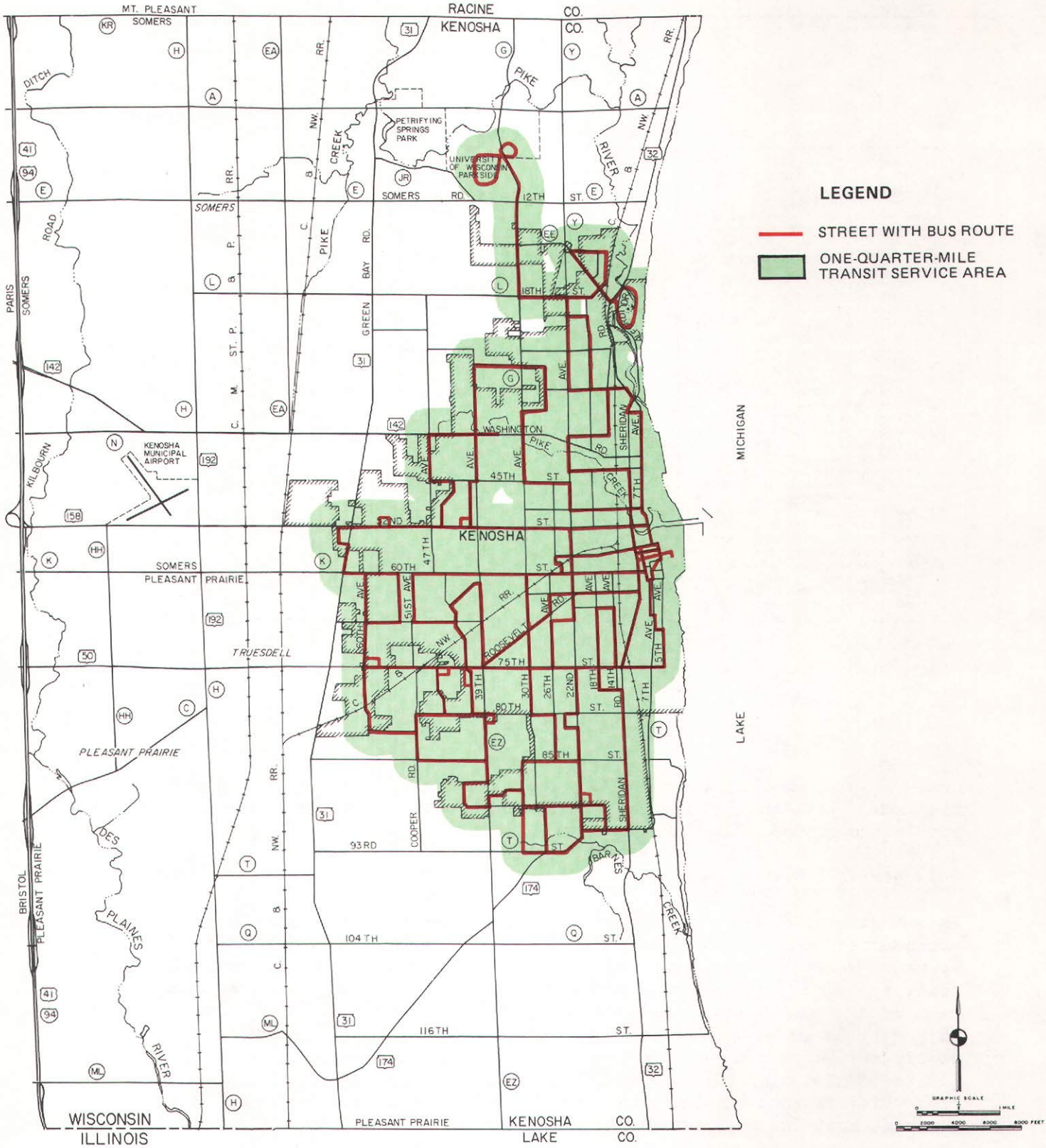
measures are used to indicate the degree to which the transit system serves the total resident population, major land uses, jobs, and transit-dependent population groups within the study area.

Population Served

As of July 1983, an estimated 81,900 people resided within approximately one-quarter mile of at least one bus route operated by the Kenosha transit system. This service area population represented about 84 percent of the total resident population of the Kenosha Urban Planning District, and 95 percent of the total resident population of the urbanized area. The extent of this quarter-mile service area is illustrated on Map 27. Approximately 77,400 people, or 94 percent of the total service area population, resided within the limits of the City of Kenosha, representing virtually all of the city population. Five percent of the total service area population resided in the Town of Pleasant Prairie; the remaining 1 percent resided in the Town of Somers.

Map 27

QUARTER-MILE SERVICE AREA FOR THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: 1983



Source: SEWRPC.

Major Land Use Areas Served

Land use areas considered to comprise major traffic generators were identified in Chapter III of this report. For the purpose of system evaluation, major shopping areas and community or special medical centers were considered to be served if located directly on a bus route. Public and private educational institutions, government and public institutional centers, employment centers, and recreational sites were considered to be served if located within one-eighth mile of a bus route. The major traffic generators which did not meet these criteria are listed in Table 37, and their locations are shown on Map 28. Twelve major shopping areas were identified within the study area in Chapter III. All of these shopping areas were served by the transit system.

Eleven community and special medical centers were identified within the study area in Chapter III. Eight of these centers were located directly on a bus route and were considered to be served by the transit system. Two centers were located less than one block from a bus route and were also considered to be served. The remaining center was located within two blocks of a bus route.

Twenty-three major public and private educational institutions were identified within the study area. Only one of these facilities--St. Peter's Elementary School--was not located within one-eighth mile of a bus route and is, therefore, considered to be not served by the transit system. However, this facility does lie within one-quarter mile of a route.

Of the 16 governmental and public institutional centers identified within the District, four centers were not served by a bus route. It should be noted, however, that these four centers--the Pleasant Prairie Town Hall, the Somers Town Hall, the U. S. Post Office in Pleasant Prairie, and the U. S. Post Office in Somers--were all located in the rural portion of the study area where residential densities were not high enough to support extensive conventional, fixed route public transit service. Governmental and public institutional centers located within the City of Kenosha, where transit service is concentrated, were completely served.

Thirty-two of the 33 major employment centers were located within one-eighth mile of a bus route. The unserved center--Ladish Company--was located in the rural portion of the study area.

A total of 18 recreational sites were identified within the study area. Of this total, six were not located within one-eighth mile of a bus route. However, two of the six sites were located within one-quarter mile of a bus route, and three others were located in the rural portion of the study area.

Transit-Dependent Population Groups Served

Six special population groups were identified in Chapter III as traditionally having less access to the automobile as a mode of travel than the general public and, therefore, as generally being more dependent upon public transportation. Significant residential concentrations of four of these population groups were found: the elderly, persons in low-income families, racial (non-white) and ethnic (Hispanic) minorities, and households with no automobile available. Census tracts with above average concentrations of at least four of the above five population categories were identified as high-priority areas for transit service (see Map 10 in Chapter III). These areas are completely located within the quarter-mile service area of the transit system for residential areas.

Table 37

MAJOR TRAFFIC GENERATORS IN THE KENOSHA URBAN PLANNING DISTRICT NOT SERVED BY THE KENOSHA TRANSIT SYSTEM: 1983

Code Number on Map 28	Unserved Major Traffic Generators	Address[a]
	Shopping Center[b]	
	None (all are served).....	--a
	Educational Institutions[c]	
1	St. Peter's Elementary School.....	2223 30th Avenue
	Community and Special Medical Centers[b]	
2	Asthma and Allergy Clinic of Kenosha.....	4906 39th Avenue
	Governmental and Public Institutional Centers[c]	
3	Pleasant Prairie Town Hall.....	9915 39th Avenue, Town of Pleasant Prairie
4	Somers Town Hall.....	7511 12th Street, Town of Somers
5	U. S. Post Office Pleasant Prairie Office.....	8451 104th Avenue, Town of Pleasant Prairie
6	Somers Office.....	8116 12th Street, Town of Somers
7	Major Employment Centers[c] Ladish Company--Tri-Clover Division...	9201 Wilmot Road, Town of Pleasant Prairie
	Recreational Areas[d]	
8	Petrifying Springs Park.....	Town of Somers
9	J. F. Kennedy Park.....	City of Kenosha
10	Kemper Center[e].....	City of Kenosha
11	Pleasant Prairie Ball Park.....	Town of Pleasant Prairie
12	Somers Athletic Field.....	Town of Somers
13	Southport Park.....	City of Kenosha

[a] Except where noted, all addresses are in the City of Kenosha.

[b] Center or institution not directly served by a bus route.

[c] Center or institution not within one-eighth mile of a bus route.

[d] Major recreational facilities or attractions not located within one-eighth mile of a bus route.

[e] Center has limited recreational activities scheduled during the year.

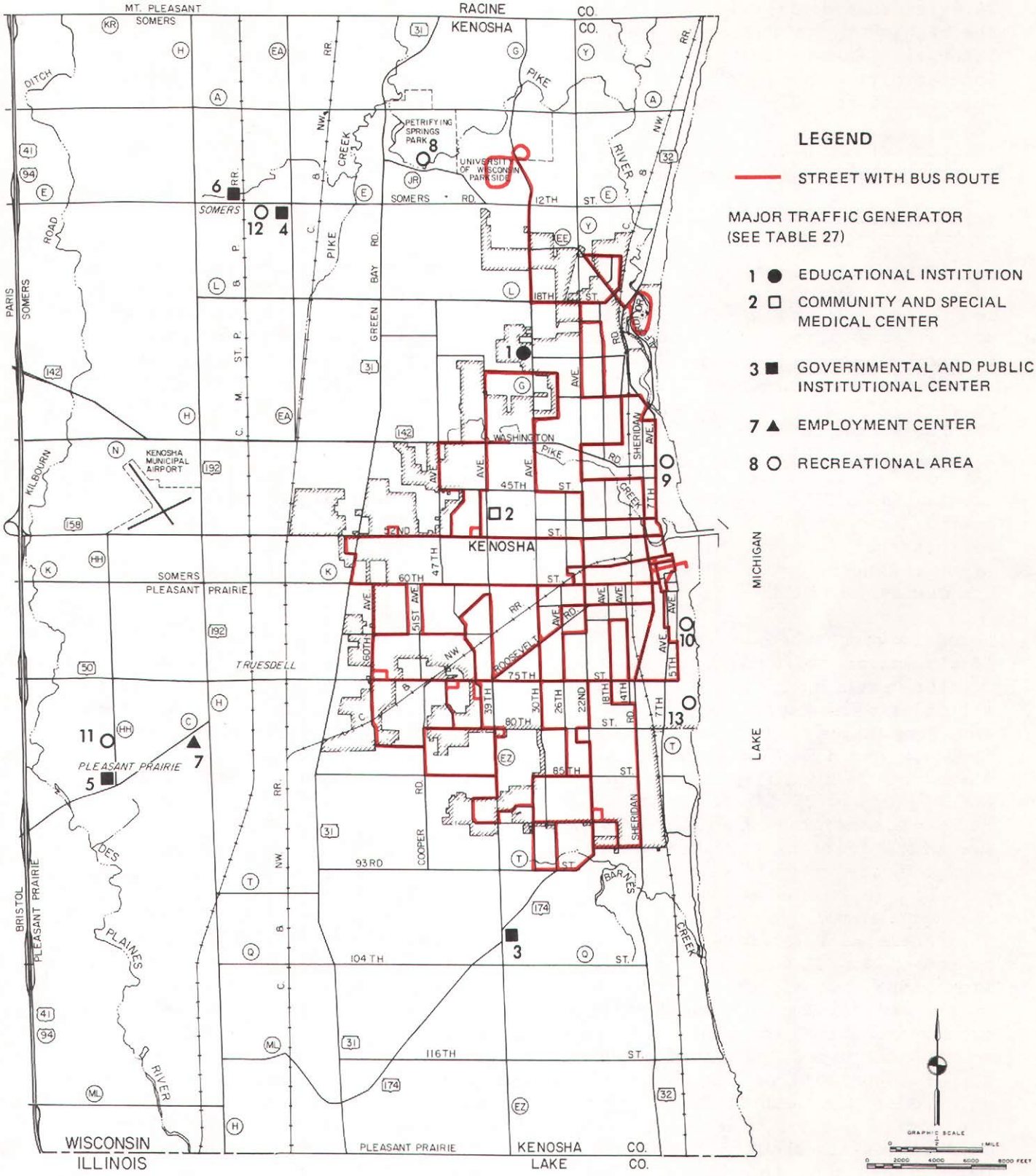
Source: SEWRPC.

The location of residential and special care facilities and other places frequently used by the elderly and handicapped population within the District were identified in Chapter III, along with the location of subsidized rental housing for low-income families. For the purpose of system evaluation, it was considered important that facilities for the elderly and handicapped be served as directly as possible by a bus route. Subsidized rental housing facilities were considered served if located within one-quarter mile of a bus route.

A total of 19 facilities for the elderly, 36 facilities for the handicapped, and four facilities for both the elderly and handicapped were identified in the District. Thirty-one of the 36 facilities for the handicapped were public elementary and secondary schools with special education programs. As participants in such programs, these schools were provided direct service public

Map 28

LOCATION OF MAJOR TRAFFIC GENERATORS NOT SERVED BY THE REGULAR ROUTES OF THE KENOSHA TRANSIT SYSTEM: 1983



LEGEND

STREET WITH BUS ROUTE

MAJOR TRAFFIC GENERATOR (SEE TABLE 27)

1 ● EDUCATIONAL INSTITUTION

2 □ COMMUNITY AND SPECIAL MEDICAL CENTER

3 ■ GOVERNMENTAL AND PUBLIC INSTITUTIONAL CENTER

7 ▲ EMPLOYMENT CENTER

8 ○ RECREATIONAL AREA

Source: SEWRPC.

transportation, if needed, through the Kenosha Unified School District. Consequently, these facilities were not considered in the evaluation of transit service provided by the Kenosha transit system. Of the remaining 28 facilities, 24 were located directly on a bus route. While the remaining four facilities--the Washington Manor Nursing Home, the Pennoyer Home, Transition House I, and Transition House II--were not located directly on a bus route, they were located within one block or less of a bus route and, for practical purposes, were considered to be served by the transit system.

Thirteen subsidized rental housing facilities were identified in the Planning District. All are served by the transit system.

Jobs Served

Table 16 in Chapter III identified the major employment centers located within the study area and their level of employment in 1983. An employment center was not considered to be served unless it was located within one-eighth mile of a bus route. To further examine whether the employment centers were effectively served, an analysis was conducted of the compatibility of the transit service schedules with the start and stop times of the major employers located within one-eighth mile of a bus stop. The findings of this analysis are summarized in Table 38.

As shown in the table, there were approximately 20,200 jobs available in 1983 at the 32 major employment centers located within one-eighth mile of a bus route. About 13,300 of these jobs, or about 66 percent, were available at five centers--the American Motors Corporation plants on 5th Avenue and on 25th Avenue, Kenosha Memorial Hospital on 8th Avenue, St. Catherine's Hospital on 7th Avenue, and Snap-on Tools Corporation on 80th Street.

Specific work schedules could be determined for about 14,700 jobs, or about 73 percent of the 20,200 jobs available. Work schedules could not be determined for the remaining 5,500 jobs. Approximately 10,300 of the 14,700 jobs for which schedules were determined, or about 70 percent, had work schedules with start and stop times within the general hours of transit system operation of 6:00 a.m. to 6:00 p.m. and, on that basis and the basis of location, had the potential to be fully served by the public transit system. The remaining 4,400 jobs, or 30 percent of the jobs for which schedules had been determined, had work schedules under which only the start time or stop time fell within the hours of transit system operation and could, therefore, be only partially served by the transit system.

For the purposes of this study, jobs are considered to be fully served when the scheduled transit service allows employees to arrive at their job locations no sooner than 20 minutes, but no later than five minutes, before the scheduled start time, and allows employees to depart their job location within 20 minutes of the scheduled stop time. Times for scheduled transit service were obtained from current 1983 schedules for the direction of the travel which would accommodate the largest potential ridership market, which generally was considered to be outbound from the central transfer point for shift start times, and inbound to the central transfer point for shift end times. About 8,600 jobs had work schedules which were fully served in accordance with this criterion. This represents about 59 percent of the 14,700 jobs for which work schedules were determined. About 5,300 jobs were found to be partially served by the

transit system, i.e., either the start time or the stop time was served but not both. These represented about 36 percent of the 14,700 jobs for which schedules were determined. Neither the start times nor stop times of the remaining 700, or about 5 percent, of the 14,700 jobs for which work schedules were determined were served.

While the existing transit service schedules are capable of at least partially serving about 95 percent of the jobs for which schedules could be determined, only about 59 percent of the jobs were fully served. As shown in Table 38, a major reason why only this proportion of jobs was served is that scheduled working hours varied significantly among types of employers, as well as between individual employers. At some centers, work schedules for employees also varied by the day of the week. This variation in working times makes the provision of full transit service to all employment centers difficult and costly. This is because the variation in work times makes adjusting scheduled transit service to fully serve all employees virtually impossible with the existing operating headways of 30 and 60 minutes and the existing system hours of operation of 6:00 a.m. to 6:00 p.m. To achieve the maximum service coverage of jobs, a combination of transit service improvements would be required, including a reduction in peak-period headways to 15 to 20 minutes, the provision of special tripper service to some employers, and the extension of existing system hours of operation into the late evening and early morning hours of the day to cover second- and third-shift work schedules. The result of these actions would be a substantial and costly increase in the level of transit service, which, in all likelihood, would not be economically feasible since the level of transit system ridership would not be expected to increase in proportion to the required increase in service.

Rather than trying to serve all jobs within the Kenosha transit service area, the transit system should concentrate on maximizing the number of jobs which could be fully served by the system without significantly increasing system expenses. The problems generated by the varying employment schedules should be recognized when reviewing the current transit service schedules to determine if the number of jobs fully served by the transit system could be expanded. To achieve maximum service coverage of jobs within existing funding levels while minimizing schedule problems, emphasis in any future schedule revisions should be on serving, as completely as practicable, the jobs at the largest employment centers. A cooperative effort on the part of the major employers to adjust work schedules to meet the current or adjusted transit system schedules would aid in enabling the transit system to more fully serve the major employment centers within the study area.

Transit Service Relative to Existing Travel Habits and Patterns

The previous sections of this chapter indicated the extent of the areal coverage of residential areas and major traffic generators in the Kenosha Urban Planning District by the transit system. It is also important to determine how well the transit system serves the transit trips generated by the land use areas served. Accordingly, an analysis was conducted to determine how well the transit system, as operated in 1983, was serving the origin-destination pattern of trips made by transit system passengers.

The analysis of the origin-destination patterns of bus passengers was conducted using the results of the on-board bus survey conducted by the Commission in

Table 38

EMPLOYMENT BY WORK SCHEDULE AT MAJOR EMPLOYMENT CENTERS WITHIN ONE-EIGHTH-MILE SERVICE AREA OF THE KENOSHA TRANSIT SYSTEM: 1983

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially[f]
Industrial/ Manufacturing	American Motors Corporation Main Plant	5626 25th Avenue	7:00 a.m.- 3:30 p.m.	4,800	4,800	--
			4:00 p.m.-12:00 a.m.	2,460	--	2,460
			11:00 p.m.- 7:00 a.m.	520	--	520
			Total	7,780	4,800	2,980
	Lakefront Plant	5525 5th Avenue	7:00 a.m.- 3:30 p.m.	2,000	2,000	--
			4:00 p.m.-12:00 a.m.	500	--	500
			Total	2,500	2,000	500
	Anaconda American Brass Company	1420 63rd Street	7:00 a.m.- 3:30 p.m.	--[d]	--[d]	--[d]
			7:30 a.m.- 4:30 p.m.	--[d]	--[d]	--[d]
			4:30 p.m.- 3:00 a.m.	--[d]	--[d]	--[d]
			Total	790	--	--
	Eaton Corporation	3122 14th Avenue	6:45 a.m.- 3:15 p.m.	200	200	--
			7:30 a.m.- 4:30 p.m.	150	150	--
			Total	350	350	--
	Frost Company	6523 14th Avenue	7:00 a.m.- 3:30 p.m.	160	--	160
	Jelco Wisconsin, Inc	6015 52nd Street	6:30 a.m.- 4:00 p.m.	125	--	--
			Variable	25	--[d]	--[d]
			Total	150	--	--
	Jockey International, Inc	2300 60th Street	6:45 a.m.- 3:20 p.m.	250	250	--
			7:30 a.m.- 4:00 p.m.	250	--	--
			Total	500	250	--
	Jupiter Transportation Company	4314 39th Avenue	7:30 a.m.- 4:30 p.m.	130	--	130
	G. Leblanc Corporation	7019 30th Avenue	7:00 a.m.- 3:30 p.m.	200	--	200
	MacWhyte Wire Rope Corporation	2906 14th Avenue	6:45 a.m.- 2:45 p.m.[e]	350	--	350
			2:45 p.m.-10:45 p.m.[e]	100	--	100
			10:45 p.m.- 6:45 a.m.[e]	50	--	50
			Total	500	--	500
	Manu-Tronics, Inc	9115 26th Avenue	7:00 a.m.- 3:30 p.m.	150	150	--
	Ocean Spray Cranberries, Inc	7800 60th Avenue	7:00 a.m.- 3:30 p.m.	275	--	275
			3:25 p.m.-11:55 p.m.	50	--	25
			10:00 p.m.- 6:30 a.m.	25	--	--
			Total	350	--	325
	Snap-on Tools Corporation	2801 80th Street	7:00 a.m.- 3:00 p.m.	--[d]	--[d]	--[d]
			7:30 a.m.- 3:30 p.m.	--[d]	--[d]	--[d]
			3:00 p.m.-11:00 p.m.	100	--	100
			11:00 p.m.- 7:00 a.m.	50	--	50
			Total	970	--	150

Table 38 (continued)

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially[f]
Retail Service	Brookside Care Center	3506 Washington Road	8:00 a.m.- 4:30 p.m. 6:45 a.m.- 3:15 p.m. 2:45 p.m.-11:15 p.m. 11:00 p.m.- 7:00 a.m. Total	5 150 75 70 300	5 150 -- -- 155	-- -- -- 70 70
	First National Bank Main Office	5522 6th Avenue	8:30 a.m.- 5:00 p.m.	160	160	--
	Kenosha Memorial Hospital	6308 8th Avenue	Variable	1,000	--[d]	--[d]
	Kenosha News Publishing	715 58th Street	8:00 a.m.- 5:00 p.m. 1:00 p.m.- 9:30 p.m. Variable Total	150 10 50 210	150 -- --[d] 150	-- -- --[d] --
	K-Mart Corporation	4100 52nd Street	Variable	190	--[d]	--[d]
	St. Catherine's Hospital	3556 7th Avenue	Variable	1,000	--[d]	--[d]
	Sears, Roebuck and Company	7630 Pershing Boulevard	9:30 a.m.- 6:00 p.m. 12:30 p.m.- 9:00 p.m. 9:30 a.m.- 1:00 p.m. Total	70 70 40 180	-- -- -- --	-- -- -- --
	Super Valu Foods-South	3803 80th Street	Variable	100	--[d]	--[d]
	U. S. Postal Service-- Kenosha Office	5605 Sheridan Road	12:00 a.m.- 8:30 a.m. 4:00 a.m.-12:30 p.m. 6:30 a.m.- 3:30 p.m. 10:00 a.m.- 6:30 p.m. Total	10 5 140 5 160	-- -- 140 -- 140	-- 5 -- -- 5
	Washington Manor	3100 Washington Road	7:00 a.m.- 3:30 p.m. 3:00 p.m.-11:30 p.m. 11:00 p.m.- 7:00 a.m. Total	60 40 20 120	60 -- -- 60	-- 40 20 60
	Woodstock Kenosha Health Center	3415 Sheridan Road	7:00 a.m.- 3:30 p.m. 3:30 p.m.-11:00 p.m. 11:00 p.m.- 7:00 a.m. Total	--[d] --[d] --[d] 160	--[d] --[d] --[d] --	--[d] --[d] --[d] --

Table 38 (continued)

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially[f]
Government	Kenosha County Courthouse	912 56th Street	8:00 a.m.- 5:00 p.m.	240	240	--
	Kenosha City/County Safety Building	1000 55th Street	7:00 a.m.- 3:00 p.m.	40	--	40
			8:00 a.m.- 4:00 p.m.	80	--	80
			8:00 a.m.- 5:00 p.m.	20	20	--
			3:00 p.m.-11:00 p.m.	40	--	--
			4:00 p.m.-12:00 a.m.	60	--	60
			11:00 p.m.- 7:00 a.m.	40	--	40
			12:00 a.m.- 8:00 a.m.	30	--	30
			Total	310	20	250
	Kenosha Municipal Building	625 52nd Street	8:00 a.m.- 5:00 p.m.	110	110	--
Education	Bradford High School	3700 Washington Road	Variable	140	--[d]	--[d]
	Carthage College	2001 Alford Drive	Variable	260	--[d]	--[d]
	Gateway Technical Institute	3520 30th Avenue	Variable	280	--[d]	--[d]
	Tremper High School	8650 26th Avenue	Variable	140	--[d]	--[d]
	University of Wisconsin-Parkside	Wood Road, Town of Somers	Variable	600	--[d]	--[d]
			Total	20,190	8,585	5,350

[a] Except where noted, all addresses are in the City of Kenosha.

[b] Scheduled bus service is available to enable employees to arrive at employment center no sooner than 20 minutes but no later than five minutes before scheduled start time, and to depart from employment center within 20 minutes of stop time.

[c] Both start and stop times are served by scheduled bus service.

[d] *Cannot be determined from data available.*

[e] Start and stop times vary by plus and minus 15 minutes of the given core time.

[f] Either stop or start times are served by scheduled bus service, but not both, as defined in footnote b.

Source: SEWRPC.

the spring of 1980. The transit system carried about 5,500 revenue passengers on the days the survey was conducted. Of this number, about 4,300 revenue passengers, or about 78 percent of the total, were able to complete their trip using only one bus route. Map 29 shows the desire lines of travel between traffic analysis zones for the major trip movements in this category. As can be seen on this map, a majority of the trips completed using one bus route were focused on the zones comprising the central business district, which was directly served by all of the six regular routes of the system. Other zones on which a substantial number of trip movements were focused included those containing the major educational institutions within the District. As noted in Chapter III, school trips comprised the plurality of the revenue trips--over 55 percent--made on the transit system at the time of the survey in 1980. School trips continue to make up the plurality of trips made on the transit system in 1983.

About 1,200 revenue passengers, or about 22 percent of all revenue passengers, needed to transfer to a second bus route to complete a trip on the transit system on the survey days. The desire lines of travel for major movements of these transfer trips are shown on Map 30. These trips are of low volume and represent primarily crosstown trips that can be conveniently served with a single transfer. One medium-volume and two high-volume trip desire lines exist. The two high-volume trip desire lines are characterized as primarily school trip movements to Tremper and Bradford High Schools. Inasmuch as these movements require backtracking along a second route, they are considered to be inconveniently served by the routes of the transit system. It should be noted, however, that these movements to the high schools are readily accommodated by the existing network of peak-hour routes.

Conclusions of Evaluation of Transit Service to Land Uses

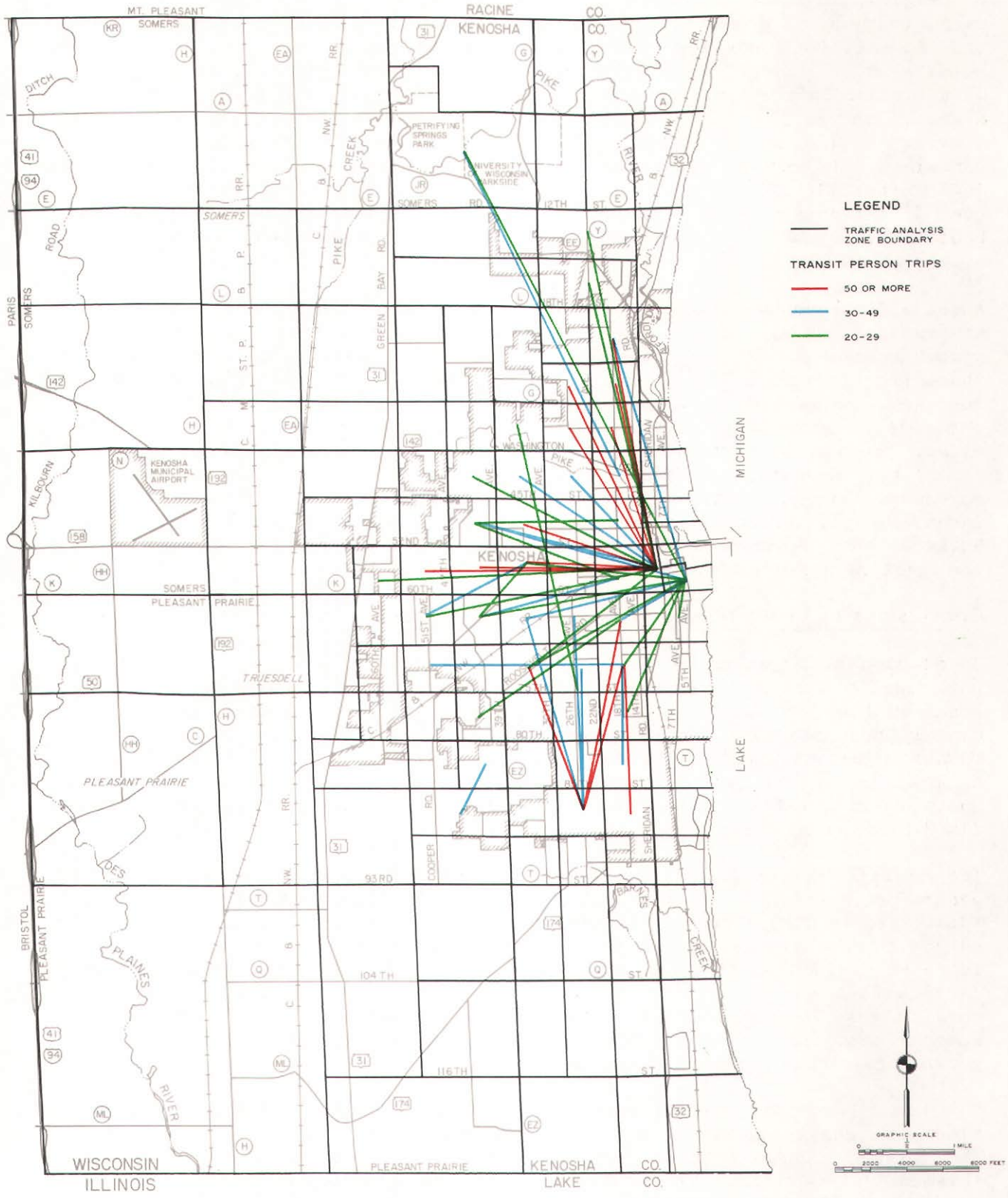
Based upon the systemwide performance evaluation, it may be concluded that the transit system provides virtually complete coverage of the residential areas within the City of Kenosha, together with some coverage of the most densely populated residential areas located adjacent to the City within the Town of Pleasant Prairie. The major portion of the population within the Planning District 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.

The transit system also provides very good coverage of the major traffic generators within the District, serving 99 of the 113 major traffic generators identified in 1983. Seven of the major traffic generators not considered to be served by the transit system are located within one-quarter mile of a bus route--a maximum walking distance for transit users based upon accepted standards within the transit industry. The remainder are generally located in rural areas of the District outside the corporate limits of the City of Kenosha. The transit system provides excellent coverage of the major traffic generators within the City of Kenosha.

The transit system provides excellent coverage of the residential concentrations of transit-dependent groups identified within the Planning District--the elderly, persons in low-income families, racial (nonwhite) and ethnic (Hispanic) minorities, and households with no automobile available--and of

Map 29

MAJOR TRAVEL DESIRE LINES FOR REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM NOT TRANSFERRING BETWEEN BUS ROUTES: APRIL 22-APRIL 24, 1980



Source: SEWRPC.

Map 30

MAJOR TRAVEL DESIRE LINES FOR REVENUE PASSENGERS ON THE KENOSHA TRANSIT SYSTEM TRANSFERRING BETWEEN BUS ROUTES: APRIL 22-APRIL 24, 1980

Source: SEWRPC.

the facilities for the elderly, the handicapped, and low-income families. All of the facilities for these three groups were either directly served by the transit system or within one block or less of a bus route in 1983.

The transit system provides good service which can be used for most trips made for work purposes. About 95 percent of the jobs for which specific work schedules were determined are either fully or partially served by the scheduled transit service. However, only about 59 percent are fully served. As already noted, because of variations in work schedules, serving all of the jobs available at all of the employment centers would be difficult and costly. Possible changes in the currently scheduled service should be reviewed with a view to expanding the number of jobs fully served by the transit system at the largest employment centers. In addition, a cooperative effort on the part of the major employers to adjust work schedules to meet current or adjusted transit system schedules would aid in enabling the transit system to more fully serve the major employment centers within the study area.

The analysis of the origin-destination pattern of bus passengers indicates that the routes of the transit system are capable of conveniently serving the vast majority of trips made on the transit system.

SYSTEMWIDE PERFORMANCE EVALUATION-- RIDERSHIP AND FINANCIAL PERFORMANCE

Under the second part of the systemwide evaluation process, the performance of the Kenosha transit system was compared with the performance of similar transit systems serving other urbanized areas in Wisconsin. The primary purpose of this comparison was to identify areas of system operation in which achieved performance levels differed substantially from the performance of the other, similar systems. These areas were then examined further to determine possible causes for the poor performance.

Eight mid-size Wisconsin transit systems were selected for the comparative evaluation. The transit systems were selected to include only fixed route systems serving urbanized areas where the total resident population was between 50,000 and 150,000 persons and where the primary city served by the transit system had a population of 50,000 persons or more. The eight transit systems selected served cities with populations of between 50,000 and 90,000 persons, and had total service area populations ranging from 50,000 to 130,000 persons. Data on the operating and performance characteristics of each transit system were collected from the transit operators and the Wisconsin Department of Transportation, Bureau of Transit. The performance of the Kenosha transit system was compared with the average performance of the eight comparable systems, thus minimizing the effects of the site-specific idiosyncrasies of the individual systems.

Operating Characteristics

Table 39 compares the 1983 operating characteristics of the Kenosha transit system with those of eight similar size Wisconsin transit systems. The table indicates that although the Kenosha transit system ranks eighth among the total of nine systems considered in terms of routes operated, it ranks sixth in terms of round-trip route miles, indicating a wide area of coverage per route. With its six peak-period routes covering 133 round-trip route miles,

Table 39

COMPARISON OF OPERATING CHARACTERISTICS FOR SIMILAR SIZE WISCONSIN TRANSIT SYSTEMS AND THE KENOSHA TRANSIT SYSTEM: 1983

Operating Characteristic	Comparable Wisconsin Transit Systems				
	Valley Transit--Appleton	Eau Claire Transit System	Green Bay Transit System	Belle Urban System--Racine	Janesville Transit System
Ownership and Management	City with city employees	City with city employees	City with city employees	City with private management firm	City with city employees
Routing/Scheduling Technique	Radial/pulse	Radial/pulse	Radial/pulse	Radial/nonpulse	Radial/pulse
Number of Regular Routes					
Peak Period	19	19	16	12	7
Off-Peak Period	19	19	16	11	7
Round-Trip Route Miles	184.5	144.6	171.9	161.8	75.4
Service Frequency					
Peak Period	30-60[a]	30-60[b]	30-60[c]	20-60[d]	30-60[e]
Off-Peak Period	30-60[a]	30-60[b]	30-60[h]	30-60[i]	30-60[j]
Service Hours[l]					
Weekdays	5:45 a.m.-5:45 p.m.	5:45 a.m.-6:15 p.m.	5:15 a.m.-10:20 p.m.	5:30 a.m.-6:30 p.m.	6:15 a.m.-5:45 p.m.
Saturdays	6:15 a.m.-5:45 p.m.	5:45 a.m.-6:15 p.m.	7:15 a.m.-6:20 p.m.	7:00 a.m.-5:30 p.m.	8:45 a.m.-5:45 p.m.
Sundays and Holidays	--	--	--	--	--
Fare Structure					
Adult	$0.45	$0.50	$0.45	$0.35	$0.50
Student	0.30	0.35	0.35	--	--
Elderly and Handicapped	0.20	0.25	0.25	0.15	0.25
Child	--	--	--	--	--

Operating Characteristic	Comparable Wisconsin Transit Systems			
	Oskhosh Transit System	La Crosse Municipal Transit Utility	Sheboygan Transit System	Kenosha Transit System
Ownership and Management	City with city employees	City with city employees	City with city employees	City with city employees
Routing/Scheduling Technique	Radial/pulse	Radial/pulse	Radial/pulse	Radial/pulse
Number of Regular Routes				
Peak Period	10	4	5	6
Off-Peak Period	10	4	9	6
Round-Trip Route Miles	68.4	71.8	134.8	132.6
Service Frequency				
Peak Period	30	30-60[f]	15	30-60[g]
Off-Peak Period	30	30-60[f]	30[k]	60
Service Hours[l]				
Weekdays	6:15 a.m.-5:45 p.m.	5:10 a.m.-9:40 p.m.	5:15 a.m.-9:45 p.m.	6:00 a.m.-6:00 p.m.
Saturdays	6:15 a.m.-5:45 p.m.	5:10 a.m.-7:40 p.m.	6:15 a.m.-5:45 p.m.	6:00 a.m.-6:00 p.m.
Sundays and Holidays	--	7:40 a.m.-5:40 p.m.	--	--
Fare Structure				
Adult	$0.35	$0.50	$0.50	$0.40
Student	--	--	0.40	0.35
Elderly and Handicapped	0.15	0.25	0.25	0.20
Child	0.25	0.30	0.30	--

[a] 30-minute headways on 12 routes; 60-minute headways on seven routes.

[b] 30-minute headways on five routes; 60-minute headways on 14 routes.

[c] 30-minute headways on 12 routes; 60-minute headways on four routes.

[d] 20- to 30-minute headways on four routes; 30-minute headways on six routes; 45-minute headways on one route; 60-minute headways on one route.

[e] 30-minute headways on four routes; 60-minute headways on three routes.

[f] 30-minute headways on three routes; 60-minute headways on one route.

[g] 30-minute headways on five routes; 60-minute headways on one route.

[h] 30-minute headways on two routes; 60-minute headways on 14 routes.

[i] 30-minute headways on 10 routes; 60-minute headways on one route.

[j] 30-minute headways on three routes; 60-minute headways on four routes.

[k] 30-minute headways on six routes; variable headways on three routes.

[l] Start time of first trip in the morning and the last trip in the afternoon or evening.

Source: Wisconsin Department of Transportation and SEWRPC.

the Kenosha transit system operated about 5 percent more round-trip route miles than the average of 127 total daily round-trip route miles operated by the other systems.

Generally, the Kenosha system was found to be very similar to the other systems with regard to the remaining operating characteristics, including route structure, peak-period headways, weekday service hours, scheduling technique, and fares.

With the exception of Racine's Belle Urban System, which has individually scheduled routes, all of the comparable systems utilized noncycle or "pulse" scheduling combined with radial routing. Such pulse system scheduling facilitates the transfer of trips in that all buses on each of the routes arrive at and depart from a central transfer point simultaneously, thus minimizing waiting time and inconvenience for transferring passengers.

Regarding service frequencies, headways of 30 minutes or less were provided on 66 percent--61 out of 92--of the routes operated by the other systems during the peak travel periods, and on about 54 percent--51 out of 95--of the routes operated during nonpeak periods. During the peak travel period, the Kenosha transit system provided 30-minute headways on five of the six routes and 60-minute headways on the remaining route. During the off-peak period, 60-minute headways were provided on all routes.

The service provided on weekends and during the evening was also found to be very similar to that provided by the other systems examined. Although all of the comparable systems provided Saturday service, only three provided weekday evening service and only one provided Sunday service. The Kenosha transit system provided Saturday service, but no Sunday or evening service.

The mean base adult fare for the comparable transit systems in 1983 was $0.45. Four of the eight transit systems had base adult fares of $0.50, two had fares of $0.45, and the remaining two systems had fares of $0.35.

Performance Characteristics

The performance characteristics of the comparable transit systems and the Kenosha transit system are presented in Table 40. This table indicates the overall effectiveness,[1] efficiency,[2] and financial performance of the Kenosha transit system with regard to comparable systems in the State of

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[1]The effectiveness of a public transit system is usually measured by the degree to which the transit service provided is consumed or utilized by the public, and also by the quality of the service provided. Effectiveness measures are generally used to examine the extent to which the transit service provided meets objectives established for the transit system defining community needs.

[2]The efficiency of a public transit system is usually measured by the amount of resources required to be input into the system to produce various units of output. Efficiency measures are generally used to evaluate the process by which transit services are produced.

Table 40

COMPARISON OF PERFORMANCE CHARACTERISTICS FOR SIMILAR SIZE WISCONSIN TRANSIT SYSTEMS AND THE KENOSHA TRANSIT SYSTEM: 1982

Performance Characteristic	Comparable Wisconsin Transit Systems					
	Valley Transit--Appleton	Eau Claire Transit System	Green Bay Transit System	Belle Urban System--Racine	Janesville Transit System	La Crosse Municipal Transit Utility
Service Area Population[a]						
Primary City	59,000	51,500	87,900	85,700	51,100	48,300
Total	124,700	67,700	132,200	104,600	51,100	54,000
Annual Revenue Passengers	1,468,600	963,500	2,363,700	2,341,400	452,700	1,263,100
Rides per Capita	11.8	14.2	17.9	22.4	8.9	23.4
Annual Revenue Vehicle Hours	60,900	47,500	84,800	86,900	30,500	52,700
Revenue Passengers per Revenue Vehicle Hour	24.1	20.3	27.9	26.9	14.8	24.0
Operating Expense[b]						
Total	$1,630,000	$1,047,000	$1,993,200	$1,966,900	$898,000	$1,381,200
Per Revenue Vehicle Hour	26.77	22.04	23.50	22.63	29.44	26.21
Per Revenue Passenger	1.11	1.09	0.84	0.84	1.98	1.09
Operating Revenue[b]						
Total	$ 444,600	$ 372,000	$ 629,400	$ 612,000	$189,700	$ 482,700
Per Revenue Passenger	0.30	0.39	0.27	0.26	0.42	0.38
Percent of Operating Expense	27.3	35.5	31.6	31.1	21.1	34.9
Operating Deficit[b]						
Total	$1,185,400	$ 675,000	$1,363,800	$1,354,900	$708,300	$ 898,500
Total per Revenue Passenger	0.81	0.70	0.58	0.58	1.56	0.71
Local Share	117,400	125,100	68,500	141,200	204,400	91,400
Local Share per Revenue Passenger	0.08	0.13	0.03	0.06	0.45	0.07

Performance Characteristic	Comparable Wisconsin Transit Systems			Kenosha Transit System	
	Oshkosh Transit System	Sheboygan Transit System	Group Average	Number	Percent of Group Average
Service Area Population[a]					
Primary City	49,700	48,100	60,200	77,700	129.1
Total	49,700	55,000	79,900	81,900	102.5
Annual Revenue Passengers	1,114,100	1,312,500	1,252,100	1,224,100	97.8
Rides per Capita	22.4	23.9	18.1	15.0	82.9
Annual Revenue Vehicle Hours	47,800	59,900	58,900	55,300	93.9
Revenue Passengers per Revenue Vehicle Hour	23.3	21.9	22.9	22.1	96.5
Operating Expense[b]					
Total	$1,154,800	$1,312,900	$1,423,000	$1,569,500	110.3
Per Revenue Vehicle Hour	24.16	21.92	24.58	28.38	115.4
Per Revenue Passenger	1.04	1.00	1.12	1.28	114.3
Operating Revenue[b]					
Total	$ 304,900	$ 406,200	$ 430,200	$ 366,300	85.1
Per Revenue Passenger	0.27	0.31	0.33	0.30	90.9
Percent of Operating Expense	26.4	30.9	29.9	23.3	77.9
Operating Deficit[b]					
Total	$ 849,900	$ 906,700	$ 992,800	$1,203,200	121.2
Total per Revenue Passenger	0.76	0.69	0.79	0.98	124.0
Local Share	78,600	217,000	130,450	194,000	148.7
Local Share per Revenue Passenger	0.07	0.17	0.13	0.16	123.0

[a]Based on 1980 population figures from the U. S. Bureau of the Census.

[b]Per Wisconsin Department of Transportation definition.

Source: Wisconsin Department of Transportation and SEWRPC.

Wisconsin. The data presented in this table are for 1982, the most current calendar year for which audited financial information for all transit systems is available.

A key measure of transit system effectiveness is ridership. In absolute terms, the Kenosha transit system carried approximately 1,224,100 revenue passengers during 1982, or only about 2 percent less than the average of about 1,252,100 revenue passengers carried on the comparable systems. Another measure of performance is the relationship of ridership to the resident population of the service area. The Kenosha transit system carried approximately 15 rides per capita, or about 17 percent less than the average of 18 rides per capita for the other transit systems.[3]

Among the factors which affect ridership is the level of service provided. One indicator of the level of service provided, annual revenue vehicle hours, is tabulated in Table 40. While the comparable systems averaged about 58,900 revenue vehicle hours of service during 1982, the Kenosha transit system provided approximately 55,300 revenue vehicle hours of service, or only about 6 percent less than the comparable group average. Similarly, it was found that the Kenosha service was only 3.5 percent below the comparable group average with regard to revenue passengers per revenue vehicle hour, a measure of transit utilization per unit of provided service.

System efficiency may be also measured by relating consumable output to cost. Specifically, the ratio of the operating expense per unit of transit service was calculated and used to compare the relative efficiency of the Kenosha transit system with the average for the comparable systems. The total operating expenses per revenue vehicle hour for the Kenosha transit system were about 15 percent above the average for the comparable systems in 1982. In an effort to identify possible reasons for this significant difference, ratios of operating expenses per unit of service were examined by expense category based upon the measure of transit service--vehicle hours or vehicle miles--which most directly related to the manner in which expenses were incurred. For example, ratios of operating expenses incurred primarily on an hourly basis--such as the cost of labor and fringe benefits--were based upon revenue vehicle hours. Ratios for expenses incurred primarily on a mileage basis--such as materials and supplies--were based upon total vehicle miles. The breakdown of expenses by expense category is presented in Table 41.

Approximately 89 percent of the operating expenses for the Kenosha transit system in 1982 were incurred under just three of the nine expense categories--labor, fringe benefits, and materials and supplies consumed. Operating expenses for fringe benefits and materials and supplies, which together accounted for about 42 percent of total operating expenses, exceeded the average for the comparable systems by about 29 and 26 percent, respectively. A majority of the difference in system efficiency between the Kenosha transit system and the comparable systems may be attributed to higher expenses in these two categories. In this respect, if expenses per unit of service provided by the Kenosha transit system were equivalent to the comparable group average in these two expense categories, total operating expenses for the Kenosha transit system

[3]Kenosha has the third largest primary city population of the nine Wisconsin cities in the peer group.

Table 41

COMPARISON OF OPERATING EXPENSES BY EXPENSE CATEGORY FOR SIMILAR SIZE WISCONSIN TRANSIT SYSTEMS AND THE KENOSHA TRANSIT SYSTEM: 1982

Operating Expense Category	Comparable Wisconsin Transit Systems					
	Valley Transit--Appleton	Eau Claire Transit System	Green Bay Transit System	Belle Urban System--Racine	Janesville Transit System	La Crosse Municipal Transit Utility
Operating Expense per Revenue Vehicle Hour (dollars per hour)[a]						
Labor						
Drivers' Wages	$ 9.62	$ 8.88	$ 8.51	$ 8.39	$11.58	$10.91
Other Wages	4.12	5.00	2.92	1.95	5.27	3.64
Subtotal	13.74	13.88	11.43	10.34	16.85	14.55
Fringe Benefits	6.25	5.63	5.63	4.18	4.44	5.60
Contract Services	0.21	0.37	0.87	1.43	0.29	0.03
Operating Expense per Vehicle Mile (dollars per mile)[a]						
Materials and Supplies Consumed						
Fuel and Lubricants	$ 0.20	$ 0.21	$ 0.20	$ 0.27	$ 0.30	$ 0.25
Tires and Tubes	0.01	0.02	0.02	0.02	0.03	0.03
Other	0.13	0.06	0.08	0.11	0.03	0.07
Subtotal	0.34	0.29	0.30	0.40	0.36	0.35
Utilities	0.03	0.04	0.04	0.03	0.05	0.03
Casualty and Liability Costs	0.04	0.03	0.04	0.05	0.09	0.03
Purchased Transportation Service	--	--	--	0.07	--	0.03
Miscellaneous Expenses	0.03	0.01	0.01	0.01	0.06	0.02
Leases and Rentals	--	--	--	--	0.01	--

Operating Expense Category	Comparable Wisconsin Transit Systems			Kenosha Transit System	
	Oshkosh Transit System	Sheboygan Transit System	Group Average	Number	Percent of Group Average
Operating Expense per Revenue Vehicle Hour (dollars per hour)[a]					
Labor					
Drivers' Wages	$10.57	$ 6.56	$ 9.38	$ 9.20	98.1
Other Wages	3.31	4.19	3.80	4.15	109.2
Subtotal	13.88	10.75	13.18	13.35	101.3
Fringe Benefits	3.61	3.78	4.89	6.20	126.8
Contract Services	0.08	0.20	0.44	1.06	240.9
Operating Expense per Vehicle Mile (dollars per mile)[a]					
Materials and Supplies Consumed					
Fuel and Lubricants	$ 0.26	$ 0.25	$ 0.24	$ 0.23	95.8
Tires and Tubes	0.01	0.03	0.02	0.02	100.0
Other	0.08	0.11	0.08	0.19	237.5
Subtotal	0.35	0.39	0.34	0.44	129.4
Utilities	0.05	0.04	0.04	0.04	100.0
Casualty and Liability Costs	0.09	0.05	0.05	0.06	120.0
Purchased Transportation Service	--	--	0.01	0.06	600.0
Miscellaneous Expenses	0.02	0.04	0.02	--	--
Leases and Rentals	--	--	--	--	--

[a]Excludes interest expense, depreciation, and amortization; includes charter expenses.

Source: Wisconsin Department of Transportation and SEWRPC.

would be about $1,426,000, or less than 1 percent over the comparable group average of $1,423,000.

In 1982 fringe benefits amounted to over 46 percent of total labor expenses for the Kenosha transit system, versus an average of about 37 percent for the comparable transit systems. A significant portion of this difference may be attributed to benefits paid to employees in the form of cost-of-living adjustments (COLA) and sick leave, as well as unemployment benefits paid to former employees laid off by the transit system after reductions in service levels during 1981. During 1983, the transit system took actions directed at reducing unwarranted use of sick leave. Expenses for COLA and unemployment have also been significantly reduced. As a result, fringe benefits amounted to about 39 percent of total system expenses during the first 10 months of 1983--a significant reduction from the 1982 level.

The breakdown of expenditures for materials and supplies indicated that while expenditures on the Kenosha transit system for fuel and tires were slightly below the average for the comparable systems, expenditures for other supplies were more than double those of the comparable systems. This difference may be attributed primarily to higher-than-average expenses for bus parts, which accounted for about 83 percent of the expenditures in this category for the Kenosha transit system during 1982. High expenditures for bus parts were found to be partially attributable to nonroutine maintenance conducted during 1982, including higher-than-average repairs for damages caused by traffic accidents, and repairs to replace defective fuel tanks in some of the newer transit coaches. The remaining differences in parts expenditures were attributed to variations in the routine maintenance practices of the transit systems compared. In this respect, it was noted that the Kenosha transit system operates with fewer spare buses than the comparable transit systems--two spare buses for the Kenosha transit system versus an average of between four and five spare buses for the comparable systems. Consequently, the Kenosha transit system cannot defer major maintenance on system vehicles as spare vehicles must be available to replace vehicles requiring routine servicing. Both routine and nonroutine major maintenance must be constantly performed to keep the required number of vehicles available for system operation. Because this maintenance effort results in the use of a large number of replacement parts for the transit system, expenditures for parts may be expected to remain above the comparable group average for the Kenosha transit system. However, because of reductions in accident repairs and other nonroutine repairs conducted during 1982, expenditures for parts are anticipated to be somewhat lower in 1983.

Operating expense per passenger, operating revenue per passenger, and operating deficit per passenger are financial performance measures that indicate the level of public financial support required to sustain transit operations. The operating expense per passenger for the Kenosha transit system of $1.28 was $0.16, or about 14 percent, higher than the average of $1.12 for the other systems in 1982. The operating revenue per passenger of $0.30 was $0.03, or about 9 percent, less than the average of $0.33 for the comparable systems in 1982.[4] The resulting operating deficit per passenger of $0.98 was $0.19,

[4]During 1982, fares for the Kenosha transit system were lower than the fares shown in Table 39. The operating revenue per passenger for the Kenosha transit system during 1983 was estimated at $0.32, and was anticipated to be more comparable to that of the other transit systems.

or 24 percent, higher than the average for the comparable systems of $0.79. Farebox and other revenues for the Kenosha transit system covered only about 23 percent of the operating expenses in 1982, whereas the comparable group covered an average of $0.33, or 30 percent of expenses, from system revenues.

Conclusions of Comparative Evaluation of Performance

The comparative evaluation of systems performance indicates that the Kenosha transit system provides a similar level of service to other transit systems, and has succeeded in attracting a level of ridership which approximates the average of the other systems. In terms of financial performance, however, the Kenosha transit system falls short of that observed on the comparable systems because of somewhat lower-than-average operating revenues and somewhat higher-than-average operating expenses.

The fare increase implemented on January 1, 1983, should result in some improvements in these aspects of system performance by increasing operating revenues on the Kenosha transit system and making them more comparable on a per-passenger basis to those observed on the other systems. More significant improvements in system financial performance would be attained through reductions of expenditures in one or more of the higher-than-average expense categories. The transit system has made some progress in this area, and is anticipated to have lower expenditures for parts and certain fringe benefits during 1983. A third approach to improving these aspects of system performance would be to consider route revisions and schedule changes which would increase transit ridership and improve system productivity. Such actions could improve system performance by generating additional passenger revenues and reducing the deficit per passenger.

ROUTE PERFORMANCE EVALUATION

A performance evaluation of the individual routes of the Kenosha transit system was conducted using the performance measures set forth under the transit service objectives and standards. Performance measures indicating the current level of ridership and financial performance of each bus route were used to identify bus routes exhibiting low performance levels. Further analyses of each route were then conducted using survey information indicating the boarding and alighting activity of bus passengers along route segments. Finally, each bus route was examined for compliance with headway and passenger loading standards.

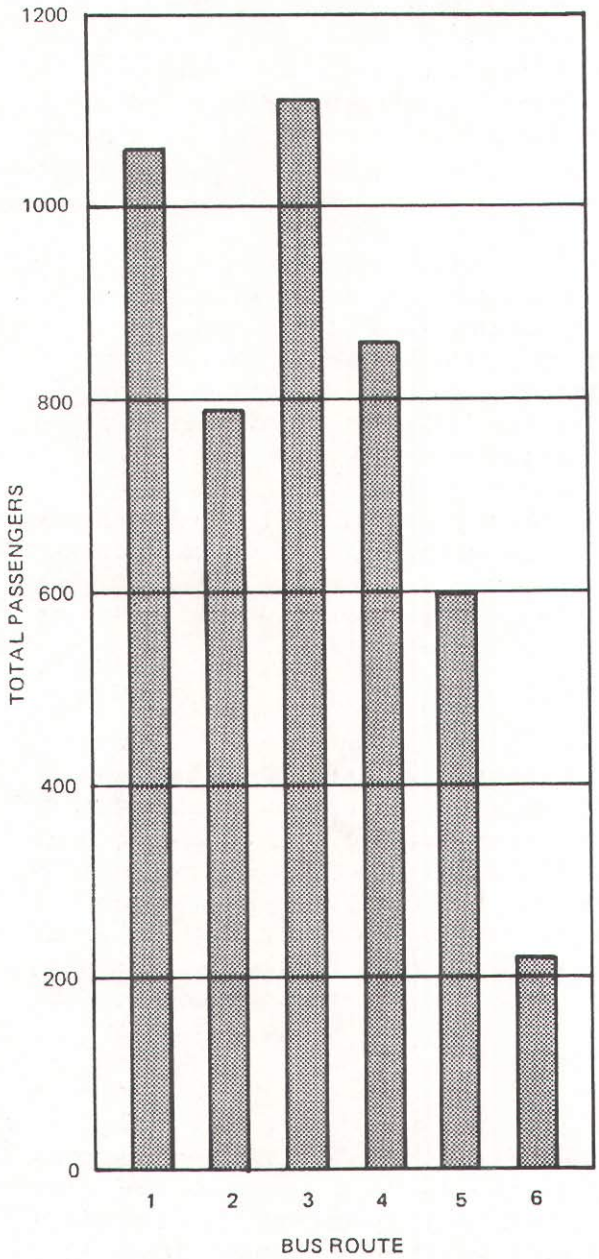
Ridership and Financial Performance

The performance characteristics of the bus routes composing the Kenosha transit system are shown in Figures 15 through 18. The data presented in these figures for Routes 1 through 6 are based upon the weekday operating characteristics and total ridership--revenue passengers and transfer passengers--for each route during the period from April 19 through April 21, 1983, as obtained from actual on-bus count data. The performance measures presented in the figures indicate the ridership, productivity, and financial performance of each bus route.

Measures of ridership and productivity examined for each bus route included total passengers and total passengers per revenue vehicle hour. Measures of

Figure 15

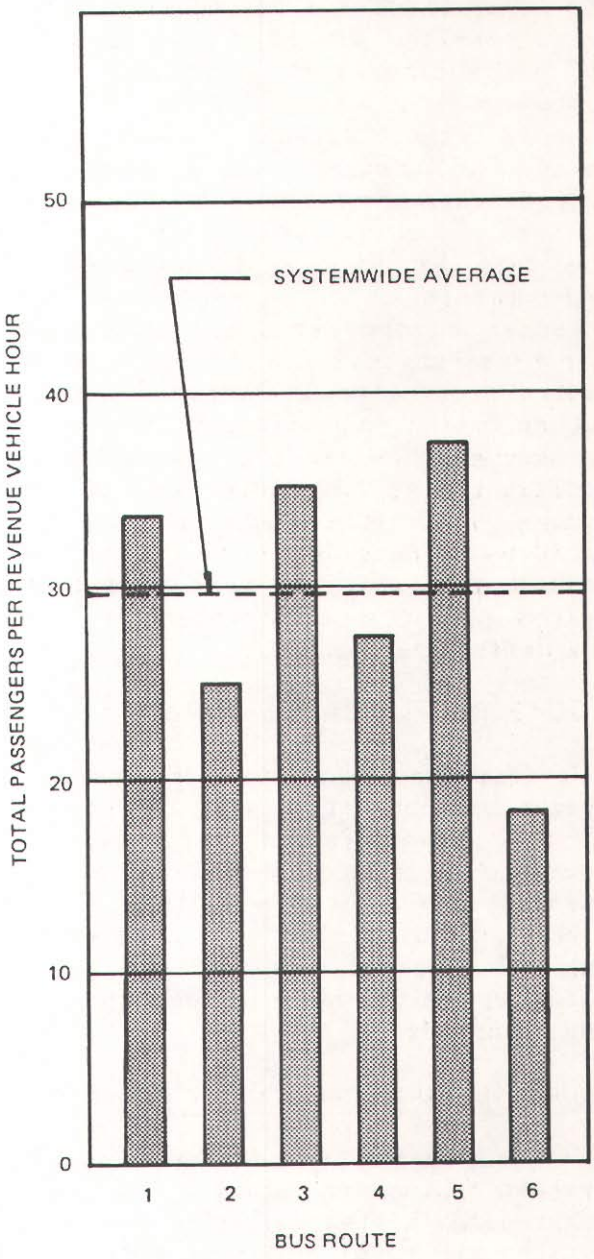
AVERAGE WEEKDAY TOTAL PASSENGERS BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM: APRIL 19-APRIL 21, 1983



Source: SEWRPC.

Figure 16

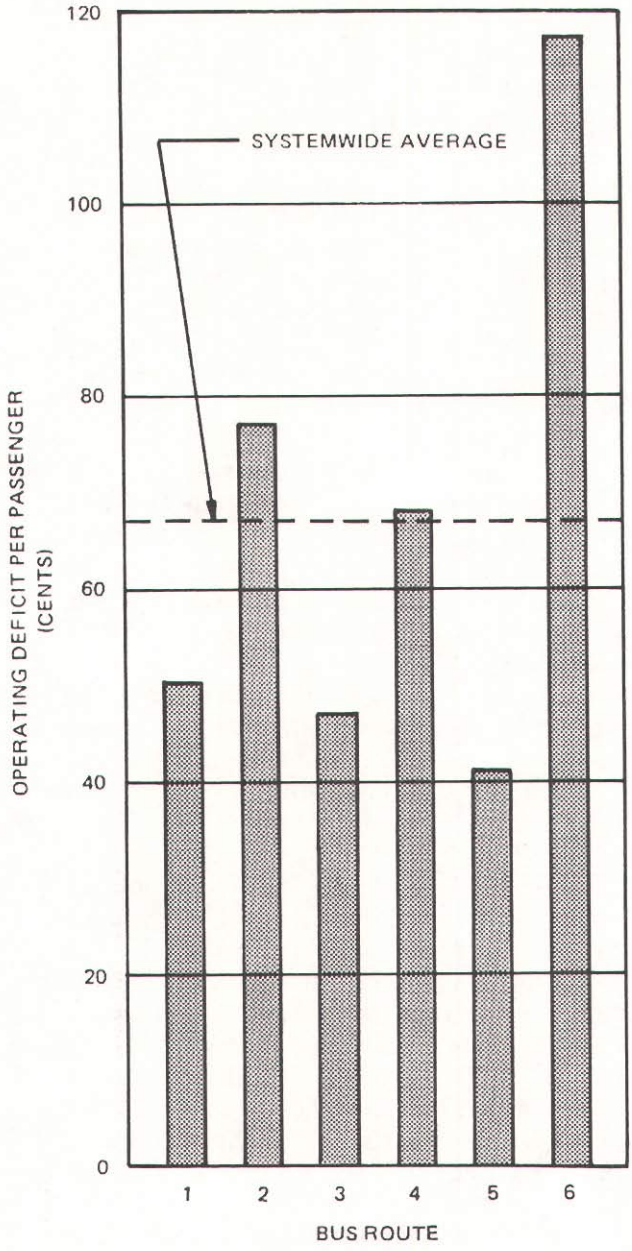
AVERAGE WEEKDAY TOTAL PASSENGER PER REVENUE VEHICLE HOUR BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM: APRIL 19-APRIL 21, 1983



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 17

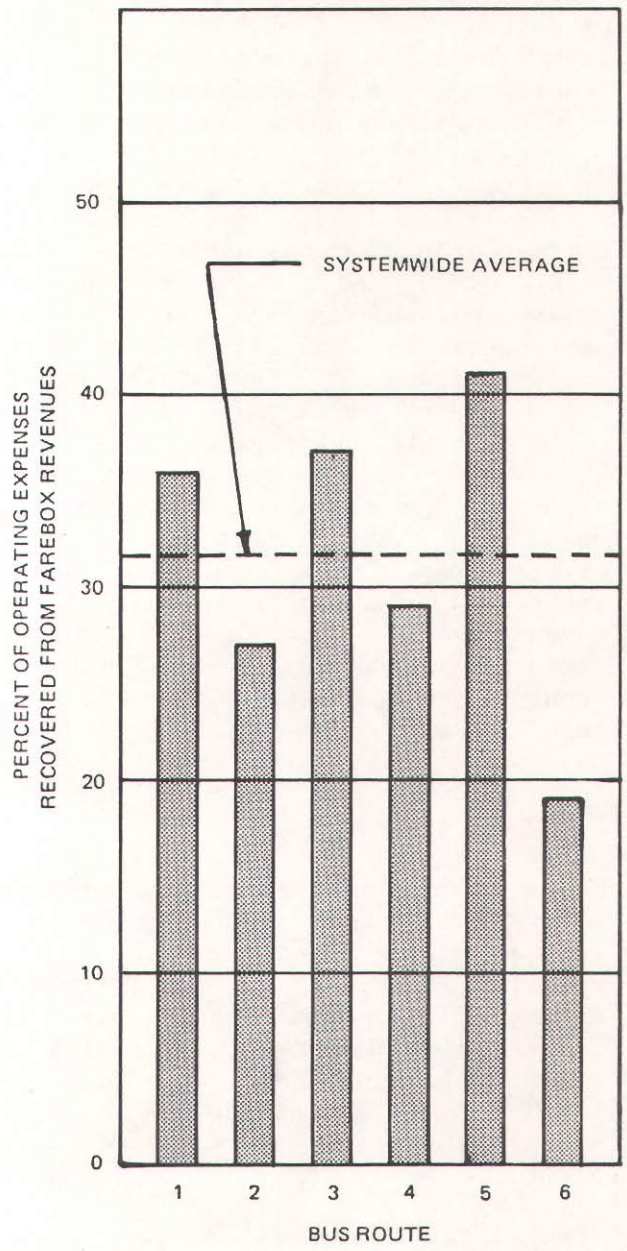
AVERAGE WEEKDAY OPERATING DEFICIT PER PASSENGER BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM: APRIL 19-APRIL 21, 1983



Source: City of Kenosha Department of Transportation and SEWRPC.

Figure 18

PERCENT OF OPERATING EXPENSES RECOVERED FROM FAREBOX REVENUES BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM: APRIL 19-APRIL 21, 1983



Source: City of Kenosha Department of Transportation and SEWRPC.

financial performance included operating deficit per total passenger and percent of operating expenses recovered from farebox revenues. These performance measures, however, must be considered estimates, as they are based upon data derived from sample passenger counts, an average revenue per passenger, and an average cost per hour of the service provided.[5] The ridership, productivity, and financial performance of each bus route was compared with those of the other bus routes and with the respective averages for the entire system. The intent of this comparison was to identify those bus routes with performance levels significantly below systemwide averages. It is important that this comparative information not be misinterpreted or misused. In this respect, no single performance measure should be used to justify termination of a route which has a performance level below the systemwide average.

The first performance measure examined, total passengers by route, is displayed in Figure 15. During the survey period of April 19 through April 21, 1983, an average of 4,600 total passengers--revenue passengers and transfer passengers--were accommodated each day by the six regular routes of the system. The average daily total ridership on five of the six routes accounted for about 4,400 total passengers, or about 96 percent of the daily total. Route 6, with the lowest absolute ridership of about 220 passengers per day, accounted for the remaining 4 percent. Routes 1 and 3 held the highest absolute ridership figures of 1,060 and 1,110 passengers, respectively.

Figure 16 indicates total passengers per revenue vehicle hour--an additional measure of route productivity which relates passengers carried to the volume of service provided. Higher values of this measure are an indicator of better vehicle utilization and economy of operation. An average of 30 passengers per revenue vehicle hour was recorded during the survey period. Three routes performed above this average, with Route 5 exhibiting the best performance at about 38 total passengers per revenue vehicle hour, followed by Route 3 with about 35 total passengers per revenue vehicle hour, and Route 1 with 34 total passengers per revenue vehicle hour. The lowest performance was exhibited by Route 6, with only 18 total passengers per revenue vehicle hour--40 percent below the systemwide average.

Measures of financial performance examined for each bus route included operating deficit per total passenger and the percent of operating expenses recovered from farebox revenues. These measures are displayed for each bus route in Figures 17 and 18. Both measures provide a general indication of the extent to which the level of passenger revenue generated by each route meets the expenses incurred in operating the route. Passenger revenue is a function of the total passengers carried, as well as the type of fare paid: full or $0.40, $0.35 for students, $0.20 for elderly or handicapped persons, and monthly pass. For the study period, the systemwide average weekday deficit per total passenger was about $0.65 on Routes 1 through 6, and about 31 percent

[5]Estimates of average weekday operating expenses per route were based upon the systemwide average operating expense per revenue vehicle hour of $26.37 observed during the first six months of 1983, and average weekday revenue vehicle hours for each route. Estimates of average weekday passenger revenues per route were based upon an estimated 1983 systemwide average revenue of $0.28 per total passenger for the six regular routes of the transit system, and upon total passengers per route figures obtained from passenger counts conducted by the Commission on April 19-21, 1983.

of operating expenses were recovered through farebox revenues. One of the six bus routes--Route 6--had an operating deficit exceeding $1.00 per passenger. Route 6 recovered only 19 percent of its operating expenses from passenger revenues. By comparison, the other five routes had a combined average deficit of $0.56 and an expense recovery rate of 34 percent from farebox revenues. Figures 17 and 18 indicate that Routes 1, 3, and 5 were consistently above the systemwide average.

Boarding and Alighting Passengers by Route Segment

The passenger boarding and alighting activity along each bus route was examined to identify both highly productive and nonproductive route segments. Information on the number of boarding and alighting passengers by bus stop for each bus route was obtained from the results of special passenger counts taken by the Commission from April 19 through April 21, 1983. To facilitate analysis of the passenger boarding and alighting information, each bus route was divided into segments based upon distance, with the route segments each being approximately one mile long. Exceptions to this length were made where no stops were made over a long portion of the route--as on that part of Route 1 serving the University of Wisconsin-Parkside--and for the end portions of two routes, Routes 5 and 6, which had their terminus at the downtown transfer point.

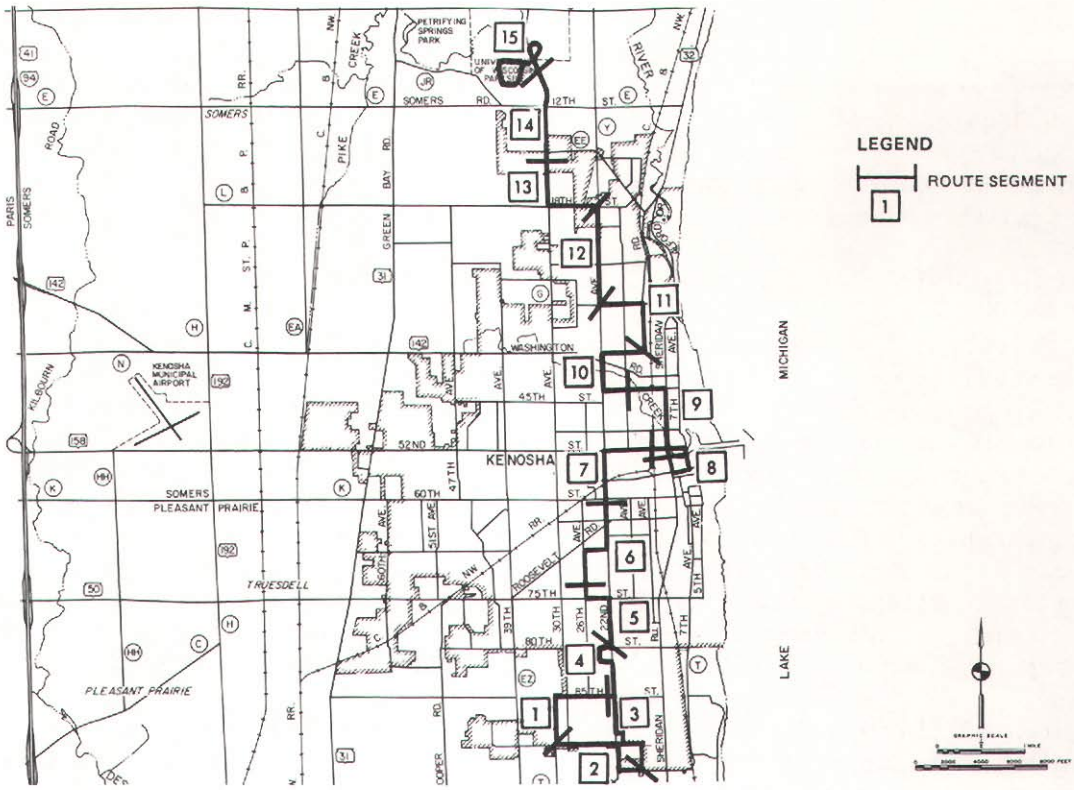
Figures 19 through 24 illustrate the boarding and alighting passenger information by route segment for Routes 1 through 6. Maps 31 through 36 identify the segments for each of the six routes for which segment data were prepared.

Approximately 9,330 boarding and alighting passengers were recorded over the 76 segments identified on the system. The 20 most productive route segments, characterized by having the heaviest boarding and alighting passenger activity, are shown on Map 37. More than 6,500 passengers, or about 70 percent of the total recorded, boarded or alighted on these 20 route segments. As would be expected, included among the 20 most productive route segments is that route segment of each of the six major routes which included the central transfer point for the transit system in downtown Kenosha. The downtown segments for Routes 1 through 5 made up the five route segments with the heaviest boarding and alighting passenger activity, containing approximately 3,060 boarding and alighting passengers, or about one-third of the total recorded on the system. Other route segments having high boarding and alighting activity generally were located where routes served major traffic generators, or passed through densely developed residential areas.

Also shown on Map 37 are the 20 route segments having the lowest passenger boarding and alighting activity. Only about 430 passengers, or less than 5 percent of the total recorded, boarded or alighted on these 20 segments. Route segments with the lowest passenger activity generally were located where routes passed through areas with few major trip generators or with low-density residential development. An exception would be Route 6; six of its nine segments, including three which pass through densely developed areas of the City, are among the 20 least productive route segments. Other route segments with low passenger activity that would merit further examination include several segments of Routes 3 and 4 where these routes terminate on the southwest side of the City. Duplication of service by these routes where they traverse a common loop along 39th Avenue, 85th Street, and 51st Avenue may result in low passenger activity for each route.

Map 31

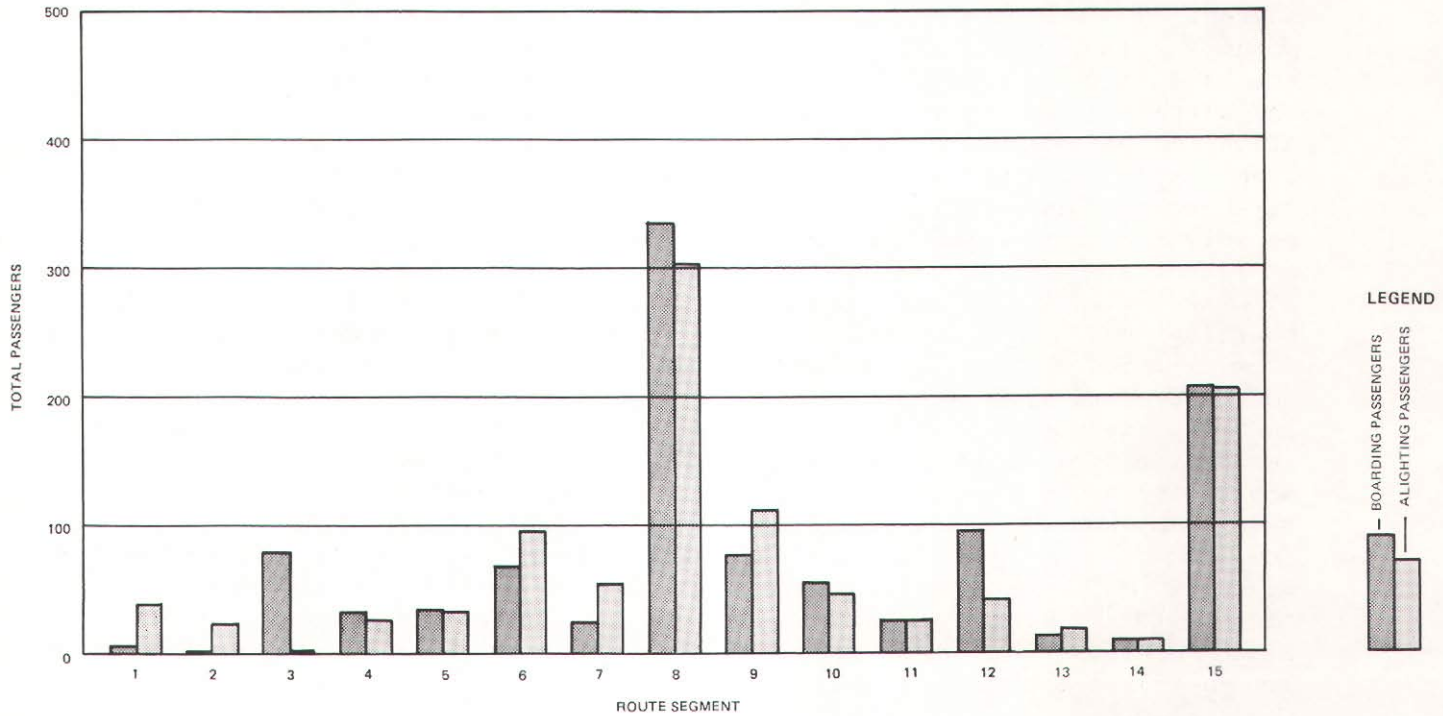
ROUTE SEGMENTS FOR ROUTE 1



Source: SEWRPC.

Figure 19

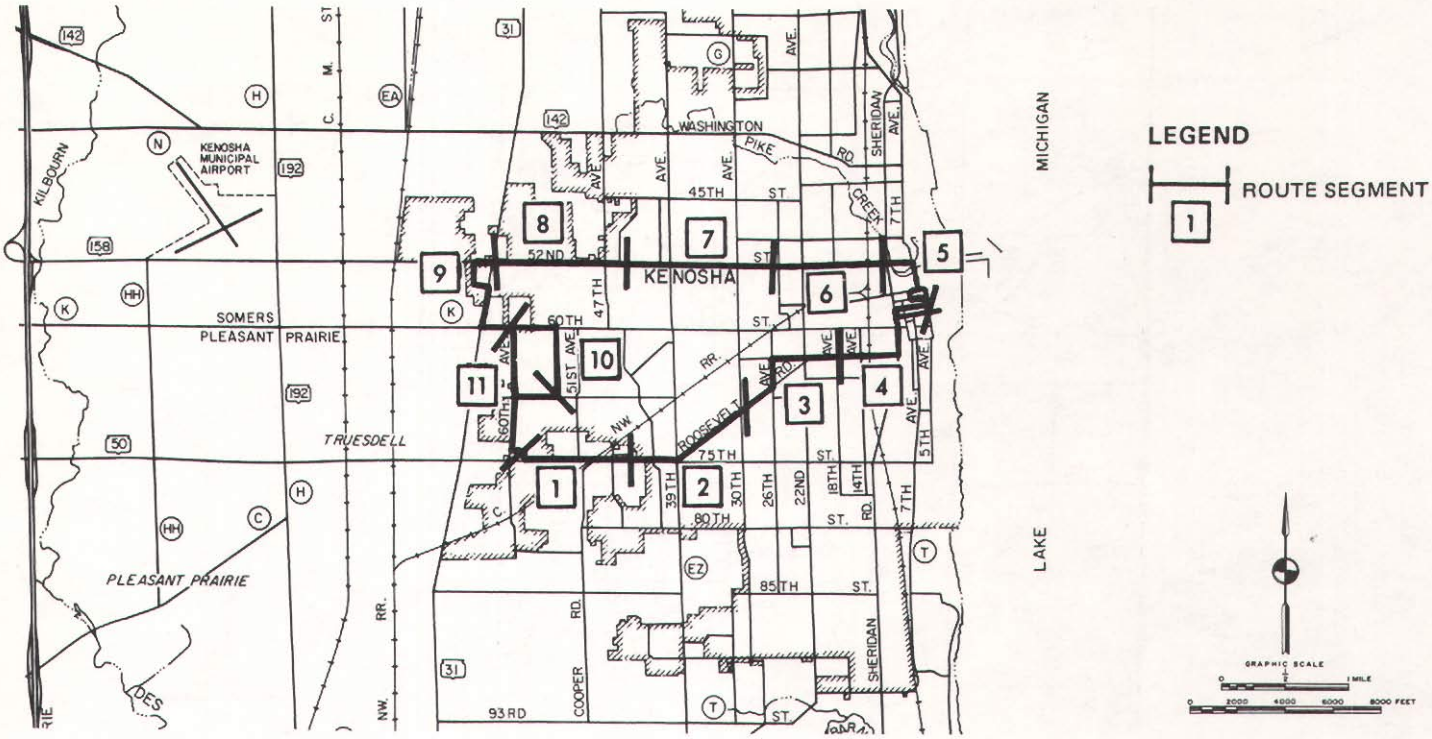
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 1



Source: SEWRPC.

Map 32

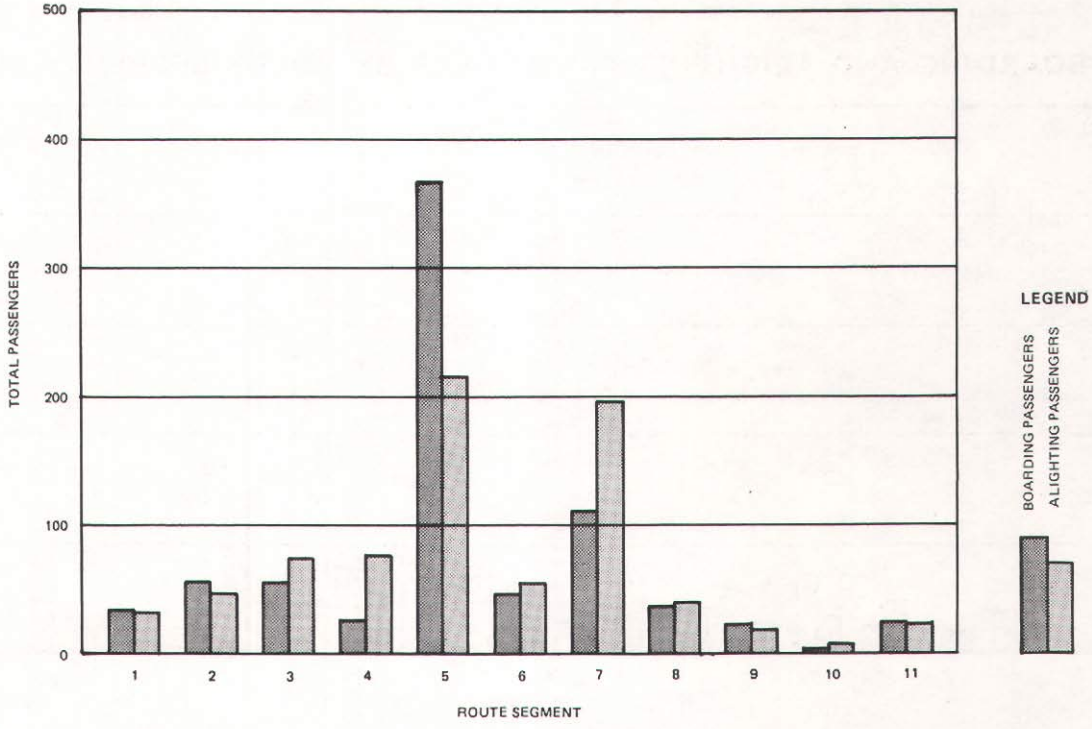
ROUTE SEGMENTS FOR ROUTE 2



Source: SEWRPC.

Figure 20

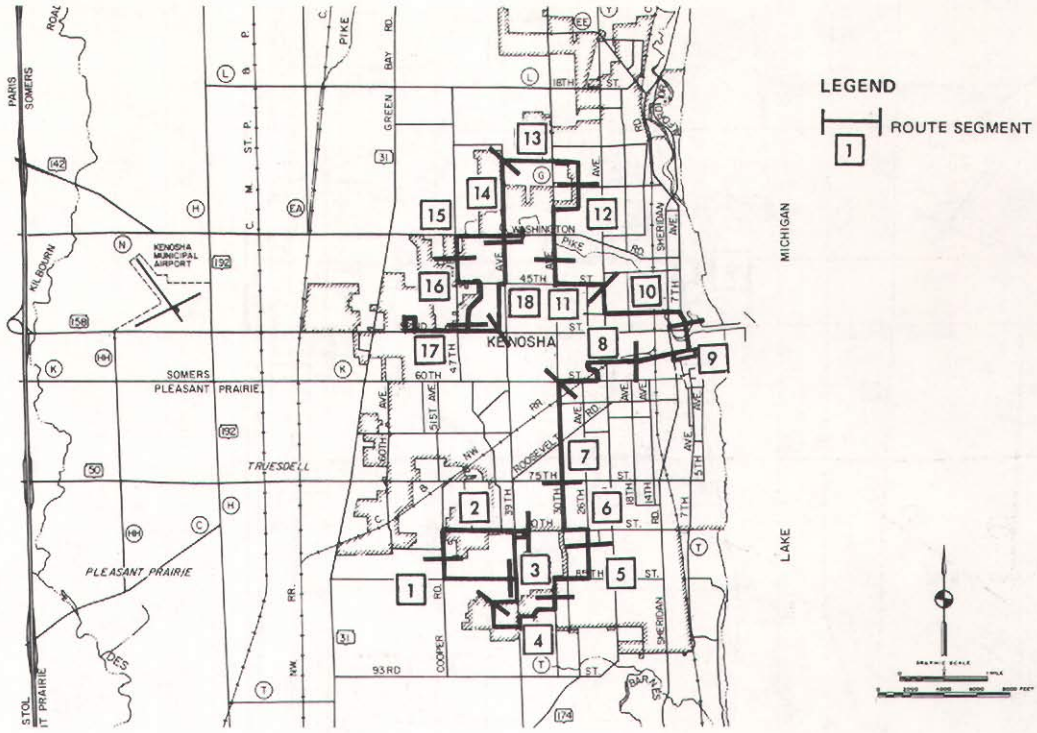
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 2



Source: SEWRPC.

Map 33

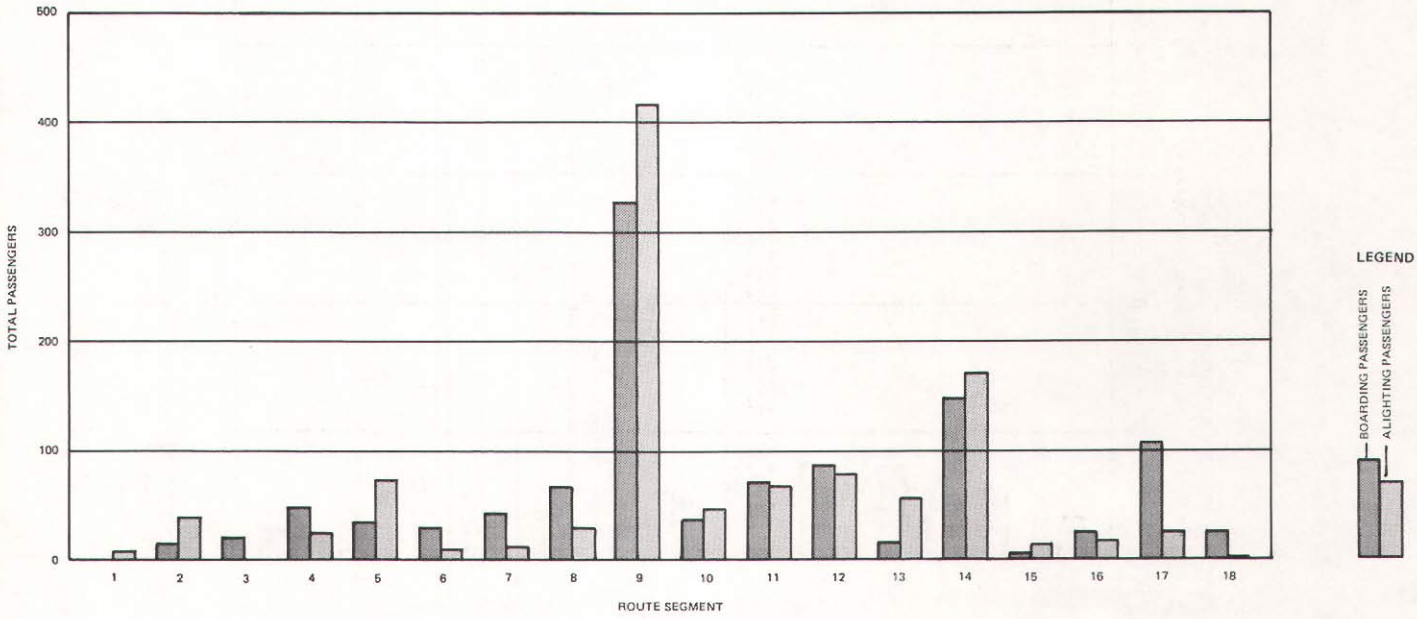
ROUTE SEGMENTS FOR ROUTE 3



Source: SEWRPC.

Figure 21

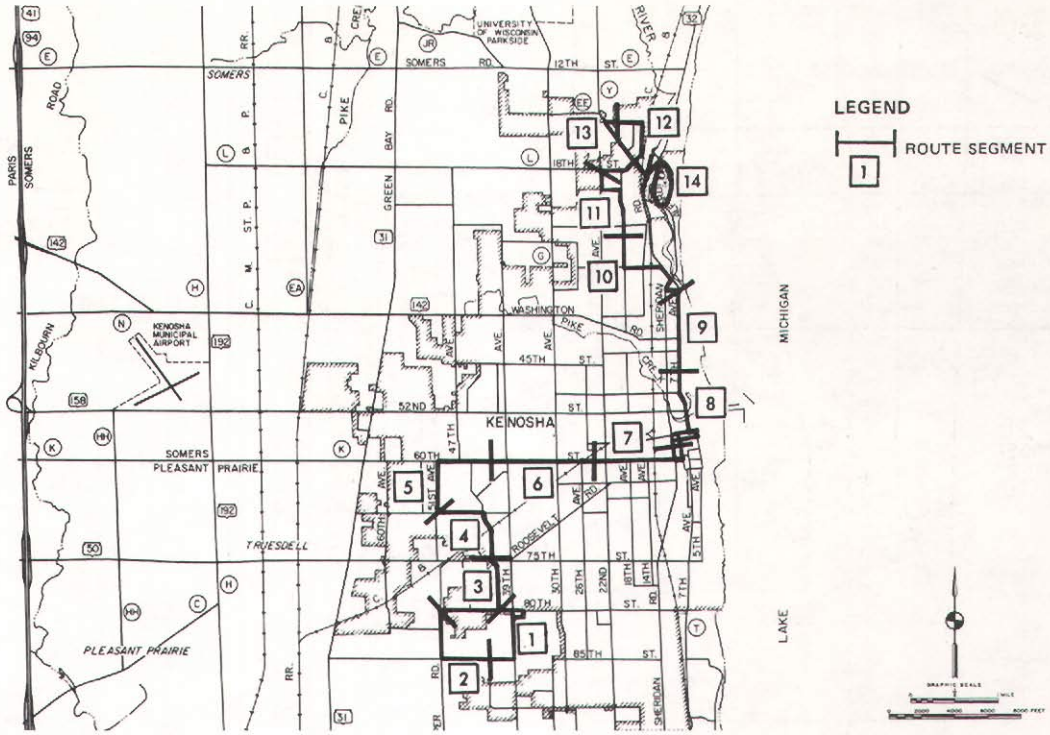
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 3



Source: SEWRPC.

Map 34

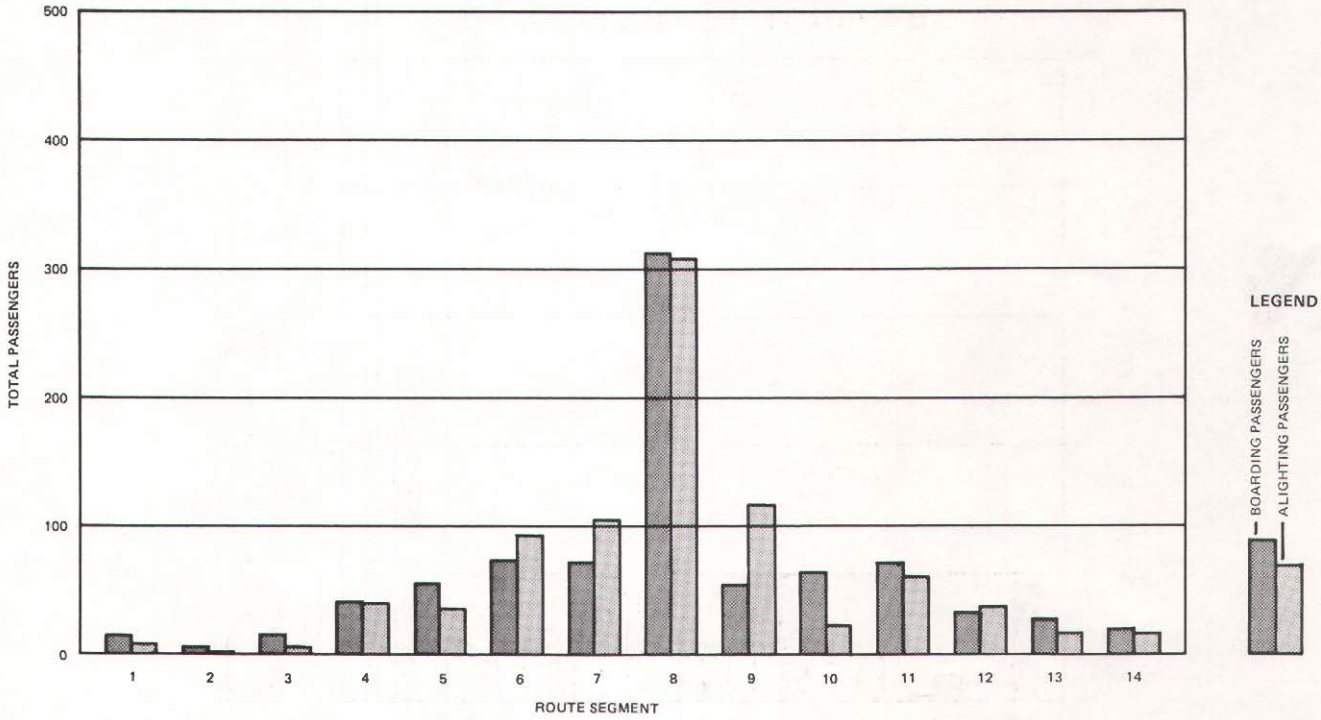
ROUTE SEGMENTS FOR ROUTE 4



Source: SEWRPC.

Figure 22

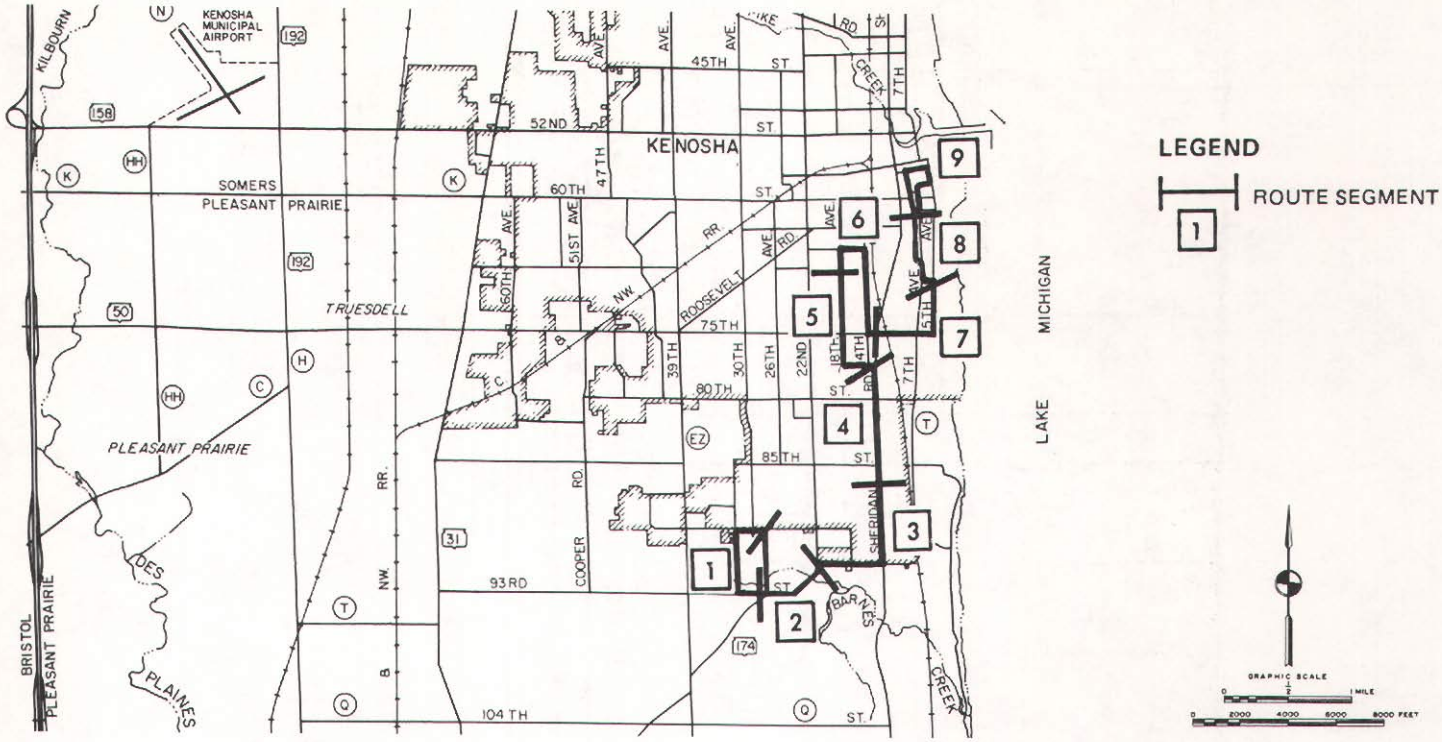
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 4



Source: SEWRPC.

Map 35

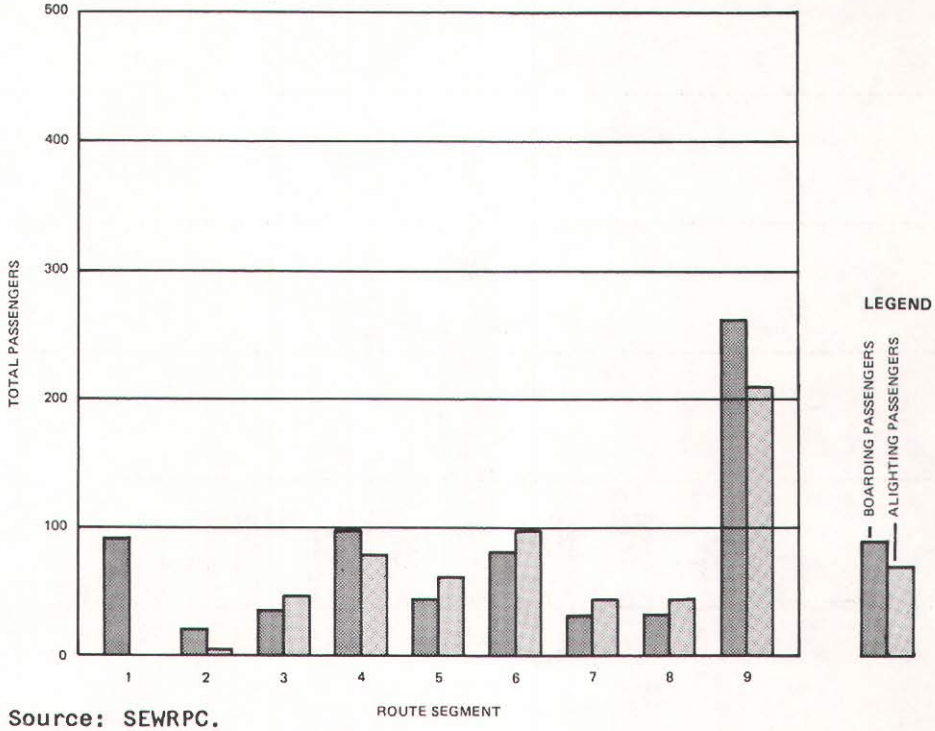
ROUTE SEGMENTS FOR ROUTE 5



Source: SEWRPC.

Figure 23

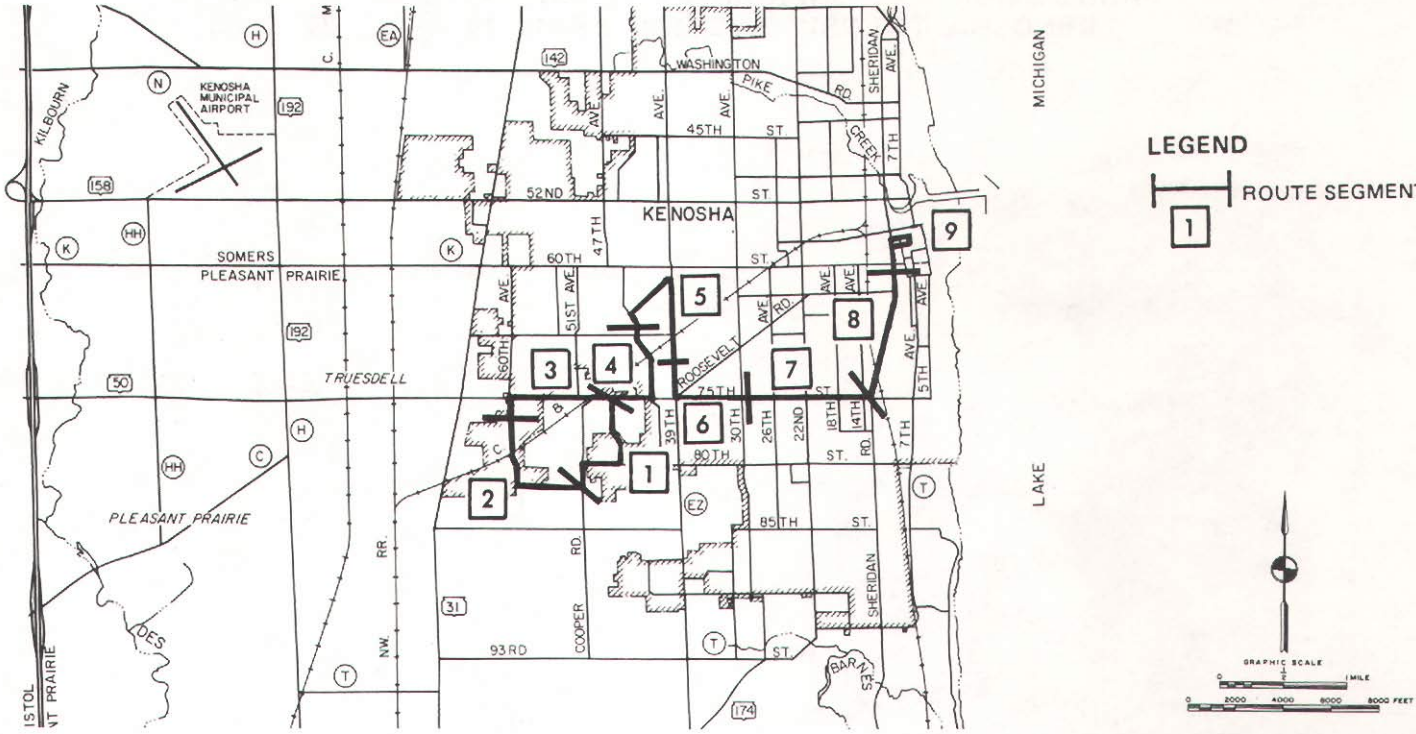
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 5



Source: SEWRPC.

Map 36

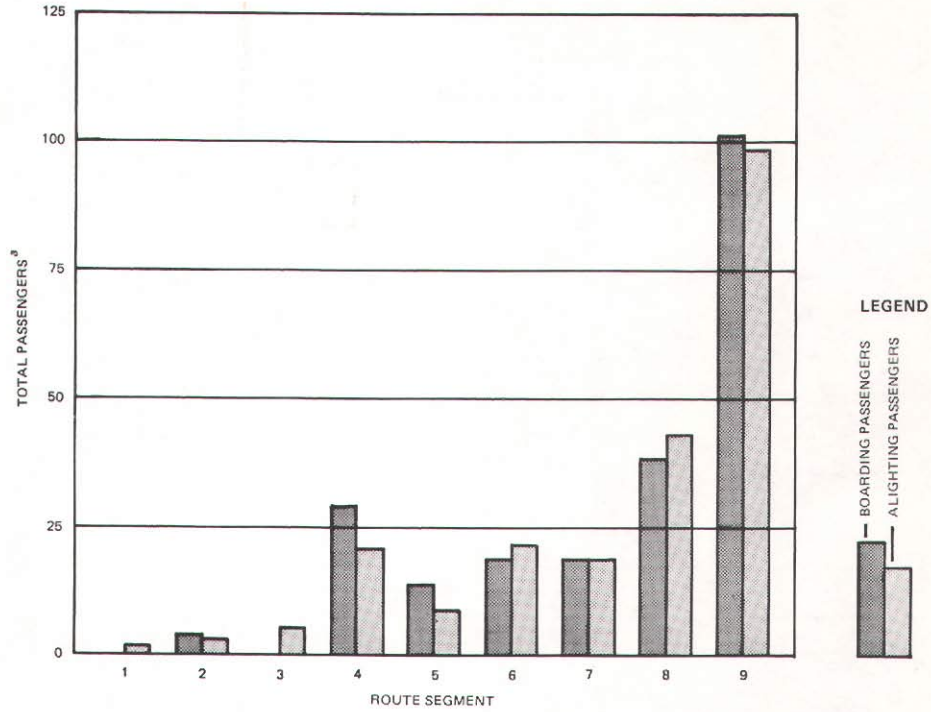
ROUTE SEGMENTS FOR ROUTE 6



Source: SEWRPC.

Figure 24

BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 6

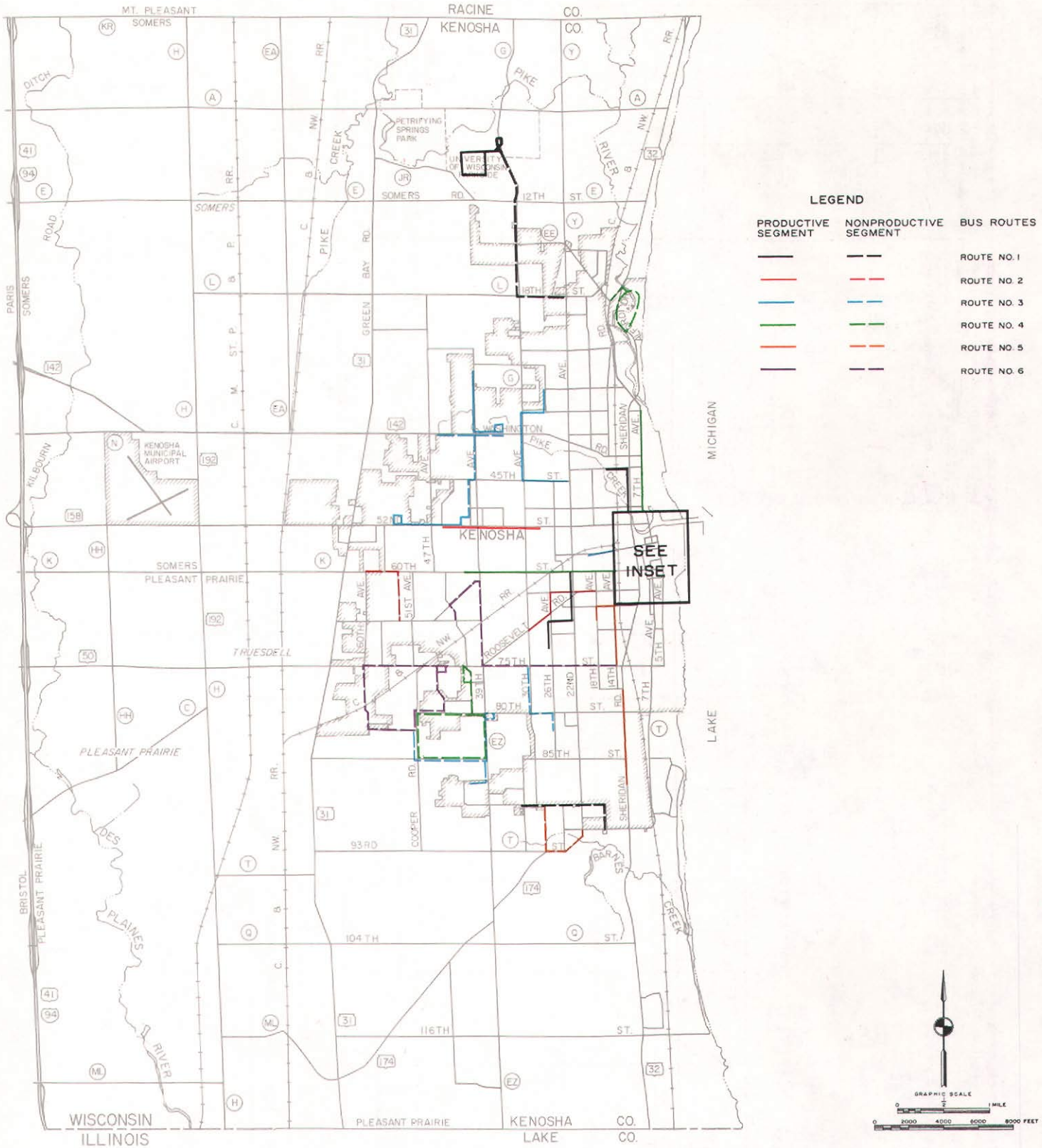


[a] *Total passengers scale differs from that used in Figures 19 through 23.*

Source: SEWRPC.

Map 37

PRODUCTIVE AND UNPRODUCTIVE ROUTE SEGMENTS ON THE KENOSHA TRANSIT SYSTEM: APRIL 19-APRIL 21, 1983



Source: SEWRPC.

INSET GRAPHIC SCALE
0 400 800 FEET

Compliance With Passenger Loading Standards

Public transit service should be designed to provide adequate capacity to meet travel demand. Adequate capacity may be defined by passenger loading standards which relate maximum passenger demand for service to the amount of service provided during a specific time period. The maximum load factor, defined as the ratio of passengers to bus seats available, is the indicator most commonly used to measure compliance with passenger loading standards. This factor, normally measured at that part of the route where passenger loads are greatest, serves also to measure the quality of bus service, as it provides an indication of the number of passengers who must stand on a bus on a given route.

The identification of the maximum load point location was based upon the passenger loading characteristics for each route as determined from count data from on-board bus surveys, and upon an analysis of the graph of total daily passenger volume by bus stop. These graphs are presented in Appendix C.

Individual maximum load factors were calculated for each of the six routes for the maximum hour of the morning and afternoon peak travel periods, and for the midday off-peak period. These factors for each route, by direction and each time period, are presented in Table 42. Of the 36 locations entered, 26 were found to be on one of the 20 route segments having the highest level of absolute passenger activity.

As would be expected, those routes of the transit system which carry most of the average weekday ridership--Routes 1, 3, and 5--had the highest average peak-period passenger loadings. Route 3, the route with the highest loading, is the only route having a maximum hour load factor above one. The lowest passenger loadings in absolute terms--0.14 during the afternoon peak and 0.16 during the morning peak--were found on Route 2. The lowest average passenger loadings were found on Route 6; the average peak passenger loadings on this route were 51 percent below the average of the remaining five routes.

Maximum load factors of 1.33 during peak periods and 1.00 during off-peak periods were recommended by the transit service objectives and standards. The systemwide average maximum load factor for peak direction of travel was calculated at approximately 0.51 for both the morning and afternoon peak periods, and at about 0.51 also for the midday off-peak period. All the routes of the transit system had load factors substantially below the recommended maximums.

Compliance With Policy Headways

While the headways for local transit service should be capable of accommodating passenger demand at the recommended load standards, such headways should not exceed certain maximums established as a matter of policy. This is because the frequency of service not only determines, in effect, the availability of transit service, but also the average time that riders are required to wait for a bus. The attractiveness of transit travel to potential riders can be improved by establishing maximum policy headways which result in reasonable waiting times for passengers.

Policy headways of 30 minutes during peak periods and 60 minutes at all other times have been recommended for the Kenosha transit system. With the exception

of Route 6, all of the routes comply with this policy. Route 6 operates at 60-minute headways throughout the day. However, based upon the relatively low volume of passengers carried on this route, the current service level is more than adequate to accommodate demand. As already noted, this route has the lowest financial and passenger performance, even with the below-policy service levels. Operation of the route with policy headways would result in increased operating deficits for the route.

Conclusions of Route Performance Evaluation

From the preceding evaluation, it is apparent that the routes of the system which have succeeded in attracting the most passengers while performing at the highest levels of cost-effectiveness in 1983 were Routes 1, 3, and 5. These three routes together accounted for 60 percent of the average weekday ridership and had productivity and cost-effectiveness levels well above the systemwide average. Routes which have done well in attracting ridership but which have somewhat below average productivity and cost-effectiveness levels are Routes 2 and 4. These two routes accounted for 36 percent of the average weekday system ridership. The lowest performance levels on the system were observed on Route 6, which had ridership, productivity, and cost-effectiveness levels significantly below the systemwide average.

The route segment analysis identified those components of the transit system with the lowest passenger boarding and alighting activity. This information should be viewed as an indicator of where routing changes may be warranted in the current route structure. This is particularly true for Route 6, which is made up primarily of segments with very low passenger activity, and for Routes 3 and 4 where they provide duplicate service on the southwest side of the City. It should be noted that in reviewing potential route changes to eliminate non-productive route segments, it may be necessary to compromise improving system performance in order to maintain a comprehensive service area coverage.

SUMMARY

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

At the first level, a two-part assessment of performance was made on a system-wide basis. The first part of this assessment examined the extent to which the transit system served the population and major land uses within the Kenosha area. The second part of this assessment compared the ridership and financial performance of the Kenosha transit system with the ridership and financial performance of a comparable group of similar size Wisconsin transit systems. At the second level of evaluation, the performance of each route in the transit system was evaluated based upon its operating characteristics, ridership, and financial performance. The following conclusions may be drawn from the performance evaluations:

- The Kenosha transit system provides excellent service area coverage of the residential areas within the City of Kenosha, and good coverage of the densely developed residential areas adjacent to the City within

Table 42

MAXIMUM LOAD FACTORS BY BUS ROUTE FOR THE KENOSHA TRANSIT SYSTEM

Route Number	Direction of Travel	Time Period[a]	Maximum Load Point Location	Maximum Hour	Maximum Hour Total Passengers	Maximum Hour Load Factor[b]
1	South	A.M. peak	22nd Avenue and 43rd Street.....	7:30 a.m.- 8:30 a.m.	60	0.67
		Off-peak	14th Avenue and 35th Street.....	11:45 a.m.-12:45 p.m.	28	0.62
		P.M. peak	43rd Street and Sheridan Road.....	3:15 p.m.- 4:15 p.m.	58	0.64
	North	A.M. peak	26th Avenue and 69th Street.....	7:30 a.m.- 8:30 a.m.	50	0.56
		Off-peak	6th Avenue (Southport Mall) and 56th Street.....	12:00 p.m.- 1:00 p.m.	25	0.56
		P.M. peak	6th Avenue (Southport Mall) and 56th Street.....	3:15 p.m.- 4:15 p.m.	38	0.42
2	Clockwise	A.M. peak	52nd Street and 17th Avenue.....	7:30 a.m.- 8:30 a.m.	45	0.50
		Off-peak	6th Avenue (Southport Mall) and 56th Street.....	2:00 p.m.- 3:00 p.m.	16	0.36
		P.M. peak	6th Avenue (Southport Mall) and 56th Street.....	3:45 p.m.- 4:45 p.m.	13	0.14
	Counter-Clockwise	A.M. peak	Roosevelt Road-32nd Avenue.....	7:30 a.m.- 8:30 a.m.	14	0.16
		Off-peak	6th Avenue (Southport Mall) and 56th Street.....	2:00 p.m.- 3:00 p.m.	38	0.84
		P.M. peak	6th Avenue (Southport Mall) and 56th Street.....	3:15 p.m.- 4:15 p.m.	72	0.80
3	South	A.M. peak	Bradford High School (on 39th Avenue).....	7:15 a.m.- 8:15 a.m.	81	0.90
		Off-peak	45th Street and 28th Avenue.....	2:00 p.m.- 3:00 p.m.	38	0.84
		P.M. peak	35th Street and 30th Avenue.....	3:00 p.m.- 4:00 p.m.	52	0.58
	North	A.M. peak	30th Avenue and 40th Street.....	6:45 a.m.- 7:45 a.m.	94	1.04
		Off-peak	6th Avenue (Southport Mall) and 56th Street.....	12:00 p.m.- 1:00 p.m.	20	0.44
		P.M. peak	6th Avenue (Southport Mall) and 52nd Street.....	3:15 p.m.- 4:15 p.m.	48	0.53
4	South	A.M. peak	St. Catherine's Hospital.....	7:00 a.m.- 8:00 a.m.	49	0.54
		Off-peak	7th Avenue and Washington Road....	9:45 a.m.-10:45 a.m.	20	0.44
		P.M. peak	6th Avenue (Southport Mall) and 52nd Street.....	3:15 p.m.- 4:15 p.m.	37	0.41
	North	A.M. peak	6th Avenue (Southport Mall) and 56th Street.....	7:00 a.m.- 8:00 a.m.	48	0.53
		Off-peak	6th Avenue (Southport Mall) and 56th Street.....	1:00 p.m.- 2:00 p.m.	23	0.51
		P.M. peak	6th Avenue (Southport Mall) and 56th Street.....	3:15 p.m.- 4:15 p.m.	37	0.41

Table 42 (continued)

Route Number	Direction of Travel	Time Period[a]	Maximum Load Point Location	Maximum Hour	Maximum Hour Total Passengers	Maximum Hour Load Factor[b]
5	South	A.M. peak	5th Avenue and 73rd Street	7:30 a.m.- 8:30 a.m.	65	0.72
		Off-peak	6th Avenue (Southport Mall) and 56th Street	1:00 p.m.- 2:00 p.m.	28	0.62
		P.M. peak	6th Avenue (Southport Mall) and 56th Street	3:15 p.m.- 4:15 p.m.	36	0.40
	North	A.M. peak	18th Avenue and 75th Street	7:00 a.m.- 8:00 a.m.	42	0.46
		Off-peak	8th Avenue and 63rd Street	1:00 p.m.- 2:00 p.m.	16	0.36
		P.M. peak	65th Street and 14th Avenue	3:00 p.m.- 4:00 p.m.	65	0.72
6	North	A.M. peak	Sheridan Road and 66th Place	7:00 a.m.- 8:00 a.m.	13	0.29
		Off-peak	Sheridan Road and 66th Place	9:45 a.m.-10:45 a.m.	10	0.22
		P.M. peak	Sheridan Road and 63rd Street	3:00 p.m.- 4:00 p.m.	13	0.29
	South	A.M. peak	6th Avenue (Southport Mall) and 56th Street	8:00 a.m.- 9:00 a.m.	6	0.13
		Off-peak	6th Avenue (Southport Mall) and 56th Street	12:00 p.m.- 1:00 p.m.	15	0.33
		P.M. peak	6th Avenue (Southport Mall) and 56th Street	3:00 p.m.- 4:00 p.m.	16	0.36

[a] A.M. peak from 6:30 a.m. to 8:30 a.m.; off-peak from 8:30 a.m. to 3:00 p.m.; p.m. peak from 3:00 p.m. to 5:00 p.m.

[b] Ratio of passengers on the bus when it departs from the maximum load point to the number of seats on the bus. The fleet average of 40 seats per bus was assumed in this analysis.

Source: SEWRPC.

the Urban Planning District. The transit system also provides excellent service area coverage of the residential concentrations of transit-dependent population groups identified within the area, including concentrations of elderly persons, persons in low-income families, racial (nonwhite) and ethnic (Hispanic) minorities, and persons in households having no automobile.

- The Kenosha transit system provides very good coverage of the major traffic generators identified within the study area, serving 99, or 88 percent, of the 113 major traffic generators existing in the Planning District in 1983.

- An estimated 20,900 jobs were provided at major employment centers within the study area in 1983. About 20,200 of these jobs, or about 97 percent, were served by the routes of the transit system. Work schedules were determined for about 14,700, or about 73 percent, of the 20,200 jobs served. The vast majority--about 95 percent--of the jobs for which schedules were determined were either fully or partially served by the existing schedules of the transit system. Adjustment of the currently scheduled service on some routes could increase the number of jobs fully served by the transit system by better relating the period of transit service to the starting and quitting times of certain major employers. In addition, a cooperative effort on the part of the major employers to adjust their work schedules to meet current or adjusted transit system schedules would further enable the transit system to more fully serve the major employment centers within the study area.

- The analysis of the origin-destination patterns of bus passengers indicated that the routes of the transit system are capable of conveniently serving the vast majority of trips made on the transit system.

- The overall performance of the Kenosha transit system was similar to that of other mid-size Wisconsin transit systems with regard to ridership levels and quantity of service provided. The financial performance of the transit system, however, was found to be somewhat below that observed on the comparable systems due primarily to higher-than-average operating expenses and lower-than-average operating revenues. The financial performance of the system could be improved by increasing revenues and reducing operating expenditures systemwide, or by selectively implementing routing and scheduling changes which would increase ridership and improve system productivity.

- Routes 1, 2, 3, 4, and 5 were found to have been more successful than Route 6 in attracting ridership and in operating at a desired level of cost-effectiveness. These five routes account for about 96 percent of the total average weekday ridership on the transit system.

- The ridership, productivity, and cost-effectiveness levels noted for Route 6 were significantly below the levels noted for Routes 1 through 5. These low performance levels warrant consideration of routing or scheduling changes for this route in order to improve performance levels.

- Low passenger activity levels were noted for Routes 3 and 4 in the southwestern portion of the service area. This may be attributed to

the overall low residential density of this service area and to the duplication of service within portions of this low-density area. Restructuring of these routes to eliminate such nonproductive route segments may be justified.

The analyses documented in this chapter indicate that some overall changes in the transit system should be considered to improve performance, together with some selective changes in specific routes. The extensive systemwide and route performance evaluations presented in this chapter were intended to provide a sound basis for the consideration of such needed changes; the development of alternative transit system plans and programs; and the selection of a recommended plan and program for the five-year period from 1984 through 1988. The transit service alternatives are documented in Chapter VII of this report.

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Chapter VI

EXISTING TRANSIT LEGISLATION AND REGULATIONS

INTRODUCTION

Legal, institutional, and financial constraints affecting the provision of public transit service are important considerations in the preparation of any transit system development plan and program. This chapter summarizes legislation and related regulations existing at the federal, state, and local levels affecting the provision of public transit service in the Kenosha area. Federal legislation and related administrative rules regulate the availability and distribution of federal financial aid for capital improvement projects, operating subsidies, and technical studies. State legislation specifies the institutional structure for public transit systems and tax relief structures, and provides for operating subsidies. Local ordinances include certain regulations affecting transit service and defining the local role in the provision of public transit service.

FEDERAL LEGISLATION

Federal assistance for urban public transportation was first provided in 1961 through a modestly funded section of the federal Housing and Urban Development Act. The section authorized federal expenditures for demonstration projects and for low-interest emergency loans for transit system development. Currently, federal aid for providing urban transit services is available primarily under the provisions of the Urban Mass Transportation Act of 1964 and its subsequent amendments.

Urban Mass Transportation Act of 1964, As Amended

The landmark Urban Mass Transportation Act of 1964 represented the first significant federal effort to provide financial assistance for transit service by the establishment of a comprehensive program of matching grants for preserving, improving, and expanding urban public transit service. The stated purposes of the Act were: "1) to assist in the development of improved mass transportation facilities, equipment, techniques, and methods, with the cooperation of mass transportation companies both public and private; 2) to encourage the planning and establishment of areawide urban mass transportation systems needed for economical and desirable urban development, with the cooperation of mass transportation companies both public and private; and 3) to provide assistance to state and local governments and their instrumentalities in financing such systems, to be operated by public or private mass transportation companies as determined by local needs." The 1964 Act was subsequently amended by the Urban Mass Transportation Assistance Act of 1970, by the National Mass Transportation Assistance Act of 1974, by the Surface Transportation Act of 1978, and by the Federal Surface Transportation Assistance Act of 1982. The federal reorganization of 1968 transferred responsibility for administering the Act from the U. S. Department of Housing and Urban Development to the U. S. Department of Transportation through the establishment of the Urban Mass Transportation Administration (UMTA) within that Department. Programs

under the Act which offer designated eligible local recipients sources of federal funds to assist them in carrying out urban public transportation projects are described below.

Section 3 Funds: Discretionary capital matching grants are authorized under Section 3 of the Urban Mass Transportation Act of 1964, as amended by the Federal Surface Transportation Act of 1982. Section 3 grants are made on a project-by-project basis at the discretion of the Secretary of the U. S. Department of Transportation. Such grants are intended primarily for state or local public agencies that operate or assist in the operation of transit systems in urbanized areas; that is, in urban areas having a central city of 50,000 population or more. Section 3 grants provide up to 75 percent of the costs of eligible projects, which are limited to the construction of new and the extension of existing fixed guideway rapid transit systems, including the acquisition of real property, the initial acquisition of rolling stock needed for such systems, and the detailed alternatives analyses relating to the development of such systems; the acquisition, construction, reconstruction, and improvement of facilities and equipment for use in the provision of public transportation service; the introduction into public transportation service of new technology in the form of innovative and improved products; and joint development and urban initiatives projects. In addition to being available as matching grants, Section 3 funds may be used as loans for the acquisition of real property and interests in real property for use as rights-of-way, station sites, and related purposes. In 1975 the City of Kenosha applied for and received a UMTA Section 3 capital grant in the amount of approximately $1.5 million. These funds were used to purchase new operating equipment and facilities for the Kenosha transit system.

Section 5 Funds: Federal assistance in the form of formula grant program funds for urbanized areas was first authorized under Section 5 of the Urban Mass Transportation Act of 1964 as amended by the National Mass Transportation Assistance Act of 1974. Under this program, Section 5 funds were made available for use by eligible recipients within an urbanized area either to defray transit operating expenses on a 50 percent federal-50 percent local matching basis, or to make transit capital improvements on an 80 percent federal-20 percent local basis. Under this program, funds for urbanized areas of 200,000 or more population are allocated directly to the designated recipients within each urbanized area. Funds for urbanized areas of less than 200,000 population are allocated to the governor of each state, who then designates recipients within each urbanized area of the state.[1]

With the passage of the Surface Transportation Act of 1978, the Section 5 assistance program was divided into four separate funding categories: 1) basic, or first-tier, funding, 2) second-tier funding, 3) third-tier, or commuter rail/fixed guideway rapid transit, funding, and 4) fourth-tier, or bus capital project, funding. The basic, or first-tier, funds, provided under the Section 5 program are distributed among the urbanized areas based upon a formula

[1]Within the Kenosha urbanized area, the City of Kenosha, at the specific recommendation of the Southeastern Wisconsin Regional Planning Commission, has been designated by the Governor of the State of Wisconsin as the recipient agency for applicable Section 5 monies.

which takes into equal consideration both the population and population density of each urbanized area. These funds can be used to offset a portion of eligible operating and/or capital improvement expenditures. Second-tier funds are distributed using the same population-population density formula used for the distribution of first-tier funds, and may also be used for either operating or capital assistance projects. However, 85 percent of the second-tier funds is distributed to urbanized areas of 750,000 or more population, with the remaining 15 percent being distributed to urbanized areas of less than 750,000 population. The third tier of Section 5 assistance, the commuter rail/fixed guideway allocation, is available only to eligible recipients which operate commuter rail/fixed guideway facilities and services, of which there are currently none in the Region. The fourth-tier funds, bus capital project funds, may be used only for bus-related capital acquisition projects, including the purchase of buses and bus-related equipment, and the construction of bus-related facilities. The bus capital allocation, like the first- and second-tier allocations, is distributed on the basis of a formula which takes into equal account population and population density.

The Federal Surface Transportation Assistance Act of 1982 made significant changes to the existing Section 5 federal formula grant program. The most significant of these changes was the elimination of the existing Section 5 formula grant program after 1983 and the creation of a new program under Section 9 of the Act to replace it, beginning in 1984. The new Section 9 formula grant program is described in a following section of this chapter. The existing Section 5 program, as described above, has been retained for calendar year 1983. However, in keeping with the policy of the current federal administration of reducing federal aid for transit operating assistance, the Federal Surface Transportation Act of 1982 placed limits--or "caps"--on the amount of Section 5 formula funds allocated annually to each urbanized area which could be used for operating assistance. Specifically, for urbanized areas with a total 1980 population of fewer than 200,000 persons, which includes the Kenosha urbanized area, the funds available for 1983 for use as operating assistance within the urbanized area are limited to 95 percent of the Section 5 operating assistance funds allocated by formula to the urbanized area in 1982. For 1983, Section 5 formula capital assistance funds--Tier IV funds--can be transferred for use as operating assistance on a dollar-for-dollar basis to bring the 1983 urbanized area operating assistance allocation up to the amount specified by the funding cap. Section 5 capital assistance monies can also be transferred to operating assistance to exceed the funding cap and bring 1983 operating assistance levels back up to 100 percent of the 1982 level. A penalty is, however, involved for any transfer of funds over the operating assistance funding cap.[2]

In the Kenosha urbanized area, the City of Kenosha has used Section 5 funds since 1975 both to partially offset the annual operating deficit of the transit system and to support capital purchase costs. In 1983 the City of Kenosha will

[2]As a penalty for transferring formula capital assistance funds for use as operating assistance above the specified funding cap, UMTA requires that one-third of the amount transferred be paid back to the Secretary of Transportation for use in the discretionary capital grant program nationwide. In other words, three dollars of capital assistance money must be transferred to obtain two dollars of operating assistance money.

receive approximately $772,950 in UMTA Section 5 operating assistance funds. Of this amount, about $109,000, or about 14 percent, represents Section 5 capital assistance monies transferred for use as operating assistance.

Section 8 Funds: Grants for technical studies are provided under Section 8. Activities funded under this section include studies related to the management, operations, capital requirements, and economic feasibility of urban public transportation projects; the preparation of engineering and architectural surveys, plans, and specifications; the evaluation of previously funded transit projects; and similar and related activities preliminary to and in preparation for the construction, acquisition, or improved operation of public transportation systems, facilities, and equipment. Technical study grants may cover up to 100 percent of the study costs; however, current UMTA policy is to make all technical study grants on an 80 percent federal-20 percent local matching basis. Urban transit technical studies conducted as a part of the Regional Planning Commission's continuing land use-transportation study, such as this study for the Kenosha area, are funded in part with Section 8 funds.

Section 9A and 9 Funds: The Federal Surface Transportation Assistance Act of 1982 created two new formula grant programs: Section 9A and Section 9. The Section 9A program is a one-year program of formula-apportioned assistance available only during 1983. Funds for this program are made available to urbanized areas from the Mass Transit Account of the Highway Trust Fund. The Section 9 program is a formula-apportioned block grant program that will replace the existing Section 5 program beginning in 1984. Funds for this program will be made available from general fund appropriations. The funds to be provided under both programs are distributed among the nation's urbanized areas on the basis of a statutory formula. In general, the formula funds are apportioned on the basis of population and population density for urbanized areas with less than 200,000 population, such as the Kenosha urbanized area, using the formula previously used to distribute Section 5 funds nationally. For urbanized areas with more than 200,000 population, formula funds are apportioned on the basis of population and population density, fixed guideway route miles, bus and fixed guideway revenue vehicle miles, and bus and fixed guideway passenger miles of travel.

Under the Section 9A program, funds may be used by eligible recipients only for planning and capital-related purposes on an 80 percent federal-20 percent local matching basis. Money has been appropriated and apportioned for the Section 9A program only during 1983. However, funds not obligated by UMTA for specific projects during 1983 will remain available for obligation for an additional three years, or until September 30, 1986.

The Section 9 formula block grant program will make federal transit assistance available to urbanized areas for planning, capital, and operation assistance purposes beginning in 1984. The federal matching share for planning and/or capital assistance is not to exceed 80 percent of the eligible project costs, while the federal matching share for operating assistance is not to exceed 50 percent of transit operating deficits. The Section 9 funds allocated to urbanized areas will remain available for up to three years past the year for which the allocation was made--a total of four years. Any funds remaining unobligated by UMTA after four years will be added to the amount available nationally for apportionment in the succeeding year.

With respect to planning and/or capital assistance, the Section 9 program:

1. Will become the primary source of federal funds for routine capital assistance needs--that is, bus and rail system replacements, equipment purchases, facility construction, and system modernization and rehabilitation;

2. Will provide supplemental funds to support planning needs that cannot be accommodated under the Section 8 planning program;

3. Will become a funding source for technology introduction and the deployment of innovative techniques and methods; and

4. Will add an incentive tier of funds based on vehicle passenger miles traveled as related to operating costs. The incentive tier is intended to reward the most productive transit system operations in areas with more than 200,000 population.

With respect to operating assistance, the Section 9 program will replace the Section 5 program and become the sole source of federal funds for operating purposes in 1984. The Section 5 program funding cap instituted in 1983 will apply under the Section 9 program as well. For the Kenosha urbanized area, this means that Section 9 funds available for operating assistance may be limited to an amount equal to 95 percent of the Section 5 operating assistance funds allocated to the urbanized area in 1982. As was allowed in 1983 for the Section 5 program, Section 9 capital assistance funds in 1984 can be transferred for use as operating assistance, under penalty, to exceed the funding cap and bring operating assistance levels back up to 100 percent of the 1982 level. No provision has been made for the transfer of capital formula funds to operating assistance in order to exceed the funding cap after 1984.

Both the Section 9A and Section 9 programs will retain the designated recipient concept used in the Section 5 program since its inception. As noted for the Section 5 program, funds for urbanized areas of less than 200,000 population, such as the Kenosha urbanized area, are allocated to the governor of each state, who will then designate recipients within such urbanized areas of the state. The City of Kenosha will be the designated recipient for Section 9A and Section 9 funds allocated to the Kenosha urbanized area. The governor may also transfer an amount of the state's apportionment for urbanized areas of less than 200,000 population to supplement funds apportioned to urbanized areas of less than 300,000 population. The initial apportionment of Section 9A funds for the Kenosha urbanized area in 1983 was approximately $341,000 based upon the national formula. However, because the City of Kenosha had no capital projects which would use all of the allocated funds, it agreed to allow the Governor to reallocate the Section 9A funds which it would not use to other urbanized areas of the State. The final allocation of Section 9A funds for the Kenosha urbanized area in 1983 was approximately $70,000.

Section 16 Funds: Capital grants are available under Section 16 to equip an agency to meet the specialized transportation needs of the elderly and handicapped. These grants are available only to private, nonprofit corporations

providing coordinated specialized transportation services. This aid is provided to fill service gaps in areas where existing transit vehicles and route structures cannot safely or conveniently provide transportation service to the elderly and handicapped. The Wisconsin Department of Transportation administers the Section 16 program within Wisconsin for UMTA. A recipient of these funds in the Kenosha urbanized area is the Kenosha Achievement Center, which utilized Section 16 funds in 1977, 1979, and 1980 to purchase vehicles and other operating equipment used in providing specialized transportation service to its clientele.

UMTA Administrative Regulations: The availability of federal funds under the previously described Urban Mass Transportation Act of 1964, as amended, is restricted by several administrative regulations. Below are the more important of these regulations which have relevance to the use of UMTA urban transit assistance funds within the Kenosha urbanized area:

1. No grants will be made unless the facilities and equipment proposed are included under the products of a continuing, cooperative, and comprehensive urban transportation planning process which includes the development of:

   a. an officially endorsed transportation plan for the transportation system of the area describing policies, strategies, and new or improved facilities;

   b. a staged multi-year program of transportation improvement projects consistent with the transportation plan--termed a transportation improvement program; and

   c. other planning and project development activities deemed necessary by state and local officials to assist in addressing transportation issues in the area--such as the preparation of a current transit system plan and program.

2. To be considered for funding under the Section 9A or 9 programs, each designated recipient is required to develop, publish, afford an opportunity for a public hearing on, and submit for approval a program of projects that the recipient proposes to undertake using such funds.

3. When federal funds provide a portion of the cost of a project, the remaining portion must come from sources other than federal funds, with the exception of federal revenue sharing funds and funds from federal programs, other than UTMA programs, which have been certified to be eligible as local share funds. In order for funds from federal programs to be eligible as local share funds, the UMTA requires certification by the sponsoring federal program agency that the funds to be used as local match money for UMTA grant programs will be used in accordance with all requirements and regulations governing the distribution and expenditure of the particular program concerned.

4. A detailed submission indicating compliance with the provisions of Title VI of the Civil Rights Act of 1964 regarding nondiscrimination on the grounds of race, color, or national origin must be on file with UMTA

before any financial assistance can be provided. Nondiscriminatory practices must be demonstrated for all UMTA-supported activities regarding:

a. the distribution of transit facilities and services and the benefits derived from such facilities and services;

b. the locational accessibility of transit facilities and services;

c. the adverse impacts of transit facilities and services on persons residing in the affected communities; and

d. the opportunity and ability for participation in the planning, programming, and implementation of transit facilities and services.

5. Public transportation programs and activities receiving federal financial assistance must comply with Section 504 of the Rehabilitation Act of 1973 regarding nondiscrimination on the basis of handicap. In order to comply with interim federal regulations promulgated to implement the provisions of Section 504 as they apply to public transportation, funding recipients must meet the following requirements:

   a. Funding recipients who employ 15 or more persons must adopt and file with the U. S. Department of Transportation procedures that incorporate appropriate due process standards which provide for the prompt and equitable resolution of complaints or grievances alleging any discriminatory action prohibited by federal regulations.

   b. Funding recipients must submit to the U. S. Department of Transportation certification that "special efforts" to provide transportation services that handicapped persons can effectively use are being made within their transit service area. Examples of how a recipient of federal funds can currently satisfy this requirement include the following:

      1. The recipient may choose to expend an average annual dollar amount equivalent to 3.5 percent of the UMTA Section 5 assistance it receives on projects designed to benefit handicapped persons. Examples of projects which would qualify as eligible expenditures include the purchase of wheelchair lift devices and kneeling features for buses, and the provision of specially designed transportation services for wheelchair-bound handicapped persons.

      2. The recipient may choose to purchase only wheelchair-accessible buses until one-half of the fleet is accessible.

      3. The recipient may choose to implement a system of any design that would assure that every wheelchair-bound user or semi-ambulatory person in the urbanized area has public transportation available, if requested, for 10 round trips per week at fares comparable to those charged on the regular transit system for trips of similar length within the transit system's service area.

The City of Kenosha has chosen to meet this requirement by contributing at least 3.5 percent of the UMTA Section 5 assistance it receives each year to the operation of the specialized transportation program administered by the Kenosha Achievement Center.[3]

6. All capital project applications must include a detailed statement on the environmental impact of the proposed project. Buses acquired with federal assistance must meet the emission standards under Section 202 of the Clean Air Act and Section 6 of the Noise Control Act and, whenever possible, must meet special criteria for low-emission vehicles and low-noise emission products. In addition, Sections 5, 9A, and 9 capital projects involving construction must include an analysis considering the best overall public interest in relation to such factors as:

   a. Air, noise, and water pollution.

   b. Destruction or disruption of man-made and natural resources, aesthetic values, community cohesion, and the availability of public facilities and service.

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[3]The U. S. Department of Transportation has issued a proposed final regulation which would change the aforementioned "special efforts" requirements of the interim regulation. Under the proposed final rule, each funding recipient's public transportation program is to make transportation services available to handicapped and elderly persons by either:

1. Making 50 percent of fixed route bus service accessible to handicapped and elderly persons. Fifty percent of fixed route bus service shall be deemed to be accessible when half the buses the recipient uses during both peak and nonpeak hours are accessible;

2. Providing paratransit or special services for handicapped and elderly persons. All handicapped and elderly persons in the recipient's service area who are unable, by reason of their handicap or age, to use the recipient's service for the general public shall be eligible to use the service; or

3. Providing a mix of accessible fixed route service and paratransit or special services. All persons eligible to use a special service or paratransit system provided in accordance with item No. 2 above shall be eligible to use the special services or paratransit component of the mixed system.

The method selected by the recipient must meet specified minimum service criteria governing service area, service availability, fares, trip restrictions, waiting time, and user eligibility, subject to a maximum expenditure level by the recipient. Two alternative maximum expenditure levels are included in the proposed rule: 7.1 percent of the average annual amount of federal financial assistance the recipient has received for its public transportation over the current and previous two fiscal years; or 3.0 percent of the average operating budget for the recipient's public transportation program over the current and previous two fiscal years. The recipient would not be required to exceed the maximum expenditure level to meet the minimum service criteria.

c. Adverse employment effects and tax and property value losses.

d. Injurious displacement of people, businesses, and farms.

e. Disruption of desirable community and regional growth.

7. Where a project involves land acquisition, no federal assistance may be provided unless an adequate housing relocation program is developed for any families displaced by the project. Financial assistance obtained may be used to help defer relocation costs, not to exceed specified amounts.

8. All applications for federal assistance must certify that they have afforded an adequate opportunity for public hearings on each proposed project. For Section 3, 5, 9A, and 9 projects, notice for the hearing must be given at least 30 days in advance and must inform the public of all significant economic, social, or environmental issues and invite them to examine all project documents. Public hearings must be held prior to increases in general levels of transit fares, or substantial changes in transit services.

9. No federal assistance may be provided for the purchase or operation of buses unless the applicant first agrees not to engage in charter bus operations in competition with private bus operators outside the area where the applicant provides regularly scheduled service. The applicant must also agree to charge a rate which will cover the entire cost of providing the charter bus service.

10. No federal assistance may be provided for the purchase or operation of buses unless that applicant agrees not to engage in school bus operations for the exclusive transportation of students and school personnel in competition with private school bus operators. This rule does not apply, however, to "tripper" service provided for the transportation of school children along with other passengers by regularly scheduled bus service at either full or reduced rates.

11. No federal financial assistance may be provided until fair and equitable arrangements have been made as determined by the Secretary of Labor to protect the interests of employees affected by such assistance. Such arrangements must include provisions protecting individual employees against a worsening of their positions with respect to their employment, continuing collective bargaining rights, and preserving other existing employee rights, privileges, and benefits.

12. All accounting systems for all transit systems eligible for federal aid must conform to a uniform system of account and record-keeping. This system, entitled "Uniform System of Accounts and Records," is to facilitate a clear definition of the economics and operating conditions of a transit system in the interest of more efficient planning, administration, and operation.

STATE LEGISLATION

Two types of legislation which affect the provision of public transportation services have been enacted by the State of Wisconsin: 1) legislation

authorizing financial assistance for the provision of general public and specialized transportation services, and 2) legislation involving the administrative regulations and controls governing the establishment and operation of transit services.

Financial Assistance

Urban Public Transportation Assistance Programs: Financial assistance provided by the State for urban public transportation includes indirect aid, principally in the form of tax relief, and direct aid in the form of operating subsidies and planning grants. Indirect aid to urban public transit systems in Wisconsin was introduced in 1955 on the basis of the findings and recommendations of the 1954 Governor's Study Commission on Urban Mass Transit. The most significant of the 1955 measures is Section 71.18 of the Wisconsin Statutes, which provides a special method that can be used by privately owned urban public transit organizations to calculate their state income tax. To encourage urban bus systems to invest profits in new capital facilities and stock, the formula provides that net income after payment of federal income taxes is taxed by the State on the following basis:

1. An amount equivalent to 8 percent of the depreciated cost of carrier-operating property is exempt from the tax; and

2. The remaining portion of the net income is taxed at a rate of 50 percent.

Other Wisconsin Statutes giving urban public transportation systems tax relief are:

1. Section 76.54, which prohibits cities, villages, and towns from imposing a license tax on vehicles owned by urban transit companies.

2. Section 78.01(2)(d), which excludes vehicles engaged in urban public transportation from the fuel tax imposed upon motor fuel--such as diesel fuel--specifically used in transit vehicle operation.

3. Section 78.40(2)(c), which excludes vehicles engaged in urban public transportation from the fuel tax imposed upon special fuel--such as propane gas--specifically used in transit vehicle operation.

4. Section 78.75(1)(a), which allows taxi companies to obtain rebates of the tax paid on motor fuel or special fuel.

5. Section 85.01(4)(dm), which requires that each vehicle engaged in urban public transportation service be charged an annual registration fee of $1.00.

Direct financial aid in the form of transit operating assistance is currently available under the Wisconsin urban mass transit operating assistance program. The program was first established under the 1973 State Budget Act, which appropriated a total of $5 million in general purpose revenue funds for transit operating assistance during the 1973-1975 biennium. The program has continued to be funded at increasing levels in every subsequent budget biennium, most

recently being appropriated a total of $71.3 million for the 1983-1985 biennium under the 1983 State Budget Act. The program is authorized under Section 85.20 of the Wisconsin Statutes.

Under the program, local public bodies with populations of 5,000 persons or more that provide financial assistance to, or that actually operate, a public transit system are eligible for reimbursement by the Wisconsin Department of Transportation for a fixed portion of the total annual operating expenses of the transit system. For calendar year 1983, the maximum amount of state aids a recipient can receive under the program is 30 percent of total system operating expenses. Beginning with calendar year 1984, state aids will be available to cover up to 35 percent of an eligible transit system's total operating expenses. Eligible transit systems under the program include those providing fixed route transit service and those providing shared-ride taxicab service. The City of Kenosha will receive about $548,100 under the state transit operating assistance program in 1983 to support the operation of the Kenosha transit system.

Transit systems receiving state transit operating assistance are required to provide a reduced-fare program for elderly and handicapped persons during non-peak hours of operation. In addition, eligible projects must provide at least two-thirds of their transit service--measured in vehicle miles--within an urban area. Other restrictions of the State's operating assistance program include the following:

1. Projections of operating revenues and expenses must be based on an approved one-year "management plan" governing the operations of the participating transit system during the contract period.

2. The commitments of state funds and quarterly payments are based upon projections of operating revenues and operating expenses for a calendar year contract period.

3. Departmental audits of each participating transit system must determine the actual operating expenses and revenues of the system during the contract period.

4. Contracts between the Wisconsin Department of Transportation and recipients may not exceed one year in duration.

5. Recipients must annually submit to the Wisconsin Department of Transportation a four-year program of transit improvement projects for their systems.

Specialized Transit Assistance Programs: Two funding programs for elderly and handicapped specialized transportation services were established under the 1977 State Budget Act. The two programs are authorized under Section 85.21 and Section 85.22 of the Wisconsin Statutes and are administered by the Wisconsin Department of Transportation.

Section 85.21 authorizes the provision of financial assistance to counties within the State for specialized transportation programs serving elderly and handicapped persons who would not otherwise have an available or accessible

method of transport. A proportionate share of funds under this state program is allocated to each county in Wisconsin based on the estimated percent of the total statewide elderly and handicapped population residing in the county. In general, counties may use these funds for either operating assistance or capital projects to directly provide transportation services for the elderly and handicapped; to aid other agencies or organizations which provide such services; or to create a user-side subsidy program through which the elderly and the handicapped may purchase transportation services from existing providers at reduced rates. For 1983, counties must provide a local match equal to 10 percent of their allocations in order to receive their allocations. Beginning in calendar year 1984, a local matching share of 20 percent will be required. In addition, a county may hold its allocated aid in trust for the future acquisition or maintenance of transportation equipment beginning in 1984. Currently, all program funds allocated to a county left unexpended at the end of the year are returned to the State.

Transportation services supported by funds available under this program may, at the direction of the county, carry members of the general public on a space-available basis, provided that priority is given to serving elderly and handicapped patrons. In addition, Section 85.21 requires that a "co-payment" fare be collected from users of the specialized transportation service for trips which are not made for medical, nutritional, or work purposes. Funding for this program during the 1983-1985 biennium was established at $6.5 million by the 1983 State Budget Act. Kenosha County currently participates in this program to help support the countywide specialized transportation program administered by the Kenosha Achievement Center. The 1983 budget for the specialized transportation program included approximately $70,000 allocated to Kenosha County under this state program.

Under Section 85.22 of the Wisconsin Statutes, the State can supply private, nonprofit organizations that provide transportation services to the elderly and handicapped with financial assistance for the purchase of capital equipment. This program represents the state counterpart to the previously referenced federal aid program authorized under Section 16(b)(2) of the Urban Mass Transportation Act of 1964, as amended. The state aids available under this program are distributed to applicants within the State on an 80 percent combined state-federal and 20 percent local matching basis. The program is administered jointly with the federal Section 16(b)(2) program by the Wisconsin Department of Transportation, with the highest ranked applicants receiving 80 percent federal grants and the lower ranked applicants receiving 80 percent state grants until both federal and state funds are exhausted. In all cases, the applicant is responsible for providing the 20 percent local share of capital project costs.

Administrative Regulations and Controls

In addition to providing financial assistance to urban public transit systems within the State, the Wisconsin Statutes provide organizational alternatives to counties and municipalities for the operation of urban public transit systems. The following State legislation defines county and municipal governmental powers relating to the operation of a public transit system:

1. Municipal Contract With Private Transit System Operator--Section 66.064 of the Wisconsin Statutes permits a city or village served by a privately owned urban public transit system to contract with the private owners for the leasing, public operation, joint operation, subsidizing, or extension of service of the system.

2. Municipal Operation of Transit System--Section 66.065(5) of the Wisconsin Statutes provides that any city or village may, by action of its governing body, and upon a favorable referendum vote, own, operate, or engage in an urban public transit system in either of two circumstances: 1) if the city or village does not have an existing urban public transit system; or 2) if the city or village does have an existing urban public transit system and the city has obtained the consent of the existing system operator, been enpowered to do so by the Legislature, or secured a certificate of public convenience and necessity from the Wisconsin Transportation Commission. This statute permits a city or village to establish a separate department to undertake transit operation under municipal ownership or to expand an existing city department to accommodate the added responsibility of municipal transit operation.

3. City Transit System--Section 66.943 of the Wisconsin Statutes provides for the formation of a city transit commission composed of not fewer than three members appointed by the mayor and approved by the city council. No member of the commission may hold any other public office. The commission is empowered to "establish, maintain, and operate a bus system, the major portion of which is located within, or the major portion of the service is supplied to, such a city." Institution of the urban transit system is subject to the limitations of Section 66.065(5) of the Wisconsin Statutes discussed above. The city transit commission is permitted to extend the urban transit system into adjacent territory beyond the city but not more than 30 miles from the city limits. In lieu of directly providing transportation services, the transit commission may contract with a private organization for such services.

4. City Transit-Parking Commission--Sections 66.068, 66.079, and 66.943 of the Wisconsin Statutes provide for the formation of city transit and parking commissions. A combined transit-parking commission may be organized as a single body under this enabling legislation and not only may have all of the powers of a city transit commission, as defined under Section 66.943 of the Wisconsin Statutes, but may also be empowered to regulate on-street parking facilities and own and operate off-street parking facilities as well. The City of Kenosha, which owns and operates the Kenosha transit system, created a Transit and Parking Commission under the provisions of these statutes.

5. Municipal Transit Utility--Section 66.068 of the Wisconsin Statutes provides for the creation of a municipal transit utility. The statutes provide for the formation of a management board of three, five, or seven commissioners elected by the city council or village or town board to supervise the general operation of the utility. Institution of the urban transit system as a public utility is subject to the limitations of Section 66.065(5) of the Wisconsin Statutes. In cities with populations of

less than 150,000, the city council may provide for the operation of the utility by the board of public works or by another municipal officer in lieu of the above commission.

6. Joint Municipal Transit Commission--Section 66.30 of the Wisconsin Statutes permits any municipality to contract with another municipality or municipalities for the receipt or furnishing of services or the joint exercise of any power or duty authorized by statute. A "municipality" is defined, for purposes of this law, as any city, village, town, county, or regional planning commission. Thus, the law would permit any county, city, or village to contract with any other county, city, or village to receive or furnish transit services or even to establish a joint municipal transit commission.

7. County Contract with Private Transit System Operators--Sections 59.968 (1) through (3) of the Wisconsin Statutes permit a county to financially assist private urban public transit companies operating principally within the county by: 1) direct subsidies, 2) purchasing of buses and leasing them back to the private company, and 3) acting as the agent for the private operator in filing applications for federal aid.

8. County Ownership and Operation of Transit Systems--Sections 59.968(4) through (8), 59.969, 63.03(2)(x), and 67.04(1)(aa) of the Wisconsin Statutes permit a county to acquire a transportation system by purchase, condemnation, or otherwise, and to provide funds for the operation and maintenance of such systems. The term "transportation system" is defined as all land, shops, structures, equipment, property, franchises, and rights of whatever nature for the transportation of passengers. The acquisition of the system must be approved by a two-thirds vote of a county board. The county has the right to operate into contiguous or cornering counties. However, where such operation into other counties would be competitive with the urban or suburban operations of other existing common carriers of passengers, the county must coordinate the proposed operations with such other carriers to eliminate adverse financial impact for such carriers. Such coordination may include, but is not limited to, route overlapping, transfers, transfer points, schedule coordinations, joint use of facilities, lease of route service, and acquisition of route and corollary equipment. The law permits a county to use any street for transit operations without obtaining a license or permit from the local municipality concerned. The law requires the county to assume all the employer obligations under any contract between the employees and management of the system and to negotiate an agreement protecting the interest of employees affected by the acquisition, construction, control, or operation of the transit system. This labor protection provision is similar to Section 13(c) of the federal Urban Mass Transportation Act of 1964, as amended. Milwaukee County assumed public ownership of the Milwaukee and Suburban Transport Company under provision of these statutes.

9. County Transit Commission--Section 59.967 of the Wisconsin Statutes provides for the creation of county transit commissions which are authorized to operate a transportation system to be used for the transportation of persons or freight. A county transit commission is to be composed of not

fewer than seven members appointed by the county board. Members of the transit commission may not hold any other public office. A county transit commission is permitted to extend its transit system into adjacent territory within 30 miles of the county boundary. Institution of the transit system is subject to the limitations of Section 66.065 of the Wisconsin Statutes. This statute also allows any county to contract under Section 66.30 to establish a joint municipal transit commission.

State legislation also provides for the formation of certain special public transit districts and authorities. Section 66.94 of the Wisconsin Statutes permits the establishment of a metropolitan transit authority having the legal power to acquire, operate, and maintain a public transportation system. A public transportation system is defined to include subways, railways, and buses. However, the largest city within the boundaries of the metropolitan transit authority must have a population of 125,000 or more. Therefore, this act could not apply to the Kenosha urbanized area. Significantly, authorities created under this enabling legislation do not have taxing powers.

Prior to January 1978, the regulation of public and private utilities, railroads, and common motor carriers[4] was the responsibility of the Wisconsin Public Service Commission. With the passage of the 1977 State Budget Act, a new regulatory body, the Wisconsin Transportation Commission, was created from the then existing Wisconsin Highway Commission and charged with the transportation regulatory functions formerly assigned to the Public Service Commission. The Wisconsin Transportation Commission has the authority to regulate certain matters pertaining to the daily operations of both public and private transit operators within the State, except those transit systems that receive state aids for operating assistance under Section 85.20 of the Wisconsin Statutes. Transit systems receiving state financial aids are subject to direct regulation by the Wisconsin Department of Transportation.

Current regulations require public or private organizations proposing to provide public transit services to file an application with the Wisconsin Transportation Commission in order to receive a common carrier certificate. The application may be either for original authority or for the transfer of assignment from an existing authority. The Transportation Commission also regulates the fare structure, route configuration, and schedules established by transit operators. No changes in the base fare, route structure, or schedule may be made without the approval or order of the Transportation Commission. Present procedure requires that a transit operator file a report containing intended changes and the justification for those changes with the Transportation Commission and with the clerk of the affected municipality at least five days in advance of the proposed change. Depending on the circumstances, the extent of the change, and the evidence presented at the time of the request,

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[4]Section 194.01 of the Wisconsin Statutes defines "common motor carrier" as any individual, company, or association that indicates to the public a willingness to undertake for hire the transport by motor vehicle between fixed termini or over a regular route upon public highways, passengers or property other than farm products or supplies transported to or from farms. "For hire" means for compensation, and includes compensation obtained by a motor carrier indirectly. Taxicab service is not considered to be a common motor carrier service.

Commission may approve the change, disapprove the change, or order a public hearing concerning the change. The Transportation Commission does have the power of special approval, as the public interest may require, to authorize changes on less notice than is required by the guidelines set above, especially when the affected municipality has no objections. Any action by the Transportation Commission on an informal basis is subject to reconsideration or public hearing if a proper complaint or protest is made. Finally, all transit operators are required to file annual and monthly reports with the Transportation Commission that include such information as revenues, expenses, vehicle miles of travel, and vehicle hours of operation. To assure strict compliance with this function, the Commission may also, upon demand, inspect the accounts and records of all common motor carriers.

LOCAL LEGISLATION

The most significant legislation affecting transit on the local level is found in Section 1.06(F), City Boards and Commissions, of the Code of General Ordinances for the City of Kenosha. This section establishes the Kenosha Transit Commission, defines its function, specifies the terms and qualifications of commissioners, and defines its powers. These specifics have been fully discussed in the section in this chapter on the city transit commissions. The only other mention of transit in local ordinances is in Section 11.02(P) of the Code of General Ordinances, which prohibits eating, drinking, or smoking on city buses.

LEGISLATIVE ANALYSIS

Publicly owned and operated urban transit systems, such as the Kenosha transit system, have not been able to support their operations from passenger revenue alone. This is particularly true when fares are, in the greater public interest, deliberately kept low for the general public and even lower for special groups such as the elderly and handicapped. Consequently, in evaluating the current transit operation, it is important to determine if all possible sources of state and federal financial assistance have been used to reduce the local financial burden associated with the provision of transit service.

As noted earlier, the City of Kenosha has regularly utilized financial assistance available under both federal and state programs to help maintain its public transportation system. By far, the most important of these programs have been the UMTA Section 5 and Wisconsin Department of Transportation 85.20 transit operating assistance programs. Since assuming public operation of the transit system in 1971, the City has relied heavily upon these two funding programs for operating assistance funds to cover a major portion of the annual operating budget of the Kenosha transit system. The City has also used UMTA Section 3 and Section 5 capital assistance funds to support major capital purchase of needed operating facilities and equipment, including all of the transit system's buses, bus passenger shelters, and bus stop signs, and the system's maintenance facilities and equipment. In short, the City has effectively utilized financial assistance available under major federal and state urban transit funding programs to reduce local expenditures for capital expenditures and system operation while making needed improvements to the public transportation system.

With regard to both federal and state funding programs, the City of Kenosha is already complying with all administrative requirements and regulations of the programs. It should be noted, however, that a number of changes in both the federal and state transit assistance programs are pending. These changes include the replacement of the UMTA Section 5 formula grant program with the Section 9 program, and a substantial increase in the level of state transit operating assistance. It is therefore incumbent upon the City of Kenosha to maintain close relations with federal and state officials to keep informed on any changes in requirements for individual programs.

Finally, with regard to local legislation, specific measures regarding various aspects of transit system operation have been enacted in the past by the City. At the present time, the need for further expansion of city ordinances regulating transit operation is not foreseen.

SUMMARY

This chapter has summarized pertinent federal, state, and local legislation and regulations as they apply to the provision of financial assistance for public transportation service, and as they apply to transit organization and operation. The federal government has been a major source of financial assistance for public transit services through four major programs relevant to the Kenosha area. The Urban Mass Transportation Administration administers these programs, which were made available under the Urban Mass Transportation Act of 1964, as amended. Financial assistance for urban public transit systems is currently available under Section 3, primarily for capital purchase projects and rapid transit system construction costs, under Section 5 on a formula grant basis to urbanized areas for use toward operating assistance or capital equipment purchases, and under Section 9A for capital-related or planning projects. Beginning in 1984, a new formula grant program--Section 9--will replace the existing Section 5 grant program and provide financial assistance for planning, capital, and operating assistance projects. Financial assistance under Section 8 is available for technical studies. Section 16 provides financial assistance for the purchase of vehicles and equipment to private nonprofit agencies or coorporations that provide specialized transportation to elderly and handicapped individuals.

The Wisconsin Statutes provide several programs for financing public transportation services. The Wisconsin Department of Transportation administers these programs, which provide financial assistance for both general and specialized transportation, including: an urban transit operating assistance program authorized under Section 85.20 of the Wisconsin Statutes, which provides operating assistance to communities with populations of more than 5,000 persons supporting general public transit systems; a specialized transportation assistance program authorized under Section 85.21 of the Wisconsin Statutes, which provides financial assistance to counties for elderly and handicapped transportation projects; and a specialized transit assistance program authorized under Section 85.22 of the Wisconsin Statutes which, together with funds available under the UMTA Section 16(b)(2) program, provides capital assistance to private nonprofit organizations providing specialized transportation services.

The Wisconsin Statutes also provide several organizational alternatives to municipalities and counties for the operation of public transit services. For municipalities, these alternatives include: contract for services with a private operator, public ownership and operation as a municipal utility, and public ownership and operation by a single municipal or joint municipal transit commission. For counties, these alternatives include: county contract for services with a private operator, county ownership and operation of an existing or new county department, and county ownership and operation by a single county or joint county transit commission.

The Wisconsin Statutes provide for the regulation of common motor carriers by the Wisconsin Transportation Commission except those operators receiving state transit operating assistance funds. The Wisconsin Department of Transportation regulates those operators exempt from regulation by the Wisconsin Transportation Commission.

Local legislation specifically pertaining to transit system operation is contained in two sections of the Code of General Ordinances for the City of Kenosha. The most significant section establishes and defines the powers of the Kenosha Transit and Parking Commission. The other section prohibits certain activities from occurring on city buses.

With regard to federal and state funding programs for urban public transit systems, the City of Kenosha is making effective use of all major funding programs to reduce local expenditures on the transit system. The City is also in compliance with all administrative requirements and regulations associated with the funding programs. The City should, however, maintain close liaison with federal and state agencies and officials in the event that pending modifications in the federal and state funding programs result in changes in program requirements.

Chapter VII

ALTERNATIVE TRANSIT SYSTEM PLANS AND PROGRAMS

INTRODUCTION

Previous chapters in this report have described the existing land use and socioeconomic characteristics and the travel patterns of the Kenosha Urban Planning District, and have analyzed the effectiveness with which the existing public transit system serves these patterns. In addition, the ridership levels and financial characteristics of the transit system have been documented. All of this information is intended to be used in the development and evaluation of alternative five-year transit system development plans and programs for the Kenosha area. 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 recommended plan can be selected. The recommended plan must clearly identify the recommended improvements to be made and the resources required. This chapter describes the alternative plans considered, summarizes the results of the evaluation of each of those plans against key transit system development objectives and standards, and describes the recommended plan ultimately chosen by the Advisory Committee for adoption and implementation.

TRANSIT SERVICE ALTERNATIVES

Four basic alternative transit system development plans were formulated and evaluated for the Kenosha area: 1) a "status quo" alternative, under which no changes would be made to the existing transit system as operated at the end of 1983; 2) a minimum level of service alternative, under which a substantial reduction in the frequency of service would be combined with a limited number of routing changes; 3) a moderate level of service alternative, under which a moderate reduction in the frequency of service would be combined with a significant number of routing changes; and 4) a maximum level of service alternative, under which little or no reduction in the existing frequency of service would be combined with extensive routing changes.

Routing and service level adjustments under each alternative were considered where such changes would improve system effectiveness and efficiency, increase system ridership, or result in better service to major traffic generators within the existing transit service area. The ridership estimates prepared for each alternative were based upon 1983 population levels and economic conditions within the study area. Both population and economic activity levels were assumed to remain relatively stable over the five-year planning period. All costs and related financial data are presented in constant 1983 dollars. Projections of passenger revenues assume no change in the existing fare structure. All projections assume the implementation of proposed service changes by the end of August 1984, before the start of the 1984-1985 school year. The remainder of this chapter provides an evaluation and comparison of the four transit system alternatives considered.

It should be noted that two other service changes were considered, but were rejected. One of these changes involved the relocation of the central transfer point on the Kenosha transit system from the downtown, and the other involved eliminating the existing pulse scheduling of the transit system.

At the present time, the Kenosha transit system is operated using a radial network of routes. Under the radial routing system, the bus routes originating in outlying areas converge on a central location, which in the case of the Kenosha transit system is the Kenosha central business district. Questions have been raised concerning the continued use of the Kenosha central business district as the focus for the transit system. Historically, the Kenosha central business district has been the major commercial and employment center within the area and was, therefore, a logical area on 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 in this area has been surpassed. Such persons contend that the focus of the transit system should be changed, if possible, to be closer to the new center of activity. Accordingly, an analysis was conducted of whether or not the transit system should continue to focus on the central business district.

Most transit systems using radial routing today still focus their transit systems on the central business district. This is indicative of the fact that, while the central business district of many communities may no longer contain most of the jobs or commercial establishments in the area, it usually still comprises the most intensively developed and centrally located area, and is the most important transit trip generator in the area. A review of current information for the Kenosha area concerning the distribution of employment, total person trip ends, and transit person trip ends indicates that this is the case with the Kenosha central business district.

Map 38 shows the pattern of total employment density (jobs per square mile) within the Kenosha Urban Planning District in 1980 by SEWRPC traffic analysis zone.[1] The highest employment density in the study area was in the zone containing the main plant of American Motors Corporation. This zone had a total employment of about 7,800 jobs, an equivalent density of about 31,000 jobs per square mile, of which about 7,500, or 96 percent, were classified as manufacturing jobs. The Kenosha central business district was found to have the second highest employment density in the study area. The central business district had a total employment of about 6,500 jobs, an equivalent density of about 18,000 jobs per square mile, of which about 2,900, or 45 percent, were classified as manufacturing jobs; about 2,800, or 43 percent, were classified as governmental jobs; and about 800 were classified as retail jobs.

While the Kenosha central business district is not the major center of employment in the study area, it is still the largest trip generator. Based upon information presented in Chapters III and IV of this report, the central business district in 1980 exhibited the highest concentration of total person trip

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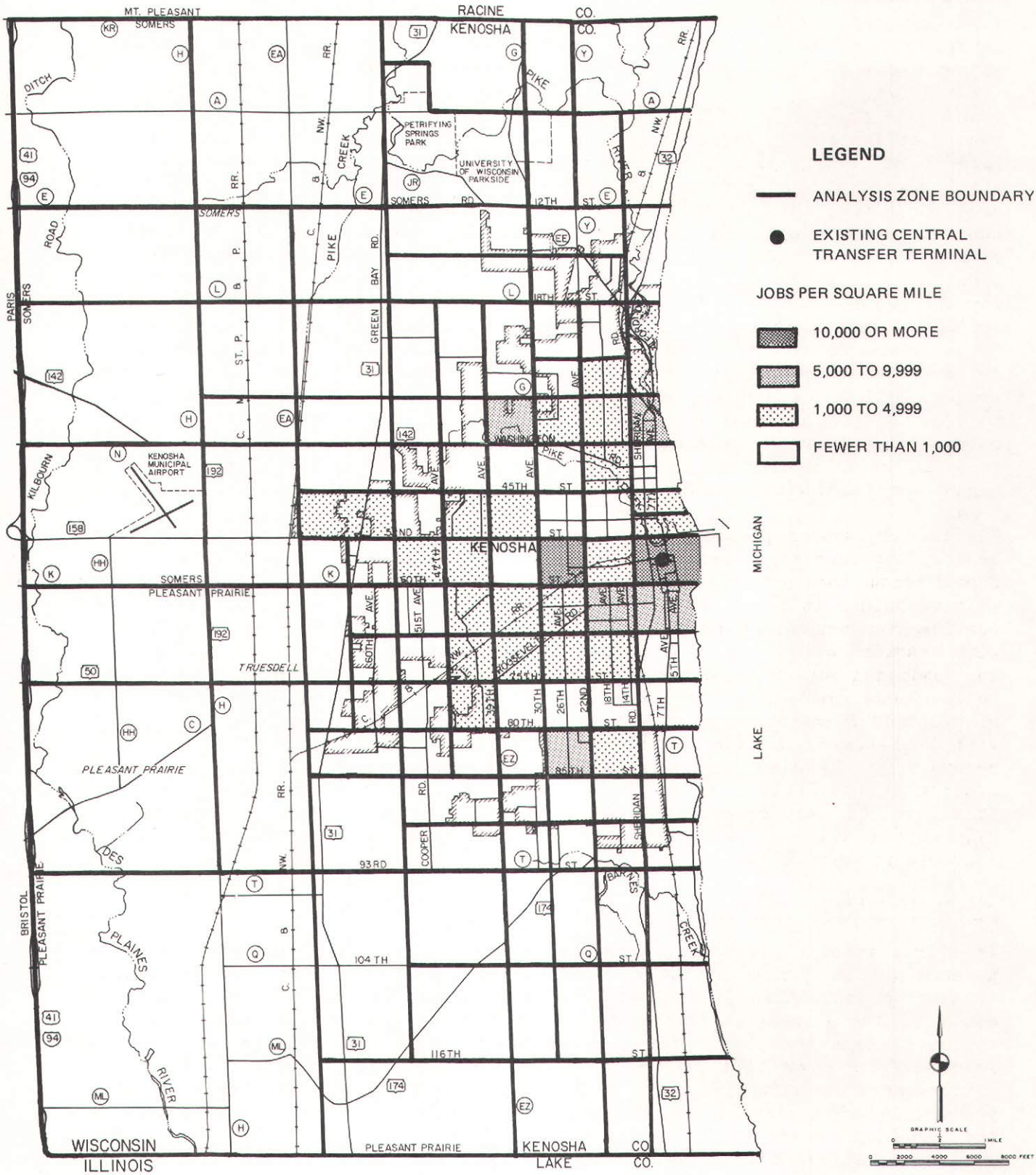
[1]The Kenosha central business district comprises three SEWRPC traffic analysis zones. For the purpose of this analysis, the three zones were aggregated to represent the entire central business district.

Map 38

TOTAL EMPLOYMENT DENSITY IN THE KENOSHA URBAN PLANNING DISTRICT: 1980



LEGEND

- ANALYSIS ZONE BOUNDARY
- EXISTING CENTRAL TRANSFER TERMINAL

JOBS PER SQUARE MILE

- 10,000 OR MORE
- 5,000 TO 9,999
- 1,000 TO 4,999
- FEWER THAN 1,000

GRAPHIC SCALE
0 1 2 MILE
0 2000 4000 6000 8000 FEET

Source: SEWRPC.

ends in the study area (see Map 18 in Chapter III), with approximately 62,000 trip ends concentrated in the central business district; and the highest concentration of transit person trip attractions (see Map 24 in Chapter IV), approximately 2,200. In comparison, the zone containing the main American Motors Corporation plant attracted approximately 17,000 total person trip ends and approximately 100 transit person trips in 1980.

Based upon this information, it was determined that the Kenosha central business district should remain the focus of the route structure. While not the largest employment center in the study area, the central business district still contains a significant amount of total employment within the Kenosha area. Moreover, the diverse nature of the employment concentrated within the central business district is indicative of the diversity of the development within the area, which includes educational, commercial, governmental, and industrial trip generators. This diversity of development is a major reason why the central business district attracts more trips than the area of highest employment around the main American Motors Corporation plant. Changing the focus of the transit system may also have a negative impact upon system ridership, as it would change the location of the central transfer point for the system. With approximately 40 percent of daily transit person trips attracted to the central business district, relocation of the common transfer point outside the downtown area could inconvenience a significant portion of the existing ridership by requiring transfers to complete a trip which presently can be completed without transferring.

The transit system presently operates with pulse scheduling, under which the headways of each route are timed so that buses from all routes arrive at and depart from the central transfer location at the same time. No change from this technique is recommended. Pulse scheduling enables the transit system to provide for convenient passenger transfers between bus routes while operating with headways of 30 and 60 minutes. The elimination of pulse scheduling with the existing headways would greatly inconvenience passengers transferring between bus routes, particularly in the nonpeak periods, when service is provided at 60-minute headways. Most systems using nonpulse scheduling operate with headways of 15 minutes or less. Operation of the transit system with headways of 15 minutes or less to permit more convenient transfers would require a substantial and costly increase in the level of transit service. This level of service would not be economically feasible since transit system ridership could not be expected to increase in proportion to the required increase in service.

Alternative Plan 1--Status Quo

The first transit service alternative considered for the study was the maintenance of the transit system as operated at the end of 1983. The systemwide evaluation documented in Chapter V of this report indicated that the performance of the Kenosha transit system was similar to that of other mid-size Wisconsin transit systems with regard to ridership and service levels, but was somewhat below that of the comparable systems with regard to financial performance. By maintaining the status quo over the next five years, as proposed under this alternative, no corrective actions would be taken to improve the financial performance of the system. In addition to constituting a very real alternative, this alternative provides a base against which the performance of the other alternatives can be evaluated.

Operating Profile: Under the status quo alternative, the operating characteristics and service levels would not be changed from those at the end of 1983. The transit system would continue to operate six regular routes with approximately 137 round-trip route miles of service, and nine peak-hour tripper routes with approximately 153 round-trip miles. Service levels for each regular route of the system and for the peak-hour tripper service would remain as described in Chapter IV. Peak-hour vehicle requirements for the transit system would remain at a maximum of 28 buses. The transit service characteristics of the system under this alternative are listed in Table 43.

Ridership and Financial Projections: Ridership and financial projections for the system under the status quo alternative are presented in Table 44. As shown in this table, only minor increases in total transit system ridership are projected between 1983 and 1988. Ridership is projected to increase from about 1,210,000 revenue passengers in 1983 to about 1,235,000 revenue passengers in 1988, about a 2 percent increase. System operating expenses, as expressed in constant 1983 dollars, are projected to remain constant over the five-year planning period, as no changes in transit service would be made. Because operating revenues would be expected to increase somewhat with increases in ridership, operating deficits would be expected to decrease slightly--from about $1.02 in 1984 to about $1.00 by 1988.

Alternative Plan 2--Minimum Level of Service

Alternative Plan 2 calls for a limited number of routing changes to the existing transit system, combined with a substantial reduction in the existing frequency of service. As such, this alternative represents the minimum level of service proposed for the Kenosha area over the planning period. The changes proposed would be directed primarily at improving the financial performance of the transit system by eliminating the most unproductive service elements. In this respect, some routing and service level changes are proposed for every route in the system to eliminate unproductive route segments and bus trips. The most significant routing changes are proposed for Route 2, which would be split into two routes, and for Route 6, which would be eliminated and its most productive segments incorporated into Routes 2, 4, and 5. The proposed routing changes under this alternative are summarized on Map 39. The most significant changes in service levels would be achieved by eliminating peak-hour headways of 30 minutes on weekdays during the summer months and on Saturdays all year round, and operating the system with 60-minute headways all day during these times. Both the routing and service level changes are described in more detail below.

Route 1: Under this alternative, only the southern portion of Route 1 would be changed, beginning near the central business district. Instead of entering and leaving the downtown area over 52nd Street, the southern half of the route would be adjusted to traverse 56th Street between the Southport Mall and 22nd Street. This would eliminate the current duplication of service by both Routes 1 and 2 along 52nd Street. Route 3, which presently runs along 56th Street between the Southport Mall and 24th Avenue, would be shifted to the south as described below. As part of this route adjustment, Route 1 would also serve the train station for the commuter passenger service provided by the Chicago & North Western Transportation Company located near 54th Street and 13th Avenue. Service to the station would be provided during the morning and afternoon peak periods to service train departures and arrivals.

Table 43

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 1

Route Number	Round-Trip Route Length (miles)	Daily Round Trips		Headways (minutes)				Vehicles Required			
				Weekdays		Saturday		Weekdays		Saturday	
		Weekdays	Saturdays	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
Regular Routes											
1	27.1	16	16	30	60	30	60	4	2	4	2
2	26.0	16	16	30	60	30	60	4	2	4	2
3	26.3	16	16	30	60	30	60	4	2	4	2
4	28.4	16	16	30	60	30	60	4	2	4	2
5	15.3	16	16	30	60	30	60	2	1	2	1
6	14.0	12	12	60	60	60	60	1	1	1	1
Subtotal	137.1	92	92	--	--	--	--	19	10	19	10
Peak-Hour Tripper Routes	153.0	17	--	--	--	--	--	9	--	--	--
Total	290.1	109	92	--	--	--	--	28	10	19	10

Source: SEWRPC.

Table 44

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 1: 1983-1988

Operating Characteristic	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers...	1,209,500	1,215,000	1,220,000	1,225,000	1,230,000	1,235,000
Annual Revenue Vehicle Hours.....	55,700	56,400	56,400	56,400	56,400	56,400
Annual Vehicle Miles.....	737,100	760,100	760,100	760,100	760,100	760,100
Revenue Passengers per Revenue Vehicle Hour.....	21.7	21.5	21.6	21.7	21.8	21.9
Operating Expenses[b]						
Annual.....	$1,618,100	$1,645,200	$1,645,200	$1,645,200	$1,645,200	$1,645,200
Per Revenue Passenger.....	1.34	1.35	1.35	1.34	1.34	1.33
Operating Revenue						
Passenger Revenue[c]						
Per Passenger[d].....	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d].....	386,000	388,800	390,400	392,000	393,600	395,200
Other Revenue[e].....	16,900	17,000	17,000	17,000	17,000	17,000
Total Operating Revenue...	$ 402,900	$ 405,800	$ 407,400	$ 409,000	$ 410,600	$ 412,200
Percent of Operating Expenses.....	24.9	24.7	24.8	24.9	25.0	25.1
Operating Deficit						
Annual.....	$1,215,200	$1,239,400	$1,237,800	$1,236,200	$1,234,600	$1,233,000
Per Revenue Passenger.....	1.00	1.02	1.01	1.01	1.00	1.00

[a] All dollar figures are expressed in 1983 constant dollars.

[b] Excludes depreciation expenses.

[c] Assumes no change in the existing fare structure.

[d] Includes special contract fares from the Kenosha Unified School District of approximately $0.11 per systemwide revenue passenger.

[e] Includes approximately $8,200 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

Also under this alternative, the one-way loop at the southern end of the route would be changed to provide two-way service along 30th Avenue and 85th Street past Tremper High School, and to serve the area presently served by Route 5 along 29th Avenue, including St. Joseph's Home for the Aged. A minor routing change would also be made in the middle of the southern half of the route to provide service over 69th Street past St. Joseph's High School, rather than over 67th Street.

Routes 2 and 6: Under this alternative, Route 2 would be divided into two separate routes, with the new Route 2 consisting of the northern half of the present Route 2. Routing for the western end of the new route would be changed slightly from that operated on the existing Route 2. Instead of operating over STH 31 and 60th Street between 55th Street and 60th Avenue, the route would operate over 55th Street and 56th Avenue. In addition, the route would be cut back from its present terminus at 75th Street and 60th Avenue to a new terminus at 67th Street and 60th Avenue.

As noted above, Route 6 as presently operated would be eliminated under this alternative. The southern half of the existing Route 2 would become the new Route 6 and would be adjusted to serve a substantial portion of the area served by the existing Route 6. Specifically, the route would be changed to operate farther south on Sheridan Road by operating over 65th Street between Sheridan Road and Roosevelt Road instead of over 63rd Street. The route would also be changed to operate over 39th Avenue, Wilson Road, and 52nd Avenue between Pershing Plaza and its present terminus at 75th Street and 57th Avenue to replace service provided by Route 6. This change would expand service into the residential area along 52nd Avenue. To obtain the running time required to permit this routing adjustment, the route would no longer serve the Lakeside Towers apartment complex in downtown Kenosha.

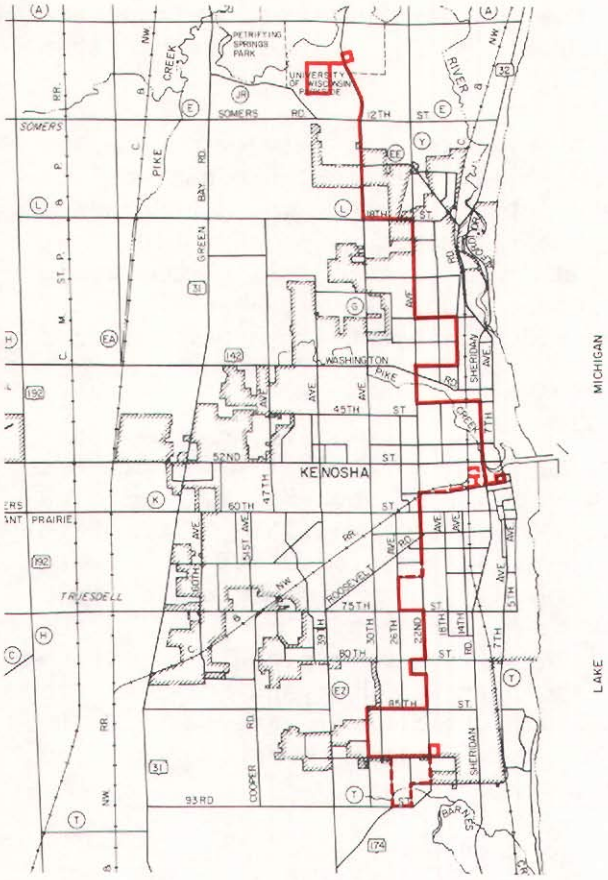
Route 3: Only minor routing changes would be made to the northern half of Route 3, where service along 39th Avenue between Washington Road and 45th Street would be dropped in favor of providing two-way service along 47th Avenue. On the southern half of the route, the route would be changed to operate over Sheridan Road and 63rd Street, rather than over 56th Street, 24th Avenue, and 60th Street between Southport Mall and 30th Avenue, to replace the service formerly provided along 63rd Street by Route 2. The service provided over 56th Street would be replaced by adjustments made to Route 1, as noted. Regular bus service along the current one-way loop at the southern terminus of the route would also be eliminated. The route would be changed in this area to provide two-way service along 39th Avenue and 80th Street to Lance Junior High School, where a smaller one-way loop would be created. Limited service over the existing one-way loop would still be provided on schooldays, with one bus trip in the morning and one bus trip in the afternoon to serve students attending Lance Junior High School and Tremper High School.

Route 4: Under this alternative, the loop serving Carthage College in the northern half of Route 4 would be shortened. More extensive changes would be made in the southern half of the route, where the service loop at the end of the route would be eliminated. Instead, from Pershing Plaza the route would operate over 75th Street, 47th Avenue, 80th Street, 51st Avenue, and 82nd Street before ending at a new terminus at 82nd Street and 60th Avenue. This

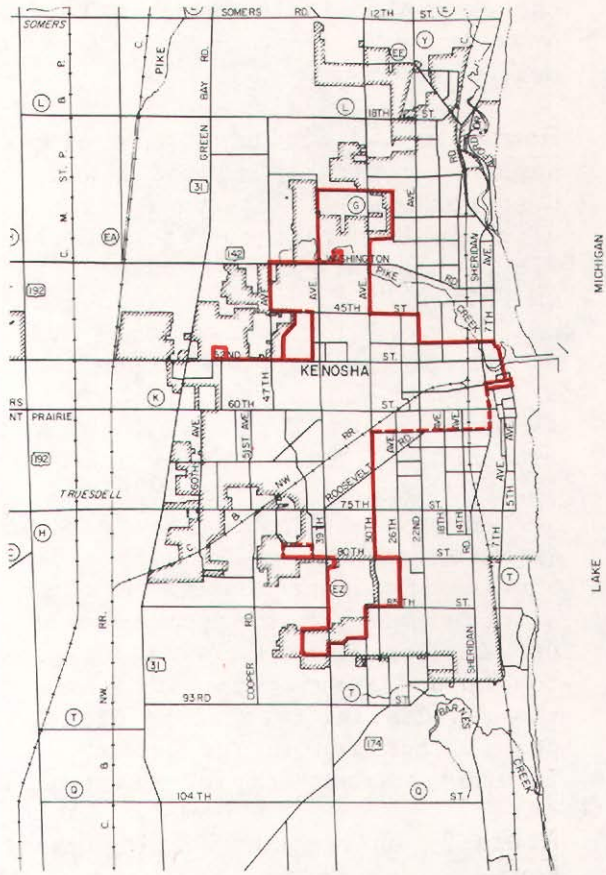
Map 39

PROPOSED ROUTING CHANGES FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 2

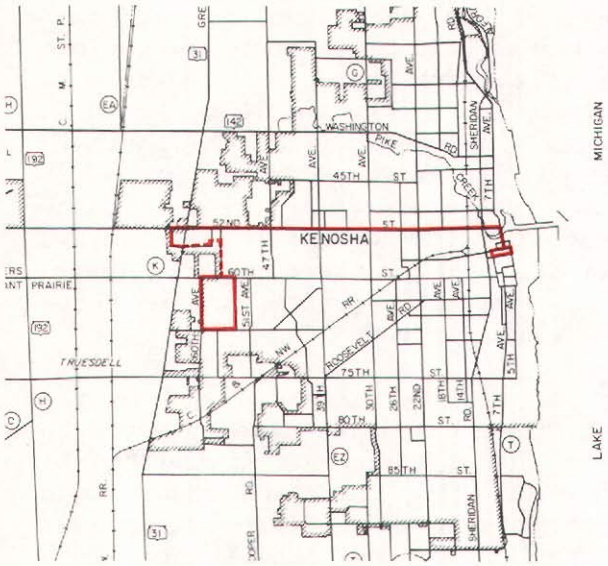
ROUTE 1



ROUTE 3



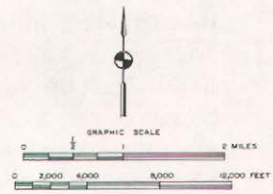
ROUTE 2



LEGEND

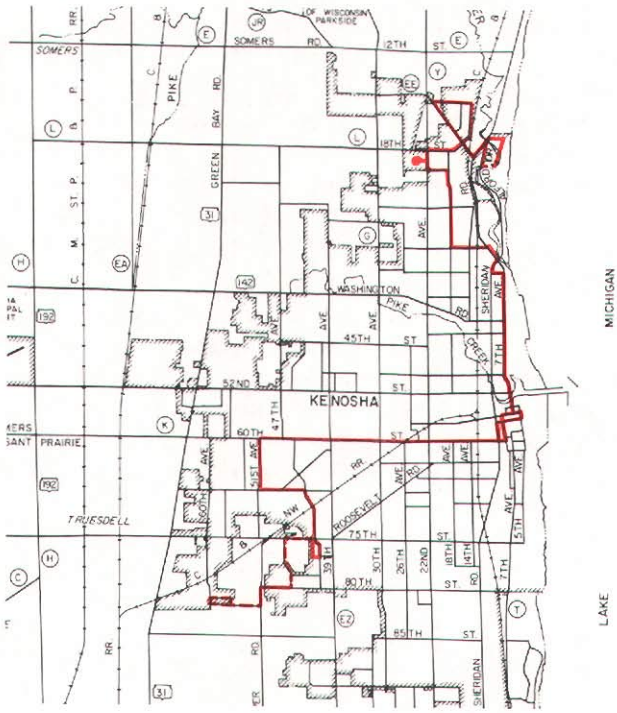
EXISTING SEGMENT TO BE RETAINED

PROPOSED SEGMENT TO BE ADDED

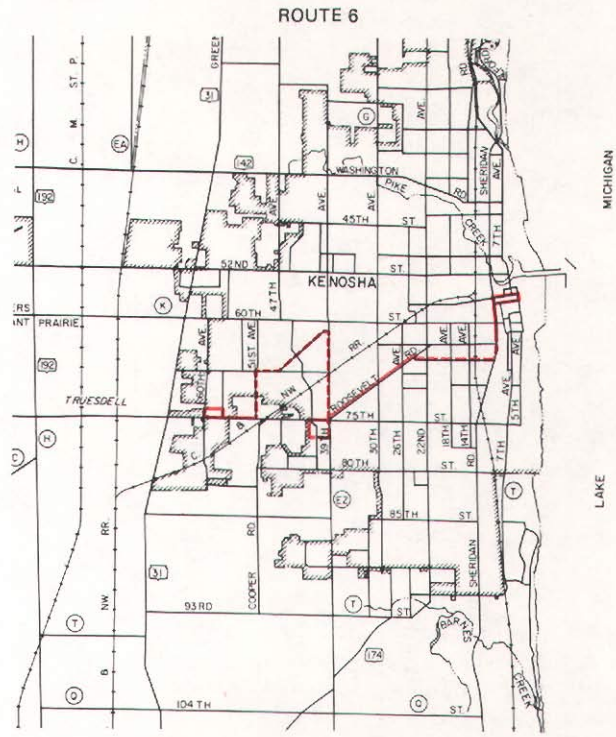


Map 39 (continued)

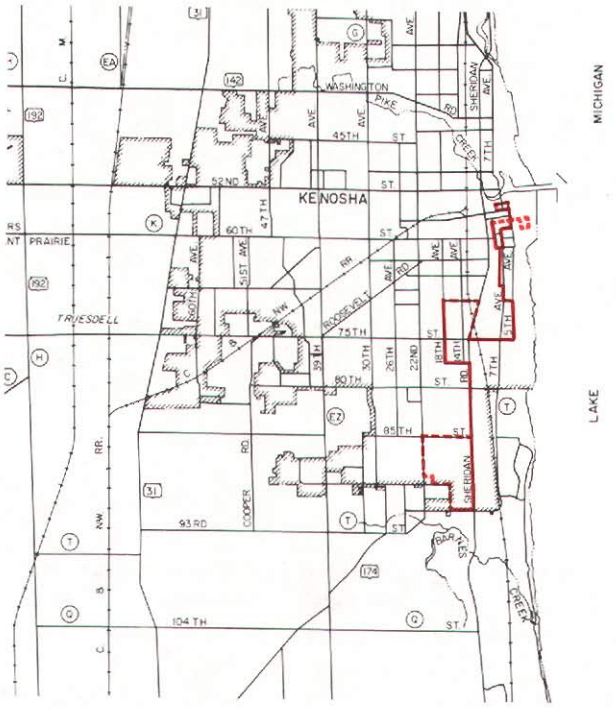
ROUTE 4



ROUTE 6



ROUTE 5



LEGEND

EXISTING SEGMENT TO BE RETAINED

PROPOSED SEGMENT TO BE ADDED

Source: SEWRPC.

change would replace service presently provided by Routes 2 and 6, and would eliminate most of the service duplication which exist along the current service loop between Routes 3 and 4.

Route 5: Three major routing adjustments are proposed for Route 5. The first adjustment would eliminate service on Route 5 over 14th Avenue, 65th Street, and 18th Avenue north of 68th Street by changing the route to operate over Sheridan Road and 68th Street between 75th Street and 18th Avenue. This change would reduce the indirectness of the existing routing in this area and would replace the service along Sheridan Road provided by the existing Route 6. The second adjustment would be made in the end of the route south of 85th Street, where the existing service beyond 91st Street and 22nd Avenue would be replaced by adjustments made to Route 1, and a new one-way loop for Route 5 would be created. This change would permit the route to directly serve the Old Market Square Mall, provide for better service to Tremper High School, and provide better service to the residential area south of 85th Street between Sheridan Road and 22nd Avenue. Finally, this route would be adjusted to serve the Lakeside Towers elderly apartment complex. The time saved by shortening the route would be used to provide this service as a replacement for the service currently provided by Route 2.

Route 6: The poor performance of Route 6 was noted as a major system performance problem in Chapter V of this report. Because of the low performance levels observed on the route, it would be eliminated under this alternative. The service provided by the existing Route 6 would be replaced by changes made to Routes 2, 4, and 5.

Operating Profile: The transit service characteristics of the regular routes and peak-hour tripper service are summarized in Table 45. Under this alternative, round-trip route miles for the regular routes would decrease from the existing total of about 137 miles to approximately 123 miles--a decrease of 14 miles, or about 10 percent.

Significant changes would be made to existing service levels on all regular routes by increasing peak-period headways from 30 to 60 minutes on weekdays during the summer when school is not in session, and on Saturdays all year round. In addition, Routes 2 and 6, which formerly constituted Route 2, would be operated with 60-minute headways all day on weekdays during the school year. Ridership on the peak-period service provided on Route 2 is the lowest of the peak-service ridership on the existing routes, representing about 2 percent of average weekday systemwide ridership. No routing or service changes are proposed under this alternative for the peak-hour tripper service presently operated by the system.

The proposed reductions in the frequency of service and periods of system operation would serve to reduce the annual revenue vehicle hours of service provided on the system by about 9,600 hours, or about 17 percent--from the 56,400 revenue vehicle hours operated under the status quo alternative to about 46,800 revenue vehicle hours. The service reductions would also reduce the peak-period vehicle requirements for the system by three vehicles--from the 28 vehicles required under the existing system to 25 vehicles.

Table 45

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 2

Route Number	Round-Trip Route Length (miles)	Daily Round Trips			Weekday Headways (minutes)			Saturday Headways (minutes)	Vehicles Required on Weekdays			Vehicles Required on Saturdays
		Weekdays		Saturday	School Year[a]		Summer[b]		School Year[a]		Summer[b]	
		School Year[a]	Summer[b]		Peak	Off Peak			Peak	Off Peak		
Regular Routes												
1	28.1	16	12	12	30	60	60	60	4	2	2	2
2	12.8	12	12	12	60	60	60	60	1	1	1	1
3	26.2	16	12	12	30	60	60	60	4	2	2	2
4	29.3	16	12	12	30	60	60	60	4	2	2	2
5	13.2	16	12	12	30	60	60	60	2	1	1	1
6	13.0	12	12	12	60	60	60	60	1	1	1	1
Subtotal	122.6	88	72	72	--	--	--	--	16	9	9	9
Peak-Hour Tripper Routes	153.0	17	--	--	--	--	--	--	9	--	--	--
Total	275.6	105	72	72	--	--	--	--	25	9	9	9

[a]Approximately the last week in August to approximately the third week in June, during which time public schools are in session.

[b]Assumed to be a 10-week period beginning approximately in the third week of June and ending before the last week of August.

Source: SEWRPC.

Table 46

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 2: 1983-1988

Operating Characteristic	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers	1,209,500	1,208,000	1,191,000	1,196,000	1,201,000	1,206,000
Annual Revenue Vehicle Hours	55,700	53,700	46,800	46,800	46,800	46,800
Annual Vehicle Miles	737,100	720,600	620,300	620,300	620,300	620,300
Revenue Passengers per Revenue Vehicle Hour	21.7	22.5	25.7	25.8	25.9	26.0
Operating Expenses[b]						
Annual	$1,618,100	$1,564,800	$1,359,500	$1,359,500	$1,359,500	$1,359,500
Per Revenue Passenger	1.34	1.30	1.13	1.13	1.12	1.12
Operating Revenue						
Passenger Revenue[c]						
Per Passenger[d]	0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d]	386,000	386,600	381,100	382,700	384,300	385,900
Other Revenue[e]	16,900	17,000	17,000	17,000	17,000	17,000
Total Operating Revenue	$ 402,900	$ 403,600	$ 398,100	$ 399,700	$ 401,300	$ 402,900
Percent of Operating Expenses	24.9	25.8	29.3	29.4	29.5	29.6
Operating Deficit						
Annual	$1,215,200	$1,161,200	$ 961,400	$ 959,800	$ 958,200	$ 956,600
Per Revenue Passenger	1.00	0.96	0.81	0.80	0.80	0.79

[a] All dollar figures are expressed in 1983 constant dollars.

[b] Excludes depreciation expenses.

[c] Assumes no change in the existing fare structure.

[d] Includes special contract fares from the Kenosha Unified School District of approximately $0.11 per systemwide revenue passenger.

[e] Includes approximately $8,200 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

Ridership and Financial Projections: Ridership and financial projections for the transit system under this alternative are presented in Table 46. Because of cuts in service proposed under this alternative, ridership is projected to decrease from about 1,209,500 revenue passengers in 1983 to about 1,206,000 revenue passengers in 1988, a decrease of less than 1 percent. The largest ridership decline would occur between 1983 and 1985, when ridership would decrease to about 1,191,000 revenue passengers, or about 2 percent below the estimated 1983 level, before increasing slightly during the last three years of the planning period. A more substantial decrease would be observed in system operating expenses, which in 1985 would decrease in constant dollars by about $258,600, or about 16 percent, from 1983 estimated levels, then remain constant through 1988. As a result, the operating deficit per passenger would decrease from about $1.00 in 1983 to about $0.79 by 1988, a decrease of about 21 percent.

Alternative Plan 3--Moderate Service Level

Alternative Plan 3 calls for a moderate number of routing changes, along with a moderate reduction in the level of service provided by the transit system. Like Alternative Plan 2, this alternative aims to improve the financial performance of the transit system, but also includes system adjustments which should improve transit service and stimulate system ridership. In this regard, this alternative expands upon the routing changes proposed under Alternative Plan 2

by proposing additional routing changes for Routes 1, 2, and 3, and by proposing a seventh route to provide additional service to major traffic generators on the north side of the City. The specific routing changes proposed under this alternative are summarized on Map 40. Service levels on Routes 1, 3, 4, 5, and 6 would be the same as proposed under Alternative Plan 2. However, a higher frequency of service on Route 2 and the addition of the seventh route would increase the amount of service provided by the transit system. The routing and service level changes are described in more detail below.

Routes 1, 2, and 3: In order to avoid duplication of service between existing routes and the new Route 7, as described below, several adjustments would be made to Routes 1, 2, and 3 in addition to those called for under Alternative Plan 2. The northern half of Route 1 would be modified under this alternative to operate on 22nd Avenue between 31st Street and 38th Street instead of over 31st Street, 14th Avenue, and 38th Street, and to operate over 17th Avenue and 52nd Street instead of over 43rd Street and Sheridan Road between 17th Avenue and 6th Avenue. The western terminus of Route 2 would be cut back to the area around the Kenosha Garden Apartments located at 55th Street and 64th Avenue, where a new one-way loop would be established which would include service to the low-income apartments east of STH 31 on 55th Street. Finally, Route 3 would no longer operate over Pershing Boulevard, 47th Street, and Washington Road or serve the Brookside Care Center, but instead would provide two-way service along 39th and 40th Avenues and to the K-Mart Department Store.

Routes 4, 5, and 6: Routes 4, 5, and 6 would be the same under this alternative as under Alternative Plan 2.

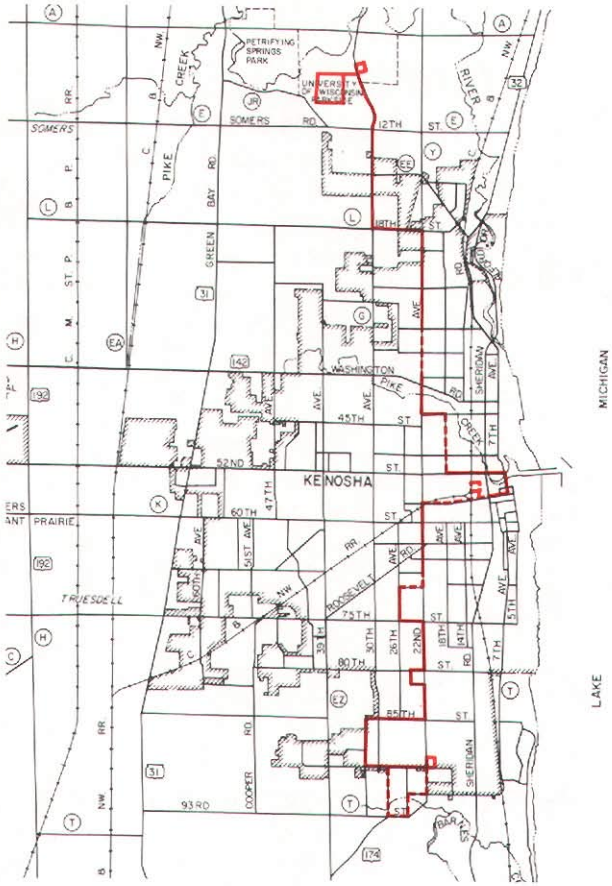
Route 7: As noted above, a seventh route would be added under this alternative. The new route would originate in the area around 67th Street and 60th Avenue and operate through the north side of the City, serving three major educational institutions--Gateway Technical Institute, Bradford High School, and Washington Junior High School--which generate significant volumes of transit trips. In this respect, the route is partially intended to alleviate peak loading problems on Route 3, which serves both Gateway Technical Institute and Bradford High School, as well as Bullen Junior High School. The route would also provide direct service to Bradford High School for students residing in the area south of 52nd Street and north of 67th Street served by the western terminus of the route. Finally, the route would directly serve other trip generators, including the Brookside Care Center and the Washington Manor Nursing Home, as well as those located in the central business district. Peak-hour trips could also be modified to serve Bullen Junior High School if sufficient demand existed.

Operating Profile: The transit service characteristics of the regular and peak-hour tripper routes under this alternative are summarized in Table 47. Under this alternative, round-trip route miles on the regular routes would decrease from the existing total of about 137 miles to approximately 133 miles--a decrease of about four miles, or about 3 percent. Service levels for Routes 1, 3, 4, 5, and 6 would be the same as those under Alternative Plan 2. Service levels on Route 2 and on the new route--Route 7--would be consistent with those proposed for Routes 1, 3, 4, and 5, and would, thus, include weekday peak-hour service at 30-minute headways. No routing or service changes are proposed under this alternative for the peak-hour tripper service presently operated by the system.

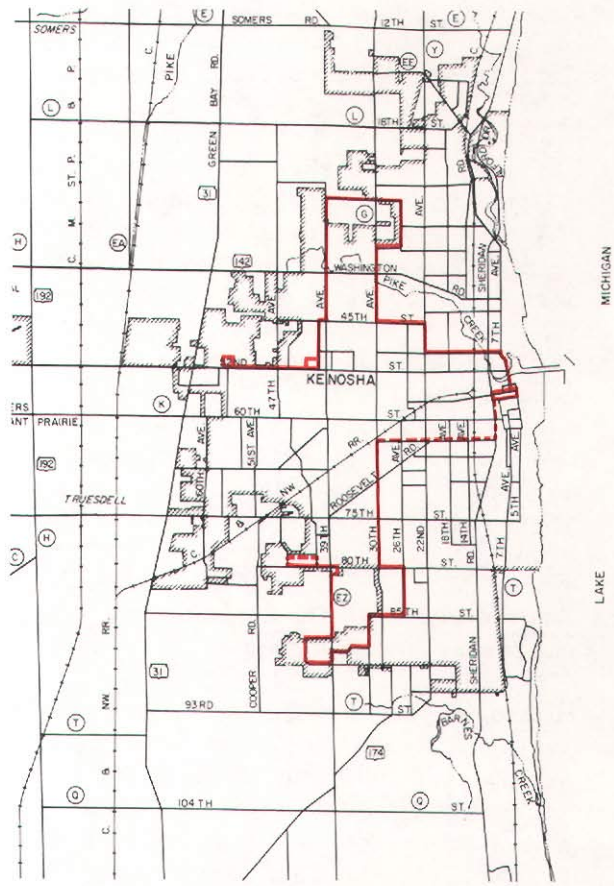
Map 40

PROPOSED ROUTING CHANGES FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 3

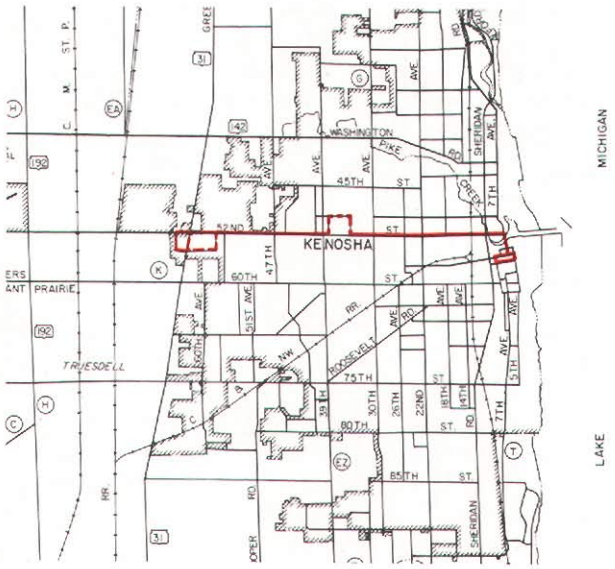
ROUTE 1



ROUTE 3



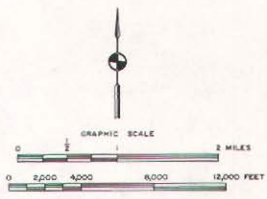
ROUTE 2



LEGEND

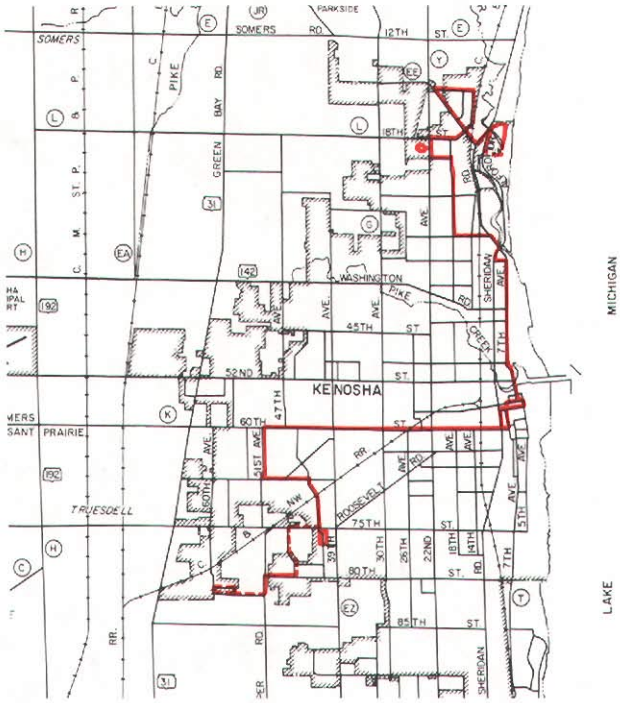
EXISTING SEGMENT TO BE RETAINED

PROPOSED SEGMENT TO BE ADDED

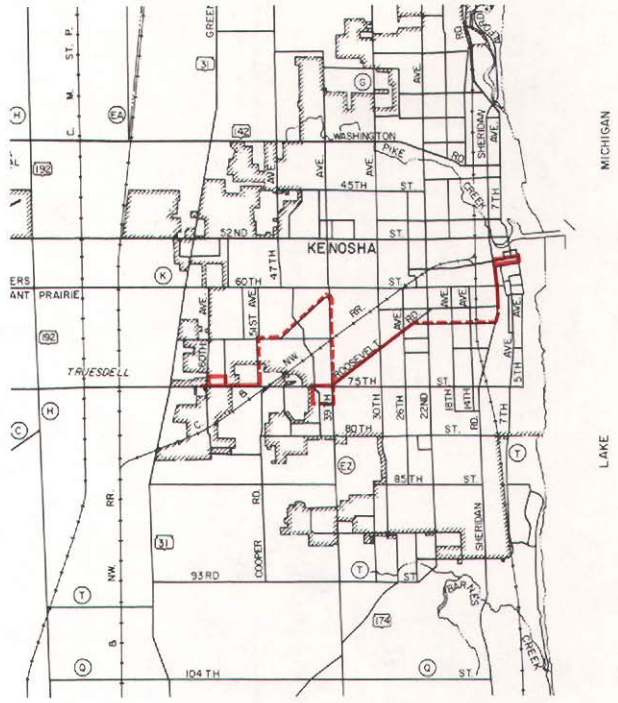


Map 40 (continued)

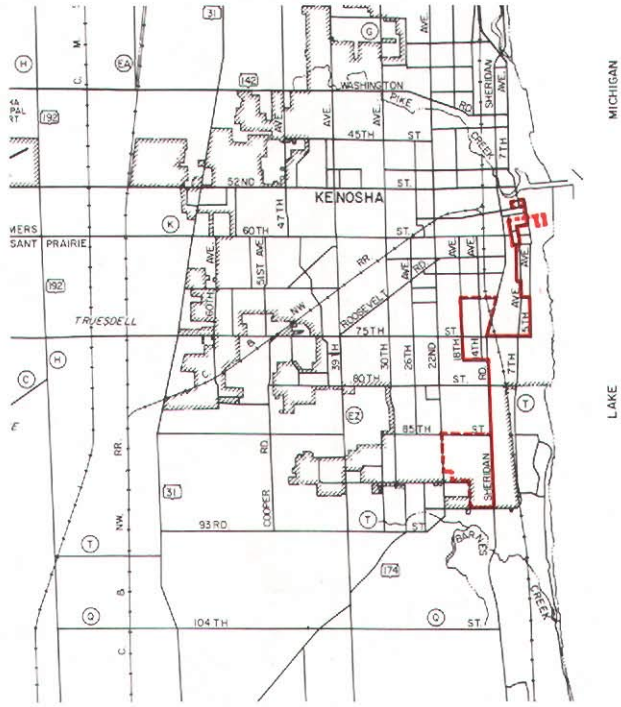
ROUTE 4



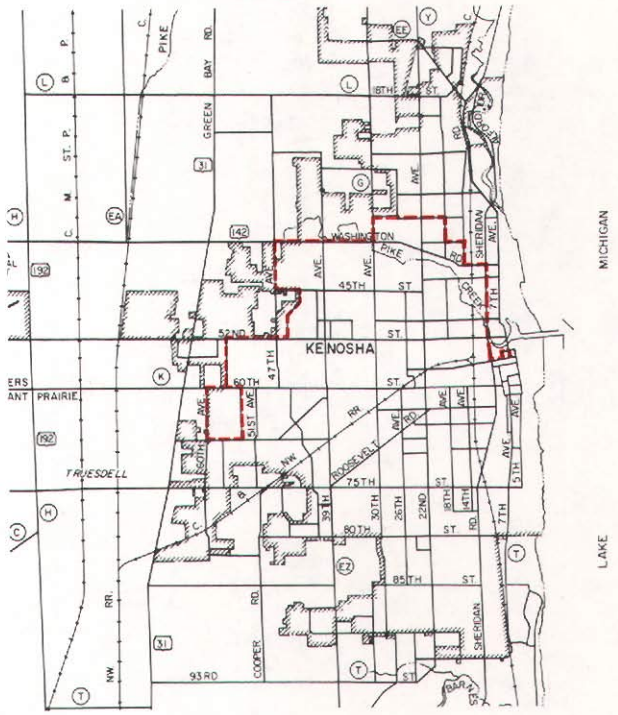
ROUTE 6



ROUTE 5



ROUTE 7



Source: SEWRPC.

Table 47

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 3

Route Number	Round-Trip Route Length (miles)	Daily Round Trips			Weekday Headways (minutes)			Saturday Headways (minutes)	Vehicles Required on Weekdays			Vehicles Required on Saturdays
		Weekdays		Saturday	School Year[a]		Summer[b]		School Year[a]		Summer[b]	
		School Year[a]	Summer[b]		Peak	Off Peak			Peak	Off Peak		
Regular Routes												
1	26.4	16	12	12	30	60	60	60	4	2	2	2
2	10.3	16	12	12	60	60	60	60	2	1	1	1
3	26.6	16	12	12	30	60	60	60	4	2	2	2
4	29.3	16	12	12	30	60	60	60	4	2	2	2
5	13.2	16	12	12	30	60	60	60	2	1	1	1
6	13.0	12	12	12	60	60	60	60	1	1	1	1
7	15.0	16	12	12	30	60	60	60	2	1	1	1
Subtotal	133.4	104	84	84	--	--	--	--	19	10	10	10
Peak-Hour Tripper Routes	153.0	17	--	--	--	--	--	--	9	--	--	--
Total	286.4	121	84	84	--	--	--	--	28	10	10	10

[a] From approximately the third week in August to approximately the third week in June, during which time public schools are in session.

[b] Assumed to be a 10-week period beginning approximately in the third week of June and ending before the last week of August.

Source: SEWRPC.

Table 48

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 3: 1983-1988

Operating Characteristic	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers	1,209,500	1,226,000	1,254,000	1,270,000	1,282,000	1,291,000
Annual Revenue Vehicle Hours	55,700	55,800	52,400	52,400	52,400	52,400
Annual Vehicle Miles	737,100	741,600	673,600	673,600	673,600	673,600
Revenue Passengers per Revenue Vehicle Hour	21.7	22.0	23.9	24.2	24.5	24.6
Operating Expenses[b]						
Annual	$1,618,100	$1,622,100	$1,510,900	$1,510,900	$1,510,900	$1,510,900
Per Revenue Passenger	1.34	1.32	1.21	1.19	1.18	1.17
Operating Revenue						
Passenger Revenue[c]						
Per Passenger[d]	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d]	386,000	392,300	401,300	406,400	410,200	413,100
Other Revenue[e]	16,900	17,000	17,000	17,000	17,000	17,000
Total Operating Revenue	$ 402,900	$ 409,300	$ 418,300	$ 423,400	$ 427,200	$ 430,100
Percent of Operating Expenses	24.9	25.2	27.7	28.0	28.3	28.5
Operating Deficit						
Annual	$1,215,200	$1,212,800	$1,092,600	$1,087,500	$1,083,700	$1,080,800
Per Revenue Passenger	1.00	0.99	0.87	0.86	0.85	0.84

[a] All dollar figures are expressed in 1983 constant dollars.

[b] Excludes depreciation expenses.

[c] Assumes no change in the existing fare structure.

[d] Includes special contract fares from the Kenosha Unified School District of approximately $0.11 per systemwide revenue passenger.

[e] Includes approximately $8,200 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

With the increase in the frequency of service on Route 2 and the addition of the seventh route, more annual revenue vehicle hours of service would be operated under this alternative than under Alternative Plan 2. However, about 4,000, or about 7 percent, fewer vehicle hours would be operated under this alternative than under the status quo alternative, primarily because of the cuts proposed for weekday peak-period and Saturday service. Peak-period vehicle requirements for this alternative would remain at 28, as required to operate the existing system.

Ridership and Financial Projections: Ridership and financial projections for the system under this alternative are presented in Table 48. Ridership is projected to increase from about 1,209,500 revenue passengers in 1983 to about 1,291,000 revenue passengers in 1988, an increase of about 7 percent. By 1985, operating expenses would decrease--in constant dollars--by about 7 percent from 1983 estimated levels, then remain stable through 1988. The total operating deficit of $1,080,800 projected for 1988 is about $134,400 below the 1983 estimated level of $1,215,200, a decrease of about 11 percent. The operating deficit per passenger would be expected to decrease by about 16 percent--from the 1983 deficit per passenger of $1.00 to about $0.84 in 1988.

Alternative Plan 4--Maximum Service Level

Alternative Plan 4 proposes the highest level of service for the 1984-1988 period of the four transit system alternatives considered. Even so, this alternative represents a slight reduction from existing service levels. The

alternative includes most of the routing changes proposed under Alternative Plan 3, including the elimination of Route 6 as presently operated; the division of Route 2 into two separate routes; the addition of a seventh route serving the north side of the City; and the realignment of the northern half of Route 1 to make adjustments for the new Route 7. In addition, this alternative proposes further routing adjustments for Routes 2 and 3. The specific routing changes proposed under this alternative are summarized on Map 41. The major change from existing service levels proposed under this alternative is a reduction in Saturday service levels, as proposed under Alternative Plans 2 and 3. The routing and service level changes are described in more detail below.

Routes 1, 4, and 5: Under this alternative, the same routing changes would be made to these routes as proposed under Alternative Plans 2 and 3.

Routes 2, 3, and 6: As proposed under Alternative Plans 2 and 3, the existing Route 6 would be eliminated from the transit system, and the existing Route 2 would be divided into two separate routes, with the southern half of the old Route 2 becoming the new Route 6. However, under this alternative the new Route 6 would not be routed over 39th Avenue, Wilson Road, and 52nd Avenue between Pershing Plaza and 75th Street, but would instead have the same routing as the existing Route 2 along 75th Street.

Service over 39th Avenue would be provided by Route 2, which would have a new western terminus located at Pershing Plaza. Route 2 would continue to serve the K-Mart Department Store located at 52nd Street and 40th Avenue, but would no longer operate over 52nd Street west of that point. Service over 52nd Street west to the Kenosha Garden Apartments located at 55th Street and 46th Avenue would be provided by Route 3, which would be extended from its present terminus at the Shopko Department Store on 52nd Street to serve the Kenosha Garden Apartments in the manner proposed for Route 2 under Alternative Plan 3.

Route 7: A seventh bus route, as proposed under Alternative Plan 3, is also proposed under this alternative.

Operating Profile: The transit service characteristics of the regular routes and peak-hour tripper routes in the system under this alternative are summarized in Table 49. Under this alternative, round-trip route miles would decrease from the existing total of about 137 miles to about 132 miles--a decrease of five miles, or about 4 percent. Weekday peak-period headways of 30 minutes would be provided on all routes, including the revised Route 6, throughout the year. The same changes would be made to Saturday service levels as proposed under Alternative Plans 2 and 3. No changes are proposed under this alternative for the peak-hour tripper service operated by the transit system.

Annual revenue vehicle hours of service under this alternative would total about 55,400 hours, representing about 1,000, or 2 percent, fewer vehicle hours than the 56,400 vehicle hours required to maintain the existing level of service as proposed under the status quo alternative. Twenty-nine vehicles would be required during peak periods under this alternative, one more than required to operate the existing system. Because the current city bus fleet consists of only 30 buses, the City would be required to acquire at least one additional vehicle through either purchase or lease to operate the service proposed under this alternative.

Ridership and Financial Projections: Ridership and financial projections for the system under this alternative are presented in Table 50. Ridership is projected to increase from about 1,209,500 revenue passengers in 1983 to about 1,302,000 revenue passengers in 1988, an 8 percent increase. Total system operating expenses would decrease--in constant dollars--by about 1 percent from 1983 levels by 1985, then remain stable through 1988. The total operating deficit of $1,166,400 in 1988 would be about $48,800 less than the operating deficit of $1,215,200 estimated for 1983, for a decrease of about 4 percent. Similarly, the operating deficit per revenue passenger would decrease from the $1.00 estimated for 1983 and 1984 to about $0.90 in 1988, a decrease of about 10 percent.

Additional Service Improvements

The alternative plans presented thus far propose transit service improvements primarily focused on the City of Kenosha. Members of the Advisory Committee representing the Towns of Pleasant Prairie and Somers also expressed an interest in the extension of transit service into certain areas of these communities not presently provided with service. Because any extension of fixed route bus service into such areas would be primarily for the benefit of the residents of these areas, it was assumed that the costs attendant to the provision of such service, including a pro rata share of fixed costs, would be recovered either through fares or through local subsidies from the federal and state governments and from the towns concerned, or through a combination of such fares and subsidies. Because such service extensions would require a commitment of funds by either the Town of Pleasant Prairie or the Town of Somers, and because neither community presently provides funds for the provision of public transit services, these services were considered separately from the transit service improvements proposed under the alternative plans. However, the extension of transit service into either community, as described below, could be added to any of the alternative plans.

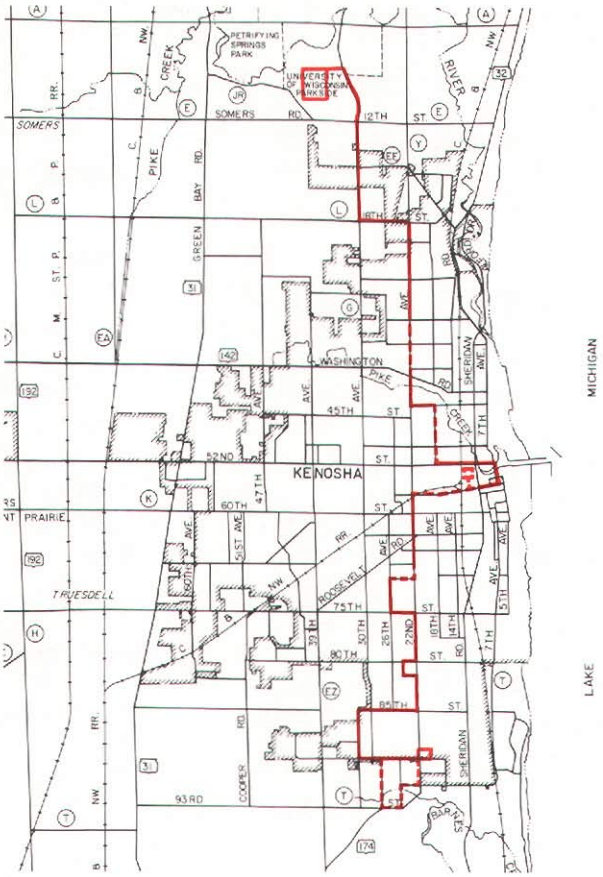
Specifically, interest was expressed by members of the Advisory Committee in extending fixed route bus service into the Towns of Pleasant Prairie and Somers to serve two major concentrations of residential development, one of which is located in the area of 116th Street and Sheridan Road in the Town of Pleasant Prairie, and the other of which is located along Sheridan Road between 17th Street and the Kenosha County line in the Town of Somers. The extension of regular bus service into these two areas would require the establishment of two additional bus routes, as shown on Map 42. These new routes would be required because of time constraints imposed by the use of pulse scheduling for the regular city bus routes.

The transit service characteristics of the proposed routes are summarized in Table 51. Both routes would operate on weekdays only during the morning and afternoon peak-use periods, from 6:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 6:00 p.m., and on Saturdays only between 9:00 a.m. and 4:00 p.m. Headways on the Somers route would be 30 minutes at all times, while on the Pleasant Prairie route headways would be 60 minutes at all times. Schedules for both routes would be designed to provide for coordinated transfers between these routes and the regular city routes at the Old Market Square Mall between the Pleasant Prairie route and Route 5, and near the Villa Capri Plaza Shopping Center between the Somers route and Route 1. Because the transit system does

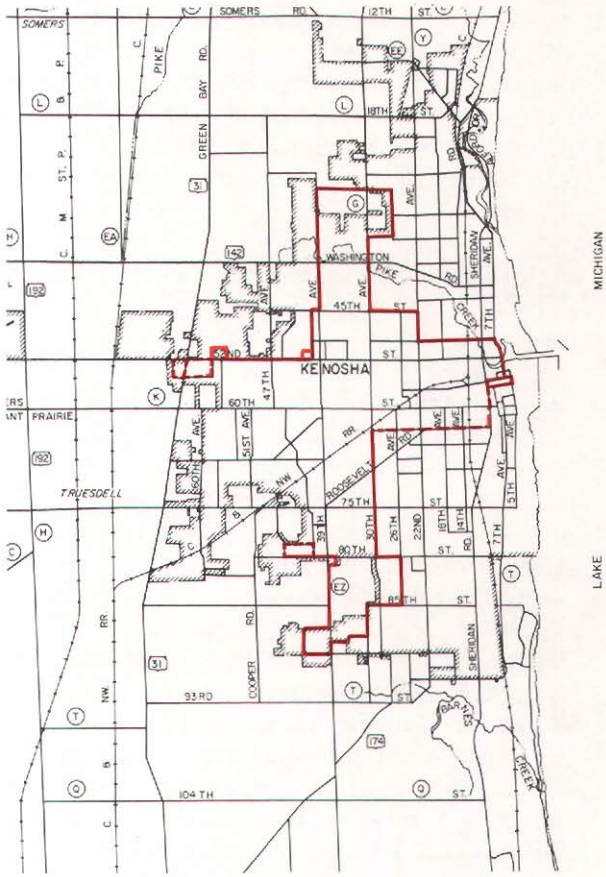
Map 41

PROPOSED ROUTING CHANGES FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 4

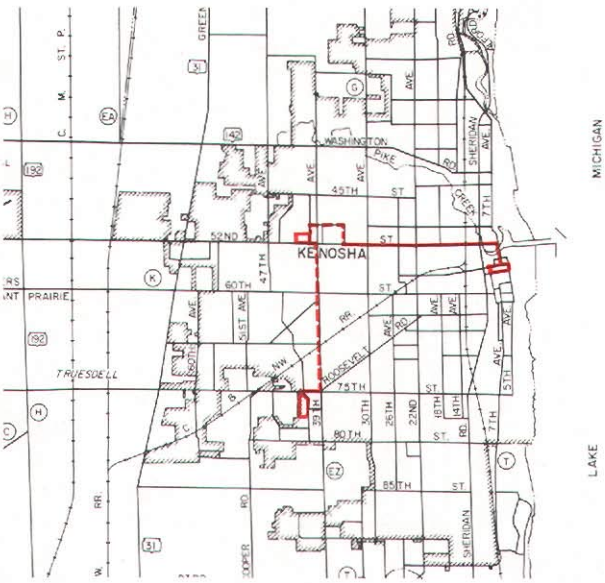
ROUTE 1



ROUTE 3



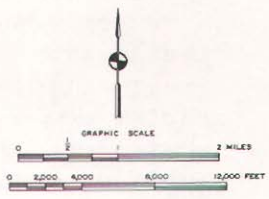
ROUTE 2



LEGEND

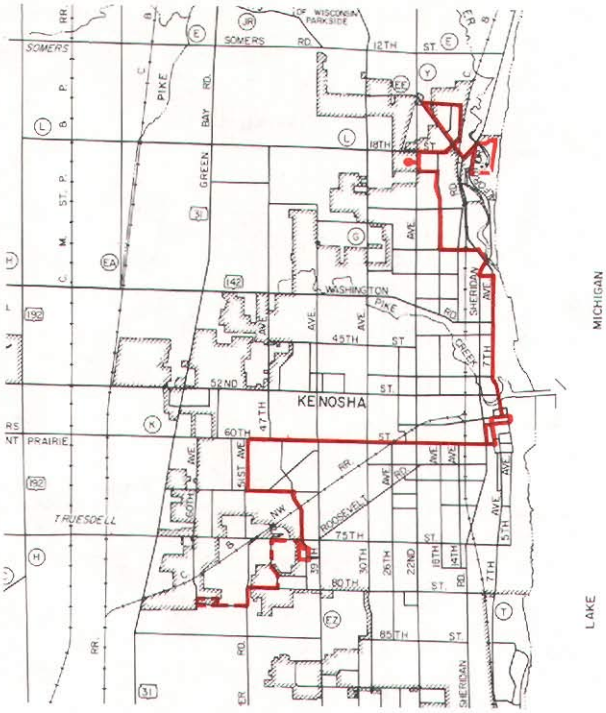
EXISTING SEGMENT TO BE RETAINED

PROPOSED SEGMENT TO BE ADDED

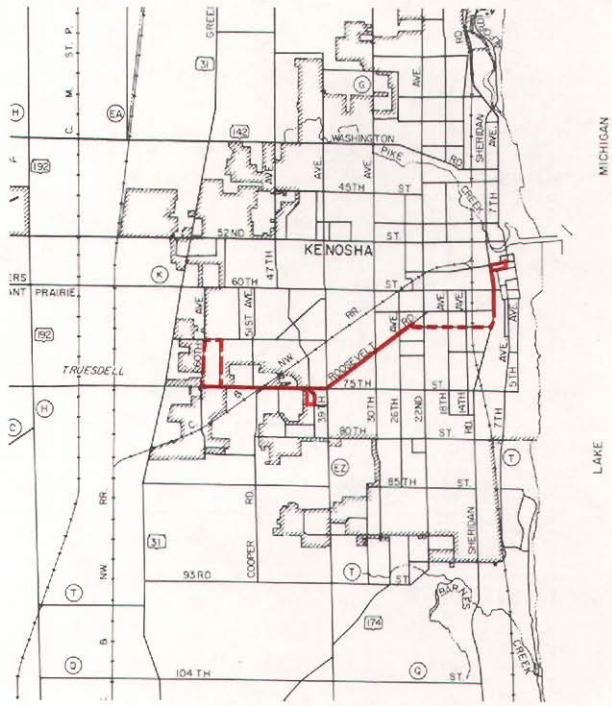


Map 41 (continued)

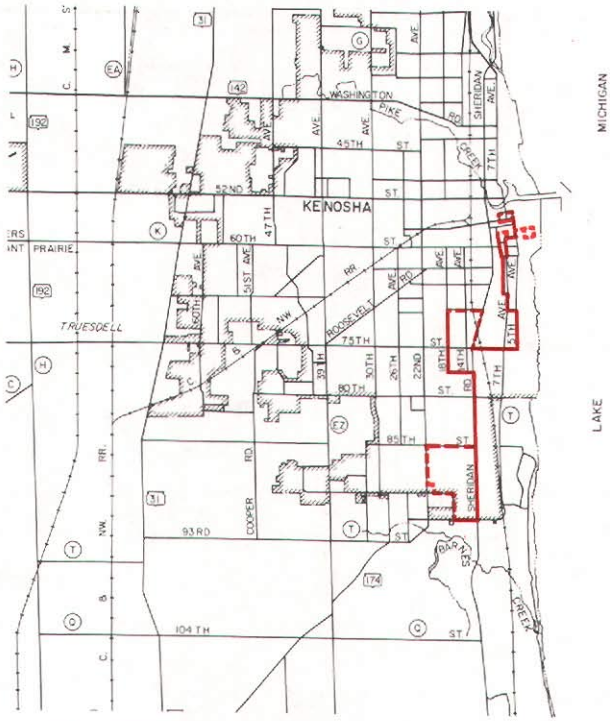
ROUTE 4



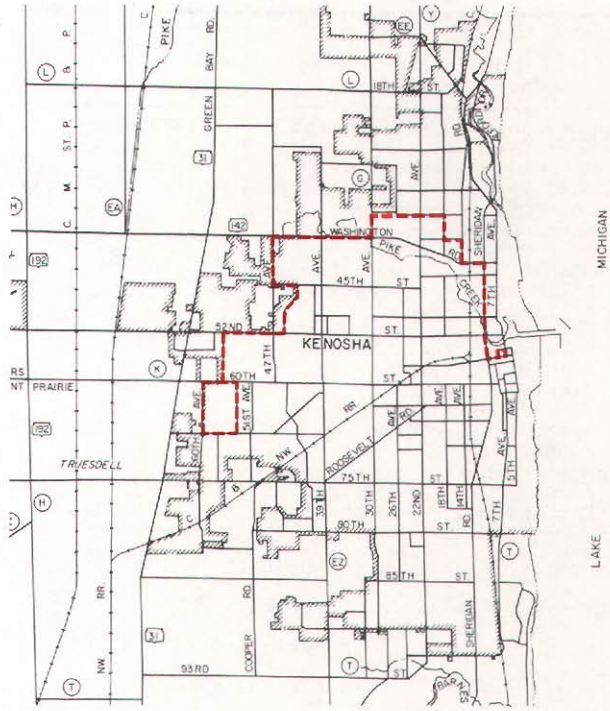
ROUTE 6



ROUTE 5



ROUTE 7



Source: SEWRPC.

Table 49

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 4

Route Number	Round-Trip Route Length (miles)	Daily Round Trips		Headways (minutes)			Vehicles Required		
				Weekdays			Weekdays		
		Weekdays	Saturday	Peak	Off Peak	Saturday	Peak	Off Peak	Saturday
Regular Routes									
1	26.4	16	12	30	60	60	4	2	2
2	10.6	16	12	30	60	60	2	1	1
3	27.6	16	12	30	60	60	4	2	2
4	29.3	16	12	30	60	60	4	2	2
5	13.2	16	12	30	60	60	2	1	1
6	9.9	16	12	30	60	60	2	1	1
7	15.0	16	12	30	60	60	2	1	1
Subtotal	132.0	112	84	--	--	--	20	10	10
Peak-Hour Tripper Routes	153.0	153	--	--	--	--	9	--	--
Total	285.0	265	84	--	--	--	29	10	10

Source: SEWRPC.

Table 50

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE KENOSHA TRANSIT SYSTEM UNDER ALTERNATIVE PLAN 4: 1983-1988

Operating Characteristic	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers...	1,209,500	1,229,000	1,264,000	1,281,000	1,293,000	1,302,000
Annual Revenue Vehicle Hours.....	55,700	56,200	55,400	55,400	55,400	55,400
Annual Vehicle Miles.....	737,100	747,500	717,100	717,100	717,100	717,100
Revenue Passengers per Revenue Vehicle Hour.....	21.7	21.9	22.8	23.1	23.3	23.5
Operating Expenses[b]						
Annual.....	$1,618,100	$1,634,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000
Per Revenue Passenger.....	1.34	1.33	1.27	1.25	1.24	1.23
Operating Revenue						
Passenger Revenue[c]						
Per Passenger[d].....	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d].....	386,000	393,300	404,500	409,900	413,800	416,600
Other Revenue	16,900	17,000	17,000	17,000	17,000	17,000
Total Operating Revenue..	$ 402,900	$ 410,300	$ 421,500	$ 426,900	$ 430,800	$ 433,600
Percent of Operating Expenses.....	24.9	25.1	26.3	26.7	26.9	27.1
Operating Deficit						
Annual.....	$1,215,200	$1,223,700	$1,178,500	$1,173,100	$1,169,200	$1,166,400
Per Revenue Passenger.....	1.00	1.00	0.93	0.92	0.90	0.90

[a]All dollar figures are expressed in 1983 constant dollars.

[b]Excludes depreciation expenses.

[c]Assumes no change in the existing fare structure.

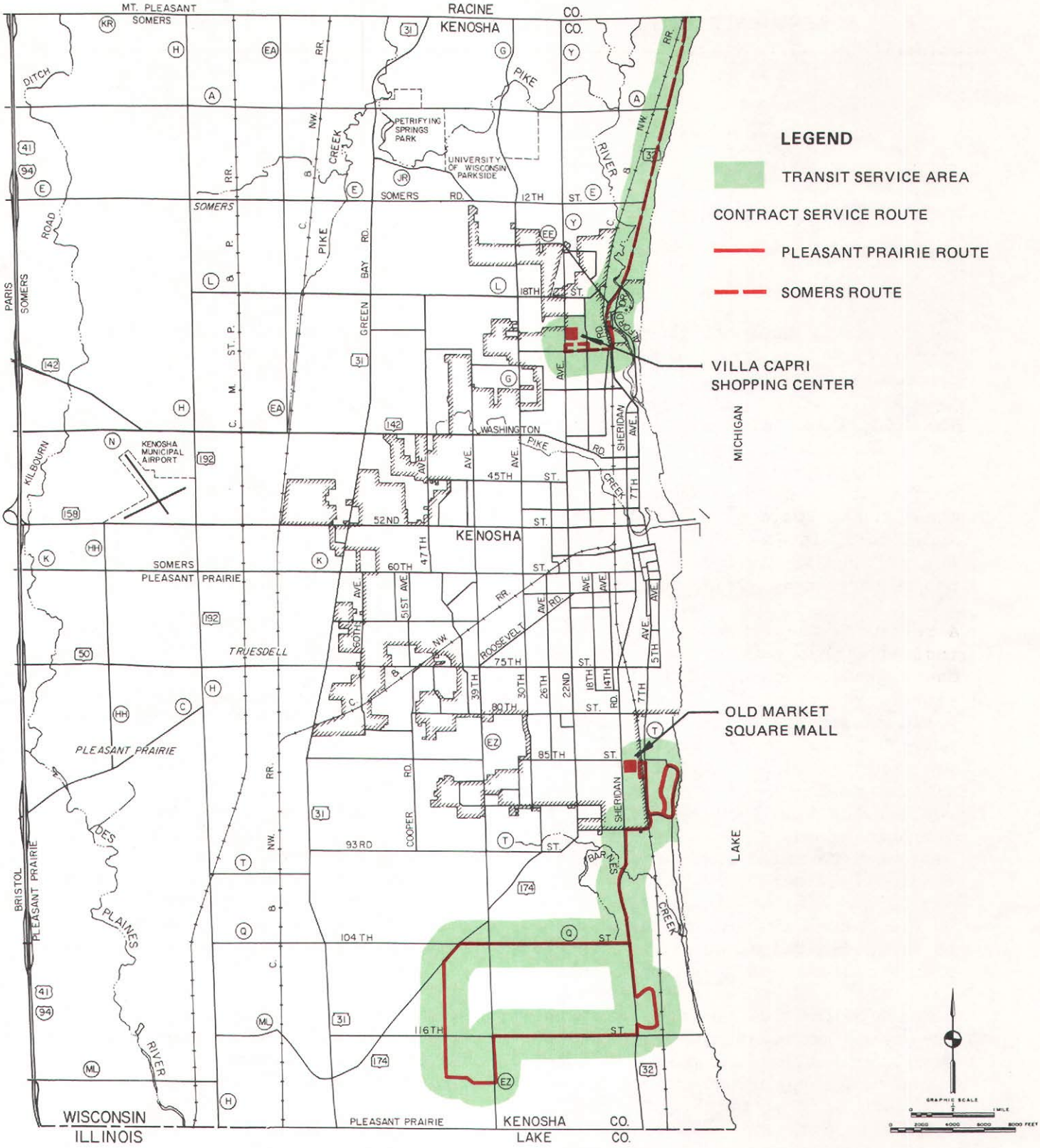
[d]Includes special contract fares from the Kenosha Unified School District of approximately $0.11 per systemwide revenue passenger.

[e]Includes approximately $8,200 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

Map 42

POTENTIAL CONTRACT SERVICE ROUTES FOR THE KENOSHA TRANSIT SYSTEM



Source: SEWRPC.

Table 51

SUMMARY OF SERVICE CHARACTERISTICS FOR POTENTIAL CONTRACT SERVICE ROUTES FOR THE KENOSHA TRANSIT SYSTEM

Route	Round-Trip Route Length (miles)	Daily Round Trips		Headways (minutes)			Vehicles Required		
				Weekdays			Weekdays		
		Weekdays	Saturday	Peak	Off Peak	Saturday	Peak	Off Peak	Saturday
Somers Route	8.3	10	14	30	--	30	1	--	1
Pleasant Prairie Route	14.0	6	7	60	--	60	1	--	1

Source: SEWRPC.

not currently have enough buses to operate these routes, the City would be required to lease or purchase at least two additional buses to provide the proposed service.

The ridership and financial projections for each route are presented in Table 52. Because funds for operation of these routes are not included in the 1984 city transit system budget, the earliest that either of the proposed routes could be implemented is January 1, 1985. As already noted, because these routes would primarily benefit residents of the Towns of Pleasant Prairie and Somers, it was assumed that these communities would reimburse the City for any portion of the operating deficits of the individual routes which would not be covered by either federal or state transit operating assistance.

A review of the ridership and financial performance projected for these routes indicates that neither route would be as productive as any of the regular city bus routes as presented in Chapter V of this report, or would operate at the same financial performance levels. The productivity of the two proposed routes would range from three to five passengers per vehicle hour by 1988. This compares with an average productivity level in 1988 of from 22 to 26 passengers per vehicle hour for the entire transit system under the four alternative plans discussed. The operating deficit per passenger for the proposed routes in 1988 would range from about $4.00 to $6.00 per revenue passenger, while the average operating deficit per passenger for the entire transit system in 1988 was projected to range from $0.79 to $1.00 under the four alternative plans considered. Furthermore, the productivity and financial performance of both routes may be expected to be significantly below that of Route 6 as presently operated by the transit system. As previously noted, the existing Route 6 is recommended to be eliminated under every alternative plan considered except the status quo plan because of its poor performance.

Because of the poor performance levels projected for both routes, the inclusion of either route in the recommended plan ultimately selected by the Advisory Committee was not recommended. However, inasmuch as the transit service provided by the proposed routes could be perceived to be a valuable service for the Town of Pleasant Prairie or the Town of Somers, either community could decide to initiate the service regardless of its performance or cost. Such a decision by either community would require a commitment of local funds for the transit service and, consequently, must ultimately be made by the governing bodies of the respective communities.

Table 52

RIDERSHIP AND FINANCIAL PERFORMANCE FOR POTENTIAL CONTRACT SERVICE ROUTES FOR THE KENOSHA TRANSIT SYSTEM: 1985-1988

Operating Characteristic	Projections by Route[a]			
	Somers Route		Pleasant Prairie Route	
	1985	1988	1985	1988
Annual Revenue Passengers	9,000	13,000	6,000	9,000
Annual Revenue Vehicle Hours	1,600	1,600	1,900	1,900
Annual Vehicle Miles	32,100	32,100	26,500	26,500
Revenue Passengers per Revenue Vehicle Hour	5.6	8.1	3.2	4.7
Operating Expenses				
Annual	$54,900	$54,900	$58,000	$58,000
Per Revenue Passenger	6.10	4.22	9.67	6.44
Operating Revenue[b]				
Annual	$ 2,900	$ 4,200	$ 1,900	$ 2,900
Per Revenue Passenger	0.32	0.32	0.32	0.32
Percent of Operating Expenses	5.3	7.7	3.3	5.0
Operating Deficit				
Annual	$52,000	$50,700	$56,100	$55,100
Per Revenue Passenger	5.78	3.90	9.35	6.12
Distribution of Public Funding Requirement				
Maximum Federal Assistance[c]	$26,000	$25,350	$28,050	$27,550
Maximum State Assistance[d]	19,200	19,200	20,300	20,300
Minimum Local Assistance	6,800	6,150	7,750	7,250
Total	$52,000	$50,700	$56,100	$55,100

[a] All dollar figures are expressed in 1983 constant dollars.

[b] Assumes same fare structure as for regular city bus routes.

[c] Fifty percent of total operating deficit.

[d] Thirty-five percent of total operating expenses.

Source: SEWRPC.

Evaluation of Transit Service Alternatives

Table 53 presents a summary of the performance and cost of each of the four transit service alternatives for the Kenosha area. The performance of each transit service alternative was measured against the adopted objectives using the same key standards and associated performance measures used in the system-wide evaluation of the transit system (see Chapter V of this report). The table provides a summary of the degree to which each alternative satisfies the key standards, and allows for a comparative evaluation of all the alternatives.

As shown in the table, the performance of the system under the four alternatives may be expected to be very similar with regard to the total population served, the number of major traffic generators served, the number of jobs

Table 53

SUMMARY OF THE EVALUATION OF ALTERNATIVE TRANSIT SERVICE PLANS FOR THE KENOSHA TRANSIT SYSTEM

Evaluation Measure by Objective	Alternative[a]			
	Status Quo	Minimum Level of Service	Moderate Level of Service	Maximum Level of Service
Objective No. 1--Effectively Serve Existing Land Use Pattern				
Population Served				
Total Service-Area Population	81,900	81,900	81,900	81,900
Percent of City of Kenosha Resident Population Served	99.6	99.6	99.6	99.6
Major Nonresidential Land Use Areas Served				
Shopping Areas	12 of 12	12 of 12	12 of 12	12 of 12
Educational Institutions	21 of 23	21 of 23	21 of 23	21 of 23
Medical Centers	10 of 11	9 of 11	9 of 11	9 of 11
Governmental and Public Institutional Centers	12 of 16	12 of 16	12 of 16	12 of 16
Employment Centers	32 of 33	30 of 33	31 of 33	31 of 33
Recreational Areas	12 of 18	12 of 18	12 of 18	12 of 18
Objective No. 2--Provide A Ready Means of Access to Areas of Employment and Essential Services to All Segments of the Population				
Residential Concentrations of Transit-Dependent Population Groups Served				
Elderly	Served	Served	Served	Served
Persons in Low-Income Families	Served	Served	Served	Served
Racial and Ethnic Minorities	Served	Served	Served	Served
Zero-Automobile Households	Served	Served	Served	Served
Facilities Utilized by Transit-Dependent Population Groups Served				
Elderly Facilities	23 of 23	23 of 23	23 of 23	23 of 23
Handicapped Facilities	9 of 9	9 of 9	9 of 9	9 of 9
Federally Subsidized Rental Housing	13 of 13	13 of 13	13 of 13	13 of 13
Jobs Within One-Eighth Mile of a Bus Route With Shift Times Fully Served by the Transit System	8,600	8,600	8,600	8,600
Objective No. 3--Promote Transit Utilization and Provide for User Convenience, Comfort, and Safety				
Annual Revenue Passengers				
Total 1988	1,235,000	1,206,000	1,291,000	1,302,000
Net Change 1983-1988	25,500	- 3,500	81,500	92,500
Total Ridership 1984-1988	6,125,000	6,002,000	6,323,000	6,369,000
Revenue Passengers Per Capita				
1988	15.1	14.7	15.8	15.9
Net Change 1983-1988	0.3	- 0.1	1.0	1.1
Revenue Passengers Per Revenue Vehicle Hour				
1988	21.9	26.0	24.6	23.5
Net Change 1983-1988	0.2	4.3	2.9	1.8
Objective No. 4--Provide Economical and Efficient Service				
Operating Expenses				
Total Annual Expenses 1984-1988	$8,226,000	$7,002,800	$7,665,700	$8,034,000
Average Annual Expenses 1984-1988	1,645,200	1,400,600	1,533,100	1,606,800
Percent of Operating Expenses Recovered by Operating Revenues				
1988	25.1	29.6	28.5	27.1
Net Change 1983-1988	0.2	4.7	3.6	2.2
Average Annual Recovery Rate 1984-1988	24.9	28.6	27.5	26.4
Total Operating Deficit				
Total Annual Operating Deficits 1984-1988	$6,181,000	$4,997,200	$5,557,400	$5,910,900
Average Annual Operating Deficit 1984-1988	1,236,200	999,400	1,111,500	1,182,200
Total Operating Deficit per Passenger				
1988	$ 1.00	$ 0.79	$ 0.84	$ 0.90
Average Annual 1984-1988	1.01	0.83	0.88	0.93

[a] All dollar figures are expressed in constant 1983 dollars.

Source: SEWRPC.

served, and the service provided to residential concentrations of, and facilities frequently used by, the various transit-dependent population groups identified within the study area--the elderly, persons in low-income families, racial (nonwhite) and ethnic (Hispanic) minorities, and persons living in households having no automobile. In this regard, each transit service alternative would serve about 81,900 persons and about 8,600 jobs within the study area, and would provide virtually complete service-area coverage to persons residing within the City of Kenosha, including the residential concentrations of transit-dependent population groups. All four service alternatives would also provide excellent coverage of the major traffic generators and facilities frequently used by transit-dependent persons within the City of Kenosha.

The maximum level of service alternative would provide significantly more service to Kenosha area residents than the other alternatives considered, and, consequently, could be expected to generate the highest level of transit ridership over the planning period. The maximum level of service alternative could be expected to generate about 367,000, or about 6 percent, more revenue passengers over the planning period than the minimum level of service alternative, and about 244,000, or about 4 percent, more revenue passengers than the status quo alternative, but only about 46,000, or about 1 percent, more revenue passengers than the moderate service improvement alternative.

Of the alternative plans considered, the minimum level of service alternative would have the lowest public funding requirement over the planning period--about $4,997,000, or almost $1 million per year. The moderate level of service alternative would require an additional total public funding requirement of about $560,000 over the planning period, or about $112,000 more per year. The maximum level of service alternative would require an additional $914,000 over the planning period, or about $183,000 more per year. Maintaining the existing system as proposed under the status quo alternative would require the highest public funding requirement over the planning period, exceeding the total public funding requirement for the minimum level of service alternative by about $1,184,000, or about $237,000 per year.

In terms of cost-effectiveness, the minimum level of service alternative would have the lowest average public funding requirement per passenger over the planning period, about $0.83. The average public funding requirement per passenger for the moderate level of service alternative would be about $0.88, or about 6 percent more than that for the minimum level of service alternative. The average public funding requirement per passenger for the maximum level of service alternative would be $0.93, or about 12 percent more than required for the minimum level of service alternative. The status quo alternative would have the highest average total public funding requirement, about $1.00 per passenger, about 20 percent above the requirement for the minimum level of service alternative.

While it is important to compare the total public funding requirements of each alternative, the local share of the public funding requirement must also be considered. The local share will depend upon the amount of federal and state transit operating assistance available over the planning period. While the level of state transit operating assistance can be estimated as a fixed percentage of projected annual operating expenses, as prescribed under the current state operating assistance program, the changing role of the federal

government in subsidizing transit system operating deficits makes it difficult to estimate the level of federal transit operating assistance which may be available over the planning period. Changes were made in the national federal transit operating assistance program by the Surface Transportation Assistance Act of 1982. These changes in the national program are expected to reduce the amount of federal funds allocated for transit operating assistance in the Kenosha urbanized area in 1985 and 1986 by about 5 percent from 1984 levels. However, no funds for the program have been appropriated beyond 1984, and the program has no funding authorizations beyond 1986. Because the current federal administration maintains a policy calling for the elimination of federal subsidies for transit operating assistance, further reductions in operating assistance from those presently anticipated over the planning period are possible, if not probable.

In order to estimate the local share of the total public funding requirement, two alternative scenarios were developed, each assuming different levels of federal operating assistance under the federal Urban Mass Transportation Administration (UMTA) Section 9 formula grant program over the planning period. Under the first scenario, the optimistic scenario, federal transit operating assistance funds were assumed to remain available over the entire planning period, with operating assistance allocations from 1985 through 1988 reduced by 5 percent from 1984 levels, to be consistent with levels prescribed for 1985 and 1986 under the provisions of the Surface Transportation Assistance Act of 1982 for urbanized areas of fewer than 200,000 persons, such as the Kenosha urbanized area. Under the second scenario, the pessimistic scenario, federal transit operating assistance funds were assumed to be phased out after 1986, with operating assistance allocations reduced to two-thirds of the 1984 level in 1985 and to one-third of the 1984 level in 1986. No allocations of transit operating assistance funds were assumed under this scenario for 1987 and 1988. In addition to the annual allocations of funds to the urbanized area assumed under the UMTA Section 9 program, the unused balance of UMTA Section 5 Tier I and Tier II operating assistance funds carried forward from previous years' allocations would also be available. Table 54 indicates the total federal transit operating assistance funds assumed to be available over the planning period under the two alternative scenarios.

The distribution of the projected annual operating deficit for the Kenosha transit system is shown in Table 55. The amounts of federal funds shown in the table are based upon the funding levels for the urbanized area assumed under the two federal funding scenarios. Sufficient state funds are assumed to be available in all years to provide state transit operating assistance in an amount equal to 35 percent of projected transit system operating expenses, as provided under the current state urban mass transit operating assistance program. Under the optimistic funding scenario, the unused balance of UMTA Section 5 funds and the annual allocations of UMTA Section 9 funds would be more than sufficient to provide the maximum federal share of the systemwide deficit in every year over the five-year planning period for the alternatives providing a minimum, moderate, and maximum level of service. The status quo alternative would face a shortfall of federal funds from the maximum federal share in the last year of the planning period. However, state transit operating assistance levels would be more than sufficient to cover the remainder of the projected systemwide operating deficits for all alternatives, including the

Table 54

ALTERNATIVE FUNDING SCENARIOS FOR FEDERAL TRANSIT OPERATING ASSISTANCE IN THE KENOSHA URBANIZED AREA: 1984-1988

Federal Funding Category	Federal Funding Scenarios	
	Optimistic	Pessimistic
UMTA Section 5		
Tier I and II Funds		
Carryover Balance as of September 30, 1983	$ 328,400	$ 328,400
Funds Projected to Be Deobligated	95,500	95,500
Total	$ 423,900	$ 423,900
UMTA Section 9 Funds		
Portion of Annual Allocation Available for Use as Operating Assistance		
1984	$ 626,600	$ 626,600
1985	595,300	417,900
1986	595,300	208,700
1987	595,300	--
1988	595,300	--
Total	$3,007,800	$1,253,200
Total Operating Assistance Funds	$3,431,700	$1,677,100

Source: SEWRPC.

status quo alternative. Because of assumed federal and state funding levels, no local dollars would be required under the optimistic funding scenario at the systemwide level for any transit service alternative.[2]

Under the pessmistic funding scenario, reduced federal funding levels would result in a shortfall of federal funds from the maximum federal share by 1986 under all of the transit service alternatives. State transit operating assistance funds would not be sufficient to cover the shortfall of federal funds in those and subsequent years. Thus, local funds would be required to support the operation of the transit system under each transit service alternative. The highest local public funding commitment would be required for the

[2]It should be noted that the local public funding requirements presented in this analysis were based upon operating expenses, revenues, and deficits expressed in constant 1983 dollars and, as such, do not take into consideration the possible effects of general price inflation on projected operating deficits or the local share thereof. Increases in total system operating deficits due to the effects of general price inflation could result in a greater need for, and a more rapid use of, federal and state transit operating assistance monies than indicated in Table 55 to the degree that available federal and state funds would not be sufficient to cover the entire systemwide operating deficit, as indicated for some alternatives, particularly during the later years of the planning period. Consequently, while no local public funding requirement has been indicated for individual alternatives during specific years, some commitment of local funds may actually be required to cover the shortfall of federal and state funds resulting from inflated operating deficits.

Table 55

DISTRIBUTION OF PROJECTED TRANSIT SYSTEM OPERATING DEFICITS AMONG FUNDING SOURCES FOR TRANSIT SERVICE ALTERNATIVES UNDER OPTIMISTIC AND PESSIMISTIC FEDERAL FUNDING SCENARIOS: 1984-1988

Transit Service Alternative	Funding Source	Projected Share of Operating Deficit (dollars)[a]						
		1984	1985	1986	1987	1988	Total	Average Annual
Status Quo	Total Projected Operating Deficit.....	1,239,400	1,237,800	1,236,200	1,234,600	1,233,000	6,181,000	1,236,200
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b].....	1,381,900	1,380,800	1,379,800	1,378,700	1,377,700	6,898,900	1,379,800
	Maximum Federal Share[c].....	690,950	690,400	689,900	689,350	688,850	3,449,450	689,900
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario.....	690,950	690,400	689,900	689,350	671,100	3,431,700	686,300
	Under Pessimistic Funding Scenario.....	690,950	690,400	295,750	--	--	1,677,100	335,400
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d].....	1,637,000	1,637,000	1,637,000	1,637,000	1,637,000	8,185,000	1,637,000
	Maximum State Share[e].....	572,950	572,950	572,950	572,950	572,950	2,864,750	572,950
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario.....	548,450	547,400	546,300	545,250	561,900	2,749,300	549,900
	Under Pessimistic Funding Scenario.....	548,450	547,400	572,950	572,950	572,950	2,814,700	562,900
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario.....	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario.....	--	--	367,500	661,650	660,050	1,689,200	337,900
Minimum Level of Service	Total Projected Operating Deficit.....	1,161,200	961,400	959,900	958,200	956,600	4,997,200	999,400
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b].....	1,294,100	1,092,400	1,091,400	1,090,300	1,089,300	5,657,500	1,131,500
	Maximum Federal Share[c].....	647,050	546,200	545,700	545,150	544,650	2,828,750	565,750
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario.....	647,050	546,200	545,700	545,150	544,650	2,828,750	565,750
	Under Pessimistic Funding Scenario.....	647,050	546,200	483,850	--	--	1,677,100	335,400
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d].....	1,547,800	1,342,500	1,342,500	1,342,500	1,342,500	6,917,800	1,380,500
	Maximum State Share[e].....	541,700	469,900	469,900	469,900	469,900	2,421,300	484,300
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario.....	514,150	415,200	414,100	413,050	411,950	2,168,450	433,650
	Under Pessimistic Funding Scenario.....	514,150	415,200	469,900	469,900	469,900	2,339,050	467,800
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario.....	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario.....	--	--	6,050	488,300	486,700	981,050	196,200

Table 55 (continued)

Transit Service Alternative	Funding Source	Projected Share of Operating Deficit (dollars)[a]						
		1984	1985	1986	1987	1988	Total	Average Annual
Moderate Level of Service	Total Projected Operating Deficit	1,212,800	1,092,600	1,087,500	1,083,700	1,080,800	5,557,400	1,111,500
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b]	1,347,700	1,230,500	1,227,200	1,224,700	1,222,800	6,252,900	1,250,600
	Maximum Federal Share[c]	673,850	615,250	613,600	612,350	611,400	3,126,450	625,300
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario	673,850	615,250	613,600	612,350	611,400	3,126,450	625,300
	Under Pessimistic Funding Scenario	673,850	615,250	388,000	--	--	1,677,100	335,400
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d]	1,605,100	1,493,900	1,493,900	1,493,900	1,493,900	7,580,700	1,516,100
	Maximum State Share[e]	561,800	522,900	522,900	522,900	522,900	2,653,400	530,700
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario	538,950	477,350	473,900	471,350	469,400	2,430,950	486,200
	Under Pessimistic Funding Scenario	538,950	477,350	522,900	522,900	522,900	2,585,000	517,000
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario	--	--	176,600	560,800	557,900	1,295,300	259,100
Maximum Level of Service	Total Projected Operating Deficit	1,223,700	1,178,500	1,173,100	1,169,200	1,166,400	5,910,900	1,182,200
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b]	1,358,900	1,317,500	1,314,000	1,311,400	1,309,600	6,606,400	1,321,300
	Maximum Federal Share[c]	679,450	658,750	657,000	655,700	654,800	3,305,700	661,150
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario	679,450	658,750	657,000	655,700	654,800	3,305,700	661,150
	Under Pessimistic Funding Scenario	679,450	658,750	338,900	--	--	1,677,100	335,400
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d]	1,617,000	1,583,000	1,583,000	1,583,000	1,583,000	1,583,000	1,583,000
	Maximum State Share[e]	565,950	554,050	554,050	554,050	554,050	2,782,150	556,400
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario	544,250	519,750	516,100	513,500	511,600	2,605,200	521,050
	Under Pessimistic Funding Scenario	544,250	419,750	554,050	554,050	554,050	2,726,150	545,250
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario	--	--	280,150	615,150	612,350	1,507,650	301,550

[a] All dollar figures are expressed in constant 1983 dollars.

[b] Calculated based on eligible expenses and revenues per federal guidelines. For the purposes of this study, eligible expenses were limited to total system expenses less charter expenses; eligible revenues were limited to total system revenues less special contract passenger revenues, charter revenues, and other nontransit revenues.

[c] Fifty percent of the transit system operating deficit per federal guidelines.

[d] For the purposes of this study, eligible expenses were limited to total system expenses less charter expenses.

[e] Thirty-five percent of eligible operating expenses per state guidelines.

[f] Includes funds from the City of Kenosha and the University of Wisconsin-Parkside.

Source: SEWRPC.

status quo alternative--about $1,689,000 over the planning period, or about $0.28 per revenue passenger. The lowest local public funding commitment would be required under the minimum level of service alternative--about $981,000, or about $0.16 per revenue passenger.

All of the alternatives, including the status quo alternative, were compared with one another with respect to incremental ridership, expenses, and deficits to determine how each individual alternative compared with the other alternatives (see Table 56). While the minimum level of service alternative projects an incremental decrease in system ridership of about 2 percent from that projected by the status quo alternative, the moderate and maximum level of service alternatives project incremental increases in ridership of about 3 and 4 percent, respectively. The ridership increase projected by the moderate level of service alternative represents an incremental increase of about 5 percent over that projected by the minimum level of service alternative. The ridership projected by the maximum level of service alternative represents an incremental increase of about 1 percent over that projected by the moderate level of service alternative.

In terms of the total public funding requirement, the minimum, moderate, and maximum level of service alternatives each project an incremental decrease from that projected under the status quo alternative. The incremental public funding requirement for the minimum level of service alternative represents a decrease of $9.62 per lost revenue passenger from the requirement for the status quo alternative. The incremental public funding requirements for the moderate and maximum level of service alternatives represent decreases of $3.15 and $1.11, respectively, per additional revenue passenger. In addition, the moderate level of service alternative requirement would represent an increase of $1.76 per additional revenue passenger over the funding requirement for the minimum level of service alternative, and the maximum level of service alternative requirement would represent an increase of $7.68 per additional revenue passenger over the funding requirement for the moderate level of service alternative.

Recommendation

As indicated in Chapter II of this report, an important consideration in the transit planning effort for the Kenosha area is the cost of public transit service--in particular, the public funding requirement for transit service over the planning period. This is because the role of the federal government in subsidizing transit system operating deficits is changing, with some reduction from current levels of federal transit operating assistance likely over the planning period. While both state and local sources may be expected to continue to provide operating assistance funds over the planning period, such funds should not be counted on to significantly increase, particularly to the degree that they would fully make up for reductions in federal funding levels and increases in total operating deficits. Accordingly, the degree to which transit service can be improved over the planning period within existing or reduced public funding was an important consideration in selecting a transit plan for the Kenosha area.

Given the funding implications, maintaining the existing system, as proposed under the status quo alternative, was rejected as a viable alternative. This alternative would provide for no improvements in transit service and could be expected to result in only minor increases in system ridership, while maintaining the existing level of public funding.

Table 56

INCREMENTAL RIDERSHIP, EXPENSES, AND DEFICITS FOR THE MINIMUM, MODERATE, AND MAXIMUM SERVICE IMPROVEMENT ALTERNATIVES

Operating Characteristic	Transit Service Alternatives[a]					
	Minimum Level of Service	Moderate Level of Service		Maximum Level of Service		
	Over Status Quo Alternative	Over Status Quo Alternative	Over Minimum Level of Service Alternative	Over Status Quo Alternative	Over Minimum Level of Service Alternative	Over Moderate Level of Service Alternative
Incremental Revenue Passengers						
1988	-31,000	56,000	85,000	67,000	96,000	11,000
Five-Year Total 1984-1988	-123,000	198,000	321,000	244,000	367,000	46,000
Incremental Operating Expenses[b]						
1988	$ -285,700	$-134,300	$151,400	$ -45,200	$ 240,500	$ 89,100
Five-Year Total 1984-1988	-1,223,200	-560,300	662,900	-192,000	1,031,200	368,300
Five-Year Average per Revenue Passenger	-11.00	-2.83	2.07	-0.79	2.81	8.00
Incremental Operating Revenue[c]						
1988	$ -9,300	$ 17,900	$ 27,200	$ 21,400	$ 30,700	$ 3,500
Five-Year Total 1984-1988	-39,400	63,300	102,700	78,100	117,500	14,800
Incremental Operating Deficit						
Total Deficit						
1988	$ -276,400	$-152,200	$124,200	$ -66,600	$ 209,800	$ 85,600
Five-Year Total 1984-1988	-1,183,800	-623,600	560,200	-270,000	913,700	535,500
Five-Year Average per Revenue Passenger	-9.62	-3.15	1.76	-1.11	2.49	7.68
Local Share						
Under Optimistic Funding Scenario						
1988	--	--	--	--	--	--
Five-Year Total 1984-1988	--	--	--	--	--	--
Five-Year Average per Average Revenue Passenger	--	--	--	--	--	--
Under Pessimistic Funding Scenario						
1988	$ -173,350	$-102,150	$ 71,200	$ -47,700	$ 125,650	$ 54,450
Five-Year Total 1984-1988	-708,150	-393,900	314,250	-181,550	526,600	212,350
Five-Year Average per Revenue Passenger	-5.76	-1.99	0.98	-0.74	1.43	4.62

[a] All dollar figures are expressed in constant 1983 dollars.

[b] Excludes depreciation expenses.

[c] Assumes no change in existing fare structure.

Source: SEWRPC.

The alternative proposing a minimum level of service was also not considered to be a viable course of action to be followed by the transit system. This alternative does provide for a major reduction in the public funding requirement for the system. However, because of the attendant service reductions, this alternative would generate the lowest transit ridership of the four alternatives considered.

The recommended plan was therefore selected from the two alternatives proposing improvements in the level of service. These alternatives would provide about equal coverage of the resident population and equal service to the major traffic generators, jobs, and facilities for transit-dependent persons located within the area. Implementation of either of these alternatives would also provide for transit service improvements which could be expected to significantly increase system ridership while reducing the total public funding requirement, thus improving the cost-effectiveness of the system. Because of these characteristics, both alternatives were considered to represent viable plans for providing transit service in the Kenosha area over the next five years.

However, in comparing the ridership and public funding requirements for these two alternatives, the alternative proposing a moderate level of service, which could be expected to experience an average annual deficit per passenger of $0.88, was found to be slightly more cost-effective than the alternative proposing a maximum level of service, which could be expected to have an average annual deficit per passenger of $0.93. While the maximum level of service alternative could be expected to generate a higher level of transit ridership, the total ridership over the planning period for this alternative would be less than 1 percent more than that for the moderate service improvement alternative, while the total public funding requirement would be over 6 percent higher than the requirement for the moderate level of service alternative. The cost of the incremental increase in ridership in terms of the total public funding requirement for the maximum level of service alternative over the moderate level of service alternative was found to be unsatisfactory, amounting to about $8.00 per additional passenger gained. Therefore, because the alternative proposing a moderate level of service was believed to represent the best balance of improved transit service and reduced public funding requirements for the transit system over the planning period, the Kenosha Public Transit Planning Advisory Committee recommended that the moderate level of service alternative plan be adopted and implemented. A description of the recommended plan, including the recommended capital improvement projects and a special efforts strategy for providing elderly and handicapped transportation service, is set forth in Chapter VIII.

SUMMARY

This chapter has presented four alternative five-year transit system improvement plans for the Kenosha area. The first alternative would maintain the existing transit system as operated at the end of 1983 throughout the planning period. As such, this alternative called for no corrective actions directed at improving the financial performance of the transit system.

The second alternative, a minimum level of service alternative, would combine a limited number of routing changes with a substantial reduction in the existing frequency of service, and would be directed primarily at improving the financial performance of the transit system by eliminating the most

unproductive service elements. Some routing or service changes would be made to every route in the system. These changes would reduce round-trip route miles of service from the existing 137 miles to about 123 miles, or about 10 percent; and reduce annual revenue vehicle hours from the 56,400 vehicle hours under the status quo alternative to about 46,800 vehicle hours, or by about 17 percent.

The third alternative, a moderate level of transit service alternative, calls for routing and service changes directed at improving the financial performance of the transit system, but also includes adjustments which would improve transit service and stimulate transit ridership. The routing and service changes proposed under the alternative would increase the number of routes on the system from six to seven, but still reduce total round-trip route miles from the existing 137 miles to about 133 miles, or by about 3 percent. Annual revenue vehicle hours of service would be reduced from the status quo level of 56,400 to about 52,400, or by about 7 percent.

The fourth alternative, the maximum level of service alternative, proposes slightly less service than would be offered by maintaining the existing system. This alternative incorporated most of the routing changes proposed under the third alternative, but fewer of the frequency-of-service changes. The routing and service changes would reduce total round-trip route miles from the existing 137 miles to about 132 miles, or by about 4 percent, and would reduce annual revenue vehicle hours of service from the 56,400 vehicle hours under the status quo alternative to about 55,400 vehicle hours, or by about 2 percent.

The feasibility of providing transit service to two major concentrations of residential development within the Towns of Pleasant Prairie and Somers was also examined. Two new routes, which would be operated by the City on a contract basis for the Towns, would be required to serve these two areas. Because of the poor ridership and financial performance levels projected for the proposed routes, it was recommended that they not be included in the recommended plan ultimately selected by the Advisory Committee. However, inasmuch as the transit service provided by the proposed routes could be perceived to be a valuable service for the Town of Pleasant Prairie or the Town of Somers, either community could decide to initiate the service regardless of its performance or cost. Such a decision by either community would require a commitment of local funds for the transit service and, consequently, must ultimately be made by the governing bodies of the respective communities.

A comparative evaluation of the four alternative transit system development plans was conducted utilizing the adopted transit service objectives and the same key standards and associated performance measures used in the system-wide evaluation of the existing transit system. The comparative evaluation indicated that the four transit service alternatives would provide about the same coverage of the resident population, and about the same level of service to the major traffic generators and facilities used by transit-dependent persons located within the area.

The status quo alternative was rejected as a viable plan for the transit system because it would provide for no improvements in transit service and only minor increases in ridership, and would not address the financial performance problems of the transit system. While the alternative proposing a minimum level of transit service for the Kenosha area would result in substantial financial

performance improvements and in reductions in the total public funding requirement, this alternative was also rejected because the service reductions that would be entailed under this alternative were not viewed as acceptable.

A recommended plan for the transit system was thus selected from the two alternatives proposing moderate and maximum levels of transit service. Both of these alternatives were considered to represent viable plans for providing transit service in the Kenosha area over the next five years. The moderate level of service alternative, as the more cost-effective of the two alternatives, was believed to strike the best balance between desired improved transit service and reduced public funding for the transit system over the planning period, and was, accordingly, recommended for adoption and implementation by the Kenosha Public Transit Planning Advisory Committee. Although generating less than 1 percent fewer revenue passengers over the planning period than the maximum level of service improvement alternative, this alternative would nevertheless generate about 3 percent more revenue passengers than would be generated by maintaining the existing transit system, as proposed under the status quo alternative. Of more importance, the total public funding requirement over the planning period under the moderate service improvement alternative would be about 10 percent less than the requirement for the status quo alternative, and about 6 percent less than the requirement for the maximum level of service alternative.

Chapter VIII

THE RECOMMENDED PLAN

INTRODUCTION

Four alternative transit plans for the Kenosha area were described and evaluated in Chapter VII of this report. Based upon the evaluation of these alternatives, the Advisory Committee recommended that the alternative plan proposing a moderate level of service be adopted. This chapter describes the recommended plan and program for the five-year period 1984-1988. Included are descriptions of the recommended operational improvements and capital projects for the fixed route transit system and a description of the special transit services to be provided for elderly and handicapped persons. This chapter also outlines the financial requirements of the plan and program, and the actions required to implement the plan.

RECOMMENDED FIXED ROUTE TRANSIT SERVICE

Operational Improvements

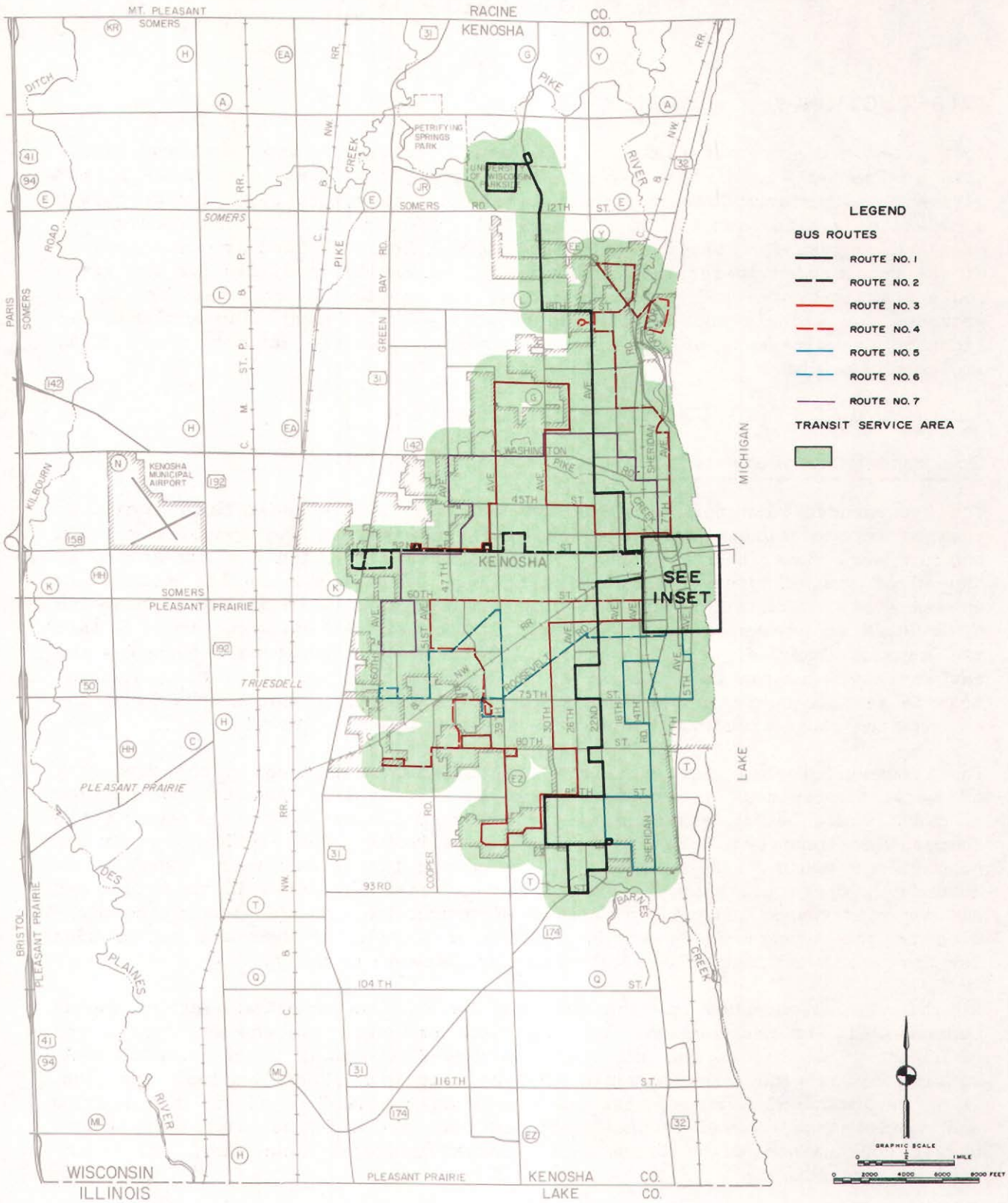
The recommended plan for the fixed route transit system calls for a number of changes in the route structure of the existing system. The specific routing changes were described in Chapter VII of this report, and are summarized on Map 40 of that chapter. Some routing changes are recommended for each route in the system. Foremost among the proposed routing changes is the elimination of Route 6 as presently operated; the division of the existing Route 2 into two separate routes, with the southern half of the old Route 2 becoming the new Route 6; and the addition of a new seventh route to provide additional transit service to major traffic generators on the north side of the City. The recommended route structure and service area are shown on Map 43.

The recommended plan also envisions some moderate reduction in the frequency of service provided on certain routes of the system. Weekday peak-period headways would be increased on all routes from 30 to 60 minutes during the summer when school is not in session. In addition, weekday headways on the new Route 6 would be 60 minutes all day during the school year. Finally, on Saturdays, operating headways on all routes would be increased to 60 minutes all day year-round. Table 47 in Chapter VII summarizes the service characteristics of the recommended plan. No routing or service changes are recommended for the peak-hour tripper service presently operated by the system.

All of the recommended routing and service changes are immediately implementable. It is recommended that the City implement the changes by the end of August 1984, before the start of the 1984-1985 school year. No additional routing or service changes would thus be anticipated between 1985 and 1988. It is recommended, however, that the routes be reviewed regularly for service and performance provided, and modifications be made as necessary within budget constraints to maximize service-area coverage, ridership, and financial performance.

Map 43

RECOMMENDED ROUTE STRUCTURE FOR THE KENOSHA TRANSIT SYSTEM



Source: SEWRPC.

INSET GRAPHIC SCALE
0 400 800 FEET

It should also be noted that while special contract service for the Towns of Pleasant Prairie and Somers has not been included in the recommended plan, either of these communities could request, at some future date, that the City extend regular bus service, such as that proposed in Chapter VII, into its jurisdiction. Should such a request for service be made, it is recommended that the service be implemented on a trial or demonstration basis. It is further recommended that any portion of the total costs of such services which would not be covered by passenger revenues or federal and state aids be covered by funds provided by either the Town of Pleasant Prairie or the Town of Somers.

Capital Improvements

Implementation of the recommended plan would require that several capital improvement projects be undertaken for the transit system between 1984 and 1988. These capital improvement projects include the replacement or rehabilitation of vehicles in the existing bus fleet, the replacement of bus stop signs throughout the system, and the construction of bus passenger shelters at certain major bus stops within the transit service area. A list of the capital improvement projects by year, together with estimated project costs, is set forth in Table 57.

Bus Replacement and Rehabilitation Program: The most significant capital improvement project to be undertaken by the transit system over the next five years is the replacement or rehabilitation of the primary vehicle fleet, consisting of 24 General Motors Corporation (GMC) new look diesel buses purchased new by the City of Kenosha in 1975. Assuming a maximum service life of 12 to 15 years, the 24 buses would be due for replacement or rehabilitation between 1987 and 1989. The estimated cost of replacing all 24 buses with new advance design buses similar to the newest buses in the vehicle fleet is $3.6 million.

An alternative to the purchase of all new vehicles would be the rehabilitation of the 24 new look buses. Under a major bus rehabilitation program, the major structural, mechanical, and electrical components of each bus would be rebuilt or replaced as necessary, and the interior and exterior of the bus would be refurbished. Depending on the extent of the rehabilitation work performed, the cost of bus rehabilitation is estimated at one-half of the cost of a new bus, and can extend the useful life of a bus from 8 to 10 years. While the potential cost savings associated with bus rehabilitation--versus the cost of purchasing new buses--is significant, the City of Kenosha presently does not have any spare buses which could be removed from the active fleet for the time required to complete a rehabilitation cycle. Consequently, it is recommended that the City undertake a combined program of new bus purchase and old bus rehabilitation.

Under the recommended program, the City would initiate the actions necessary to purchase six new 35-foot-long, advance design transit buses in 1985, with final delivery date for the new buses in the second half of 1986. Upon delivery, the new buses would be used to replace five of the 1975 GMC new look buses, plus the 1971 Twin Coach bus still in the city fleet. The five 1975 GMC new look buses would then be sent to a contractor for rehabilitation. Upon completion of the rehabilitation of these five buses in 1987, four of the 19 remaining new look buses would be sent out for rehabilitation. This cycling

Table 57

CAPITAL PROJECTS AND EXPENDITURES REQUIRED FOR THE KENOSHA TRANSIT SYSTEM UNDER THE RECOMMENDED TRANSIT SYSTEM PLAN AND PROGRAM: 1984-1988

Year	Project Description	Unit Cost[a]	Total Cost[a]
1984	--	--	--
1985	Purchase of six new 35-foot-long advance design transit buses	$150,000	$ 900,000
	Purchase of one spare replacement engine and transmission for new transit buses	25,000	25,000
	Purchase of tools and maintenance equipment for new transit buses	10,000	10,000
	Purchase of six new mobile radio units	2,000	12,000
	Purchase of six new registering electric locked-vault fareboxes	3,500	21,500
	Purchase and installation of 1,100 new bus stop signs	45	49,500
1986	Rehabilitation of five new look transit buses in existing vehicle fleet	$ 75,000	$ 375,000
	Purchase of five new registering electric locked-vault fareboxes	3,500	17,500
	Purchase of five new mobile radio units	2,000	10,000
	Purchase and installation of 15 bus passenger shelters	5,000	75,000
1987	Rehabilitation of four new look transit buses in existing vehicle fleet	$ 75,000	$ 300,000
	Purchase of four new registering electric locked-vault fareboxes	3,500	14,000
	Purchase of four new mobile radio units	2,000	8,000
1988	Rehabilitation of four new look buses in existing vehicle fleet	$ 75,000	$ 300,000
	Purchase of four new registering electric locked-vault fareboxes	3,500	14,000
	Purchase of four new mobile radio units	2,000	8,000
	Total Capital Project Costs		$2,139,000
	Contingency Fund[b]		213,900
	Project Administration[c]		42,800
	Total Costs for Federal Grant Purposes		$2,395,700
	Maximum Federal Share (80 percent)		1,916,500
	Minimum Local Share (20 percent)		479,200

[a]Expressed in constant 1983 dollars.

[b]Estimated at 10 percent of total capital project costs.

[c]Estimated at 2 percent of total capital project costs.

Source: SEWRPC.

of buses for rehabilitation would be repeated once more during the planning period--in 1988--at the end of which time 13 of the 24 new look buses will have been completely rehabilitated.

The combined bus purchase and rehabilitation program would result in a bus fleet in 1988 consisting of 11 advance design buses, 13 rehabilitated new look buses, and 11 unrehabilitated new look buses--a total fleet of 35 buses. Only 32 buses are recommended to be maintained by the transit system to operate the recommended transit service. This fleet would include 28 buses needed for peak-period system operation plus four spare buses. Consequently, three of the remaining 11 unrehabilitated new look buses in the 1988 fleet would not be needed and could be disposed of by the City. It is recommended that the other eight unrehabilitated, 1975 model, new look buses be rehabilitated in 1989 and 1990, with four buses being rehabilitated each year. It is estimated that the combined bus purchase and rehabilitation program, which would consist of purchasing six new buses and rehabilitating 21 new look buses, will result in a total savings of $1.43 million--expressed in constant 1983 dollars--over the cost of purchasing 26 new buses to attain the recommended fleet size.

Other operating equipment would also need to be acquired over the planning period. Specifically, six new fareboxes and mobile radios will be required for the six new advance design buses to be delivered in 1986, as well as a spare engine, transmission, and miscellaneous tools and maintenance equipment. It is assumed that, in conjunction with the rehabilitation program recommended for the 13 new look buses, the fareboxes and mobile radios for these vehicles will also be replaced with new equipment.

Bus Stop Sign Replacement Program: Prior to April 1983, when the survey of boarding and alighting passengers was conducted, an inventory of existing bus stop locations was undertaken. This inventory indicated that the bus stop signs at many locations either were faded and illegible or were missing. In addition, it was difficult to readily distinguish those bus stop signs which were legible from regulatory signs posted by the City to indicate parking restrictions, as both signs are of similar design and color. Accordingly, it is recommended that the City undertake a program of re-signing all bus stop locations with attractive new signs which are distinctive and easily recognized.

The new bus stop signs should be different in design and color from the existing city street regulatory signs. Examples of bus stop signs used by other urban transit operators within the Southeastern Wisconsin Region are shown in Figure 25. The bus stop signs used by the other transit operators generally are marked by an easily recognized bus symbol or transit system logo, and include information indicating parking restrictions, bus routes using the particular stop, and the telephone number for general transit system information. It is recommended that the new bus stop signs for the Kenosha transit system be similar to those signs in design and information displayed. It is estimated that 1,100 signs will be needed to mark all existing and proposed bus stop locations on the regular routes of the transit system.

Finally, it is recommended that special attention be given to displaying route information on the bus stop signs located at the common transfer point for the transit system at the intersection of 56th Street and 6th Avenue in downtown

Figure 25

BUS STOP SIGNS USED BY PUBLIC TRANSIT OPERATORS WITHIN THE SOUTHEASTERN WISCONSIN REGION

A recommendation which received strong support from the Advisory Committee was the replacement of the bus stop signs currently used by the Kenosha transit system with new signs which would be more easily recognized. The majority of signs presently used by the system (left) are difficult to readily distinguish from other regulatory signs posted by the City to indicate parking restrictions. At many bus stop locations, signs are faded and illegible or missing entirely. The Advisory Committee recommended that the new bus stop signs be similar to those used by other public transit operators in terms of design and information displayed. Shown above are examples of the standard bus stop signs used by Milwaukee County for the Milwaukee County Transit System (left center); the City of Racine for the Belle Urban System (right center); and the City of Waukesha for Waukesha Metro Transit (right).

Photos by Albert A. Beck.

Kenosha. All regular routes of the transit system meet in the area around this intersection, with specific stops for individual routes located in three specific areas: on both sides of 6th Avenue; on the north side of 56th Street; and in a special bus turn-out off 56th Street at the northern terminus of the Southport Mall. The specific routes using each location are not currently marked, causing confusion among passengers who are not familiar with the stops for each route. As this is the major boarding location on the transit system, it is particularly important that the bus route or routes using each of the three bus stop locations be displayed on the bus stop signs marking each location.

Bus Passenger Shelters: As noted in Chapter IV of this report, the transit system has a total of 35 passenger waiting shelters located at various stops throughout the transit service area. The transit system has received a federal grant for the purchase and installation of an additional 15 shelters, which are proposed to be erected by the transit system during 1984 and 1985. It is recommended that the transit system continue to erect shelters at major boarding locations and other bus stop locations in exposed areas for the comfort of waiting passengers. Accordingly, a project calling for the purchase and installation of an additional 15 bus passenger shelters has been included in the recommended program of projects for 1986. Shelters purchased under this project would be erected by the transit system during 1987 and 1988.

SPECIALIZED TRANSPORTATION FOR ELDERLY AND HANDICAPPED PERSONS

Background

Section 16(a) of the federal Urban Mass Transportation Act of 1964, as amended, sets forth a national policy that elderly and handicapped persons have the same right as other persons to use public transportation facilities and services, and directs that "special efforts" be made in the planning, design, and delivery of public transportation facilities and services to make transportation available which elderly and handicapped persons can effectively use. Section 504 of the federal Rehabilitation Act of 1973 provides that no handicapped person shall, solely by reason of his handicap, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity, such as public transit service, that receives federal financial assistance. Together, these two acts form the basis for ensuring that every federally aided transit system in the nation takes into account the special needs of persons having handicaps.

In response to the provision set forth in Section 16(a) of the federal Urban Mass Transportation Act, as amended, the Administrator of the federal Urban Mass Transportation Administration issued rules on April 30, 1976, governing the making of special efforts in public transit systems. While not specifying a program design that would meet the special efforts requirement, the Urban Mass Transportation Administration set forth illustrative examples of projects or levels of effort that would be deemed to satisfy the special efforts requirement. Such examples consisted of the following:

1. The expenditure on an average annual basis of at least 5 percent of the federal Section 5 transit operating apportionment made available to any urbanized area on a program to provide transit services for wheelchair users and semi-ambulatory persons. Such programs could include a special transit service or a user-side subsidy program so long as the vehicles involved could serve both wheelchair users and semi-ambulatory persons, so long as the service would not be restricted to a particular clientele, and so long as the fares charged for special services would be comparable to those charged on standard transit buses for trips of similar lengths.

2. The purchase of only wheelchair-accessible, fixed route equipment until one-half of a bus fleet is accessible.

3. A system of any design that would assure that every wheelchair user or semi-ambulatory person has public transit available on request for at least 10 round trips per week, at fares comparable to those charged on standard transit buses for trips of similar lengths.

It was under these guidelines that the Commission, in cooperation with the transit operators in the Region and three technical and citizen advisory committees, prepared--and after public hearings adopted in 1978--a regional transportation plan for the transportation handicapped.[1] The report documenting the plan provides estimates of the number of transportation-handicapped persons in the planning area; provides information on the socioeconomic and

[1]See SEWRPC Planning Report No. 31, A Regional Transportation Plan for the Transportation Handicapped in Southeastern Wisconsin: 1978-1982.

mobility limitation characteristics and on the travel habits and patterns of such persons; provides information on the transportation services provided for the transportation handicapped; provides estimates of the latent travel demand for both wheelchair-accessible transit systems and public or private demand-responsive transit systems at various fare levels; sets forth evaluations of alternative plans for providing mobility to transportation-handicapped persons; and sets forth a recommended five-year plan for implementing transportation projects that would be specifically designed to provide public transit service to persons with mobility restrictions.

The regional plan contained the following three major recommendations for the Kenosha transit system:

1. Wheelchair lifts and appurtenant devices should be included on the entire fleet of buses operating during the base--or nonpeak--periods of transit system operation. About 12 buses would have to be equipped with wheelchair lifts in order to meet this recommendation, given the need for maintenance down time. This recommendation was structured in part to meet the special efforts guidelines and rules then in effect promulgated by the Secretary of the U. S. Department of Transportation. The federal rules specified that any separate, specialized transit service provided in lieu of wheelchair lifts on a bus fleet would have to be provided with user fares that were "comparable" to fares charged on the mainline transit system for similar distances traveled. This was interpreted at that time by the Urban Mass Transportation Administration to mean "equal" fares. In essence, then, a special efforts strategy by the City of Kenosha that would consist only of a user-side subsidy program, or only of a specialized transit service provided by the City, in lieu of lift-equipping the bus fleet would have to be combined with a base fare equal to the base fare charged on the mainline transit system. This was deemed impractical from a cost standpoint by the advisory committee concerned, and was one of the major factors that led to the recommendation to equip the mainline bus fleet with wheelchair lifts. By so doing, it would ensure that the City would be free to establish and operate a user-side subsidy program or specialized transportation service with user fares set at more reasonable levels, reflecting the quality door-to-door service being provided.

   A second factor contributing to this recommendation was knowledge that the federal Urban Mass Transportation Administration was formulating new rules governing this entire matter. Draft rules under consideration at the time that the Commission was completing the regional transportation plan for the transportation handicapped clearly indicated an intent by the federal administration then in office to abandon the special efforts approach in favor of requiring all buses purchased with federal grants to be equipped with wheelchair lifts, thus ensuring over time total mainline accessibility.

2. A user-side subsidy program should be established to enable those transportation-handicapped persons in the Kenosha area living more than two blocks from a local bus route and those transportation-handicapped persons who, regardless of place of residence, cannot physically use wheelchair lift-equipped buses to increase their mobility. It was envisioned that such a service would provide adequate mobility to all transportation-handicapped persons in the Kenosha urbanized area.

3. Efforts should be made to coordinate all existing public and private transportation services for the transportation handicapped provided by area social service agencies. It was envisioned that this coordination would improve both the availability and delivery of transportation services for the transportation handicapped.

According to this plan, the process of implementing these three recommendations was to have begun in July 1978. In accordance with this strategy, the City of Kenosha programmed a project to retrofit 12 buses with wheelchair lifts in the 1978 annual element of the transportation improvement program (TIP) for the Southeastern Wisconsin Region, and prepared a UMTA Section 5 capital improvement grant application for federal funds to assist with 80 percent of the cost of the wheelchair-lift retrofit project. After receiving notification of approval of this grant in November 1978, the City began preparing wheelchair-lift retrofit design specifications and contract bid documents, anticipating the completion of the project by spring 1980.

However, four significant developments in 1979 caused the City to reconsider and eventually change its adopted special efforts strategy prior to completing the wheelchair-lift retrofit project. First, through discussions with manufacturers of lifts, it was determined that the cost per installed lift would approximate $25,000-$30,000 per vehicle--substantially more than the $9,000 per vehicle estimate used in the original UMTA Section 5 grant application. Thus, to proceed further with this project would have necessitated obtaining a sizable capital improvement grant amendment.

Second, it was learned that the installation of these lifts could not be performed easily on-site, and that each bus would have to be out of service for at least 30 days and transported to Illinois or possibly as far as California to have the lift installed. With only one spare bus in a 28-bus fleet during peak periods, additional buses would have had to be leased or purchased in order to take a bus out of service for this length of time.

Third, the City of Kenosha learned through discussions with other transit properties throughout the country, and through articles written about wheelchair lift devices "retrofitted" on existing buses, that these devices did not always operate properly, and that lift maintenance costs for retrofitted vehicles would be high.

Fourth, a new federal regulation specifying requirements for providing transportation services to the handicapped was issued in May 1979. The new regulation discouraged retrofitting older buses with lift devices and favored achieving accessibility by purchasing new wheelchair lift-equipped vehicles in which the lifts are designed and installed during the construction of the bus.

For these reasons, the City of Kenosha chose to modify its special efforts strategy in the following manner: 1) to abandon the project of retrofitting buses in the existing fleet with wheelchair lifts and, instead, meet the fleet accessibility requirements by purchasing new wheelchair lift-equipped buses as part of its regular fleet replacement program; and 2) to expend in the interim period, until the fleet accessibility requirements were met, no less than 2 percent of the Kenosha urbanized area's UMTA Section 5 allocation in support of a demand-responsive transportation service. This service would be comparable to the regular local bus service in terms of fares, hours of service, and total

travel time. The availability of this service, if requested, would be guaranteed to any wheelchair user or semi-ambulatory person in the Kenosha urbanized area for up to 10 round trips per week. This modified strategy was subsequently implemented by the City of Kenosha on January 1, 1980, when the City of Kenosha began supporting a specialized transportation service that was to serve as its special efforts strategy. The service was offered as an expansion of the advance-reservation transportation service for disabled persons offered in the Kenosha urbanized area by the Kenosha Achievement Center.

As noted above, a major contributing factor to the decision made by the City of Kenosha to change its special efforts strategy was the publication of new rules by the U. S. Department of Transportation on May 31, 1979, aimed at carrying out the intent of Section 504 of the Rehabilitation Act of 1973. These rules were put in place alongside the previously issued rules and, hence, did not formally supersede the old rules. The new rules required all public transit systems receiving federal aid to make one-half of the fixed route buses in service during the peak hour accessible to handicapped persons within a three-year period. In addition, the new rules required that all buses purchased with federal assistance after the effective date of the regulation be accessible to handicapped persons through wheelchair lifts or ramps.

While the 1979 rules did not technically replace the old rules, the new rules in effect removed some of the flexibility of the old rules to locally identify an appropriate special efforts program for the transportation handicapped. Under the 1979 rules, all public transit systems as a practical matter were required to make their fleets accessible to wheelchair-bound individuals. Any additional special efforts, such as support of a specialized transportation service, would thus be initiated on a voluntary, "over and above" basis by a local public transit operator and would not be federally mandated.

In response to these new rules, the Regional Planning Commission and the City of Kenosha jointly conducted a supplemental planning effort designed to amend the adopted regional transportation plan for the transportation handicapped. This supplemental effort, termed the "Section 504 effort," culminated in a series of amendments to the plan.[2] Given the mandate for wheelchair lifts by the federal government, this plan amendment set forth a revised schedule for ensuring that the City of Kenosha's transit system bus fleet would meet the accessibility requirements within the time periods specified in the federal rules. One change from the earlier plan involved the definition of bus fleet accessibility. Under the new plan, one-half of the buses in fixed route service during the peak hour were to be equipped with wheelchair lifts. Under the previous plan, accessibility was required for the entire fleet in service during the nonpeak periods. This plan amendment was formally adopted by the Kenosha Common Council on July 21, 1980, and by the Regional Planning Commission on September 11, 1980. In the interim period, until bus fleet accessibility was achieved, the City of Kenosha was to continue to provide accessible specialized transportation service for elderly and handicapped persons who could not use regular bus service. In accordance with these recommendations, the City during 1981 continued to support the specialized transportation service provided by the Kenosha Achievement Center--a private, nonprofit agency

[2]See SEWRPC Community Assistance Planning Report No. 39, A Public Transit System Accessibility Plan, Volume One, Kenosha Urbanized Area.

which provides rehabilitation training services and sheltered workshop programs for physically, mentally, and emotionally handicapped persons. In addition, the City purchased five new buses equipped with wheelchair lift devices.

On July 20, 1981, the Secretary of the U. S. Department of Transportation, acting in response to a federal court decision that Section 504 of the Rehabilitation Act of 1973 did not authorize the Secretary to require that all buses be made accessible to handicapped persons, issued a proposed new rule amending the rule issued on May 31, 1979. In effect, the amendment which was promulgated on an interim basis reinstated the special efforts rules that were first set forth in 1976. The interim final rule restated examples illustrating a level of effort by a public transit system that would be deemed by the Urban Mass Transportation Administration to satisfy all federal requirements. Such examples consisted of the following:

1. Operation of a program for wheelchair users and semi-ambulatory persons that would involve the expenditure of an average annual dollar amount equivalent to at least 3.5 percent of the federal transit operating and capital grant assistance provided under Section 5 of the Urban Mass Transportation Act received in an urbanized area.

2. Making one-half of the bus fleet accessible to wheelchair-bound individuals.

3. Providing a substitute transit service with wheelchair-accessible vehicles, with coverage and service levels similar to those of the regular transit system.

4. Operation of a system of any design that would assure every wheelchair user or semi-ambulatory person public transit service upon request for at least 10 round trips per week at fares comparable to those charged on standard transit buses for trips of similar lengths.

Under the interim final rules, each transit system must submit a certification that it is making appropriate special efforts to provide transportation services that handicapped persons are able to use. The filing of such a certification by a transit system is deemed compliance with all of the federal laws and regulations dealing with transportation for transportation-handicapped individuals. Anyone wishing to challenge the efforts being made by a public transportation system carries a burden of proof to show noncompliance with the rules. Such a showing would of necessity have to include a demonstration of a pattern of failure to carry out the special efforts on the part of the transit system.

In light of the interim final rules, the City of Kenosha redetermined the strategy it intended to pursue in carrying out special efforts to provide transportation for handicapped persons. Based on the above-stated examples of appropriate special efforts projects and given the past history in the Kenosha urbanized area on this matter, the City of Kenosha chose to meet the spirit and intent of the interim final federal rules by continuing to provide a limited level of accessible bus service, using the five wheelchair lift-equipped buses in the existing vehicle fleet, and to expend annually at least 3.5 percent of the federal transit operating and capital assistance funds received on the accessible specialized transportation service it currently provides.

Existing Accessible Specialized Transportation Service

The City of Kenosha currently supports a dual strategy for providing special transportation services for handicapped persons. This strategy consists of the provision of a limited level of accessible fixed route bus service on the regular city bus routes, and the provision of financial support to a specialized transportation service provided by the Kenosha Achievement Center.

At the present time, five of the 30 buses in the Kenosha transit system fleet are equipped with wheelchair lift devices. The City of Kenosha 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 are required to make service requests by calling the transit system and indicating on what routes and at what time they would like to travel. Such requests must be made at least 24 hours in advance of the time service is needed to enable the transit system to adjust its daily vehicle assignments to accommodate the requests. On an average weekday during the nonwinter months of operation, six one-way trips are made on the accessible bus service on the regular routes of the transit system.

As the second part of its dual special efforts strategy, the City of Kenosha annually contributes funds to the operation of a specialized transportation service offered by the Kenosha Achievement Center. The Kenosha County Department of Aging administers three specialized transportation projects provided under contract by the Kenosha Achievement Center. One of the three specialized transportation projects, Project Accessibility, provides the entire portion of Kenosha County east of IH 94 with accessible transportation service for elderly and handicapped persons. The City of Kenosha contributes funds toward the annual operating expenses of this project.

The service offered by Project Accessibility is provided on an advance-reservation basis using up to two vehicles, with the vehicles each capable of carrying up to two wheelchair-bound persons. To be assured of receiving service, eligible users must request service at least 24 hours in advance of the time service is needed. Priority is given to medical, nutritional, and work-related trips. The advance-reservation system allows the program to refuse requests for nonprioritized trips when the total requests for trips exceed the available capacity of the service. This prioritization of trips is a requirement of the State of Wisconsin's specialized transportation assistance program for counties, which funds a significant portion of the specialized transportation service offered by the Kenosha Achievement Center. Between 2 and 6 percent of the service requests each week are refused primarily because of insufficient service capacity.

The specialized service is presently provided Mondays through Saturdays between 8:30 a.m. and 7:00 p.m. No service is available on Sundays or holidays. The specialized service is intended to serve both elderly persons, identified as persons 60 years of age or older, and handicapped persons of any disability who do not have physical, economic, or geographic accessibility to other means of transportation. However, the main population targeted for this service is the elderly and nonelderly transportation-handicapped persons who cannot use the regular city bus service. Enrollment into the program is obtained through the first request for reservation 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 of the same if requested. A fare of $1.00 is charged for each one-way trip, including all trip priorities. Exceptions on the fare are made on a case-by-case basis for those individuals who are economically unable to pay because of their low income. Special arrangements are made with the elderly nutrition site programs, which issue passes to persons of low income for a three-month period entitling them to one free ride to the nutrition site along with a paid ride to return home.

Table 58 provides a summary of the one-way trips made on the specialized transportation service. As shown in this table, about 11,700 one-way trips were made during 1983 on the service, primarily by ambulatory/elderly persons and primarily for medical-related trips. The service was used by about 250 persons enrolled as eligible transportation users.

The total cost--excluding depreciation of vehicles--for operation of the specialized transportation during 1983 was about $96,600, or about $8.25 per one-way trip. Passengers generated about $10,700 in revenues--about $0.91 per one-way trip--leaving a required total public subsidy of about $85,900, or about $7.34 per one-way trip. The City of Kenosha's public transportation program funded $50,000, or about 58 percent, of the total subsidy for the service during 1983, amounting to about $4.27 per one-way trip. The remaining funds for the service were obtained from the State's specialized transportation assistance program for counties, authorized under Section 85.21 of the Wisconsin Statutes, from the Title XIX program administered by the Wisconsin Department of Health and Social Services, and from Kenosha County.

The City of Kenosha has contracted for accessible specialized transportation service with operating characteristics similar to those described above since 1980. Table 59 compares the expenditure levels required in order for the City of Kenosha to meet the special efforts requirements suggested under the interim final rule issued in 1981, and the funds actually expended or projected to be spent by the City on the specialized transportation services provided by the Kenosha Achievement Center since the rule went into effect in 1982. As indicated in the table, about $49,200 is expected to be spent annually on the specialized transportation service for the three-year period from 1982 through 1984. This expenditure level is equivalent to about 6 percent of the average annual UMTA funds expected to be received by the City of Kenosha over the period, significantly more than the 3.5 percent funding requirement suggested in the interim final federal rule. Thus, the City of Kenosha is in compliance with the existing UMTA special efforts requirements of the interim final rule.

Proposed Final Regulation on Public Transportation Service for Handicapped Persons

The Surface Transportation Act of 1982 included specific provisions directed at ensuring that adequate public transportation service was provided to handicapped persons by recipients of federal transit assistance. Under Section 317(c) of the Act, Congress directed the U. S. Department of Transportation to publish a new regulation that included minimum service criteria for the provision of transportation services to handicapped and elderly individuals. In addition, the statute required that the rule provide for public participation in the establishment of programs to provide services for handicapped persons and for monitoring of each recipient's compliance with the provisions of the regulation.

Table 58

SUMMARY OF TRIPS MADE ON KENOSHA ACHIEVEMENT CENTER SPECIALIZED TRANSPORTATION SERVICE PROVIDED EAST OF IH 94 DURING 1983 BY MOBILITY AND TRIP PURPOSE CLASSIFICATIONS

Trip Classification	One-Way Trips	
	Number	Percent of Total
Mobility		
Ambulatory[a]/Elderly	6,278	53.6
Ambulatory[a]/Nonelderly	2,591	22.1
Nonambulatory[b]/Elderly	1,333	11.4
Nonambulatory[b]/Nonelderly	1,509	12.9
Total	11,711	100.0
Trip Purpose		
Medical	5,346	45.6
Employment	1,314	11.2
Nutrition	1,437	12.3
Educational/Training	206	1.8
Social/Recreational	1,886	16.1
Personal Business/Shopping	1,522	13.0
Total	11,711	100.0

[a] Ambulatory persons are defined as those who can walk or board and exit a vehicle with little or no assistance and includes persons using crutches, canes, walkers, or other persons as mobility aids.

[b] Nonambulatory persons are defined as those confined to wheelchairs.

Source: Kenosha Achievement Center and SEWRPC.

Table 59

COMPARISON OF REQUIRED AND ACTUAL EXPENDITURE LEVELS FOR SPECIALIZED TRANSPORTATION SERVICE PROVIDED TO MEET UMTA SPECIAL EFFORTS REQUIREMENTS BY THE CITY OF KENOSHA: 1982-1984

Year	UMTA Funds Received		Required Expenditure Level		Actual Expenditure Level	
	Category	Amount	Amount	Percent	Amount	Percent
1982	Operating	$665,300	--	--	--	--
	Capital	240,000	--	--	--	--
	Total	$905,300	$31,700	3.5	$45,000	5.0
1983[a]	Operating	$677,500	--	--	--	--
	Capital	60,000	--	--	--	--
	Total	$737,500	$25,800	3.5	$50,000	6.8
1984[b]	Operating	$816,200	--	--	--	--
	Capital	--	--	--	--	--
	Total	$816,200	$28,600	3.5	$52,500	6.4
Average Annual Expenditure: 1982-1984		$819,700	$28,700	3.5	$49,200	6.0

[a] Unaudited.

[b] Projected.

Source: City of Kenosha Department of Transportation and SEWRPC.

Acting in response to the provisions of Section 317(c), the Secretary of the U. S. Department of Transportation issued on September 8, 1983, a proposed final rule that would replace the interim final rule issued on July 20, 1981. The intent of the proposed rule is to ensure adequate public transportation service for handicapped persons without placing undue cost burdens upon the recipients of federal transit aids. The proposed new rule removes some of the flexibility allowed recipients under the existing interim final rule in selecting how they will meet their obligation to provide transportation for handicapped persons. Under the proposed final rule, each funding recipient's public transportation program would be responsible for making transportation services available to handicapped and elderly persons through one of the following methods:

1. Making 50 percent of fixed route bus service accessible to handicapped and elderly persons. Fifty percent of fixed route bus service would be deemed to be accessible when half the buses the recipient uses during both peak and nonpeak hours are accessible;

2. Providing paratransit or special services for handicapped and elderly persons. All handicapped and elderly persons in the recipient's service area who are unable, by reason of their handicap or age, to use the recipient's service for the general public would be eligible to use the service; or

3. Providing a mix of accessible fixed route service and paratransit or special services. All persons eligible to use a special service or paratransit system provided in accordance with item No. 2 would be eligible to use the special services or paratransit component of the mixed system.

Whatever kind of system the recipient establishes, the system must meet specified minimum service criteria, subject to a maximum expenditure level, or "cost cap," by the recipient. The system must serve the same geographic area as the recipient's service for the general public, at the same times, and at comparable fares. There cannot be waiting lists for eligibility or restrictions or priorities based on trip purpose. Finally, the waiting time for service must be reasonable.

Two alternative maximum expenditure levels are included in the proposed rule: 7.1 percent of the average annual amount of federal financial assistance the recipient has received for its public transportation program over the current and previous two fiscal years; or 3.0 percent of the average operating budget for the recipient's public transportation program over the current and previous two fiscal years. The recipient would not be required to exceed the maximum expenditure level to meet the minimum service criteria. If the recipient cannot meet the service criteria described above without exceeding the cost cap, then the recipient is required to meet the criteria only to the extent possible within the cost cap.

Decisions on the service trade-offs that are made to keep costs within the cost cap must involve public participation. The recipient must plan its program for providing transportation services to handicapped persons in consultation with handicapped persons and groups representing them. A public hearing and a 60-day comment period on the recipient's plan is required. The recipient also would have to respond to significant comments it receives on its proposed plan at the public hearing or during the 60-day comment period. The recipient's program, and information concerning the public participation process, would be

sent to the UMTA, which would then either approve the program, reject the program, or require it to be changed. In addition to sending this material to the UMTA, each recipient would have to give the UMTA an annual report on how it was carrying out its program.

The proposed final regulation specifies that each recipient of federal funds is required to complete the planning process for its special efforts program and submit all required certification materials to the UMTA within nine months of the date the proposed regulation is made effective. The proposed final regulation further states that the recipient's proposed special efforts program has to be in effect on the first day of the recipient's fiscal year following the date on which the certification materials are due. Between the effective date of the final regulation and the date the recipient's special efforts program described in the certification materials is implemented, the existing special efforts program certified under the present interim final rule would remain in effect.

Implications of Proposed Final Regulations

At this time, the proposed final regulation has not yet been made effective. However, because of the statutory mandate for the new regulation made under Section 317(c) of the Surface Transportation Assistance Act of 1982, the proposed regulation, or some form thereof, is very likely to be made final sometime during 1984. While the present special efforts program for the City's public transportation program meets the existing requirements of the interim final rule, the current special efforts program was reexamined to determine if it would meet the new requirements specified under the pending final federal regulation.

The pending regulation allows the City to continue its present strategy of providing a mix of accessible fixed route and specialized transportation service. In this respect, because the City would not fully meet the fleet accessibility requirements of the pending regulation, it would be required to provide the specialized transportation service. However, the existing specialized transportation service would probably have some problems meeting all of the minimum service criteria proposed in the pending regulation. The potential problem areas are illustrated in Table 60, which compares the operating characteristics of the fixed route bus service provided by the Kenosha transit system with those of the specialized transportation used by the City to meet the special efforts requirements of the interim rule. A review of the information presented in this table indicates that the specialized transportation service may have problems complying with the minimum service criteria in three areas: 1) providing hours of operation comparable with those of the fixed route transit system; 2) placing no restrictions on trip purposes served; and 3) providing a reasonable wait time for service.

However, the pending regulation specifies that a recipient of federal funds is required to meet the proposed minimum service criteria only to the extent possible within a maximum expenditure level, or cost cap. Table 61 indicates what the 1984 cost cap for the Kenosha transit system would be under the two proposed alternative methods for determining the cap if the regulations were currently in effect. The 1984 budget for the Kenosha transit system includes approximately $52,500 to support the existing specialized transportation service. In addition, the costs of operating and maintaining the wheelchair lifts on the five accessible buses in the fleet would approximate $7,500, or about $1,500 per bus. In total, then, about $60,000 would be expended on the

Table 60

COMPARISON OF SELECTED OPERATING CHARACTERISTICS OF THE KENOSHA TRANSIT SYSTEM AND THE SPECIALIZED TRANSPORTATION SERVICE PROVIDED BY THE KENOSHA ACHIEVEMENT CENTER

Operating Characteristic	Kenosha Transit System	Existing Specialized Transportation Service
Service Area	Area within one-quarter mile of the bus routes operated by the transit system. Includes virtually all of the City of Kenosha, and parts of the Towns of Pleasant Prairie and Somers	Area of Kenosha County east of IH 94. Includes all of the City of Kenosha, and Towns of Pleasant Prairie and Somers
Service Hours Weekdays and Saturdays Sundays and Holidays	6:00 a.m.-6:00 p.m. No service	8:30 a.m.-7:00 p.m. No service
Base Fare per One-Way Trip	$0.40	$1.00
Restrictions on Trip	None	Priority given to serving trips for medical, nutritional, and work-related purposes
Wait Period for Service	Maximum of 30 to 60 minutes	24-hour advance reservation
Waiting Lists for User Eligibility	None	None

Source: SEWRPC.

Table 61

COMPARISON OF ALTERNATIVE MAXIMUM EXPENDITURE LEVELS FOR SPECIAL EFFORTS PROJECTS FOR THE KENOSHA TRANSIT SYSTEM

Expenditure Category	Year			Average Annual	Alternative Maximum Expenditure Levels	
	1982	1983[a]	1984[b]		Amount	Percent
Federal Transit Operating Assistance						
Operating.....	$ 665,300	$ 677,500	$ 816,200	$ 719,700	--	--
Capital.....	240,000	60,000	--	100,000	--	--
Total	$ 905,300	$ 737,500	$ 816,200	$ 819,700	$58,200	7.1
Total System Operating Budget[c]	$1,569,400	$1,618,100	$1,855,400	$1,601,000	$50,400	3.0

[a] Unaudited.

[b] Projected.

[c] Total system operating expenses per federal guidelines.

Source: City of Kenosha Department of Transportation and SEWRPC.

special efforts program by the City of Kenosha in 1984. This expenditure level would exceed either of the two alternative expenditure levels proposed under the pending federal regulation. Consequently, the City's existing special efforts program would probably meet the requirements of the pending federal regulations, even though it would probably not fully meet all of the proposed minimum service criteria.

Conclusions and Recommendations

It would appear that no major changes would be necessary in order for the City's special efforts program to meet the requirements of the pending final federal regulation. The current level of expenditure under the program would slightly exceed the cost cap specified under the regulation. As long as the City would continue to annually expend a comparable amount of funds on the program, the specialized transportation service would not be required to meet all of the minimum service criteria set forth in the regulations, and the service could continue to be provided as at present.

It should be noted that when the pending federal regulations are made final, the City will be required to conduct a public participation process to obtain comments from handicapped persons and groups representing them on how the City should meet the special efforts requirements of the new regulation. While no major changes appear to be necessary in order for the City's special efforts program to meet the requirements, changes to the program could be made as a result of comments received from the handicapped community.

In recognition of the need for, and importance of, the comments of the handicapped community on this issue, the Advisory Committee recommended that the public participation process be conducted under the guidance of a special advisory committee. In the past both the City and the County have relied upon such a special committee--the City/County Coordinating Committee for Elderly/Handicapped Transportation--for comments regarding the operation of the specialized transportation service provided by the Kenosha Achievement Center. In recognition of its past involvement with this specialized transportation service, the Advisory Committee recommended that the City/County Coordinating Committee be formally designated by the City of Kenosha as the advisory committee to be used in the public participation process. Appendix D provides a current list of the membership of this committee.

FINANCIAL COMMITMENT

This chapter has set forth the operating and capital requirements for implementation of the herein recommended level of transit service on the Kenosha transit system. A commitment of funds to subsidize the annual operation of the transit system and to acquire the necessary operating equipment will be required for implementation. Federal and state funds are recommended to be drawn upon to reduce the City's financial commitment required for the implementation and subsequent annual operation.

Operating Expenditures

Projections of ridership, expenses, revenues, and public subsidies for the recommended plan during each year of the planning period are set forth in Chapter VII (see Table 48 in Chapter VII). Ridership on the transit system is projected to increase by about 7 percent over the five-year planning period, from the 1983 level of about 1,209,500 revenue passengers to about 1,291,000 revenue passengers in 1988. This ridership projection is based primarily on recent trends on the transit system which indicate a stabilization in ridership. In this respect, whereas between 1975 and 1980 annual ridership on the transit system increased at an average annual rate of about 12 percent, annual

ridership on the transit system has actually declined at an average annual rate of about 1 percent since 1981. The ridership projection for the next five years may, nevertheless, be somewhat conservative in light of the fact that the transit system carried more than 1.34 million revenue passengers as recently as 1980.

System operating expenses, including expenses for the specialized transportation element, are projected to decrease, in constant dollars, by about 7 percent between 1983 and 1985 from the 1983 level of about $1,618,000 to about $1,510,900 in 1985. This decrease reflects the full annual cost savings that would result from recommended reductions in peak-hour and Saturday service to be implemented during 1984. Operating revenues during the same period would be expected to increase somewhat with increases in ridership. As a result of the combination of reduced system expenses and increased system revenues, the total operating deficit for the system would be expected to decrease by about 11 percent from 1983 levels--from about $1,215,000 in 1983 to about $1,081,000 in 1988. The operating deficit per passenger would decrease by about 16 percent over this period--from about $1.00 in 1983 to about $0.84 by 1988.

Fares

Fares are perhaps the most sensitive and visible element of transit services. Motorists, although aware of the costs incurred for motor fuel, can travel from interstate highways to county roads to city streets without ever being fully cognizant of the financial outlays required to construct and maintain the street and highway system they are using. In contrast, the transit user is reminded of the cost of his journey each time he boards a bus and pays the fare for his trip. Perhaps for this reason, questions often arise concerning the reasonableness of transit fares.

The preceding analysis was conducted assuming no changes would be made in the existing fare structure over the planning period. In this respect, the fare structure for the Kenosha transit system has undergone several changes since the City assumed operation of the system in 1971 (see Figure 5 in Chapter IV). The fare structure of the Kenosha transit system was compared with the fare structure of eight comparable Wisconsin transit systems as part of the system-wide performance evaluation presented in Chapter V of this report (see Table 39 in Chapter V). This comparison indicated that the $0.40 base fare charged by the Kenosha transit system was slightly below the mean base fare of $0.45 charged by the comparable transit systems, with fares of $0.45 to $0.50 being charged by six of the eight transit systems.

While this might indicate that, for the size of the transit system, the current fares are low, it should be noted that passenger revenues generated under the existing fare structure, when combined with other revenues and available federal and state transit assistance funds, will be sufficient to reduce the City's share of the operating deficit to close to zero in 1984. Such conditions could again occur in future years, depending upon the level of federal and state assistance available. As long as system revenues and available federal and state funding meet or exceed the system operating expenses, no increases in fares are recommended for the transit system.

The previous analyses were conducted with all costs and revenues expressed in 1983 constant dollars, and do not take into consideration the possible effects of general price inflation on projected operating expenses, revenues, and deficits. Increases in total system operating deficits as a result of general price inflation could result in a greater need for, and a more rapid use of, federal and state transit operating assistance monies than experienced in the recent past to the degree that system revenues and available federal and state funds would not be sufficient to cover the entire systemwide operating expenses, particularly during the later years of the planning period. If this occurs, it will be necessary to decide whether to raise fares or increase the local public funding requirement.

At such a time, it is recommended that the City consider establishing a policy under which future fare increases for the fixed route transit system would be based upon increases in system operating expenses which result 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 would at least maintain a reasonable farebox recovery rate for the transit system. In order to determine when such additional fare increases would be warranted, it is recommended that the transit system monitor increases in annual operating expenses per unit of service provided in the years following any fare increases. Under this policy, increases in fares should be considered to be warranted when operating expenses per unit of service provided have escalated between 15 and 20 percent since the fare structure was established. At that time, fares should be increased by a comparable percentage. This policy could result in implementation of fare increases every two or three years in amounts equivalent 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

Table 57 indicates the capital expenditures associated with implementation of the recommended five-year transit system development plan and program. These capital expenditures would be required for several recommended projects, including the purchase of six new advance design transit buses; the rehabilitation of 13 new look transit buses in the existing vehicle fleet; the re-signing of all bus stops with new bus stop signs; the purchase and construction of 15 additional bus passenger waiting shelters; and the purchase of other operating equipment, including new fareboxes and mobile radios. The total cost of implementing all the recommended capital projects is estimated at $2.40 million, or about $479,000 per year over the five-year implementation period. This compares with an actual average capital expenditure of about $382,000 per year since 1975. Expressed in constant 1983 dollars, however, the average capital expenditure since 1975 would be about $625,000 per year, which is greater than the average annual expenditure of $479,000 projected under the recommended plan.

The estimates for all capital project costs are expressed in constant 1983 dollars and represent current average industry costs. When actual design specifications for items such as new buses and old bus rehabilitation are determined, it is possible that the costs will be somewhat higher or lower than estimated. It is also possible that additional deficiencies will be

identified during the planning period which require capital expenditures for their solution. Continual monitoring and updating of transit improvement plans is thus essential to prepare for such contingencies.

Sources of Funding

As noted in Chapter VI of this report, there are two major nonlocal sources of funds which could be drawn upon to reduce the local financial commitment required for the implementation and subsequent annual operation of the recommended transit system: the Wisconsin Department of Transportation and the U. S. Department of Transportation, Urban Mass Transportation Administration (UMTA). It is recommended that transit assistance funds available under the various programs offered by these governmental agencies be sought.

The distribution of the projected annual operating deficit for the Kenosha transit system is presented in Table 62. The operating deficits presented in this table are expressed in constant 1983 dollars and assume no change from the existing fare structure over the planning period.

It is recommended that federal funding for a portion of the annual operating deficit be obtained through the UMTA transit operating assistance program. The funds available to the City of Kenosha under the federal operating assistance program would be derived from two sources: the unused balance of UMTA Section 5 Tier I and Tier II operating assistance funds carried forward from previous years' allocations; and the annual allocation of funds available for use as operating assistance from the UMTA Section 9 formula assistance program. Because of uncertainties concerning the level of federal transit operating assistance which will be made available to the City through the UMTA Section 9 program over the planning period, two alternative funding scenarios were developed in Chapter VII (see Table 54 in Chapter VII). The amounts of federal funds shown in the table for each year are based upon the two federal funding scenarios. The average annual federal funding available to the City of Kenosha over the planning period would be expected to range from about $335,000 to about $625,000, which would be sufficient to cover between 27 and 50 percent of the average annual operating deficit per federal guidelines (between 30 and 57 percent of the operating deficit per state guidelines).

It is also recommended that state funding for a portion of the annual transit operating deficit be obtained from the State's urban mass transit operating assistance program administered by the Wisconsin Department of Transportation. The state urban mass transit operating assistance program, authorized under Section 85.20 of the Wisconsin Statutes, provides operating assistance to communities of 5,000 persons or more with publicly supported transit systems. It has been assumed that sufficient state funds would be available in all years to provide up to the maximum level of state funding, which is 35 percent of the total operating expenses of the transit system. The average annual state funds assumed to be available over the planning period would be expected to vary, based upon the federal funds available--ranging from about $486,000 to about $517,000, which would be sufficient to cover between 44 and 47 percent of the systemwide operating deficit per state guidelines.

The City of Kenosha would be responsible for that portion of the operating deficit not covered by federal or state operating assistance. The table indicates that the average annual local share of the systemwide operating deficit

Table 62

DISTRIBUTION OF EXPENDITURES FOR THE RECOMMENDED TRANSIT SYSTEM DEVELOPMENT PLAN AND PROGRAM: 1984-1988

Assistance Category and Funding Source	Assistance by Year[a]					Five-Year Total	Average Annual
	1984	1985	1986	1987	1988		
Operating							
Federal Share[b]	$ 673,850	$ 615,250	$ 388,000-613,600	$ 0-612,350	$ 0-611,400	$1,677,100-3,126,450	$ 335,400-625,300
State Share[c]	538,950	477,350	$ 473,900-522,900	$ 471,350-522,900	$ 469,400-522,900	$2,430,950-2,585,000	$ 486,200-517,000
Local Share	0	0	$ 0-176,600	$ 0-560,800	$ 0-577,900	$ 0-1,295,300	$ 0-259,100
Total	$1,212,800	$1,092,600	$1,087,500	$1,083,700	$1,080,800	$5,557,400	$1,111,500
Capital							
Federal Share[d]	$ 0	$ 911,700	$ 427,800	$ 288,500	$ 288,500	$1,916,500	$ 383,300
Local Share	0	227,900	107,000	72,150	72,150	479,200	95,800
Total	$ 0	$1,139,600	$ 534,800	$ 360,650	$ 360,650	$2,395,700	$ 479,100
Total							
Federal	$ 673,850	$1,526,950	$ 815,800-1,041,400	$ 288,500-900,850	$ 288,500-899,900	$3,593,600-5,042,950	$ 718,700-1,008,600
State	538,950	477,350	$ 473,900-522,900	$ 471,350-522,900	$ 469,400-522,900	$2,430,950-2,585,000	$ 486,200-517,000
Local	0	227,900	$ 107,000-283,600	$ 72,150-632,950	$ 479,200-630,050	$ 479,200-1,774,500	$ 95,800-354,900
Total	$1,212,800	$2,232,200	$1,662,300	$1,444,350	$1,441,450	$7,953,100	$1,590,600

[a] Assumes existing fare structure and 1983 constant dollars.

[b] Assumes federal funding of up to 50 percent of the federally defined operating deficit under the existing UMTA Section 5 and Section 9 formula assistance programs based on the two federal funding scenarios documented in Chapter VII (see Tables 54 and 55).

[c] Assumes state funding of up to 35 percent of system operating expenses per state definition under the existing state urban mass transit operating assistance program authorized under Section 85.20 of the Wisconsin Statutes.

[d] Assumes federal funding of up to 80 percent of total capital project expenditures under the UMTA Section 5 or Section 9 formula grant program.

Source: SEWRPC.

would be expected to range from zero to about $259,000, depending upon the level of federal transit operating assistance available. This would represent a maximum of about 23 percent of the average annual operating deficit.

It should be noted that, while federal and state aids could be sufficient to fund the operating deficit at the systemwide level, the operating deficits are expressed in constant 1983 dollars and do not take into consideration the possible effects of general price inflation on total system operating deficits or the local share thereof. Increases in total system operating deficits as a result of the effects of general price inflation could result in a greater need for, and a more rapid use of, federal and state transit operating assistance monies than indicated in Table 62 to the degree that available federal and state funds would not be sufficient to cover the entire systemwide operating deficit. Consequently, some commitment of local funds may be required to cover the shortfall of federal and state funds resulting from inflated operating deficits.

As noted earlier, much uncertainty marks the future of the federal transit operating assistance program. Were this program to be discontinued, as assumed under one of the two alternative federal funding scenarios, a substantial increase in the local public subsidy could be required. Should the actual combined amounts of federal and state transit operating assistance available after 1984 require an increase in the City's share of the transit operating deficit, the City may wish to consider actions to reduce the total operating budget or operating deficit in order to reduce the level of local funding required. It is recommended that actions to be considered include reductions in daily hours of operation, additional increases in peak-period headways, and increases in fares.

It is also recommended that the City seek federal funds to offset a portion of the costs incurred in purchasing the necessary capital equipment for implementation of the recommended service improvements. The primary source of these federal funds is recommended to be the new UMTA Section 9 formula grant program. Under the UMTA Section 9 program, grants are provided to cover up to 80 percent of the cost of eligible capital projects, including the purchase of buses and bus-related equipment. The total capital investment required for the transit service improvements, including contingency and project administration costs, is estimated at $2.40 million, of which about $1.92 million, or 80 percent, could be the federal share under the UMTA Section 9 formula grant program. On an average annual basis, this would amount to about $384,000 in federal funds. The remaining amount of about $479,000, or 20 percent, would then represent the financial commitment required from the City of Kenosha under this program. On an average annual basis, the local funds required would amount to about $96,000. In comparison, the City of Kenosha has received about $2.75 million in actual UMTA transit capital assistance since 1975, or about $306,000 per year. Over the same period, the City has contributed about $687,000 toward transit capital improvement projects, or about $76,000 per year. Expressed in constant 1983 dollars, the City has received about $500,000 per year in UMTA capital assistance since 1975, and has contributed about $125,000 per year toward capital projects over the same period.

PLAN IMPLEMENTATION

The operating characteristics and financial commitments of the recommended transit system development plan and program 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 are specified. Full implementation of the recommended plan will be dependent upon the coordinated action of several agencies of government: the City of Kenosha Common Council; 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 five public bodies have vital roles in providing the necessary endorsement, operations, and financial support required to achieve plan implementation.

City of Kenosha

The City will have the major responsibility for the actions necessary to implement the recommended transit system plan and program, since it both owns and operates the transit system. The City will be responsible for completing the applications for federal and state transit assistance funds, which are important to the continued operation of the transit system. Because of its use of federal assistance, the City will also be responsible for satisfying all federal administrative regulations associated with the use of such funds. While the City is currently in compliance with all such regulations, the regulations require the City to schedule and hold a public hearing on the recommended routing changes because of the extensive nature of the changes.

In addition, when pending federal regulations for providing public transportation service to handicapped persons are made effective, the City will have to complete a public participation process to retain its certification of compliance with federal requirements. This public participation process would include consultation with handicapped individuals, groups, and agencies representing such persons in order to determine how the City's special efforts program can best meet the minimum criteria for providing specialized transportation services within proposed expenditure limits; the solicitation of comments on the City's proposed special efforts program which would include the scheduling and holding of a formal public hearing on the proposed program; and responding to all significant comments received on the proposed special efforts program. Depending upon when the proposed final federal regulation is made effective, the City may be able to combine part of the public participation process required under the regulations with other required activities for the regular transit program; for example, the City may be able to combine the public hearing required to implement the proposed service changes with the public hearing required in the handicapped public participation process.

The University of Wisconsin-Parkside

The University of Wisconsin-Parkside presently contracts for public transportation services from the City of Kenosha. As the contracted services are an integral part of the recommended transit system plan and program, it is recommended that the University continue to provide the local share of the public funding necessary to operate the transit service for its students, faculty, and staff.

U. S. Department of Transportation, Urban Mass Transportation Administration; and 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 for public transit systems. It has been recommended that the City of Kenosha maximize its use of funds available under such programs to minimize the local public costs of the recommended plan and program. It is also recommended that both of the above agencies endorse the recommendations of the transit system plan and program as a guide for the programming, administration, and granting of federal and state transit assistance funds for the City's public transportation program.

Southeastern Wisconsin Regional Planning Commission

The Southeastern Wisconsin Regional Planning Commission has the statutory authority for carrying out a continuing, comprehensive, and cooperative area-wide land use transportation planning process in the seven-county Southeastern Wisconsin Region. The Commission regularly prepares 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; includes estimates of costs and revenues over the program period; and relates the improvements recommended in the program to the adopted transportation 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 system plan and program, the operating and capital improvement 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 endorse the recommendations of the transit system plan and program and, at the specific request of the City of Kenosha, include recommended operating and capital projects for the City's public transportation program in the transportation improvement program for the Southeastern Wisconsin Region.

Subsequent Plan Adjustment

No plan can be permanent in all of 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 is to be maintained. It is recommended that the City of Kenosha assume responsibility as the lead agency for periodically reviewing and updating the adopted plan as new urban development occurs and travel patterns and tripmaking characteristics change, and as data on the effectiveness of implemented transit service changes become available. The plan updating will require the same close cooperation among local, county, and state agencies that was evidenced in the preparation of the transit system plan and program itself. To achieve this necessary coordination among local, county, and state agencies and, therefore, the timely implementation

and updating of the plan, it is recommended that the Kenosha Public Transit Planning Advisory Committee remain active and meet, at the specific determination of the City of Kenosha, to address any problems which may develop in the implementation of plan recommendations. The Regional Planning Commission will be available to provide assistance to the City and the Advisory Committee in monitoring the implementation of the recommended plan and in preparing any subsequent plan adjustments.

SUMMARY

The recommended plan for fixed route transit service by the Kenosha transit system calls for a moderate number of changes to the existing route structure of the transit system. Foremost among the proposed routing changes is the elimination of Route 6 as presently operated; the division of the existing Route 2 into two separate routes, with the southern half of the old Route 2 becoming the new Route 6; and the addition of a new seventh route to provide additional transit service to major traffic generators on the north side of the City. The recommended plan also includes changes in the frequency of service for all routes in the system, with peak-period headways reduced from 30 to 60 minutes on weekdays during the summer when school is not in session, and on Saturdays year-round. It is recommended that all routing changes be implemented in late August 1984, before the start of the 1984-1985 school year.

Several capital projects will be required over the planning period if the recommended plan is to be fully implemented. These capital projects include the purchase of six new advance design transit buses; the rehabilitation of 13 new look transit buses in the vehicle fleet; the purchase of new fareboxes and mobile radios for all new and rehabilitated buses; the re-signing of all bus stops with new signs; and the purchase and installation of 15 bus passenger waiting shelters.

The recommended plan also calls for the City to continue to make special efforts at providing transportation service that can be effectively used by handicapped persons. A review of the past history of the special efforts made by the City indicates that all actions have been significantly affected by federal regulations governing such services. While the City's public transportation program was found to be in compliance with the existing interim final regulation, a reexamination of its special efforts program was undertaken to determine if it could comply with a proposed final federal regulation on providing transportation to the handicapped. It was found that the City could probably meet the pending federal regulation without making major changes to its existing special efforts program.

It is recommended that federal and state funds be drawn upon to reduce the City's financial commitment required for the implementation of the recommended service improvements and the subsequent annual operation of the transit system. In this respect, the average annual operating deficit for the transit system is expected to be about $1,111,000. The average annual federal funds available through the UMTA transit operating assistance program could be expected to range from about $335,000 to about $625,000, depending upon the amount of transit operating assistance funds made available over the planning period. The average annual state funds available through the state urban mass transit operating assistance program could be expected to range from about $486,000

to about $517,000, depending upon the federal funds available. This would leave an average annual local share of the systemwide operating deficit of between zero and $259,000.

It is also recommended that federal transit assistance be obtained to offset a portion of the total expenditures for capital improvements, estimated at $2.40 million in constant 1983 dollars, or about $479,000 per year over the five-year planning period. This compares with an actual expenditure level of about $382,000 per year from 1975 to 1983, or about $625,000 per year if expressed in constant 1983 dollars. Of the total amount, up to about $1.92 million, or 80 percent, could be funded under UMTA capital assistance programs, leaving a minimum local share of about $479,000, or 20 percent.

The City of Kenosha will bear most of the responsibility for implementation of the recommended transit system plan and program. Such responsibility will include 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.

Chapter IX

SUMMARY AND CONCLUSIONS

INTRODUCTION

The Kenosha area transit system plan and program is a short-range action plan, covering a period of about five years. 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 plan and program includes a five-year staging plan for transit improvements and identifies the financial commitment and actions required by 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.

The preparation of this transit system plan and program was considered to be warranted for three reasons. First, the last such plan was completed in 1976 and recommended actions for the period 1976 through 1980, which were substantially implemented by the end of 1980.[1] Consequently good management practice dictated the preparation of a new transit system plan and program. Second, the future of the federal transit operating assistance program is uncertain. Substantial reductions in, or the total loss of, federal transit operating assistance could have a significant impact upon the transit system operating budget and on transit system operations. An examination of alternative transit service levels and funding scenarios for the public transit system was deemed particularly appropriate at this time. Third, an up-to-date plan and program is a requirement for continued federal capital and operating assistance and for state operating assistance for the Kenosha transit system.

PURPOSE OF THE TRANSIT SYSTEM PLAN AND PROGRAM

The transit system plan and program for the Kenosha area had five interrelated purposes:

1. To analyze the overall performance of the transit system and identify areas of efficient and effective operation, and areas of inefficient and ineffective operation.

2. To develop a plan of recommended actions which will improve overall system efficiency and effectiveness, and which can provide a sound basis for making capital investment and management and operating decisions related to public transit service.

3. To provide a sound basis for the establishment of a fiscal policy providing for the systematic scheduling of public transit system improvements, thereby ensuring effective use of limited resources in the provision of transit services.

[1]See SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Program: 1976-1980, March 1976.

4. To provide a sound basis for monitoring program implementation and attendant results, and for adjusting the plan program as may be necessary over the five-year planning period.

5. To properly relate public transit service improvements to adopted long-range, areawide and local arterial street and highway plans, other transportation plans, and land use plans in order to ensure the development of a balanced and coordinated transportation system, and to properly provide for the formulation and review of capital and operating assistance grant applications to state and federal agencies.

STUDY ORGANIZATION

The preparation of the needed transit system plan and program was a joint effort of 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 public transit development in the Kenosha urbanized area, including, importantly, the Wisconsin Department of Transportation.

To assist and provide guidance to the technical staff in the preparation of the new transit system plan and program, and to involve concerned and affected public officials and agency leaders in the development of transit service improvement proposals, Mayor John D. Bilotti of the City of Kenosha acted in April 1982 to create a Kenosha Public Transit Planning Advisory Committee. The Committee membership consisted of knowledgeable and concerned local public officials and agency leaders, as well as regional and state officials.

TRANSIT SERVICE OBJECTIVES AND STANDARDS

One of the critical steps in the preparation of any transit system plan and program is the articulation of the objectives to be served by the transit system, together with the identification of supporting standards which can be used to measure the degree of attainment of the objectives. The objectives and standards provided the criteria upon which the performance of the existing transit system can be assessed, alternative transit service plans designed and evaluated, and recommendations for improvement made. It is essential that the objectives comprehensively represent the level of transit service and system performance desired by the community, and that the standards permit direct measurement of the extent to which the objectives are being attained.

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 Kenosha transit system. By drawing upon the collective knowledge, experience, views, and values of the members of the Committee, it was believed that a meaningful expression of the public transit system performance desired by the Kenosha community was obtained, and a relevant set of transit service objectives and supporting standards defined.

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

1. The public transit system should effectively serve the existing land use pattern of the City of Kenosha and environs and promote the implementation of the adopted land use plan.

2. The public transit system should provide a ready means of access to areas of employment and essential services for all segments of the population, but especially for transit-dependent population groups.

3. The public transit system should promote transit utilization and provide for user convenience, comfort, and safety.

4. The public transit system should be economical and efficient, meeting all other objectives at the lowest possible cost.

Complementing each of the foregoing transit service objectives is a set of service and design standards. Each set of standards is directly related to the transit service objective, and thus served 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.

CHARACTERISTICS OF THE SERVICE AREA

Study Area

The study area for the Kenosha transit system plan and program was the Kenosha Urban Planning District, comprised of that portion of Kenosha County lying east of IH 94. Several general and special units of government operate within the District and have important transportation responsibilities, including the City of Kenosha; the Towns of Pleasant Prairie and Somers; Kenosha County; and the Kenosha Unified School District. The total resident population of the District in 1980 was about 98,100 persons, of which about 77,700 persons, or 79 percent, resided within the City of Kenosha, and about 89,100 persons, or about 91 percent, resided within the area served by the City's public transit system--that is, the area within one-quarter mile of a city bus route.

Land Use

Land uses in the District vary greatly--from low-density agricultural uses in the Towns of Pleasant Prairie and Somers to high-density urban uses in the City of Kenosha. Despite rapid urbanization within the District in the recent past, most of the land within the study area is still in open, rural uses. Thus, the future pattern of urban development in the study area can be an important determinant of the future need for transit service and the continued viability of the public transit system in the area.

Special Population Groups

Six population groups which typically exhibit high dependence on public transportation for mobility were identified within the District: school-age children, the elderly, low-income families, minorities, the handicapped, and persons residing in households with no automobile available. Identification of the place of residence of these groups within the District indicated that

the highest concentrations were located within the older, intensively developed central portions of the City of Kenosha, making this area one of high need for transit service.

Major Traffic Generators

Also identified were the locations of all major traffic generators in the District, including shopping areas, educational institutions, community and special medical centers, governmental and public institutional centers, employment centers, and recreational areas. Identification of the locations of these generators indicated that the majority are concentrated in the highly urbanized area within and immediately adjacent to the City of Kenosha:

Travel Habits and Patterns

In 1972, the Commission undertook a comprehensive inventory of travel habits and patterns within the Region to provide a benchmark of basic data for land use and transportation planning, and to determine what changes in travel habits and patterns had occurred since the Commission's 1963 inventory of travel. Estimates of travel habits and patterns within the study area in 1980 were prepared by factoring the 1972 data, using changes in population, household size, and employment within the study area between 1972 and 1980 as a basis for the factors. A total of 386,100 trips were estimated to have originated within the study area on an average weekday during 1980. Of this total, 62,600, or 16 percent, were home-based work trips; 62,600, or 16 percent, were home-based shopping trips; 152,900, or 40 percent, were home-based other trips; 67,100, or 17 percent, were nonhome-based trips; and 40,900, or 11 percent, were school-based trips.

External to the District, the greatest concentrations of trip ends within the Southeastern Wisconsin Region were found in the City of Racine, in the southeastern portion of Racine County, in the central and western portions of Kenosha County, and in Milwaukee County. Lake, Dupage, and Cook Counties in the State of Illinois also attracted a significant volume of trip ends from within the District on an average weekday. Internal to the District, the greatest concentrations of trip ends are found within the Kenosha central business district and the Pershing Plaza shopping area.

EXISTING PUBLIC TRANSIT SERVICE

History

Urban public transit service has been available in the Kenosha Urban Planning District since 1903, when street railway operations were initiated. Public transit service in Kenosha was provided exclusively by streetcars until 1931, when the service was replaced by a system of "trackless trolley" bus routes. The trolley bus system was converted to motor bus operation after World War II. Continuous declines in ridership and profits during the postwar period resulted in several changes in the ownership of the transit system. On September 7, 1971, the City of Kenosha acquired the transit system from the last private operator, which it had subsidized for the previous two years, and began public operation of the Kenosha transit system.

Management

Currently, the local bus system in the City of Kenosha is owned by the City and operated with public employees under the direct supervision of the City of Kenosha Department of Transportation. The policy-making body of the transit system is the Kenosha Transit and Parking Commission. However, the Kenosha Common Council has the ultimate responsibility for review and approval of certain important matters, including the annual program budget.

Routes and Schedules

The local bus system in July 1983 consisted of six regular city routes totaling about 137 weekday round-trip route miles and nine special peak-hour tripper routes serving the Kenosha school system. All six of the regular local bus routes are radial in design to provide direct, "no-transfer" bus service to the downtown central business district. The six regular bus routes primarily serve the City of Kenosha, 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.

Bus service is provided by the transit system on the regular city routes for approximately 12 hours per day between 6:00 a.m. and 6:00 p.m. Mondays through Saturdays. Bus service on the special peak-hour tripper routes is provided in the morning between 6:45 a.m. and 8:30 a.m. and in the afternoon between 2:15 p.m. and 4:00 p.m. only on regular school days. No bus service is provided on Sundays or holidays.

The regular routes of the transit system operate with weekday headways of 30 to 60 minutes during the morning and afternoon peak-use periods, and 60 minutes during the off-peak periods. Headways of 30 to 60 minutes are also operated on Saturday during the midday peak-use period.

Fares

The current one-way adult fare on the local bus routes of the Kenosha transit system is $0.40 per passenger trip. The adult fare category includes all persons six through 64 years of age. Children under six years of age ride free if accompanied by an adult. Cash-paying students, aged 6 to 18 years, are eligible to ride the buses of the system on regular school days for $0.35 per trip. Fares for students are paid by the Kenosha Unified School District if the student lives more than two miles from the school he or she attends. Such students are issued special bus tickets (at no cost to the student) for use on regular school days. A special fare program is also in effect for elderly and handicapped persons who, with proper identification, can ride for $0.20 per trip at all times except on weekdays from 6:30 a.m. to 8:00 a.m. and 3:30 p.m. to 4:30 p.m.

Persons who pay the cash fare must pay the exact amount, as bus drivers are not allowed to make change. In lieu of cash fares, passengers may purchase a monthly pass for $13.00 which is good for unlimited riding during all hours of system operation. Free one-hour transfers are issued upon request

at the time the fare is paid, and may be used to transfer to a route different from that originally boarded for continuation of travel in the same general direction.

Operating Equipment and Facilities

In July 1983, the active fleet of the Kenosha transit system consisted of 30 buses owned by the City. This bus fleet includes 24 General Motors Corporation "new look" buses purchased new in 1975, five General Motors Corporation advance design buses purchased new in 1981, and one Twin Coach bus purchased new in 1971. The average age of the fleet in 1983 was seven years. Twenty-eight of the 30 buses in the fleet are needed to provide weekday peak-hour bus service on the regular and special peak-hour tripper routes. The Twin Coach bus is used only intermittently by the City.

A total of 35 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. These shelters are equipped with a front wind-screen, two open access points, and a bench for waiting transit patrons.

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: 1) the bus storage and maintenance garage; and 2) the Kenosha Municipal Building. The bus storage and maintenance garage consists of one building, built in 1975, used exclusively for transit program functions, including bus storage and maintenance, vehicle cleaning and servicing, parts storage, employee activities (including meeting and locker rooms), and the general management offices of the public transit system. A program to expand the facility was completed in 1982. The Kenosha Municipal Building houses the offices of the Mayor and Common Council of the City of Kenosha and the Kenosha Transit and Parking Commission--both of which contribute to the city public transportation program.

Ridership

Ridership on the transit system has increased significantly since the City began public operation, more than doubling between 1972 and 1982. This rate of ridership growth has surpassed the rate of increase in the level of transit service, resulting in increases in the productivity of the transit system between 1972 and 1982. Currently, Routes 1, 3, and 4 carry about 65 percent of the total passengers on the regular routes of the transit system on an average weekday.

Survey data were collected in April 1980 to ascertain characteristics of the transit riders. These data indicated that the typical transit rider was a white female between the ages of 13 and 24, not possessing a driver's license, and residing in a household of three or more persons with an annual income of less than $15,000. Survey data describing the trip characteristics of the transit riders indicated that about 94 percent of the transit riders resided within the City of Kenosha in 1980. Only about 3 percent of the transit users made trips that did not start or end at home or school. The plurality of trips made

on the transit system were school-based and home-based work trips, with about 55 percent and 20 percent, respectively, of all transit trips being made for these purposes.

Financial Performance

The costs of operating the transit system have increased significantly since 1975, while operating revenues have increased at a slower rate. This has resulted in an increase in the operating deficit from about $5.23 per revenue vehicle hour in 1972 to almost $21.75 per revenue vehicle hour in 1982, an increase of almost 316 percent. However, the operating deficit per passenger has not increased to the same extent. After an initial decrease from $0.34 in 1971 to $0.33 by 1976, due primarily to the significant growth of transit ridership on the system during this period, the operating deficit per passenger increased to $0.98 in 1982, an increase of about 188 percent. Although the local bus system is not financially self-sufficient, the Transit and Parking Commission has managed to minimize the local tax funding requirement for the City of Kenosha by utilizing available federal and state transit operating assistance funds and local revenues from sources other than the city property tax. The availability of federal and state transit assistance funds has also enabled the City to fully implement all of the salient recommendations of the previous five-year transit system plan and program.

Other Public Transit Services

Aside from the local bus system, local transit service within the Kenosha Urban Planning District is provided by six private taxicab companies serving the entire District, and by the public transit system serving the City of Racine--the Belle Urban System--which extends one route into the District to serve the University of Wisconsin-Parkside. Intercity transit service includes bus service provided by two private carriers--Greyhound Lines-West, Inc., and Wisconsin Coach Lines, Inc.--which operate routes connecting Kenosha with Milwaukee, Racine, and Chicago, and one private carrier--Royal Coach Lines, Inc.--which operates a route between Milwaukee and O'Hare International Airport in Chicago. Commuter railway passenger service is provided by the Chicago & North Western Transportation Company, which operates train service between Kenosha and Chicago. Specialized transit service within the District is provided by the Kenosha Unified School District, which contracts with Jelco Wisconsin, Inc., for the provision of yellow school bus service to students residing both within and outside the service area of the Kenosha transit system, and by the Kenosha Achievement Center, which administers three programs providing specialized transportation service to transportation-handicapped, developmentally disabled, and elderly persons residing both within and outside the Kenosha Urban Planning District.

TRANSIT SYSTEM PERFORMANCE EVALUATION

The performance evaluation of the Kenosha transit system was conducted at two levels, using specific sets of performance measures set forth to measure the attainment of key transit system objectives and standards. At the first level, a two-part assessment of performance was made on a systemwide basis. The first part of this assessment examined the extent to which the transit system served the population and major land uses within the Kenosha area.

The second part of this assessment compared the ridership and financial performance of the Kenosha transit system with the ridership and financial performance of a comparable group of similar size Wisconsin transit systems. At the second level of evaluation, the performance of each route in the transit system was evaluated based upon its operating characteristics, ridership, and financial performance.

The following findings and conclusions were drawn from the evaluation:

- In 1983, the Kenosha transit system provided excellent service-area coverage of residential areas within the City of Kenosha, serving virtually 100 percent of the resident city population, and good coverage of the other densely developed residential areas adjacent to the City within the Kenosha Urban Planning District. The transit system also provided excellent service-area coverage of the residential concentrations of transit-dependent population groups identified within the area, completely serving the areas with high transit-dependent population concentrations, and all 45 facilities identified for the elderly, the handicapped, and low-income families.

- The Kenosha transit system provides very good coverage of the major traffic generators identified within the study area, serving 99, or 88 percent, of the 113 major traffic generators which existed in the Planning District in 1983.

- An estimated 20,900 jobs were provided at the 33 major employment centers identified within the study area in 1983. About 20,200 of these jobs, or about 97 percent, were served by the routes of the transit system. Work schedules were determined for about 14,700, or about 73 percent, of the 20,200 jobs served. The vast majority--about 95 percent--of the jobs for which schedules were determined were either fully or partially served by the existing schedules of the transit system.

- The analysis of the origin-destination patterns of bus passengers indicated that the routes of the transit system, as operated in 1983, are capable of conveniently serving the vast majority of trips made on the transit system. In this respect, about 78 percent of the trips made on the system could be conveniently completed using one bus route. The remaining 22 percent were primarily cross-town trips which required a transfer to a second bus route to complete, but which could be conveniently served by the transit system even with the required transfer. No major trip movements were found which would require backtracking along a second route, and, thus, no such trip movements are considered to be inconveniently served by the transit system.

- The overall performance of the Kenosha transit system was similar to that of other mid-size Wisconsin transit systems with regard to ridership levels and quantity of service provided. The financial performance of the transit system, however, was found to be somewhat below that of the comparable systems primarily because of higher-than-average operating expenses and lower-than-average operating revenues. The financial performance of the system could be improved by increasing revenues and reducing

operating expenditures systemwide, or by selectively implementing routing and scheduling changes that would increase ridership and improve system productivity.

- Routes 1, 2, 3, 4, and 5 were found to have been successful in attracting ridership or in operating at high levels of cost-effectiveness. These five routes accounted for over 96 percent of the total average weekday ridership on the transit system.

- The ridership, productivity, and cost-effectiveness levels of Route 6 were significantly below the levels of the other five routes. These low performance levels indicate that routing or scheduling changes should be considered for this route in order to improve performance levels.

- Low passenger activity levels were noted for Routes 3 and 4 in the southwestern portion of the service area, and were attributed to the overall low residential density of this area and the duplication of service within portions of this area. Restructuring of these routes to eliminate unproductive route segments would be justified, based upon the observed levels of passenger activity.

In summary, the analyses indicated that some overall changes in the transit system should be considered to improve performance, together with some selective changes in specific routes.

LEGAL, INSTITUTIONAL, AND FINANCIAL CONSTRAINTS

To complete the inventory and analysis phase of the planning study, the existing legal, institutional, and financial constraints affecting the provision of public transit service in the study area were reviewed. This analysis identified and described pertinent federal, state, and local legislation and regulations as they apply to the provision of financial assistance for public transportation service, and as they apply to transit organization and operation.

Federal Legislation

The federal government has been a major source of financial assistance for public transit service through four major programs relevant to the Kenosha area. The U. S. Department of Transportation, Urban Mass Transportation Administration, administers these programs, which were first made available under the Urban Mass Transportation Act of 1964, as amended. Financial assistance for urban public transit systems was available during 1983 under Section 3, primarily for major capital purchase projects and rapid transit system construction costs; under Section 5 on a formula grant basis to urbanized areas for use toward operating assistance or capital equipment purchases; and under Section 9A for capital-related or planning projects. Beginning in 1984, a new formula grant program--Section 9--will replace the existing Section 5 grant program and provide financial assistance for planning, capital, and operation assistance purposes. Financial assistance under Section 8 is available for technical studies. Section 16(b)(2) provides financial assistance for the purchase of vehicles and equipment to private, nonprofit agencies or corporations that provide specialized transportation to elderly and handicapped individuals.

State Legislation

The Wisconsin Statutes also provide for programs to help finance public transportation services. The Wisconsin Department of Transportation administers these programs, which provide financial assistance for both general and specialized transportation, including: an urban transit operating assistance program, authorized under Section 85.20 of the Wisconsin Statutes, which provides operating assistance to communities with a population of more than 5,000 persons in support of general public transit systems; a specialized transportation assistance program, authorized under Section 85.21 of the Wisconsin Statutes, which provides financial assistance to counties for elderly and handicapped transportation projects; and a specialized transit assistance program authorized under Section 85.22 of the Wisconsin Statutes which, together with the UMTA Section 16(b)(2) program, provides capital assistance to private, nonprofit organizations providing specialized transportation services.

The Wisconsin Statutes also provide for several organizational alternatives to municipalities and counties for the operation of public transit services. For municipalities, these alternatives include: contract for services with a private operator, public ownership and operation as a municipal utility, and public ownership and operation by a single municipal or joint municipal transit commission. For counties, these alternatives include: county contract for services with a private operator, county ownership and operation of an existing or new county system, and county ownership and operation by a single county or joint county transit commission.

The Wisconsin Statutes provide for the regulation of common motor carriers by the Wisconsin Transportation Commission except those operators receiving state transit operating assistance funds. The Wisconsin Department of Transportation regulates those operators exempt from regulation by the Wisconsin Transportation Commission.

Local Legislation

Local legislation specifically pertaining to transit system operation is contained in two sections of the Kenosha municipal ordinances. The most significant of these chapters establishes and defines the powers of the Kenosha Transit and Parking Commission. The other section prohibits certain activities from occurring on city buses.

Legislative Analysis

With regard to federal and state funding programs for urban public transit systems, it was determined that the City of Kenosha was making effective use of all major funding programs to reduce local expenditures on the transit system. The City was also in compliance with all administrative requirements and regulations associated with the funding programs. The City should, however, maintain close liaison with federal and state agencies and officials in the event that pending modifications to federal and state funding programs result in changes in program requirements.

ALTERNATIVE TRANSIT SYSTEM PLANS AND PROGRAMS

The data gathered from the inventories and analyses were used as the basis for the development and evaluation of alternative, five-year transit system development plans and programs. Four basic alternative transit system development plans were formulated and evaluated for the Kenosha area: 1) a "status quo" alternative, under which no changes would be made to the existing transit system as operated at the end of 1983; 2) a minimum level of service alternative, under which a substantial reduction in the frequency of service would be combined with a limited number of routing changes; 3) a moderate level of service alternative, under which a moderate reduction in the frequency of service would be combined with a significant number of routing changes; and 4) a maximum level of service alternative, under which little or no reductions in the existing frequency of service would be combined with extensive routing changes.

Alternative Plan 1--Status Quo

The first alternative plan considered would maintain the existing transit system as operated at the end of 1983 throughout the planning period. As such, this alternative included no corrective actions directed at improving the transit service or the financial performance of the existing system. Under this alternative, annual ridership on the transit system was projected to increase by about 2 percent over the planning period, from about 1,210,000 revenue passengers in 1983 to about 1,235,000 revenue passengers by 1988. Operating deficits for the transit system were projected to increase by about 1 percent over the same period, from about $1,215,000 in 1983 to about $1,233,000 by 1988, as expressed in constant 1983 dollars. The operating deficit per passenger would remain at $1.00 over the planning period.

Alternative Plan 2--Minimum Level of Service

The second alternative plan would combine a limited number of routing changes with a substantial reduction in the existing frequency of service, and would be directed primarily at improving the financial performance of the transit system by eliminating the most unproductive service elements. Some routing or service changes would be made to every route in the system. These changes would reduce round-trip route miles of service from the existing 137 miles to about 123 miles, or by about 10 percent; and reduce annual revenue vehicle hours of service from the 56,400 vehicle hours under the status quo alternative to about 46,800 vehicle hours, or by about 17 percent.

Under this alternative, annual ridership on the system would decrease by less than 1 percent over the planning period, from about 1,210,000 revenue passengers in 1983 to about 1,206,000 revenue passengers by 1988. The operating deficit for the transit system would decrease by about 21 percent over the period, from about $1,215,000, or about $1.00 per revenue passenger, in 1983, to about $957,000, or about $0.79 per revenue passenger, by 1988, as expressed in constant 1983 dollars.

Alternative Plan 3--Moderate Level of Service

The third alternative plan included routing and service changes directed at improving the financial performance of the transit system, but also included

other adjustments which would improve transit service and stimulate transit ridership. The routing and service changes proposed under this alternative would increase the number of routes on the system from six to seven, but would reduce total round-trip route miles from the existing 137 miles to about 133 miles, or by about 3 percent. Annual revenue vehicle hours of service would be reduced from the status quo level of 56,400 vehicle hours to about 52,400 vehicle hours, or by about 7 percent.

Ridership under this alternative would increase by about 7 percent over the planning period, from about 1,210,000 revenue passengers in 1983 to about 1,291,000 revenue passengers by 1988. The Operating deficit for the transit system was projected to decrease by about 11 percent over the period, from about $1,215,000, or about $1.00 per revenue passenger, in 1983, to about $1,081,000, or about $0.84 per revenue passenger, by 1988, as expressed in constant 1983 dollars.

Alternative Plan 4--Maximum Level of Service

The fourth alternative plan proposed slightly less service than proposed by the status quo alternative. This alternative incorporated most of the routing changes of the third alternative, but fewer of the frequency-of-service changes. The routing and service changes would reduce total round-trip route miles from the existing 137 miles to about 132 miles, or by about 4 percent, and would reduce annual revenue vehicle hours of service from the 56,400 vehicle hours under the status quo alternative to about 55,400 vehicle hours, or by about 2 percent.

Annual ridership under this alternative would increase by about 8 percent over the 1983 level of about 1,210,000 revenue passengers to about 1,302,000 revenue passengers by 1988. Operating deficits for the transit system, as expressed in constant 1983 dollars, would decrease by about 4 percent from the 1983 estimated deficit of $1,215,000 to about $1,166,000 by 1988--a decrease from about $1.00 per revenue passenger in 1983 to about $0.90 per revenue passenger by 1988.

Additional Service Improvements

The feasibility of providing transit service to two major residential areas within the Towns of Pleasant Prairie and Somers was also examined. The transit service proposed for these communities was reviewed separately from the service changes proposed for the regular city bus service because such services would require a commitment of funds by the respective communities, neither of which provide funding for public transit service at the present time. In order to serve the major residential areas within these communities, the City of Kenosha would be required to establish two new bus routes, one serving areas in the Town of Pleasant Prairie and one serving areas within the Town of Somers. These routes would be operated by the city transit system on a contract basis with the respective communities whereby the communities would be required to fund any portion of the total costs of route operation which would not be covered by a combination of passenger revenues and available federal and state funds.

The contract service routes could have been added to any of the alternative plans considered in formulating the recommended plan. However, because of the poor ridership and financial performance levels projected for the two proposed

routes, it was recommended that the routes not be included in the recommended plan ultimately selected by the Advisory Committee.

Evaluation of Alternatives

An evaluation of the four alternative transit system development plans was conducted utilizing the adopted transit service objectives and the same key standards and associated performance measures used in the systemwide evaluation of the existing transit system. The comparative evaluation indicated that the four transit service alternatives would provide about the same coverage of the resident population, and about the same level of service to the major traffic generators and facilities used by transit-dependent persons located within the study area.

Recommendation

The status quo alternative was rejected as a viable plan for the transit system because it would provide for no improvements in transit service, and only minor increases in ridership, and would not address the financial performance problems of the transit system. While the alternative proposing a minimum level of transit service for the Kenosha area would result in the maximum improvement in financial performance and the greatest reductions in the total public funding requirement of the alternatives considered, it also was rejected because the service reductions it proposed were not viewed as acceptable.

A recommended plan for the transit system was thus selected from the alternatives proposing moderate and maximum levels of transit service. Both of these alternatives were considered to represent viable plans for providing transit service in the Kenosha area over the next five years. The moderate level of service alternative, as the more cost-effective of the two alternatives, was believed to strike the best balance between desired transit service improvements and reduced public funding requirements for the transit system over the planning period, and was, accordingly, recommended for adoption and implementation by the Kenosha Public Transit Planning Advisory Committee.

Although generating about 1 percent fewer revenue passengers over the planning period than the maximum level of service alternative, the moderate level of service alternative would nevertheless generate about 3 percent more revenue passengers than would be generated by maintaining the existing transit system over the planning period, as proposed under the status quo alternative. Of more importance, the total public funding requirement over the planning period under the moderate level of service alternative would be about 10 percent less than under the status quo alternative, and about 6 percent less than under the maximum level of service alternative.

THE RECOMMENDED PLAN

Operational Improvements

The recommended plan for fixed route transit service by the Kenosha transit system calls for a moderate number of changes in the existing route structure of the transit system. Foremost among the proposed routing changes is the elimination of Route 6 as presently operated; the division of the existing Route 2 into two separate routes, with the southern half of the old Route 2

becoming the new Route 6; and the addition of a new seventh route to provide additional transit service to major traffic generators on the north side of the City. The recommended plan also includes changes in the frequency of service for all routes in the system, with peak-period headways reduced from 30 to 60 minutes on weekdays during the summer when school is not in session, and on Saturdays year-round. It is recommended that all routing changes be implemented in late August 1984, before the start of the 1984-1985 school year.

Capital Improvements

Implementation of the recommended plan will require that several capital improvement projects be undertaken for the transit system between 1984 and 1988. The most significant of these capital projects is the replacement or rehabilitation of the primary vehicle fleet, consisting of 24 General Motors Corporation (GMC) new look diesel transit buses purchased new by the City of Kenosha in 1975. It was recommended that the City undertake a combined program of new bus purchase and old bus rehabilitation to replace or rehabilitate these buses as they reach their maximum service life between 1987 and 1990. Under the recommended program, the City would purchase six new advance design transit buses, similar to those acquired by the City in 1981, for delivery in the second half of 1986. These buses would be used to replace five GMC new look buses and the single 1971 Twin Coach bus in the fleet. The City would also rehabilitate 13 new look buses in the existing vehicle fleet between 1986 and 1988. Eight of the remaining 11 new look buses in the vehicle fleet would be rehabilitated in 1989 and 1990.

Finally, other operating equipment related to the bus purchase and rehabilitation program and system operations was recommended to be acquired. This equipment included new fareboxes and mobile radios for all new and rehabilitated buses; a spare engine and transmission and miscellaneous tools and maintenance equipment for the new buses; 15 additional bus passenger shelters; and new bus stop signs for all bus stops on the transit system.

Specialized Transportation Services for Elderly and Handicapped Persons

The recommended plan calls for the City to continue to make special efforts to provide transportation service that can be effectively used by handicapped persons. In this respect, the City of Kenosha currently supports a dual strategy for providing special transportation services for handicapped persons. This dual strategy consists of the provision of a limited level of accessible fixed route bus service on the regular city bus routes, and the provision of financial support to a specialized transportation service provided by the Kenosha Achievement Center--a private, nonprofit agency which provides rehabilitation training services and sheltered workshop programs for physically, mentally, and emotionally handicapped persons.

A review of the past history of the special efforts made by the City indicates that all actions have been significantly affected by federal regulations governing such services. While the special efforts program followed by the City's public transportation program was found to be in compliance with the existing interim final federal regulation specifying requirements for providing public transportation to handicapped persons, a reexamination of its special efforts program was undertaken to determine if it could comply with a proposed final federal regulation on providing transportation for the handicapped.

It was found that the City could probably meet the pending federal regulation without making major changes to its existing special efforts program. However, before making such a determination, the City will be required to conduct a public participation process to obtain comments on this issue from handicapped persons and groups representing them. To guide the City of Kenosha in the conduct of the public participation process, the Advisory Committee recommended that a special advisory committee be relied upon. The Advisory Committee further recommended that an existing committee--the City/County Coordinating Committee for Elderly/Handicapped Transportation--be formally designated as the special advisory committee to serve this purpose.

Financial Commitment

A commitment of funds to subsidize the annual operation of the transit system and to acquire the necessary operating equipment will be required for implementation. Federal and state funds are recommended to be drawn upon to reduce the City's financial commitment required for the implementation and subsequent annual operation.

Operating Expenditures: Ridership on the transit system is projected to increase by about 7 percent over the five-year planning period, from the 1983 level of about 1,210,000 revenue passengers to about 1,291,000 revenue passengers in 1988. System operating expenses, including expenses for the specialized transportation element, are projected to decrease, in constant dollars, by about 7 percent between 1983 and 1988--from the 1983 estimated level of $1,618,000 to $1,511,000 in 1988. Because operating revenues would also be expected to increase somewhat with increases in ridership, a more significant decrease in operating deficits would be expected. The total operating deficit for the system would be expected to decrease by about 11 percent from 1983 levels, from about $1,215,000 in 1983 to about $1,081,000 in 1988, and the operating deficit per passenger would be expected to decrease by about 16 percent over this period, from about $1.00 in 1983 to about $0.84 in 1988.

This analysis was conducted assuming no changes in the existing fare structure would be made over the planning period. In this respect, passenger revenues generated under the existing fare structure, when combined with other system revenues and available state and federal transit operating assistance funds, will be sufficient in 1984 to cover all of the system operating expenses, thus reducing the local funding commitment to virtually zero. As long as system revenues and available federal and state funds meet or exceed the system operating expenses, no increases in fares are recommended for the transit system. However, should it be necessary in the future to decide whether to raise fares or increase the local public funding requirement because of reduced federal or state funding levels, it is recommended that careful consideration be given to increasing fares to minimize the local public funding requirement. It is further recommended that the City establish a policy directly relating further increases in fares to increases in the costs of providing transit service.

It is recommended that federal and state funds be drawn upon to reduce the City's share of the total operating subsidy required for the annual operation of the transit system. In this respect, the average annual public subsidy for the transit system over the planning period is expected to be about $1,111,000.

The average annual funds available through the UMTA transit operating assistance program could be expected to range from about $335,000 to about $625,000, depending upon the amount of federal transit operating assistance funds made available over the planning period. The average annual state funds available through the state urban mass transit operating assistance program could be expected to range from about $486,000 to about $517,000, depending upon the federal funds available. This would leave an average annual local share of the systemwide operating deficit of between zero and $259,000.

It should be noted that, while the analyses indicated that federal and state aids should be sufficient to fund the operating deficit at the systemwide level, the operating deficits are expressed in constant 1983 dollars and do not take into consideration the possible effects of general price inflation on total system operating deficits or the local share thereof. Increases in total system operating deficits as a result of the effects of general price inflation could result in a greater need for, and a more rapid use of, federal and state transit operating assistance monies than indicated in the analysis, to the degree that available federal and state funds would not be sufficient to cover the entire systemwide operating deficit. Consequently, some commitment of local funds may actually be required to cover the shortfall of federal and state funds resulting from inflated operating deficits.

Capital Project Expenditures: Several capital improvement projects requiring capital expenditures are recommended in the five-year transit system plan and program. These projects include the purchase of six new advance design transit buses; the rehabilitation of 13 new look transit buses in the existing vehicle fleet; the purchase of a spare engine and transmission for the new transit buses, along with miscellaneous tools and maintenance equipment; the purchase of new fareboxes and mobile radios for all new and rehabilitated buses; the purchase and construction of 15 additional bus passenger waiting shelters; and the installation of new bus stop signs on all regular routes of the system. The total cost of implementing all the recommended capital projects is estimated at $2.40 million, expressed in constant 1983 dollars, or about $479,000 per year. This compares with an actual expenditure level of about $382,000 per year over the nine-year period from 1975 to 1983, which would be about $625,000 per year if expressed in constant 1983 dollars.

It was recommended that federal transit assistance be obtained to offset a portion of these expenditures for capital improvements. Of this total amount, up to $1.92 million, or 80 percent, could be funded under UMTA capital assistance programs, leaving a minimum local share of about $479,000, or 20 percent. On an average annual basis, this would amount to approximately $384,000 in federal capital assistance funds and about $96,000 in local funds. Expressed in constant 1983 dollars, the City has received about $500,000 per year in federal capital assistance funds since 1975, and has contributed about $125,000 per year toward capital projects over the same period.

Plan Implementation

The City of Kenosha will bear most of the responsibility for implementation of the recommended transit system plan and program. Such responsibility will include 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. It is also recommended that the City of Kenosha assume responsibility for periodically reviewing and updating the plan and program as new urban development occurs and travel patterns and tripmaking characteristics change, and as data on the effectiveness of implemented transit service changes become available.

In addition, the following recommendations were made for other governmental agencies:

1. That, inasmuch as the transit services contracted for by the University of Wisconsin-Parkside are an integral part of the recommended transit system plan and program, the University continue to provide the local share of the public funding necessary to operate the transit service for which it contracts.

2. That the U. S. Department of Transportation (Urban Mass Transportation Administration) and the Wisconsin Department of Transportation endorse the recommendations of the transit system plan and program as a guide for the programming, administration, and granting of federal and state transit assistance funds for the City's public transportation program.

3. That the Southeastern Wisconsin Regional Planning Commission endorse the recommendations of the transit system plan and program and, at the specific request of the City of Kenosha, include recommended operating and capital projects for the City's public transportation program in the transportation improvement program for the Southeastern Wisconsin Region.

CONCLUSION

If adopted, the transit system plan and program for the Kenosha area can provide a valuable guide for improving the effectiveness and efficiency of the public transit system serving the City of Kenosha and environs over the next five years. The plan and program is based upon extensive inventories and analyses of the socioeconomic and land use characteristics of the 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 problems on the public transit system as evidenced by low performance routes and unproductive route segments. The plan recommends specific transit service improvement actions designed to solve or mitigate the identified deficiencies, while emphasizing the most cost-effective means of system operation. The plan also makes some recommendations which will require a substantial capital investment for implementation--recommendations addressing the capital equipment needs of the transit system to maintain system operation and to provide improved passenger amenities. Implementation of the recommended transit system plan and program would concentrate available resources and capabilities in areas that will have the most significant positive impact on transit performance, thus assuring the most effective use of limited public financial resources.

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APPENDICES

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Appendix A

KENOSHA PUBLIC TRANSIT PLANNING ADVISORY COMMITTEE

Louis J. Micheln.....Executive Director, Kenosha Area Chamber of Commerce
Chairman
Edward A. Jenkins.....Director of Transportation, City of Kenosha
Vice-Chairman
Alfred W. Andreucci.....President, Common Council, City of Kenosha; Alderman, City of Kenosha
Henrietta Bankhead.....Corporate Member, Kenosha Neighborhood Housing Service
John D. Bilotti.....Mayor, City of Kenosha
Ronald D. Brinkmann.....Director of Security, University of Wisconsin-Parkside
Raymond Forgianni.....Director of City Development, City of Kenosha
Conrad M. Gauss, Jr.....Vice-Chairman, Kenosha Transit Commission
Reynaldo H. Gonzalez.....Instructional Aide, Spanish Center
Theodore N. Green.....Corporate Member, Kenosha Neighborhood Housing Service
Mark C. Hunter.....Member, School Board, Kenosha Unified School District
Richard J. Lindl.....Chairman, Town of Somers
Patrick E. Moran.....Executive Director, Kenosha Manufacturers' Association
Cynthia Nickolai.....Aging Coordinator, Kenosha County Department on Aging
Francis J. Pitts.....Supervisor, Kenosha County; Commissioner, Southeastern Wisconsin Regional Planning Commission
Nancy L. Principe.....Alderman, City of Kenosha
Carol A. Schaufel.....Chairman, City/County Coordinating Committee for Elderly/Handicapped Transportation
Charles W. Woelffer.....Transportation Supervisor, Kenosha Unified School District
Donald H. Wruck.....Chairman, Town of Pleasant Prairie

Nonvoting Technical Staff Members

Kurt W. Bauer.....Executive Director, Southeastern Wisconsin Regional Planning Commission
James A. Beckwith.....Chief, Public Transit Section, Bureau of Transit, Wisconsin Department of Transportation
George E. Melcher.....Director, Kenosha County Planning and Zoning Administration
Harvey Shebesta.....District Director, District 2, Wisconsin Department of Transportation

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Appendix B

GLOSSARY OF TECHNICAL TERMS

The following list provides definitions of certain technical terms used throughout 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 plan and program for the Kenosha area.

AMORTIZATION PERIOD: The period of time over which capital facilities are paid for by contribution either to a debt amortization sinking fund or to a capital recovery fund. The amortization period should approximate the useful life, measured in years, of the facility or piece of equipment concerned.

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.

DESIRE LINE: A straight line connecting the origin and destination of a person trip.

EXPRESS SERVICE: That component of the urban public transportation system which serves moderate-length trips, generally over arterial streets and highways, with stops located only at intersecting transit routes 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 which requires that the transit vehicle 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.

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 operate with a high level of service to minimize waiting time.

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 provides either a local or a collection-circulation distribution service for trips of relatively short length.

MAJOR TRAFFIC GENERATOR: A distinct nonresidential land use area or specific facility which attracts a high volume of person trips.

NEAR-SIDE STOP: A transit stop located on the near side of a street intersection which permits 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 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 income from contract maintenance services.

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.

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 pulse scheduling to provide for convenient transfers between routes.

RAPID TRANSIT SERVICE: That component of the total urban transportation system which provides the highest operating speeds and serves the longest trips along the most heavily traveled corridors.

SEATED CAPACITY: The number of seated passengers capable of being carried in a transit vehicle.

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.

TRANSFER TIME: The time required to effect a transfer between routes or a change of mode.

TRANSIT-DEPENDENT PERSON: A person for whom the transit system is the principal means of mobility because of a lack of transportation options.

TRIPPER SERVICE: Local public transit service operated over a limited 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.

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.

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Appendix C

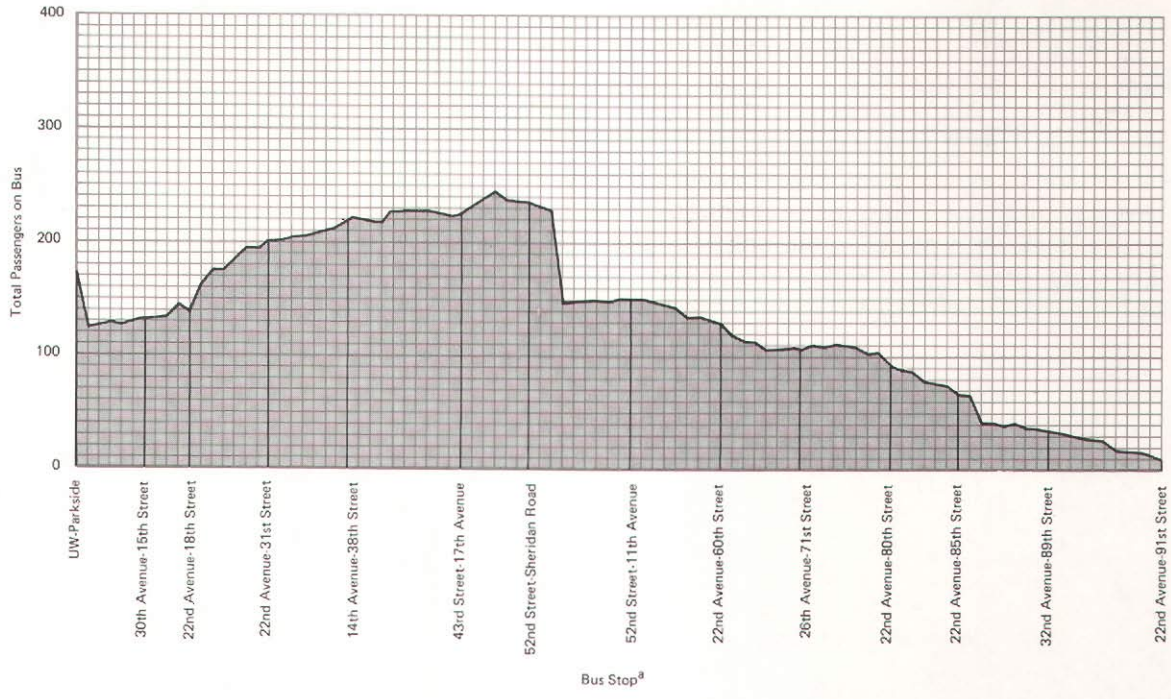
AVERAGE WEEKDAY PASSENGER VOLUMES

The passenger loading characteristics for each route of the Kenosha transit system were determined from a survey of boarding and alighting passengers conducted by the Regional Planning Commission staff during the three-day period from April 19 through April 21, 1983. Figures C-1 through C-6 present the average weekday passenger volumes for each of the six routes in the transit system by bus stop and direction of travel. The data presented in these figures indicate the volume of passengers carried on each route between bus stops on an average weekday, and were used to help determine the maximum load point locations for each route identified in Table 42 in Chapter V.

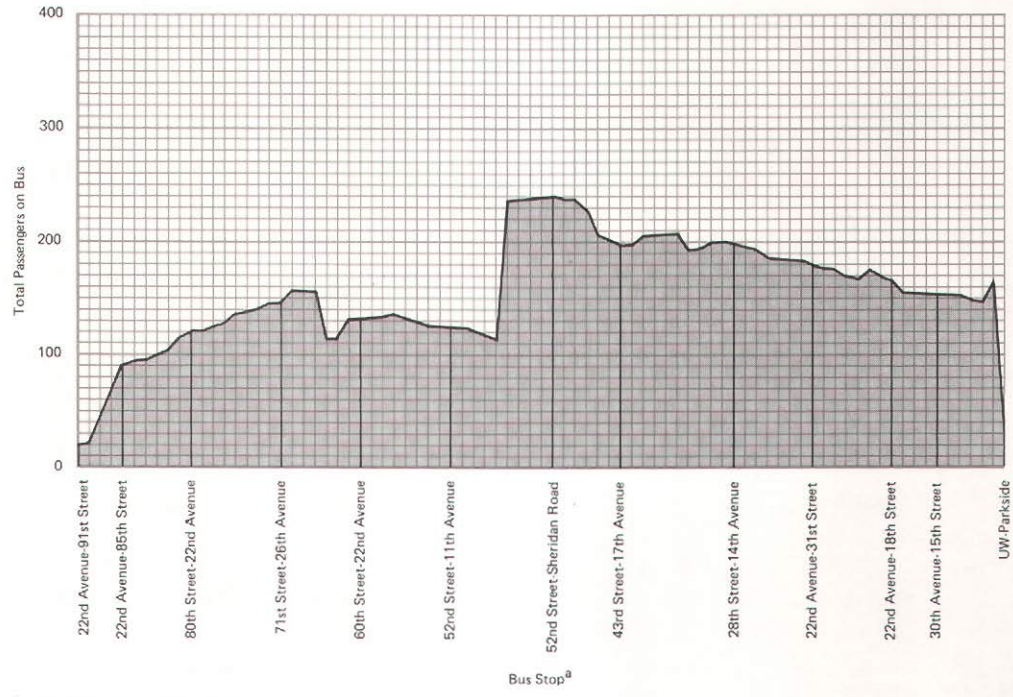
Figure C-1

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 1

UW-Parkside to
22nd Avenue and 91st Street



22nd Avenue and 91st Street
to UW-Parkside



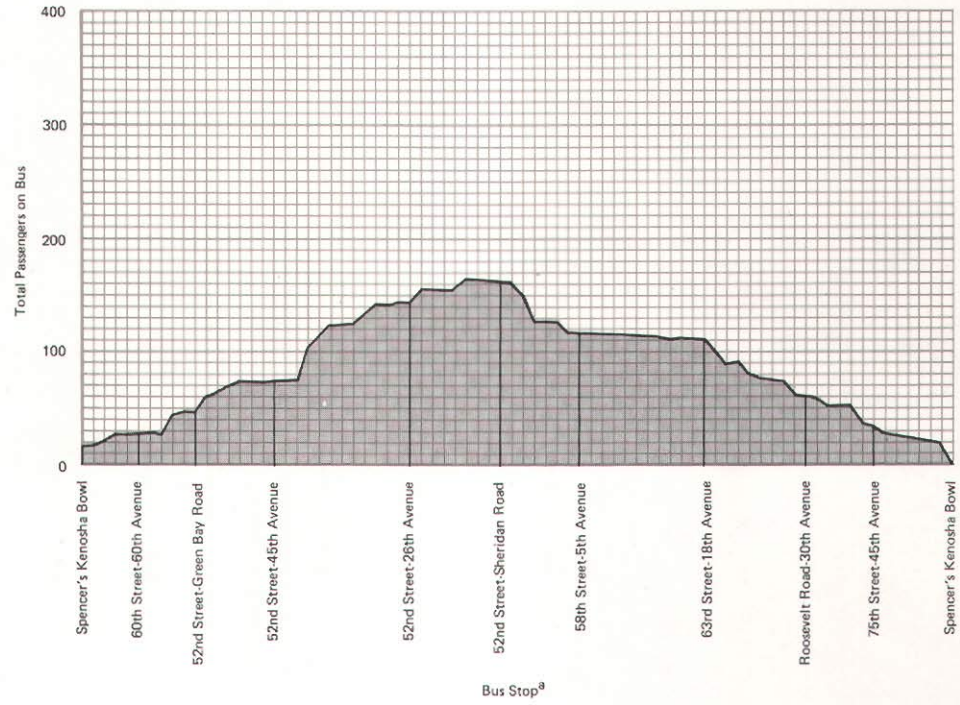
[a]Only major street intersections are listed.

Source: SEWRPC.

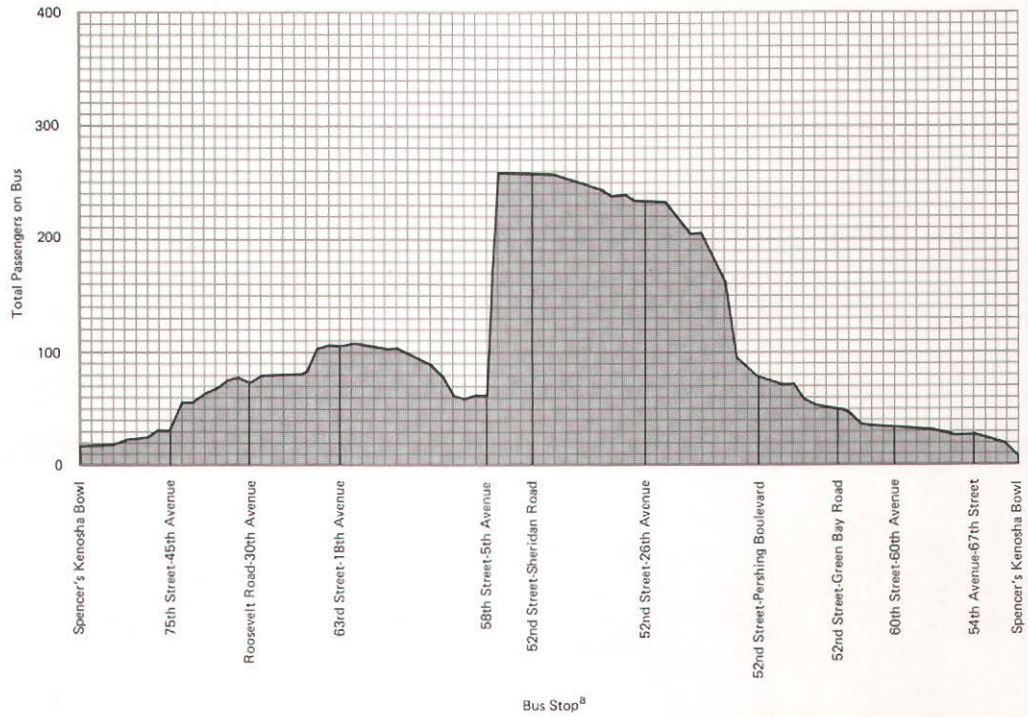
Figure C-2

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 2

Clockwise



Counter-Clockwise



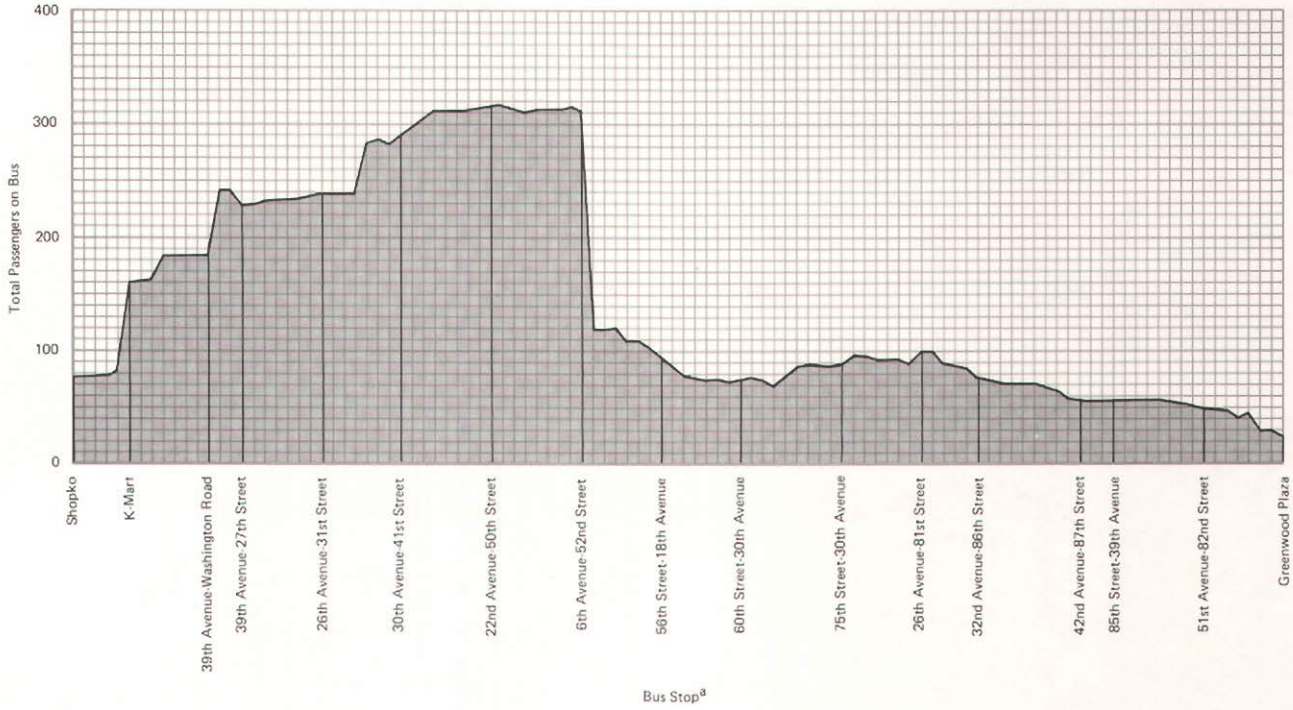
[a]Only major street intersections are listed.

Source: SEWRPC.

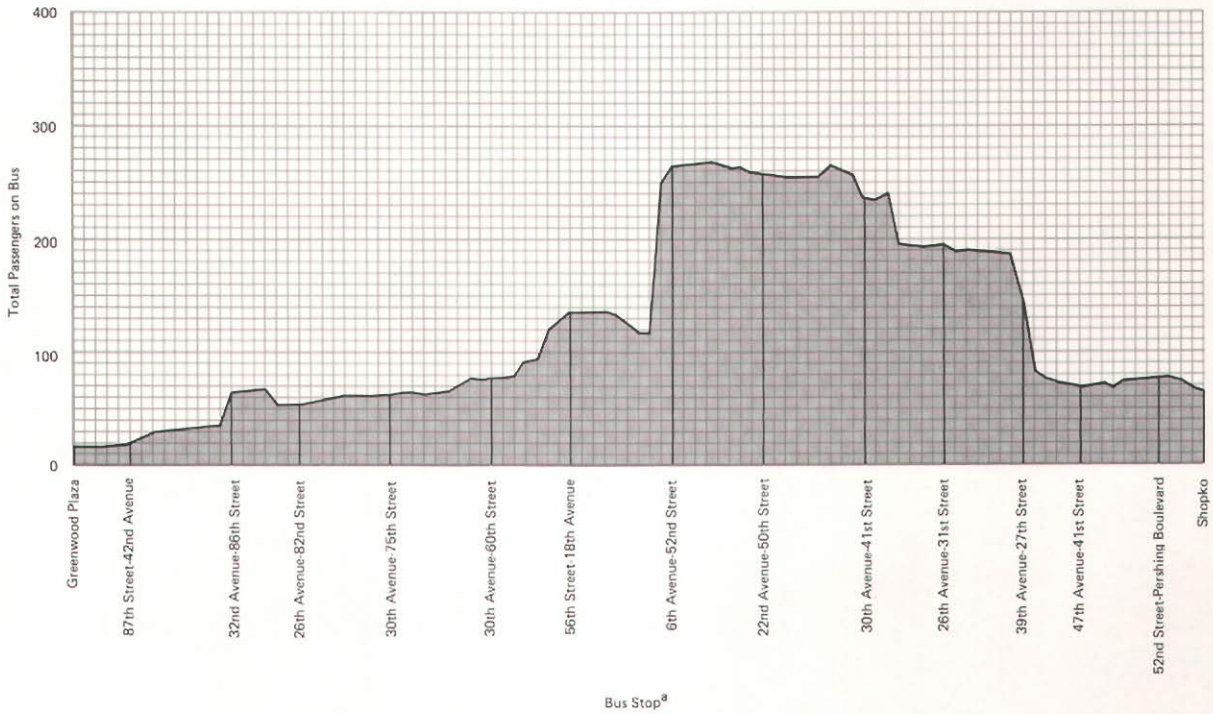
Figure C-3

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 3

Shopko Department Store to
Greenwood Plaza



Greenwood Plaza to
Shopko Department Store



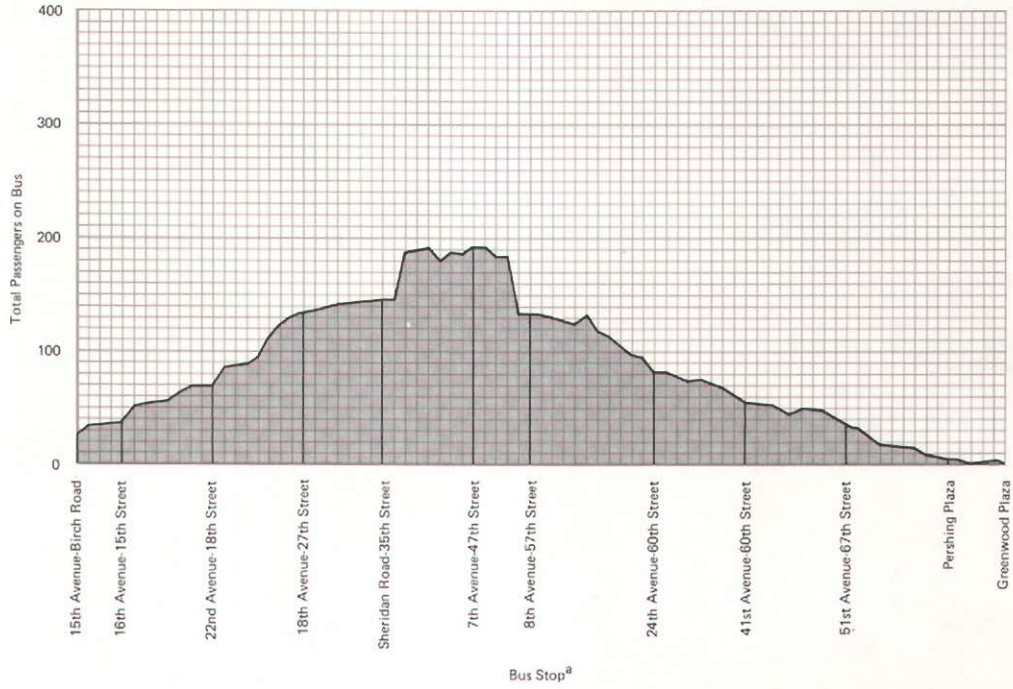
[a]Only major street intersections are listed.

Source: SEWRPC.

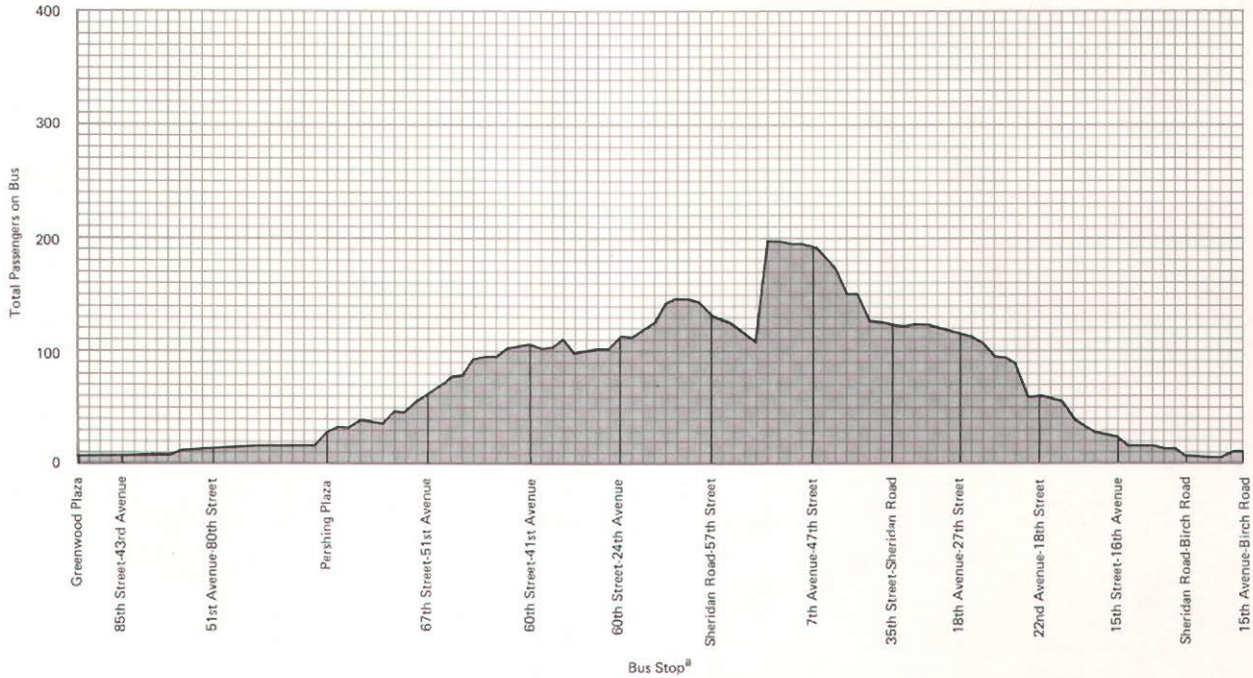
Figure C-4

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 4

15th Avenue and Birch Road
to Greenwood Plaza



Greenwood Plaza to
15th Avenue and Birch Road



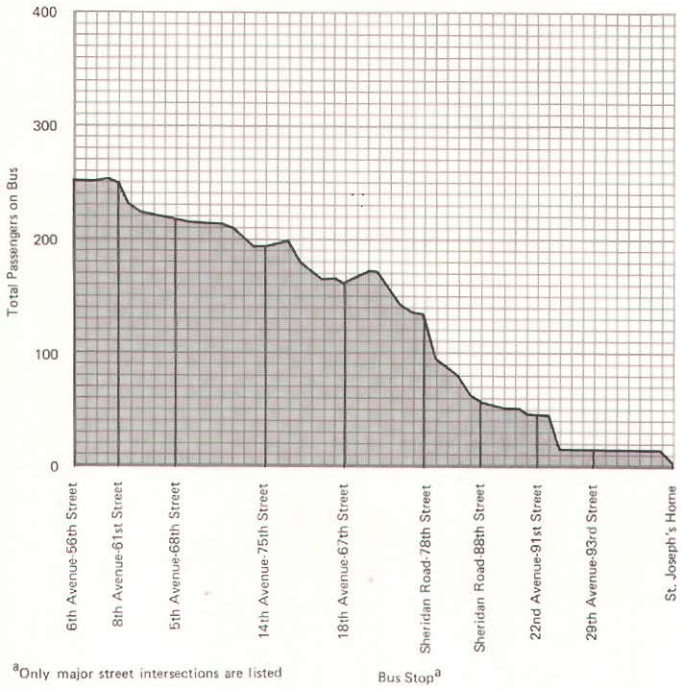
[a]Only major street intersections are listed.

Source: SEWRPC.

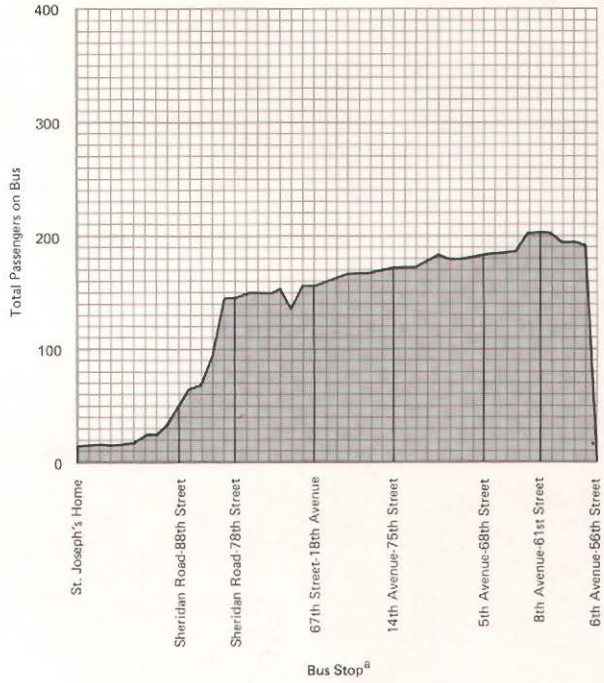
Figure C-5

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 5

6th Avenue and 56th Street
to St. Joseph's Home



St. Joseph's Home to
6th Avenue and 56th Street



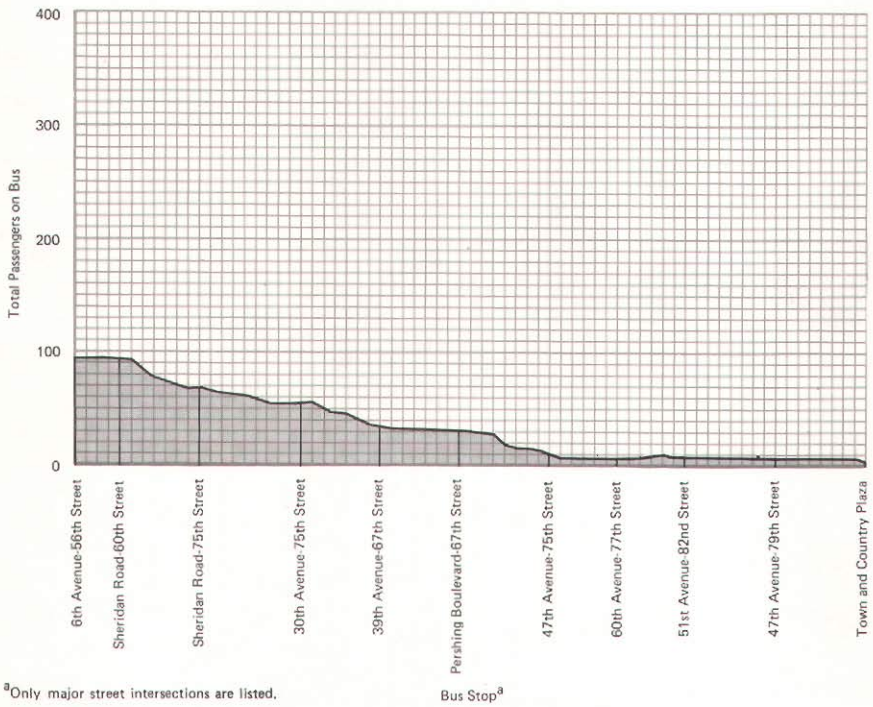
[a]Only major street intersections are listed

Source: SEWRPC.

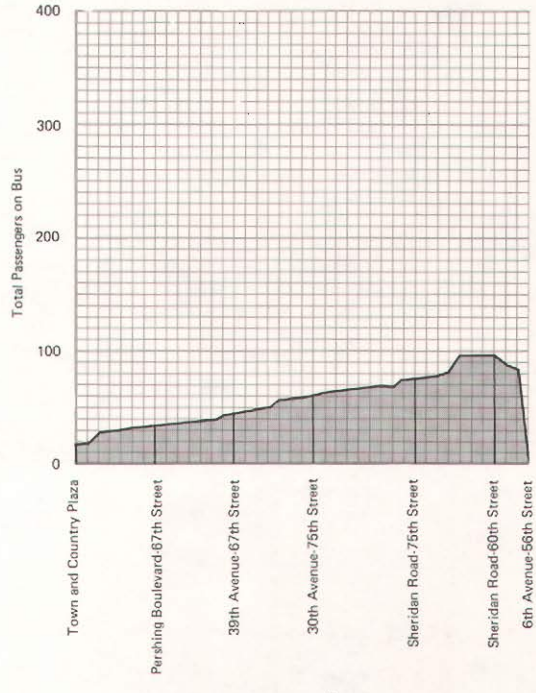
Figure C-6

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 6

6th Avenue and 56th Street
to Town and Country Plaza



Town and Country Plaza to
6th Avenue and 56th Street



[a]Only major street intersections are listed.

Source: SEWRPC.

Appendix D

CITY/COUNTY COORDINATING COMMITTEE FOR ELDERLY/HANDICAPPED TRANSPORTATION

Carol A. Schaufel, Chairman.....Representative, A.B.L.E., Inc.
Eunice F. Boyer.....Member, Kenosha County Commission on Aging; Chairman, Kenosha County Health and Human Services Committee
Edward A. Jenkins.....Director, City of Kenosha Department of Transportation
Ernest L. Johnson.....Citizen Member
Dwain W. Karasti.....Chairman, City of Kenosha Transit Commission
Anthony Klimek.....Chairman, Kenosha County Commission on Aging
Michael C. Lill.....Kenosha Office Manager, Racine-Kenosha Community Action Agency
Frank J. Marrelli.....Representative, A.B.L.E., Inc.
Cynthia Nickolai.....Aging Coordinator, Kenosha County Department on Aging
Mary A. Plunkett.....Deputy Director, Kenosha County Department of Social Services; Commissioner, Southeastern Wisconsin Regional Planning Commission
Marlene Tack.....Legal and Benefit Specialist, Kenosha Homecare Services
James C. Van DeLoo.....Associate Executive Director, Kenosha Achievement Center
Lawrence E. Wrobleski.....Director, A.B.L.E., Inc.