COMMUNITY ASSISTANCE
PLANNING REPORT NO. 79

RACINE AREA TRANSIT SYSTEM PLAN AND PROGRAM: 1984-1988

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COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 79

RACINE AREA TRANSIT SYSTEM PLAN AND PROGRAM: 1984-1988 CITY OF RACINE, WISCONSIN

Prepared by the

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SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

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May 1, 1984

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

Ladies and Gentlemen:

In March 1982, the City of Racine 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 June 1974. To advise and assist the Commission staff in the preparation of the plan and program, Mayor Stephen F. Olsen created the Racine Public Transit Planning Advisory Committee, composed of elected and appointed public officials, businessmen, and concerned citizens.

The Commission staff working with the Committee has now completed, and is pleased to transmit to you herewith on behalf of that Committee, this report setting forth a new five-year transit system plan and program for the Racine 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 Racine 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 major changes to the transit system are not needed, but that certain modest changes in the system should be made to improve the performance of specific routes and the level of transit service provided to specific areas. 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 realigning three regular city bus routes to provide the service currently provided by two separate contract service routes; realigning the route and expanding the level of service on a third contract service route; and realigning four other regular city bus routes. The plan also identifies the capital investment needs of the transit system over the next five years, including the need to replace or rehabilitate 15 buses.

The findings and recommendations of this report were carefully reviewed and unanimously approved by the Racine Public Transit Planning 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 significant 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 Racine Department of Transportation and the City Transit Planner, 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

The Racine 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 will 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; 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 with respect to the provision of 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 inter-city 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 Racine urbanized area appears warranted at this time for three reasons.

First, good management practice dictates preparation of a transit system plan and program. The last such plan prepared for the Racine transit system is now outdated. It was completed in 1974 and recommended actions for transit improvement over the five-year period from 1975 through 1979.[1] With the aid of federal, state, and local transit assistance funds, the City has acted aggressively to improve transit service in accordance with the recommendations of the transit system plan and program. These implementation actions and the effects of rising gasoline prices are partially responsible for an increase in transit system ridership. Racine transit system ridership increased from about 616,300 revenue passengers in 1975 to a high of about 2,418,500 revenue passengers in 1981.

This dramatic increase in transit ridership has surpassed even the ridership forecasts of the initial transit system plan and program, with some resultant problems in serving peak-period ridership demands. Over the same period of time, substantial growth in residential development occurred within the Racine area, and new, major trip generators developed in areas not served by the local

[1]See SEWRPC Community Assistance Planning Report No. 3, Racine Area Transit Development Program: 1975-1979, June 1974.

transit system. As a consequence of these developments, local officials have been prompted to increase the service levels and expand the areal coverage of the transit system.

A second reason for the preparation of a new transit system plan and program at this time is that continuation of federal grants in support of the operation of the Racine transit system is uncertain. The current federal administration has proposed the reduction of federal subsidies for transit operations, and has proposed elimination of such subsidies by 1985. The United States 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 $933,100, or about 37 percent of the total estimated operating cost of about $2,536,300 for the Racine public transit system. 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 supporting the preparation of a new transit system plan and program at this time is that an up-to-date plan and program are a requirement for continued state and federal capital and operating assistance for the Racine transit system.

PURPOSE OF THE TRANSIT SYSTEM PLAN AND PROGRAM

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

1. To analyze the overall performance of the transit system and identify areas of efficient and inefficient 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 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;

4. To provide a sound basis for monitoring program implementation and results, and for continued program updating to maintain valid program elements through 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 Racine 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 Racine urbanized area, including 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 Stephen F. Olsen of the City of Racine acted in April 1982 to create a Racine Public Transit Planning Advisory Committee. The committee membership consists of knowledgeable and concerned local public officials and citizen leaders, as well as 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 Racine area transit system plan and program. This process, developed by the Commission, was found to be effective in the preparation of the initial transit system plan and program, and was, therefore, retained for the preparation of the new Racine 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. A brief description of each of the six steps as they relate to preparation of the updated transit system plan and program for the Racine area follows.

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 Racine area, and subsequently were adopted unanimously by the Racine public transit planning advisory committee. Basically, the objectives call for providing the Racine area with a public transportation system which will effectively serve the public transportation needs of the City of Racine 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 Racine 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 included 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 transit system 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 Racine 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 previously described planning operations provided a sound basis for the alternative plan design process. Alternative policies and courses of action aimed at removing deficiencies identified in the analysis 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 Racine 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 are set forth in Chapter VII, while the recommended plan and program are described in Chapter 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 Racine; 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 SYSTEM DEVELOPMENT 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 comprehensively represent the level of transit service and system performance desired by the Racine 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 actively involve 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 Racine Public Transit Planning Advisory Committee was to articulate transit service objectives and supporting standards for the Racine 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 Racine community was obtained, and a relevant set of transit service objectives and supporting standards was defined.

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

1. The public transit system should effectively serve the existing land use pattern of the City of Racine and environs.

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 originally adopted in the preparation of the initial transit system plan and program for the Racine area.[1]

STANDARDS

Complementing each of the foregoing specific 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 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 service would 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 on an individual route basis. The service standards set forth within 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

While 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, any application of the objectives and standards in the preparation of a transit system plan and program for the Racine 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. 3, Racine Area Transit Development Program: 1975-1979, June 1974.

Second, it must be recognized that the 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 service 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 Racine 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.

Table 1

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

OBJECTIVE NO. 1

The public transit system should effectively serve the existing land use pattern of the City of Racine and environs.

STANDARDS

1. Public transit service to residential neighborhoods and major nonresidential land use areas should be maximized within the urbanized area. Urban residential land should be considered as served by local public transit service when such land is located within one-quarter mile of a bus route. Nonresidential land use development should be considered served when located within one-eighth mile of a bus route. 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. Major regional, community, and neighborhood retail and service centers;

   c. Major employment centers;[a]

d. Major regional, community, and neighborhood parks and special recreational sites;

e. Major educational institutions such as universities, colleges, vocational schools, and secondary schools;

f. Major governmental and public institutional centers such as community libraries and seats of state, county, and local governments; and

g. Major community and special medical centers such as hospitals and medical clinics.

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.[b]

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.

OBJECTIVE NO. 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.

STANDARDS

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 a hospital and/or medical clinic.

d. 40 minutes overall travel time of a public outdoor regional recreation 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[c] and handicapped[d] 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 the handicapped.[e]

5. Adequate capacity and a sufficiently high level of geometric design of, and traffic management for, transportation facilities should be provided to achieve the following overall travel speeds for local transit service based on average weekday conditions for the public transit system:

Area	Minimum Overall Travel Speed (miles per hour)
Central Business District...	5
Urban.....	10
Rural.....	30

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.

OBJECTIVE NO. 3

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

STANDARDS

1. Ridership on the public transit system should be maximized.

2. Local public transit services should be designed to provide adequate capacity to meet existing and projected travel demand. The average maximum load factor[f] should not exceed the following:

Time of Day	Average Maximum Load Factor
Peak Period.....	1.33
Off-peak Period....	1.00
10-Minute Point[g]...	1.00

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 achieve, at a minimum, the following percent "on time" [h]schedule adherence:

Transit Service Level	Minimum Acceptable Schedule Adherence (percent of total time)	
	Off-Peak Period	Peak Period
Headways Less than 10 Minutes.....	85	75
Headways 10 through 20 Minutes.....	95	85
Headways Greater than 20 Minutes....	95	95
Special Service[i].....	95	95

5. Fixed route local public transit stops within urban areas outside the central business district should be spaced 660 to 1,320 feet (one to two 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 660 feet (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.[j]

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 attractive bus stop signs.

12. Each public transit vehicle should be retired and replaced at the end of its maximum service life, which shall be defined as follows:

a. For buses with a seating capacity of more than 25 passengers used in providing fixed route transit service and powered by a diesel engine, maximum service life should be considered to average 12 years.

b. For buses with a seating capacity of fewer than 25 passengers used in providing fixed route transit service and powered by a gasoline or diesel engine, the maximum service life should be considered to average five years.

c. For automobiles and vans used in providing demand-responsive transit or taxi services, the maximum service life should be considered to average three years.

13. Preventive maintenance program standards should be established to achieve, at a minimum, 6,000 miles without an in-service breakdown.

OBJECTIVE NO. 4

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

STANDARDS

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 sould be maximized.

3. The local public subsidy required per transit ride should be minimized and reflect the most effective use of other subsidies.

[a] *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.*

[b] *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 Miles*
Urban High-Density ...	*7.0-17.9*	*9,500-23,600*
Urban Medium-Density.	*2.3- 6.9*	*3,400- 9,499*
Urban Low-Density	*0.7- 2.2*	*1,100- 3,399*
Suburban	*0.2- 0.6*	*300- 1,099*

[c] *The elderly shall be defined as those persons age 65 or older.*

[d] *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.*

[e] *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.*

[f] *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.*

[g] *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.*

[h] *"On time" is defined as schedule adherence within the range of zero minutes early and three minutes late.*

[i] *Tripper and demand-responsive services, or similar services.*

[j] *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.

Chapter III

RACINE TRANSIT SERVICE AREA

INTRODUCTION

In order to evaluate the present transit services provided within the Racine area, it is necessary to inventory those factors which affect, or are affected by, the provision of transit service. Such an inventory should include not only an inventory of the demand for and the supply of transit services, but an inventory of the physical characteristics of the study area and of its land use and socioeconomic characteristics. Special 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 such an inventory of factors related to the need for transit service in the Racine area. The results of a companion inventory of the supply of the existing transit services are the subject of the following chapter.

THE STUDY AREA

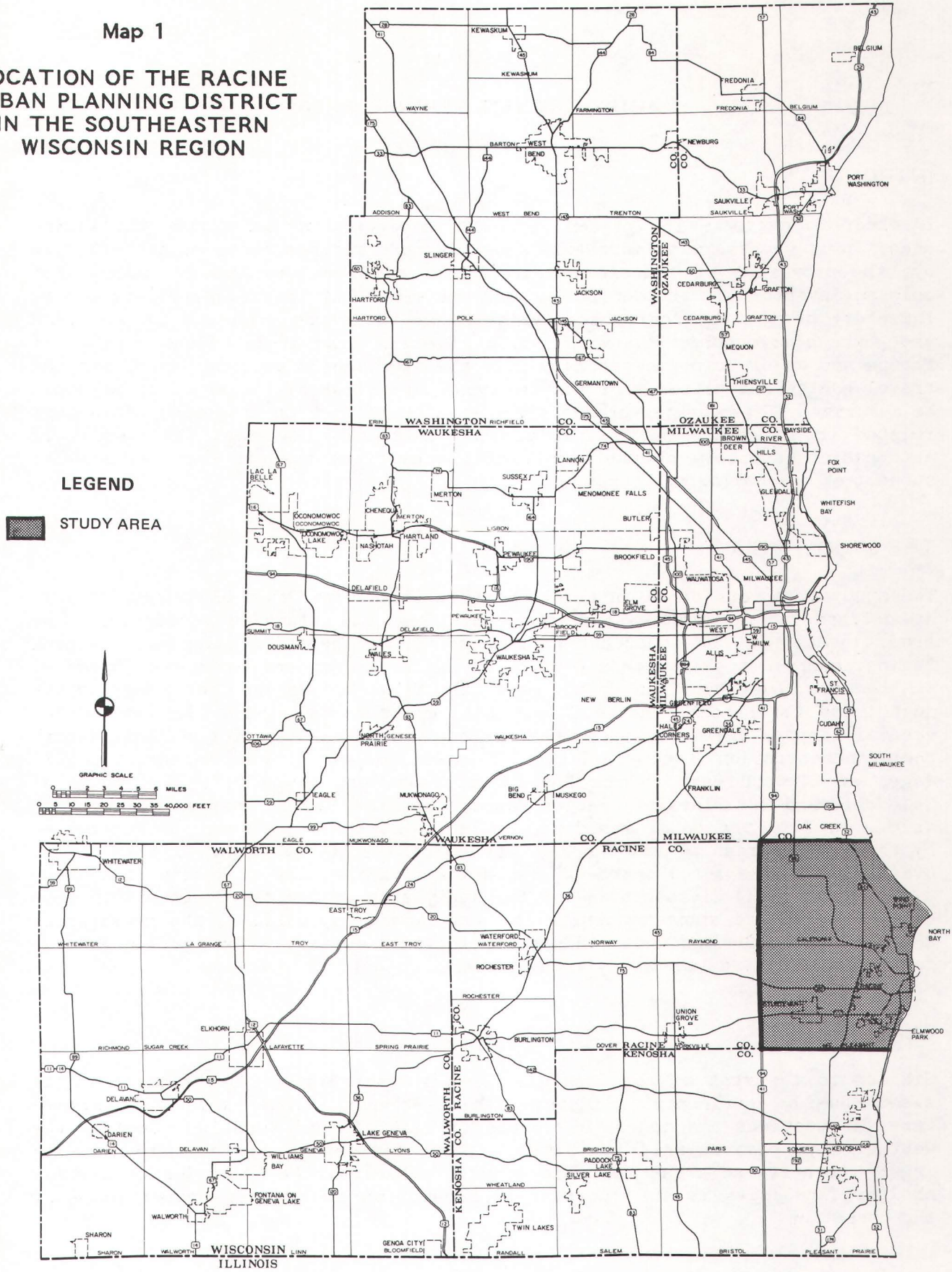
The study area considered in this report is the Racine Urban Planning District, as defined by the Southeastern Wisconsin Regional Planning Commission. The area, located in the southeast portion of the Southeastern Wisconsin Planning Region, comprises the eastern portion of Racine County and is bounded by IH 94 on the west, Lake Michigan on the east, the Milwaukee-Racine County line on the north, and the Kenosha-Racine County line on the south. Several special- and general-purpose units of government operate within the district and have important transportation responsibilities. They include the City of Racine; the Villages of Elmwood Park, North Bay, Sturtevant, and Wind Point; the Towns of Caledonia and Mt. Pleasant; Racine County; and the Racine Unified School District. In 1980 the total resident population of the study area, as determined by the U. S. Bureau of the Census, was about 132,500 persons. Of this total, over 85,000, or about 65 percent, resided within the City of Racine. The locations of the civil divisions and of the study area within the Southeastern Wisconsin Region are shown on Map 1. As was deemed appropriate, the inventories and analyses conducted under this study included certain major traffic generators located outside the study area boundary.

CLIMATE

Similar to 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 RACINE URBAN PLANNING DISTRICT IN THE SOUTHEASTERN WISCONSIN REGION



Source: SEWRPC.

TOPOGRAPHY

The land in the Racine Urban Planning District has been shaped by glaciation, creating a broad, gently rolling topography. This topography creates few problems for transit system operations. The single major topographic feature of significance to transit planning and operations in the study area is the Root River, which winds through the study area. A limited 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 Racine Urban Planning District from 1850 through 1980 is depicted on Map 2. Historically, patterns of development and growth in the study area are similar to those found in other communities located on the western shore of Lake Michigan. The major commercial area was originally located just south of the mouth of the Root River, with industrial development occurring along the banks of the river and along railroad rights-of-way traversing the area. Until 1950, urban development in the area was compact, occurring at relatively high densities in concentric rings centered on the central business district. More recent urban growth within the study area has been of a much lower density and has occurred in a diffused pattern throughout the planning area.

Table 2 sets forth the distribution of land uses in 1975 within the Racine Urban Planning District. As shown in the table, single- and two-family residential

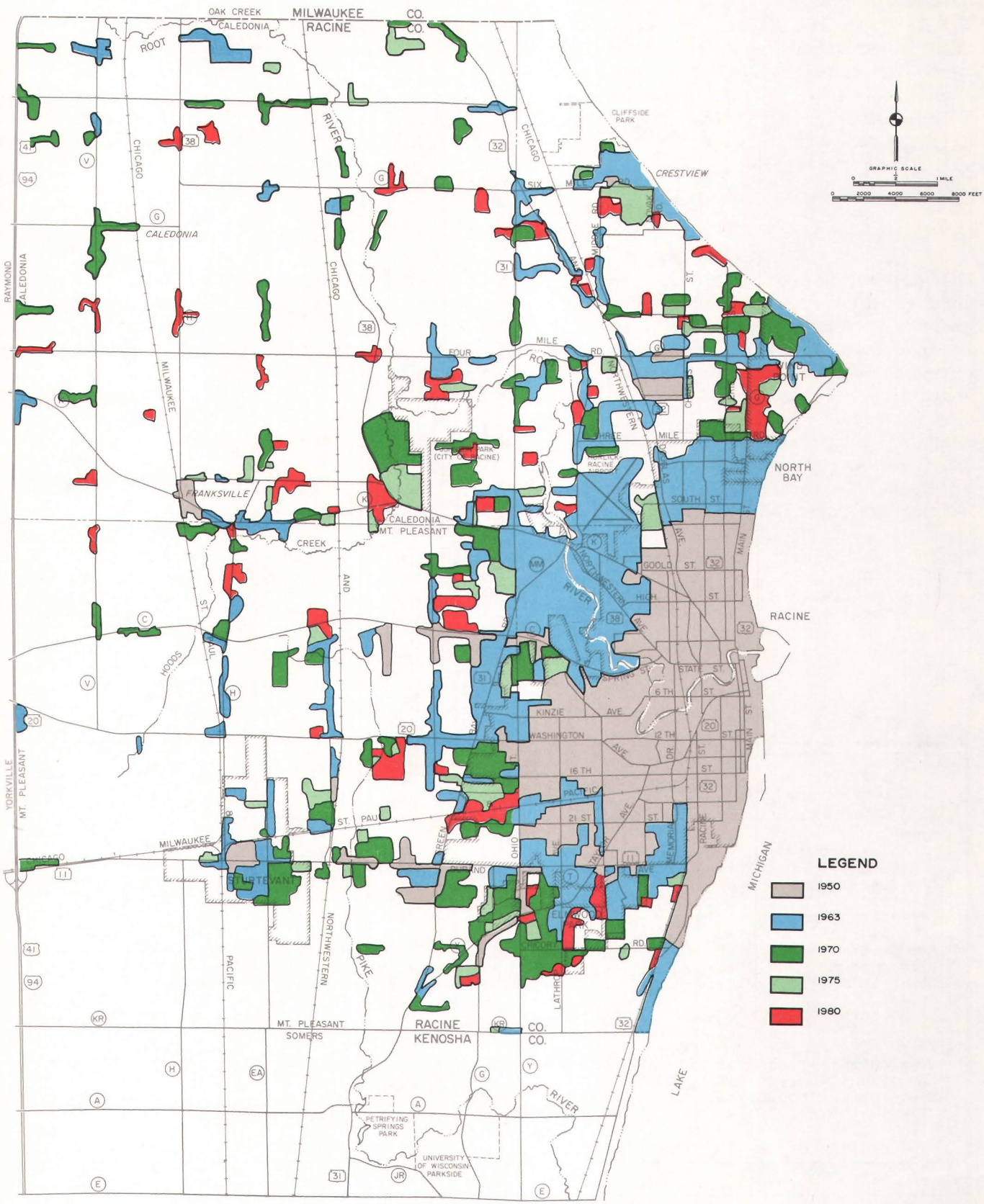
Table 2

DISTRIBUTION OF LAND USE IN THE RACINE URBAN PLANNING DISTRICT: 1975

Land Use Category	Area (acres)	Percent of Land Use Area	Percent of Total Study Area
Urban			
Single- and Two-Family Residential	9,829	41.9	15.2
Multifamily Residential	211	0.9	0.3
Residential Land Under Development	1,501	6.4	2.3
Commercial	507	2.2	0.8
Manufacturing and Wholesale Industrial	1,135	4.8	1.8
Transportation, Communication, and Utilities	7,218	30.7	11.2
Governmental and Institutional	1,291	5.5	2.0
Recreational	1,793	7.6	2.8
Subtotal	23,485	100.0	36.4
Rural			
Agricultural and Open Lands	36,552	89.0	56.6
Woodlands and Wetlands	3,674	9.0	5.7
Extractive Industrial	338	0.8	0.5
Surface Water	497	1.2	0.8
Subtotal	41,061	100.0	63.6
Total	64,546	--	100.0

Map 2

HISTORIC TREND OF URBAN GROWTH IN THE RACINE URBAN PLANNING DISTRICT: 1850-1980



Source: SEWRPC.

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 of the area.

POPULATION CHARACTERISTICS

The 1980 residential population of the Racine Urban Planning District was about 132,500 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 cities, villages, and towns within the district for the decades between 1950 and 1980.

Between 1950 and 1960, the resident population of the Racine Urban Planning District increased by nearly 24,200 persons, or approximately 27 percent. Population growth in the District continued, but at a somewhat slower rate, between 1960 and 1970, with the resident population increasing by over 20,200 persons, or about 18 percent. During the most recent decade, between 1970 and 1980, the residential population of the District stabilized and actually declined by about 1,100 persons, or somewhat less than 1 percent. Although the resident population level of the District remained virtually unchanged between 1970 and 1980, significant shifts in the District's population distribution occurred. The City of Racine lost more than 9,400 residents between 1970 and

Table 3

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

Civil Division	Population				Percent Change		
	1950	1960	1970	1980	1950-1960	1960-1970	1970-1980
City of Racine	71,193	89,144	95,162	85,725	25.2	6.8	-9.9
Village of Elmwood Park	-- [a]	-- [a]	456	483	--	--	5.9
Village of North Bay	-- [b]	264	263	219	--	-0.4	-16.7
Village of Sturtevant	1,176	1,488	3,376	4,130	26.5	126.9	22.3
Village of Wind Point	-- [b]	463	1,251	1,695	--	170.2	35.5
Town of Caledonia	5,713	9,696	16,748	20,940	69.7	72.7	25.0
Town of Mt. Pleasant	11,339	12,358	16,368	19,340	9.0	32.4	18.2
Racine Urban Planning District	89,421	113,413	133,624	132,532	26.8	17.8	-0.8

[a] The Village of Elmwood Park was incorporated from part of the Town of Mt. Pleasant after the 1960 census.

[b] The Villages of North Bay and Wind Point were incorporated from parts of the Town of Caledonia after the 1950 census.

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

1980--a decrease of about 10 percent. At the same time, the Village of Sturtevant, the Village of Wind Point, the Town of Caledonia, and the Town of Mt. Pleasant continued the rapid growth of the past several decades, with population increases of about 22, 35, 25, and 18 percent, respectively.

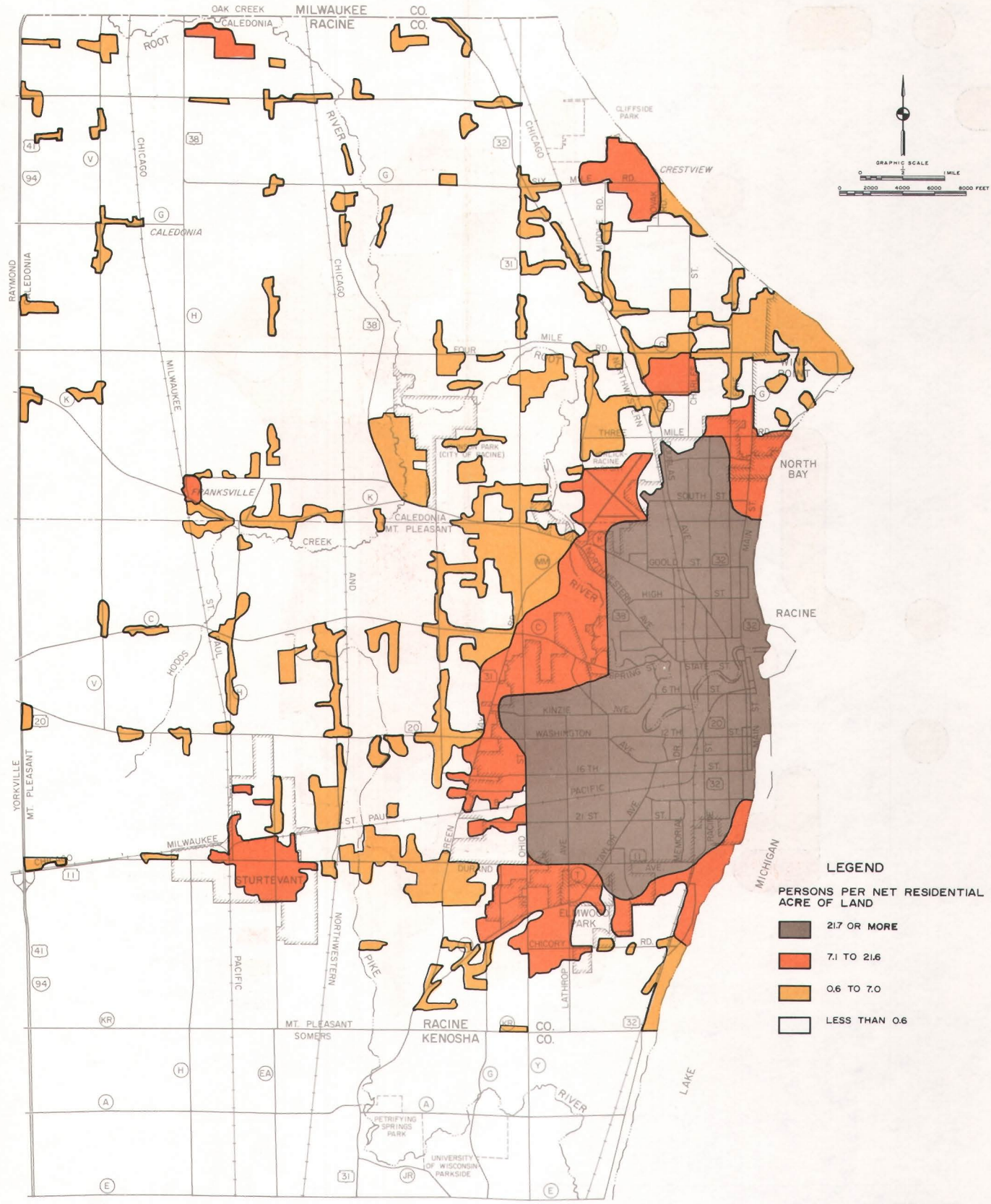
An important factor affecting the efficiency and cost-effectiveness of public transit service is population density. The overall gross population density of the Racine Urban Planning District in 1975 was about 1,300 persons per square mile. The overall residential population density was approximately 14 persons per net residential acre. The rural sections of the study area, consisting of major portions of the Towns of Caledonia and Mt. Pleasant, have overall gross population densities of about 400 persons per square mile. The overall residential population densities of these areas were about five persons per net residential acre. These densities are generally considered to be far too low to support conventional fixed route transit service. The developed urban portion of the study area, consisting primarily of the City of Racine and adjacent areas of contiguous urban development had an overall gross population density in 1975 of about 3,800 persons per square mile. The overall residential density of this area is about 20 persons per net residential acre. Residential densities within the developed urban portion of the study area, however, ranged from a low of about three persons per net acre of residential land to a high of more than 50 persons per net acre of residential land, or from about 150 persons per square mile to about 10,300 persons per square mile. Map 3 indicates estimated net residential population densities within the study area in 1975, while Map 4 indicates estimated gross population densities.

IDENTIFICATION OF SPECIAL POPULATION GROUPS

There are certain segments of the population whose dependence on and use of public transit are greater than that of the population as a whole. 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 the population in general and, therefore, have had to rely more heavily on alternative transportation modes for mobility. These groups include school-age children, the elderly, low-income families, minorities, the handicapped, and those persons living in households with no automobile or one automobile available. Information about these groups in the Racine Urban Planning District was obtained primarily from 1980 U. S. census data. The census data were supplemented with additional information concerning the location in 1983 of facilities used by the elderly and the handicapped and of federally subsidized rental housing for low-income households. Selected population characteristics for the census tracts within the Racine Urban Planning District are set forth in Tables 4 through 7. Inasmuch as over 80 percent of the population served by the Racine transit system resides within the City of Racine, data are presented in Tables 5 and 7 which represent only the City of Racine component of total census tract population and household figures. The census tract boundaries for the 1980 census information are shown on Map 5.

Map 3

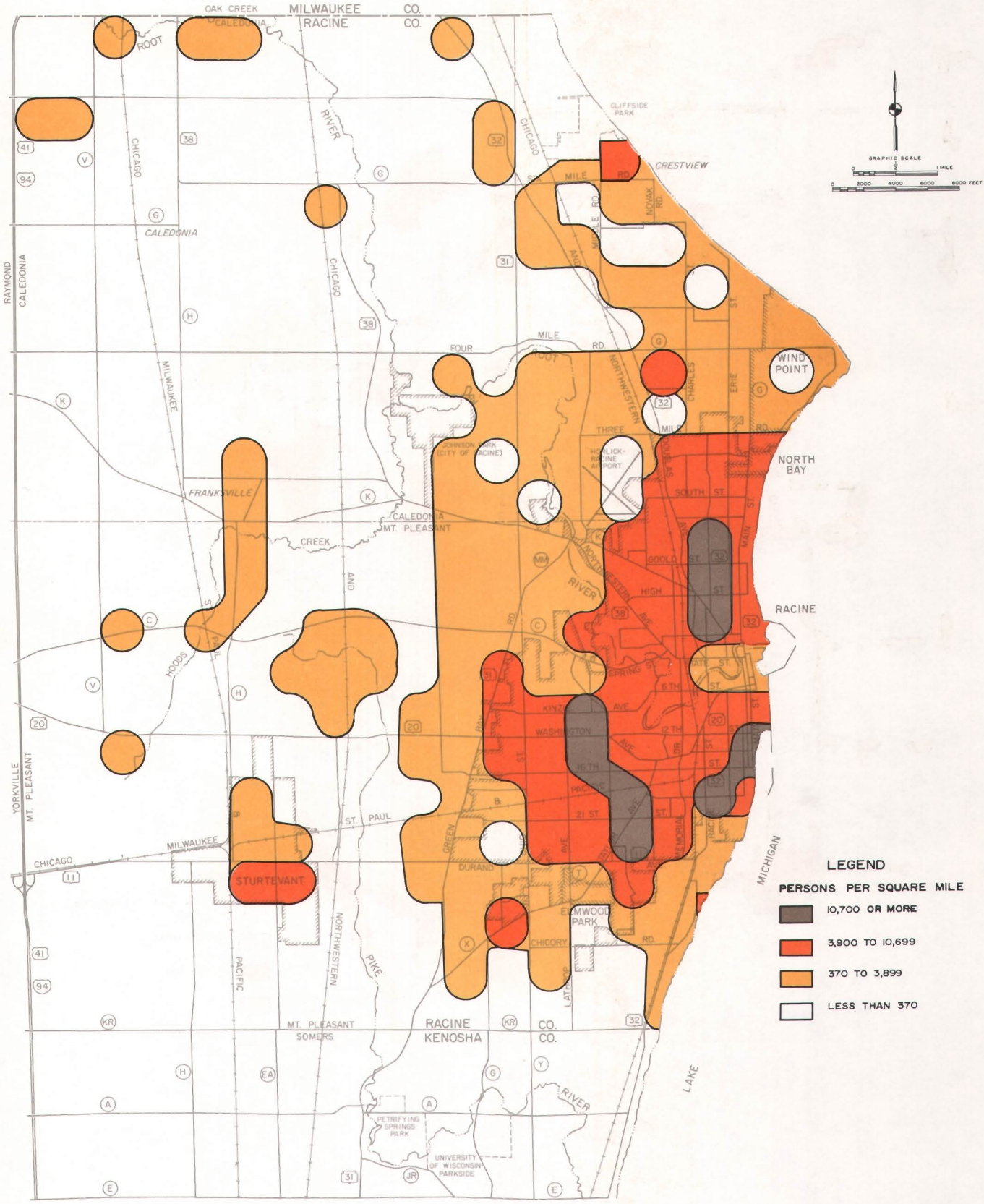
GENERALIZED RESIDENTIAL POPULATION DENSITY IN THE RACINE URBAN PLANNING DISTRICT: 1975



Source: SEWRPC.

Map 4

OVERALL POPULATION DENSITY IN THE RACINE URBAN PLANNING DISTRICT: 1975



Source: SEWRPC.

Table 4

SELECTED POPULATION CHARACTERISTICS FOR THE RACINE URBAN PLANNING DISTRICT AS APPROXIMATED BY CENSUS TRACT: 1980

Census Tract Number	Tract Population	School-Age Children[a]		Elderly[b]		Nonwhite		Hispanic		Low-income[c]	
		Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population
1	278	29	10.4	58	20.8	47	16.9	23	8.2	40	14.4
2	5,779	834	14.4	676	11.7	1,552	26.8	485	8.4	675	11.7
3	4,012	771	19.2	251	6.2	3,093	77.0	658	16.4	1,184	29.5
4	5,346	992	18.6	474	8.9	2,567	48.0	965	18.0	1,091	20.4
5	6,804	1,225	18.0	444	6.5	4,014	58.9	1,054	15.5	1,776	26.1
6	5,363	735	13.7	686	12.8	168	3.1	143	2.7	323	6.0
7	6,095	748	12.3	966	15.8	345	5.7	187	3.1	236	3.9
8	5,256	1,032	19.6	396	7.5	1,053	20.0	645	12.3	270	5.1
901	4,684	632	13.5	779	16.6	326	6.9	195	4.2	177	3.8
902	7,883	1,529	19.4	623	7.9	643	8.2	198	2.5	251	3.2
10	10,108	1,473	14.6	1,639	16.2	661	6.5	395	3.9	560	5.5
11	9,067	1,432	15.8	1,011	11.2	253	2.8	150	1.7	210	2.3
12	9,123	1,335	14.6	1,220	13.4	608	6.7	458	5.0	602	6.6
13	8,213	1,023	12.5	1,411	17.2	449	5.5	364	4.4	364	4.4
14	7,422	1,123	15.1	932	12.6	280	3.8	114	1.5	308	4.1
1501	4,028	885	22.0	55	1.4	60	1.5	78	1.9	241	6.0
1502	4,728	943	19.9	309	6.5	92	1.9	77	1.6	222	4.7
1503	6,439	1,149	17.8	528	8.2	622	9.6	151	2.3	441	6.8
1601	5,616	1,196	21.3	363	6.5	105	1.9	39	0.7	218	3.9
1602	2,495	539	21.6	94	3.8	68	2.7	21	0.8	18	0.7
1701	9,425	1,750	18.5	940	9.9	327	3.5	137	1.4	467	5.0
1702	4,368	842	19.3	194	4.4	123	2.8	156	3.6	365	8.4
Total	132,532	22,217	16.8	14,049	10.6	17,456	13.2	6,689	5.0	10,039	11.7

[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 Census are shown in the following table:

Size of Family Unit	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							
Householder 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

Source: SEWRPC.

Table 5

SELECTED POPULATION CHARACTERISTICS FOR THE CITY OF RACINE AS APPROXIMATED BY CENSUS TRACT: 1980

Census Tract Number	Tract Population	School-Age Children[a]		Elderly[b]		Nonwhite		Hispanic		Low-income[c]	
		Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population	Number	Percent of Total Population
1	278	29	10.4	58	20.9	47	16.9	23	8.2	40	14.4
2	5,779	834	14.4	676	11.7	1,552	26.8	485	8.4	675	11.7
3	4,012	771	19.2	251	6.2	3,093	77.0	658	16.4	1,184	29.5
4	5,346	992	18.6	474	8.9	2,567	48.0	965	18.0	1,091	20.4
5	6,804	1,225	18.0	444	6.5	4,014	58.9	1,054	15.5	1,776	26.1
6[d]	5,313	722	13.6	678	12.8	168	3.2	143	2.7	323	6.1
7	6,095	748	12.3	966	15.8	345	5.7	187	3.1	236	3.9
8[d]	2,671	584	21.9	159	6.0	425	15.9	167	6.3	115	4.3
901[d]	4,241	629	14.8	465	11.0	296	7.0	189	4.5	177	4.2
902[d]	3,151	532	16.9	291	9.2	449	14.2	137	4.3	179	5.7
10 d	9,873	1,458	14.8	1,618	16.4	635	6.4	391	4.0	560	5.7
11 d	7,385	1,179	16.0	820	11.1	208	2.8	114	1.5	134	1.8
12 d	7,740	1,114	14.4	1,017	13.1	585	7.6	439	5.7	602	7.8
13	8,213	1,023	12.5	1,411	17.2	449	5.5	360	4.4	364	4.4
14 d	7,203	1,088	15.1	888	12.3	280	3.9	112	1.6	308	4.3
1503[d]	1,609	275	17.1	98	6.1	394	24.5	77	4.8	241	15.0
1602[d]	12	--	--	--	--	3	25.0	--	--	--	--
Total	85,725	13,203	15.4	10,314	12.0	15,510	18.1	5,501	6.4	8,005	9.3

[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 census tract within the City of Racine.

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

Table 6

DISTRIBUTION OF HOUSEHOLDS WITHIN THE RACINE URBAN PLANNING DISTRICT WITH ZERO OR ONE AUTOMOBILE AVAILABLE BY CENSUS TRACT: 1980

Census Tract Number	Total Households	Households with Zero Automobile Available		Households with One Automobile Available		Households with Zero or One Automobile Available	
		Number	Percent of Total Households	Number	Percent of Total Households	Number	Percent of Total Households
1	182	97	53.3	66	36.3	163	89.6
2	2,433	613	25.2	1,059	43.5	1,672	68.7
3	1,258	430	34.2	451	35.8	881	70.0
4	1,756	507	28.9	818	46.6	1,325	75.5
5	2,240	610	27.2	997	44.5	1,607	71.7
6	2,067	252	12.2	842	40.7	1,094	52.9
7	2,477	267	10.8	1,241	50.1	1,508	60.9
8	1,644	144	8.8	529	32.2	673	40.9
901	1,555	100	6.4	692	44.5	792	50.9
902	2,567	236	9.2	707	27.5	943	36.7
10	3,724	395	10.6	1,598	42.9	1,993	53.5
11	3,353	149	4.4	1,342	40.0	1,491	44.4
12	3,370	417	12.4	1,413	41.9	1,830	54.3
13	3,364	522	15.5	1,598	47.5	2,120	63.0
14	2,814	208	7.4	1,125	40.0	1,333	47.4
1501	1,077	5	0.5	213	19.8	218	20.2
1502	1,539	67	4.4	357	23.2	424	27.6
1503	2,171	95	4.4	748	34.5	843	38.8
1601	1,689	22	1.3	349	20.7	371	21.9
1602	706	7	1.0	56	7.9	63	8.9
1701	3,237	196	6.1	997	30.8	1,193	36.9
1702	1,343	48	3.6	450	33.5	498	37.1
Total	46,586	5,387	11.5	17,648	37.9	23,035	49.4

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

Table 7

DISTRIBUTION OF HOUSEHOLDS WITHIN THE CITY OF RACINE WITH ZERO OR ONE AUTOMOBILE AVAILABLE BY CENSUS TRACT: 1980

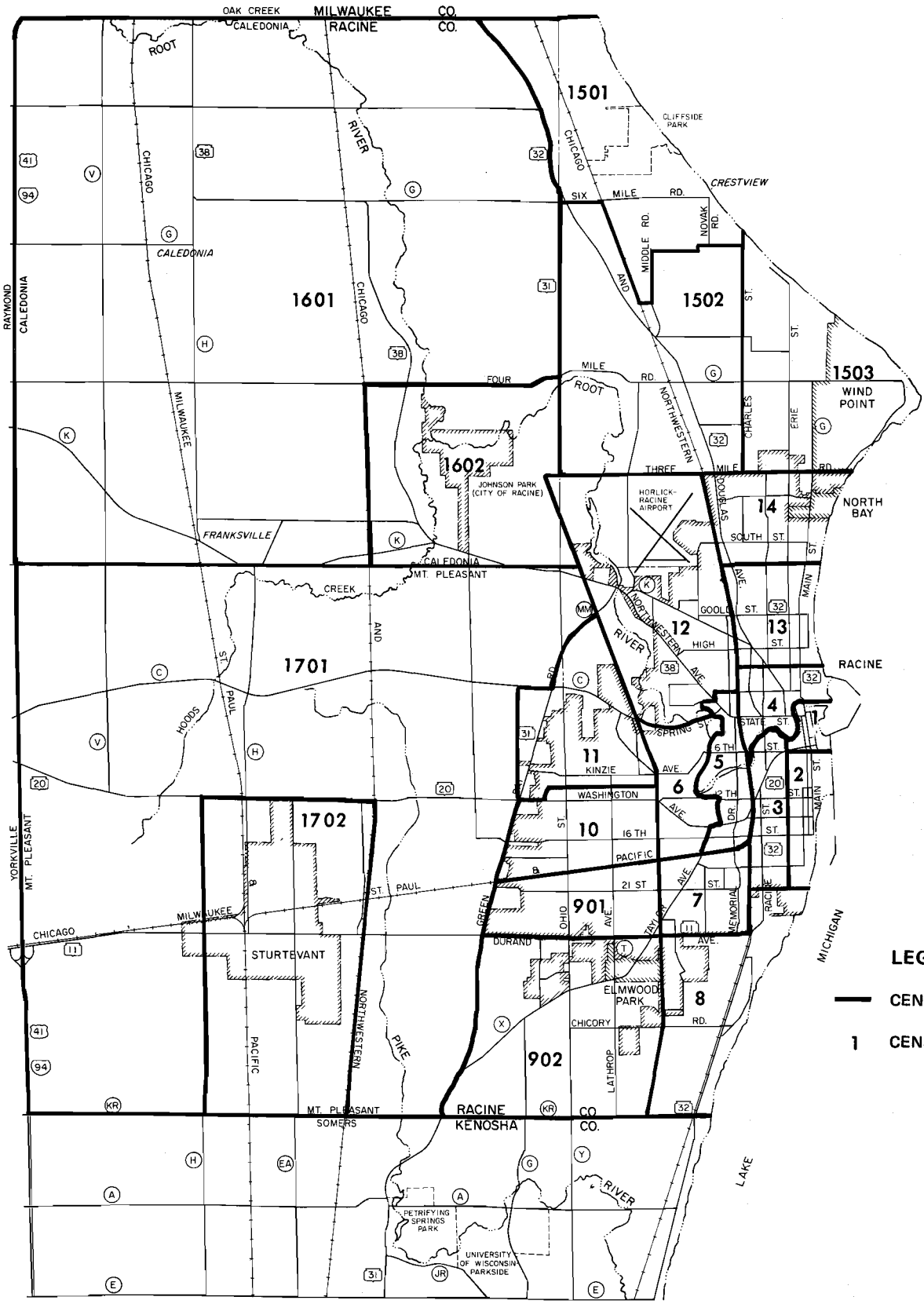
Census Tract Number	Total Households	Households with Zero Automobile Available		Households with One Automobile Available		Households with Zero or One Automobile Available	
		Number	Percent of Total Households	Number	Percent of Total Households	Number	Percent of Total Households
1	182	97	53.3	66	36.3	163	89.6
2	2,433	613	25.2	1,059	43.5	1,672	68.7
3	1,258	430	34.2	451	35.8	881	70.0
4	1,756	507	28.9	818	46.6	1,325	75.5
5	2,240	610	27.2	997	44.5	1,607	71.7
6[a]	2,046	252	12.3	838	41.0	1,090	53.3
7	2,477	267	10.8	1,241	50.1	1,508	60.9
8[a]	813	51	6.3	232	28.5	283	34.8
901[a]	1,542	100	6.5	684	44.3	784	50.8
902[a]	1,149	202	17.6	430	37.4	632	55.0
10[a]	3,617	395	10.9	1,560	43.1	1,955	54.0
11[a]	2,630	131	5.0	981	37.3	1,112	42.3
12[a]	2,971	411	13.8	1,337	45.0	1,748	58.8
13	3,364	522	15.5	1,598	47.5	2,120	63.0
14[a]	2,738	207	7.6	1,102	40.2	1,309	47.8
1503[a]	540	74	13.7	267	49.4	341	63.1
Total	31,756	4,869	15.3	13,661	43.0	18,530	58.3

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

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

Map 5

CENSUS TRACT LOCATIONS IN THE RACINE URBAN PLANNING DISTRICT: 1980



LEGEND

- CENSUS TRACT BOUNDARY
- 1 CENSUS TRACT NUMBER

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

School-Age Children

School-age children in the 10-through-18-year age group constituted about 17 percent of the total resident population of the Racine Urban Planning District in 1980 (see Table 4). Within the City of Racine, school-age children constituted about 15 percent of the resident city population. In 1980, there were no significant concentrations of school-age children in any census tract, but rather an even distribution among all tracts. The location 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.

Elderly

In 1980 there were approximately 14,000 persons--or nearly 11 percent of the total district population--who were 65 years of age or older residing in the planning area. Of this number, about 10,300 elderly persons, or about 73 percent of the district total resided within the City of Racine, comprising about 12 percent of the city population. As can be seen in Table 5, significant concentrations of elderly persons were found in Tracts 1, 7, 10, and 13. Elderly persons comprised between 15 and 21 percent of total city population within these tracts.

Although census information provides a general indication of residential location, it was considered important, with regard to the elderly, to identify specific locations of concentrations of elderly population groups and facilities frequently used by this population 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 Racine Urban Planning District in 1983. These facilities are listed in Table 8 and located on Map 6.

Low-Income Families

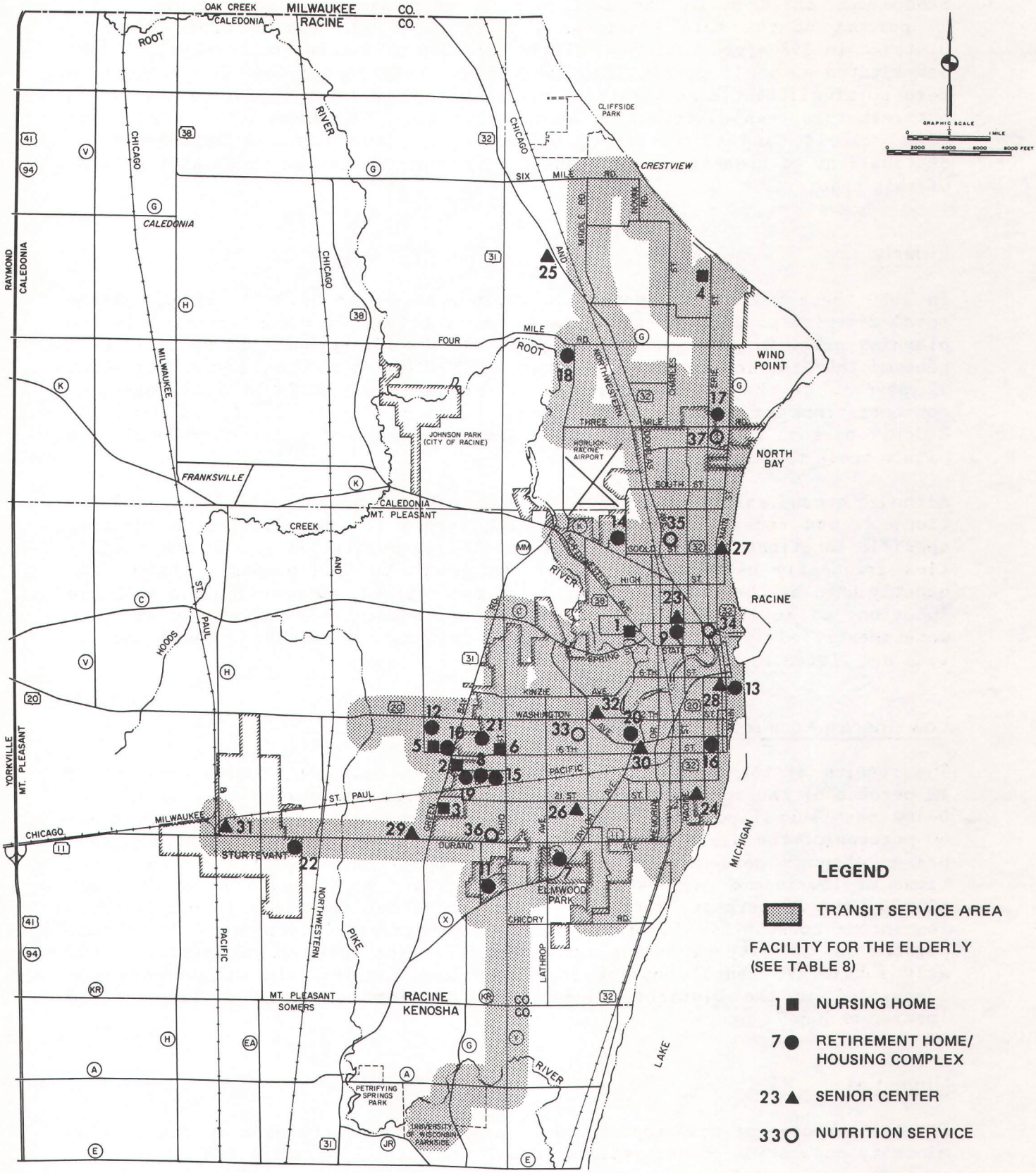
The results of the 1980 U. S. census indicated that about 10,000 persons, or 12 percent of the total district population, lived in households with incomes below the federal poverty level. About 8,000 low-income individuals, or about 80 percent of the district total, resided within the City of Racine and comprised about 9 percent of the total city population. The highest concentrations of low-income persons were found in Tracts 3, 4, and 5 in which about 30, 20, and 26 percent, respectively, of the total tract population lived in low-income households. Table 5 indicates the general locations of low-income persons in the city by census tract. In 1983, the location of special federally subsidized rental housing for low-income families and individuals was identified in the District. These faclities are presented in Table 9 and located on Map 7.

Minorities

For the purposes of this report, two classifications were used in identifying minority population concentrations. Under the first classification, a minority

Map 6

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



LEGEND

- TRANSIT SERVICE AREA

FACILITY FOR THE ELDERLY (SEE TABLE 8)

- 1 ■ NURSING HOME
- 7 ● RETIREMENT HOME/ HOUSING COMPLEX
- 23 ▲ SENIOR CENTER
- 33 ○ NUTRITION SERVICE

Source: City of Racine Department of Transportation and SEWRPC.

Table 8

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

Code Number on Map 6	Facility	Address[a]
	Nursing homes	
1	Lincoln Luther Home	2015 Prospect Avenue
2	Lincoln Village Convalescent Center	1700 C. A. Becker Drive
3	Racine County High Ridge Health Care Center	2433 Green Bay Road
4	St. Catherine's Nursing Home	5635 Erie Street
5	Shoop Memorial Home	5837 16th Street
6	Westview Nursing Home	1600 Ohio Street
	Retirement homes/housing complexes	
7	Albert House	4000 Maryland Avenue
8	Chateau I and II apartments	4901 and 5001 Byrd Avenue
9	Danish Old People's Home Society	1014 Milwaukee Avenue
10	Lincoln Manor apartments	5801 16th Street, Town of Mt. Pleasant
11	Lincoln Manor South apartments	5143 Biscayne Avenue
12	Lincoln Villas[b]	5810-5820 Lincoln Village Drive, Town of Mt. Pleasant
13	McMynn Tower	110 7th Street
14	Mt. Pleasant Manor	2250 Layard Avenue
15	Oakview Manor	4720 Byrd Avenue
16	Palmeter Home	1547 College Avenue
17	Regency apartments	4111 Erie Street
18	St. Monica's Senior Citizens Home	3920 N. Green Bay Road
19	Sunset Terrace apartments	5539-5655 Byrd Avenue
20	Washington apartments	2000 W. Washington Avenue
21	Washington Court	5101 Wright Street
22	Westridge Manor	3101-3133 86th Street, Village of Sturtevant
	Senior centers	
23	Breakthru Community Center[b]	1134 Milwaukee Avenue
24	Dr. John Bryant Center[b]	601 21st Street
25	East Side Community Hall	STH 32 and Five-Mile Road, Town of Caledonia
26	Humble Park Community Center	2200 Blaine Avenue
27	Lakeview Community Center	201 Goold Street
28	Memorial Hall Drop-In Center	72 7th Street
29	Mt. Pleasant Club	6126 Durand Avenue, Town of Mt. Pleasant
30	Salvation Army Senior Citizen Drop-In Center	1901 Washington Avenue
31	Sturtevant Senior Citizens	2744 Wisconsin Street, Village of Sturtevant
32	Washington Park Clubhouse[b]	2801 12th Street
	Nutrition services	
33	Atonement Lutheran Church	2915 Wright Avenue
34	Christorey Community Center	1031 Douglas Avenue
35	Douglas Park Community Center	2221 Douglas Avenue
36	Messiah Lutheran Church	4901 Durand Avenue
37	Trinity United Methodist Church	3825 Erie Street

[a] Except where noted, all addresses refer to the City of Racine.

[b] Facility also serves as a nutrition site.

Source: City of Racine Department of Transportation and SEWRPC.

individual was defined as anyone belonging to a racial group other than Caucasian. Using this definition, approximately 17,500 persons, or about 13 percent of the District population, were considered to be members of a racial minority in 1980. Within the City of Racine, about 15,500 persons, or about 18 percent of the resident population, were considered to be members of a racial minority. Significant concentrations of individuals within this group were found in Tracts 3, 4, and 5, accounting for about 77, 48, and 59 percent, respectively, of total tract population. Table 5 indicates the location of concentrations of persons belonging to a racial minority within the city by census tract.

The second minority classification used in this study was based upon ethnic heritage and included persons of Hispanic origin, as defined by the U. S. Bureau of the Census. Only about 6,700 individuals, or 5 percent of the District population, were considered to be members of this ethnic minority in 1980. About 5,500 Hispanic persons, or about 80 percent of the district total resided within the City of Racine, comprising about 6 percent of the City population. The significant concentrations of this minority population were in

Table 9

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

Code Number on Map 7	Project Name	Number of Units[a]	Address[b]
1	Albert House.....	107	4000 Maryland Avenue
2	Chateau I and II Apartments.....	47	4901 and 5001 Byrd Avenue
3	Durand Plaza.....	71	3003 Durand Avenue
4	Lincoln Manor.....	119	5801 16th Street, Town of Mt. Pleasant
5	Lincoln Villas.....	100	5810-5820 Lincoln Village Drive, Town of Mt. Pleasant
6	McMynn Tower.....	123	110 7th Street
7	Mt. Pleasant Manor.....	78	2250 Layard Avenue
8	Oaks Village.....	60	1311-1345 Oakes Road, Town of Mt. Pleasant
9	Oakview Manor.....	78	4720 Byrd Avenue
10	Oakwood Terrace.....	24	1802-1812 Oakdale Avenue
11	Regency Apartments.....	38	4111 Erie Street
12	Shorehaven Apartments....	119	541 Shelbourne Court
13	Sunset Terrace Apartments.....	120	5539-5655 Byrd Avenue
14	Washington Apartments....	40	2000 W. Washington Avenue
15	Washington Court.....	90	5101 Wright Street
16	Westridge Manor.....	24	3101-3133 86th Street, Village of Sturtevant
17	Woodside Village.....	50	4200 Northwestern Avenue, Town of Caledonia

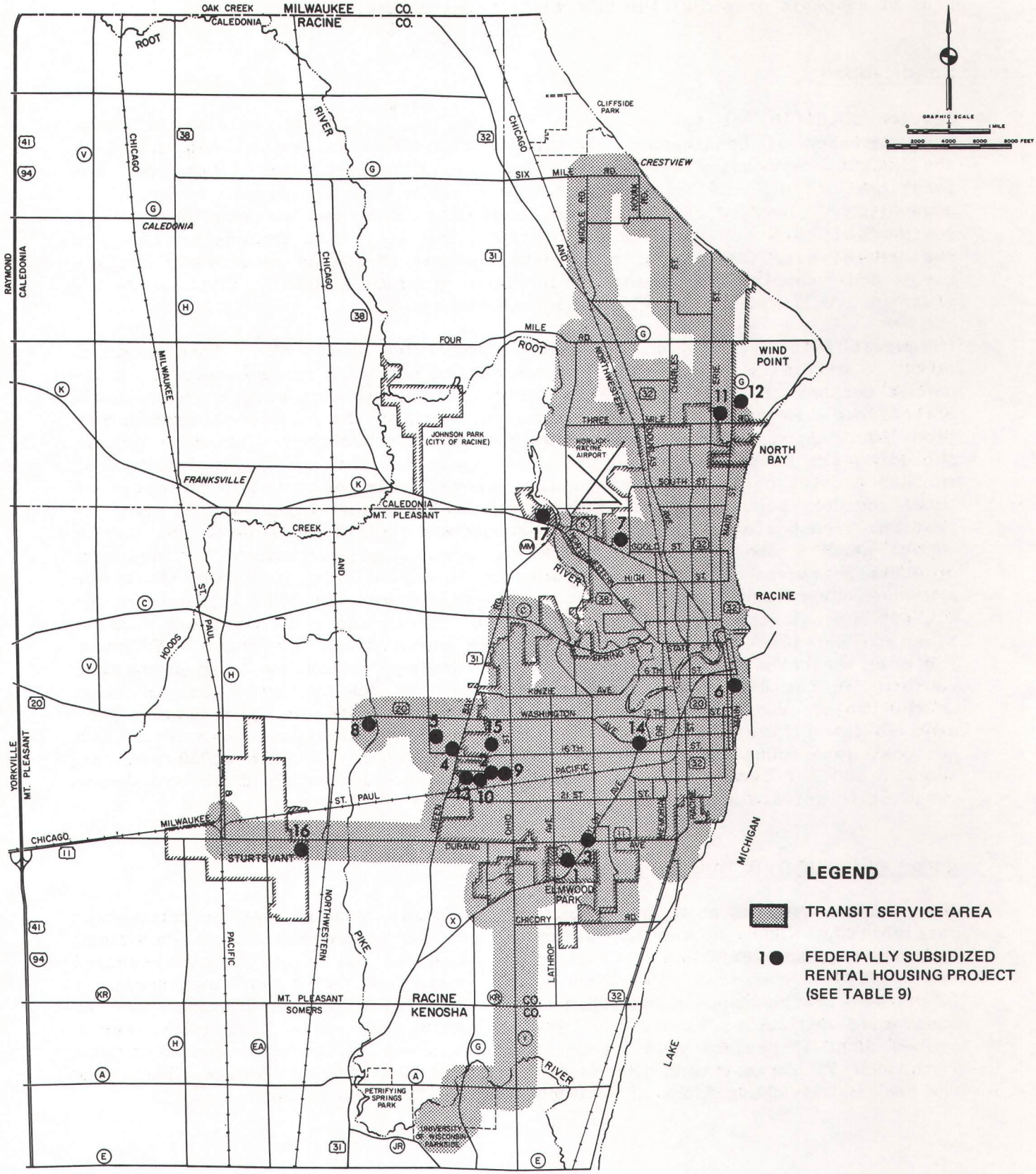
[a]Excludes units known to be used as offices or as resident manager or caretaker units.

[b]Except where noted, all addresses refer to the City of Racine.

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

Map 7

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



Source: SEWRPC.

Tracts 3, 4, and 5, accounting for over 15 percent of the total population within these tracts. Table 5 indicates the location of concentrations of persons of Hispanic origin within the city by census tract.

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 8.

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 Racine 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 Racine urbanized area in 1975 by type of limitation. As shown in the table, over 4,500 persons in the Racine urbanized area, or about 4 percent of the 1975 estimated total population of the urbanized area of 122,000 persons, were found to be transportation handicapped. Of these 4,500 persons, about 3,100, or two-thirds, were estimated to be chronically disabled persons residing in private households.

Zero- 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 upon other persons or other transportation modes for the provision of essential transportation services. The 1980 U. S. census indicated that approximately 12 percent of the households within the Racine Urban Planning District had no automobile available. Within the City of Racine, zero auto households represented about 15 percent of all households. As shown in Table 7, census tracts 1 through 5, representing the central part of the City of Racine, contained the heaviest concentrations of such households--25 to 53 percent.

Table 10

FACILITIES FOR THE HANDICAPPED IN THE RACINE URBAN PLANNING DISTRICT: 1982

Code Number on Map 8	Facility	Address[a]
	Housing/residential care facility	
1	Cornerstone	2016 Washington Avenue
2	Lincoln Lutheran Home	2015 Prospect Avenue
3	Lincoln Village Convalescent Center	1700 C. A. Becker Drive
4	Racine County High Ridge Health Care Center	2433 Green Bay Road
	Racine County Housing Authority Facilities	
	Facility 1[c]	2900 Russet Street
	Facility 2[c]	1621 Franklin Street
7	Racine Residential Care[b]	1719 Washington Avenue
8	Racine Transitional Care I	801 Park Avenue
9	Racine Transitional Care II	929 S. Main Street
10	St. Catherine's Nursing Home	5635 Erie Street
11	Satellite House I and II	820 and 834 College Avenue
12	Sharpf Family Care Center	2608 Hayes Avenue
13	Shoop Memorial Home	5837 16th Street
14	Shoreline Manor	1403 6th Street
15	Telos Housing Development[c]	Six Mile Road and Middle Road, Town of Caledonia
16	The Apartment	5210-5212 Biscayne Avenue
17	Westview Nursing Home	1600 Ohio Street
	Rehabilitation/employment facility	
18	Careers for Developmentally Disabled Adults, Inc.	12406 County Line Road, Town of Mt. Pleasant
19	Curative Workshop of Racine	2335 Northwestern Avenue
20	Goodwill Industries of Southeastern Wisconsin, Inc.	5420 21st Street
21	Racine County Opportunity Center, Inc.	4214 Sheridan Road
	Referral facility	
22	Developmental Disabilities Information Service	800 Center Street
23	Racine County Human Services Department	425 Main Street
24	Society's Assets, Inc.	720 High Street
	Special education facility with special programs	
25	Adult Learning Center	800 Center Street
26	Main Campus	1001 S. Main Street
	Racine Unified School District	
27	Gilmore Junior High School	2201 High Street
28	Olympia Brown School	5915 Erie Street
29	Wadewitz School	2700 Yout Street

[a] Except where noted, all addresses refer to the City of Racine.

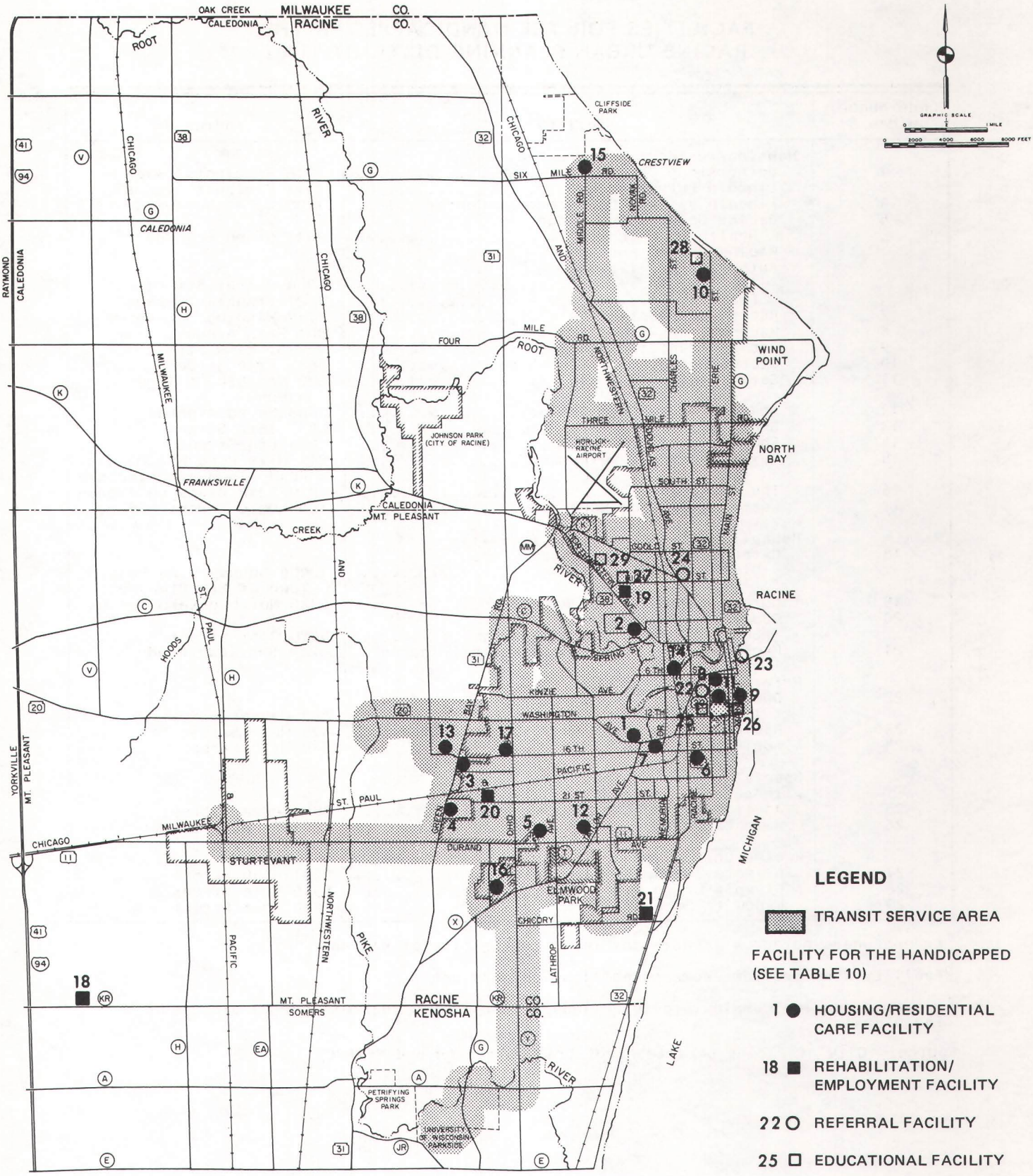
[b] Facility also provides some rehabilitation services.

[c] Proposed housing complex providing independent living quarters for handicapped individuals.

Source: City of Racine Department of Transportation and SEWRPC.

Map 8

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



LEGEND

- TRANSIT SERVICE AREA
- FACILITY FOR THE HANDICAPPED (SEE TABLE 10)
- 1 ● HOUSING/RESIDENTIAL CARE FACILITY
- 18 ■ REHABILITATION/ EMPLOYMENT FACILITY
- 22 ○ REFERRAL FACILITY
- 25 □ EDUCATIONAL FACILITY

Source: City of Racine Department of Transportation and SEWRPC.

Table 11

ESTIMATES OF TRANSPORTATION HANDICAPPED PERSONS IN THE RACINE 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	1,338	43.1	29.5
Uses Aid Other Than Wheelchair	573	18.4	12.6
Needs Help From Another Person	297	9.6	6.5
Uses Wheelchair	210	6.8	4.6
Confined to House	689	22.1	15.2
Subtotal	3,107	100.0	68.4
Acutely Disabled	338	100.0	7.5
Institutionalized	1,095	100.0	24.1
Total Transportation Handicapped Persons	4,540	--	100.0

Source: Applied Resource Integration, Ltd., and SEWRPC.

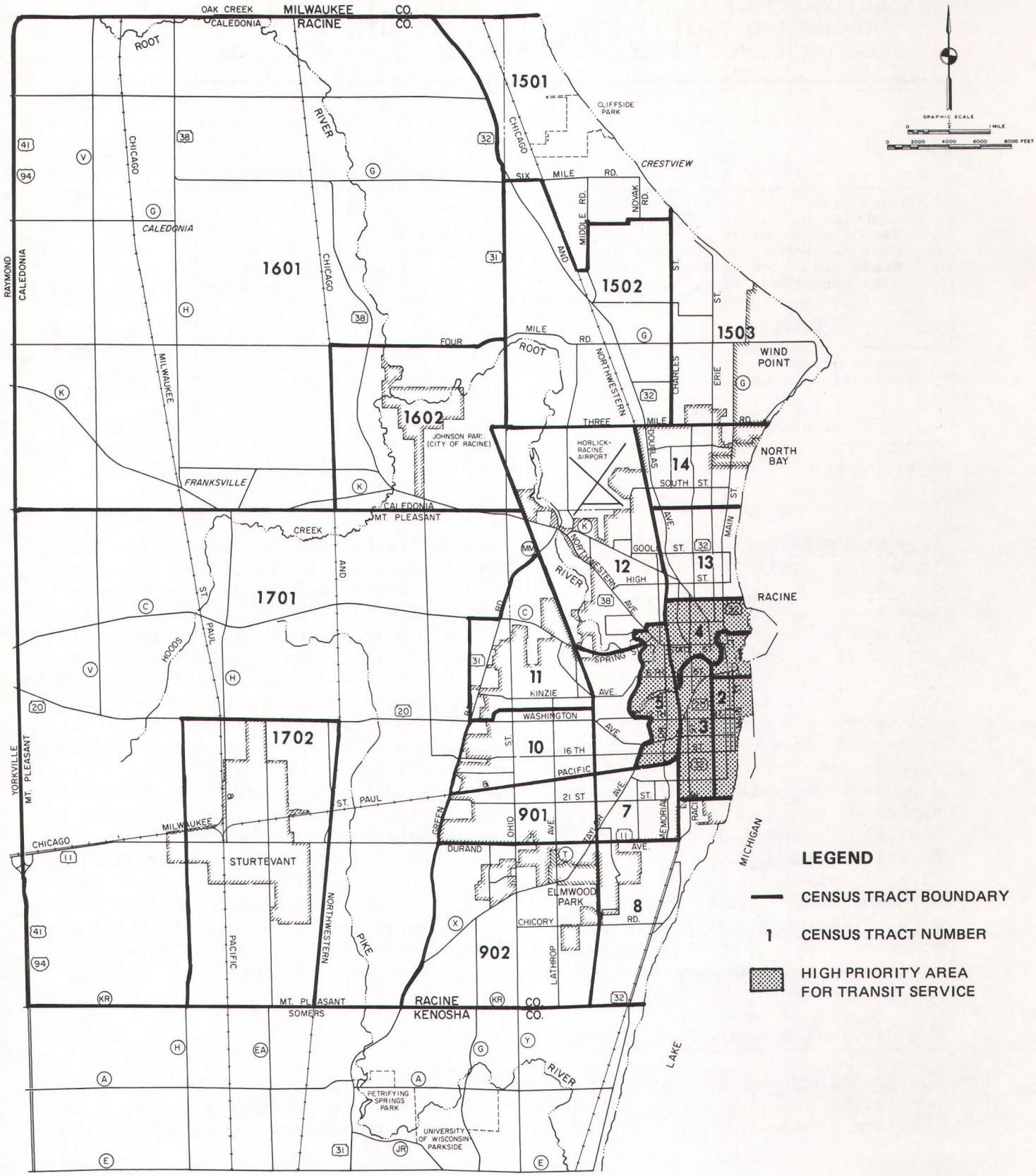
In addition to persons residing in zero-automobile households, persons residing in one-automobile households also represent potential users of public transportation. In particular, such potential users would include those persons who reside in households of two or more persons where the head of the household is employed full time. In such 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 transportation modes for tripmaking. Persons residing in one-person one-auto households, and one-auto households where the head of the household is retired, would not be considered potential transit-dependent persons. At the present time census data is 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 and the City. As further shown in Tables 6 and 7 there were approximately 17,600 households within the Racine urban planning district in 1980 which had only one automobile available. This represented about 38 percent of the total households within the District. Of this total, about 13,700, or about 78 percent, were located within the City of Racine. Seven tracts in the City of Racine contained concentrations of households with one automobile above the average for the City of 43 percent. Tract No. 7 contained the heaviest concentration of about 50 percent.

High Priority Transit Service Areas

The preceding sections have identified the residential concentrations of those population characteristics that depend most heavily on transit service. With this information it is possible to identify those census tracts within the

Map 9

HIGH-PRIORITY TRANSIT SERVICE AREAS IN THE RACINE URBAN PLANNING DISTRICT: 1980



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

City of Racine which, because of their resident population characteristics, should be considered high priority transit service areas. These high priority census tracts within the City of Racine, including census tracts 1 through 5, are graphically summarized on Map 9. The five categories considered in this analysis were the concentrations of elderly, low-income, minorities--nonwhite and Hispanic--and households with zero automobiles available. The census tracts defined as high priority had significant concentrations in four of the five 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 land uses were identified as major traffic generators for public planning purposes within the study area: 1) shopping areas; 2) educational institutions; 3) hospitals and medical centers; 4) governmental and public institutional centers; 5) major employment centers; and 6) recreational areas.

Shopping Areas

For transit planning purposes, four classifications of shopping areas were identified as potential major transit trip generators. 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 Regency Mall located northeast of the intersection of Durand Avenue (STH 20) and S. Green Bay Road (STH 31) in the City of Racine.

The second, third, and fourth classifications of shopping areas were defined using criteria developed by the City of Racine. The second classification consists of major community shopping areas defined as a concentration of stores, including one large department store and several smaller service and specialty shops, and having a service area which encompasses most or all of the Racine

urbanized area. Using these criteria, two major community shopping areas were identified within the study area: the Racine central business district and the Kohls/Shopko/Washington Square shopping area located near the intersection of Washington Avenue and Green Bay Road in the City of Racine. The third classification--secondary community shopping areas--are characterized by a large concentration of stores and services, usually lacking a major department store, but having a large service area. The fourth classification identified consists of major strip commercial areas which are characterized by a mixture of retail and service establishments located along a major traffic artery. The shopping areas identified within the District are listed in Table 12 and their locations are shown on Map 10.

Educational Institutions

Junior high schools, senior high schools, technical schools, colleges, and universities were identified as potential major transit trip generators. The University of Wisconsin-Parkside, which is located just outside of the boundaries of the District in the Town of Somers in Kenosha County, is a major educational center that draws a large portion of its enrollment from within the study area's boundaries. For this reason, the University of Wisconsin-Parkside was included as a major trip generator for the District. Elementary schools were not considered as major transit trip generators because students for 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 are shown on Map 11.

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 Racine County High Ridge Health Care Center, St. Luke's Hospital, and St. Mary's Medical Center. 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 12.

Governmental and Public Institutional Centers

Governmental and public institutional centers were considered to be potential major transit trip generators because they provide governmental and public 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 Racine County Courthouse and the Racine Public Library; the community governmental centers such as the Racine City Hall and the various village and 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 13.

Table 12

SHOPPING AREAS IN THE RACINE URBAN PLANNING DISTRICT: 1983

Code Number on Map 10	Shopping Center or Area	Location[a]
	Regional	
1	Regency Mall	Intersection of Green Bay Road and Durand Avenue
	Major community	
2	Kohls/Shopko/Washington Square area	On Washington Avenue between Green Bay Road and Ohio Street
3	Racine central business district	On Main Street between State Street and 7th Street and on 6th Street between Lake Street and Grand Avenue
	Secondary community	
4	Elmwood Plaza shopping area	On Durand Avenue between Kentucky Street and Taylor Avenue
5	Flat Iron Square area	Intersection of Douglas Avenue and High Street
6	Rapids Drive shopping area	On Rapids Drive between Mt. Pleasant Street and Loraine Avenue
7	Shorecrest shopping center	Intersection of Three Mile Road and Erie Street
8	Uptown shopping area	On Washington Avenue between Racine Street and Phillips Street
9	West Racine shopping area	On Washington Avenue between West Boulevard and Blaine Avenue
	Major strip commercial	
10	Douglas Avenue	On Douglas Avenue between Three Mile Road and State Street
11	Lathrop Avenue	On Lathrop Avenue between the Chicago, Milwaukee, St. Paul & Pacific (Milwaukee Road) Railroad tracks and Durand Avenue
12	Washington Avenue	On Washington Avenue between Green Bay Road and Oaks Road, Town of Mt. Pleasant

[a]Except where noted, all locations refer to the City of Racine.

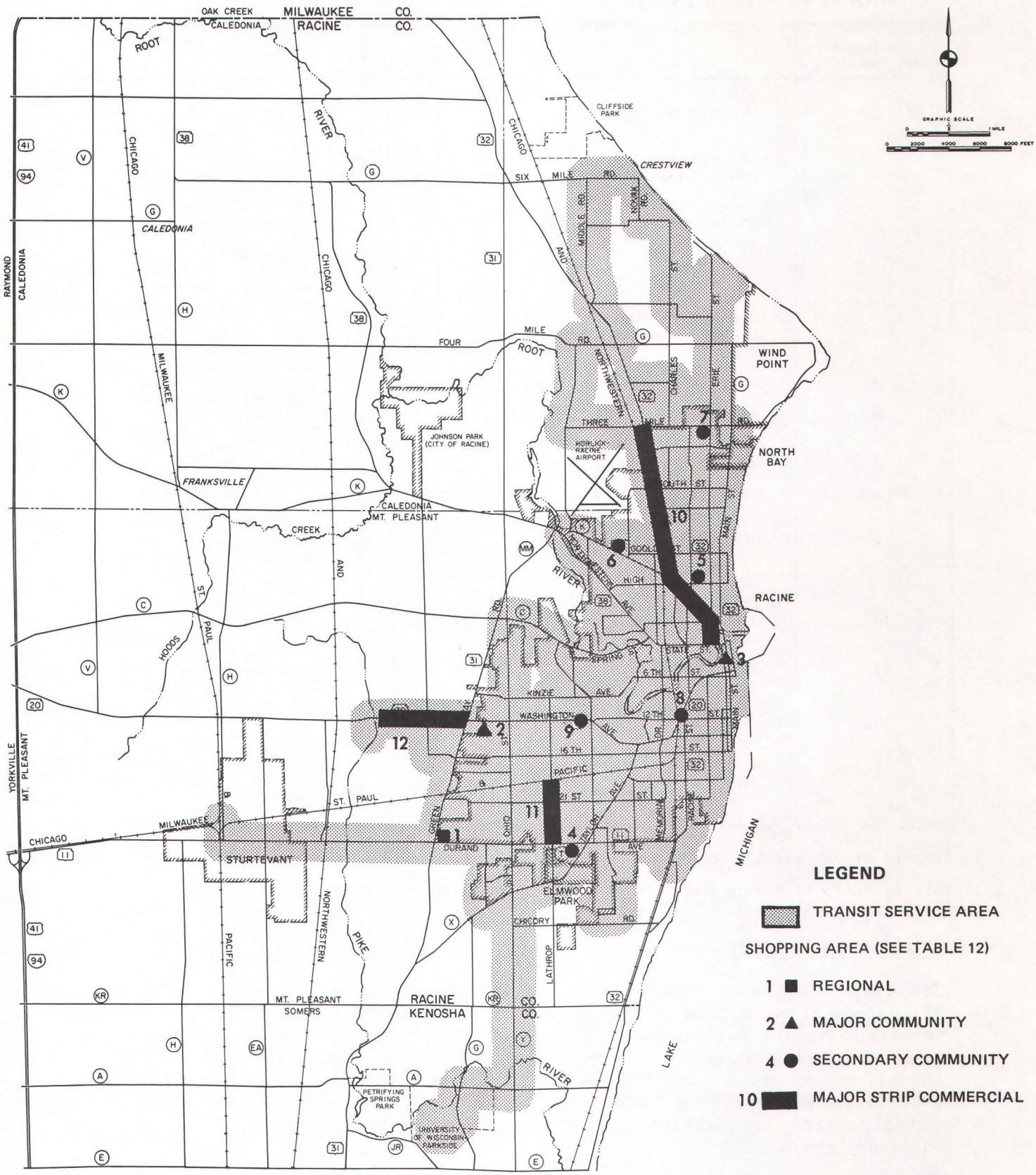
Source: City of Racine Department of Transportation and SEWRPC.

Employment Centers

The trips from home to work and back constitute a significant proportion of all person trips within the Racine 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 1981 employment. Map 14 indicates the location of major employers.

Map 10

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



Source: City of Racine Department of Transportation and SEWRPC.

Table 13

EDUCATIONAL INSTITUTIONS IN THE RACINE URBAN PLANNING DISTRICT: 1983

Code Number on Map 11	Educational Institutions	Address[a]
	Universities and technical schools	
	Gateway Technical Institute	
1	Adult learning center	800 Center Street
2	Main campus	1001 S. Main Street
3	University of Wisconsin-Parkside	Wood Road, Somers
	Public junior and senior high schools	
4	Gilmore Junior High School	2201 High Street
5	J. I. Case High School	7345 Washington Avenue, Town of Mt. Pleasant
6	Jerstad Agerholm Junior High School	3601 La Salle Street
7	McKinley Junior High School	2326 Mohr Avenue
8	Mitchell Junior High School	2701 Drexel Avenue
9	Starbuck Junior High School	1516 Ohio Street
10	Walden III	1012 Center Street
11	Washington Academy	914 Patrick Street
12	Washington Park High School	1901 12th Street
13	William Horlick High School	2119 Rapids Drive
	Major parochial and private schools	
14	Lutheran High School	251 Luedtke Avenue
15	Prairie School	4050 Lighthouse Drive, Village of Wind Point
16	St. Catherine's High School	1200 Park Avenue

[a] Except where noted, all addresses refer to the City of Racine.

Source: City of Racine Department of Transportation and SEWRPC.

Table 14

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

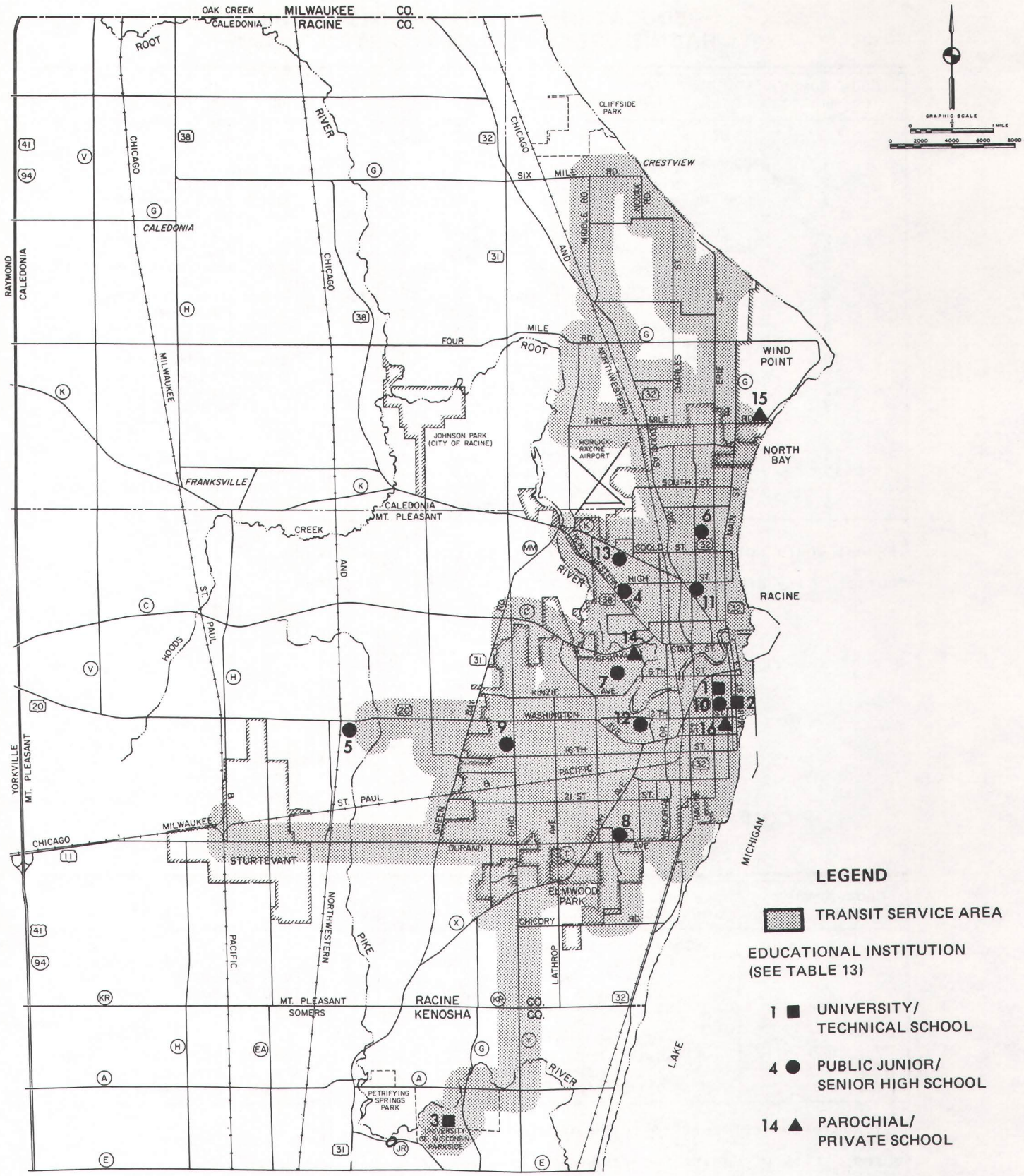
Code Number on Map 12	Hospital or Medical Center	Address[a]
	Community medical centers	
1	Racine County High Ridge Health Care Center	2433 S. Green Bay Road
2	St. Luke's Hospital	1320 Wisconsin Avenue
3	St. Mary's Medical Center	3801 Spring Street
	Special medical centers	
4	Kurten Medical Group	2405 Northwestern Avenue
5	Racine Medical Clinic	5625 Washington Avenue
6	Schroeder Clinic	500 Walton Avenue

[a] All addresses refer to the City of Racine.

Source: City of Racine Department of Transportation and SEWRPC.

Map 11

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



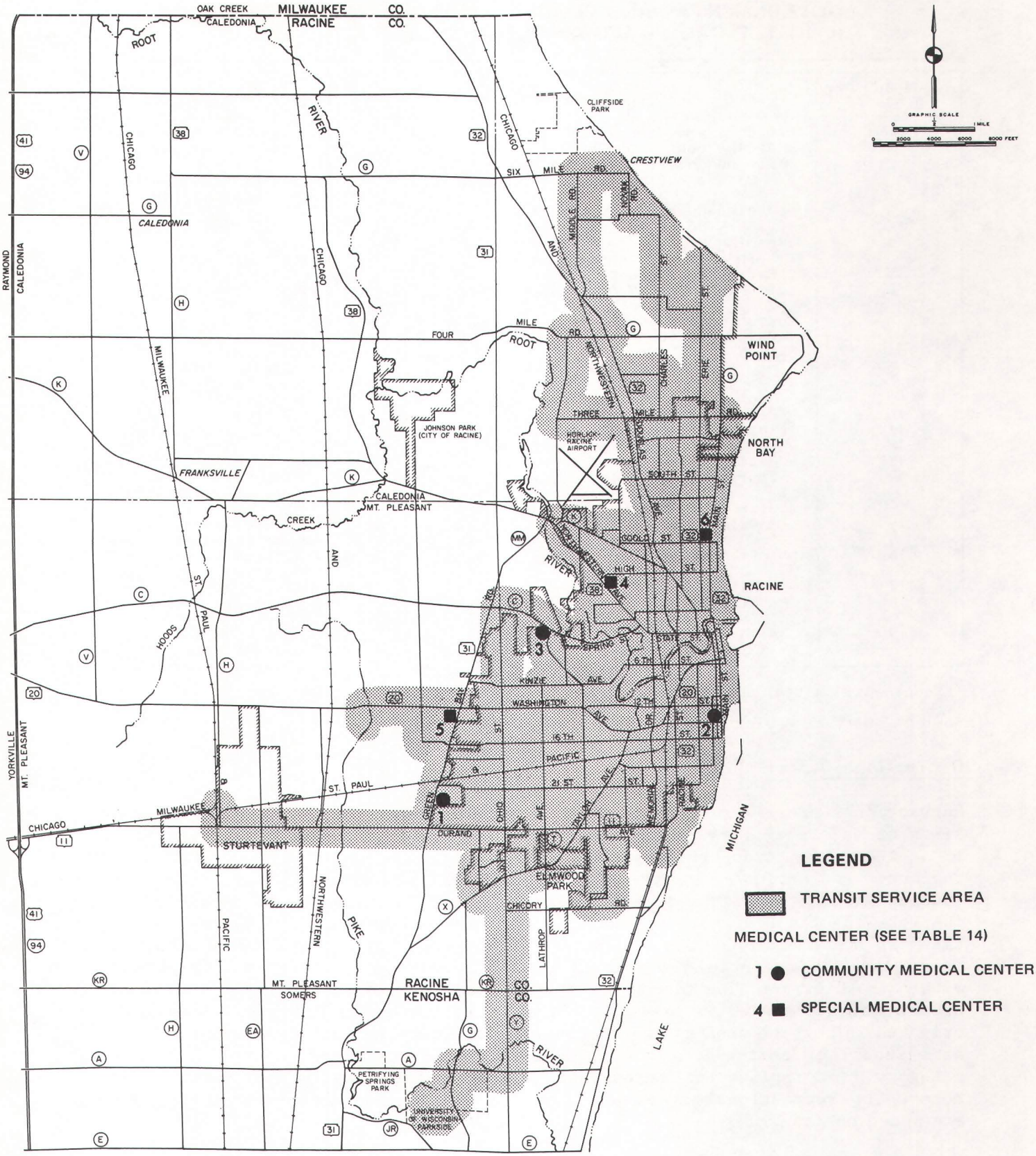
LEGEND

- TRANSIT SERVICE AREA
- EDUCATIONAL INSTITUTION (SEE TABLE 13)
- 1 ■ UNIVERSITY/ TECHNICAL SCHOOL
- 4 ● PUBLIC JUNIOR/ SENIOR HIGH SCHOOL
- 14 ▲ PAROCHIAL/ PRIVATE SCHOOL

Source: City of Racine Department of Transportation and SEWRPC.

Map 12

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



Source: City of Racine Department of Transportation and SEWRPC.

Table 15

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

Code Number on Map 13	Institutional Center	Address[a]
	Regional and County	
1	Racine County Courthouse	730 Wisconsin Avenue
2	Racine County Highway and Office Building	14200 Washington Avenue, Town of Yorkville
3	Racine County Human Services Department	425 Main Street
4	Racine County Law Enforcement Center	717 Wisconsin Avenue
5	Racine Public Library	75 7th Street
6	Social Security Administration	4020 Durand Avenue
	Community and other	
7	Caledonia Town Hall	6922 Nicholson Road, Town of Caledonia
8	Mt. Pleasant Town Hall	6126 Durand Avenue, Town of Mt. Pleasant
9	Racine City Hall	730 Washington Avenue
10	Racine Memorial Hall	72 7th Street
11	Racine Police Department	730 Center Street
12	Racine Unified School District	2230 Northwestern Avenue
13	Racine Uptown Library	1407 S. Memorial Drive
14	Sturtevant Village Hall	2846 Wisconsin Street, Village of Sturtevant
	U. S. Post Office	
15	Caledonia Office	11510 County Trunk G, Town of Caledonia
16	Franksville Office	3319 Roberts Street, Franksville
17	Racine Main Office	603 Main Street
18	Sturtevant Office	2840 Wisconsin Street, Village of Sturtevant
19	Wind Point Village Hall	5120 Hunt Club Road, Village of Wind Point

[a]Except where noted, all addresses refer to the City of Racine.

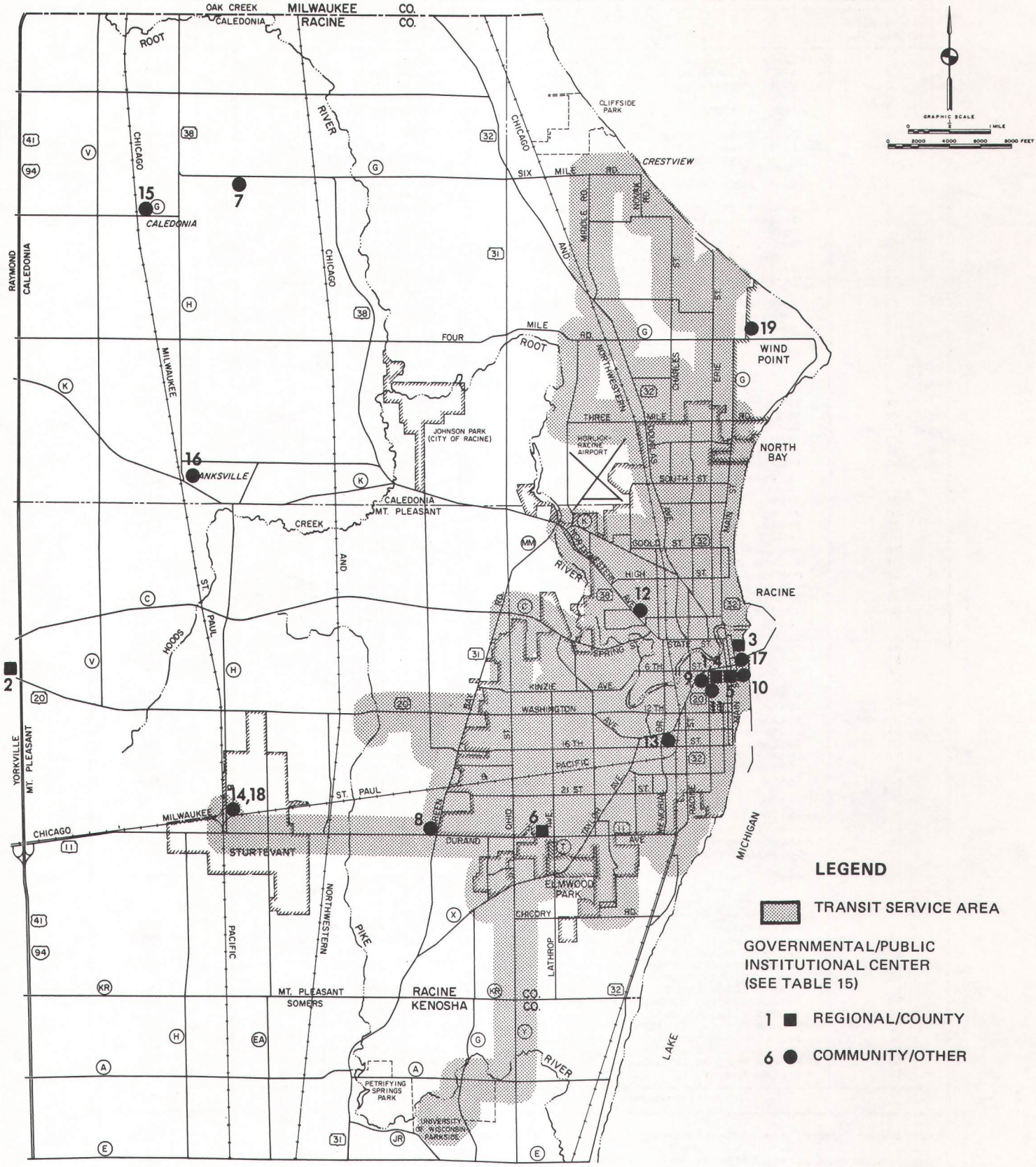
Source: City of Racine Department of Transportation and SEWRPC.

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 offering multiple recreational opportunities. Two major regional recreational areas--Johnson Park and Cliffside County Park--are located within the District. A third major regional recreational area located just outside the District in Kenosha County--Petrifying Springs County Park in the Town of Somers--has been included due to its close proximity to the District and its potential to attract large numbers of recreational trips from 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 15.

Map 13

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



LEGEND

TRANSIT SERVICE AREA

GOVERNMENTAL/PUBLIC INSTITUTIONAL CENTER (SEE TABLE 15)

1 ■ REGIONAL/COUNTY

6 ● COMMUNITY/OTHER

Source: City of Racine Department of Transportation and SEWRPC.

Table 16

MAJOR EMPLOYMENT CENTERS IN THE RACINE URBAN PLANNING DISTRICT: 1983

Code Number on Map 14	Employment Center	Address[a]	Approximate Employment
	Industrial/Manufacturing		
1	A & E Manufacturing Company	1905 Kearney Avenue	110
2	AMETEK--Lamb Electric Division	2745 Chicory Road, Town of Mt. Pleasant	290
3	Andis Company	1718 Layard Avenue	100
4	J. I. Case Company	700 State Street	4,300[b]
5	J. I. Case Company	24th Street/Mead Street	--[c]
6	J. I. Case Company	6900 Durand Avenue, Town of Mt. Pleasant	--[c]
7	J. I. Case Company	1400 Green Bay Road, Town of Mt. Pleasant	--[c]
8	Color Arts, Inc	1840 Oakdale Avenue	130
9	Dremel Manufacturing Company--Division Emerson Electric Company	4915 21st Street	250
10	Dumore Corporation	1300 17th Street	110
11	Exide Corporation	1222 18th Street	110
12	Gettys Manufacturing Company, Inc	2700 Golf Avenue	160
13	Harris Metals, Inc	4210 Douglas Avenue, Town of Caledonia	170
14	In-Sink-Erator--Division Emerson Electric Company	4700 21st Street	850
15	Jacobsen Manufacturing Company--Division of Textron, Inc	1721 Packard Avenue	550
16	S. C. Johnson and Son, Inc	2512 Willow Road, Town of Mt. Pleasant	2,500
17	S. C. Johnson and Son, Inc	1525 Howe Street	990
18	Mamco Corporation	532 4th Street	100
19	Massey-Ferguson, Inc	2200 DeKoven Avenue	380
20	Medical Engineering Corporation	3037 Mt. Pleasant Street	200
21	Modine Manufacturing Company	1500 DeKoven Avenue	500
22	Motor Specialty, Inc	2801 Lathrop Avenue	120
23	Moxness Products, Inc	1914 Indiana Street	150
24	McGraw-Edison Company--Lighting Products Division	7601 Durand Avenue, Town of Mt. Pleasant	190
25	Pioneer Products, Inc	1917 S. Memorial Drive	120
26	Printing Development, Inc	2010 Indiana Street	100
27	Professional Positioners, Inc	2525 Three Mile Road, Town of Caledonia	180
28	Racine Industries, Inc	1405 16th Street	130
29	Racine Journal-Times	212 4th Street	200
30	Racine Steel Castings Company--Division Evans Products Company	1442 N. Memorial Drive	510
31	Rainfair, Inc	1501 Albert Street	150
32	Racine Hydraulic--Division of Dana Corporation	7505 Durand Avenue, Town of Mt. Pleasant	300
33	E. C. Styberg Engineering Company	1600 Goold Street	150
34	Twin Disc, Inc	1328 Racine Street	320
35	Twin Disc, Inc	4600 21st Street	400
36	Unico, Inc	3725 Nicholson Road, Town of Caledonia	150
37	Voorlas Manufacturing Company	1711 South Street	180
38	Walker Manufacturing Company	1201 Michigan Boulevard	350
39	Webster Electric Company, Inc	1901 Clark Street	230
40	Western Publishing Company, Inc	1220 Mound Avenue	1,570
41	Western Publishing Company, Inc	5737 Erie Street	100
42	Western Publishing Company, Inc	5947 Erie Street	100
43	Warren Industries, Inc	3130 Mt. Pleasant Street	200
44	Young Radiator Company	2825 Four Mile Road, Town of Caledonia	170
	Commercial		
45	K-Mart Discount Store	1750 Ohio Street	150
46	Shopko Department Store	4801 Washington Avenue	220
47	Sheraton Racine Motor Inn	7111 Washington Avenue, Town of Mt. Pleasant	130
48	Regency Mall	Durand Avenue/S. Green Bay Road	1,500
	Governmental/Institutional		
49	Racine County Courthouse	730 Wisconsin Avenue	200
50	Racine County Sheriff's Department	717 Wisconsin Avenue	250
51	Racine County Human Services Department	425 Main Street	250
52	Racine County High Ridge Health Care Center	2433 S. Green Bay Road	350
53	Racine County Highway Department	14200 Washington Avenue	100
54	Racine City Hall	730 Washington Avenue	100
55	Racine Police Department	730 Center Street	300
56	St. Luke's Hospital	1320 Wisconsin Avenue	900
57	St. Mary's Medical Center	3801 Spring Street	910
58	Kurten Medical Group	2405 Northwestern Avenue	110
59	Racine Medical Clinic	5625 Washington Avenue	130
	Total Employment		23,470

[a]Except where noted, all addresses refer to the City of Racine.

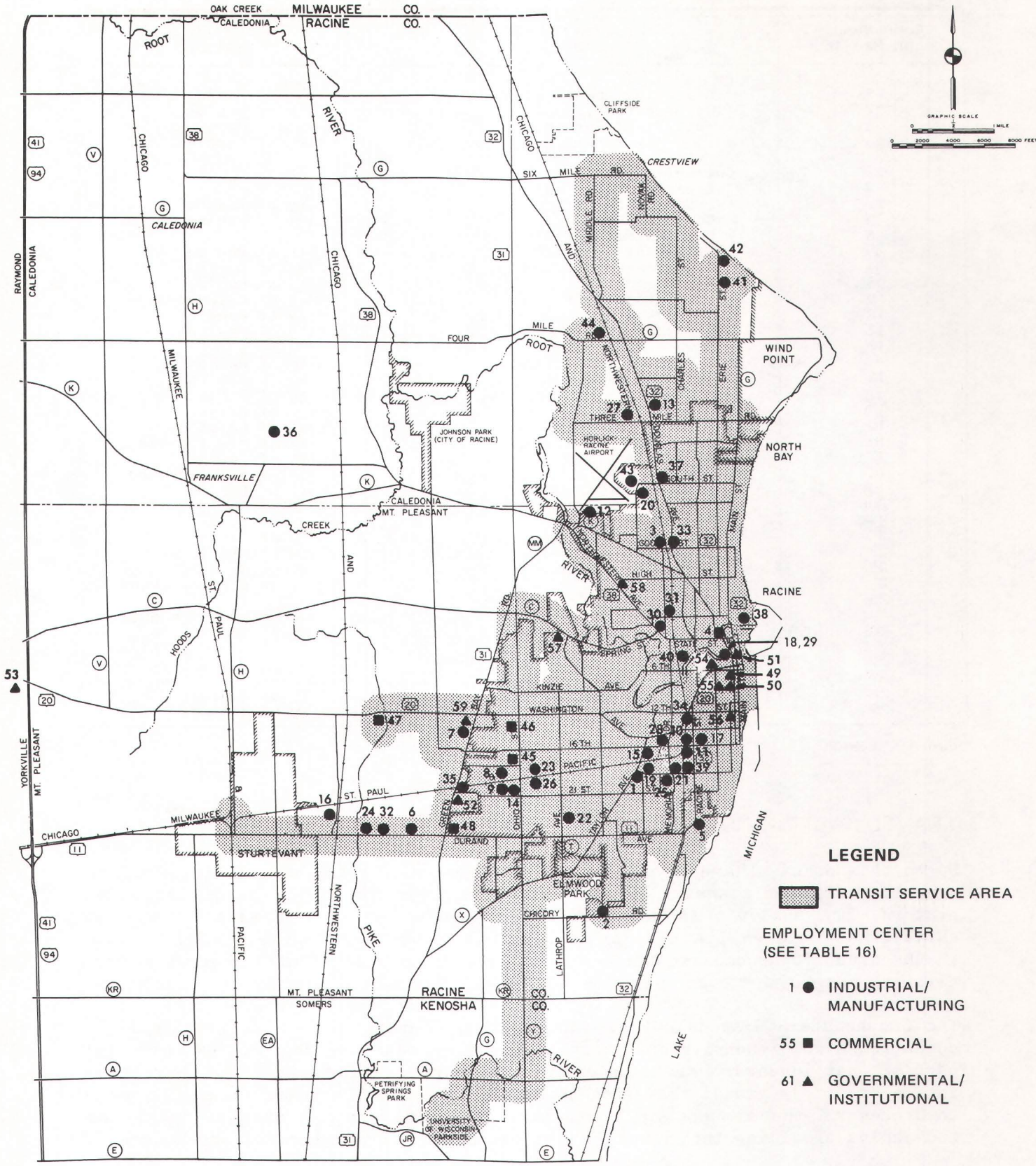
[b]Total employment at all company plants listed.

[c]Employment included in company total.

Source: 1981 Classified Directory of Wisconsin Employers and SEWRPC.

Map 14

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



LEGEND

TRANSIT SERVICE AREA

EMPLOYMENT CENTER (SEE TABLE 16)

1 ● INDUSTRIAL/ MANUFACTURING

55 ■ COMMERCIAL

61 ▲ GOVERNMENTAL/ INSTITUTIONAL

Source: 1981 Classified Directory of Wisconsin Manufacturers and SEWRPC.

Table 17

MAJOR RECREATIONAL AREAS IN THE RACINE URBAN PLANNING DISTRICT: 1983

Code Number on Map 15	Recreational Area	Civil Division
	Regional	
1	Cliffside County Park.....	Town of Caledonia
2	Johnson Park.....	City of Racine
3	Petrifying Springs County Park.....	Town of Somers
	Community	
4	Breakthru Park and Community Center.....	City of Racine
5	Colonial Park.....	City of Racine
6	Douglas Park and Community Center.....	City of Racine
7	Franklin Park.....	City of Racine
8	Graceland Park.....	City of Racine
9	Greenridge Park.....	Town of Caledonia
10	Horlick Athletic Field.....	City of Racine
11	Horlick Island Park.....	City of Racine
12	Humble Park and Community Center.....	City of Racine
13	Lakeview Park and Community Center.....	City of Racine
14	Lincoln Park.....	City of Racine
15	Memorial Park.....	Town of Caledonia
16	Municipal Park.....	Village of Sturtevant
17	North Beach Park.....	City of Racine
18	Quarry Park.....	Town of Mt. Pleasant
19	Pershing Park.....	City of Racine
20	Pritchard County Park.....	City of Racine
21	Roosevelt Park and Community Center.....	City of Racine
22	Sanders County Park.....	Town of Mt. Pleasant
23	Shoop Park.....	Village of Wind Point
24	South Park.....	Village of Sturtevant
25	Stewart-McBride Memorial Park.....	Town of Mt. Pleasant
26	Washington Park.....	City of Racine
	Special	
27	Ives Grove Golf Links.....	Town of Yorkville
28	Wustum Park.....	City of Racine
29	Zoological Gardens.....	City of Racine

Source: SEWRPC.

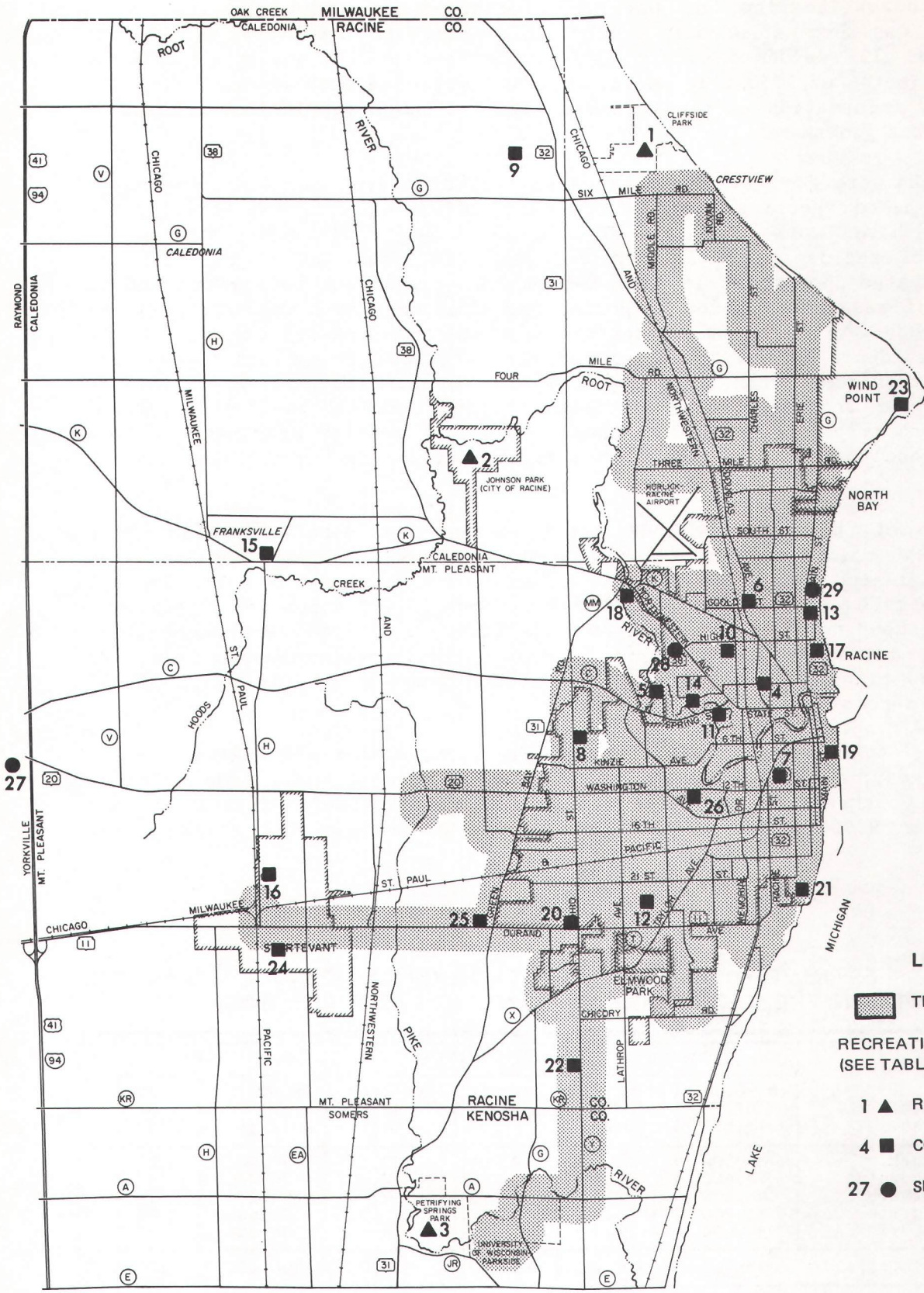
TRAVEL HABITS AND PATTERNS

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 relationship is established between the origins and destinations of potential transit trips in the area. To accomplish this it is necessary to examine data describing the existing travel habits and patterns within the District.

The Southeastern Wisconsin Regional Planning Commission, in 1963 and in 1972, 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 intraregional 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

Map 15

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



LEGEND

TRANSIT SERVICE AREA

RECREATIONAL AREA (SEE TABLE 17)

1 ▲ REGIONAL

4 ■ COMMUNITY

27 ● SPECIAL

Source: SEWRPC.

during 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 factoring 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 those 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 those 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 those 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 those trips that neither originate nor end at home. School-based trips are defined as those trips having at least one end at school.

A breakdown of the estimated 1980 total person trip data is presented in Table 18. As indicated by this table, a total of 448,400 trips are estimated to have originated within the District on an average weekday in 1980. Of this total, home-based work trips accounted for about 95,400 trips, or 21 percent; home-based shopping trips for about 76,300 trips, or 17 percent; home-based other trips for about 154,300 trips, or 34 percent; nonhome-based trips for about 85,600 trips, or 19 percent; and school-based trips for about 36,800 trips, or 8 percent.

Of the 448,400 trips estimated to have originated within the District on an average weekday in 1980, about 29,700 trips, or 7 percent, were made to areas within the Southeastern Wisconsin Region external to the District. Of this number, about 9,900 trips, or 33 percent, were home-based work trips; about

Table 18

ESTIMATED TOTAL PERSON TRIPS ORIGINATING WITHIN THE RACINE 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.....	85,500	20.4	9,900	33.3	95,400	21.3
Home-Based Shopping..	72,600	17.3	3,700	12.4	76,300	17.0
Home-Based Other.....	144,600	34.6	9,700	32.7	154,300	34.4
Nonhome-Based.....	81,000	19.4	4,500	15.2	85,600	19.1
School-Based.....	34,900	8.3	1,900	6.4	36,800	8.2
Total.....	418,700	100.0	29,700	100.0	448,400	100.0

Source: SEWRPC.

3,700 trips, or 12 percent, were home-based shopping trips; about 9,700 trips, or 33 percent, were home-based other trips; about 4,500 trips, or 15 percent, were nonhome-based trips; and about 1,900 trips, or 6 percent, were school-based trips.

The locations of external total person trip destinations are shown on Map 16. As indicated by this map, the largest concentrations of external total person trip destinations were located in the City of Kenosha, which attracted about 9,300 trips; in the northern two-thirds of Milwaukee County--excluding the Milwaukee central business district--which attracted about 7,000 trips; and in the rural areas of western Racine County, which attracted about 4,100 trips. The Milwaukee central business district is estimated to have attracted about 1,100 trips from within the District on an average weekday.

Approximately 418,700 trips, or about 93 percent of the 448,400 trips estimated to have originated in the District on an average weekday in 1980, were made to destinations internal to the District. Of this number, about 85,500 trips, or about 20 percent, were home-based work trips; about 72,600 trips, or about 17 percent, were home-based shopping trips; about 144,600 trips, or about 35 percent, were home-based other trips; about 81,100 trips, or about 19 percent, were nonhome-based trips; and about 34,900 trips, or about 8 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 Racine Urban Planning District. Map 17 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 Racine. The zones comprising the Racine central business district contained the highest concentrations of trip ends. Other areas containing significant trip end concentrations include the zone containing the Elmwood Plaza Shopping Area and the zone containing the Washington Square Shopping Area.

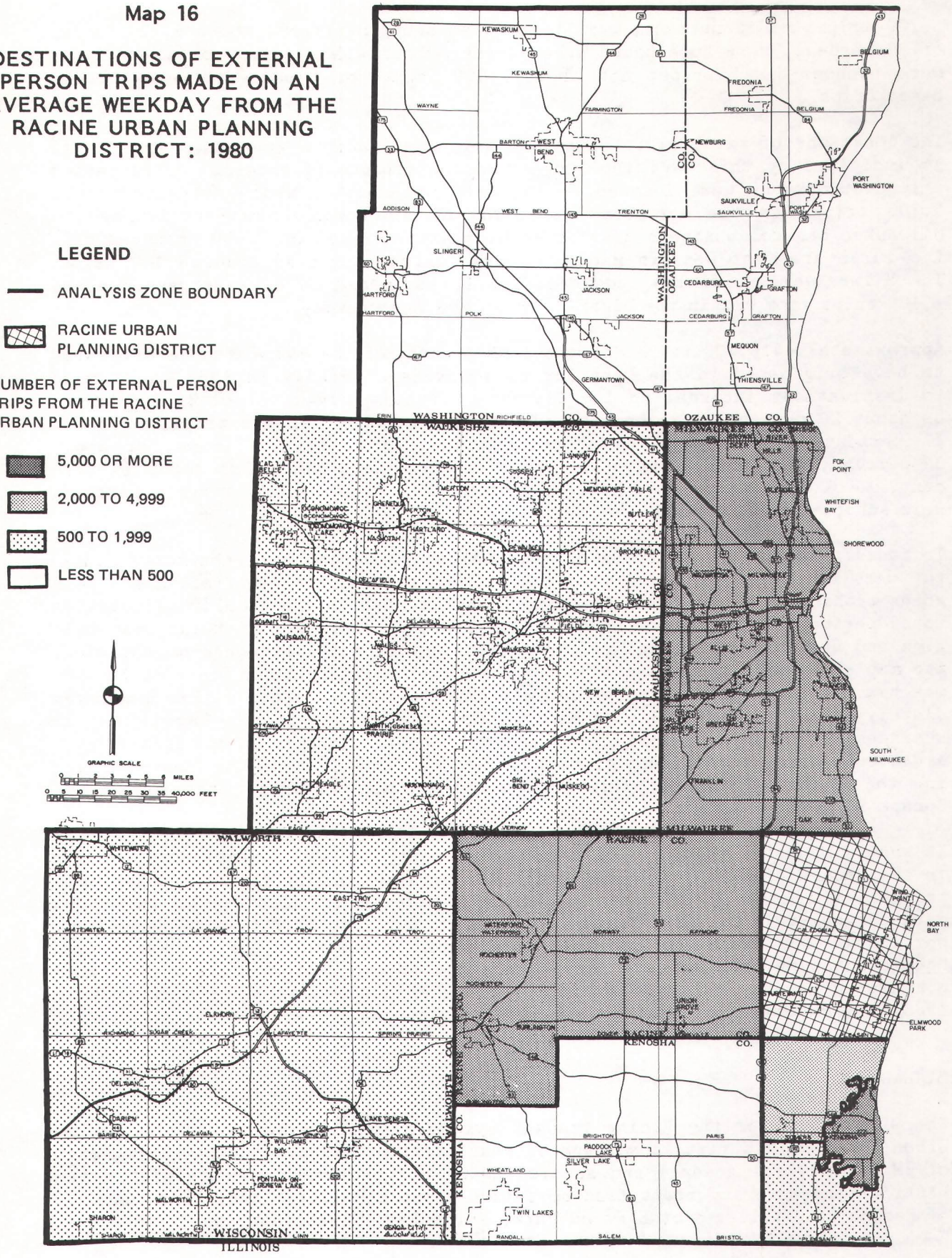
It should be noted that a major regional shopping center, Regency Mall, opened in the Racine area in 1981. The effect which this shopping center has had upon tripmaking in the Racine area is, consequently, not reflected in the above data. However, it is anticipated that Regency Mall has attracted a significant portion of the trips in 1983 that were formerly attracted to the Washington Square shopping area and the Elmwood Plaza shopping center in 1980. The zone containing Regency Mall would contain a higher concentration of trip ends in 1983 than the zones containing the other two shopping centers.

SUMMARY

The study area for the Racine transit system planning program is the Racine Urban Planning District, comprised of that portion of Racine 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 Racine; the Villages of Elmwood Park, North Bay, Sturtevant, and Wind Point;

Map 16

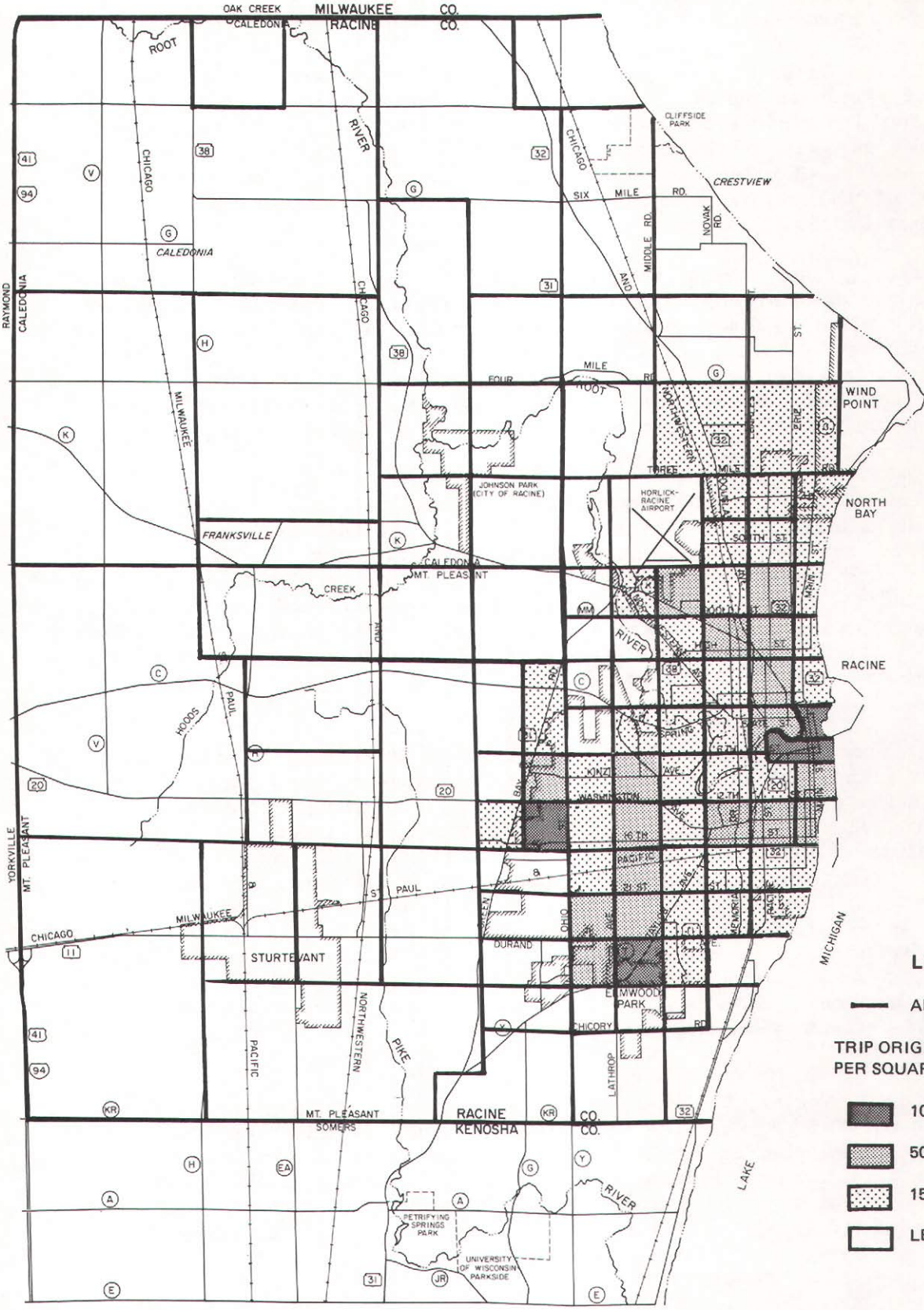
DESTINATIONS OF EXTERNAL PERSON TRIPS MADE ON AN AVERAGE WEEKDAY FROM THE RACINE URBAN PLANNING DISTRICT: 1980



Source: SEWRPC.

Map 17

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



LEGEND

ANALYSIS ZONE BOUNDARY

TRIP ORIGINS AND DESTINATIONS PER SQUARE MILE

- 100,000 OR MORE
- 50,000 TO 99,999
- 15,000 TO 49,999
- LESS THAN 15,000

Source: SEWRPC.

the Towns of Caledonia and Mt. Pleasant; Racine County; and the Racine Unified School District. The total resident population of the District in 1980 was about 132,500 persons, of which about 85,000 persons, or 65 percent, resided within the City of Racine.

Land uses in the District vary greatly from low-density agricultural uses in the Towns of Caledonia and Mt. Pleasant to high-density urban uses in the City of Racine. 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 viability of the public transit system of the area.

Six population groups which exhibit typically 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 indicates that, except for the elderly, the highest concentrations are located within the older, intensively developed portions of the City of Racine, 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. Identification of the locations of these generators indicates that major shopping areas, community and special medical centers, and employment centers are all well concentrated in the highly urbanized areas of the City of Racine, while educational institutions, governmental and institutional centers, and recreational areas are scattered throughout the District.

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 about 448,400 trips were estimated to have originated within the District on an average weekday during 1980. Of this total, 95,400, or 21 percent, were home-based work trips; 76,300, or 17 percent, were home-based shopping trips; 154,300, or 34 percent, were home-based other trips; 85,600, or 19 percent, were nonhome-based trips; and 36,800, or 8 percent, were school-based trips.

External to the District, the greatest concentrations of trip ends in 1980 were found in the City of Kenosha, the northern two-thirds of Milwaukee County, and the western, rural portion of Racine County. Internal to the District, the greatest concentrations of trip ends in 1980 were found within the Racine central business district, the Elmwood Plaza shopping area, and the Washington Square shopping area--all within the City of Racine. It is anticipated that

Regency Mall has attracted a significant portion of the trips in 1983 that were formerly attracted to the Elmwood Plaza Shopping Center and the Washington Square shopping area.

This chapter has described the geographic and land use characteristics of the Racine 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 Racine Urban Planning District.

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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 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 existing transit ridership. This chapter documents the findings of such an inventory of public transit services in the Racine Urban Planning District. A brief history of transit development within the District is included, and the operations of the Belle Urban System, the main supplier of public transit service in the District, are described. The chapter also includes a description of the results of a survey of transit travel habits and patterns of Belle Urban System riders conducted in May 1980. Also, a description is provided of the implementation status of related transit projects recommended for the area by the previous transit plan and program. Finally, this chapter also describes the operations of other major suppliers of public transit service in the District.

HISTORY OF TRANSIT DEVELOPMENT

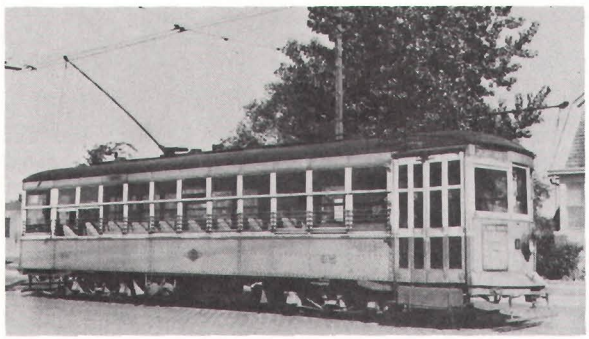
The need for public transit services was first recognized in Racine in 1883 when Racine businessmen chartered the Belle Urban Street Railway Company and began service in October of that year, using horse-drawn streetcars on one route. In 1889, the operation was sold to industrialist J. I. Case and in 1892, the new management completely rebuilt the system, electrified the line, and purchased new equipment. By 1896 the company was in bankruptcy and in 1897 the line was purchased by The Milwaukee Electric Railway & Light Company (TMER & L), which reorganized the company as the Belle City Electric Company. In 1899, the local company was merged into TMER & L. The company also operated an electric interurban railway line through the City of Racine between Milwaukee and Kenosha.

Public transit service in Racine was provided exclusively by streetcars of the type illustrated in Figure 1 until 1928, when TMER & L instituted its first feeder bus route. An extensive street repaving program was undertaken by the City during the Depression, and the company decided to convert to buses rather than replace track where the repaving program affected the streetcar routes.

Seeking to dispose of unprofitable operations, The Milwaukee Electric Railway and Transport Company, or TMER & T, as the company was known after 1938, tried to sell the local transit system to the City of Racine in 1939. The City did not purchase the system and the property was sold to Henry P. Bruner, who renamed the operation Racine Motor Coach Lines. The new company continued to operate the few remaining streetcar lines, renting cars and track from TMER & T, until October 1, 1940, when the last city streetcar ceased operation in Racine, and the system conversion to an all-bus operation was completed. Figure 2 illustrates the type of bus used in providing transit service during this period in the City of Racine.

Figure 1

STREETCAR USED IN PUBLIC TRANSIT SERVICE IN THE CITY OF RACINE CIRCA 1928



The street railway system in Racine began in 1883 as a single horsedrawn streetcar line operated by the Belle City Street Railway Company. The line was electrified in 1892. The Milwaukee Electric Railway & Light Company purchased the system in 1897, making periodic improvements including the purchase of new steel streetcars during the 1920's, such as the one shown above. A street repaving program during the mid-1930's contributed to the replacement of all but one streetcar line with motor bus routes. The last streetcar in Racine operated over the Wisconsin Douglas line on October 1, 1940.

Photo courtesy of Russell E. Schultz.

Figure 2

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

The conversion of the local Racine transit system from a streetcar system to motor bus operation was completed in 1940 by Racine Motor Coach Lines, which purchased the transit system in 1939 from The Milwaukee Electric Railway and Transport Company. Between 1939 and 1962, Racine Motor Coach Lines operated several types of buses in the City of Racine, including the type of bus shown in the above view which was waiting for passengers to board and alight at a stop in downtown Racine. The motor bus shown is a 1947 model of a General Motors Corporation "old look" bus, of which 50 different models of various sizes and features were produced by GMC from 1940 through 1969.

Photo courtesy of Russell E. Schultz.

During World War II, Racine was faced with a transit crisis because of increased ridership demand. Additional second-hand motor coaches were purchased and makeshift, semi-trailer-type, two-man buses were pressed into service, but were inadequate to handle the wartime crowds.

After the war, ridership on the transit system dropped sharply, following national trends. After two additional changes in management, Racine Motor Coach Lines was sold to Lakeshore Transit, Inc., which began operation on October 19, 1962. This company also operated the urban mass transit system in the City of Kenosha and an intercity bus line between the Cities of Racine and Kenosha. This company also experienced ridership declines and, in 1968, Lakeshore Transit went out of business and was replaced by Flash City Transit Company, the owners of which also operated taxicab and yellow school bus service in the Racine area.

Betweeen 1969 and 1972, the Flash City Transit Company experienced a 36 percent decline in the number of revenue passengers carried on its routes. In November 1972, the City of Racine entered into a contract agreement to subsidize the operating deficits of the Flash City Transit Company. On August 7, 1973, less than a year after the City began subsidizing local public bus service, the City adopted a resolution calling for a study leading to the preparation of a transit development program (TDP). After completion and adoption of a five-year (1975-1979) transit development program in 1974, the City, in accordance with the

recommendations set forth in the program, took the necessary steps to purchase the local bus system from the Flash City Transit Company and, without interruption of bus service, became the new owner and operator of the local bus system on July 1, 1975, renaming it the Belle Urban System.

THE BELLE URBAN SYSTEM

The major supplier of public transit service in the Racine Urban Planning District is the City of Racine which, as already noted, has owned and operated the local bus system since July 1, 1975. The following sections describe the existing operations of the transit system in terms of administration and management; routes and schedules; fare structure; ridership levels; user characteristics; facilities and equipment; marketing; financial status; and implementation status of previous transit plan recommendations.

Administration and Management

The management and policy-making structure of the Belle Urban System is summarized on the organization chart shown in Figure 3. The policy-making body for the local transit system operation is the Racine Transit and Parking Commission. The Commission is composed of five members--three citizens, one alderman, and the City Finance Director--appointed by the Mayor and confirmed by the Racine 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 financial authority to collect and maintain as a separate fund all revenues derived from transit operations; the authority to issue revenue bonds and acquire the facilities and equipment necessary for the operation of the transit system; and the authority to review and approve contracts for management services for the transit system.

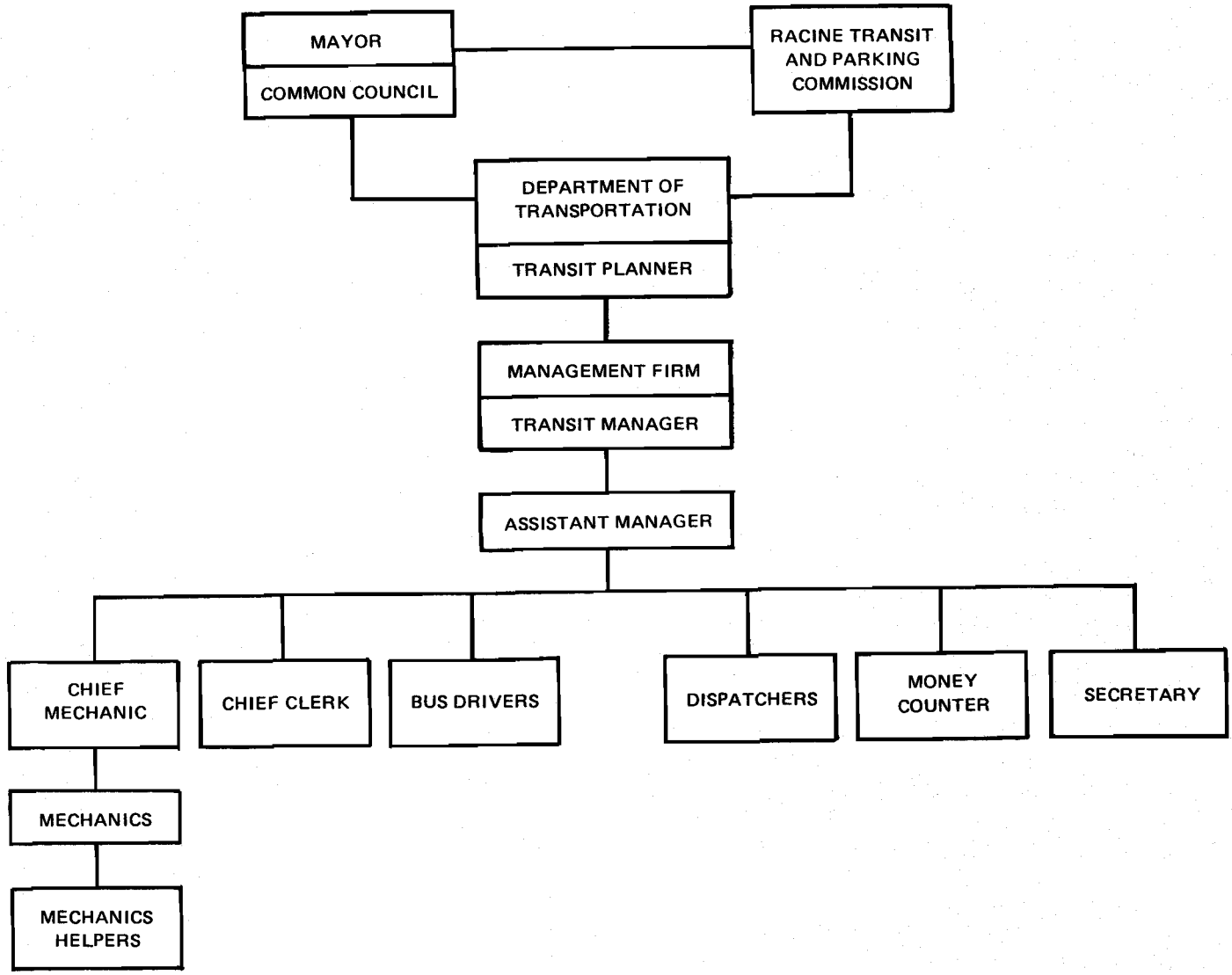
Primary responsibility for management of the bus system has been delegated to the City of Racine Department of Transportation. Administrative responsibilities for management of the transit system are divided between the City Transit Planner in the City Department of Transportation and the Transit Manager, an employee of the private management firm of Taylor Enterprises, Inc. The City Transit Planner is responsible for supervision of the activities and performance of the management firm, as well as the administrative affairs associated with transit program planning, federal and state grants administration, and marketing and policy implementation. The Transit Manager is responsible for and devotes full time to the day-to-day operations management. While the City Department of Transportation and the Racine Transit and Parking Commission are responsible for the planning and administration of the public transportation program, the City of Racine Common Council has the ultimate responsibility for review and approval of certain important matters, including the management contract agreement, the budget and the annual public transportation development program.

Routes and Schedules

When the City of Racine acquired the assets of the Flash City Transit Company on July 1, 1975, the transit system consisted of 10 looping, fixed routes totaling approximately 81 round-trip route miles. The transit system was

Figure 3

ORGANIZATION CHART FOR MANAGEMENT OF THE BELLE URBAN SYSTEM



Source: City of Racine Department of Transportation and SEWRPC.

operated using cycle or "pulse" type scheduling with service provided over all routes on a 40-minute headway between the hours of 5:30 a.m. and 6:30 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 6:00 p.m. on Saturdays. The City continued to operate the Belle Urban System in this manner until May 22, 1976, when, aided by the delivery of new operating equipment, the City implemented an entirely new system of nine radial bus routes, operated on a noncycle schedule basis with headways reduced to 30 minutes--essentially as recommended in the City's first transit development program. One additional bus route--Route 10--was added to the system on April 4, 1980. Two more bus routes--Routes 11 and 12--began operation on June 1, 1983. Minor route modifications have also occurred on several other bus routes. These route additions

and modifications have resulted in a transit system as of July 1983 encompassing 12 bus routes totaling about 162 round-trip route miles, representing a doubling of round-trip route miles since 1975. The current operating and service characteristics of the transit system are summarized by route in Table 19.

Regularly scheduled local bus service is currently provided by the Belle Urban system over the 12 fixed routes within the Racine Urban Planning District shown on Map 18. Of the 12 fixed routes, 11 are primarily lineal in design. Seven of these routes--Routes 1, 2, 3, 4, 6, 7, and 8--provide service entirely within the City and are routed to provide direct "no-transfer" service to the Racine central business district. Schedules for buses operating on these seven routes are designed so that buses from each route meet within approximately 10 minutes of each other in the central business district. This allows bus passengers the opportunity to conveniently transfer between any of these bus routes and complete a trip with a minimum amount of delay. Unlike these seven routes, the eighth lineal route--Route 5--does not provide direct service to the Racine central business district. Oriented in a general north-south direction, this route intersects with each of the other lineal routes, providing an opportunity for transfers to be made between these routes.

The remaining four routes--Routes 9, 10, 11, and 12--provide service both within and outside of the Racine corporate limits. Route 9 originates within the Racine central business district and extends approximately four miles outside of the City's corporate limits to provide direct service to the University of Wisconsin-Parkside campus, located in northern Kenosha County. Transfers between this route and the other lineal routes of the transit system can be made within the central business district or at several other points where the route intersects with other routes of the system. Route 10 operates as a one-way loop route in the area immediately north of the City and serves residents of the Town of Caledonia. Transfers between this route and Routes 2 and 4 can be made at the Shorecrest Shopping Center. Route 11 connects the Village of Sturtevant with the City of Racine and serves several major industries located along STH 11. The route originates within the Village of Sturtevant and terminates at the Regency Mall Shopping Center located on the southwest side of the City, where transfers can be made between this route and Routes 4 and 7. Route 12 serves the residential and commercial areas in the Town of Mt. Pleasant immediately west of the City along Washington Avenue--STH 20. Transfers between this route and Routes 3 and 6 can be made at several bus stops along Green Bay Road--STH 31--on the western boundary of the City of Racine.

Bus service is provided by the transit system for approximatey 13.5 hours per day between 5:30 a.m. and 7:00 p.m. Mondays through Fridays, and for approximately 11 hours a day between 7:00 a.m. and 6:00 p.m. on Saturdays. No bus service is provided on Sundays or holidays. Ten of the 12 bus routes operate throughout the service day. Route 9 operates for approximately 11 hours per day, from 7:20 a.m. to 6:30 p.m. during the fall and spring school sessions of the University of Wisconsin-Parkside, and for approximately 10 hours per day, from 7:20 a.m. to 5:30 p.m., during the summer school session. The route is operated only on days when classes are in session, generally Mondays through Fridays. No Saturday bus service is provided on Route 9. Route 10 operates for approximately 8.25 hours per day Mondays through Fridays from 5:45 a.m. to 10:15 a.m. and from 2:30 p.m. to 6:15 p.m., and for about 7.5 hours per day on Saturday, from 9:30 a.m. to 5:00 p.m.

Table 19

OPERATING AND SERVICE CHARACTERISTICS BY ROUTE FOR THE BELLE URBAN SYSTEM: JULY 1983

Weekdays--Labor Day to Memorial Day										
Route Number	Round Trip Route Length (miles)	Service Hours		Service Frequency (minutes)		Daily Round Trips	Vehicle Hours		Vehicle Requirements	
		Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)	Peak	Off-Peak		Revenue	Platform	Peak	Off-Peak
1	14.35	5:30	6:30	30	30	26.5	39.75	42.00	3.0	3.0
2	17.85	5:32	6:35	20	30	32.0	50.50	57.00	5.0	3.0
3	18.00	5:35	6:41	20	30	32.0	50.50	56.00	5.0	3.0
4	17.95	5:33	6:36	20	30	32.0	50.50	57.00	5.0	3.0
5	15.45	5:29	6:29	30	30	26.5	40.25	43.00	3.5	3.0
6	13.30	5:23	6:23	30	30	27.0	27.00	28.50	2.0	2.0
7	11.65	5:34	6:25	20	30	32.0	32.25	35.00	3.0	2.0
8	13.00	5:29	6:29	30	30	27.0	27.00	28.50	2.0	2.0
9	16.70	7:20	6:30	60	60	11.0	13.25	14.50	1.5	1.0
10	12.75	5:45	5:30	45	45	11.0	8.25	10.00	1.0	1.0
11	6.80	5:30	6:30	30	30	27.0	13.50	14.25	1.0	1.0
12	4.00	5:50	6:20	30	30	26.0	13.00	13.50	1.0	1.0
Total	161.80	--	--	--	--	310.0	365.75	399.25	33.0	25.0

Weekdays--Memorial Day to Labor Day										
Route Number	Round Trip Route Length (miles)	Service Hours		Service Frequency (minutes)		Daily Round Trips	Vehicle Hours		Vehicle Requirements	
		Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)	Peak	Off-Peak		Revenue	Platform	Peak	Off-Peak
1	14.35	5:30	6:30	30	30	26.5	39.75	42.00	3.0	3.0
2	17.85	5:32	6:32	30	30	26.5	39.75	42.00	3.0	3.0
3	18.00	5:35	6:35	30	30	26.5	39.75	42.00	3.0	3.0
4	17.95	5:33	6:33	30	30	26.5	39.75	42.00	3.0	3.0
5	15.45	5:29	6:29	30	30	26.5	39.75	42.00	3.0	3.0
6	13.30	5:23	6:23	30	30	27.0	27.00	28.50	2.0	2.0
7	11.65	5:34	6:35	30	30	27.0	27.00	28.50	2.0	2.0
8	13.00	5:29	6:29	30	30	27.0	27.00	28.50	2.0	2.0
9	16.70	7:20	5:30	60	60	10.0	10.50	11.50	1.0	1.0
10	12.75	5:45	5:30	45	45	11.0	8.25	10.00	1.0	1.0
11	6.80	5:30	6:30	30	30	27.0	13.50	14.25	1.0	1.0
12	4.00	5:50	6:20	30	30	26.0	13.00	13.50	1.0	1.0
Total	161.80	--	--	--	--	287.5	325.00	344.75	25.0	25.0

Saturday										
Route Number	Round Trip Route Length (miles)	Service Hours		Service Frequency (minutes)		Daily Round Trips	Vehicle Hours		Vehicle Requirements	
		Start Time First Trip (a.m.)	Start Time Last Trip (p.m.)	Peak	Off-Peak		Revenue	Platform	Peak	Off-Peak
1	14.35	7:00	5:30	30	30	21.5	32.25	34.50	3.0	3.0
2	17.85	7:02	5:32	30	30	21.5	32.25	34.50	3.0	3.0
3	18.00	7:05	5:35	30	30	21.5	32.25	34.50	3.0	3.0
4	17.95	7:03	5:33	30	30	21.5	32.25	34.50	3.0	3.0
5	15.45	6:59	5:29	30	30	21.5	32.25	34.50	3.0	3.0
6	13.30	6:53	5:23	30	30	22.0	22.00	23.50	2.0	2.0
7	11.65	7:04	5:35	30	30	22.0	22.00	23.50	2.0	2.0
8	13.00	6:59	5:29	30	30	22.0	22.00	23.50	2.0	2.0
9	--	--	--	--	--	--	--	--	--	--
10	12.70	9:30	4:15	45	45	10.0	7.50	8.25	1.0	1.0
11	6.60	7:00	5:30	30	30	22.0	11.00	11.75	1.0	1.0
12	4.00	6:50	5:50	30	30	23.0	11.00	12.50	1.0	1.0
Total	144.85	--	--	--	--	228.5	257.25	275.50	24.0	24.0

[a] One vehicle runs on Route 5 for one-quarter trip, then moves to Route 9 for one and one-half round trips. This service is provided when either schools in the Racine Unified School District or the University of Wisconsin-Parkside or both are in session.

Source: City of Racine Department of Transportation and SEWRPC.

During the school year, between Labor Day and Memorial Day, the routes of the transit system operate with weekday headways of 20 to 60 minutes during the morning and afternoon peak-use periods, and 30 to 60 minutes during the off-peak periods. During the summer months between Memorial Day and Labor Day, the routes which operate with 20 minute peak-period headways during the rest of the year, operate with 30 minute headways all day. Headways of 30 to 45 minutes are operated all day Saturday throughout the year.

Fare Structure

When the City assumed operation of the transit system in July 1975, the basic adult cash fare was $0.40 per trip plus $0.10 for a transfer. Children ages 5 through 18 and elderly or handicapped persons were charged $0.20 per trip plus $0.05 for a transfer. With the implementation of new routes and schedules in May 1976, the City also implemented a new fare structure under which all fares were reduced. This fare structure remained unchanged until October 1982 when the City instituted modest fare increases.

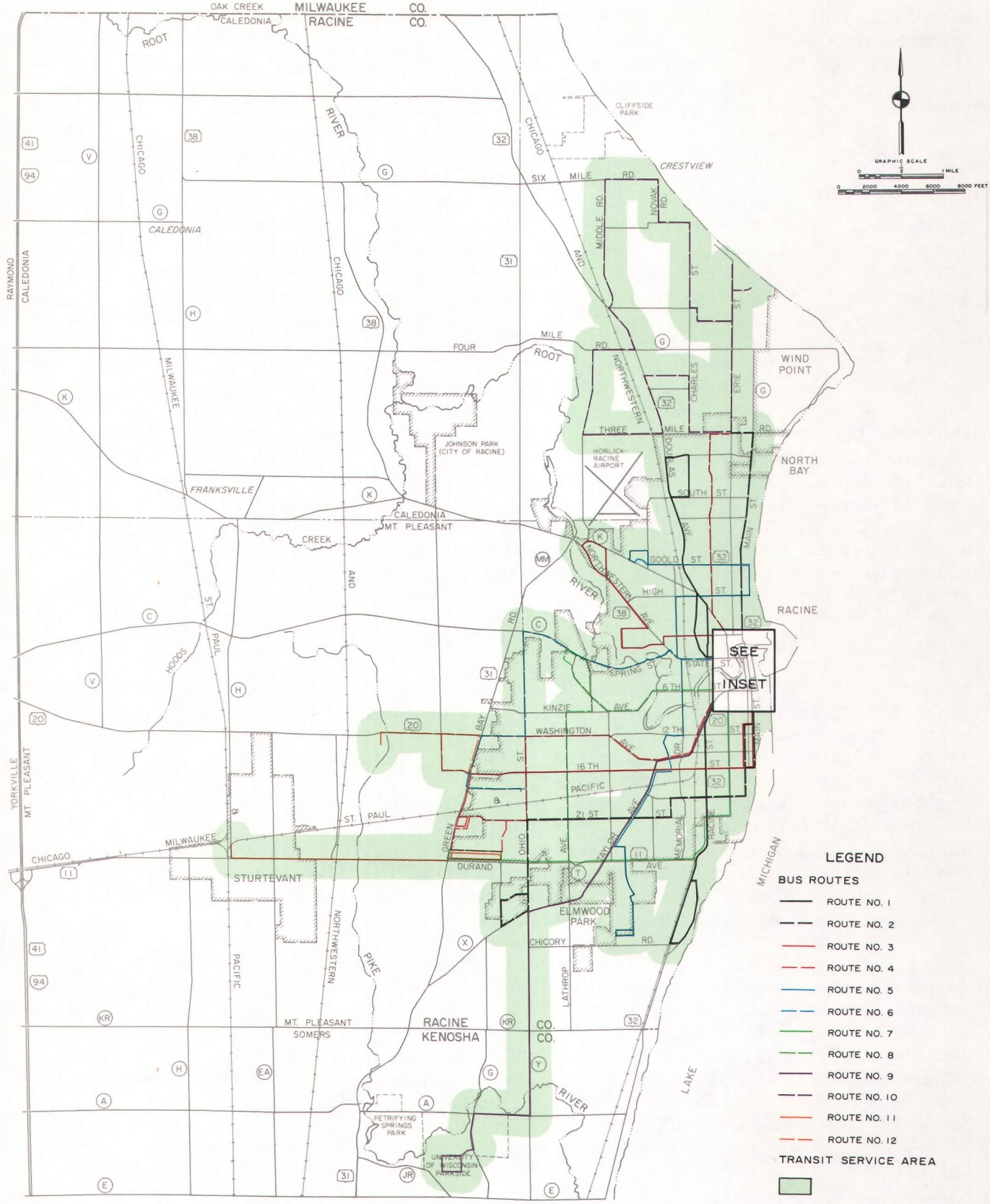
The current one-way adult fare on the 12 local bus routes of the Belle Urban System is $0.35 per passenger trip. The adult fare category includes all persons six through 64 years of age. Children under six years of age ride free, if accompanied by an adult. Fares for eligible students are paid by the Racine Unified School District. Elderly and handicapped persons are also offered special fares. Persons who use the bus system must pay the exact cash fare, as bus drivers are not allowed to make change; however, they may purchase a monthly pass at a cost of $12.00 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 the route originally boarded for continuation of travel in the same general direction.

As noted above, special programs are in effect for students and elderly and handicapped riders. Students are eligible to ride buses of the Racine transit system free of charge on regular school days if they live within the City of Racine and within certain boundaries jointly agreed upon by the City of Racine and the Racine Unified School District and the school that they attend is farther than two miles from their home. Such students are issued a special bus pass for use only on regular school days, with the school district being charged at a rate of $0.70 per pass per school day. Other students who attend schools different from those they would normally be assigned to are provided at no charge with tokens by the school district, with the school district being charged at a rate of $0.35 per token.

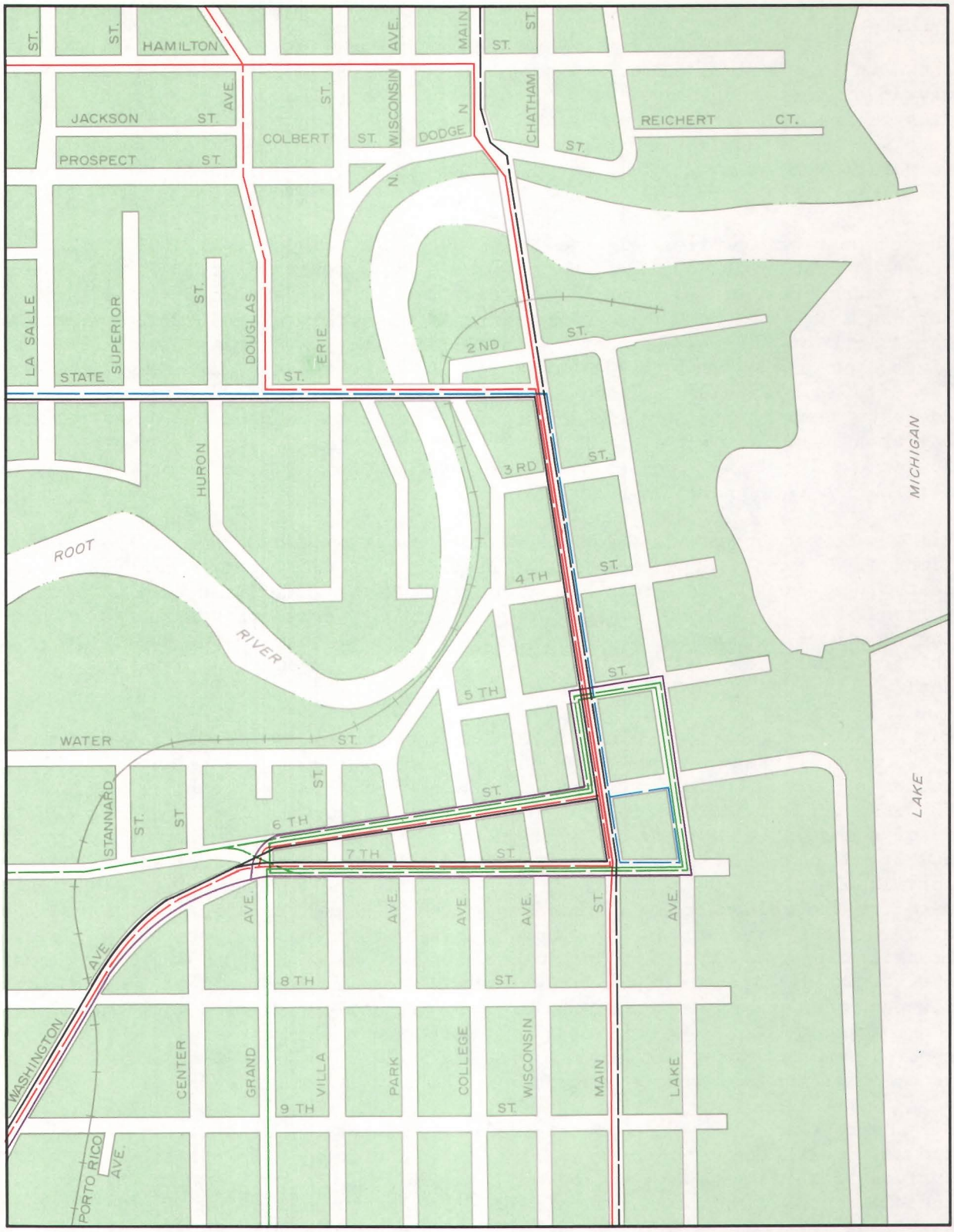
A half-fare program is in effect for elderly and handicapped patrons during weekday nonpeak periods of travel and all day on Saturdays. Persons qualifying for this program are entitled to use the local bus services for a one-way fare of $0.15 during all hours of operation except on weekdays between Labor Day and Memorial Day from 6:30 a.m. to 9:00 a.m. and from 2:00 p.m. to 5:00 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 persons qualifying for the program and must be shown to the bus driver upon request at the time the half-fare is paid.

Map 18

FIXED ROUTE PUBLIC TRANSIT SERVICE PROVIDED BY THE BELLE URBAN SYSTEM: JULY 1983



Source: SEWRPC.



INSET GRAPHIC SCALE

0 400 800 FEET

Equipment and Facilities

Buses: Upon purchase of the private transit company in July 1975, the City acquired a fleet of 15 19-passenger, gasoline-powered mini-buses of the type shown in Figure 4. Transit service was provided using this vehicle fleet until May 1976, when the City placed into service a replacement vehicle fleet of diesel-powered, 41-passenger standard design urban motor coaches. The City received eight additional new advance design buses from the General Motors Corporation in August 1982, and used them to provide increased service levels on Routes 2, 3, 4, and 7 in October 1982.

The current active fleet of the Belle Urban System consists of 39 buses, as shown in Table 20. Of the 39 buses, 35 are owned by the City including 25 standard design buses purchased new in 1976, eight advance design buses purchased new in 1982, and two mini-buses acquired used in 1975 as part of the assets of the former private transit operator. At the present time the mini-buses are used intermittently by the City to provide transit service. The City is also leasing four standard design buses in order to maintain an adequate number of spare buses for the fleet between Labor Day and Memorial Day when peak-period bus requirements for the transit system are highest at 33 buses. The buses regularly used by the transit system to provide transit service are illustrated in Figure 5.

All city-owned buses in the regular fleet have been equipped with air conditioning, a front-entrance, special-assist grab rail, and signs designating seats adjacent to the front entrance for use by elderly and/or handicapped persons. The new 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. None of the buses is equipped with wheelchair lifts.

Bus Passenger Shelters: In July 1975, when the City assumed operation of the transit system, there were no bus passenger shelters along any of the routes of the Belle Urban System. Since 1975 the City of Racine has erected 20 passenger waiting shelters at 18 locations throughout the City. Each shelter is of a modular design, with the size of the shelter being determined by the number of back and side wall panels used in each shelter. Lexan--a hardened acrylic plastic--panels are used for the walls and a translucent material is used for the molded roof to provide natural lighting. Each shelter is equipped with a front wind-screen, two open access points, and a bench for waiting transit patrons. Based on the average number of passengers waiting to board buses, two different sizes of bus passenger shelters were used by the City. Sixteen shelters at 16 locations are approximately five feet wide and 10 feet long. Four shelters at two locations within a one-block area in the Racine central business district are approximately 10 feet wide and 15 feet long to accommodate the high passenger-waiting demand in this area.

All shelters are erected on poured-in-place concrete pads abutting the sidewalk and level with the concrete sidewalks, thus providing a smooth transition from surface to surface. Where there is a grass-planted strip between the sidewalk and the curb, a concrete pad of the same length as the bus shelter pad has been constructed. The location of each passenger waiting shelter is shown on Map 19. Figure 6 illustrates the bus shelters provided by the transit system.

Figure 4

MINI-BUS OPERATED BY THE BELLE URBAN SYSTEM: 1975

Mini-buses were used to provide transit service in the City of Racine by Flash City Transit, which operated the local bus system between 1968 and 1975. During this period, the local transit system was operated with pulse scheduling which had buses from each route meeting at the same time and lining up at a common transfer point in downtown Racine, as shown in the left view. The right view illustrates a mini-bus in service in a residential area within the City of Racine. The fleet of mini-buses was acquired from Flash City Transit on July 1, 1975, and used by the Belle Urban System until May 22, 1976, when a new fleet of 35-foot-long buses was placed into operation.

Photos courtesy of Russell E. Schultz.

Figure 5

GENERAL MOTORS CORPORATION BUSES OPERATED BY THE BELLE URBAN SYSTEM: JULY 1983

The Belle Urban System currently uses two different motor buses manufactured by the General Motors Corporation Truck and Coach Division to provide transit service. The left view illustrates one of 25 GMC "new look" buses which replaced the system's fleet of 15 mini-buses in May 1976. The right view illustrates one of eight GMC advance design buses which were added to the fleet in August 1982.

Photos by Albert A. Beck.

Table 20

BUS FLEET OF THE BELLE URBAN SYSTEM: JULY 1983

Type of Bus		Number of Buses	Seats per Bus	Year of Manufacture
Make	Model			
GMC	4523A	4[a]	45	1972
Carpenter	--	2	19	1974
GMC	4523A	25	41	1976
GMC	T70-604	8	39	1982
Active Fleet				39
Weekday Peak-Period Bus Requirement				33[b]
Weekday Base-Period Bus Requirement				25

[a] Leased from Madison Metro Transit System.

[b] Reflects vehicle requirements for weekday transit service provided between Labor Day and Memorial Day. A total of 25 vehicles are required for weekday transit service between Memorial Day and Labor Day.

Source: City of Racine Transportation Department and SEWRPC.

Figure 6

BUS SHELTERS PROVIDED BY THE BELLE URBAN SYSTEM

The Belle Urban System uses one basic design of bus shelter throughout its service area. Each shelter is constructed on a concrete pad using lexan panels for the walls and a molded translucent material for the roof, as shown in this view of a bus passenger shelter located on Spring Street near the St. Mary's Medical Center.

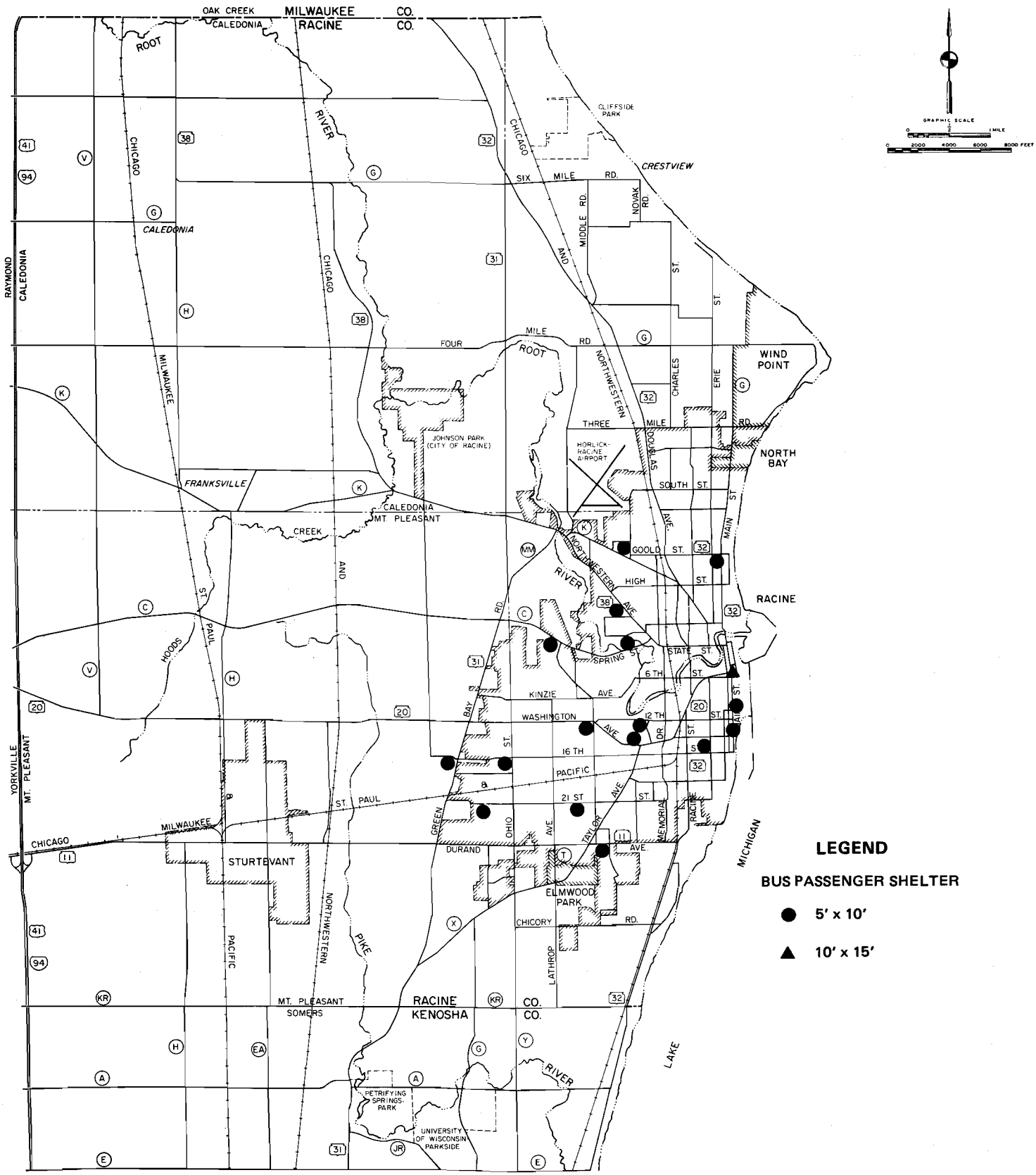
Photo by Albert A. Beck.

Office and Maintenance Facilities: Activities related to the management and operation of the Belle Urban System are conducted in two city-owned building complexes located in separate areas of the City of Racine. These facilities are: 1) the Kentucky Street storage, maintenance, and office complex, and 2) the Racine City Hall. The locations of these facilities are shown on Map 20.

The Kentucky Street storage, maintenance, and office complex, illustrated in Figure 7, is located in the block bounded by Kentucky Street on the east, 20th Street on the south, Indiana Street on the west, and the Chicago, Milwaukee, St. Paul & Pacific (Milwaukee Road) Railroad right-of-way on the north. The complex consists of two buildings which are used exclusively for transit program functions. One building is used exclusively for bus-related activities, including storage, cleaning, and servicing of vehicles, and was constructed by the City in 1977. The second building houses the bus maintenance and parts storage facilities, employee facilities (including locker and meeting rooms), and the general management offices of the public transit system, and was acquired by the City with the assets of the former private transit operator.

Map 19

LOCATION OF BUS PASSENGER SHELTERS FOR THE BELLE URBAN SYSTEM



LEGEND

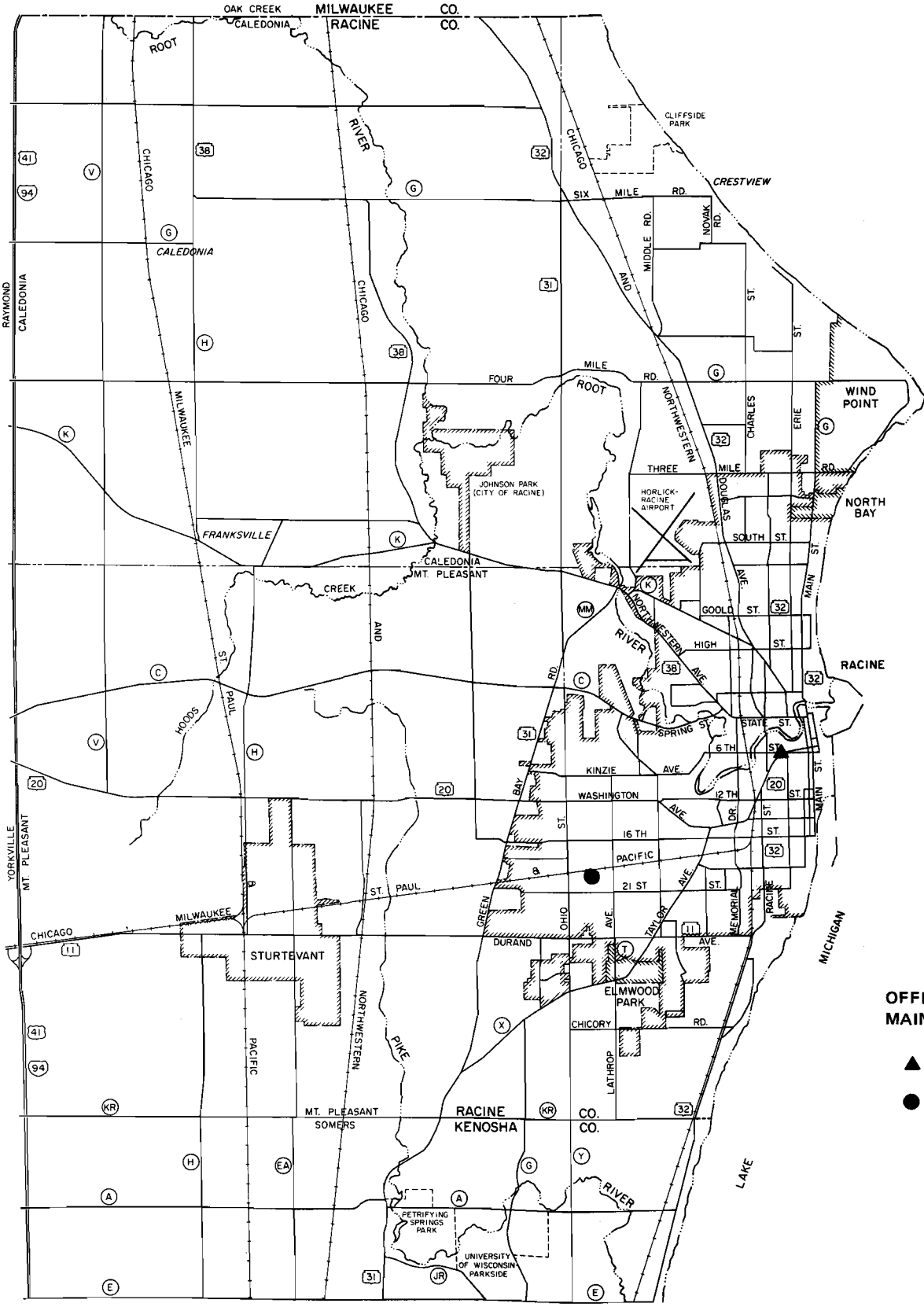
BUS PASSENGER SHELTER

- ● 5' x 10'
- ▲ 10' x 15'

Source: City of Racine Department of Transportation and SEWRPC.

Map 20

LOCATION OF OFFICE AND MAINTENANCE FACILITIES FOR THE BELLE URBAN SYSTEM



LEGEND

OFFICE OR MAINTENANCE FACILITY

▲ **RACINE CITY HALL**

● **KENTUCKY STREET OPERATING COMPLEX**

Source: City of Racine Department of Transportation and SEWRPC.

Figure 7

KENTUCKY STREET STORAGE, MAINTENANCE, AND OFFICE COMPLEX

The Kentucky Street storage, maintenance, and office complex includes one building used for bus storage, cleaning, and servicing (left view); and one building housing the maintenance facilities, bus parts storage area, and the general management offices of the transit system (right view).

Photos by Albert A. Beck.

Figure 8 shows the layout of this complex. Transit system services provided to the general public by the management offices located in this building complex include the sale of monthly bus passes and the dissemination of transit system information through the distribution of route schedules and maps and the operation of a telephone information service.

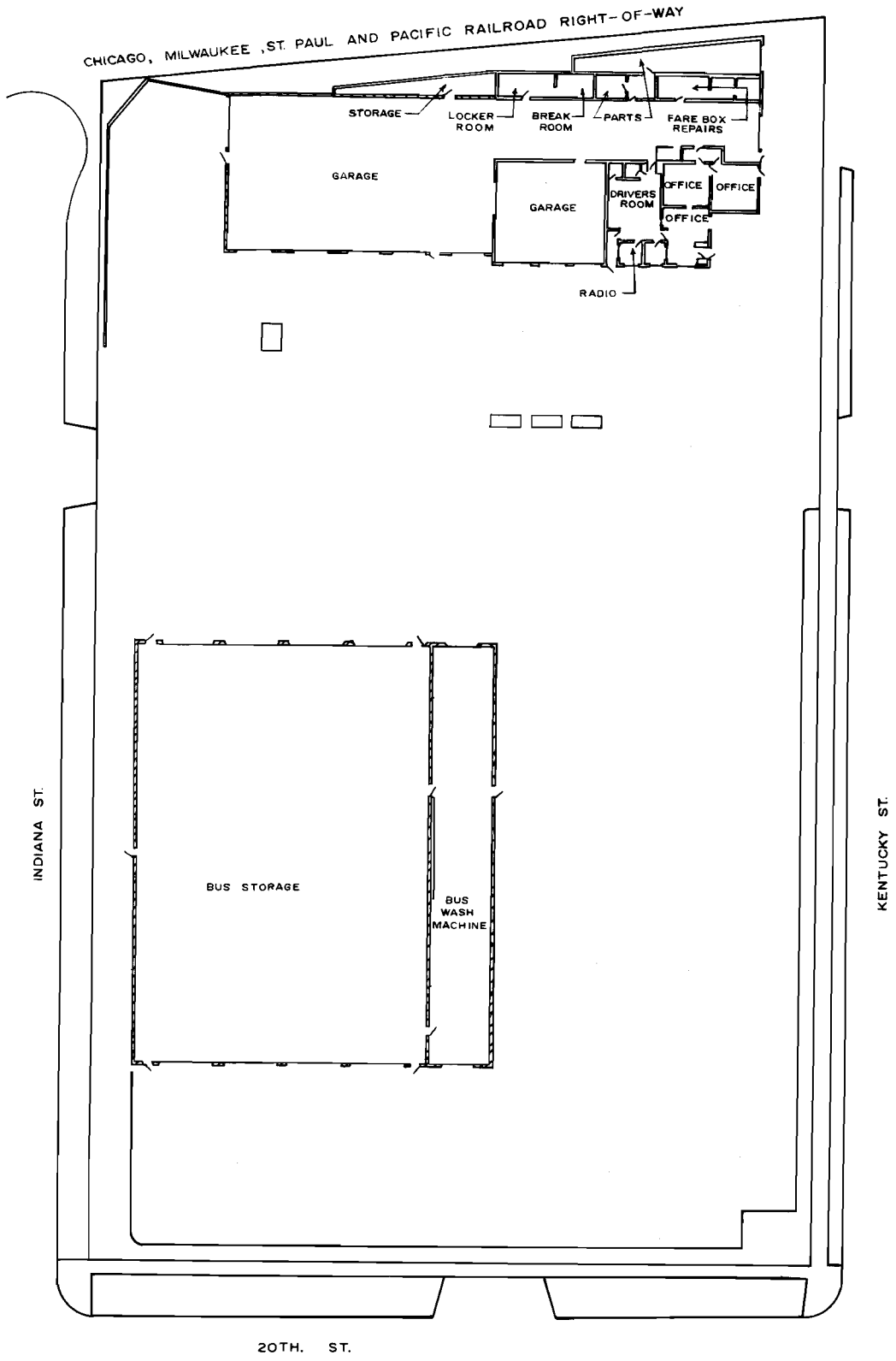
The Racine City Hall, shown in Figure 9, is located on the western edge of the Racine central business district at 730 Washington Avenue. Transit program functions conducted within this building are carried out in the offices and public meeting rooms of the Mayor of the City of Racine, the members of the Racine Common Council, and the members of the Racine Transit and Parking Commission. Additional transit program-related functions conducted within this building are carried out in the offices of the City of Racine Department of Transportation. Transit system services provided by the City Department of Transportation to the public in this building consist of the sale of monthly bus passes and the distribution of transit system information, including route maps and schedules. Information related to the transit system can also be obtained from the staff of the City Department of Transportation. 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. The building also contains public meeting rooms used for transit-related meetings and public hearings.

Ridership Trends

Ridership levels on public transit service in the Racine area have historically followed the national trend. 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. Over 9.8 million annual revenue passengers were carried in the Racine area in 1950. By 1958, annual ridership had declined to 3.7 million passengers, or by about 62 percent. The downward trend in ridership continued through the 1960's and into the early 1970's, reaching a record low of about 525,000 revenue passengers in 1972.

Figure 8

BLUEPRINT FOR KENTUCKY STREET STORAGE, MAINTENANCE, AND OFFICE COMPLEX



Source: City of Racine Department of Transportation and SEWRPC.

Figure 9

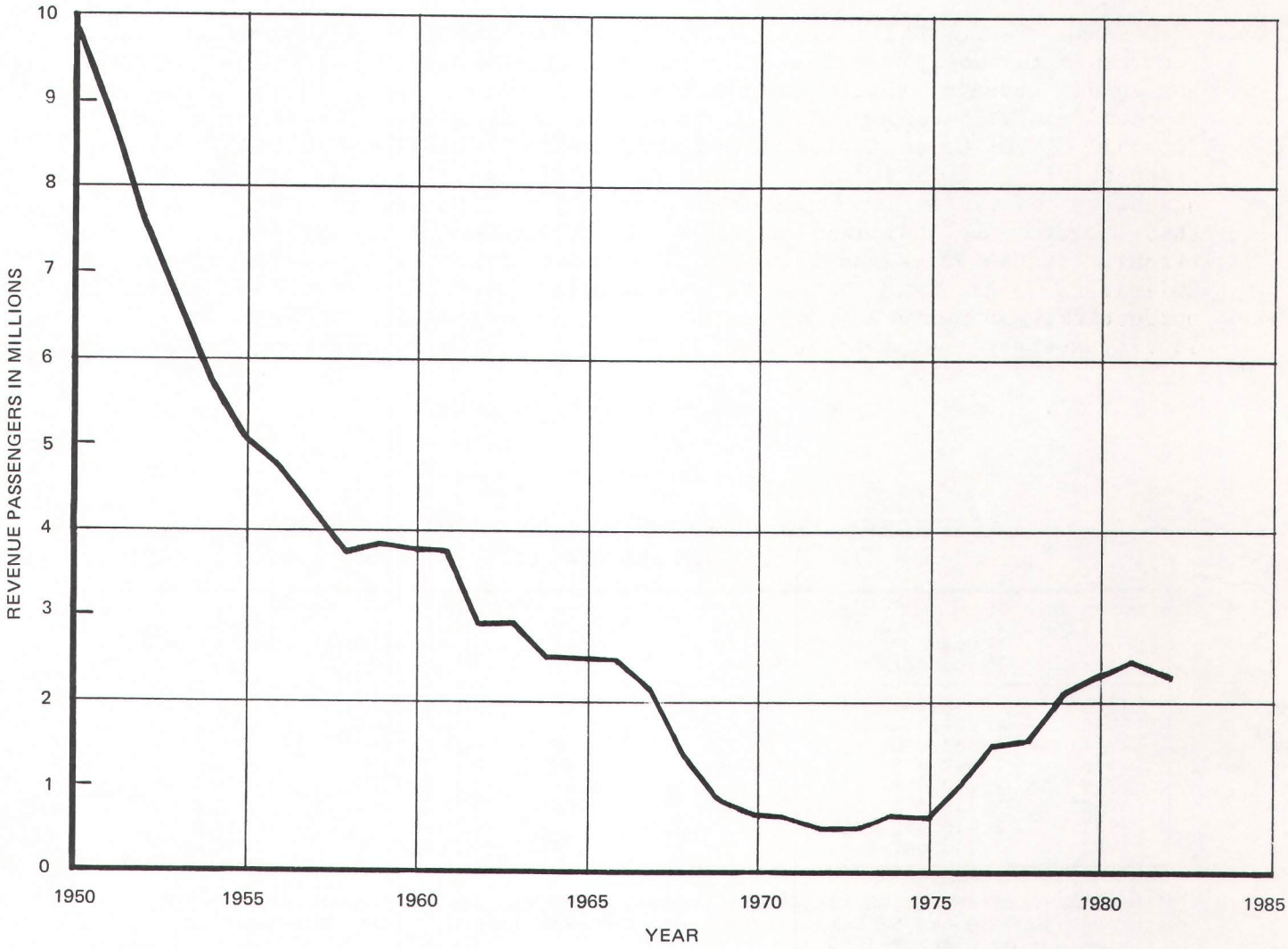
RACINE CITY HALL

The Racine City Hall houses the offices of the Mayor and Common Council of the City of Racine, the Racine Transit and Parking Commission, and the City Department of Transportation—all of which contribute in some manner to the City's public transportation program.

Photo by Albert A. Beck.

Figure 10

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



Source: SEWRPC.

From 1973 through 1975, transit ridership levels on the Racine transit system stabilized and even increased slightly, reflecting the reestablishment of Saturday service in June 1973, and the efforts of the City to maintain transit service levels while a transit development program was being completed and the City assumed operation of the system. Since 1975, the City of Racine has substantially upgraded and expanded bus service while fares, after an initial reduction in 1976, were kept constant. Until that trend ended in 1982, there had been an increase in the annual ridership on the Belle Urban System during each year since the City of Racine assumed ownership of the local bus system in 1975. Better service area coverage, extended service hours, new equipment, and improved marketing, along with fuel shortages and significant increases in fuel prices, have contributed to increases in transit ridership. As a result of these actions, transit ridership on the Belle Urban System has increased almost fourfold since 1975, from approximately 616,300 revenue passengers in 1975 to a high of approximately 2,418,500 revenue passengers in 1981. Ridership declined slightly from this level during 1982 when the transit system carried about 2,340,700 revenue passengers, or about 3 percent fewer passengers than in 1981.

Ridership on the Belle Urban system has also grown at a faster rate than increases in the amount of service provided by the transit system, as measured by annual revenue vehicle miles and annual revenue vehicle hours. During the period from 1975 through 1982, revenue vehicle miles and revenue vehicle hours for the Belle Urban System have increased by 147 percent and 135 percent, respectively, while transit ridership has increased by 280 percent. Consequently, the system has experienced significant increases in productivity over this period. As indicated in Table 21, passengers per vehicle mile for the transit system increased by about 57 percent, from about 1.4 passengers per mile in 1975 to about 2.2 passengers per mile in 1982. A similar increase in productivity occurred in passengers per vehicle hour which increased from about 16.7 passengers per vehicle hour in 1975 to about 26.9 passengers per vehicle

Table 21

PASSENGERS PER VEHICLE MILE AND VEHICLE HOUR FOR THE BELLE URBAN SYSTEM: 1975-1982

Year	Revenue Passengers	Revenue Vehicle Miles	Passengers per Vehicle Mile	Revenue Vehicle Hours	Passengers per Vehicle Hour
1975[a]	616,253	428,891	1.44	37,000	16.66
1976	987,744	731,410	1.35	64,593	15.29
1977	1,463,020	992,721	1.47	81,039	18.05
1978	1,542,345	984,063	1.57	80,804	19.09
1979	2,072,698	978,173	2.12	81,555	25.41
1980	2,313,158	1,013,518	2.28	84,701	27.31
1981	2,418,495	1,025,320	2.36	84,590	28.59
1982	2,340,667	1,057,038	2.21	86,939	26.92

[a] Includes data for Flash City Transit Company for the period from January 1, 1975 through June 30, 1975. Data also reflect the effects of a 26-day bus-operator strike during October 1975.

Source: Wisconsin Department of Transportation and SEWRPC.

hour in 1982. These dramatic increases in transit service utilization even surpassed the forecasts of the initial transit system plan and program, with some resultant problems in serving peak-period ridership demand with existing service levels. Consequently, in October 1982 the transit system implemented peak-period headway reductions from 30 minutes to 20 minutes on the four routes of the transit system having the heaviest use--Routes 2, 3, 4, and 7.

Average weekday ridership on the Belle Urban System was about 8,400 revenue passengers during the first six months of 1983. A breakdown of total average weekday ridership by route is presented in Table 22. As indicated in this table, Route 4 had the highest ridership with about 1,600 revenue passengers per day. This route was followed by Routes 2, 3, and 7 with about 1,300, 1,100, and 1,000 revenue passengers per day, respectively. Together, these four routes accounted for about 59 percent of the average weekday revenue ridership on the entire transit system. Between 1978 and the first six months of 1983, average weekday revenue ridership on the transit system increased by about 3,300 revenue passengers, or by about 62 percent. The largest absolute increase in average weekday ridership during this period occurred on Route 4, which experienced an increase of about 750 passengers per day. Other significant ridership increases occurred on Routes 2, 6, 7, and 9, with increases of between 280 and 460 revenue passengers per day. No route on the transit system experienced a decline in total average weekday ridership between 1978 and 1983. Ridership on Route 8, which had the lowest increase in ridership between 1978 and the first six months of 1983, was affected during 1983 by detours caused by major arterial street construction projects which reduced transit ridership.

User Characteristics

A survey to ascertain the socioeconomic characteristics and travel patterns of transit users in the Racine area was conducted by the Southeastern Wisconsin Regional Planning Commission over a three-day period between April 29, 1980 and

Table 22

AVERAGE WEEKDAY RIDERSHIP ON THE BELLE URBAN SYSTEM BY ROUTE: 1978 AND 1983

Route Number	Average Weekday Revenue Passengers								Change in Route Ridership 1978-1983	
		1983								
	1978	January	February	March	April	May	June	Six Month Average	Number	Percent
1	510	750	770	750	690	680	650	710	200	39.2
2	810	1,320	1,360	1,340	1,240	1,320	1,040	1,270	460	56.8
3	920	1,110	1,190	1,140	1,090	1,170	990	1,120	200	21.7
4	870	1,650	1,700	1,680	1,610	1,670	1,400	1,620	750	86.2
5	660	980	1,000	950	810	940	650	890	230	34.8
6	370	730	760	730	680	720	660	710	340	91.9
7	690	1,000	1,030	1,000	970	990	810	970	280	40.6
8	340	340	370	360	330	360	320	350	10	2.9
9	210	590	570	600	490	550	460	540	330	157.1
10	--	90	90	90	80	80	60	80	80	--
11	--	--	--	--	--	--	110	110[a]	110[a]	--
12	--	--	--	--	--	--	70	70[a]	70[a]	--
Total	5,380	8,560	8,840	8,640	7,990	8,480	7,220	8,440	3,320	61.7

[a] Includes data from less than six months of operation.

Source: City of Racine Department of Transportation and SEWRPC.

Table 23

RIDERSHIP BY ROUTE ON THE BELLE URBAN SYSTEM APRIL 29-MAY 1, 1980

Route Number	Total Passengers[a]	
	Number	Percent of System Total
1	990	9.2
2	1,830	17.0
3	1,650	15.4
4	1,790	16.7
5	1,410	13.1
6	740	6.9
7	1,270	11.8
8	620	5.8
9	360	3.4
10	80	0.7
Total	10,740	100.0

[a] Includes transfer passengers.

Source: SEWRPC.

Table 24

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM BY SEX BY ROUTE APRIL 29-MAY 1, 1980

Route Number	Percent of Ridership by Sex[a]		
	Male	Female	Total
1	43.4	56.6	100.0
2	38.4	61.6	100.0
3	38.0	62.0	100.0
4	38.3	61.7	100.0
5	35.9	64.1	100.0
6	31.7	68.3	100.0
7	38.7	61.3	100.0
8	32.7	67.3	100.0
9	49.3	50.7	100.0
10	36.7	63.3	100.0
System Average:	38.5	61.5	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.

May 1, 1980. This survey was the first major on-bus survey conducted in the Racine 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 10 local bus routes of the transit system. Provisions were made for return by mail of survey forms which could not be collected on the bus. The total ridership on each route on the day surveyed is shown in Table 23. Approximately 3,885 boarding passengers were surveyed over the three day period, representing about 36 percent of total boarding passengers. Of the 3,885 boarding passengers surveyed, 2,609, or approximately 67 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. Route modifications were made to Routes 3, 4, and 6 in April 1982, and Routes 11 and 12 were added to the transit system in June 1983. Because of these recent changes to the transit system, Map 21 is provided for reference, showing the transit system routes as they were operated at the time of the survey in April 1980.

Socioeconomic Characteristics: Socioeconomic characteristics considered 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 24, the vast majority--about 62 percent--of riders using the routes of the Belle Urban System are 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 has

Table 25

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM BY RACE BY ROUTE: APRIL 29-MAY 1, 1980

Route Number	Percent of Ridership by Race[a]					
	Black[b]	White[b]	American Indian	Asian or Pacific Islander	Other	Total
1	26.0	70.5	0.9	--	2.6	100.0
2	16.3	79.2	--	0.3	4.2	100.0
3	21.6	72.4	1.5	1.2	3.3	100.0
4	25.4	70.3	0.3	--	4.0	100.0
5	27.1	66.4	3.4	--	3.1	100.0
6	20.3	76.2	0.8	--	2.7	100.0
7	36.9	57.8	1.1	--	4.2	100.0
8	25.3	72.2	--	--	2.5	100.0
9	15.3	81.0	2.0	0.6	1.1	100.0
10	--	97.5	--	2.5	--	100.0
System Average:	23.8	71.5	1.1	0.3	3.3	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.

[b] Includes persons of Hispanic descent.

Source: SEWRPC.

Table 26

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM OF HISPANIC DESCENT BY ROUTE: APRIL 29-MAY 1, 1980

Route Number	Percent of Ridership[a]		
	Hispanic Descent[b]	Other[b]	Total
1	5.0	95.0	100.0
2	4.6	95.4	100.0
3	6.3	93.7	100.0
4	6.4	93.6	100.0
5	7.5	92.5	100.0
6	4.5	95.5	100.0
7	7.9	92.1	100.0
8	4.1	95.9	100.0
9	4.1	95.9	100.0
10	--	100.0	100.0
System Average:	6.1	93.9	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.

[b] Includes persons of the black or white race.

Source: SEWRPC.

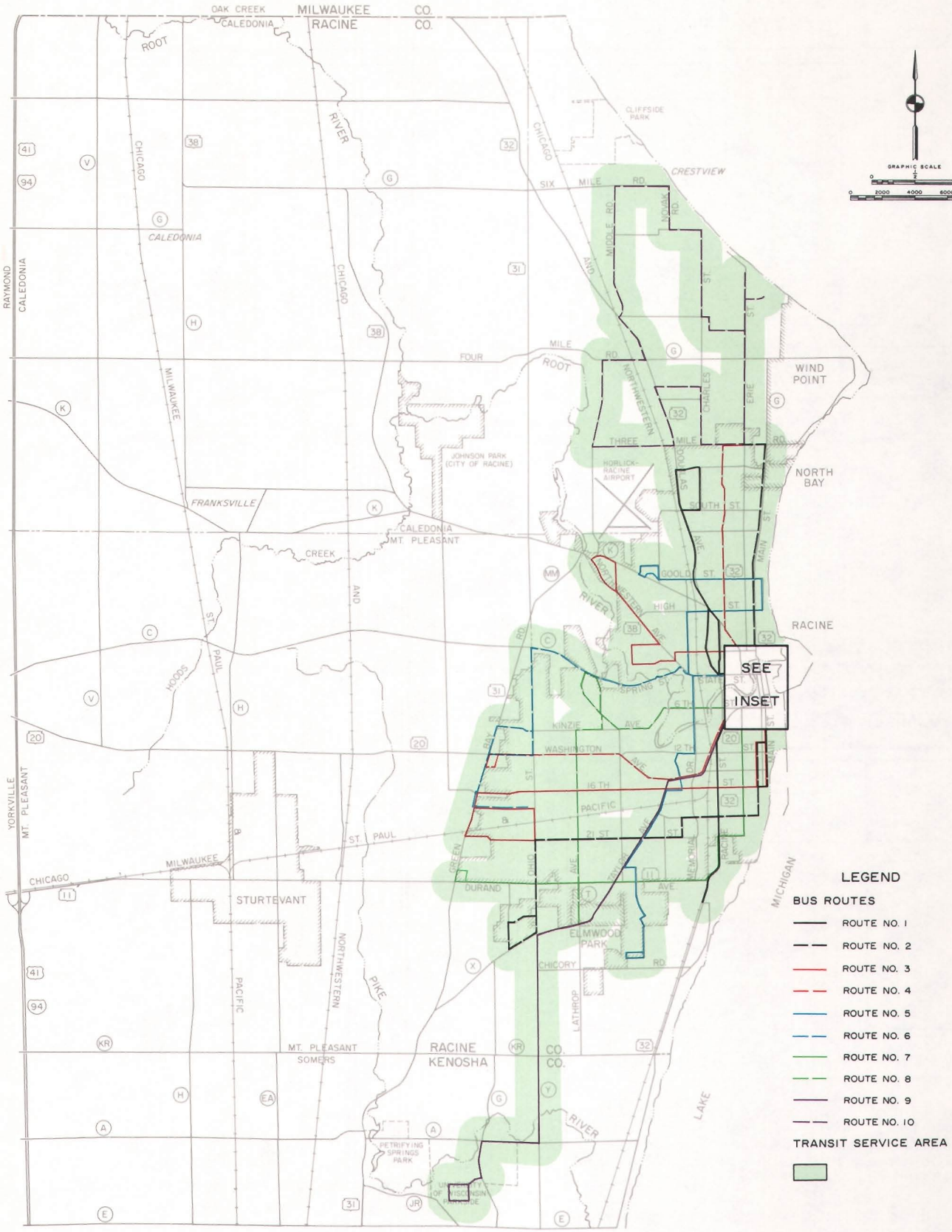
risen significantly since 1972, from about 22 percent in 1972 to about 38 percent in 1980.

Nearly 72 percent of the surveyed riders were white while 24 percent of the surveyed riders were black. The remainder of those surveyed belonged to relatively small racial groups. A complete tabulation of route ridership by race can be found in Table 25. By comparison, about 82 percent of the city population is white, while about 18 percent of the total city population is black or belonged to other racial groups. As shown in Table 26, approximately 6 percent of the system riders responding to the survey were of Hispanic origin, roughly equal to the proportion of persons of this ethnic background in the total city population.

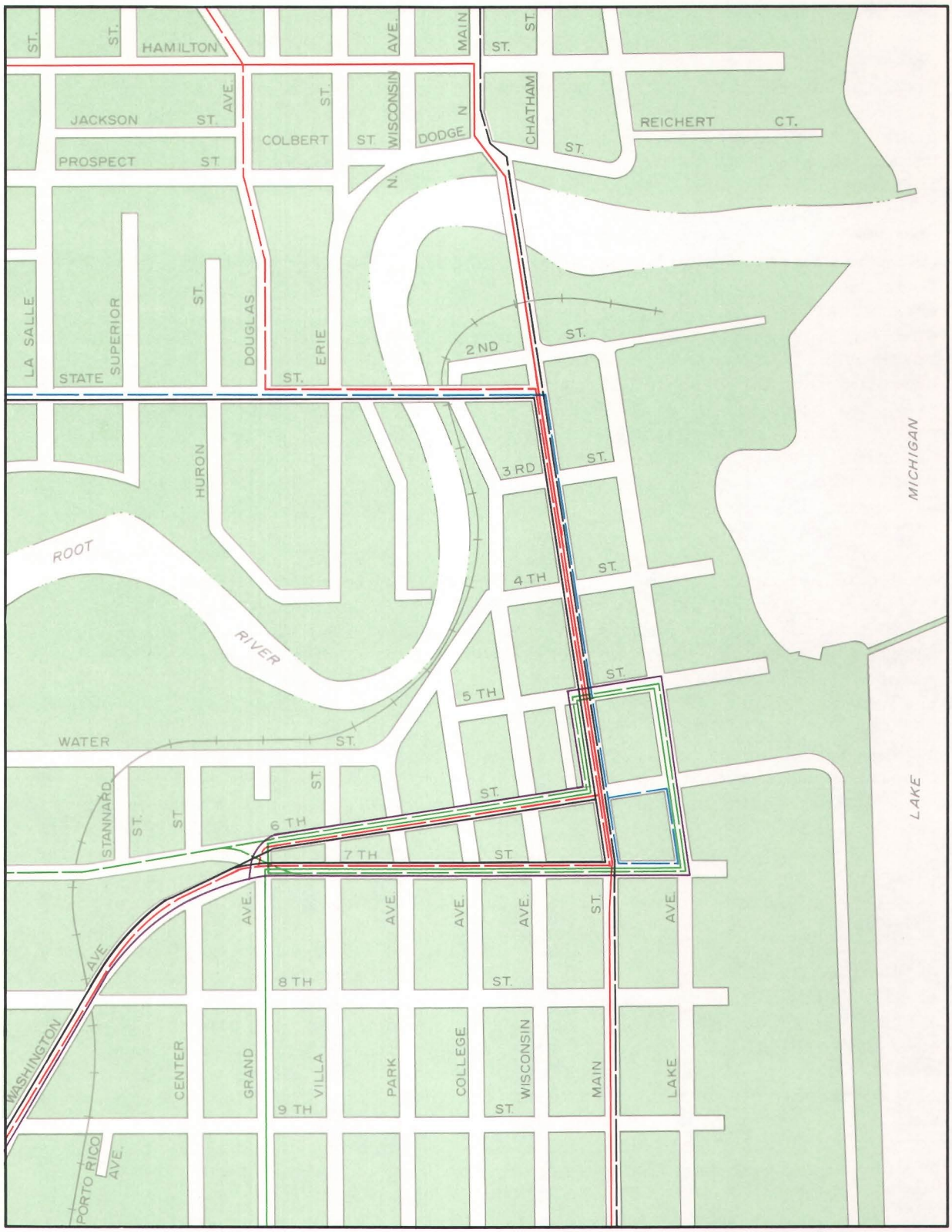
By age group, use of the transit system by school-age children and college-age students is prominent. The age group including secondary school-aged riders 13 through 18 years of age accounted for about 42 percent of total rider-

Map 21

FIXED ROUTE TRANSIT SERVICE PROVIDED BY THE BELLE URBAN SYSTEM: APRIL 29-MAY 1, 1980



Source: SEWRPC.



INSET GRAPHIC SCALE

0 400 800 FEET

ship. By comparison, school-age children between 10 and 18 years of age accounted for about 15 percent of the total city population in 1980. An additional 15 percent of riders were between the ages of 19 and 24. Elderly persons 65 years of age or older accounted for about 9 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 21 percent of total ridership. A complete tabulation of ridership by age bracket is presented in Table 27.

About 40 percent of transit riders surveyed who responded to the question on income reported a family income of less than $10,000 per year. Another 18 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. A complete tabulation of ridership by income can be found in Table 28. It is important to note that over 38 percent of 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 $12,000 per year. The median family income of the City of Racine population was about $21,800 in 1980.

About 67 percent of the riders surveyed indicated that they did not possess a driver's license and about 33 percent indicated that they did. A somewhat higher percentage of females than males--63 percent versus 35 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 as an important factor influencing transit usage. Those households which 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 24 percent indicated that they resided in households with no automobile available, and an additional 33 percent indicated that they resided in households with only one automobile available. By comparison, about 15 percent of all households within the City did not own an automobile and about 43 percent owned only one automobile in 1980. A complete tabulation of auto availability by household size for the surveyed transit ridership is presented in Table 29. It is interesting to note the relatively large number of riders--about 30 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 the use of the transit system by school-age members of these households.

From the socioeconomic data gathered in the survey, a generalized profile of the typical Belle Urban System public transit rider can be developed. The typical transit rider would be a white female between the ages of 13 and 24,

Table 27

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM BY AGE BY ROUTE: APRIL 29-MAY 1, 1980

Route Number	Percent of Ridership by Age Group[a]						
	6-12	13-18	19-24	25-54	55-64	65 and Over	Total
1	3.0	26.7	21.0	31.1	12.9	5.3	100.0
2	5.6	43.2	12.8	22.3	5.8	10.3	100.0
3	5.3	33.2	16.9	26.4	6.1	12.1	100.0
4	2.8	40.9	12.1	24.3	9.8	10.1	100.0
5	2.9	65.4	12.2	10.6	5.5	3.4	100.0
6	3.8	42.4	13.8	17.9	6.5	15.6	100.0
7	3.7	42.3	19.0	15.3	7.1	12.6	100.0
8	7.1	29.3	15.2	21.5	14.3	12.6	100.0
9	--	13.1	63.7	17.5	2.3	3.4	100.0
10	12.9	55.7	2.6	26.2	2.6	--	100.0
System Average:	4.3	42.3	15.4	21.1	7.5	9.4	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 28

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM BY FAMILY INCOME LEVEL BY ROUTE: APRIL 29-MAY 1, 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	23.3	16.4	23.8	14.1	11.1	4.2	7.1	100.0
2	18.8	14.9	14.8	8.6	17.7	8.0	17.2	100.0
3	24.3	19.1	21.8	15.1	8.0	5.3	6.4	100.0
4	21.8	21.4	18.6	8.7	11.3	8.7	9.5	100.0
5	16.0	18.3	20.5	14.6	13.9	7.9	8.1	100.0
6	22.9	18.3	22.3	10.1	6.6	9.3	10.5	100.0
7	29.7	19.6	15.3	7.6	13.8	6.2	7.8	100.0
8	30.6	25.2	13.7	6.9	11.9	2.4	9.3	100.0
9	17.3	17.7	9.7	11.9	14.2	11.5	17.7	100.0
10	--	12.5	25.1	27.5	14.9	20.0	--	100.0
System Average:	22.0	18.4	18.1	11.0	12.4	7.3	10.8	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.

Table 29

PERCENTAGE DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM BY AUTOMOBILE AVAILABILITY AND HOUSEHOLD SIZE: APRIL 29-MAY 1, 1980

Household Size	Percent of Revenue Passengers by Number of Vehicles Available				
	None	One	Two	Three or More	Total
One Person.....	9.2	2.6	0.1	--	11.9
Two Persons.....	6.1	7.9	2.0	0.6	16.6
Three Persons.....	3.8	5.2	5.1	1.8	15.9
Four Persons.....	2.4	7.0	9.1	3.4	21.9
Five Persons.....	1.1	4.8	6.1	3.4	15.4
Six or More Persons...	1.4	5.1	7.1	4.7	18.3
Total	24.0	32.6	29.5	13.9	100.0

Source: SEWRPC.

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.

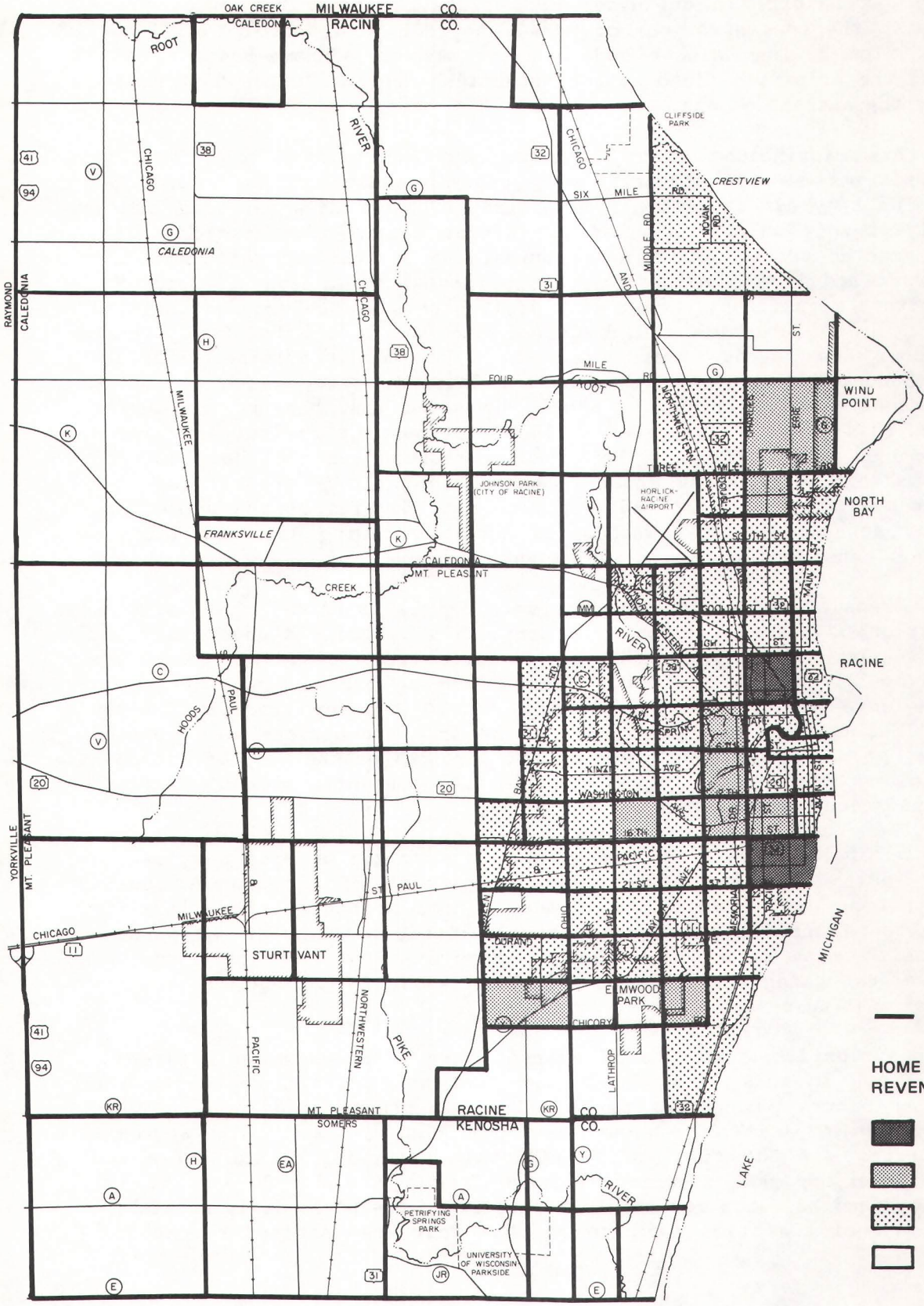
Trip Characteristics: In addition to information on the socioeconomic characteristics of the transit riders, survey data were collected concerning trip characteristics. Specifically, data were collected on the home location and the origin and destination of each transit rider, the trip purpose of each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

As would be expected, the vast majority of tripmakers using the Belle Urban System reside within the City of Racine. Approximately 83 percent of transit system riders fall into this category. Other civil divisions within the District having a significant number of residents utilizing the transit system include the Town of Mt. Pleasant, with about 9 percent of the total transit system riders, and the Town of Caledonia, with about 6 percent of the total transit system riders. The distribution of home residences by traffic analysis zone of transit system riders is shown on Map 22.

To facilitate further analysis of transit 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 transit work trips "produced" within a specified area, for example, would be the number of transit trips from homes in that area to places of employment in all other areas plus the number of transit trips from places of employment in all other areas to homes in the specified area. Conversely, the number of transit work trips "attracted" to a specified area

Map 22

HOME RESIDENCES OF REVENUE PASSENGERS ON THE BELLE URBAN SYSTEM: APRIL 29-MAY 1, 1980



LEGEND

- ANALYSIS ZONE BOUNDARY

HOME RESIDENCES OF REVENUE PASSENGERS

- 500 OR MORE
- 200 TO 499
- 25 TO 199
- LESS THAN 25

Source: SEWRPC.

would be the number of transit trips from homes in all other areas to a place of employment within that specified area plus the number of transit 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 transit 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 23 graphically illustrates the distribution of transit person trip attractions by traffic analysis zone within the study area. The heaviest concentrations of trip attractions were found in the traffic analysis zone which contained the Racine central business district. This zone attracted about 1,400 transit trips, the majority of which were for home-based work and home-based other trip purposes. Other zones within the study area with a significant number of transit person trips included the zone which contained St. Catherine's High School and St. Luke's Hospital, which attracted about 600 revenue trips, and the zone which contained Starbuck Junior High School and the Washington Square Shopping area, which attracted about 500 transit person trips. It should be noted that because the survey data shown on this map were collected in 1980, it does not reflect the impact which the opening of the Regency Mall Shopping Center in 1981 has had upon transit tripmaking in the study area. In this respect it is anticipated that in 1983 Regency Mall has attracted a significant portion of the trips that were formerly attracted to the Washington Square Shopping Area and Elmwood Plaza Shopping Center at the time of the survey.

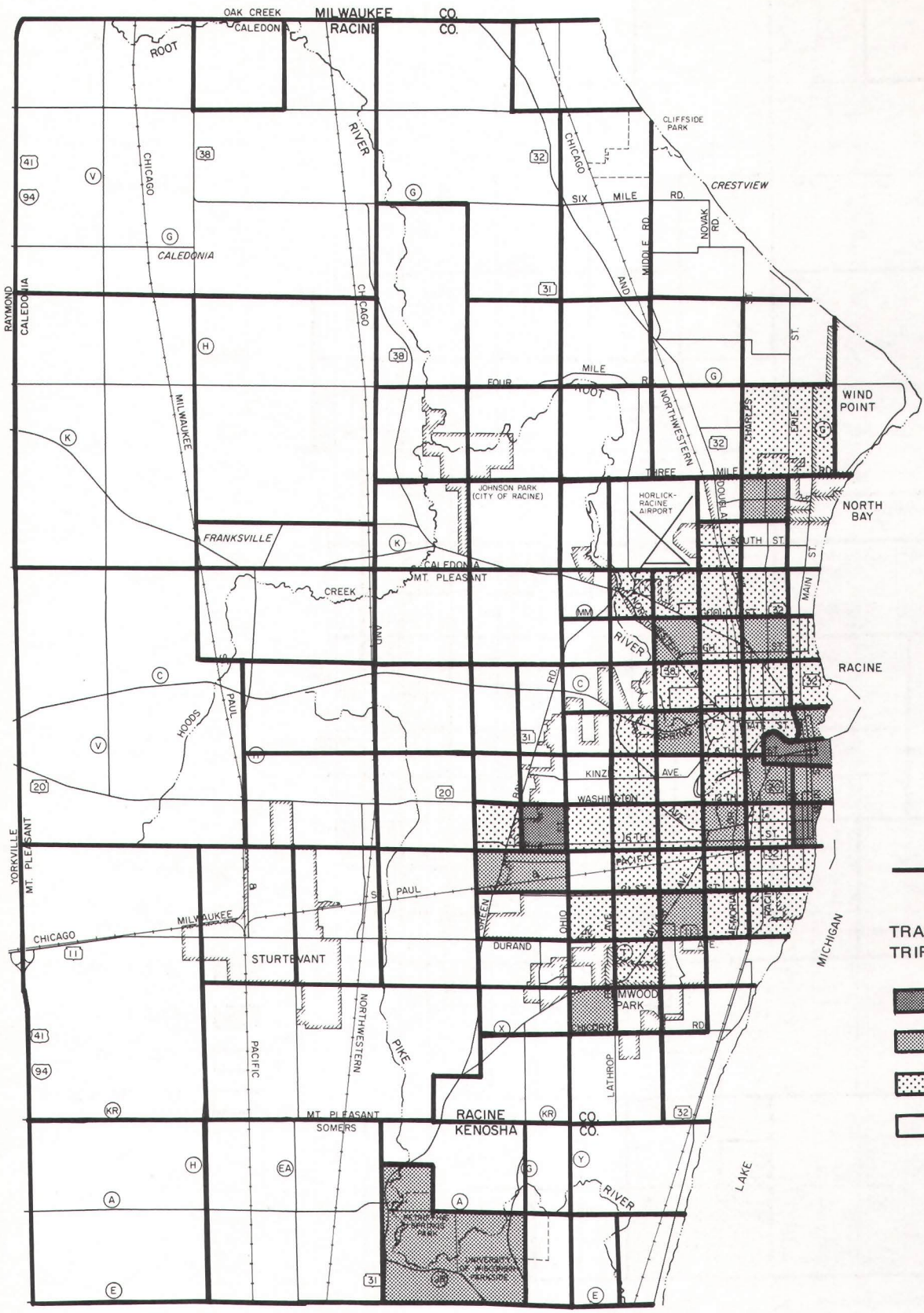
In terms of transit person trip productions, Map 24 graphically illustrates the distribution of transit person trip production by traffic analysis zone. For the most part, the distribution of produced trips closely follows the distribution of the home location of transit revenue passengers, since most of the trips were home-based with one trip end at the home location of the trip maker. The heaviest concentrations of the trip productions were located in the older, more densely developed central portions of the City of Racine--areas which also contained the highest residential concentrations of transit-dependent population groups.

The importance of home or school as either trip origin or trip destination is shown in Tables 30 and 31. Only about 4 percent of all transit users make trips that do not either start or end at home or school. The plurality of trips on the transit system were school-related, with about 40 percent of the transit trips being school-based. Home-based work trips comprised the second largest category of tripmaking, with about 29 percent of transit trips made for this purpose.

The hourly distributional pattern of transit riders is shown in Figure 11. The pattern shown in this figure indicates that most of the travel on the transit system occurs during two peak periods of transit ridership between the hours of 6:30 a.m. and 9:00 a.m. and 2:00 p.m. and 5:30 p.m., with approximately 67 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 19 percent of the total daily ridership. About 71 percent of the trips made during this hour are destined for school.

Map 23

TRIP ATTRACTIONS OF REVENUE PASSENGERS ON THE BELLE URBAN SYSTEM: APRIL 29-MAY 1, 1980



GRAPHIC SCALE
0 1 MILE
0 2000 4000 6000 8000 FEET

LEGEND

ANALYSIS ZONE BOUNDARY

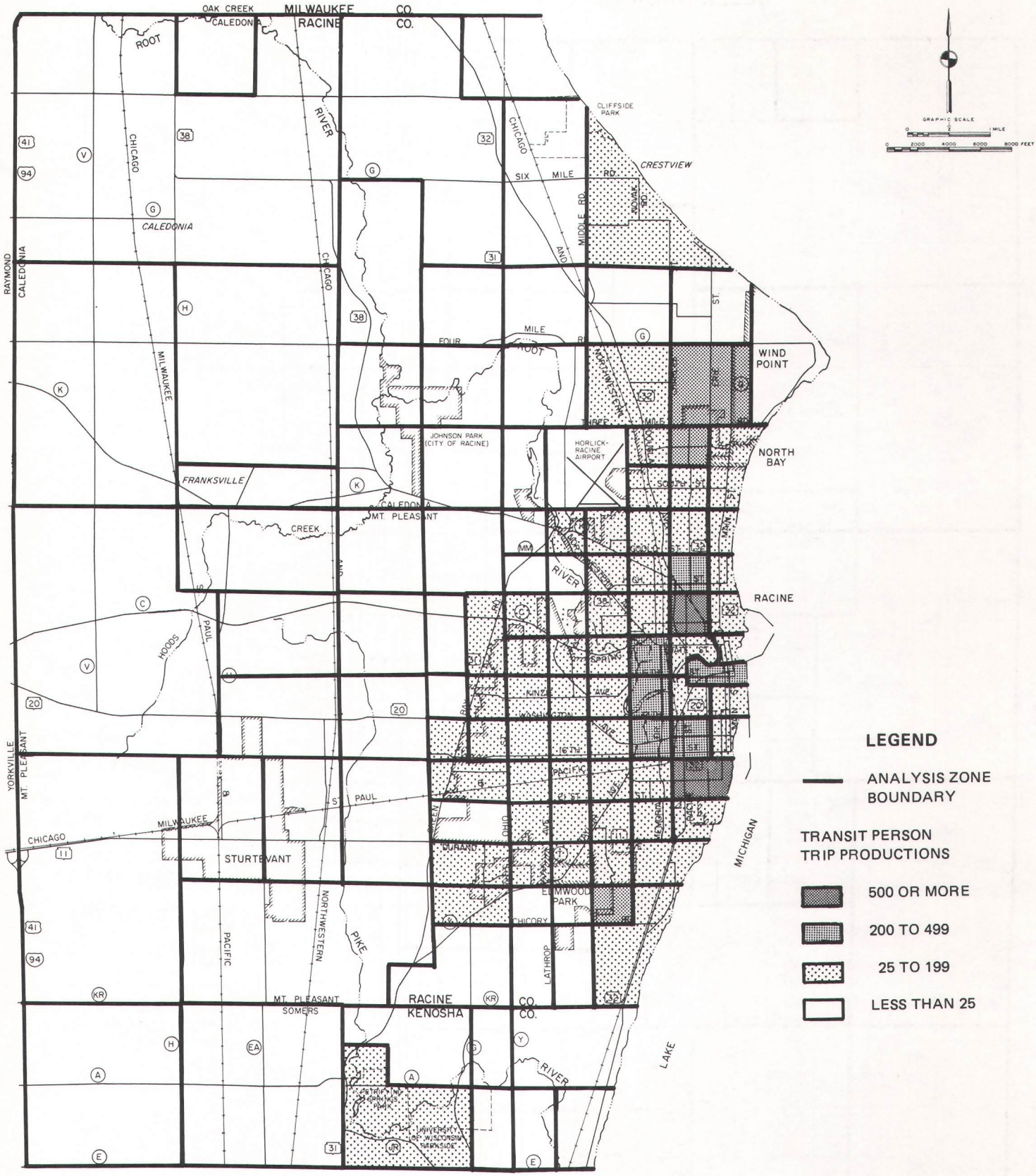
TRANSIT PERSON TRIP ATTRACTIONS

- 500 OR MORE
- 200 TO 499
- 25 TO 199
- LESS THAN 25

Source: SEWRPC.

Map 24

TRIP PRODUCTIONS OF REVENUE PASSENGERS ON THE BELLE URBAN SYSTEM: APRIL 29-MAY 1, 1980



LEGEND

ANALYSIS ZONE BOUNDARY

TRANSIT PERSON TRIP PRODUCTIONS

- 500 OR MORE
- 200 TO 499
- 25 TO 199
- LESS THAN 25

Source: SEWRPC.

Table 30

PERCENTAGE DISTRIBUTIONS OF TRIP ORIGINS AND TRIP DESTINATIONS ON THE BELLE URBAN SYSTEM APRIL 29-MAY 1, 1980

Origin of Trip	Percent of Total Transit Trips
From:	
Home	54.2
Work	14.9
School	16.4
Shopping	6.1
Social-Recreational	3.7
Personal Business	4.7
Total	100.0

Destination of Trip	Percent of Total Transit Trips
To:	
Home	39.4
Work	17.4
School	24.2
Shopping	6.7
Social-Recreational	6.0
Personal Business	6.3
Total	100.0

Source: SEWRPC.

Table 31

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

Trip Purpose	Percent of Total Trips
Home-Based Work	29.3
Home-Based Shopping	10.7
Home-Based Other	15.5
Nonhome-Based	4.1
School-Based	40.4
Total	100.0

Source: SEWRPC.

Peaking during the afternoon peak period was less sharp than during the morning peak period but was more evenly sustained over a longer period. The afternoon peak period was characterized predominantly by trips returning to home.

Overall, about 97 percent of transit system riders arrived at their initial boarding location by walking. Less than 3 percent of 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.

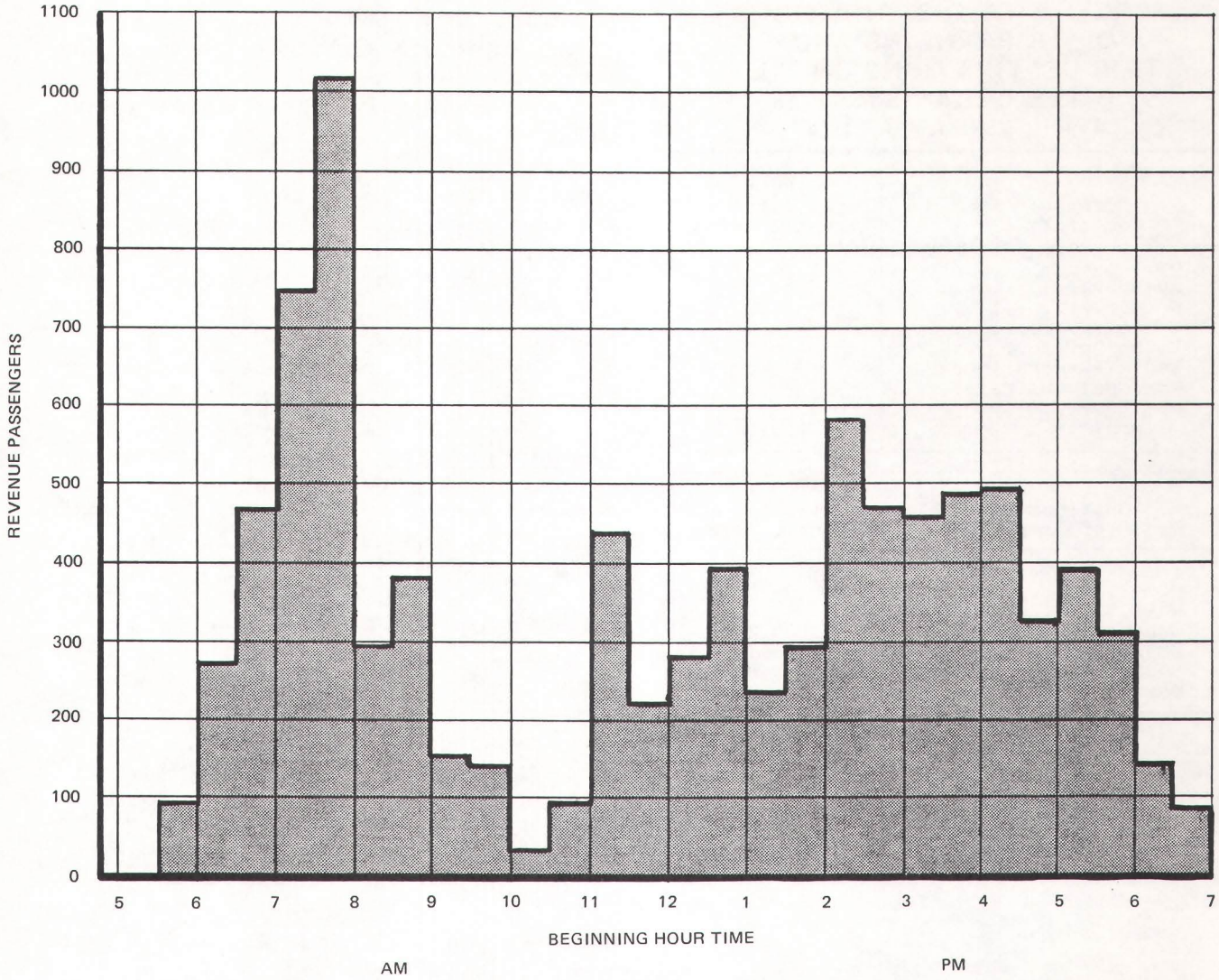
Transfer Movement: Information was collected as part of the on-bus survey concerning the transfer movement between bus routes of all boarding passengers. Approximately 23 percent of the revenue passengers surveyed indicated that they would transfer to a different bus route at least once to complete their trip by bus. Table 32 summarizes transfer movements by route for passengers transferring between routes. The largest transfer movement occurred between Route 2 and Route 5, with approximately 12 percent of all transfers systemwide occurring between these two routes. Other significant transfer movements were observed between Route 4 and Route 5, with approximately 8 percent of all systemwide transfers, and between Route 2 and Route 4, with about 7 percent of all systemwide transfers.

Marketing and Public Relations

The marketing program for the City's public transportation program is carried out cooperatively by the City of Racine Department of Transportation and the private management firm. In the past, the marketing program has been primarily aimed at disseminating user information to all persons in the City who might avail themselves of the service offered by the public transit system. Immediately after acquiring the transit system in 1975, the City of

Figure 11

HOURLY DISTRIBUTION OF RIDERSHIP ON THE BELLE URBAN SYSTEM: APRIL 29-MAY 1, 1980



Source: SEWRPC.

Racine retained Palmquist Creative Services, a public relations firm, to develop a transit marketing program. To improve the image of transit and encourage its use, the City developed a transit system logo and name--The BUS (Belle Urban System), an attractive new color scheme for the buses, and new bus schedules and route maps. The City has also prepared transit advertisements for use on local radio stations and for publication in local newspapers.

The City Department of Transportation has published and made available schedules and maps for each bus route on the system. This information is available from the drivers on each city bus, at the offices of the City Department of Transportation in the Racine City Hall, or at the management offices of the transit system at the Kentucky Street operating complex. Telephone information service is also available to answer individual questions regarding specific bus routes and schedules.

Table 32

PERCENTAGE DISTRIBUTION OF TRANSFER PASSENGERS BY ROUTE ON THE BELLE URBAN SYSTEM: APRIL 29-MAY 1, 1980

From Route	Percent of Systemwide Transfer Passengers Transferring to Route										
	1	2	3	4	5	6	7	8	9	10	Total
1	--	1.4	2.3	0.9	2.0	2.3	0.6	0.3	--	--	9.8
2	1.4	0.3	1.3	4.4	5.9	1.0	1.3	1.4	1.9	0.3	19.2
3	1.3	1.3	0.2	2.0	1.1	0.4	2.4	0.3	1.5	--	10.5
4	1.3	2.5	3.0	--	3.5	1.1	1.3	1.1	0.7	0.6	15.1
5	2.0	6.4	2.1	4.6	0.1	--	0.7	--	--	--	15.9
6	1.2	0.9	0.9	2.7	0.6	--	0.5	0.5	--	--	7.3
7	2.0	1.3	1.3	1.5	2.1	1.1	--	1.8	0.4	--	11.5
8	0.7	1.0	0.8	1.3	0.8	0.6	1.4	0.2	--	--	6.8
9	--	0.7	0.3	0.7	0.1	0.1	0.7	0.5	--	--	3.1
10	--	0.4	--	0.4	--	--	--	--	--	--	0.8
Total	9.9	16.2	12.2	18.5	16.2	6.6	8.9	6.1	4.5	0.9	100.0

Source: SEWRPC.

Financial Situation

The total operating budget (excluding depreciation costs) for the City of Racine's public transportation program as adopted by the Racine Common Council for calendar year 1983 was approximately $2,536,300. Revenue from bus passenger fares, charter services, and other sources for this period is expected to amount to about $685,000, leaving an operating deficit of about $1,851,300. To cover the shortfall in fare box revenues in 1983, it is anticipated that the U. S. Department of Transportation, Urban Mass Transportation Administration (UMTA) will provide about $933,100, or about 50 percent; the Wisconsin Department of Transportation (WisDOT) will provide about $743,200, or 40 percent; the University of Wisconsin-Parkside about $7,800, or less than 1 percent; the Racine school system about $137,900, or 7 percent; the Towns of Caledonia and Mt. Pleasant and the Village of Sturtevant about $19,300, or about 1 percent; and Racine County will provide about $10,000, or less than 1 percent. Projected total ridership for calendar year 1982 on the City of Racine's federally assisted transit service is about 2,461,100 revenue passengers. Based on these figures, the City of Racine public transportation program in 1983 is projected to provide transportation service to the general public at a total cost of $1.03 per revenue passenger and at a net public subsidy cost supported by federal, state, and local tax dollars of $0.75 per revenue passenger, of which UMTA provides $0.38, WisDOT provides $0.30, and the University of Wisconsin-Parkside, the Racine school system, and the various municipalities together provide $0.07. No public subsidy cost has been projected in this budget for the City of Racine during 1983. However, based upon program audits from previous years, the City will, in all likelihood, still be required to contribute to the operation of the transit system during 1983.

Operating expenses have increased dramatically since the City acquired the transit system in 1975. The total operating expense per revenue vehicle hour has increased steadily from $10.70 in 1975 to $22.62 in 1982, representing

a relative increase of about 111 percent in operating expense per revenue vehicle hour between 1975 and 1982. During the same period, operating expense per passenger has increased from $0.64 in 1975 to $0.81 in 1982, or by about 27 percent. The smaller increase in operating cost per passenger can be attributed to the dramatic growth in ridership since 1975. A summary of operating costs can be found in Table 33.

Operating revenue for the transit system has also increased between 1975 and 1982 (see Table 33). Operating revenue per revenue vehicle hour has increased by about 23 percent over the period, from $5.71 in 1975 to $7.04 in 1982. Operating revenue per passenger, however, has actually declined, decreasing from $0.34 in 1975 to $0.26 in 1982. The major reason for this decline was the reduced fare structure implemented in mid-1976, the full effects of which on revenues per passenger are shown in the figure for 1977. Between 1978 and 1982, the revenue per passenger remained relatively stable, reflecting the fact that the fare structure for the transit system remained unchanged during this time. The slight increase in revenue per passenger between 1981 and 1982 reflects the fare increase implemented by the transit system in October 1982. Figures 12 and 13 graphically illustrate the comparison between costs and revenues per revenue vehicle hour and 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-1975. Between 1976--the first full year of public operation--and 1982, the total absolute operating deficit for the transit system more than doubled. Due primarily to the significant increases in transit ridership for the transit system, the operating deficit per passenger has not followed this same trend. After an initial increase from $0.30 in 1975 to $0.51 in 1976, the operating deficit per passenger has fluctuated during the period to reach as low as $0.43 in 1979 before increasing to the high of $0.58 in 1982.

Table 33

OPERATING EXPENSES, REVENUES, AND DEFICITS OF THE BELLE URBAN SYSTEM: 1975-1982

Year	Revenue Passengers	Operating Expenses	Operating Revenues	Operating Deficit	
				Total	Local Share[a]
1975[b]	616,253	$ 396,193	$211,194	$ 184,999	$ 35,005
1976	987,744	734,632	230,412	504,220	96,257
1977	1,463,020	963,149	283,336	679,813	198,335
1978	1,542,345	1,131,913	368,481	763,432	116,236
1979	2,072,698	1,412,846	530,016	882,830	100,626
1980	2,313,158	1,610,549	564,263	1,046,286	115,880
1981	2,418,495	1,775,901	583,263	1,191,908	123,128
1982	2,341,440	1,966,917	611,957	1,354,960	18,557

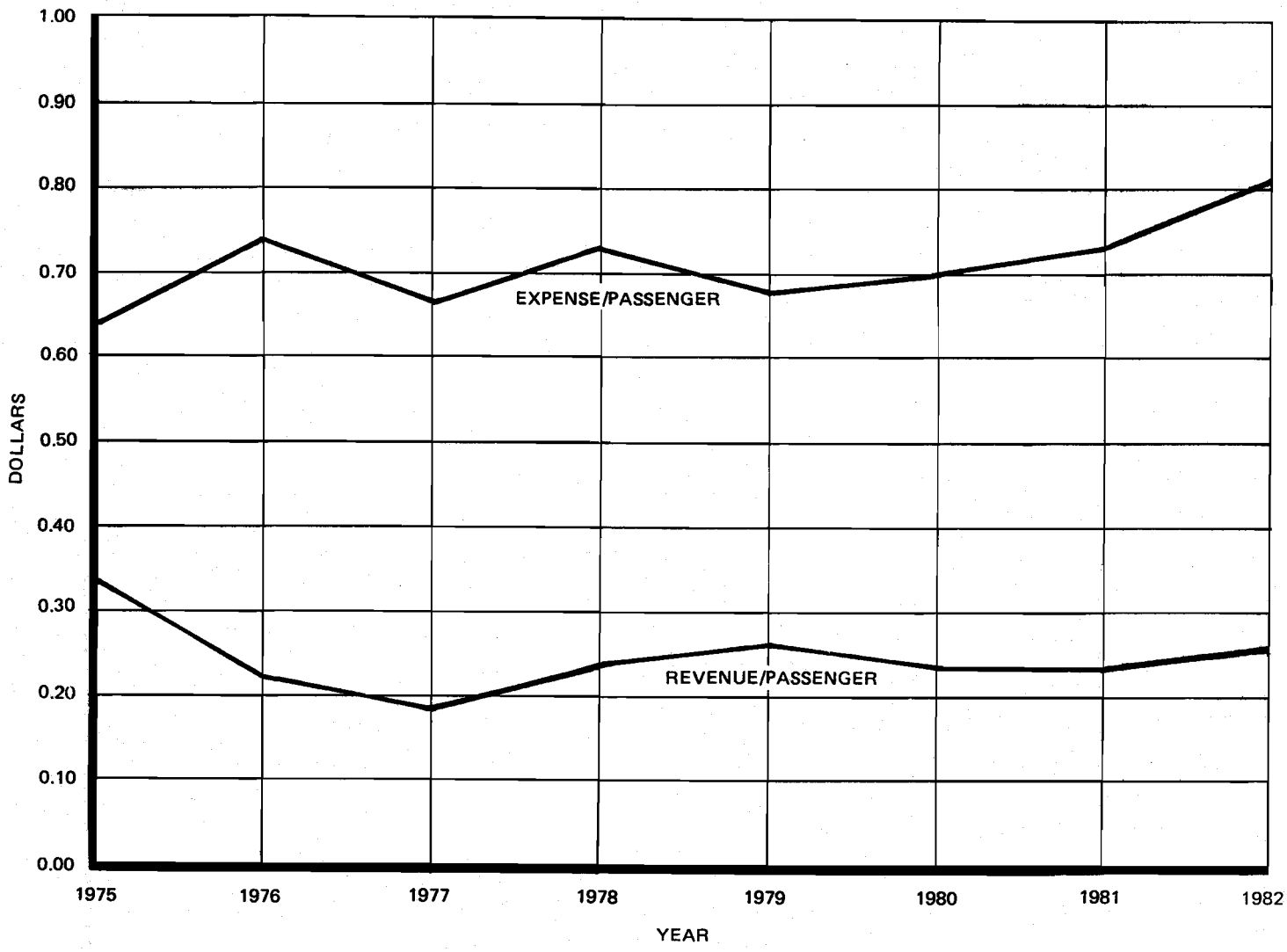
[a] Includes only local dollars contributed by the City of Racine.

[b] Includes figures for Flash City Transit Company for the period from January 1, 1975 through June 30, 1975. Data also reflect the effects of a 26-day bus-operator strike during October 1975.

Source: Wisconsin Department of Transportation, City of Racine Department of Transportation, and SEWRPC.

Figure 12

OPERATING EXPENSE AND REVENUE PER REVENUE VEHICLE HOUR FOR THE BELLE URBAN SYSTEM: 1975-1982

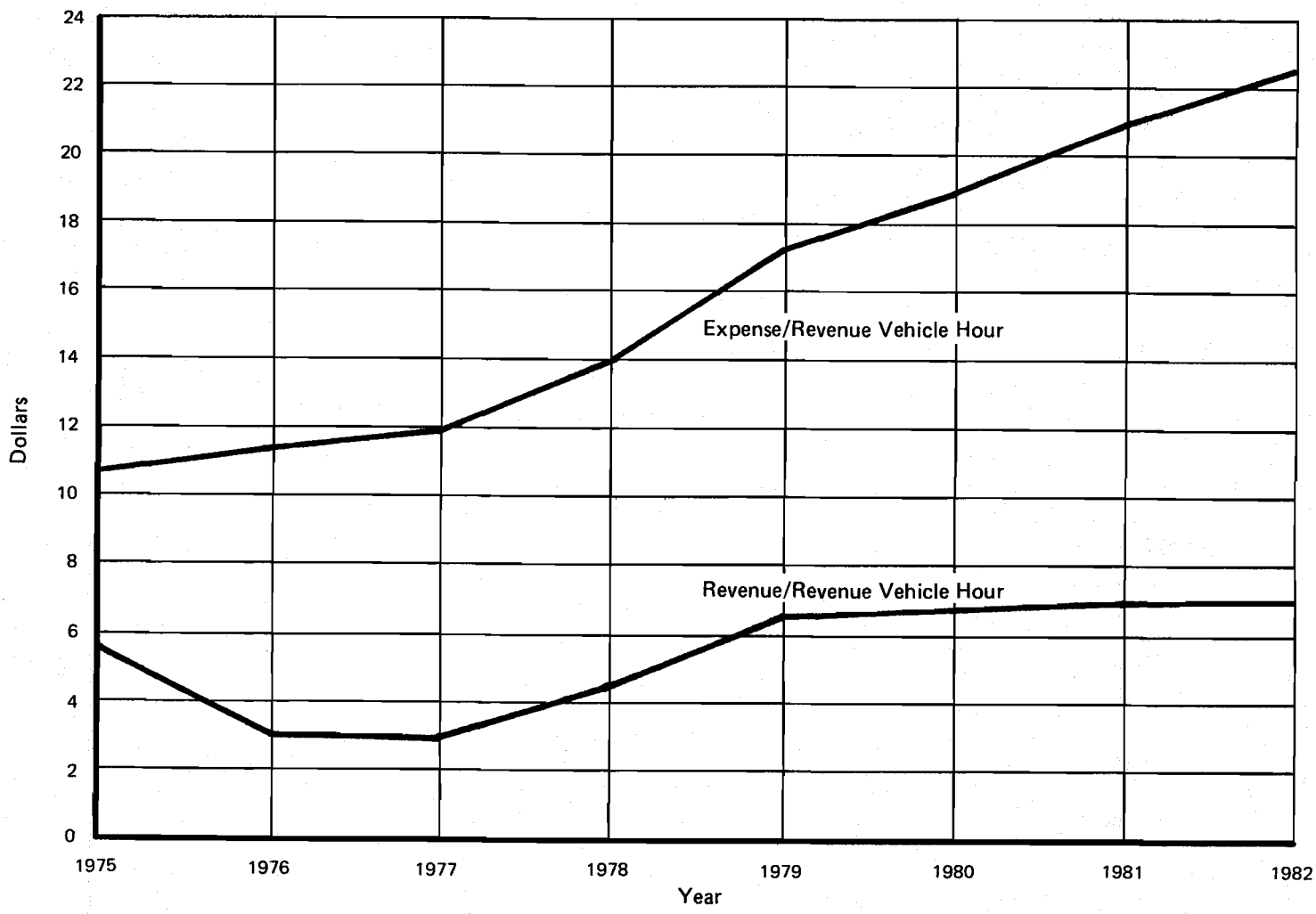


Source: Wisconsin Department of Transportation, City of Racine Department of Transportation, and SEWRPC.

As with virtually all publicly operated transit systems in the United States, the City of Racine has depended heavily on federal transit operating assistance to help support the operating deficit of the Belle Urban System. The City has also benefited from the availability of operating assistance from the State through the Wisconsin Department of Transportation. Together, operating 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 Racine. The City's share of the operating deficit per passenger has fluctuated between 1975 and 1981, from $0.06 per passenger in 1975 to a high of $0.14 per passenger in 1977, and back down to less than $0.01 per passenger in 1982. The return to a lower deficit per passenger for the City between 1977 and 1981 can be attributed to both increases in ridership and passenger revenues, and the use of local revenues obtained for transit service provided to the Racine Unified

Figure 13

OPERATING EXPENSE AND REVENUE PER PASSENGER FOR THE BELLE URBAN SYSTEM: 1975-1982

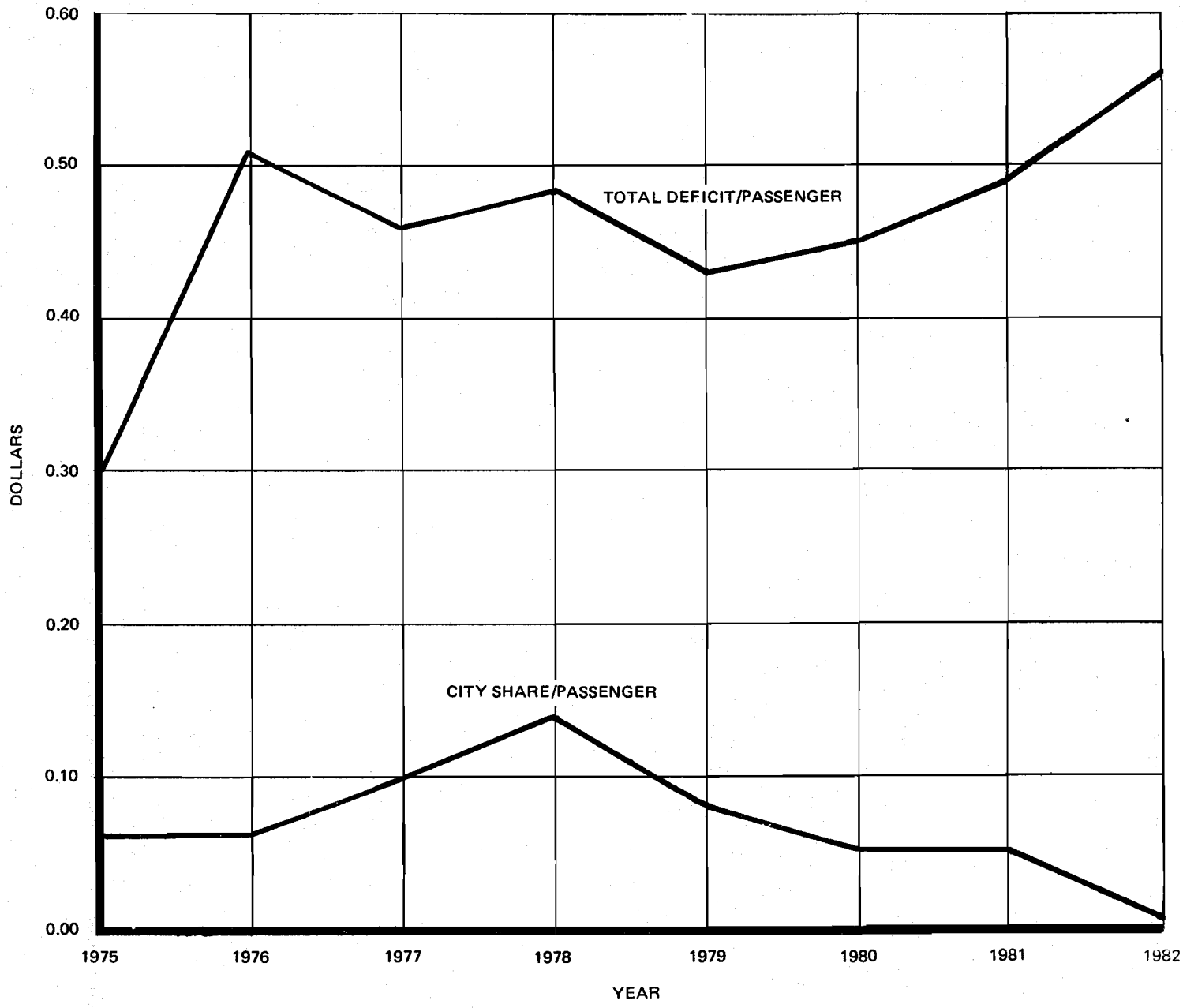


Source: Wisconsin Department of Transportation, City of Racine Department of Transportation, and SEWRPC.

School District, the Town of Caledonia, and the University of Wisconsin-Parkside. Local revenues from these sources have been used to reduce the portion of the operating deficit not offset by federal or state funds, resulting in a lower local public funding requirement for the City of Racine. A change in the method for allocating state transit operating assistance resulted in the City's share of the operating deficit for 1982 being reduced to less than $0.01 per passenger. Figure 14 illustrates the comparison between total operating deficit per passenger and the City's share of the deficit per passenger for the transit system.

Figure 14

OPERATING DEFICIT PER PASSENGER FOR THE BELLE URBAN SYSTEM: 1975-1982



Source: Wisconsin Department of Transportation, City of Racine Department of Transportation, and SEWRPC.

Implementation Status of Previous Plan Recommendations

As previously noted, the Regional Planning Commission in cooperation with the City of Racine completed, in June 1974, a transit system development program for the Racine urbanized area. The transit system plan and program was intended to provide a guide to future actions by the City regarding the provision of public transit service for the Racine area. As such, the study addressed not

only the continued need for public transit service in the area 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 development program:

1. That the City of Racine assume ownership of the existing public transit system.

2. That the public transit system be operated by experienced professional management under a contract with a transit management firm.

3. That the City designate a full-time city employee to act as a liaison between the City and the management firm.

4. That new capital equipment be ordered immediately upon assumption of public ownership of the bus system. New capital equipment recommended included 25 45-passenger buses, 935 bus stop signs, 20 bus passenger shelters, and a new garage, office, and maintenance facility.

5. That when the new capital buses become available, a completely new system of nine lineal routes operating on 30- or 60-minute headways throughout the day be implemented.

6. That a base adult cash fare of $0.25 be established without charge for transfer as soon as new capital equipment is put into service.

7. That upon expiration of the present "yellow school bus" contract in July 1977, the City and the Unified School District avoid the costly duplication of service and public expenditure by providing transportation to school on the city transit system in all areas served by that system.

8. That the City and the University of Wisconsin-Parkside cooperatively agree to the provision of transit service to the University with compensation to the City for the local share of any resulting deficit.

9. That the City and nearby communities (such as the Towns of Caledonia and Mt. Pleasant; the Villages of Elmwood Park, North Bay, and Sturtevant) cooperatively agree to the provision of transit service from the City to the nearby communities with compensation to the City for the local share of any resulting deficit.

The transit system plan and program was adopted by the Racine Common Council in August 1974. Since that time, the following progress in implementing the above recommendations has been made as of July 1983:

1. In 1975, the City of Racine applied for and received a capital assistance grant from the U. S. Department of Transportation, Urban Mass Transportation Administration (UMTA), for approximately $1.8 million. The City used part of these funds to acquire the assets of the Flash City Transit Company and begin public operation of the transit system on July 1, 1975.

2. Since 1975, the City has retained the private firm of Taylor Enterprises, Inc., to operate the city bus system. The private management firm is operated by the former owners of the transit system.

3. In 1975, the City hired a new employee to assume the position of Transit Planner and to serve as liaison between the City and the management firm.

4. Using the federal financial assistance from the UMTA grant noted above, the City in 1975 purchased the following equipment and facilities:

   - 25 41-passenger GMC urban motor coaches equipped with air conditioning;
   - 27 registering lock-vault fare boxes;
   - 27 two-way mobile radios;
   - One radio base unit;
   - One supervisory vehicle;
   - Bus garage storage facility (including design and construction);
   - 935 bus stop signs (including installation);
   - maintenance equipment and spare parts; and
   - one service truck.

   A second UMTA capital assistance grant for approximately $120,000 to purchase 21 bus passenger waiting shelters was applied for and received in 1976. As previously noted, the bus passenger shelters were erected at various locations in the City in 1977. A third UMTA capital assistance grant for approximately $969,100 was received in 1982 and used to purchase eight new advance-design urban motor coaches.

5. A completely new system of nine lineal bus routes utilizing headways of 30 and 60 minutes was implemented in May 1976, as previously noted. Headways were reduced from 30 to 20 minutes on four routes in October 1982 using eight new buses acquired by the transit system.

6. Transit fares were reduced from $0.40 to $0.25 per adult trip with the implementation of the new route system in May 1976. As previously noted, transit fares were increased from $0.25 to $0.35 per adult trip in October 1982 in response to increases in transit system operating expenses.

7. The City and the Racine Unified School District have entered into a cooperative agreement whereby the City is reimbursed by the School District for transporting students on the regular routes of the transit system.

8. Bus service was extended to the University of Wisconsin-Parkside campus in Kenosha County over one of the nine bus routes implemented in May 1976. The University reimburses the City for a portion of the cost of providing the bus service.

9. A tenth route serving the Town of Caledonia was added to the Belle Urban System in April 1980. An eleventh bus route serving the Village of Sturtevant and a twelfth bus route serving the Town of Mt. Pleasant were

added to the transit system in June 1983. The Towns of Caledonia and Mt. Pleasant and the Village of Sturtevant reimburse the City for a portion of the cost of providing the bus service.

From the information presented above, it is apparent that the City of Racine has completely implemented all of the major recommendations contained within the initial transit system development program.

OTHER PUBLIC TRANSIT SERVICES

The Belle Urban System is the only urban common carrier licensed to operate wholly within the Racine urbanized area. However, a number of other public agencies and private companies provided transit service to residents of the Racine Urban Planning District in 1982. These transit services included intercity bus service, railway passenger train service, taxicab service, and specialized transportation service.

Intercity Bus Service

Suburban or intercity bus service in the Racine Urban Planning District was provided in 1983 on a regular basis by Greyhound Lines-West, Inc., and Wisconsin Coach Lines, Inc. Map 25 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 Racine. Wisconsin Coach lines, Inc., which is limited primarily to intrastate service, operated eight bus runs in each direction each weekday between the Cities of Racine and Milwaukee, and seven bus runs in each direction each weekday between the Cities of Racine and Kenosha with several other intermediate stops in the District. Wisconsin Coach Lines, Inc., also operated six bus runs in each direction on Saturdays and four bus runs in each direction on Sundays and holidays over this route. Routes of the Belle Urban System operate within one block of the bus terminal in the City of Racine for these intercity bus operators.

Railroad Passenger Service

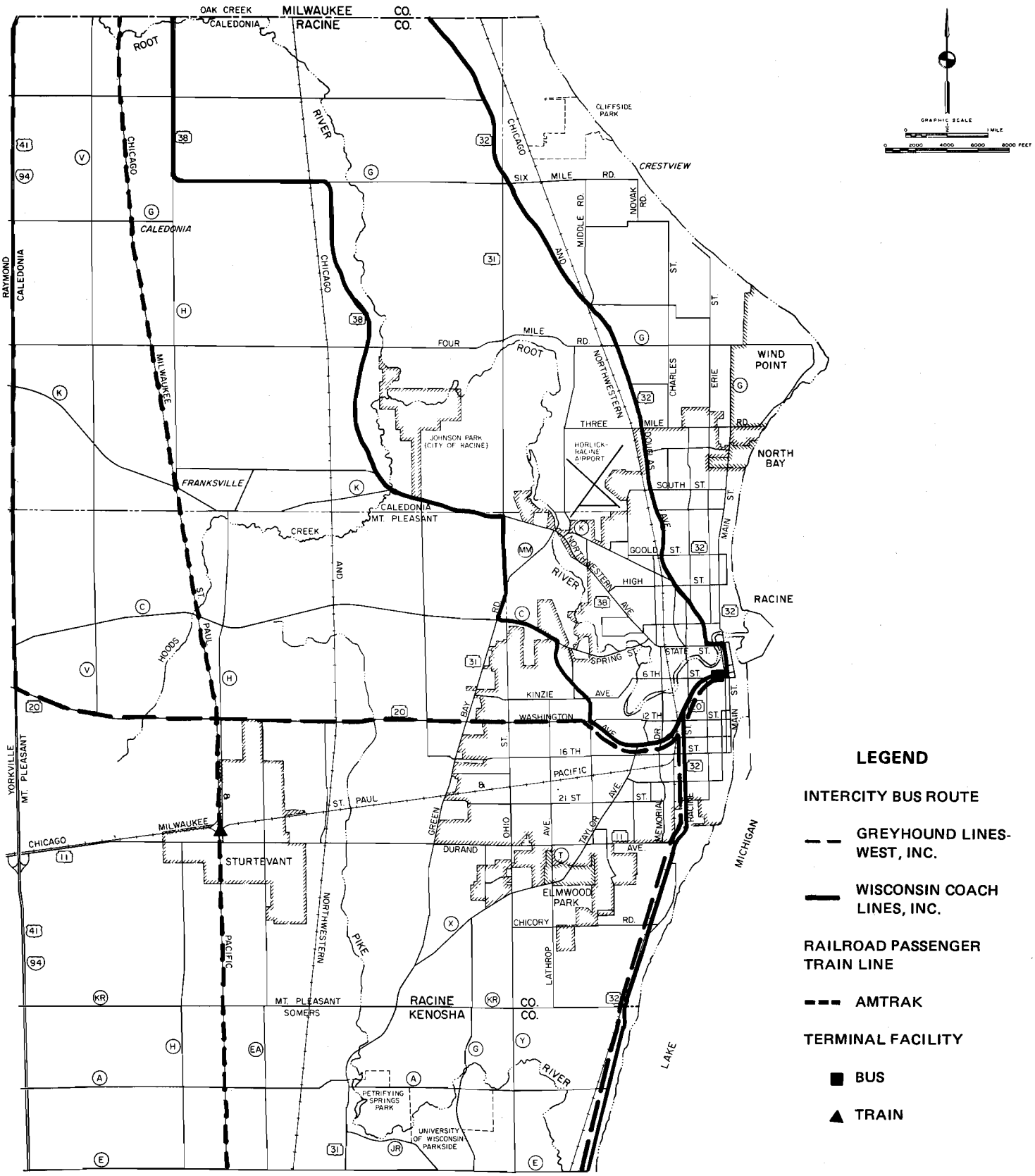
Railroad passenger service in the Racine Urban Planning District was provided in 1983 by the quasi-public National Railroad Passenger Corporation--Amtrak. Amtrak operated three passenger trains daily in each direction between Milwaukee and Chicago. Two of the three trains in each direction stop in the Village of Sturtevant. In June 1983, transit service was extended to the Amtrak station in the Village of Sturtevant by the Belle Urban System (see Map 25).

Taxicab Service

Taxicab service was provided in the Racine Urban Planning District during 1983 by two private taxicab companies--Courtesy Cab Company and Green's Taxi Service, Inc. While licensed to operate within the City of Racine, both taxicab companies serve all of the Planning District, as well as provide service to the major airports of General Mitchell Field in Milwaukee County and O'Hare Airport in Cook County, Illinois. Taxicab service by both companies is operated on an exclusive-ride basis, with shared-ride service provided only with the

Map 25

INTERCITY BUS AND RAILROAD PASSENGER SERVICE IN THE RACINE URBAN PLANNING DISTRICT: JULY 1983



LEGEND

INTERCITY BUS ROUTE

- GREYHOUND LINES-WEST, INC.
- WISCONSIN COACH LINES, INC.

RAILROAD PASSENGER TRAIN LINE

- AMTRAK

TERMINAL FACILITY

- BUS
- TRAIN

Source: SEWRPC.

permission of the first taxi patron. Fares for the service are the same for both companies and depend upon the distance traveled, with a base fare of $1.00 plus $0.90 per each additional mile charged for a single patron and a fee of $0.25 charged for each additional passenger. The taxicab service provided by the Courtesy Cab Company is available between 6:00 a.m. and 12:00 a.m. Sundays through Thursdays, and between 6:00 a.m. and 2:00 a.m. on Fridays and Saturdays. The taxicab service provided by Green's Taxi Service, Inc., is available seven days per week, 24 hours per day.

Specialized Transportation Services

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

The Racine 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 two private bus companies--the Allyn Bus Company, Ltd., and Jelco Wisconsin, Inc.--for about 14,500 students residing within the District. In addition, some students eligible for transportation within the school district and residing within the service area of the Belle Urban System are provided with passes or tokens for use of the regular city bus routes, with the school district reimbursing the City of Racine for each student trip made on the local transit system. About 1,000 students within the School District during the 1982-83 school year were issued passes or tokens from the School District for use of the Belle Urban System.

The Racine County Human Services Department administers two major programs providing for specialized transportation services for elderly and handicapped persons residing within the Planning District. The first program provides door-to-door transportation services to transportation handicapped and able-bodied elderly persons in Racine County. Under this program, Racine County contracts for the actual provision of transportation services from two private bus companies--Jelco Wisconsin, Inc., in eastern Racine County, and Graf's Bus Company in western Racine County. Contracts for bus service from these companies are for a specified number of vehicle hours per week rather than for a certain number of vehicles. Both bus companies must have accessible vehicles at all times.

Two types of transportation service are provided by the program. Within the nonurbanized portion of the County, which includes part of the Racine Urban Planning District, door-to-door transportation services are provided on an advance reservation basis, with requests for service generally required to be made at least one day in advance of the time needed. Transportation service in the nonurbanized portion of the District is available to eligible persons Mondays through Fridays between the hours of 9:00 a.m. and 4:00 p.m. Within the transit service area of the Belle Urban System, door-to-door transportation

is provided both on a demand-responsive and advance reservation basis, with a one-hour response time for servicing demand-responsive trip requests. Transportation service within this portion of the Planning District is available to eligible users Mondays through Fridays between 7:00 a.m. and 6:30 p.m. and on Saturdays between 10:00 a.m. and 4:00 p.m.

The principal users of the specialized transportation services provided in the nonurbanized portion of the District by this program are individuals certified as transportation handicapped, with able-bodied elderly persons 60 years of age or older accommodated on a space-available basis. Only persons certified as handicapped and unable to use the buses of the regular transit system are eligible to use the demand-responsive transportation service provided within the service area of the Belle Urban System. Certification for either service requires the submission of a physician's statement regarding the nature of the person's handicap for review and approval by the Human Services Department. Charges for both services provided under the program are $0.50.

The program is currently utilized by about 440 individuals certified as eligible transportation handicapped users, and about 35 noncertified users. During 1982, an average of about 2,600 one-way trips per month were made on the services offered under this program administered by Lincoln Lutheran of Racine. Of this total, about 1,400 one-way trips per month were made on the demand-responsive service serving eastern Racine County.

The second major program administered by the Racine County Human Services Department is a specialized transportation program for developmentally disabled individuals. Under this program, the Human Services Department contracts with private bus companies for the provision of regular transportation service for the clients of agencies providing training, sheltered employment, or other services to developmentally disabled persons within Racine County. The Human Services Department contracted with the Jelco Bus Company, Inc., during 1983 to provide fixed route transportation services to clients participating in the programs offered by four agencies within the District--Careers Servicing Developmentally Disabled Individuals; Curative Workship of Racine; Goodwill Industries of Southeastern Wisconsin, Inc.; and the Racine County Opportunity Center. About 100 persons within the Planning District, making about 4,000 one-way trips per month, are currently provided with this special transportation service.

SUMMARY

Urban public transit service has been available in the Racine Urban Planning District since 1883, when street railway operations were initiated. Public transit service in Racine was provided exclusively by streetcars until 1928, when service over the first feeder bus route was initiated. The system was converted to motor bus operation in 1940. Continuous declines in ridership and profits after World War II resulted in several changes in the ownership of the transit system. On July 1, 1975, the City of Racine acquired the transit system from the last private operator, which it had subsidized for the previous two years, and began public operation of the Belle Urban System.

Currently, the local bus system in the City of Racine is operated by the private management firm of Taylor, Enterprises, Inc., under the direct supervision

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

The local bus system in July 1983 consisted of 12 regular city routes totaling about 162 weekday round-trip route miles. Eight of the bus routes are lineal in design and serve primarily the City of Racine. One bus route extends into Kenosha County to serve the University of Wisconsin-Parkside. The remaining three bus routes serve areas within the Towns of Caledonia and Mt. Pleasant and the Village of Sturtevant, and connect with other bus routes serving the City of Racine. Ridership on the transit system has increased dramatically since the City began public operation, increasing about fourfold between 1975 and 1982. This rate of ridership growth has surpassed the rate at which the amount of transit service has been increased, resulting in significant increases in the productivity of the transit system between 1975 and 1982. Currently, Routes 2, 3, 4, and 7 carry about 59 percent of the total revenue passengers on the system on an average weekday.

Survey data collected to ascertain characteristics of the transit riders indicated that 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. Similar survey data describing the trip characteristics of the transit riders indicated that about 83 percent of the transit riders resided within the City of Racine in 1980. Only about 4 percent of the transit users make 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 40 percent and 29 percent, respectively, of all transit trips made for these purposes.

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 00 per vehicle hour in 1975 to about $15.50 per vehicle hour in 1982. However, after an initial increase from $0.30 in 1975 to $0.51 in 1976, the operating deficit per passenger decreased to $0.43 in 1979, due primarily to the significant growth of transit ridership on the system, before increasing to $0.58 in 1982. 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 Racine by utilizing available federal and state transit operating assistance funds and local revenues from sources other than the City. The availability of federal and state transit assistance funds has also enabled the City to completely implement the recommendations of the previous transit system plan and program.

Aside from the local bus system, local transit service within the Racine Urban Planning District is also provided by two private taxicab companies--Courtesy Cab Company and Green's Taxi Service, Inc. Intercity transit service includes bus service provided by two private carriers--Wisconsin Coach Lines, Inc., and Greyhound Lines-West, Inc.--which operate routes connecting Racine with Milwaukee, Kenosha, and Chicago, and railroad passenger train service provided by Amtrak, which operates train service between Milwaukee and Chicago with a stop in the Village of Sturtevant. Specialized transit service within the District is provided by the Racine Unified School District which contracts

with the Allyn Bus Company, Ltd., and Jelco Wisconsin, Inc., for the provision of yellow school bus service to students residing both within and outside the service area of the Belle Urban System, and also by the Racine County Human Services Department which administers programs providing specialized transportation service to transportation handicapped, developmentally disabled, and elderly persons within the 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 the previous chapter, will be used to evaluate the existing transit system and identify areas of needed improvement. The results of this analysis will be reported in the following chapter.

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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 Racine'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, and identifies areas of efficient and inefficient operation. To facilitate evaluation, only those key standards that were considered to be the most important in assessing the operating and financial performance of the existing transit system were used, as shown in Table 34. Some of the standards not selected for use in the evaluation were simply not appropriate for this use. Some of the standards not used provide guidelines for the design of new service or warrants for capital projects, and others refine and detail the selected standards. Inclusion of all these standards in the performance evaluation would have resulted in an unmanageable amount of information. However, all of the standards were followed in the preparation of alternative plans and the recommended transit system plan and program.

The performance evaluation was conducted at two levels, utilizing the sets of performance measures set forth in Table 35. At the first level, an assessment of performance was made on a systemwide basis to ascertain the degree to which the existing transit system attained certain transit service objectives and standards. This assessment was conducted in two parts, with the first part examining the extent to which the transit system serves the major land uses and transit-dependent population groups within the Racine area, and the second part presenting a comparison of the ridership and financial performance of the transit system with that observed on Wisconsin transit systems of similar size. Through this comparison, areas of performance on the Racine transit system which differed markedly from those observed on the similar size systems were identified. Further analyses were then conducted to determine possible causes of the differences in performance.

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 low performance levels and to determine if changes should be considered. The following sections of this chapter present the findings of the evaluation process. These findings were used in the development of alternative transit system plans as 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 agreed-upon objectives was accomplished through the application of performance measures

Table 34

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 35

APPLICATION OF SPECIFIC PERFORMANCE MEASURES IN THE PERFORMANCE APPLICATION 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 Promote Transit Utilization and Provide for 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.

related to the first two transit service objectives. The performance 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

A total of 110,200 persons are estimated to reside within about one-quarter mile of the bus routes operated by the transit system as of July 1983. This represents about 89 percent of the total resident population of the district, and about 93 percent of the total urbanized area population. This approximate quarter-mile service area is shown on Map 26. Of the total service area population, about 85,600 persons, or 78 percent, reside within the City of Racine proper, representing virtually all of the city population. About 18 percent of the service area population reside within either the Town of Caledonia or the Town of Mt. Pleasant, and about 3 percent of the service area population resides within the Village of Sturtevant. The remaining 1 percent of the service area population is comprised of residents of the Villages of Wind Point, Elmwood Park, or North Bay.

Major Land Use Areas Served

Land use areas considered to be major traffic generators were identified in Chapter III of this report. For transit service evaluation purposes, these traffic generators were considered to be served if they were located within one-eighth mile of a bus route. The major traffic generators which were determined to not meet this criterion are listed in Table 36, and their locations are shown on Map 27.

Twelve major shopping areas and six community or special medical centers were identified within the study area in Chapter III. All of these shopping areas and medical centers were determined to be served by the transit system.

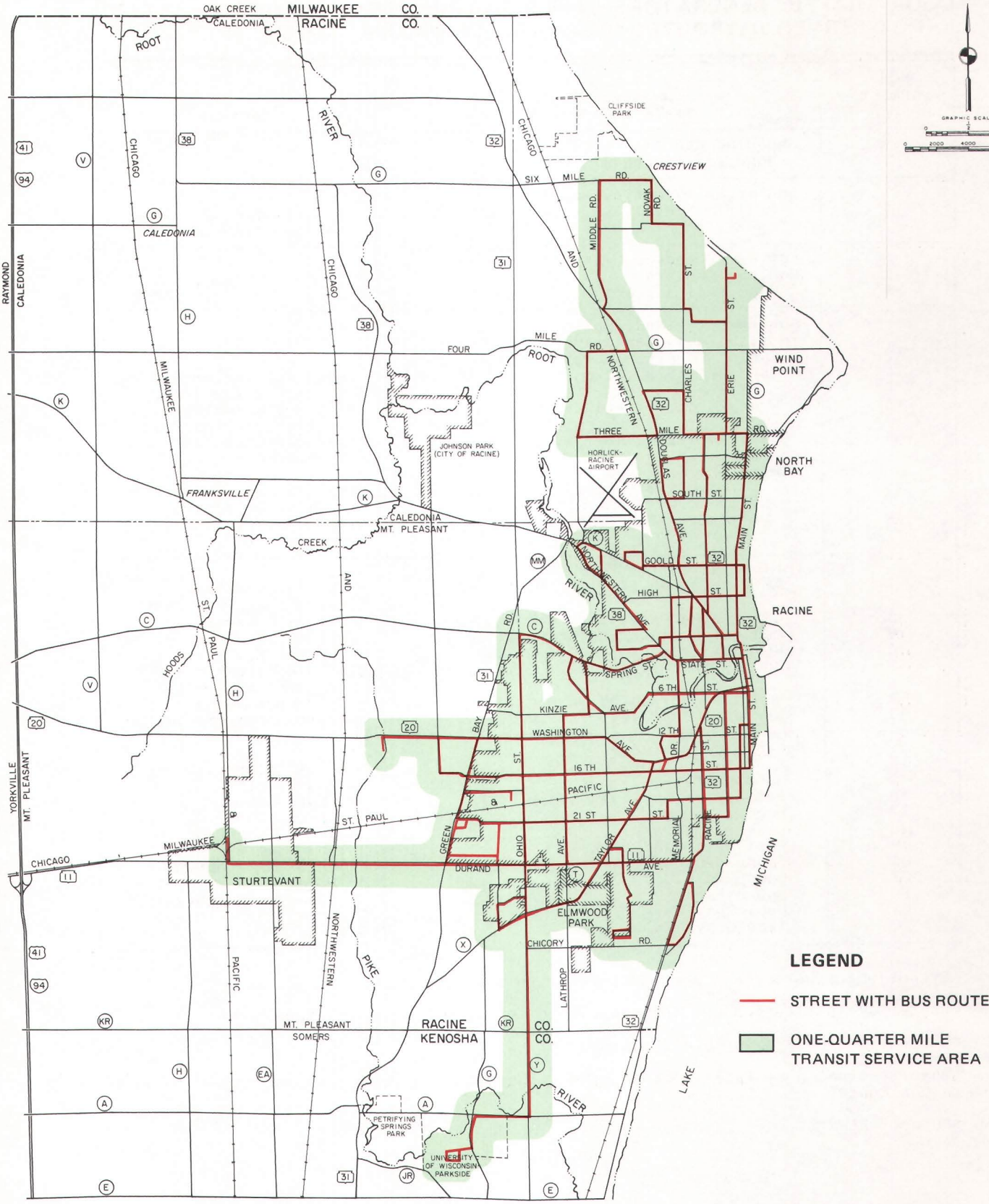
Sixteen major public and private educational institutions were identified within the study area. Only one of these educational institutions--Prairie School in the Village of Wind Point--was not located within one-eighth mile of a bus route and was, therefore, considered to be not served by the transit system. This educational institution also was not located within the one-quarter-mile service area of the transit system.

Of the 12 governmental and public institutional centers identified within the district, five centers are not served by a bus route. However, it should be noted that four of these centers--the Racine County Highway and Office Building, the Caledonia Town Hall, the Caledonia Post Office, and the Franksville Post Office--are located in the rural portion of the study area where residential densities are not high enough to support conventional, fixed route, public transit service.

Of the 59 major employment centers identified, 51 were located within one-eighth mile of a bus route. Of the eight centers considered to be not served by the transit system, only four centers--Medical Engineering Corporation, the Racine County Highway and Office Building, Unico, Inc., and Warren Industries, Inc.--were not located within at least one-quarter mile of a bus route.

Map 26

QUARTER-MILE SERVICE AREA FOR THE BELLE URBAN SYSTEM: JULY 1983



Source: SEWRPC.

Table 36

MAJOR TRAFFIC GENERATORS IN THE RACINE URBAN PLANNING DISTRICT NOT SERVED BY ROUTES OF THE BELLE URBAN SYSTEM: JULY 1983

Code Number on Map 27	Unserved Major Traffic Generators	Address[a]
--	Shopping Centers..... None (all served)	--
1	Educational Institutions[b] Prairie School.....	4050 Lighthouse Drive, Village of Wind Point
--	Community and Special Medical Centers None (all served)	--
2	Governmental and Public Institutional Centers[b] Racine County Highway and Office Building[c].....	14200 Washington Avenue, Town of Yorkville
3	Wind Point Village Hall.....	5120 Hunt Club Road, Village of Wind Point
4	Caledonia Town Hall.....	6922 Nicholson Road, Town of Caledonia
5	U. S. Post Office Caledonia Office.....	11510 County Trunk G, Town of Caledonia
6	Franksville Office.....	3319 Roberts Street, Franksville
7	Employment Centers[b] AMETEK - Lamb Electric Division.....	2745 Chicory Road, Town of Mt. Pleasant
8	Getty's Manufacturing Company, Inc...	2700 Golf Avenue
9	Medical Engineering Corporation.....	3037 Mt. Pleasant Street
10	Moxness Products, Inc.....	1914 Indiana Street
11	Unico, Inc.....	3725 Nicholson Road, Town of Caledonia
12	Western Publishing Company, Inc.....	1220 Mound Avenue
13	Warren Industries, Inc.....	3130 Mt. Pleasant Street
14	Recreational Areas[d] Cliffside County Park.....	Town of Caledonia
15	Johnson Park.....	City of Racine
16	Petrifying Springs County Park.....	Town of Somers
17	Memorial Park.....	Town of Caledonia
18	Greenridge Park.....	Town of Caledonia
19	Horlick Island Park.....	City of Racine
20	Sanders County Park.....	Town of Mt. Pleasant
21	Shoop Park.....	Village of Wind Point
22	South Park.....	Village of Sturtevant
23	Municipal Park.....	Village of Sturtevant
24	Ives Grove Golf Links.....	Town of Yorkville

[a] Except where noted, all addresses refer to the City of Racine.

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

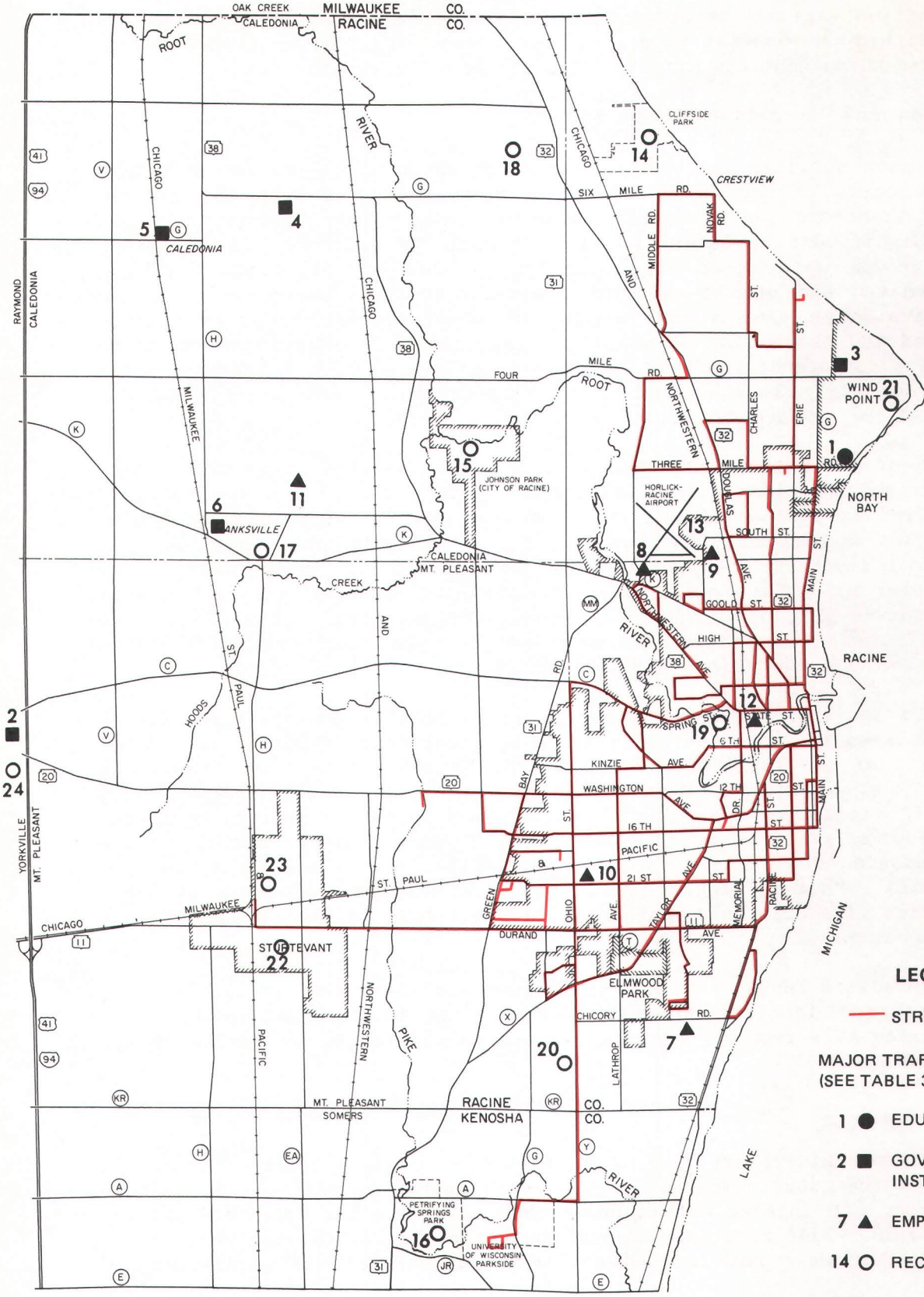
[c] Center is also a major employment center.

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

Source: SEWRPC.

Map 27

LOCATION OF MAJOR TRAFFIC GENERATORS NOT SERVED BY THE BELLE URBAN SYSTEM: 1983



LEGEND

STREET WITH BUS ROUTE

MAJOR TRAFFIC GENERATOR (SEE TABLE 36)

1 ● EDUCATIONAL INSTITUTION

2 ■ GOVERNMENTAL AND PUBLIC INSTITUTIONAL CENTER

7 ▲ EMPLOYMENT CENTER

14 O RECREATIONAL AREA

Source: SEWRPC.

A total of 29 recreational sites were identified within the study area. Of this total, 18 were identified as having recreational facilities located within one-eighth mile of a bus route. Of the 11 recreational sites in which recreational facilities were not considered to be served, four sites had recreational facilities within one-quarter mile of a bus route. The remaining seven sites were scattered throughout the rural portion of the Planning District.

Transit-Dependent Population Groups Served

Six special population groups were discussed in Chapter III as traditionally having less access to the automobile as a form of travel than the general public and, therefore, being highly dependent upon public transportation if available. Significant residential concentrations of four of the discussed population groups were found: the elderly, persons in low-income families, racial (nonwhite) 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 catagories were identified as high-priority areas for transit service (see Map 9 in Chapter III). Currently, these areas are completely located within the quarter-mile service area of the transit system for residential areas.

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 transit service evaluation purposes, it was considered important that facilities for the elderly and handicapped be directly served by a bus route. Subsidized rental housing facilities were considered served if located within one-quarter mile of a bus route. The special facilities that were determined to not meet this criterion are listed in Table 37, and their locations shown on Map 28.

A total of 31 facilities for the elderly, 23 facilities for the handicapped, and six facilities for both the elderly and handicapped were identified in the district. Five of the facilities for the elderly and seven of the facilities for the handicapped were not directly served by a bus route. However, only two of the 12 facilities not directly served were found to be more than one-quarter mile from a bus route--the East Side Community Hall located in the Town of Caledonia, and Careers for Retarded Adults, Inc., located in the Town of Mt. Pleasant. The remaining 10 facilities were all located within at least one-eighth mile of a bus route, with most of the facilities located within one block of a bus route.

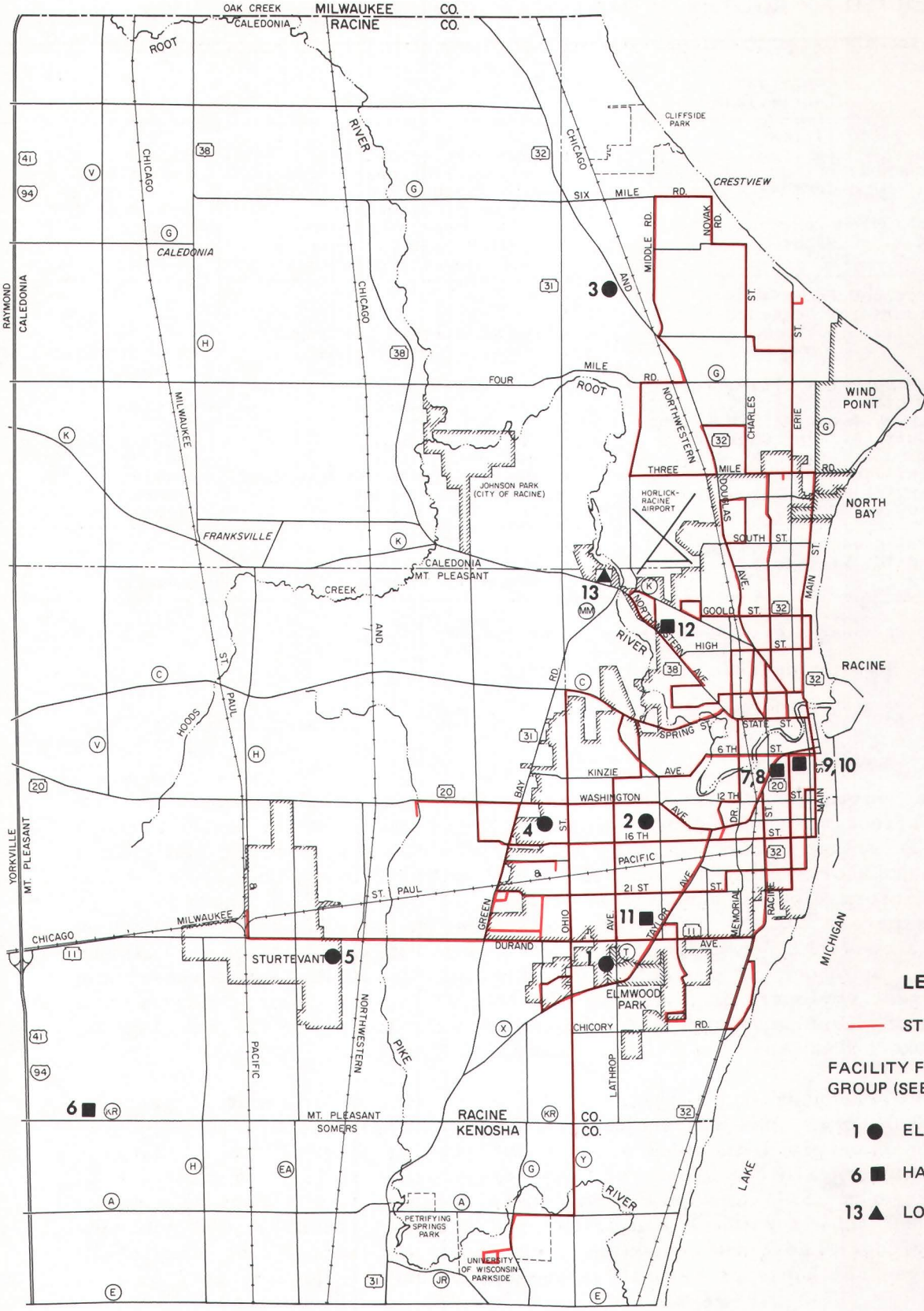
Seventeen subsidized rental housing facilities were identified in the Planning District. Only one facility--Woodside Village--was found to be located more than one-quarter mile from a bus route and not considered to be served by the transit system.

Jobs Served

In Chapter III of this report, the major employment centers located within the study area and the total number of jobs at each center were identified. Those major employers not located within one-eighth mile of a bus route are identified in Table 36. While this information was useful in identifying which major employers were or were not located within a reasonable walking distance of

Map 28

LOCATION OF FACILITIES FOR TRANSIT DEPENDENT POPULATION GROUPS NOT SERVED BY THE BELLE URBAN SYSTEM: 1983



LEGEND

STREET WITH BUS ROUTE

FACILITY FOR TRANSIT DEPENDENT GROUP (SEE TABLE 37)

1 ● ELDERLY FACILITY

6 ■ HANDICAPPED FACILITY

13 ▲ LOW INCOME HOUSING

Source: SEWRPC.

Table 37

ELDERLY AND HANDICAPPED FACILITIES AND SUBSIDIZED RENTAL HOUSING NOT SERVED BY ROUTES OF THE BELLE URBAN SYSTEM: JULY 1983

Code Number on Map 28	Unserved Facilities	Address[a]	Function
	Elderly Facilities[b]		
1	Albert House	4000 Maryland Avenue	Housing
2	Atonement Lutheran Church	2915 Wright Avenue	Nutrition Site
3	East Side Community Hall	STH 32 and Five Mile Road, Town of Caledonia	Senior Center
4	Washington Court	5101 Wright Avenue	Housing
5	Westridge Manor	3101-3133 86th Street, Village of Sturtevant	Housing
	Handicapped Facilities[b]		
6	Careers for Retarded Adults, Inc.	12406 County Line Road, Town of Mt. Pleasant	Rehabilitation/ Employment
7	Developmental Disabilities Information Service	800 Center Street	Referral
8	Gateway Technical Institute-- Adult Learning Center	800 Center Street	Special Education
9	Racine Transitional Care, Inc.	801 Park Avenue	Housing
10	Satellite House I and II	820 and 834 College Avenue	Housing
11	Sharpf Family Care Center	2608 Hayes Avenue	Housing
12	Wadewitz School	2700 Yout Street	Special Education
	Subsidized Rental Housing[c]		
13	Woodside Village	4200 Northwestern Avenue, Town of Caledonia	Housing

[a] Except where noted, all addresses refer to the City of Racine.

[b] Facility not located directly on a bus route.

[c] Facilities not located within one-quarter mile of a bus route.

Source: SEWRPC.

a bus route, further analysis was necessary to determine the number of jobs which were effectively served by the service hours and schedules of the transit system. To facilitate this analysis, the employment by work shift was determined for the major employment centers located within one-eighth mile of a bus stop. This information is summarized in Table 38. As shown in the table, in 1983 approximately 20,000 jobs were available at the 51 major employment centers located within one-eighth mile of a bus route. About 11,400 of the 20,000 jobs, or about 57 percent, were available at 10 centers representing the six largest employers in the area: the four J. I. Case Company plants, the In-Sink-Erator plant, the two S. C. Johnson & Son, Inc., plants, the Regency Mall, St. Luke's Hospital, and St. Mary's Medical Center.

Specific work schedules were ascertained for about 15,000, or about 75 percent, of the 20,000 total jobs available. The 5,000 jobs for which work schedules could not be determined included about 4,300 jobs at four of the 10 largest employment centers, in the area--the Howe Street plant of S. C. Johnson & Son, Inc., the Regency Mall, St. Luke's Hospital, and St. Mary's Medical Center. Of the 15,000 jobs for which schedules were obtained, about 11,600 jobs--or about 77 percent--had work schedules with start and stop times completely within the general hours of transit system operation of 5:30 a.m. to 7:00 p.m.

Table 38

JOBS SERVED AT MAJOR EMPLOYMENT CENTERS WITHIN ONE-EIGHTH MILE SERVICE OF THE BELLE URBAN SYSTEM: 1983

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially
Industrial/ Manufacturing	A & E Manufacturing Company	1905 Kearney Avenue	7:00 a.m.- 3:30 p.m.	80	--	--
			7:00 a.m.- 4:00 p.m.	20	--	--
			3:30 p.m.-12:00 a.m.	20	--	--
			Total	120	--	--
	Andis Company	1718 Layard Avenue	7:00 a.m.- 3:30 p.m.	100	100	--
	J. I. Case Company	700 State Street	7:00 a.m.- 3:00 p.m.	10	10	--
			7:00 a.m.- 3:30 p.m.	30	30	--
			8:00 a.m.- 4:30 p.m.	10	10	--
			8:00 a.m.- 5:00 p.m.	330	330	--
			3:00 p.m.-11:00 p.m.	5	--	5
			4:30 p.m.- 1:00 a.m.	10	--	--
			Total	395	380	5
		24th Street and Mead Street	7:00 a.m.- 3:30 p.m.	1,105	1,105	--
			7:30 a.m.- 4:00 p.m.	630	630	--
			8:00 a.m.- 5:00 p.m.	45	45	--
			7:00 a.m.- 3:00 p.m.	5	5	--
			3:00 p.m.-11:00 p.m.	5	--	5
			3:30 p.m.-11:00 p.m.	240	--	240
			3:30 p.m.-11:30 p.m.	5	--	5
			11:00 p.m.- 7:00 a.m.	90	--	90
			Other	10	--[e]	--[e]
			Total	2,135	1,785	340
		6900 Durand Avenue, Town of Mt. Pleasant	7:00 a.m.- 3:00 p.m.	5	5	--
			7:00 a.m.- 3:30 p.m.	450	450	--
			7:30 a.m.- 4:00 p.m.	90	90	--
			8:00 a.m.- 4:30 p.m.	130	130	--
			12:00 p.m.- 8:30 p.m.	70	--	70
			3:00 p.m.-11:00 p.m.	5	--	5
			3:30 p.m.-11:00 p.m.	100	--	100
			11:00 p.m.- 7:00 a.m.	25	--	25
			Total	875	675	200

Table 38 (continued)

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially
Industrial/ Manufacturing (continued)	J. I. Case Company (continued)	1400 Green Bay Road, Town of Mt. Pleasant	7:00 a.m.- 4:00 p.m.	20	--	20
			7:30 a.m.- 4:30 p.m.	5	--	5
			7:30 a.m.- 5:00 p.m.	5	--	5
			8:00 a.m.- 4:00 p.m.	15	--	15
			8:00 a.m.- 5:00 p.m.	310	--	310
			4:00 p.m.-12:00 p.m.	10	--	10
			4:30 p.m.- 1:00 a.m.	10	--	10
			12:00 a.m.- 8:00 a.m.	10	--	--
			Total	385	--	375
	Color Arts, Inc.	1840 Oakdale Avenue	7:00 a.m.- 3:00 p.m.	90	90	--
			3:00 p.m.-11:00 p.m.	40	--	40
			Total	130	90	40
	Dremel Manufacturing Company-- Division of Emerson Electric Company	4915 21st Street	6:55 a.m.- 3:20 p.m.	N/A	--[e]	--[e]
			3:40 p.m.-12:00 a.m.	N/A	--[e]	--[e]
			7:55 a.m.- 4:20 p.m.	N/A	--[e]	--[e]
			Total	250	--[e]	--[e]
	Dumore Corporation	1300 17th Street	7:00 a.m.- 3:30 p.m.	50	50	--
			7:30 a.m.- 4:30 p.m.	50	50	--
			Other	10	--[e]	--[e]
			Total	110	100	--
	Exide Corporation	1222 18th Street	6:30 a.m.- 3:45 p.m.[d]	N/A	--[e]	--[e]
			2:30 p.m.-12:00 a.m.[d]	N/A	--[e]	--[e]
			10:45 p.m.- 7:45 a.m.[d]	N/A	--[e]	--[e]
			Total	110	--[e]	--[e]
	Harris Metals, Inc.	4210 Douglas Avenue, Town of Caledonia	7:00 a.m.- 3:30 p.m.	60	--	60
			7:30 a.m.- 4:00 p.m.	60	--	60
			Other	50	--[e]	--[e]
			Total	170	--	120
	In-Sink-Erator--Division of Emerson Electric Company	4700 21st Street	7:00 a.m.- 3:00 p.m.	325	325	--
			7:30 a.m.- 4:30 p.m.	140	140	--
			3:00 p.m.-11:00 p.m.	325	--	325
			11:00 p.m.- 7:00 a.m.	60	--	60
			Total	850	465	385
	Jacobsen Manufacturing Company--Division of Textron, Inc	1721 Packard Avenue	7:00 a.m.- 3:30 p.m.	300	300	--
			7:30 a.m.- 4:30 p.m.	200	200	--
			3:30 p.m.-12:00 a.m.	50	--	50
			Total	550	500	50
	S. C. Johnson & Son, Inc.	2512 Willow Road, Town of Mt. Pleasant	7:00 a.m.- 3:00 p.m.	1,500	1,500	--
			3:00 p.m.-11:00 p.m.	500	--	500
			11:00 p.m.- 7:00 a.m.	500	--	--
			Total	2,500	1,500	500

Table 38 (continued)

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially
	S. C. Johnson & Son, Inc. (continued)	1525 Howe Street	Flexible hours between 7:00 a.m. and 4:30 p.m.	990	--[e]	--[e]
	Mamco Corporation	532 4th Street	6:45 a.m.- 3:15 p.m. 8:00 a.m.- 4:30 p.m. Total	95 5 100	-- 5 5	95 -- 95
	Massey-Ferguson, Inc.	2200 Dekoven Avenue	7:00 a.m.- 3:30 p.m. 7:30 a.m.- 4:00 p.m. 3:30 p.m.-12:00 a.m. Total	175 175 30 380	175 -- -- 175	-- 175 30 205
	McGraw-Edison Company-- Halo Lighting Division	7601 Durand Avenue, Town of Mt. Pleasant	6:00 a.m.- 2:20 p.m. 6:55 a.m.- 3:20 p.m. 7:30 a.m.- 4:00 p.m. Total	10 90 90 190	10 90 90 190	-- -- -- --
	Modine Manufacturing Company	1500 Dekoven Avenue	7:00 a.m.- 3:30 p.m. Other Total	170 330 500	170 --[e] 170	-- --[e] --
	Motor Specialty, Inc.	2801 Lathrop Avenue	7:00 a.m.- 3:30 p.m. 8:00 a.m.- 5:00 p.m. 3:30 p.m.-12:00 a.m. Total	50 20 50 120	50 20 -- 70	-- -- 50 50
	Pioneer Products, Inc.	1917 S. Memorial Drive	7:00 a.m.- 3:30 p.m. 3:15 p.m.-12:00 a.m. Total	75 45 120	75 -- 75	-- 45 45
	Printing Developments, Inc.	2010 Indiana Street	5:00 a.m.-12:30 p.m. 7:00 a.m.- 3:30 p.m. 8:00 a.m.- 4:30 p.m. 10:30 a.m.- 8:30 p.m. Total	25 25 25 25 100	-- 25 25 -- 50	25 -- -- 25 50
	Professional Positioners, Inc.	2525 Three Mile Road, Town of Caledonia	Flexible hours between 3:00 a.m. and 10:00 p.m.	180	--[e]	--[e]
	Racine Hydraulics--Division of Dana Corporation	7505 Highway 11, Town of Mt. Pleasant	7:00 a.m.- 3:00 p.m. 7:30 a.m.- 4:00 p.m. 3:00 p.m.-11:00 p.m. Total	130 100 20 250	130 100 -- 230	-- -- 20 20

Table 38 (continued)

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially
Industrial/ Manufacturing (continued)	Racine Industries, Inc.	1405 16th Street	7:00 a.m.- 4:30 p.m.	80	80	--
			8:00 a.m.- 4:30 p.m.	40	40	--
			4:30 p.m.-10:00 p.m.	10	--	10
			Total	130	120	10
	Racine Journal Times	212 4th Street	Flexible hours	200	--[e]	--[e]
	Racine Steel Castings-- Division of Evans Products Company	1442 N. Memorial Drive	5:00 a.m.- 1:30 p.m.	425	--	425
			7:30 a.m.- 4:30 p.m.	35	35	--
			1:30 p.m.-10:30 p.m.	25	--	25
			10:00 p.m.- 6:00 a.m.	25	--	25
			Total	510	35	475
	Rainfair, Inc.	1501 Albert Street	7:00 a.m.- 3:00 p.m.	100	100	--
			7:30 a.m.- 4:30 p.m.	50	50	--
			Total	150	150	--
	E. C. Styberg Engineering Company	1600 Gould Street	7:00 a.m.- 3:30 p.m.	100	100	--
			7:30 a.m.- 4:00 p.m.	15	15	--
			8:00 a.m.- 4:30 p.m.	20	20	--
			3:00 p.m.-11:00 p.m.	10	--	10
			11:00 p.m.- 7:00 a.m.	5	--	5
			Total	150	135	15
	Twin Disc, Inc.	1328 Racine Street	7:00 a.m.- 3:00 p.m.	125	125	--
			7:30 a.m.- 4:25 p.m.	180	180	--
			3:00 p.m.-11:00 p.m.	10	--	10
			11:00 p.m.- 7:00 a.m.	5	--	5
			Total	320	305	15
		4600 21st Street	7:00 a.m.- 3:00 p.m.	235	235	--
			7:30 a.m.- 4:25 p.m.	65	65	--
			3:00 p.m.-11:00 p.m.	80	--	80
			11:00 p.m.- 7:00 a.m.	20	--	20
			Total	400	300	100
	Voorlas Manufacturing Company	1711 South Street	7:00 a.m.- 3:30 p.m.	110	110	--
			8:00 a.m.- 4:30 p.m.	35	35	--
			3:30 p.m.-12:00 a.m.	35	--	35
			Total	180	145	35
	Walker Manufacturing Company	1201 Michigan Boulevard	7:00 a.m.- 3:30 p.m.	40	40	--
			7:00 a.m.- 4:00 p.m.	15	15	--
			7:30 p.m.- 4:30 a.m.	295	295	--
			Total	350	350	--

Table 38 (continued)

Employment Category	Employment Center	Address[a]	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially
Industrial/ Manufacturing (continued)	Webster Electric Company	1901 Clark Street	7:00 a.m.- 3:30 p.m. 7:30 a.m.- 4:00 p.m. 3:30 p.m.-12:00 a.m. Other Total	145 45 30 10 230	145 45 -- --[e] 190	-- -- 30 --[e] 30
	Western Publishing Company	5737 Erie Street, Town of Caledonia	7:45 a.m.- 4:45 p.m.	100	--	100
		5947 Erie Street, Town of Caledonia	7:45 a.m.- 4:45 p.m.	100	--	--
	Young Radiator Company	2825 Four Mile Road, Town of Caledonia	7:00 a.m.- 3:30 p.m. 7:30 a.m.- 4:00 p.m. Total	85 85 170	85 -- 85	-- -- --
Commercial	K-Mart Department Store	1750 Ohio Street	Varies by day of week between 7:30 a.m. and 10:00 p.m.	150	--[e]	--[e]
	Sheraton Racine Motor Inn	7111 Washington Avenue, Town of Mt. Pleasant	7:00 a.m.- 4:00 p.m. 4:00 p.m.-11:00 p.m. 11:00 p.m.- 7:00 a.m. Total	N/A N/A N/A 130	--[e] --[e] --[e] --[e]	--[e] --[e] --[e] --[e]
	Shopko Department Store	4801 Washington Avenue	Varies by day of week between 9:00 a.m. and 10:00 p.m.	220	--[e]	--[e]
	Regency Mall	Durand Avenue and Green Bay Road	Varies by day of week by store	1,500	--[e]	--[e]
Governmental/ Institutional	Racine City Hall	730 Washington Street	8:00 a.m.- 4:30 p.m.	100	100	--
	Racine County Courthouse	730 Wisconsin Avenue	8:00 a.m.- 5:00 p.m.	200	200	--
	Racine County Sheriff's Department	717 Wisconsin Avenue	7:00 a.m.- 3:00 p.m. 3:00 p.m.-11:00 p.m. 11:00 p.m.- 7:00 a.m. Total	100 70 70 240	100 -- -- 100	-- 70 70 140
	Racine County High Ridge Health Care Center	2433 S. Green Bay Road	8:00 a.m.- 4:30 p.m. 3:30 p.m.-11:00 p.m. 11:00 p.m.- 7:00 a.m. Total	150 100 100 350	150 -- -- 150	-- 100 100 200
	Racine County Human Services Department	425 Main Street	7:30 a.m.- 4:30 p.m.	250	250	--

Table 38 (continued)

Employment Category	Employment Center	Address	Total Employment by Shift		Employment Served[b]	
			Scheduled Hours	Number of Employees	Fully[c]	Partially
Governmental/ Institutional (continued)	Racine Police Department	730 Center Street	7:00 a.m.- 4:00 p.m. 4:00 p.m.-12:00 a.m. 12:00 a.m.- 7:00 a.m. Total	90 70 40 200	90 -- -- 90	-- 70 40 110
	Kurten Medical Group	2405 Northwestern Avenue	Variable between 7:15 a.m. and 4:30 p.m.	110	--[e]	--[e]
	St. Luke's Hospital	1320 Wisconsin Avenue	Varies by department	900	--[e]	--[e]
	St. Mary's Medical Center	3801 Spring Street	Varies by department	910	--[e]	--[e]
	Racine Medical Clinic	5625 Washington Avenue	8:00 a.m.- 5:00 p.m. Variable between 6:30 a.m. and 9:00 p.m. Total	100 30 130	-- --[e] --	100 --[e] 100
Total				19,990	9,265	3,910

NOTE: N/A indicates data not available.

[a] Except where noted, all addresses refer to the City of Racine.

[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 scheduled stop time.

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

[d] Maximum range of scheduled hours for shift. Actual hours have staggered start and stop times.

[e] Cannot be determined from available data.

Source: SEWRPC.

and, on that basis, could be fully served by the public transit system. The remaining 3,400 jobs, or about 23 percent, had work schedules under which only the start or the stop time fell within the hours of transit system operation and, therefore, could be only partially served by the transit system.

Standard 6 of Objective No. 2 states that the number of jobs served by the transit system should be maximized. For the purpose of this study, jobs are considered to be fully served when scheduled transit service allows employees to arrive at their job locations no sooner than 20 minutes, but no later than 5 minutes, before the job's scheduled start time, and allows employees to depart from their job location within 20 minutes of the job's scheduled stop time. Of the 11,600 jobs at major employment centers with work schedules falling completely within the hours of transit system operation, about 9,300 jobs have work schedules which are fully served by scheduled transit service and an additional 1,000 jobs have work schedules under which either the start or stop times are served by scheduled transit service. Of the 3,400 jobs with work schedules under which only the start or stop time falls within the hours of transit system operation, about 2,900 jobs have start or stop times which are served by scheduled transit service. In total, about 13,200 jobs at the major employment centers, or about 88 percent of the jobs for which work schedules were obtained, are either fully or partially served by the scheduled transit service currently provided by the transit system. Because work schedules could not be determined for 5,000 jobs, it is impossible to do a complete analysis of how well scheduled transit service serves all jobs in the area. The existing schedules for the transit system are capable, however, of serving the vast majority of the work schedules which could be determined.

The data in Table 38 indicate that scheduled working hours vary significantly among types of employers as well as for individual employers. At several employers, start and stop times are flexible or staggered. At other centers, working schedules for employees vary by day of the week. This variation in working times makes the provision of full transit service to all employment centers difficult and costly. Consequently, any future scheduling revisions should emphasize serving as completely as practicable the jobs at the largest employment centers.

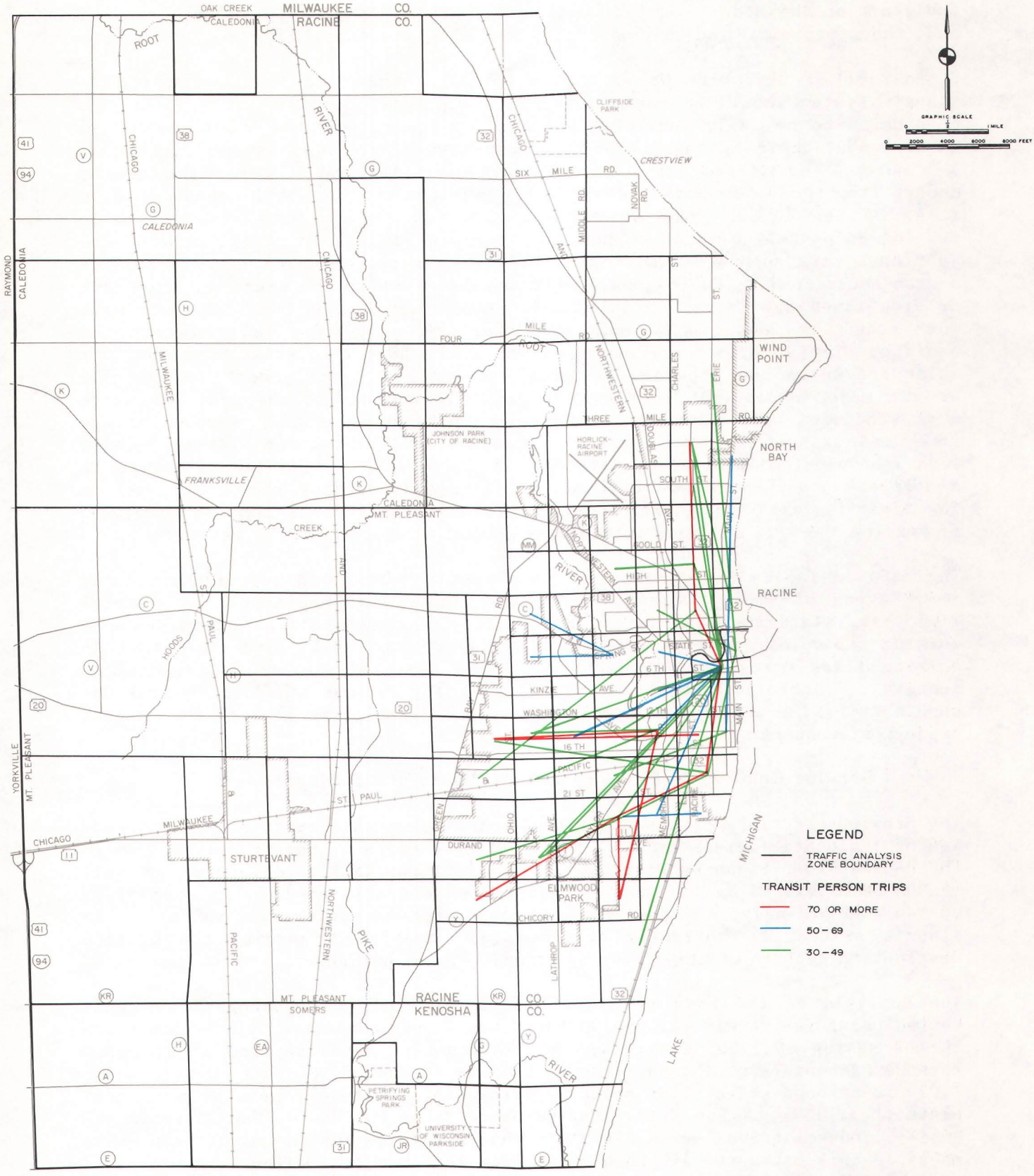
Transit Service Relative to Existing Travel Habits and Patterns

The previous sections of the chapter have indicated the extent of areal coverage of residential areas and major traffic generators by the transit system in the Racine Urban Planning District. 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 currently operated, is capable of 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 the spring of 1980. The routes of the transit system carried about 9,200 revenue passengers on the days the survey was conducted. Of this number, about 7,050 revenue passengers, or about 77 percent of the total, were able to complete their trip on the survey day 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 from this map, the major trip movements

Map 29

MAJOR TRAVEL DESIRE LINES FOR REVENUE PASSENGERS ON THE BELLE URBAN SYSTEM NOT TRANSFERRING BETWEEN BUS ROUTES: APRIL 29-MAY 1, 1980



Source: SEWRPC.

for trips completed using one bus route were focused primarily on the zones comprising the Racine central business district, which was directly served by eight of the 10 routes operated at the time of the survey. Other zones on which many trip movements were focused included those containing the major educational institutions within the District. As noted in the Chapter IV, school purpose trips comprised the plurality of the revenue trips--over 40 percent--made on the transit system at the time of the survey.

About 2,150 revenue passengers, or about 23 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 is shown on Map 30. With the exception of one interchange on the north side of the City, the major trip movements shown on the map were of low volume. The trips represented are primarily crosstown trips which could be conveniently served by the routes of the transit system even with a required transfer downtown or at other route intersections. For crosstown trips, no major trip movements were found which would require backtracking along a second route, and thus none were considered to be inconveniently served by the routes of the transit system.

Some minor changes may have occurred in the origin-destination patterns of bus passengers in the three years since the survey was conducted. The most significant change in origin-destination patterns would be attributed primarily to the opening of the Regency Mall Shopping Center on the southwest side of the City in 1981. The Regency Mall Shopping Center is anticipated to have attracted a significant number of the transit trips that were formerly destined for the Washington Square-Shopko shopping area and Elmwood Plaza Shopping Center. At present, transit service to Regency Mall is provided over two bus routes: Route 4, which originates at the Shorecrest Shopping Center on the north side of the City; and Route 7, which originates in downtown Racine. With the service provided over these routes, the majority of transit trips to Regency Mall can be conveniently completed with, at most, one transfer.

Conclusions of Evaluation of Transit Service to Land Uses

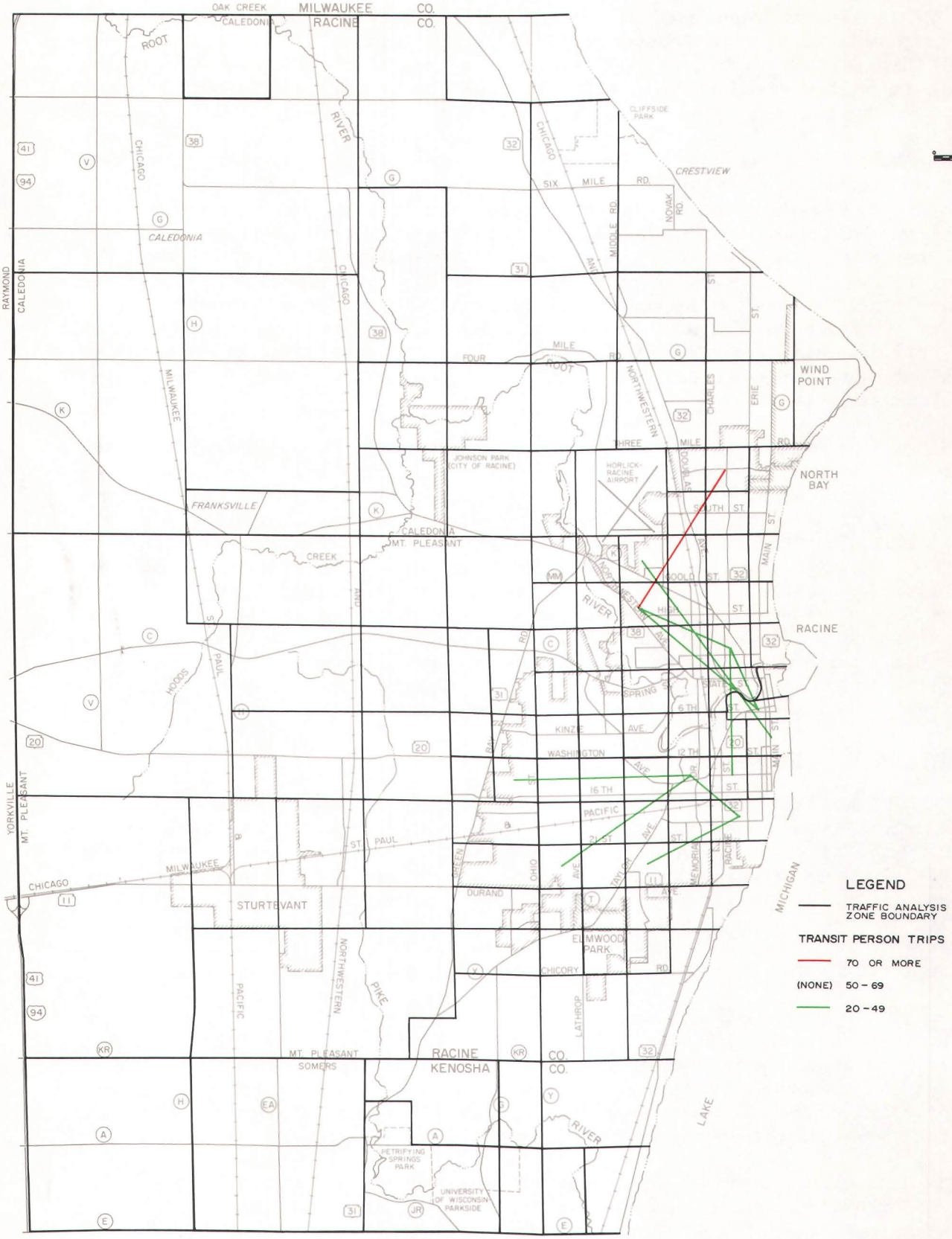
Based upon the systemwide performance evaluation, it may be concluded that the transit system provides virtually complete coverage of the residential areas of the City of Racine and good coverage of the most densely populated residential areas within the Towns of Caledonia and Mt. Pleasant and the Village of Sturtevant. 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 117, or 83 percent, of the 141 major traffic generators identified in 1983. Nine of the 24 major traffic generators not considered 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 transit system provides excellent coverage of the residential concentrations of transit-dependent groups identified within the Planning District, and very good coverage of the facilities for the elderly, the handicapped, and

Map 30

MAJOR TRAVEL DESIRE LINES FOR REVENUE PASSENGERS ON THE BELLE URBAN SYSTEM TRANSFERRING BETWEEN BUS ROUTES: APRIL 29-MAY 1, 1980



Source: SEWRPC.

low-income families. Of the 77 such facilities identified within the Planning District in 1983, 56, or 73 percent, are directly served by the transit system, and 17 of the 21 not directly served are within at least one-quarter mile of a bus route.

The transit system presently provides very good service for work purpose trips. About 88 percent of the jobs for which specific schedules were determined are either fully or partially served by the scheduled transit service currently provided by the transit system. As already noted, because of variations in work schedules, serving all of the jobs available at all centers would be difficult and costly. Possible changes in the currently scheduled service could be reviewed with a view to expanding the number of jobs fully served by the transit system. Priority should be given to fully serving a larger proportion of the total employment at the largest employment centers identified in Table 38.

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 Belle Urban System was compared to the performance of similar transit systems serving urbanized areas in Wisconsin. The primary purpose of this comparison was to identify areas of system operation in which achieved performance measure values differed substantially from the performance of the other, similar systems. These areas were then examined further to determine possible causes for the differences.

Eight mid-sized Wisconsin transit systems were selected for the comparative evaluation. The transit systems were defined to include 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 Racine transit system was compared to 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 operating characteristics in 1983 of the similar size transit systems in Wisconsin and the Belle Urban System. The Racine transit system is very similar to the other transit systems with regard to most operating characteristics, including route structure, peak-period headways, and weekday service hours. It differs primarily with respect to scheduling technique, number of routes and round-trip route miles, and fares.

Table 39

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

Operating Characteristic	Comparable Wisconsin Transit Systems				
	Valley Transit--Appleton	Eau Claire Transit System	Green Bay Transit System	Kenosha Transit System	Janesville Transit System
Ownership and Management	City with city employees	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	Radial/pulse
Number of Regular Routes					
Peak Period	19	19	16	6	7
Off-Peak Period	19	19	16	6	7
Round-Trip Route Miles	184.5	144.6	171.9	132.6	75.4
Service Frequency					
Peak Period	30-60[b]	30-60[c]	30-60[d]	30-60[e]	30-60[f]
Off-Peak Period	30-60[b]	30-60[c]	30-60[g]	60	30-60[h]
Service Hours[a]					
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.	6:00 a.m.-6:00 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.	6:00 a.m.-6:00 p.m.	8:45 a.m.-5:45 p.m.
Sundays and Holidays	--	--	--	--	--
Fare Structure					
Adult	$0.35	$0.50	$0.40	$0.40	$0.50
Student	0.25	0.35	0.30	0.35	--
Elderly and Handicapped	0.15	0.25	0.20	0.20	0.25
Child	--	--	--	--	--

Operating Characteristic	Comparable Wisconsin Transit Systems			Belle Urban System--Racine
	Oshkosh Transit System	La Crosse Municipal Transit Utility	Sheboygan Transit System	
Ownership and Management	City with city employees	City with city employees	City with city employees	City with private management firm
Routing/Scheduling Technique	Radial/pulse	Radial/pulse	Radial/pulse	Radial/nonpulse
Number of Regular Routes				
Peak Period	10	4	5	12
Off-Peak Period	10	4	9	11
Round-Trip Route Miles	68.4	71.8	134.8	161.8
Service Frequency				
Peak Period	30	30-60[i]	15	20-60[k]
Off-Peak Period	30	30-60[i]	30[j]	30-60[l]
Service Hours[a]				
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.	5:30 a.m.-6:30 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.	7:00 a.m.-5:30 p.m.
Sundays and Holidays	--	7:40 a.m.-5:40 p.m.	--	--
Fare Structure				
Adult	$0.35	$0.50	$0.40	$0.35
Student	--	--	0.35	--
Elderly and Handicapped	0.15	0.25	0.20	0.15
Child	0.15	0.30	0.30	--

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

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

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

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

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

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

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

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

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

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

[k]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.

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

Source: Wisconsin Department of Transportation and SEWRPC.

All of the comparable transit systems are publicly owned and operated with municipal employees. The Belle Urban System, while publicly owned, is operated by employees of a private management firm.

Radial routing and pulse scheduling are utilized by all of the transit systems. Under this routing and scheduling technique, most if not all of the bus routes converge on a central location, usually in the central business district, where buses on the routes arrive and depart at the same scheduled times, thus minimizing waiting time and inconvenience for transferring passengers. The routes of the Belle Urban System are laid out primarily in a radial pattern, but each route of the system is individually scheduled to best serve the major traffic generators within its service area.

The Racine transit system, with 12 peak-period routes totaling about 162 round-trip route miles, operates one more route and has about 31 percent more total daily round-trip route miles than the other systems, which average 11 peak-period routes and 123 daily round-trip route miles.

Regarding service frequencies, headways of 30 minutes or less are provided on about two-thirds--56 out of 86--of the routes operated by the other systems during the peak periods, and on about 46 percent--41 out of 90--of the routes operated during nonpeak periods. The Belle Urban System provides 20- to 30-minute headways on 10 of 12 routes operated during the peak period, and 30-minute headways on 10 of the 11 routes operated during the off-peak period.

The weekday and Saturday service hours for the Belle Urban System are similar to those of the other Wisconsin transit systems. Only three of the eight other systems provide weekday evening transit service, and only one other system provides Sunday and holiday services. No weekday evening, Sunday, or holiday service is provided by the Belle Urban System.

The average base adult fare for the other Wisconsin transit systems in 1983 is about $0.46, and six of the eight transit systems have base adult fares of $0.45 or more. The base adult fare of $0.35 for the Belle Urban System is equivalent to the lowest base adult fare charged by the comparable transit systems.

Performance Characteristics

The performance characteristics of the comparable transit systems and the Belle Urban System are presented in Table 40. This table indicates the overall effectiveness, efficiency, and financial performance of the Racine transit system in comparison to comparable systems. The data presented in this table are for 1981, which represents the most current calendar year for which audited financial information for all transit systems was available.

A key measure of transit system effectiveness is ridership. During 1981, the Racine transit system carried about 2,418,500 revenue passengers, or about 84 percent more revenue passengers than were carried on the other transit systems. The Belle Urban System carried about 23 rides per capita, or about 18 percent more than the average for the comparable transit systems. Inasmuch as the level of transit service provided has a significant impact on the total number of revenue passengers carried by a transit system, some of this difference in ridership may be attributed to differences in the level of transit service provided, as measured by annual revenue vehicle hours. While the other

Table 40

COMPARISON OF PERFORMANCE CHARACTERISTICS OF SIMILAR SIZE WISCONSIN TRANSIT SYSTEMS AND THE BELLE URBAN SYSTEM: 1981

Performance Characteristic	Comparable Wisconsin Transit Systems					
	Valley Transit--Appleton	Eau Claire Transit System	Green Bay Transit System	Kenosha Transit System	Janesville Transit System	La Crosse Municipal Transit Utility
Service Area Population						
Primary City	59,000	51,500	87,900	77,700	51,100	48,300
Total	124,700	67,700	132,200	77,700	51,100	54,000
Annual Revenue Passengers	1,413,400	1,120,900	2,232,700	1,274,700	625,000	1,380,900
Rides per Capita	11.3	16.6	16.9	16.4	12.2	25.6
Annual Revenue Vehicle Hours	53,300	47,500	85,000	64,100	32,400	59,200
Revenue Passengers per Revenue Vehicle Hour	26.5	23.6	26.3	19.9	18.3	23.3
Operating Expense						
Total	$1,282,400	$1,190,400	$1,932,900	$1,707,900	$1,052,000	$1,363,800
Per Revenue Vehicle Hour	24.04	25.07	22.74	26.65	32.43	23.06
Per Revenue Passenger	0.91	1.06	0.87	1.34	1.68	0.99
Operating Revenue						
Total	$ 434,600	$ 433,000	$ 581,200	$ 361,200	$ 196,700	$ 448,100
Per Revenue Passenger	0.31	0.39	0.26	0.28	0.31	0.32
Percent of Operating Expense	33.9	36.4	30.1	21.1	18.7	32.9
Operating Deficit						
Total	$ 847,800	$ 757,400	$1,351,700	$1,346,700	$ 855,300	$ 915,700
Total per Revenue Passenger	0.60	0.68	0.61	1.06	1.37	0.66
Local Share	115,300	158,300	191,400	175,300	319,000	114,800
Local Share per Revenue Passenger	0.08	0.14	0.09	0.14	0.51	0.08

Performance Characteristic	Comparable Wisconsin Transit Systems			Belle Urban System--Racine	
	Oshkosh Transit System	Sheboygan Transit System	Group Average	Number	Percent of Group Average
Service Area Population					
Primary City	49,700	48,100	59,200	85,700	144.8
Total	49,700	55,000	76,500	104,600	136.7
Annual Revenue Passengers	1,072,500	1,405,300	1,315,700	2,418,500	183.8
Rides per Capita	21.6	25.6	18.3	23.1	126.2
Annual Revenue Vehicle Hours	47,300	61,100	56,200	85,600	152.3
Revenue Passengers per Revenue Vehicle Hour	22.7	23.0	23.0	28.3	123.0
Operating Expense					
Total	$1,118,100	$1,264,600	$1,364,000	$1,775,900	130.2
Per Revenue Vehicle Hour	23.65	20.69	24.79	20.99	84.7
Per Revenue Passenger	1.04	0.90	1.10	0.73	66.4
Operating Revenue					
Total	$ 276,400	$ 392,900	$ 390,500	$ 583,400	149.4
Per Revenue Passenger	0.26	0.28	0.30	0.24	80.0
Percent of Operating Expense	24.7	31.1	28.6	32.9	115.0
Operating Deficit					
Total	$ 841,700	$ 871,700	$ 973,500	$1,192,500	122.5
Total per Revenue Passenger	0.78	0.62	0.80	0.49	61.1
Local Share	150,100	181,500	175,700	152,800	86.9
Local Share per Revenue Passenger	0.14	0.13	0.16	0.06	37.5

Source: Wisconsin Department of Transportation and SEWRPC.

transit systems averaged about 56,300 revenue vehicle hours of service during 1981, the Racine transit system provided about 85,600 revenue vehicle hours of service, or about 52 percent more than the comparable group average. However, the number of revenue passengers per revenue vehicle hour carried by the Belle Urban System--a basic measure of transit system utilization per unit of service provided--was also significantly above the comparable group average--about 28 passengers per hour compared with 23 passengers per hour. This indicates that the Racine transit system, in addition to attracting more revenue passengers, was realizing better productivity on the service it was providing.

A basic measure of system efficiency which relates consumable output to cost is operating expense per revenue vehicle hour. The operating expense per revenue vehicle hour for the Belle Urban System is about $20.99, about 15 percent lower than the average of $24.79 for the other transit systems. A breakdown of these operating expenses per unit of service is presented in Table 41. Operating expenses for the Racine transit system were lower than the average in all but two categories: contract services and purchased transportation service. However, for reasons discussed below, the higher operating expenses in these categories should not be considered a problem.

The higher operating expenses for contract services may be attributed primarily to the management structure and accounting system of the Racine transit system. The Belle Urban System is unlike the other comparable transit systems in that it is managed by a private management firm. Under the accounting system used by the Belle Urban System, services not performed by employees of the private management firm are considered to be contract services, and expenses for such services are recorded under the contract services expense category. A significant portion of the expenses in this category is for routine work done for the transit system by city employees. Such expenses would be included under the labor expense category for the comparable transit systems. In this respect, it should be noted that labor expenses excluding operators' wages for the Racine transit system were about one-half those of the comparable transit systems during 1981. However, if the expenses for the work performed by city employees were included in the "other wages" expense category for the Belle Urban System, the labor and contract services expenses would be more comparable to those of the other Wisconsin transit systems.

Higher-than-average expenditures for purchased transportation service may be attributed to the special efforts being made by the transit system to serve the handicapped population within its service area. Current federal regulations require transit systems receiving federal monies--which includes the Belle Urban System--to certify they are making such efforts in order to remain eligible for assistance. In compliance with this requirement, the Belle Urban System annually contributes funds to support the door-to-door specialized transportation service provided in the Racine urbanized area by the Racine County Human Services Department. Such funds are reported under this category.

Operating expense per passenger, operating revenue per passenger, and operating deficit per passenger are financial performance measures used to indicate the level of public financial support required to sustain transit operations. The operating expense per passenger for the Belle Urban System during 1981 was about 34 percent less than the average expense for the other systems in 1981. However, operating revenue per passenger was also 20 percent below the median value for the other systems during 1981.[1] The operating deficit per passenger is an overall performance measure, combining both operating revenue per passenger and operating expense per passenger. Even with the lower operating revenue per passenger, the operating deficit per passenger for the Racine transit system was about 39 percent lower than the average for the other

[1]During 1981, fares for the Racine transit system were lower than the 1983 fares for the systems shown in Table 39. The operating revenue per passenger for the Racine system in 1983 is anticipated to be more comparable to the average of the other transit systems in 1983 because of the fare increase implemented by the transit system in October 1982.

Table 41

COMPARISON OF OPERATING EXPENSE PER REVENUE VEHICLE HOUR BY EXPENSE CATEGORY OF SIMILAR SIZE WISCONSIN TRANSIT SYSTEMS AND THE BELLE URBAN SYSTEM: 1981

Operating Expense Category	Operating Expense per Revenue Vehicle Hour (dollars)[a]					
	Comparable Wisconsin Transit Systems					
	Valley Transit--Appleton	Eau Claire Transit System	Green Bay Transit System	Kenosha Transit System	Janesville Transit System	La Crosse Municipal Transit Utility
Labor						
Operators' Wages	8.25	8.13	8.48	8.14	9.39	9.30
Other Wages	4.04	4.68	2.65	3.63	5.88	3.07
Subtotal	12.29	12.81	11.13	11.77	15.27	12.37
Fringe Benefits	5.23	5.61	4.76	5.26	4.97	4.42
Contract Services	0.05	0.41	0.79	0.62	0.44	0.03
Materials and Supplies Consumed	4.50	4.61	4.56	6.17	8.58	4.84
Utilities	0.52	0.48	0.54	0.45	0.60	0.29
Casualty and Liability Costs	1.18	1.01	0.85	1.63	1.63	0.62
Purchased Transportation Service	--	--	--	0.71	--	0.30
Miscellaneous Expenses	0.22	0.14	0.11	0.03	0.48	0.19
Leases and Rentals	0.05	--	--	0.01	0.46	--
Total	24.04	25.07	22.74	26.65	32.43	23.06

Operating Expense Category	Operating Expense per Revenue Vehicle Hour (dollars)[a]				
	Comparable Wisconsin Transit Systems			Belle Urban System--Racine	
	Oshkosh Transit System	Sheboygan Transit System	Group Average	Number	Percent of Group Average
Labor					
Operators' Wages	9.79	7.31	8.59	7.78	93.0
Other Wages	2.98	3.21	3.77	1.66	48.5
Subtotal	12.77	10.52	12.36	9.44	76.6
Fringe Benefits	3.37	2.58	4.53	3.47	71.3
Contract Services	0.07	0.37	0.35	1.37	351.3
Materials and Supplies Consumed	5.09	5.28	5.45	4.73	95.2
Utilities	0.62	0.41	0.49	0.36	72.0
Casualty and Liability Costs	1.44	1.03	1.17	0.73	65.8
Purchased Transportation Service	--	--	1.13	0.85	--
Miscellaneous Expenses	0.29	0.50	0.25	0.04	19.0
Leases and Rentals	--	--	0.07	--	--
Total	23.65	20.69	24.80	20.99	88.0

[a]Excludes interest expense, depreciation, and amortization.

Source: Wisconsin Department of Transportation and SEWRPC.

transit systems during 1981 at $0.49 per passenger versus $0.80 per passenger slightly more than the average value of 29 percent for the other Wisconsin transit systems serving similar size areas.

Conclusions of Comparative Evaluation

From the comparative evaluation of system performance, it may be concluded that the performance of the Belle Urban System compares very favorably to the performance of the other mid-size Wisconsin transit systems. For almost every indicator, the performance of the Belle Urban System is significantly better than the comparable group average. In particular, the performance of the Belle Urban System significantly exceeds that of the comparable group with regard to ridership, operating expenses, and deficits. In spite of the fact that it recovers lower-than-average revenue per passenger, the Belle Urban System recovers a higher proportion of operating expenses from operating revenues than does the comparable group as a whole. The comparative evaluation did not identify any serious performance problems in any of the areas reviewed.

ROUTE PERFORMANCE EVALUATION

The performance evaluation of the individual routes of the Belle Urban System was conducted using specific 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 with 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 policy headway and passenger loading standards.

Ridership and Financial Performance

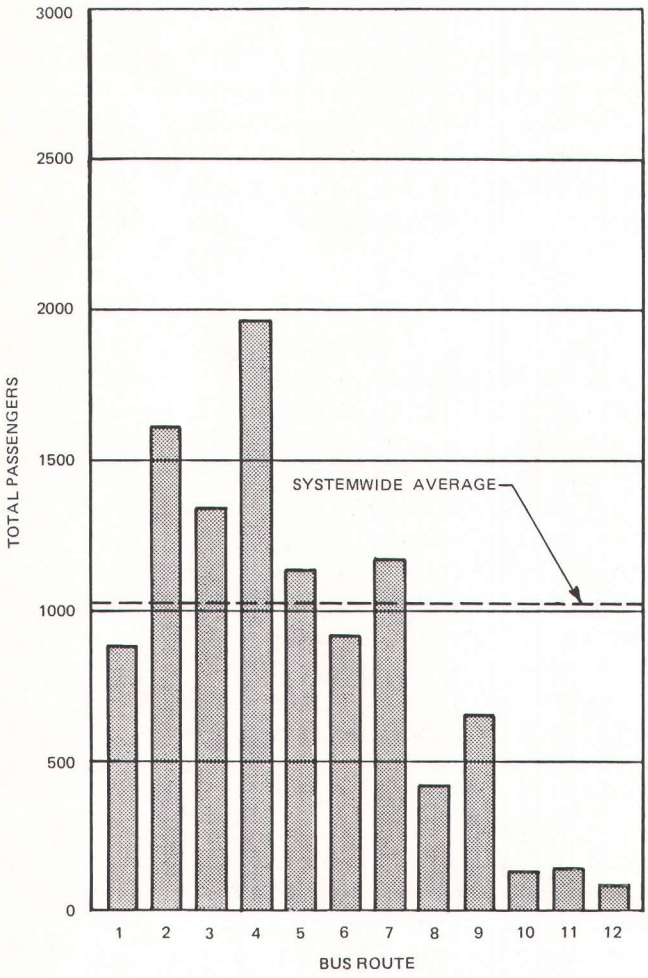
The performance characteristics of the bus routes operated by the Belle Urban System are shown in Figures 15 through 18. The data presented in these figures for Routes 1 through 10 are based upon the weekday operating characteristics and total ridership--revenue passengers and transfer passengers--for each route during the five-month period from January through May 1983. This period was selected to provide current 1983 data for the transit system when it operated with school year schedules, which provide for a higher level of service on some routes than during the nonschool summer months. It was considered important to determine performance levels for the routes of the transit system during a period when the highest level of transit service was being provided by the transit system. Because Routes 11 and 12 began operation in June 1983, the data compiled for these routes were necessarily based upon the first month of operation. The figures provide an indication of 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 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 in part upon data derived from passenger counts by type of fare paid and an average cost per hour of the service provided.[2] The ridership, productivity, and financial performance of each bus route was compared with that of the other bus routes and with that of the January through May average for the entire system. The intent of this comparison is to identify those bus routes with performance levels that are significantly below systemwide averages. It is

[2]Detailed passenger counts by fare category are conducted twice a year by the transit system on school days, nonschool days, and Saturdays to determine a factor used to convert total daily cash and token passenger revenues into estimates of actual cash and token passengers. The total passenger estimates used in determining performance measures were based upon such estimates of weekday cash and token passengers supplemented with daily counts of pass-using and transfer passengers. Estimates of average daily operating expenses per route were based upon the systemwide average operating cost for the first six months of 1983 of $21.94 per revenue vehicle hour of service, and upon the daily revenue vehicle hours of service for each route. Estimates of average daily passenger revenues for each route were based upon an average revenue per trip for cash and token passengers, pass passengers, and transfer passengers for each route.

Figure 15

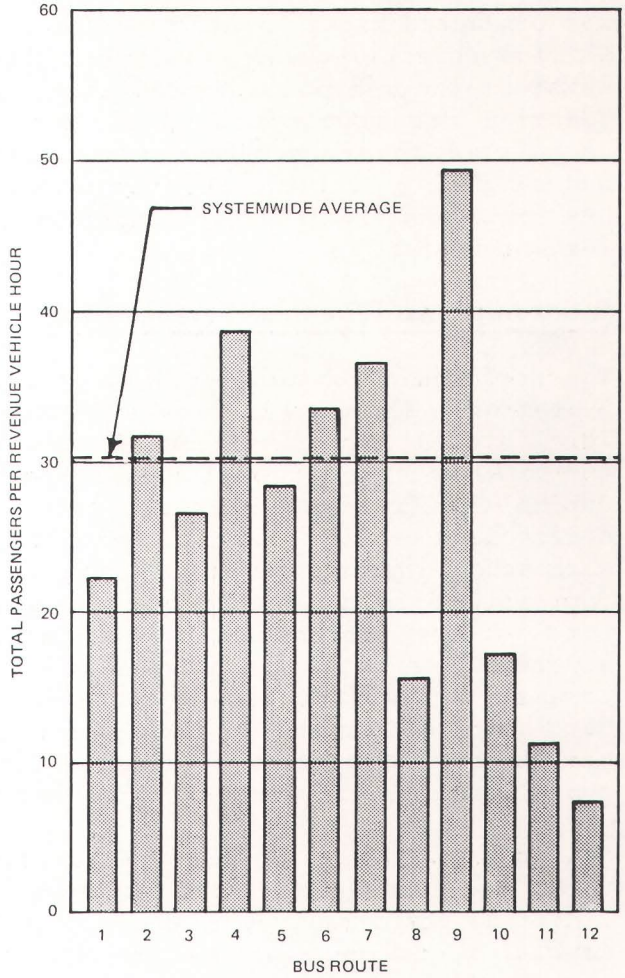
AVERAGE WEEKDAY TOTAL PASSENGERS BY ROUTE FOR THE BELLE URBAN SYSTEM JANUARY-JUNE 1983



Source: City of Racine Department of Transportation and SEWRPC.

Figure 16

AVERAGE WEEKDAY TOTAL PASSENGERS PER REVENUE VEHICLE HOUR BY ROUTE FOR THE BELLE URBAN SYSTEM JANUARY-JUNE 1983



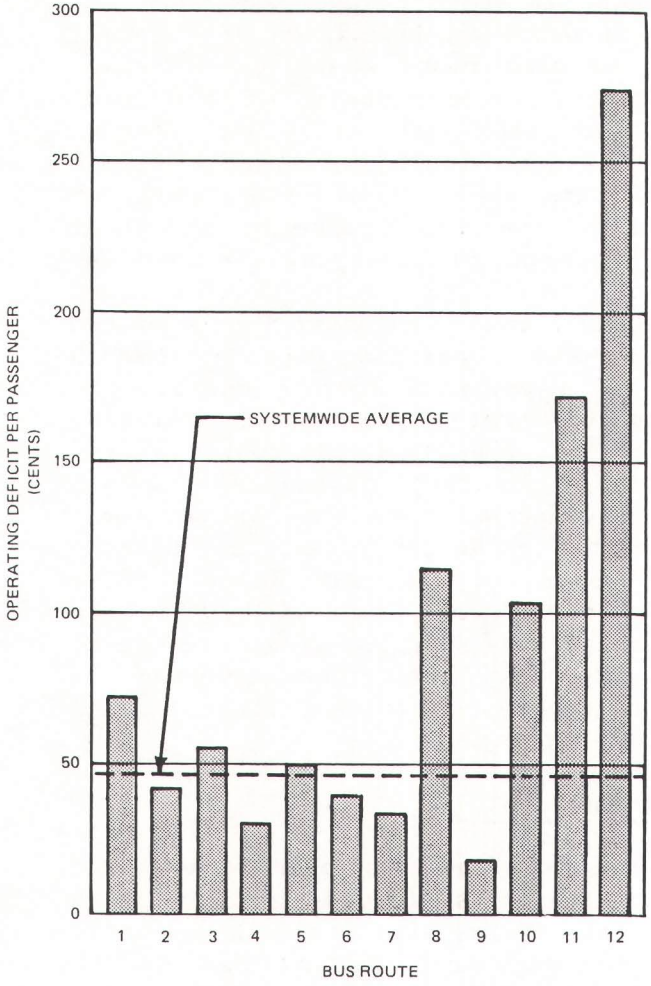
Source: City of Racine Department of Transportation and SEWRPC.

important that this comparative information not be misinterpreted or misused. The information is provided to identify those routes which should be concentrated on in developing service improvements. No single performance measure that is below the systemwide average should be used to justify termination of a route.

The first performance measure examined, displayed in Figure 15, was total passengers carried. During the five-month period between January and May 1983, the 10 routes of the transit system operated at that time carried an average of 10,100 total passengers each weekday. Average daily total ridership on just five routes--Routes 2, 3, 4, 5, and 7--together accounted for about 7,200 total passengers, or about 71 percent of the daily total. Ridership figures shown in the graph for Routes 11 and 12 are for the month of June 1983--the first month of operation for both routes--and indicate that these routes would add about 240 total passengers, or about 2 percent of the above-mentioned average weekday total, to the transit system. Ridership on these two routes could be expected to increase with time as potential ridership develops on these routes.

Figure 17

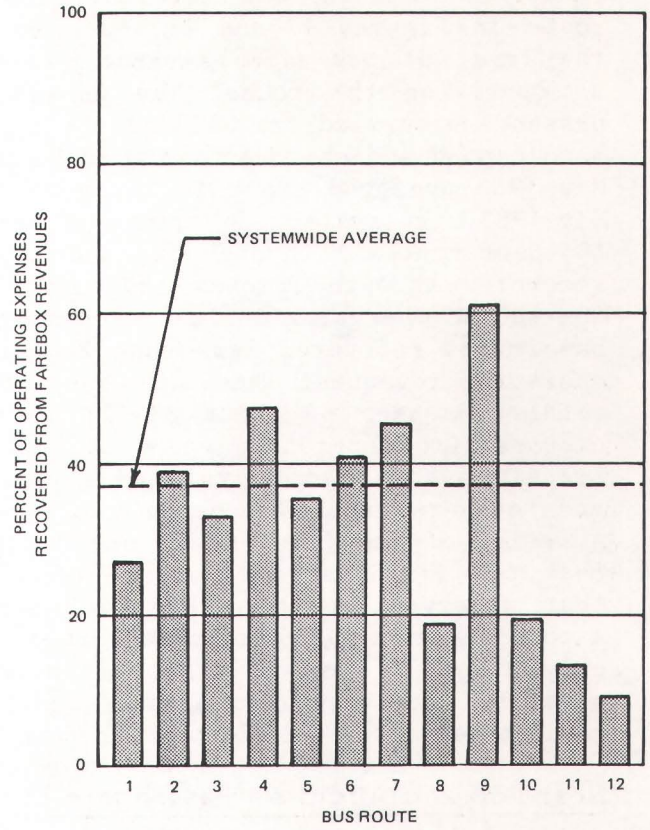
AVERAGE WEEKDAY OPERATING DEFICIT PER PASSENGER BY ROUTE FOR THE BELLE URBAN SYSTEM JANUARY-JUNE 1983



Source: City of Racine Department of Transportation and SEWRPC.

Figure 18

PERCENT OF OPERATING EXPENSES RECOVERED FROM FAREBOX REVENUES BY BUS ROUTE FOR THE BELLE URBAN SYSTEM: JANUARY-JUNE 1983



Source: City of Racine Department of Transportation and SEWRPC.

Total passengers per revenue vehicle hour is an important measure of route productivity, and relates passengers carried to the volume of service provided. This performance measure is displayed in Figure 16. Higher values indicate better vehicle utilization and economy of operation. For the five-month period examined, the 10 routes of the transit system averaged 30 passengers per revenue vehicle hour. Two of the 10 routes had passenger-per-revenue vehicle hour values that were less than 60 percent of the daily systemwide average. These two routes--Routes 8 and 10--carried a combined average of 18 passengers per revenue vehicle hour, while the other eight routes carried a combined average of 31 passengers per revenue vehicle hour. June 1983 ridership figures for Routes 11 and 12 indicate that these two new routes also had passenger-per-revenue vehicle hour values significantly below the five-month average for the other 10 routes of the transit system. However, these figures should improve as these routes reach their full ridership potential.

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 an indication of how well the level of passenger revenue generated by each route meets the expenses of operating the route. The passenger revenue is a function of the total passengers carried, as well as the type of fare paid: full or $0.35, elderly/handicapped and children or $0.15, and monthly pass--which for January through May 1983 averaged about $0.32 per trip. For the period from January through May 1983, the systemwide average weekday deficit per total passenger was about $0.46 on Routes 1 through 10, and about 37 percent of operating expenses was recovered through farebox revenues. Two of the 10 bus routes--Routes 8 and 10--had an operating deficit exceeding $1.00 per total passenger. The same two bus routes recovered less than 20 percent of their operating expenses through operating revenues. These two bus routes had a combined average deficit per total passenger of about $1.12, and recovered about 19 percent of operating expenses from operating revenues. By comparison, the other six routes of the transit system had a combined average deficit per total passenger of $0.42, and recovered about 39 percent of operating expenses from farebox revenues. A review of the first month of operating data for Routes 11 and 12 indicates that the financial performance of these two routes was significantly below that observed on the other 10 routes of the system. These two routes had a combined average weekday deficit per passenger of about $2.11 and recovered only about 11 percent of their operating expenses from farebox revenues. As noted for the other performance measures for these two routes, these figures could be expected to improve with future ridership increases.

Boarding and Alighting Passengers by Route Segment

The passenger boarding and alighting activity along each bus route was examined to identify productive and nonproductive route segments. Information concerning the number of boarding and alighting passengers by bus stop for each bus route was obtained from the results of the special passenger counts taken by the Commission from May 11 through May 13, 1983, and reflects the average weekday passenger activity for the 10-route transit system as it was operated at that time. In this respect, no passenger boarding/alighting information was collected for Routes 11 and 12, or for Route 1 from Racine Street and 24th Street to STH 32 and Sheridan Road, as service was begun on the new routes and the segment of Route 1 on June 1, 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 except where no stops were made over a long portion of the route--as on Route 9 from Meachem Road and Taylor Avenue to the University of Wisconsin-Parkside--and to accommodate one-way loops at the ends of some routes. Figures 19 through 28 present the boarding and alighting passenger information by route segment for Routes 1 through 10. Maps 31 through 40 identify the segments for each of the 10 routes for which segment data were prepared.

As would be expected on the eight radial downtown-oriented routes, route segments that include the main transfer point on S. Main Street between Fifth and Sixth Streets in downtown Racine had the highest volumes of boarding and

alighting passengers. Route segments located at or near the outlying ends of these bus routes generally had the lowest passenger boarding and alighting activity except on Routes 2, 4, 8, and 9, which had route terminii located at major traffic generators. Boarding and alighting passenger activity on Route 5, which does not pass through downtown Racine, was slightly higher on the northern segments of the route than on the southern segments. This can be attributed to the number of secondary schools served by the northern portion of the route. Route segments on Route 10--serving residential areas within the Town of Caledonia--having the highest passenger boarding/alighting activity were the two end segments which include the Shorecrest Shopping Center, where passengers can transfer between Route 10 and Routes 2 or 4, and the Crestview residential area. Route segments with very low passenger boarding and alighting activity which would merit further examination were found on Routes 8 and 10.

Compliance with Passenger Loading Standards

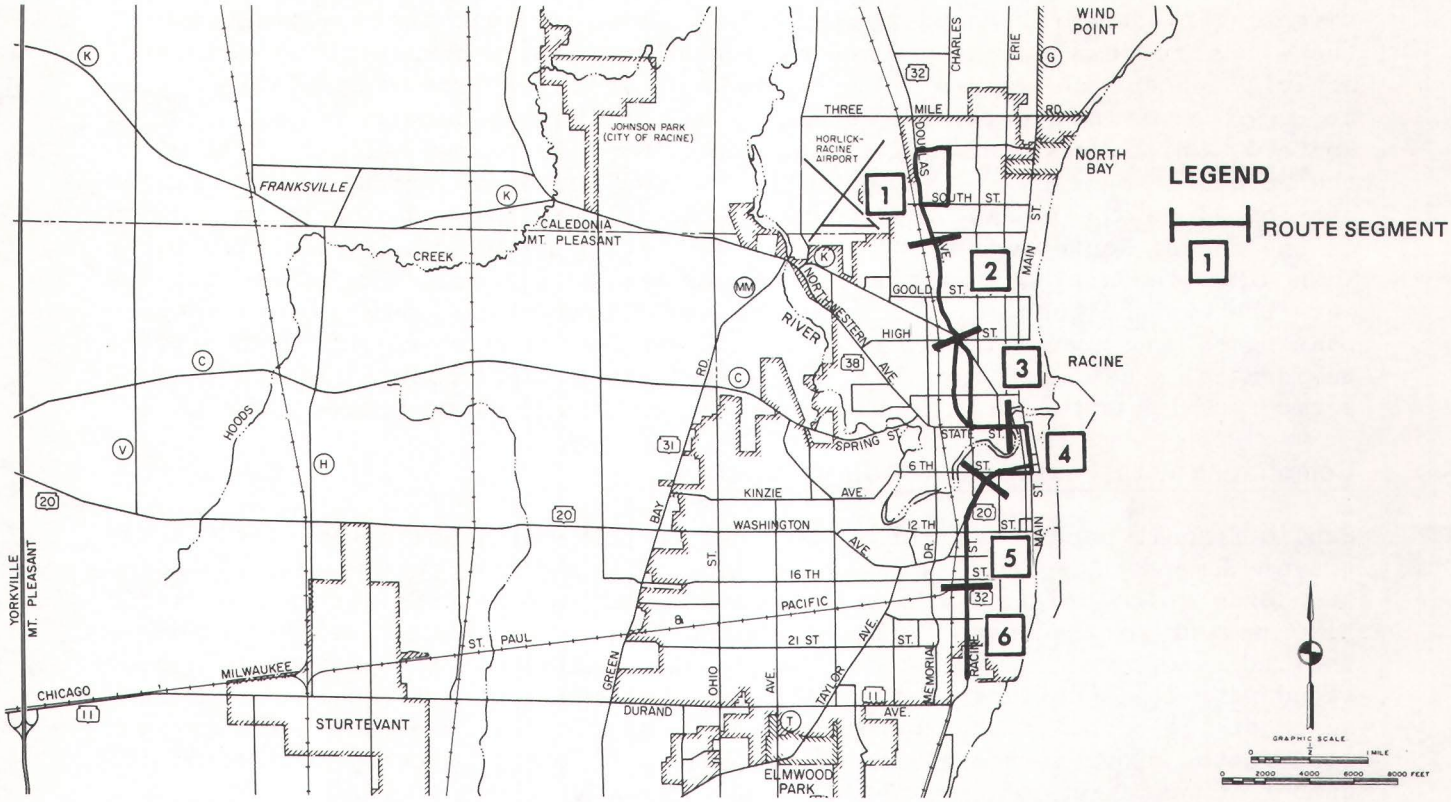
Public transit service should be designed to provide adequate capacity to meet travel demand. Adequate capacity is generally defined by passenger loading standards which relate maximum passenger demand for service during a specific time period to the amount of service provided. The maximum load factor is the indicator most commonly used to measure compliance with passenger loading standards. It is defined as the ratio of passengers to bus seats and is measured at the point of the route where passenger loads are highest. The maximum load factor provides a measure of the quality of bus service by indicating the number of passengers who must stand on the bus on a given route.

The passenger loading characteristics for each route of the Belle Urban System were determined from the passenger count data collected by the Commission from May 11 through May 13, 1983. The identification of maximum load point locations was based, in part, upon analyses of graphs of total daily passenger volume by bus stop for each route. These graphs for each bus route by direction of travel are presented in Appendix C. In general, the locations of maximum load points during the peak and off-peak periods correspond well with the locations of maximum daily passenger volumes along the route. Maximum load factors for the 10 routes operated when passenger counts were taken were calculated for the maximum hour during the morning and afternoon peak periods and the midday off-peak period. The maximum load factors for each route are presented in Table 42.

As would be expected, the routes of the transit system which carry most of the average weekday ridership--Routes 2, 3, 4, and 7--had the highest peak-period passenger loadings on the days passenger counts were taken. These four routes also are operated with more frequent service during the peak periods to accommodate a higher volume of passengers. High passenger loadings were also observed on Routes 6 and 9. The lowest passenger loadings were found on Routes 8 and 10. Maximum load factors of 1.33 during peak periods and 1.00 during off-peak periods were recommended under the transit service objectives and standards. The systemwide average maximum load factor for peak-direction travel was calculated at about 0.60 for both the morning and afternoon peak periods, and at about 0.45 for the midday off-peak period. As can be seen in Table 42, the load factors for all routes of the transit system were comfortably lower than the recommended maximums.

Map 31

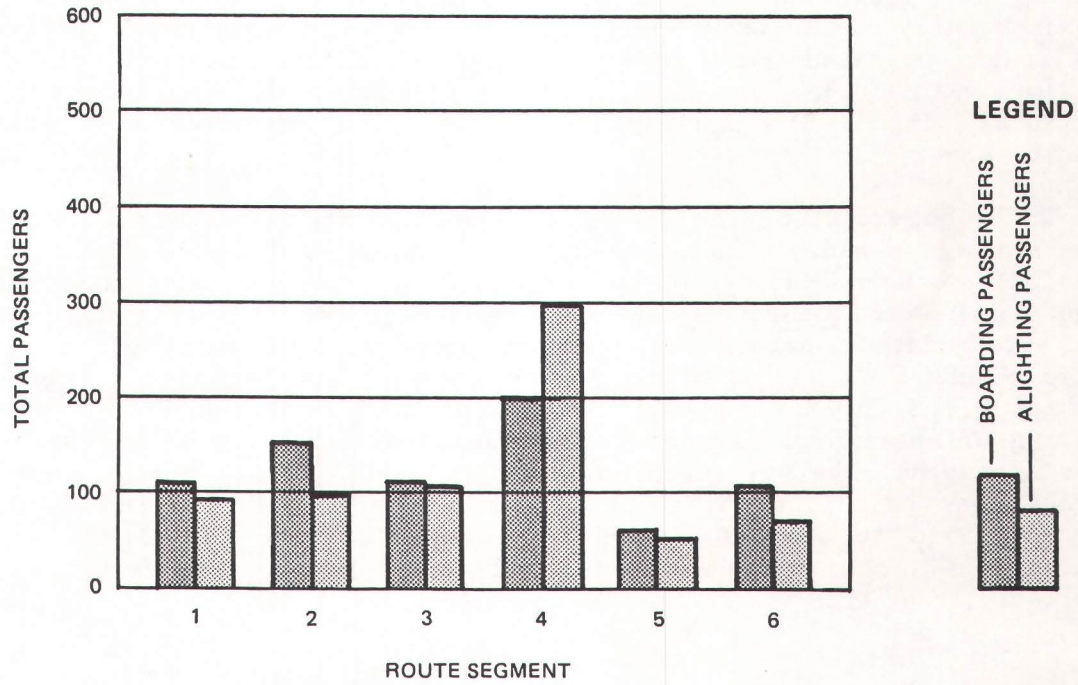
ROUTE SEGMENTS FOR ROUTE 1



Source: SEWRPC.

Figure 19

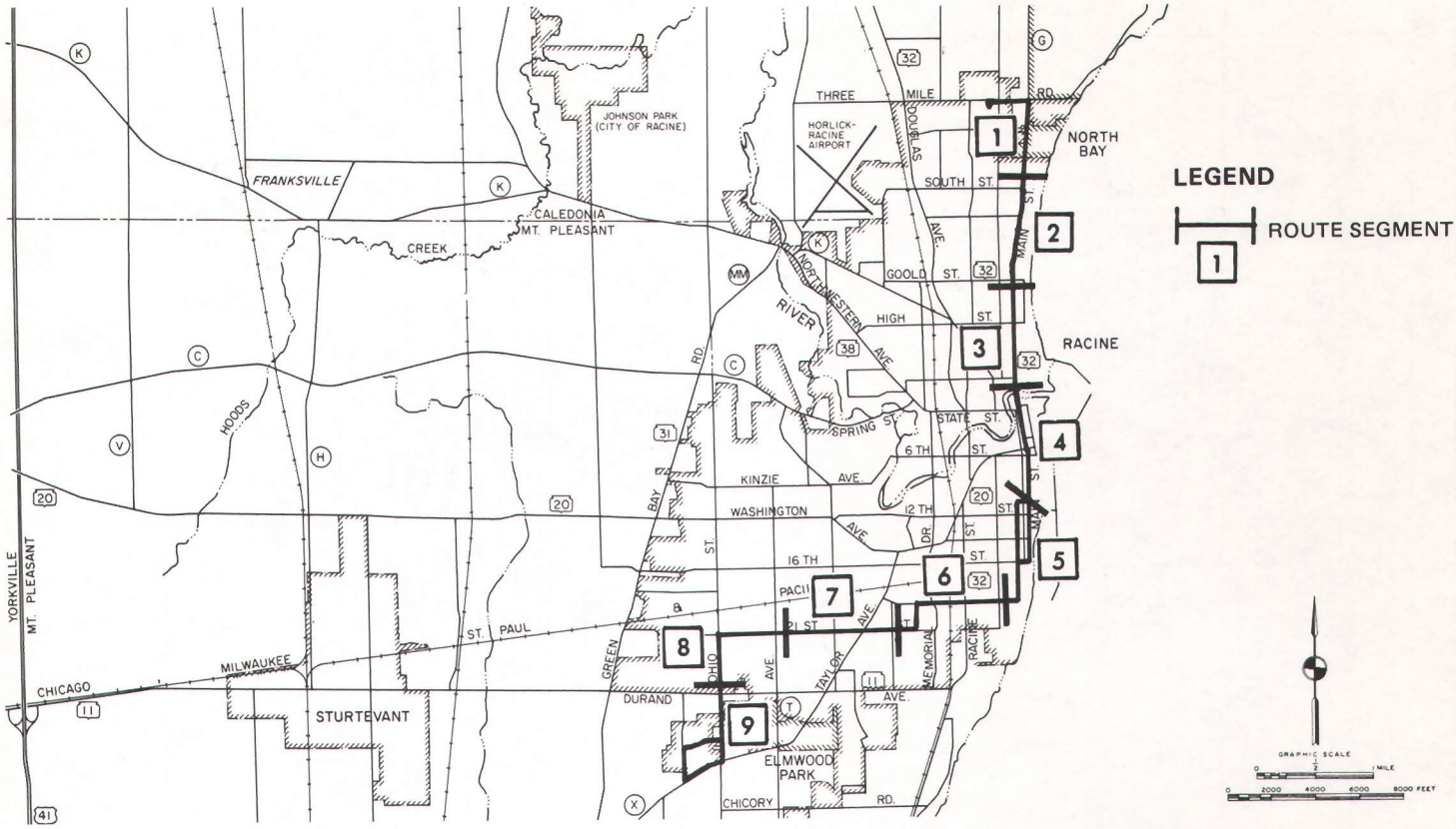
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 1



Source: SEWRPC.

Map 32

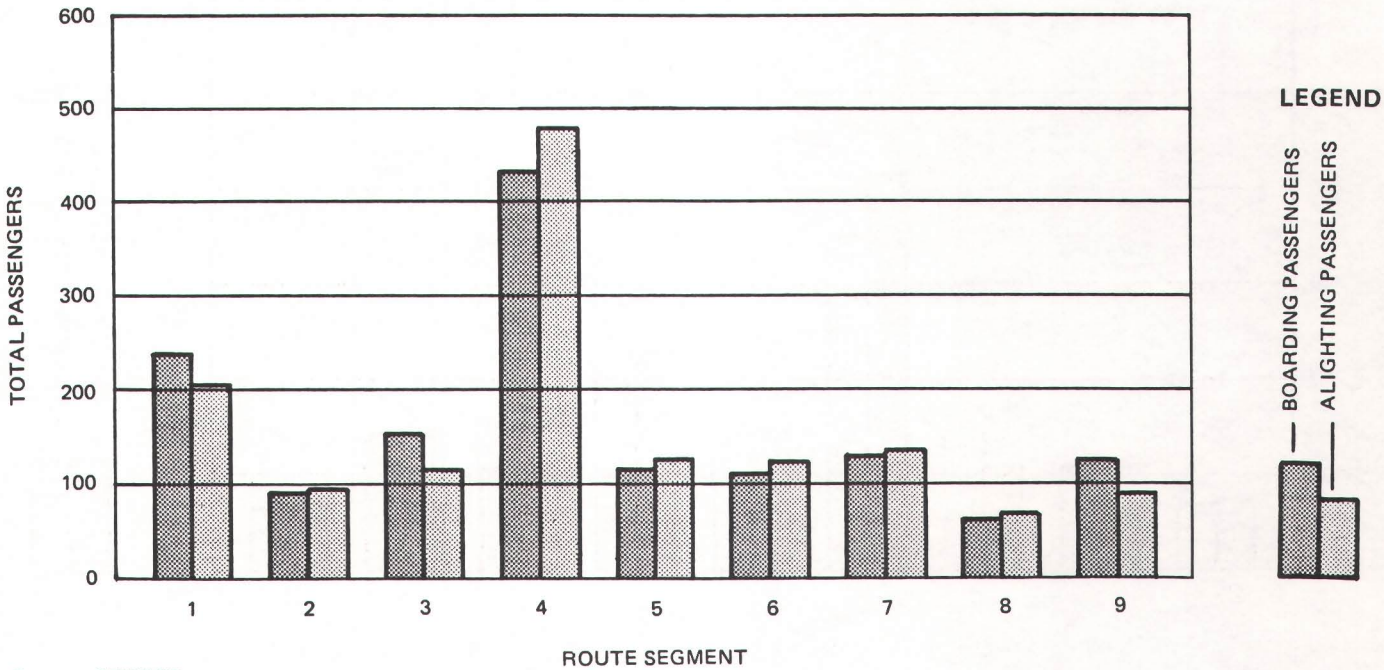
ROUTE SEGMENTS FOR ROUTE 2



Source: SEWRPC.

Figure 20

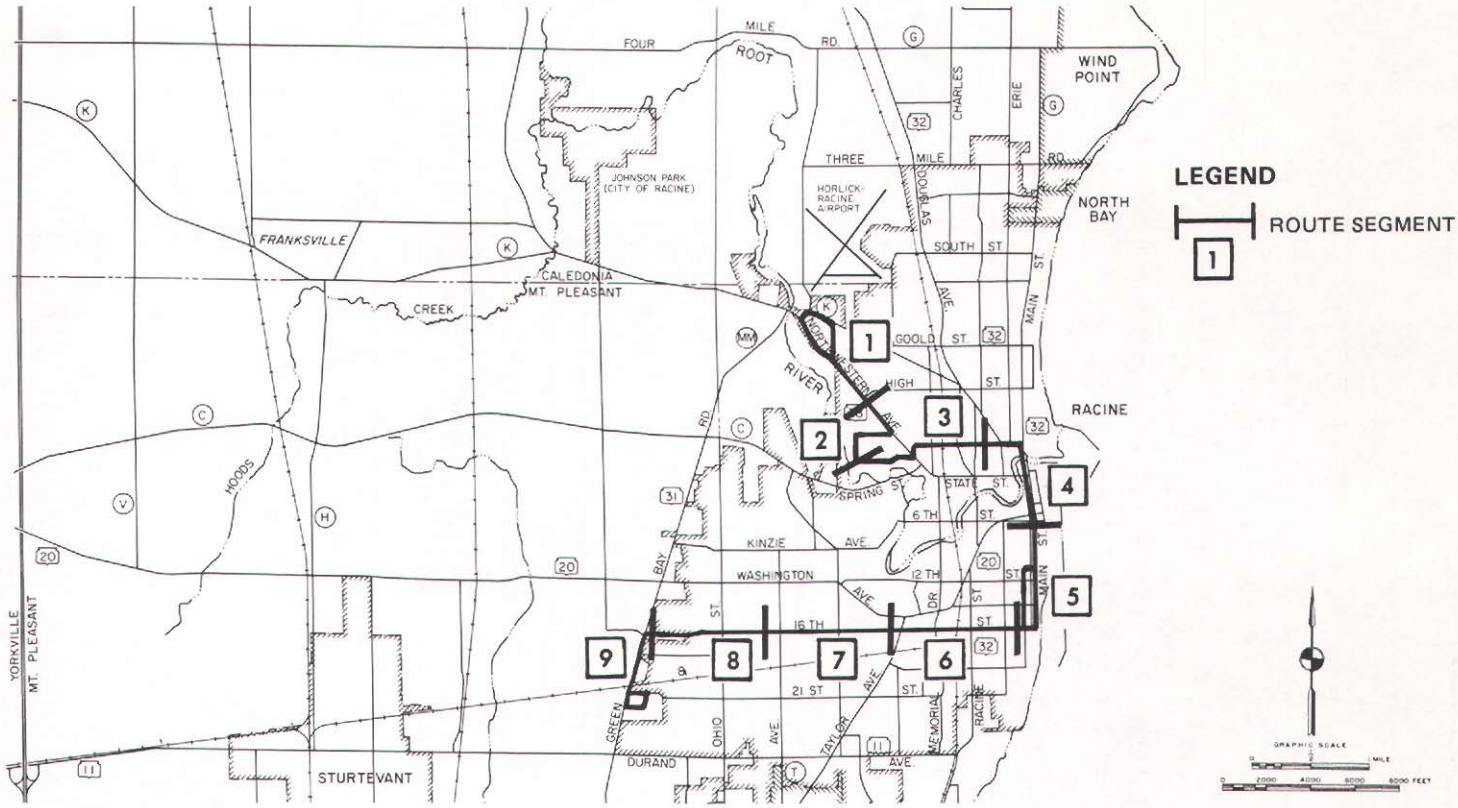
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 2



Source: SEWRPC.

Map 33

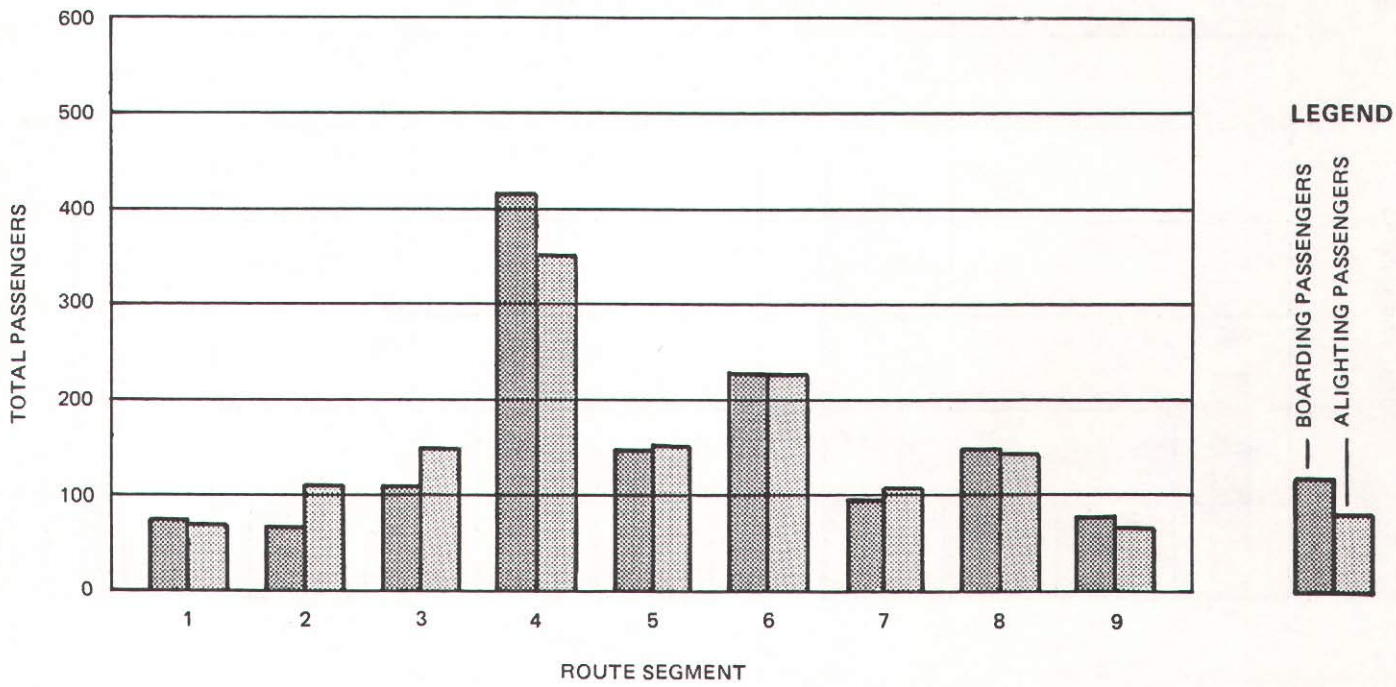
ROUTE SEGMENTS FOR ROUTE 3



Source: SEWRPC.

Figure 21

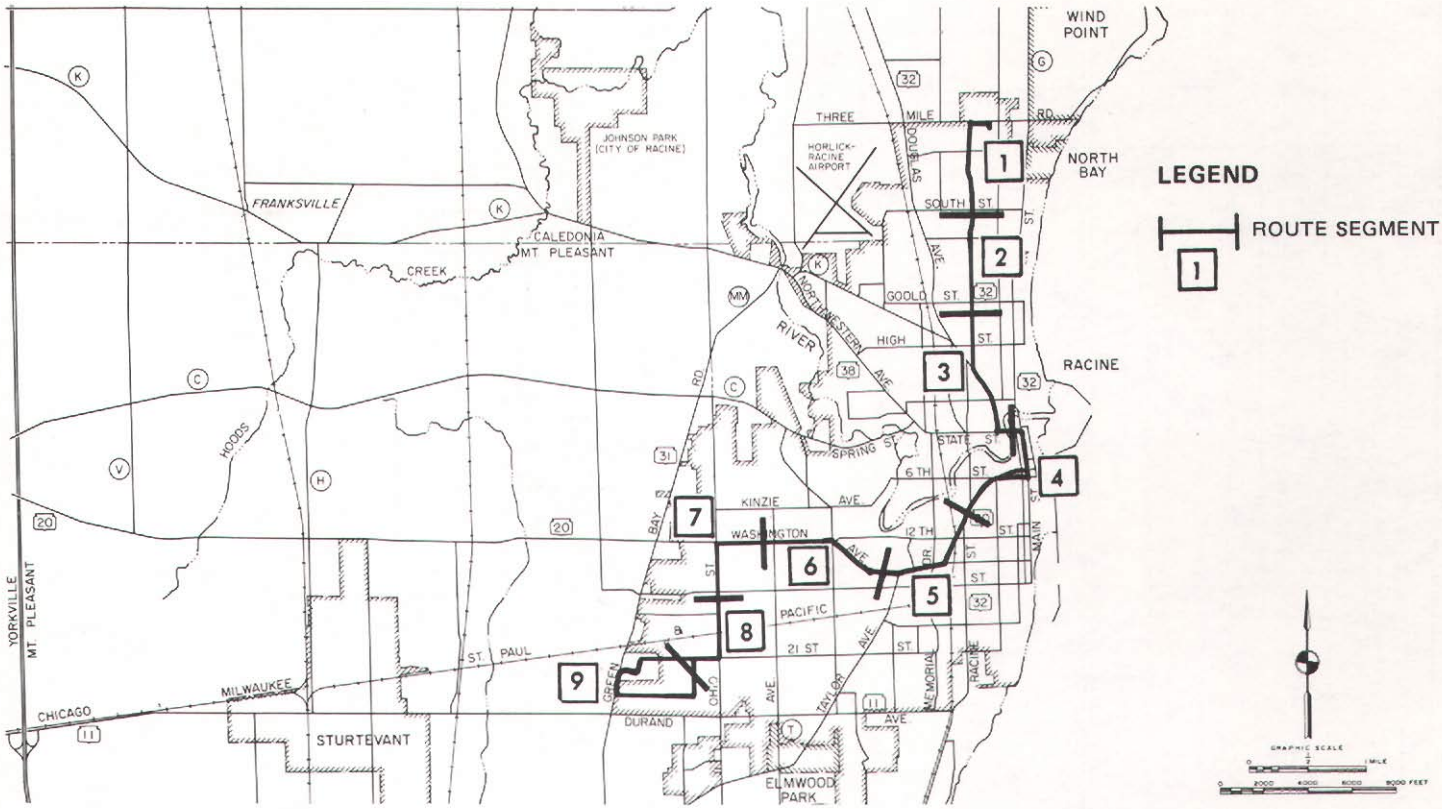
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 3



Source: SEWRPC.

Map 34

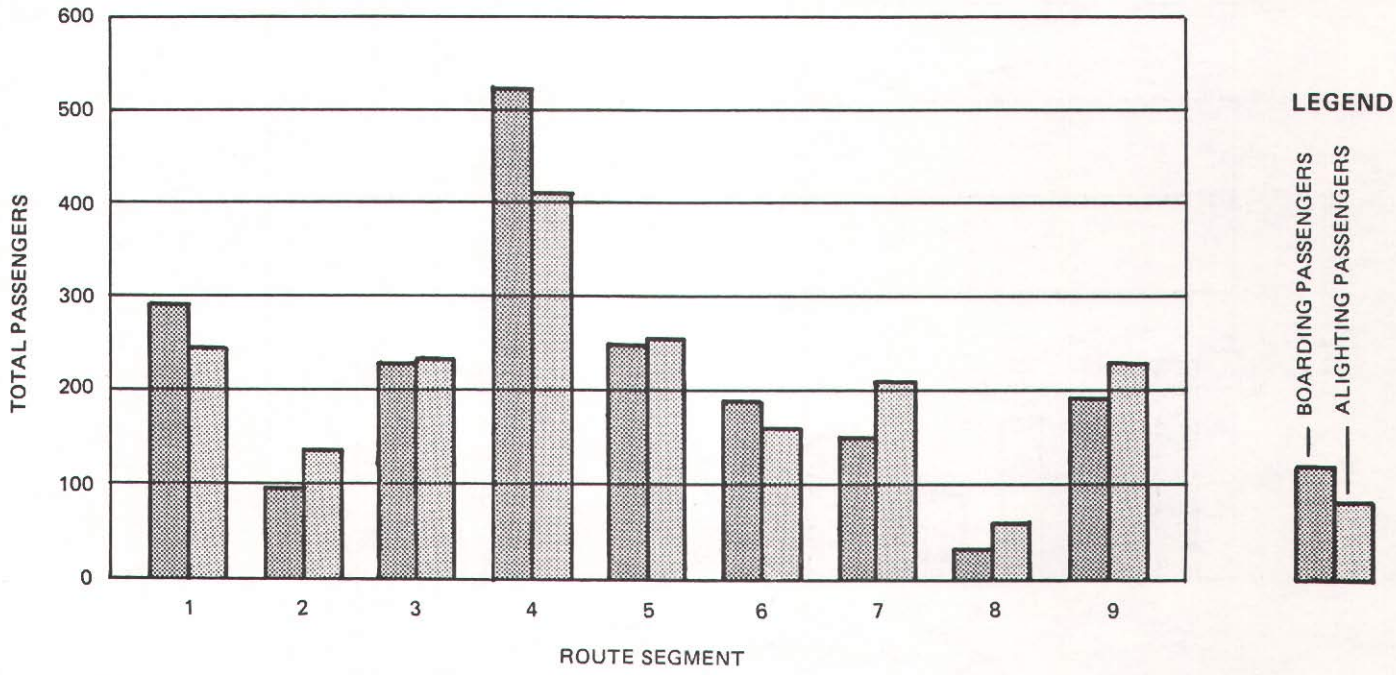
ROUTE SEGMENTS FOR ROUTE 4



Source: SEWRPC.

Figure 22

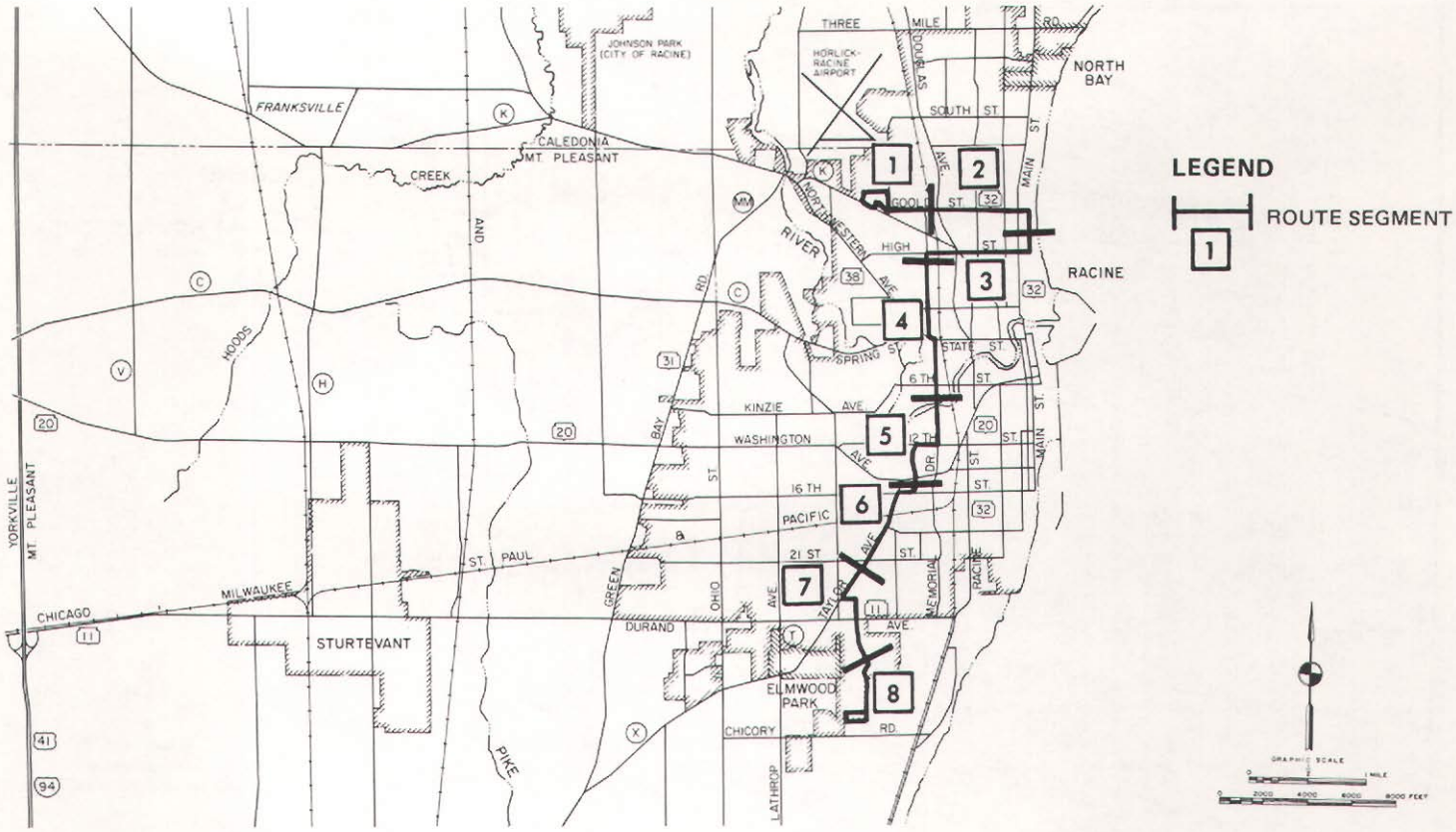
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 4



Source: SEWRPC.

Map 35

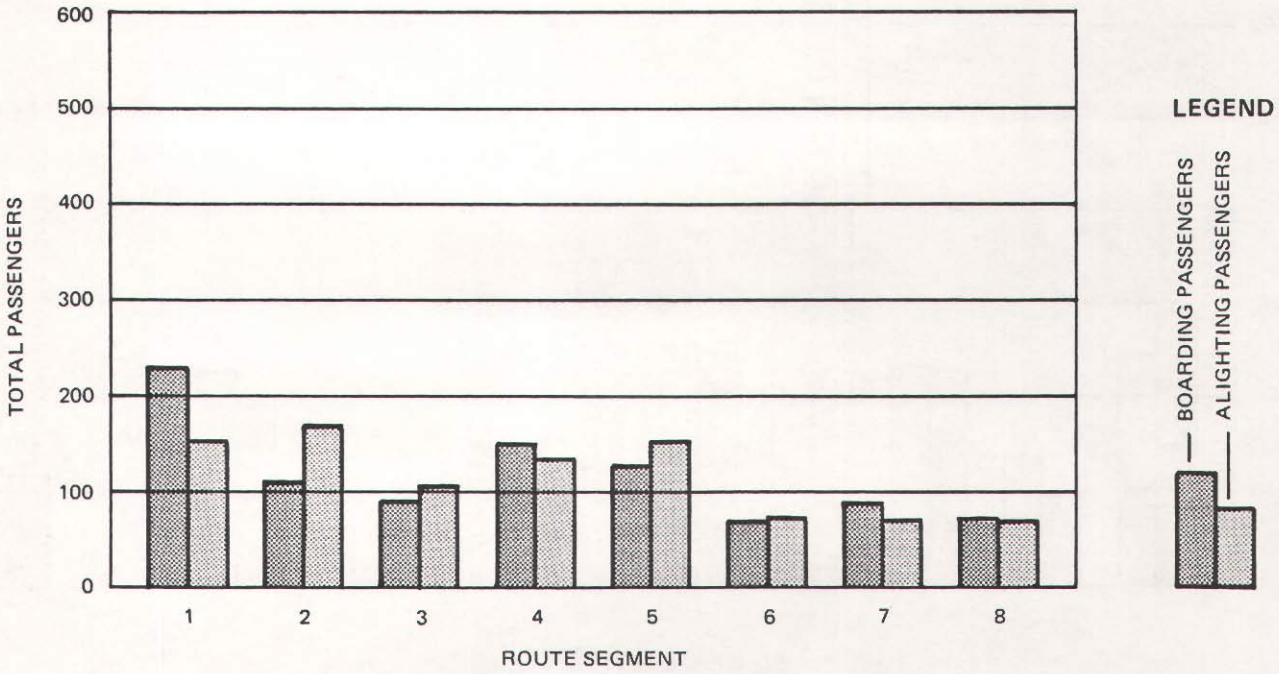
ROUTE SEGMENTS FOR ROUTE 5



Source: SEWRPC.

Figure 23

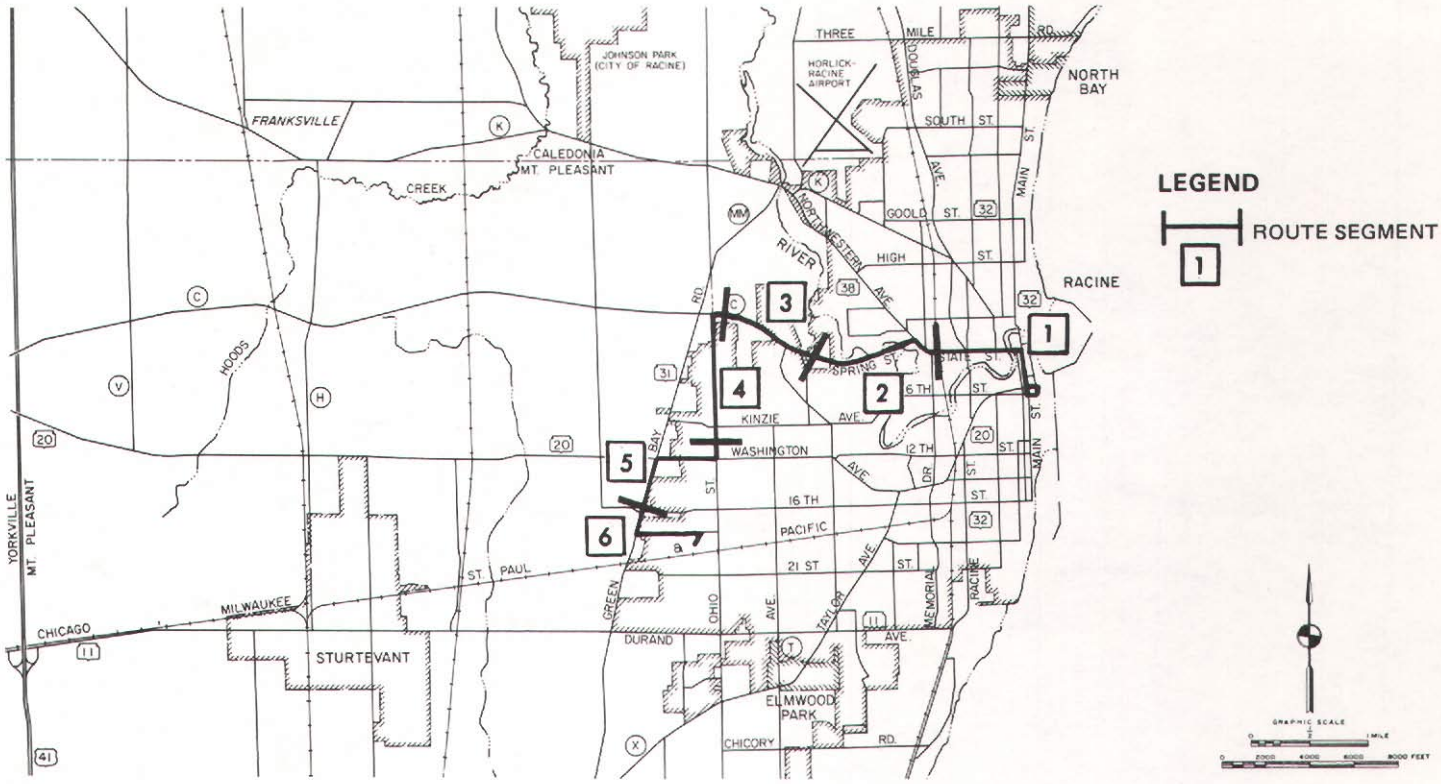
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 5



Source: SEWRPC.

Map 36

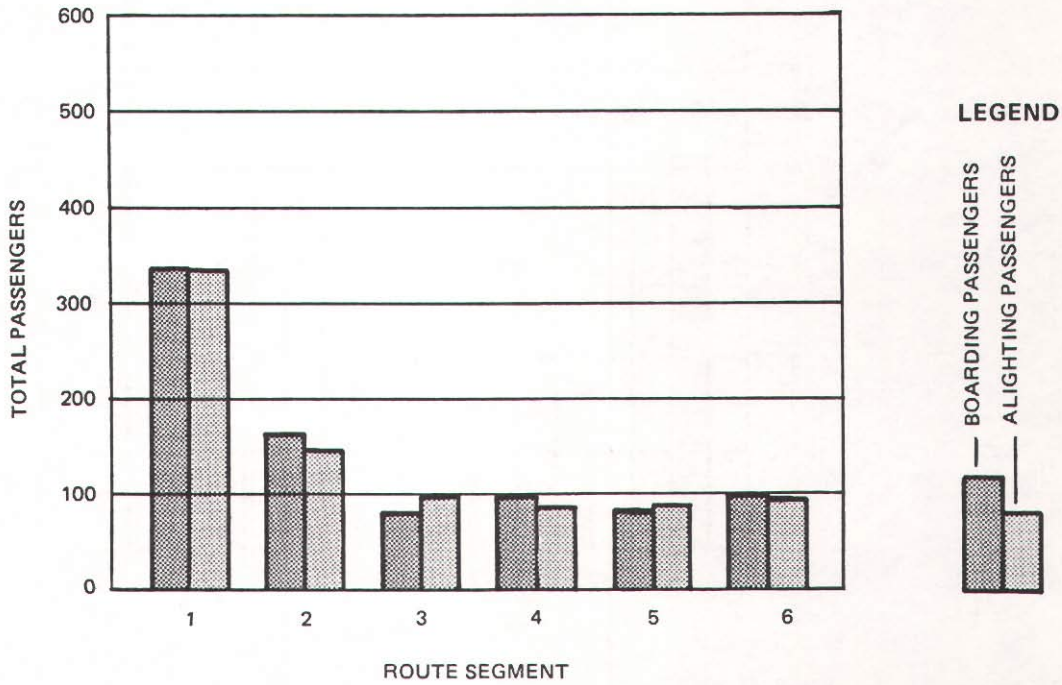
ROUTE SEGMENTS FOR ROUTE 6



Source: SEWRPC.

Figure 24

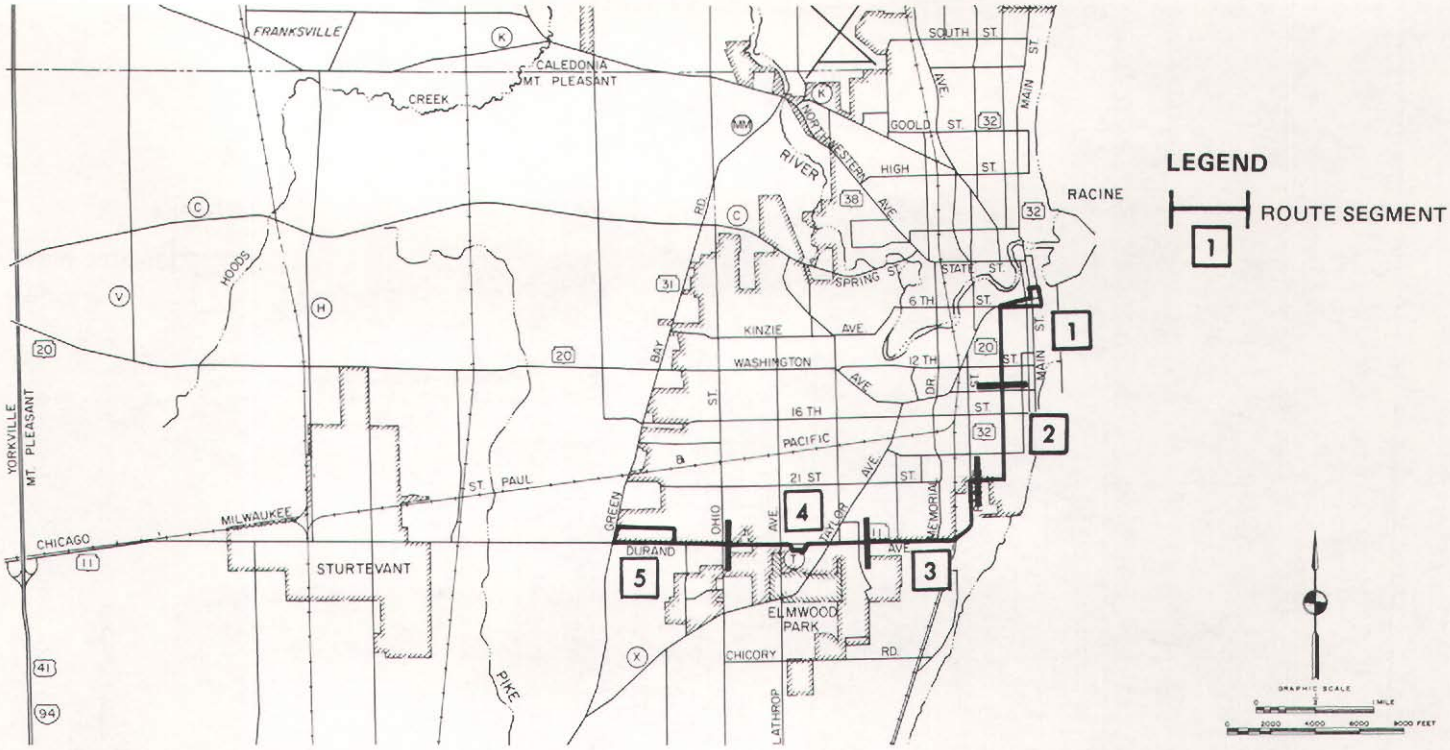
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 6



Source: SEWRPC.

Map 37

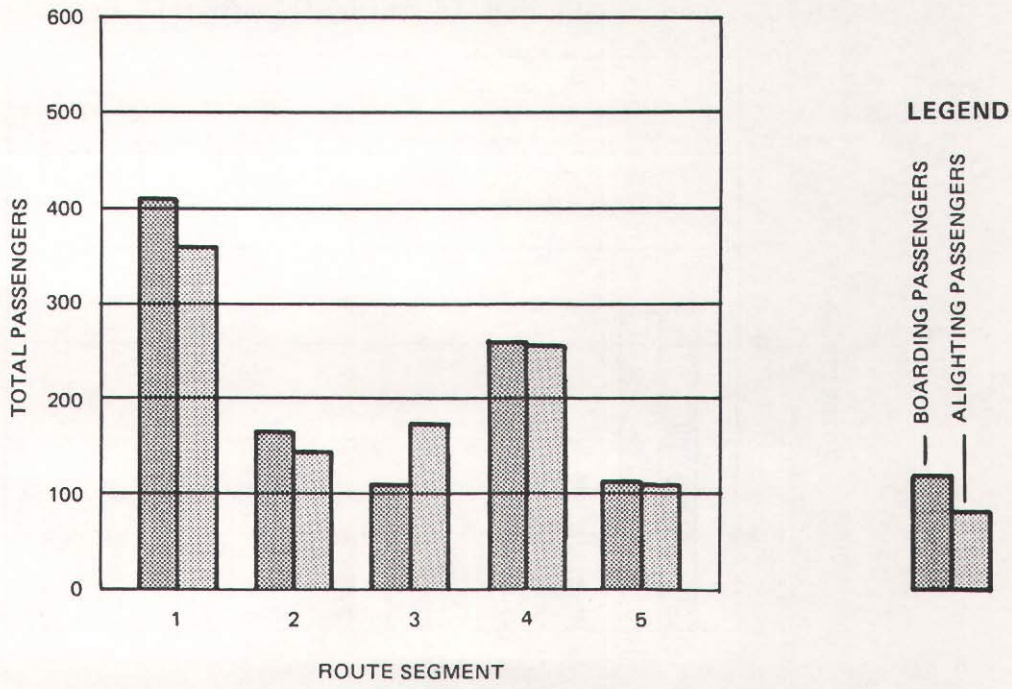
ROUTE SEGMENTS FOR ROUTE 7



Source: SEWRPC.

Figure 25

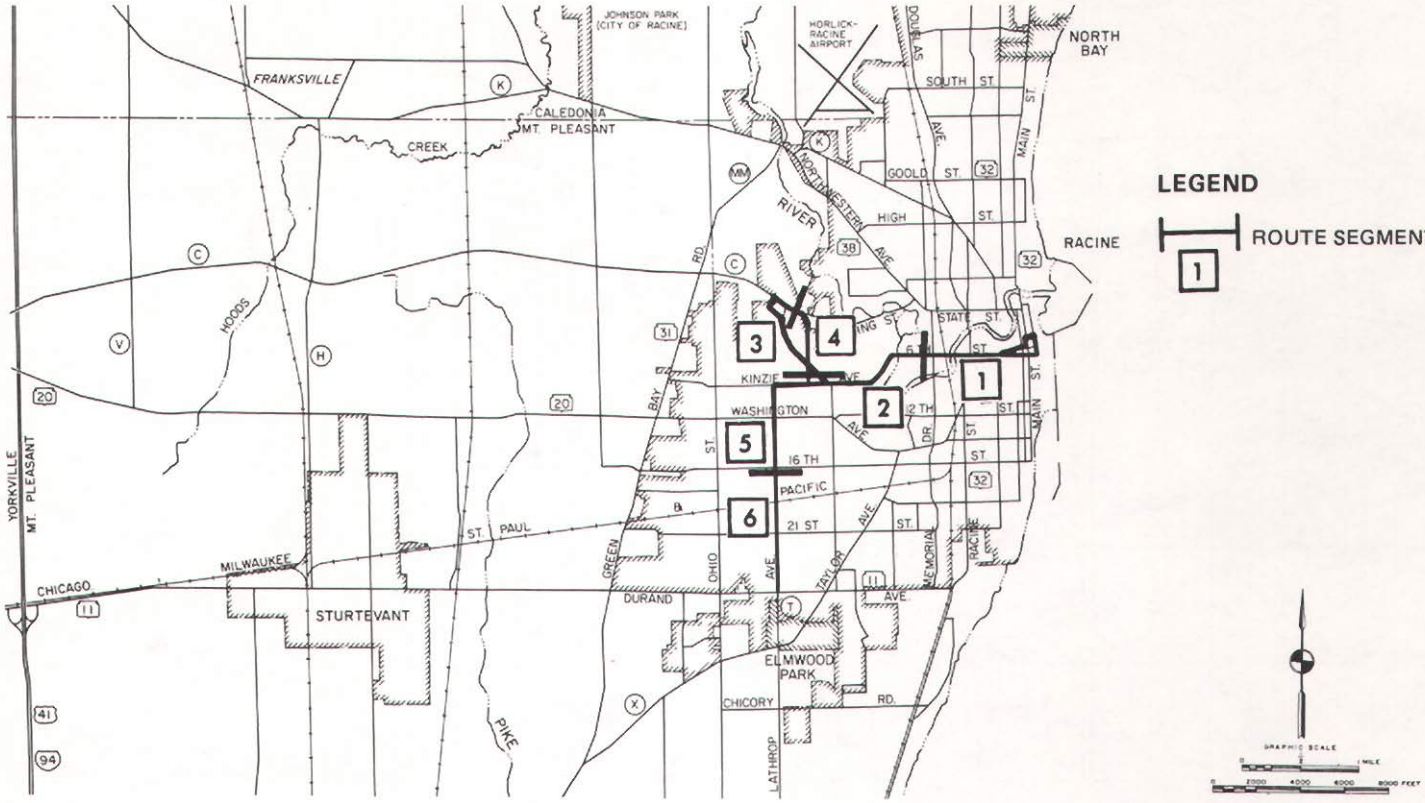
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 7



Source: SEWRPC.

Map 38

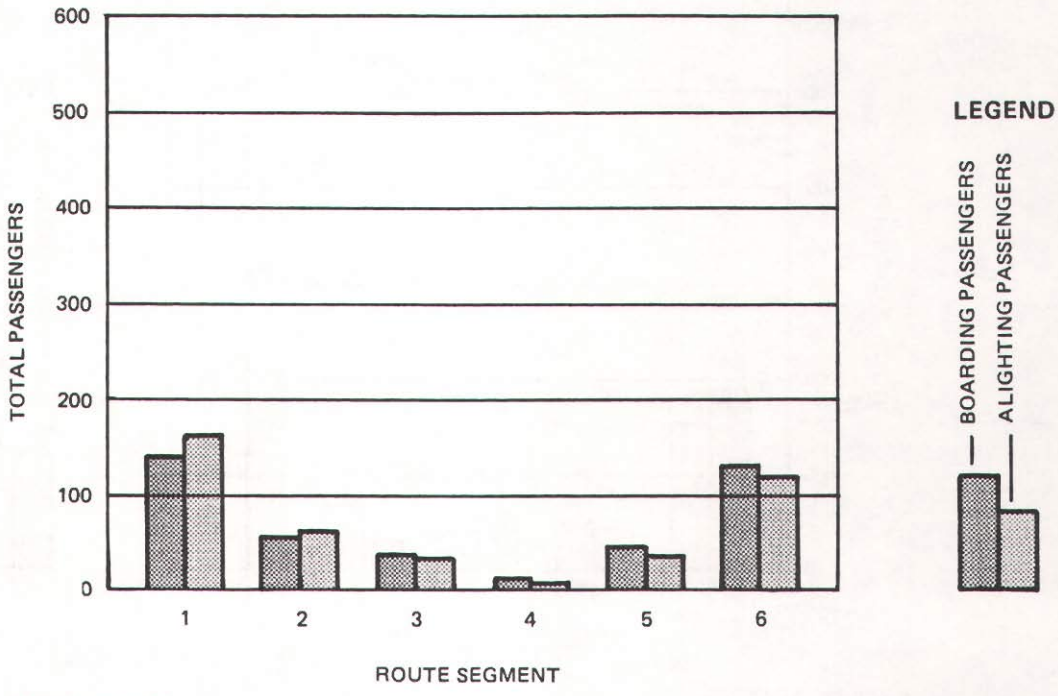
ROUTE SEGMENTS FOR ROUTE 8



Source: SEWRPC.

Figure 26

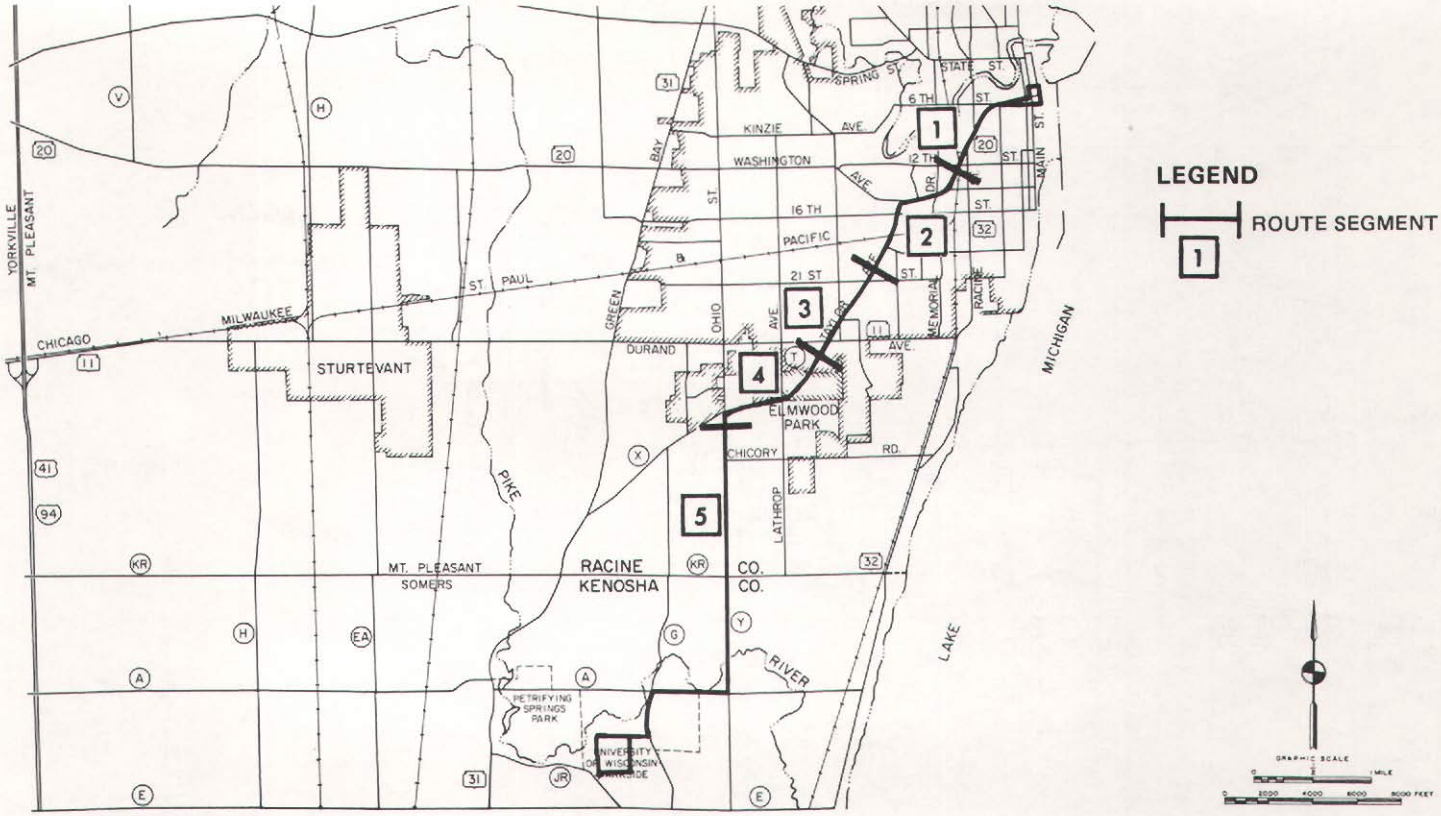
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 8



Source: SEWRPC.

Map 39

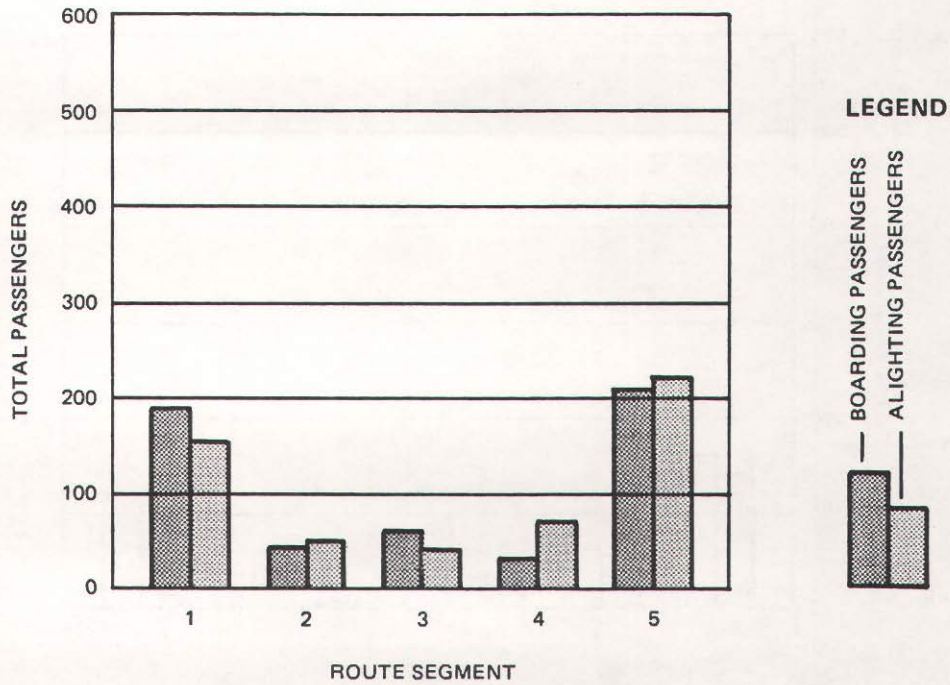
ROUTE SEGMENTS FOR ROUTE 9



Source: SEWRPC.

Figure 27

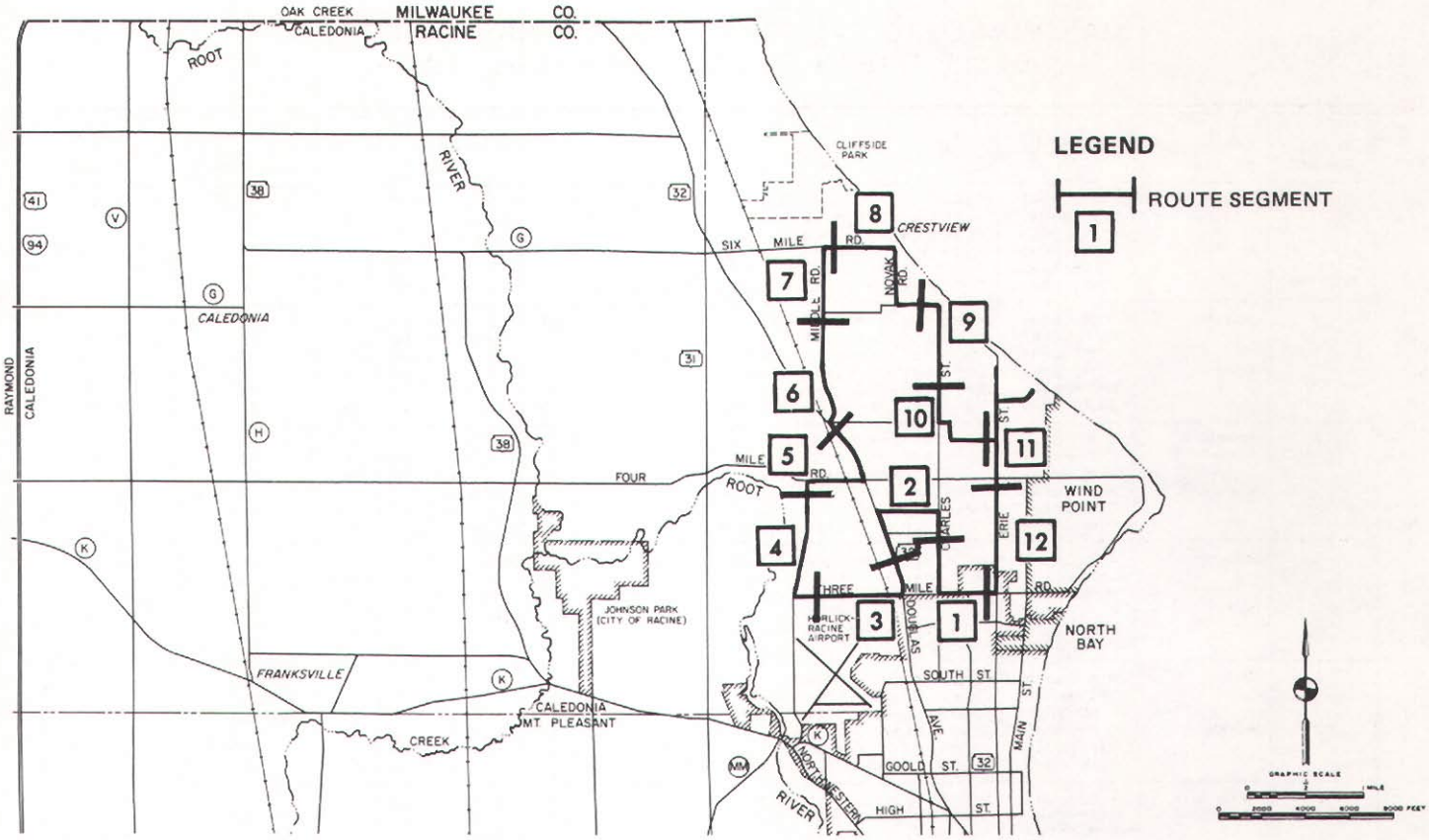
BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 9



Source: SEWRPC.

Map 40

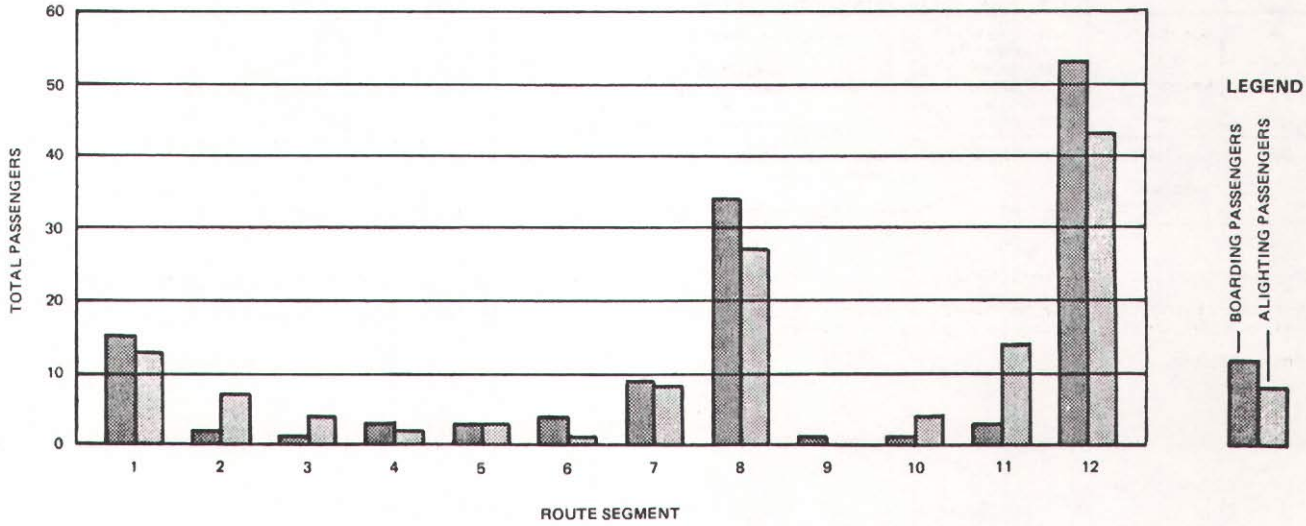
ROUTE SEGMENTS FOR ROUTE 10



Source: SEWRPC.

Figure 28

BOARDING AND ALIGHTING PASSENGERS BY ROUTE SEGMENT: ROUTE 10



Source: SEWRPC.

Table 42

MAXIMUM LOAD FACTORS BY BUS ROUTE FOR THE BELLE URBAN SYSTEM: MAY 11-13, 1983

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	State Street-Marquette Street.....	7:30 a.m.- 8:30 a.m.	40	0.50
		Off-peak	State Street-Marquette Street.....	1:00 p.m.- 2:00 p.m.	24	0.30
		P.M. peak	State Street-Superior Street.....	4:00 p.m.- 5:00 p.m.	25	0.31
	North	A.M. peak	14th Street-Racine Street.....	7:30 a.m.- 8:30 a.m.	14	0.18
		Off-peak	5th Street-S. Main Street.....	11:00 a.m.-12:00 p.m.	20	0.25
		P.M. peak	5th Street-S. Main Street.....	2:00 p.m.- 3:00 p.m.	31	0.39
2	South	A.M. peak	Hamilton Street-N. Main Street.....	7:00 a.m.- 8:00 a.m.	52	0.43
		Off-peak	Hamilton Street-N. Main Street.....	1:00 p.m.- 2:00 p.m.	50	0.63
		P.M. peak	Hamilton Street-N. Main Street.....	3:00 p.m.- 4:00 p.m.	33	0.28
	North	A.M. peak	21st Street-Blaine Avenue.....	7:30 a.m.- 8:30 a.m.	74	0.62
		Off-peak	5th Street-S. Main Street.....	1:00 p.m.- 2:00 p.m.	24	0.30
		P.M. peak	St. Patrick Street-N. Main Street...	3:00 p.m.- 4:00 p.m.	62	0.52
3	South	A.M. peak	16th Street-Racine Street.....	7:30 a.m.- 8:30 a.m.	67	0.56
		Off-peak	16th Street-Grand Avenue.....	11:00 a.m.-12:00 p.m.	30	0.38
		P.M. peak	16th Street-Holmes Avenue.....	2:00 p.m.- 3:00 p.m.	68	0.57
	North	A.M. peak	16th Street-Morton Avenue.....	6:30 a.m.- 7:30 a.m.	50	0.42
		Off-peak	Hamilton Street-N. Main Street.....	1:00 a.m.- 2:00 p.m.	31	0.39
		P.M. peak	16th Street-Holmes Avenue.....	3:00 p.m.- 4:00 p.m.	70	0.58
4	South	A.M. peak	Washington Avenue-Taylor Avenue.....	7:30 a.m.- 8:30 a.m.	49	0.41
		Off-peak	Washington Avenue-Grand Avenue.....	11:30 a.m.-12:30 p.m.	56	0.70
		P.M. peak	Washington Avenue-Taylor Avenue.....	2:00 p.m.- 3:00 p.m.	56	0.47
	North	A.M. peak	Hamilton Street-Douglas Avenue.....	7:30 a.m.- 8:30 a.m.	57	0.48
		Off-peak	Washington Avenue-Boyd Street.....	12:30 a.m.- 1:30 p.m.	33	0.41
		P.M. peak	Washington Avenue-West Boulevard....	3:00 p.m.- 4:00 p.m.	74	0.62
5	South	A.M. peak	12th Street-S. Memorial Drive.....	7:30 a.m.- 8:30 a.m.	25	0.31
		Off-peak	Gould Street-Blake Avenue.....	12:00 p.m.- 1:00 p.m.	31	0.39
		P.M. peak	Gould Street-Blake Avenue.....	2:00 p.m.- 3:00 p.m.	44	0.55
	North	A.M. peak	Gould Street-Douglas Avenue.....	6:30 a.m.- 7:30 a.m.	54	0.68
		Off-peak	Washington Avenue-Valley Drive.....	10:30 a.m.-11:30 a.m.	11	0.14
		P.M. peak	Taylor Avenue-West Boulevard.....	2:30 p.m.- 3:30 p.m.	29	0.36
6	West and South	A.M. peak	5th Street-S. Main Street.....	7:30 a.m.- 8:30 a.m.	23	0.29
		Off-peak	5th Street-S. Main Street.....	12:00 p.m.- 1:00 p.m.	30	0.38
		P.M. peak	St. Mary's Hospital.....	3:00 p.m.- 4:00 p.m.	79	0.99
	North and East	A.M. peak	Spring Street-Belmont Avenue.....	7:30 a.m.- 8:30 a.m.	66	0.83
		Off-peak	St. Mary's Hospital.....	12:00 p.m.- 1:00 p.m.	24	0.30
		P.M. peak	Spring Street-Luedtke Avenue.....	2:30 p.m.- 3:30 p.m.	55	0.69
7	South and West	A.M. peak	24th Street-Racine Avenue.....	7:45 a.m.- 8:45 a.m.	81	0.68
		Off-peak	Dekoven Avenue-Grand Avenue.....	12:30 p.m.- 1:30 p.m.	31	0.39
		P.M. peak	Dekoven Avenue-Grand Avenue.....	3:15 p.m.- 4:15 p.m.	58	0.48
	East and North	A.M. peak	14th Street-Grand Avenue.....	6:45 a.m.- 7:45 a.m.	52	0.43
		Off-peak	16th Street-Grand Avenue.....	12:00 p.m.- 1:00 p.m.	28	0.35
		P.M. peak	Durand Avenue-Philips Avenue.....	2:45 p.m.- 3:45 p.m.	77	0.64
8	West and South	A.M. peak	6th Street-N. Memorial Drive.....	8:00 a.m.- 9:00 a.m.	8	0.10
		Off-peak	6th Street-N. Memorial Drive.....	12:30 p.m.- 1:30 p.m.	16	0.20
		P.M. peak	6th Street-N. Memorial Drive.....	3:30 p.m.- 4:30 p.m.	21	0.26
	North and East	A.M. peak	6th Street-N. Memorial Drive.....	7:30 a.m.- 8:30 a.m.	21	0.26
		Off-peak	6th Street-N. Memorial Drive.....	9:00 a.m.-10:00 a.m.	17	0.21
		P.M. peak	6th Street-Jones Avenue.....	5:00 p.m.- 6:00 p.m.	16	0.20
9	South	A.M. peak	Taylor Avenue-Meachem Road.....	8:00 a.m.- 9:00 a.m.	65	0.81
		Off-peak	Taylor Avenue-Meachem Road.....	10:00 a.m.-11:00 a.m.	34	0.85
		P.M. peak	Taylor Avenue-Durand Avenue.....	3:00 p.m.- 4:00 p.m.	34	0.85
	North	A.M. peak	Taylor Avenue-Meachem Road.....	8:00 a.m.- 9:00 a.m.	8	0.20
		Off-peak	University of Wisconsin-Parkside....	12:00 p.m.- 1:00 p.m.	36	0.90
		P.M. peak	University of Wisconsin-Parkside....	3:00 p.m.- 4:00 p.m.	28	0.70
10	Clockwise	A.M. peak	Five and One-Half Mile Road-Novak Road.....	7:00 a.m.- 8:00 a.m.	19	0.48
	Counter-Clockwise	P.M. peak	Shorecrest Shopping Center.....	2:30 p.m.- 3:30 p.m.	14	0.35

[a]A.M. peak from 6:30 a.m. to 9:00 a.m.; off-peak from 9:00 a.m. to 2:00 p.m.; p.m. peak from 2:00 p.m. to 5:30 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.

Compliance with Policy Headways

While headways for local transit service should be capable of accommodating passenger demand at the recommended load standards, service frequencies should not exceed certain maximums established as a matter of policy. This is because the frequency of service not only reflects the availability of transit service, but also reflects 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 Belle Urban System.

The operating headways for each route of the Belle Urban System are listed in Table 43. Only Routes 9 and 10 have peak-period headways which exceed policy headways of 30 minutes for peak-period service. Routes 1 through 9 have off-peak headways which either are equal to or are significantly shorter than the desired off-peak headway of 60 minutes. Route 10 does not operate during the off-peak period.

It should be noted that both Route 9 and Route 10 are operated on a contract basis by the Belle Urban System, with the service characteristics of each route determined by the contract arrangement. Route 9, which is operated by the transit system under a contract with the University of Wisconsin-Parkside, has headways and schedules tailored to fit the start and dismissal times of classes at the University. While the 60-minute headways operated on the route throughout the day exceed desired peak-period headways, they are best suited to the student travel patterns dictated by the class schedules of the University. Additional buses are added to the schedule during the morning peak period to accommodate heavy passenger volumes and maintain recommended load standards. Route 10, which is operated by the City under a contract arrangement with the Town of Caledonia, is operated primarily during the peak period. Based upon the relatively low volumes of passengers carried on this route, the current level of service on the route is more than adequate to accommodate demand. Operation of the route with policy headways would only result in increased operating deficits for the route.

Table 43

SCHEDULED WEEKDAY OPERATING HEADWAYS BY ROUTE FOR THE BELLE URBAN SYSTEM: 1983

Route Number	Headway (minutes)	
	Peak Period	Off-Peak Period
1	30	30
2	20-30 [a]	30
3	20-30 [a]	30
4	20-30 [a]	30
5	30	30
6	30	30
7	20-30 [a]	30
8	30	30
9	60	60
10	45	--
11	30	30
12	30	30

[a] Route operates with 20-minute, peak-period headways between Labor Day and Memorial Day, and with 30-minute, peak-period headways between Memorial Day and Labor Day.

Source: SEWRPC.

Conclusions of Route Performance Evaluation

From the preceding evaluation, it is apparent that the routes of the transit system which have succeeded in attracting the most passengers and which perform at the higher levels of cost-effectiveness are Routes 1, 2, 3,

4, 5, 6, 7, and 9. These eight routes together accounted for over 94 percent of the average weekday ridership on the transit system over the five-month period between January and May 1983, and had productivity levels close to or well above the systemwide average. Routes which were not as successful in attracting passengers over the same period and which had productivity levels significantly below the systemwide average were Routes 8 and 10. In addition, Routes 11 and 12, for which only one month of operating data were available, also had performance levels significantly below the five-month systemwide level.

In reviewing the data for Route 8, it should be recognized that the route operated with several modifications since 1982 owing to reconstruction of two bridges on one of the arterial streets normally used by the route. The temporary rerouting entailed may be expected to have a negative impact upon route ridership and performance levels. While route ridership and performance can be expected to improve with the resumption of normal route operation, historical data for the route would indicate that even with a return of normal operations the route will operate with performance levels significantly below systemwide averages. Accordingly, an examination of the routing and scheduling of this route may be warranted to determine if changes could be made which would improve upon past performance levels.

The low performance level observed on Route 10 can be attributed directly to the characteristics of the area which it serves. The route connects residential areas and major traffic generators within the eastern portion of the Town of Caledonia with two of the regular routes of the Belle Urban System. While Routes 1 through 9 of the transit system serve areas of high and medium residential density, the service area of Route 10 contains primarily discontinuous areas of low-density residential development separated by agricultural or other open lands. Only the Crestview area and a residential area immediately north of the City served by Route 10 are of medium-density development. Consequently, the route generates low passenger volumes and has several segments with very low boarding and alighting activity, primarily where it passes through areas with little residential development and few major trip generators. If the route is to continue to serve all of the residential areas and traffic generators as contracted for at present, restructuring to eliminate such segments does not appear feasible.

With regard to Route 11 and Route 12, these two routes have been operated for only a short period of time, operation having been initiated in June 1983. More time is needed for these routes to develop ridership before their performance can be properly assessed. Improvements in ridership and effectiveness should occur on both routes with the transition from the low-ridership summer months into the higher ridership school year months. This should be particularly true for Route 12, which serves J. I. Case High School. An assessment of the performance of these routes can be more properly made after at least six months of operation.

SUMMARY

This chapter has evaluated the performance of the Belle Urban 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 Racine area. The second part of this assessment compared the ridership and financial performance of the Belle Urban 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 evaluations:

- The Belle Urban System provides excellent service area coverage of the residential areas within the City of Racine, and good coverage of the other densely developed residential areas within the Racine 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.

- The Belle Urban System provides very good coverage of the major traffic generators identified within the study area, serving 117, or 83 percent, of the 141 major traffic generators existing in the Planning District in 1983.

- An estimated 22,900 jobs were provided at major employment centers within the study area in 1983. About 20,000 of these jobs, or about 87 percent, were served by the routes of the transit system. Work schedules were determined for about 15,000, or about 75 percent, of the 20,000 jobs served. The vast majority--about 88 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.

- 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 performance of the Belle Urban System compares very favorably with the performance of other mid-size Wisconsin transit systems. For almost every indicator examined, the performance of the Belle Urban System was significantly better than the comparable group average.

- Some routes of the transit system--Routes 1, 2, 3, 4, 5, 6, 7, and 9--were found to be more successful in attracting ridership or to operate with higher levels of effectiveness than the other routes of the transit system. These eight routes account for over 90 percent of the total average weekday ridership on the transit system.

- The low performance level of Route 8 may be partially attributed to temporary changes made in the route which have negatively affected ridership. However, the route has a history of low ridership and warrants consideration of routing or scheduling changes to improve past performance levels.

- Low performance levels on Route 10 can be attributed primarily to the overall low residential density of its service area which is not favorable to generating large numbers of transit trips. Restructuring of this route to eliminate unproductive route segments does not appear feasible if service is to be maintained to all major residential areas presently served by the route.

- A longer period of time is needed before the performance of Routes 11 and 12, which began operation in June 1983, can be properly assessed.

The analyses documented in this chapter indicate that major changes to the transit system to improve performance are not needed. Certain minor changes in the transit system should be considered if they would improve the performance of specific routes. The extensive systemwide and route performance evaluations presented in this chapter were intended to provide a thorough background for 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 and the recommended transit system plan and program are documented in Chapter VII of this report.

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 Racine 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 Assistance 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 population of 50,000 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 Racine applied for and received a UMTA Section 3 capital grant in the amount of approximately $1.8 million. These funds were used to acquire the assets of the former private transit operator and purchase new operating equipment and facilities for the Belle Urban 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 the 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 which

[1]Within the Racine urbanized area, the City of Racine, 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.

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 are 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 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. Unobligated Section 5 funds from 1983 and previous years will, however, remain available for obligation as carry forward balances for up to three years after the original year of appropriation. The Section 5 program will be fully and finally terminated on September 30, 1985. The new Section 9 formula grant program is described in a following section of this chapter.

In keeping with the policy of the current federal administration of reducing federal aid for transit operating assistance, the Federal Surface Transportation Assistance 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 based upon urbanized area population. Specifically, for urbanized areas with a total 1980 population of fewer than 200,000 persons, which includes the Racine 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 on a dollar-for-dollar basis for use as operating assistance in order 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 the urbanized area operating assistance allocation for 1983 up to 100 percent of the 1982 operating assistance allocation. A penalty is, however, invoked for any such transfer of capital funds to exceed the funding cap.[2]

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[2]As a penalty for transferring formula capital assistance funds for use as operating assistance above the 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.

In the Racine urbanized area, the City of Racine 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 1982 the City of Racine will receive approximately $933,100 in UMTA Section 5 operating assistance funds. Of this amount, about $141,500, or about 15 percent, is Section 5 capital assistance money transferred for use as operating assistance. The City of Racine will also receive about $121,000 in UMTA Section 5 capital assistance funds for the purchase of tools, maintenance equipment, and improvements at the bus maintenance and storage facility.

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 Racine 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 Racine 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 under the Section 9A program only during 1983. However, funds not obligated by UMTA for specific projects during 1983 will remain available for obligation for three additional years 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 caps instituted in 1983 will apply under the Section 9 program as well. For the Racine 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 urbanized area operating assistance levels back up to 100 percent of the 1982 levels. 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 Racine urbanized area, will be allocated to the governor of each state who will then designate recipients within such urbanized areas of the state. The City of Racine will be the designated recipient for Section 9A and Section 9 funds allocated to the Racine 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 Racine urbanized area in 1983 was approximately $430,000 based upon the national formula. However, because the City of Racine had no capital projects which would use all of the allocated funds, the City agreed to allow the governor to re-allocate 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 Racine urbanized area in 1983 was approximately $29,400.

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 Racine urbanized area is Lincoln Lutheran of Racine, which utilized Section 16 funds in 1975 to purchase one 15-passenger wheelchair lift-equipped van and one 28-passenger wheelchair lift-equipped bus for use by the facility's residents only.

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 Racine 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 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, 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 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 semiambulatory 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 Racine 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 Racine County Human Services Department, under which specialized transportation service is provided by private contract carriers within the Racine urbanized area.[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 set 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, Section 5, 9A, and 9 capital projects involving construction must include an analysis to consider 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 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 above would 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 are 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. 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 which give urban public transportation systems tax relief include:

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 eligible 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 Racine will receive about $743,200 under the state transit operating assistance program in 1983 to support the operation of the Belle Urban System.

Transit systems receiving state transit operating assistance are required to provide a reduced-fare program for elderly and handicapped persons during nonpeak 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 must be 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 of the Wisconsin Statutes 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 percentage 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" or 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. The Racine County Human Services Department currently participates in this program to help support the countywide specialized transportation program administered by Lincoln Lutheran of Racine. The 1983 budget for the county transportation program included approximately $95,900 allocated to Racine 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 of 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 for 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 of village may, by action of its governing body, and upon a favorable referendum, vote to 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 empowered 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." Initial 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 also may be empowered to regulate on-street parking facilities and own and operate off-street parking facilities as well.

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. Initial institution of the urban transit system as a publc 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. The City of Racine, which owns and operates the Racine public transit system, created a transit and parking commission to function as a transit utility and parking utility under the provisions of this statute.

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 (1-3) 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) the purchase of buses and subsequent lease 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(4-8), 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. Initial 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 Racine 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 which 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 configuraton, 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, the Transportation 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

[4]Section 194.01 of the Wisconsin Statutes defines "common motor carrier" as any individual, company, or association which 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. Transportation of passengers in taxicab service is not considered as being that of a common motor carrier.

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

Specific transit legislation at the local level is contained in four chapters of the Racine municipal ordinances. The most significant legislation affecting transit on the local level is found in Chapter 3.205, Sections 1 through 9. This chapter establishes the Racine Transit and Parking Commission, defines its function, specifies the term and qualifications of commissioners, and defines its powers.

The other three chapters specifically mentioning transit provide regulations governing the operation of the transit system. Chapter 27.27 specifies that periodic safety inspections should be performed on all buses operating in the City of Racine, and that buses should be maintained in clean and sanitary conditions. The ordinance also requires that appropriate clothing be worn by bus passengers, and prohibits smoking, eating, and drinking on city buses.

Chapter 27.28 provides for the establishment of bus stops on streets over which buses operate. The ordinance specifies that the designation, location, and installation of bus stop signs or markings are under the direction and control of the city engineer and prohibits parking within 50 feet of an authorized bus stop sign.

Chapter 27.29 establishes bus loading zones on the east and west sides of Main Street from its intersection with 5th Street to 150 feet south of the intersection. The ordinance prohibits vehicles other than buses from parking or standing in the zone at any time.

LEGISLATIVE ANALYSIS

Publicly owned and operated urban transit systems, such as the Belle Urban 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 provision of transit service.

As noted earlier, the City of Racine 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 the Wisconsin Statutes Section 85.20 transit operating assistance programs. Since assuming public operation of the transit

system in 1975, 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 Belle Urban 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 Racine 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 Racine 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 Racine 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 operation assistance purposes. 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 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 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 specifically pertaining to transit system operation is contained in four chapters of the Racine municipal ordinances. The most significant of these chapters establishes and defines the powers of the Racine Transit and Parking Commission. The other three chapters provide specific regulations governing the location of bus stops and bus loading zones, the periodic safety inspection of buses, and the cleanliness of buses.

With regard to federal and state funding programs for urban public transit systems, the City of Racine 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 federal and state funding programs result in changes in program requirements.

Chapter VII

ALTERNATIVE TRANSIT SYSTEM PLANS AND PROGRAMS

INTRODUCTION

Previous chapters of this report have described the existing land use and socioeconomic characteristics and travel patterns of the Racine 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 Racine 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 Racine 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 improvement alternative, under which limited operational improvements would be made to the system, primarily involving the routes exhibiting the lowest performance levels; 3) a moderate improvement alternative, under which moderate operational improvements would be made to the system involving changes in routing and service levels; and 4) a maximum improvement alternative, under which substantial operational improvements would be made to the system.

In developing these alternatives, no change from the radial route structure and noncycle scheduling currently used by the system was considered. The transit system implemented a new radial route structure, utilizing noncycle scheduling, in May 1976. Ridership has grown dramatically on the new route system since its implementation, increasing almost four-fold since 1975. Because of the widespread acceptance of the current route structure and scheduling technique, it was concluded that major system routing and scheduling changes could be unpopular with passengers and, consequently, counter-productive to continuing ridership growth.

Routing and service level adjustments were considered for individual routes where such changes would improve upon performance levels, increase ridership, or result in better service to major traffic generators within the transit service area. Consideration was also given to extending the hours of system operation further into the evening. Finally, ridership levels and financial requirements attendant to each alternative were estimated for use in the selection of a recommended transit system plan and program. The ridership

estimates prepared for each alternative were based upon existing 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.

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 ridership and financial performance of the Belle Urban System compared very favorably with the performance of other mid-size Wisconsin transit systems. The strength of the performance exhibited by the existing system, particularly with regard to indicators of effectiveness and efficiency, make maintaining the status quo over the next five years a viable alternative.

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 a maximum of 12 bus routes with approximately 162 round-trip route miles of service. Service levels for each route of the system would remain the same as those described in Chapter IV of this report, except those for Route 9 serving the University of Wisconsin-Parkside. Headways on Route 9 under this alternative would be 30 minutes all day long during the fall and spring semesters of the University, instead of 60 minutes. This lower headway is consistent with the headway reduction implemented on this route in November 1983. Vehicle requirements for the transit system would remain at a maximum of 33 buses for peak-hour service between Labor Day and Memorial Day. The transit service characteristics of each route in the system under this alternative are listed in Table 44.

Ridership and Financial Projections: Ridership and financial projections for the system under the status quo alternative are presented in Table 45. As may be seen in this table, only slight increases in total transit system ridership are projected between 1983 and 1988. Ridership is projected to increase from about 2,231,000 revenue passengers in 1983 to about 2,289,000 revenue passengers in 1988, about a 3 percent increase. Most of this increase may be expected to be generated by the two new routes added to the system in 1983--Route 11 and Route 12--and by the aforementioned headway reduction on Route 9.

Projected operating expenses, revenues, and deficits are also presented in Table 45. System operating expenses are projected to increase by about 7 percent from 1983 to 1984, reflecting the full annual costs of operating the two new routes added to the system in June 1983 and the increased service levels implemented on Route 9 in November 1983. It is anticipated that operating expenses will remain stable between 1984 and 1986, as measured in constant dollars, then decline in 1987 because of the elimination of lease costs for buses. Such expenses would be eliminated by 1987 upon the delivery and placement into service of the new buses to be purchased by the City to replace the four buses presently leased by the transit system. Although operating revenues would be expected to increase somewhat with increases in ridership, operating

Table 44

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 1: STATUS QUO

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		Peak	Off Peak	Peak	Off Peak	
1	14.35	26.5	26.5	21.5	30	30	30	30	30	3	3	3	3	3
2	17.85	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
3	18.00	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
4	17.95	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
5	15.45	26.5	26.5	21.5	30	30	30	30	30	3	3	3	3	3
6	13.30	27.0	27.0	22.0	30	30	30	30	30	2	2	2	2	2
7	11.65	32.0	27.0	22.0	20	30	30	30	30	3	2	2	2	2
8	13.00	27.0	27.0	22.0	30	30	30	30	30	2	2	2	2	2
9	16.70	22.0	10.0	--	30	30	60	60	--	2	2	1	1	--
10	12.75	11.0	11.0	10.0	45	45	45	45	45	1	1	1	1	1
11	6.80	27.0	27.0	22.0	30	30	30	30	30	1	1	1	1	1
12	4.00	26.0	26.0	23.0	30	30	30	30	30	1	1	1	1	1
Total	161.80	321.0	287.5	228.5	--	--	--	--	--	33	26	25	25	24

[a] Labor Day through Memorial Day.

[b] Memorial Day through Labor Day.

Source: SEWRPC.

Table 45

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 1: 1983-1988

Operating Characteristics	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers	2,231,000	2,267,000	2,280,000	2,284,000	2,287,000	2,289,000
Annual Revenue Vehicle Hours	99,100	104,700	104,700	104,700	104,700	104,700
Annual Vehicle Miles	1,260,200	1,304,000	1,304,000	1,304,000	1,304,000	1,304,000
Revenue Passengers per Revenue Vehicle Hour	22.5	21.7	21.8	21.8	21.8	21.9
Operating Expenses[b]						
Annual	$2,343,200	$2,514,900	$2,514,900	$2,514,900	$2,500,500	$2,500,500
Per Revenue Passenger	1.05	1.11	1.10	1.10	1.09	1.09
Operating Revenue						
Passenger Revenue[c]						
Per Passenger[d]	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d]	718,000	725,400	729,600	730,900	731,800	732,500
Other Revenue[e]	30,200	23,000	23,000	23,000	23,000	23,000
Total Operating Revenue	$ 748,200	$ 748,400	$ 752,600	$ 753,900	$ 754,800	$ 755,500
Percent of Operating Expenses	31.9	29.8	29.9	30.0	30.0	30.0
Operating Deficit						
Annual	$1,595,000	$1,766,500	$1,762,300	$1,761,000	$1,745,700	$1,745,000
Per Revenue Passenger	0.71	0.78	0.77	0.77	0.76	0.76

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

[b] Excludes depreciation expenses.

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

[d] Includes special contract fares from the Racine Unified School District of approximately $0.06 per systemwide revenue passenger.

[e] Includes approximately $21,000 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

deficits would also be expected to increase as a result of higher operating expenses. Operating deficits per revenue passenger would be expected to increase from about $0.71 in 1983 to about $0.76 by 1988.

Alternative Plan 2--Minimum Transit Service Improvements

Alternative Plan 2 consists of a limited number of operational changes to the existing transit system. The changes proposed would be directed primarily at improving the performance of the routes exhibiting the lowest performance levels. In this respect, routing changes are proposed which should result in improved ridership on Routes 1, 8, 10, and 12. No, or very minor, changes are proposed for routes exhibiting the highest performance levels. The proposed changes under this alternative are summarized on Map 41 and described below.

Route 1: At the present time buses on Route 1 are scheduled to lay over at the ends of the route for a total of 22 minutes per round trip. Under this alternative, a portion of the scheduled layover time would be used to extend the route to the Shorecrest Shopping Center, where Routes 2, 4, and 10 also terminate. The route extension would expand transfer capabilities at the Shorecrest Shopping Center primarily for the benefit of Route 10 passengers, while reducing unproductive time on Route 1.

Route 3: A minor change would be made to Route 3 under this alternative. The loop at the northern end of Route 3 would be expanded to provide service to William Horlick High School. Bus service over the expanded loop would be limited to two trips in the morning and two trips in the afternoon on schooldays only. The service area of Route 3 includes a significant portion of the attendance area for the high school. The extension of service to the school would be expected to generate additional passenger trips as well as reduce high student passenger volumes on Route 5, which is presently the only route serving the school.

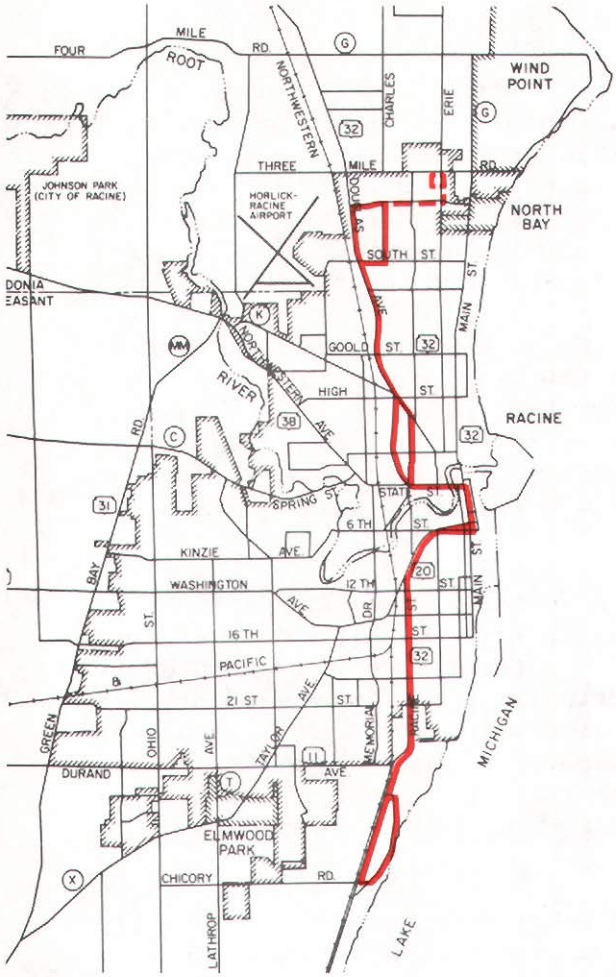
Routes 6 and 12: Routing changes proposed for Route 6 are designed primarily to improve ridership on Route 12. Passengers on Route 12 who have origins or destinations within the City of Racine must presently transfer between Routes 6 and 12 to complete their trip. Under this alternative, the transfer coordination between Routes 6 and 12 would be improved by relocating the terminus and layover point for Route 6 from the K-Mart Department Store at the intersection of Ohio Street and Byrd Avenue to the Kohl's Department Store at the intersection of Green Bay Road and Washington Avenue, which is also the layover point for Route 12. Schedules for Routes 6 and 12 would be coordinated to provide for common layover times at this point. Under this alternative, Route 6 would retain service along Byrd Avenue and Green Bay Road, as well as provide direct service to the Shopko, K-Mart, and Kohl's department stores, but would no longer serve Washington Avenue between Ohio Street and Green Bay Road.

Route 8: Two routing changes are proposed for Route 8 under this alternative. The first change would be the creation of a schoolday service loop over Belmont Avenue, Mohr Avenue, and Chicago Avenue to provide direct service to McKinley Junior High School. Two inbound bus trips in the morning and two outbound bus trips in the afternoon would be diverted from the normal routing over these streets to serve the junior high school. Under the second proposed routing

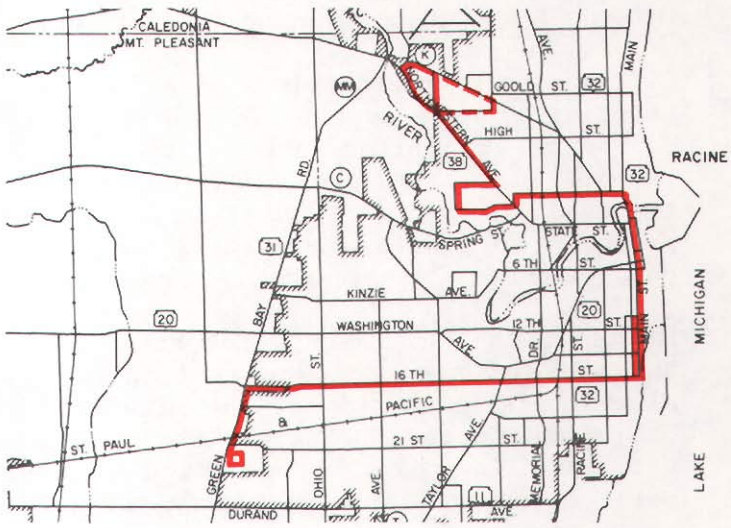
Map 41

PROPOSED ROUTE CHANGES FOR THE BELLE URBAN SYSTEM UNDER THE MINIMUM SERVICE IMPROVEMENT ALTERNATIVE

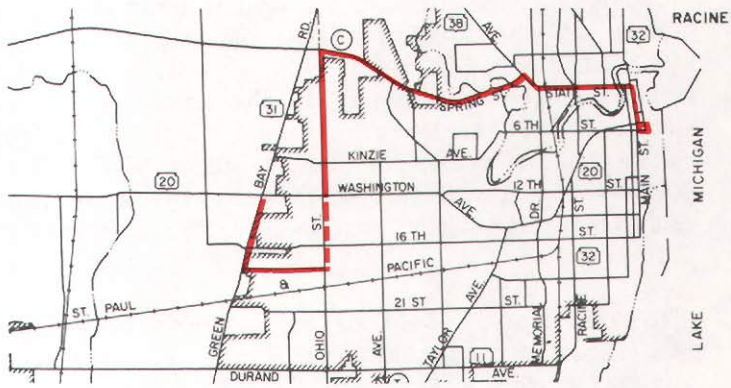
ROUTE 1



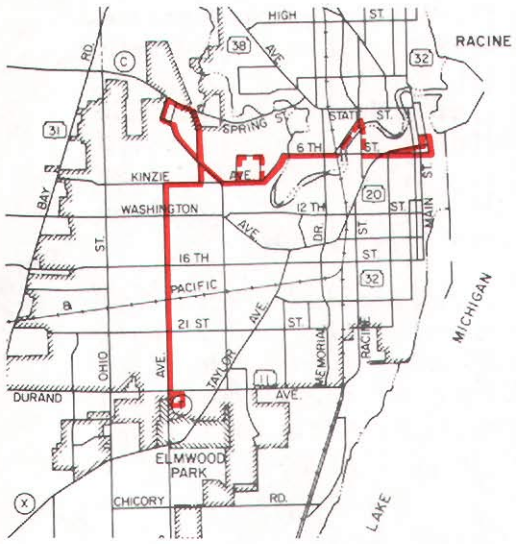
ROUTE 3



ROUTE 6



ROUTE 8

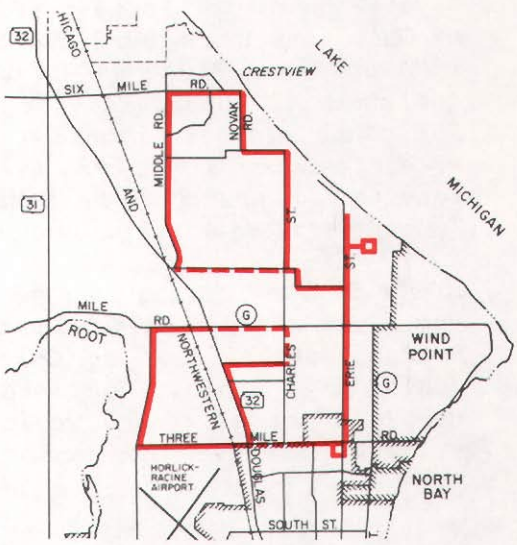


LEGEND

EXISTING SEGMENT TO BE RETAINED

PROPOSED SEGMENT TO BE ADDED

ROUTE 10



Source: SEWRPC.

change, the route would operate over Mound Avenue and Marquette Street instead of Sixth Street between Mound Avenue and Marquette Street. This routing would be similar to that followed when the route was detoured during reconstruction of the Sixth Street bridge over the Root River during 1982 and 1983, and would provide direct service to the Western Publishing Company plant on Mound Avenue.

Route 10: Under this alternative, Route 10 would be changed from a large, continuous, one-way loop into essentially two paired routes. The route would still focus on the Shorecrest Shopping Center but would operate with smaller one-way loops. The purpose of this change would be to reduce the amount of indirect travel and travel times for passengers on the route, most of whom either board or alight at the Shorecrest Shopping Center. The single vehicle assigned to the route would alternately operate over the northern and southern route segments, stopping at the Shorecrest Shopping Center before starting on the opposite route segment. Because the time required to complete one circuit over both proposed route segments would be approximately 60 minutes, including layover time, it would be necessary to change the current 45-minute headway to a 60-minute headway. However, the northern route segment would have a round-trip travel time of approximately 40 minutes, and the southern segment, approximately 20 minutes. This would improve transfer opportunities with Routes 2 and 4 at the Shorecrest Shopping Center, which operate with 20-minute peak-period headways during nine months of the year. The more direct service and improved transfer coordination should more than offset the effects of the proposed headway reduction.

Operating Profile: The transit service characteristics of each route in the system under this alternative are summarized in Table 46. Routing changes proposed under this alternative would increase round-trip route miles to approximately 171 miles--an increase of about nine miles, or about 6 percent, over the 162 miles operated at the end of 1983. Changes in service levels would be limited to the above-mentioned headway increase on Route 10. Vehicle requirements would remain at a maximum of 33 vehicles for peak-period service operated between Labor Day and Memorial Day.

Ridership and Financial Projections: Ridership and financial projections for the transit system under this alternative are presented in Table 47. These projections assume the implementation of the service changes proposed for Routes 1, 3, 6, and 8 by Labor Day, 1984, and the service changes proposed for Route 10 by January 1, 1985. Ridership is projected to increase from about 2,231,000 revenue passengers in 1983 to about 2,320,000 revenue passengers in 1988, about a 4 percent increase. Operating expenses would increase by about 8 percent over 1983 estimated levels by 1985, then decline slightly in 1987 because of the elimination of lease costs for buses. The total operating deficit would follow a similar trend, with the deficit in 1988 projected--in constant dollars--to be about $165,200, or about 10 percent, above 1983 estimated levels. However, the operating deficit per passenger by 1988 would be only about 7 percent above the 1983 deficit per passenger.

Alternative Plan 3--Moderate Transit Service Improvements

Alternative Plan 3 includes a moderate number of routing and service changes. Actions proposed under this alternative are directed primarily at improving service on three contract service routes operated by the transit system--

Table 46

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 2: MINIMUM SERVICE IMPROVEMENT

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		Peak	Off Peak	Peak	Off Peak	
1	15.95	26.5	26.5	21.5	30	30	30	30	30	3	3	3	3	3
2	17.85	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
3	18.90	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
4	17.95	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
5	15.45	26.5	26.5	21.5	30	30	30	30	30	3	3	3	3	3
6	13.95	27.0	27.0	22.0	30	30	30	30	30	2	2	2	2	2
7	11.65	32.0	27.0	22.0	20	30	30	30	30	3	2	2	2	2
8	14.90	27.0	27.0	22.0	30	30	30	30	30	2	2	2	2	2
9	16.70	22.0	10.0	--	30	30	60	60	--	2	2	1	1	--
10	16.80	8.0	8.0	7.5	60	60	60	60	60	1	1	1	1	1
11	6.80	27.0	27.0	22.0	30	30	30	30	30	1	1	1	1	1
12	4.00	26.0	26.0	23.0	30	30	30	30	30	1	1	1	1	1
Total	170.70	318.0	284.5	226.0	--	--	--	--	--	33	26	25	25	24

[a]Labor Day through Memorial Day.

[b]Memorial Day through Labor Day.

Source: SEWRPC.

Table 47

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 2: 1983-1988

Operating Characteristics	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers	2,231,000	2,277,000	2,310,000	2,315,000	2,318,000	2,320,000
Annual Revenue Vehicle Hours	99,100	105,100	105,200	105,200	105,200	105,200
Annual Vehicle Miles	1,260,200	1,318,600	1,333,000	1,333,000	1,333,000	1,333,000
Revenue Passengers per Revenue Vehicle Hour	22.5	21.7	22.1	22.1	22.1	22.1
Operating Expenses[b]						
Annual	$2,343,200	$2,530,900	$2,540,000	$2,540,000	$2,525,600	$2,525,600
Per Revenue Passenger	1.05	1.11	1.09	1.09	1.08	1.08
Operating Revenue						
Passenger Revenue[c]						
Per Passenger	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d]	718,000	728,600	739,200	740,800	741,800	742,400
Other Revenue[e]	30,200	23,000	23,000	23,000	23,000	23,000
Total Operating Revenue	$ 748,200	$ 751,600	$ 762,200	$ 763,800	$ 764,800	$ 765,400
Percent of Operating Expenses	31.9	29.7	30.0	30.1	30.3	30.3
Operating Deficit						
Annual	$1,595,000	$1,778,100	$1,777,800	$1,776,200	$1,760,800	$1,760,200
Per Revenue Passenger	0.71	0.78	0.77	0.77	0.76	0.76

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

[b]Excludes depreciation expenses.

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

[d]Includes special contract fares from the Racine Unified School District of approximately $0.06 per systemwide revenue passenger.

[e]Includes approximately $21,000 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

Routes 10, 11, and 12. In this regard, this alternative proposes a more extensive restructuring of Routes 1 and 10 than proposed under Alternative 2. The proposed restructuring would eliminate service on the most unproductive segments of Route 10 and would extend Route 1 to some areas presently served by Route 10, thus eliminating some transfers and the associated wait time for passengers. Also, under this alternative transit service between the Village of Sturtevant and the City of Racine and the Town of Mt. Pleasant and the City of Racine would be improved by replacing the transit service currently provided by Routes 11 and 12 with service provided by regular city bus routes. Routes 11 and 12, which began operation in June 1983, require passengers to transfer to or from regular city bus routes at the western boundary of the City of Racine. This alternative would improve transit service by eliminating the transfer and associated wait times for passengers on Routes 11 and 12 who use the regular city bus routes. To accomplish this, routing changes are proposed for Routes 2, 3, 4, 6, 7, and 8. The schoolday routing changes proposed for Routes 3 and 8 under Alternative 2 would also be incorporated into this alternative. The changes proposed under this alternative are summarized on Map 42. The routing and service changes for each route are described below.

Routes 1 and 10: Under this alternative, Route 10 would be cut back by eliminating service along the most unproductive route segments identified in Chapter V--segments 1 through 6--which make up the western portion of the loop route. The restructured Route 10 would be a lineal route rather than a loop route, providing two-way bus service between the Shorecrest Shopping Center and the Crestview residential area of the Town of Caledonia. Service would be retained over most of the segments composing the eastern half of the existing Route 10, and an expanded service loop would be added to the northern end of the route to provide more extensive coverage of the Crestview residential area. While Route 10 is currently operated with 45-minute headways, the restructured route would be operated with 40-minute peak-period headways and 45-minute off-peak headways on weekdays between Labor Day and Memorial Day, and with 45-minute headways on weekdays between Memorial Day and Labor Day and on Saturdays. Operation with the proposed headways would allow for transfer coordination between Route 10 and Routes 2 and 4 at the Shorecrest Shopping Center.

The one-way loop at the northern end of Route 1 would also be expanded under this alternative to replace some service formerly provided by Route 10 over Charles Street, Johnson Avenue, and Douglas Avenue in the Town of Caledonia. The route extension would reduce the extra layover time on Route 1 and would provide improved service to the residential area in the Town formerly served by Route 10 by eliminating the transfer presently required by Route 10 passengers at the Shorecrest Shopping Center.

Routes 2, 3, 4, 6, 8, and 12: Route 12 would be eliminated under this alternative and the service it currently provides would be provided by Routes 3 and 6. Route 3 would be modified by eliminating service over the current route segment on Green Bay Road between 16th Street and High Ridge Hospital, and replacing this segment with a one-way loop traversing 16th Street, Emmerson Road, Washington Avenue, and Green Bay Road. Buses on Route 3 would layover at the Kohl's Department Store at the intersection of Washington Avenue and Green Bay Road. Route 6 would be modified by eliminating service over Green

Bay Road and Byrd Avenue to the K-Mart Department Store, and extending the route from the intersection of Washington Avenue and Green Bay Road over Washington Avenue to directly serve J. I. Case High School.

Service formerly provided to High Ridge Hospital by Route 3 and the K-Mart Department Store by Route 6 would be replaced with service provided by Route 8. To accomplish this, Route 8 would be modified by eliminating the loop serving St. Mary's Medical Center and the route segment along Lathrop Avenue between 21st Street and Elmwood Plaza. Using time gained by these cutbacks, the route would be extended west along 21st Street between Lathrop Avenue and Green Bay Road to serve High Ridge Hospital, then north along Green Bay Road and west along Byrd Avenue to serve the K-Mart Department Store. The special school bus service proposed for McKinley Junior High School over Route 8 under Alternative 2 would also be included in this alternative.

Route 2 would be modified to operate over Lathrop Avenue and Taylor Avenue between 21st Street and Meachem Road to replace service provided by Route 8 over Lathrop Avenue and to extend regular bus service into the Village of Elmwood Park. The one-way loop at the southern end of Route 2 would be enlarged to include Maryland Avenue to minimize the number of stops lost on Meachem Road by the rerouting of Route 2. Service currently provided by Route 2 over Ohio Street between 21st Street and Durand Avenue would be replaced by modifying Route 4 to operate over Ohio Street and Durand Avenue between 21st Street and the Regency Mall Shopping Center. Service presently provided by Route 4 to Goodwill Industries of Southeastern Wisconsin located on 21st Street would be replaced with service provided by Route 8.

Routes 7 and 11: Route 11 would be eliminated under this alternative. The service currently provided by Route 11 would be replaced by extending Route 7 over STH 11 from its present terminus at the Regency Mall Shopping Center to the present terminus of Route 11--the Amtrak Depot in the Village of Sturtevant. The portion of Route 7 currently serving the City of Racine would continue to do so.

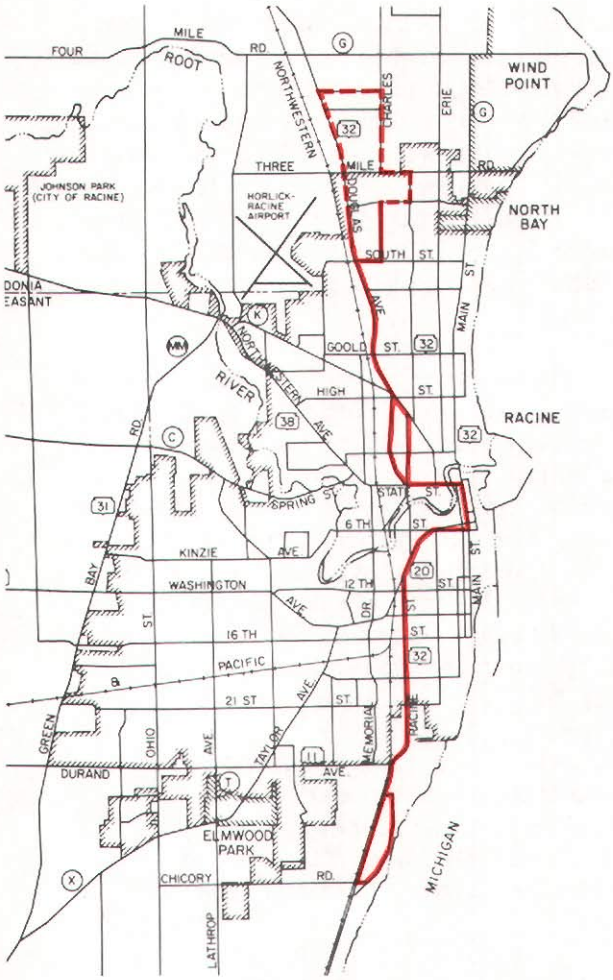
Operating Profile: The transit service characteristics of each route in the system under this alternative are summarized in Table 48. Routing changes proposed under this alternative would increase round-trip route miles to approximately 163 miles--an increase of about 1 mile, or less than 1 percent, over the 162 miles operated at the end of 1983. No changes in existing service levels are proposed for Routes 1 through 9 under this alternative. However, the replacement of service provided by Routes 11 and 12 with service provided by Routes 3 and 7 would provide improved service to the Village of Sturtevant and portions of the Town of Mt. Pleasant. This is because Routes 3 and 7 would operate with 20-minute headways during nine months of the year, versus the 30-minute headways currently operated on Routes 11 and 12. Similarly, the extension of Route 1 into the Town of Caledonia would provide improved service to the area formerly served by Route 10 by reducing headways from 45 to 30 minutes and by increasing weekday and Saturday service hours.

In addition to the above-mentioned headway changes, it is proposed that service hours for the restructured Route 10 be increased to be consistent with those of other routes of the transit system. The proposed headway changes and extension of service hours on Route 10 would add between seven and eight scheduled

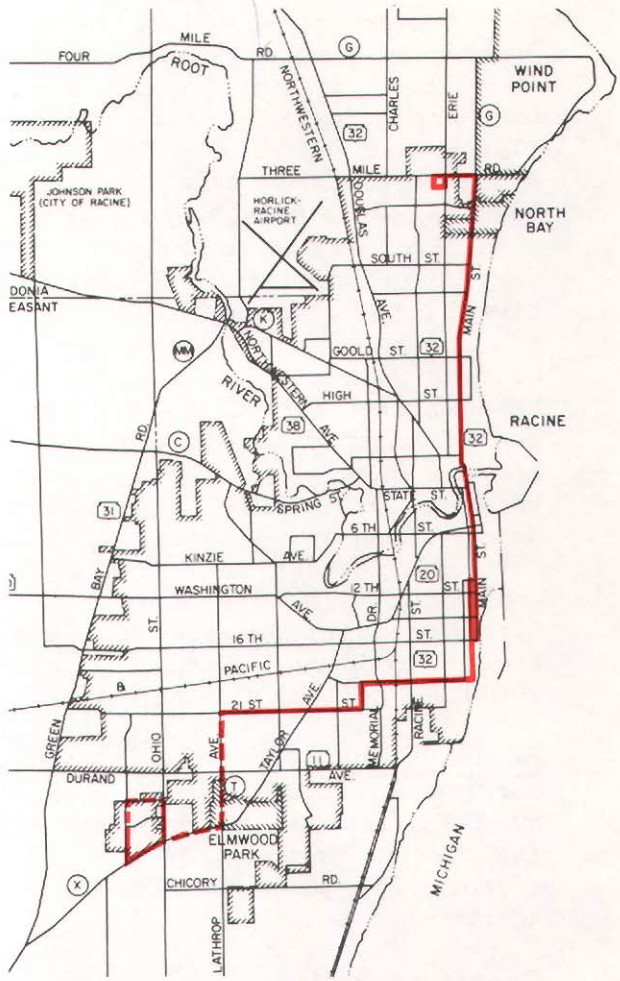
Map 42

PROPOSED ROUTE CHANGES FOR THE BELLE URBAN SYSTEM UNDER THE MODERATE SERVICE IMPROVEMENT ALTERNATIVE

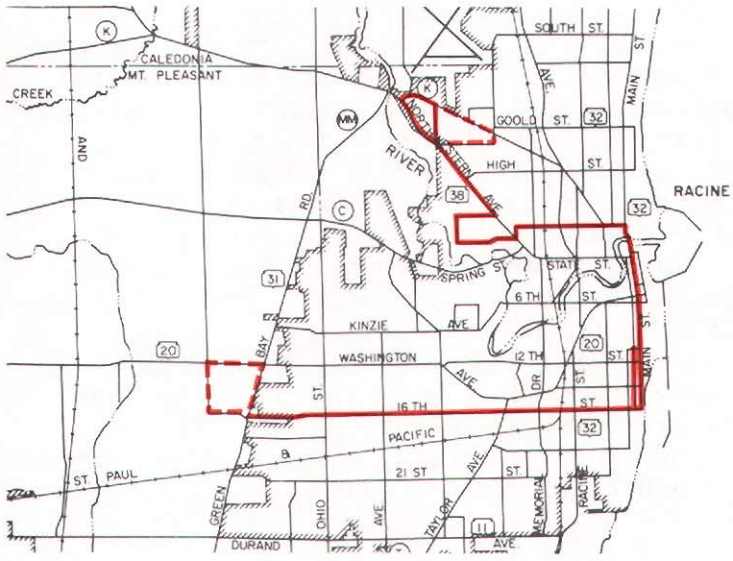
ROUTE 1



ROUTE 2



ROUTE 3

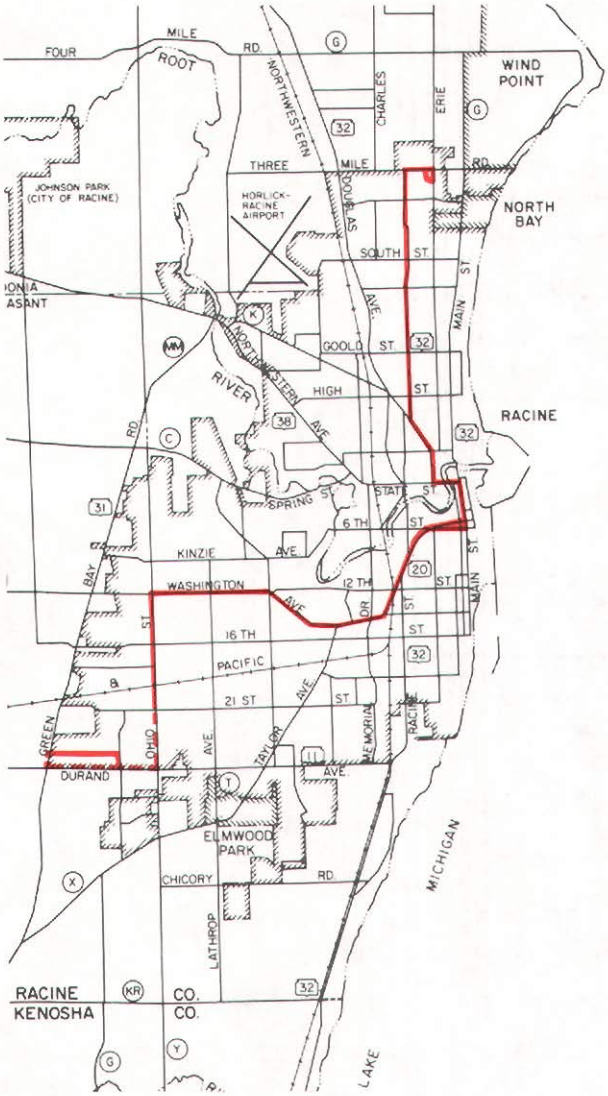


LEGEND

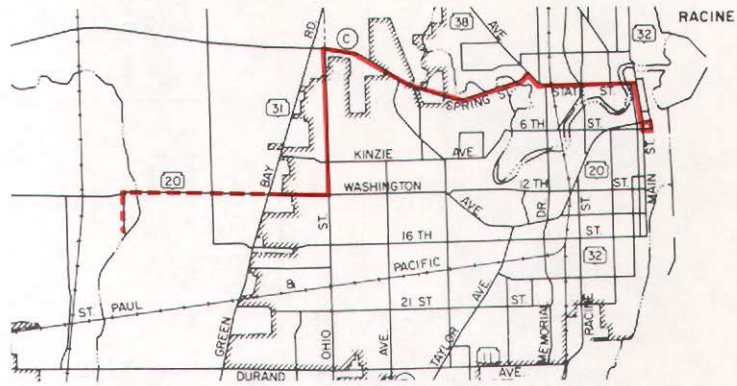
- EXISTING SEGMENT TO BE RETAINED
- PROPOSED SEGMENT TO BE ADDED

Map 42 (continued)

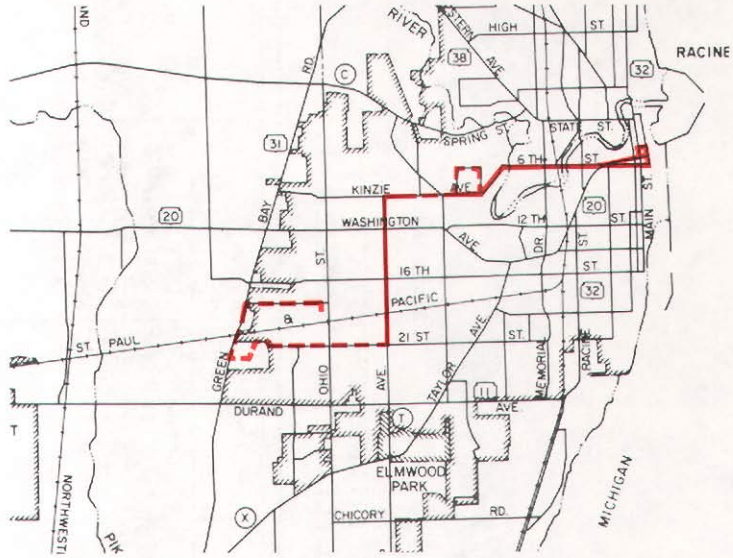
ROUTE 4



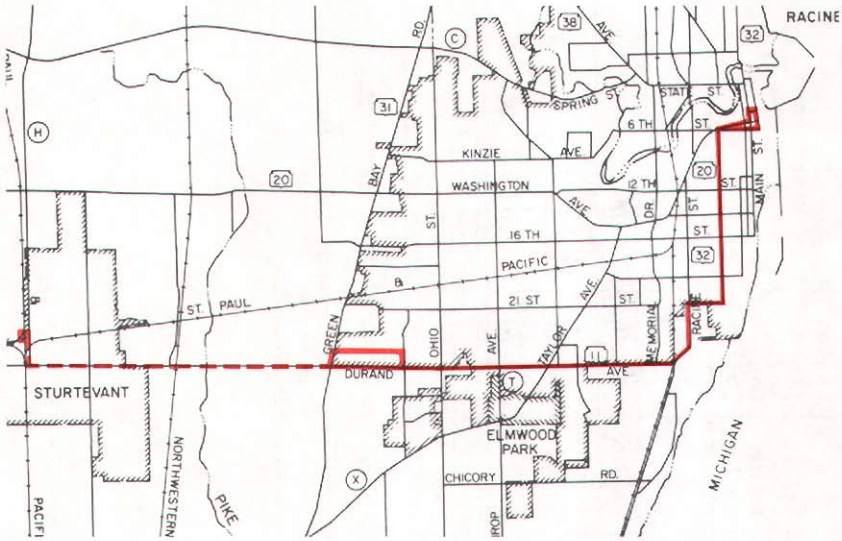
ROUTE 6



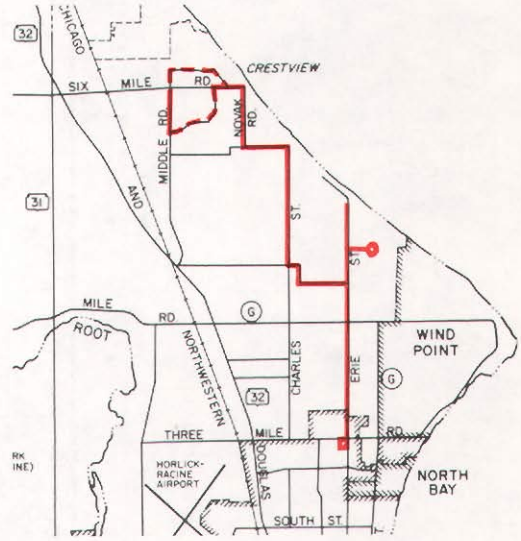
ROUTE 8



ROUTE 7



ROUTE 10



Source: SEWRPC.

Table 48

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 3: MODERATE SERVICE IMPROVEMENT

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		Peak	Off Peak	Peak	Off Peak	
1	17.00	26.5	26.5	21.5	30	30	30	30	30	3	3	3	3	3
2	18.20	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
3	19.25	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
4	18.30	32.0	26.5	21.5	20	30	30	30	30	5	3	3	3	3
5	15.45	26.5	26.5	21.5	30	30	30	30	30	3	3	3	3	3
6	13.75	27.5	27.5	21.5	30	30	30	30	30	3	3	3	3	3
7	18.45	32.0	27.0	22.0	20	30	30	30	30	4	3	3	3	3
8	13.95	27.0	27.0	22.0	30	30	30	30	30	2	2	2	2	2
9	16.70	22.0	10.0	--	30	30	60	60	--	2	2	1	1	--
10	12.10	19.0	18.0	14.0	40	45	45	45	45	1	1	1	1	1
Total	163.15	275.5	241.0	187.0	--	--	--	--	--	33	26	25	25	24

[a]Labor Day through Memorial Day.

[b]Memorial Day through Labor Day.

Source: SEWRPC.

bus trips on weekdays and four scheduled bus trips on Saturdays to the existing schedules. Under this alternative, 33 vehicles would continue to be required for the peak-period service operated between Labor Day and Memorial Day.

Ridership and Financial Projections: Ridership and financial projections for the Belle Urban System under this alternative are presented in Table 49. The projections presented in this table assume the implementation of all service changes by January 1, 1985, except the proposed schoolday service additions on Routes 3 and 8, which would be implemented by Labor Day 1984. Ridership is projected to increase from about 2,231,000 revenue passengers in 1983 to about 2,368,000 revenue passengers in 1988, an increase of about 6 percent. Operating expenses would increase in constant dollars by about 9 percent over 1983 estimated levels by 1985, then decline slightly in 1985 and 1987. The total operating deficit in 1988 is projected to be $163,000 higher than the 1983 estimated level, representing an increase of 10 percent. However, the operating deficit per passenger would be only about 4 percent above the 1983 deficit per passenger.

Alternative Plan 4--Maximum Service Improvements

Alternative Plan 4 proposes substantial improvements in the level of service provided by the transit system over the five-year period from 1984 through 1988. This alternative incorporates all of the routing adjustments proposed under Alternative 3, as summarized on Map 42, and further proposes to add service on all routes of the transit system. Service would be added by extending the existing weekday service hours for about four and one-half hours into the evening period.

Operating Profile: A summary of the transit service characteristics of the transit system under this alternative is presented in Table 50. The basic route structure and round-trip route miles for this alternative would be the same as under Alternative 3. Service hours for all routes would be expanded to include from three to six and one-half additional scheduled round trips by buses on each route on weekday evenings. This action would extend the bus service provided on most routes of the transit system to about 11:45 p.m. each weekday evening. Headways during the extended weekday evening period would be increased over those operated during the day and would vary by route from 45 to 60 minutes. Under this alternative, 33 vehicles would continue to be required for the peak-period service provided between Labor Day and Memorial Day.

Ridership and Financial Projections: Ridership and financial projections for the Belle Urban System under this alternative are presented in Table 51. The projections presented in this table assume the implementation of the proposed evening service by January 1, 1985. Ridership is projected to increase from about 2,231,000 revenue passengers in 1983 to about 2,570,000 revenue passengers in 1988, a 15 percent increase. Total system operating expenses would increase in constant dollars by about 29 percent over 1983 levels by 1985, then decline slightly in 1987. The total operating deficit of $2,167,200 in 1988 would be about 36 percent--or $572,400--higher than the operating deficit of $1,595,000 estimated for 1983. Similarly, the operating deficit per revenue passenger would increase from about $0.71 in 1983 to about $0.84 in 1988, an increase of about 18 percent.

Tale 49

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 3: 1983-1988

Operating Characteristics	1983 Estimated	Projections[a]				
		1984	1985	1986	1987	1988
Annual Revenue Passengers	2,231,000	2,273,000	2,336,000	2,354,000	2,363,000	2,368,000
Annual Revenue Vehicle Hours	99,100	104,700	106,100	106,100	106,100	106,100
Annual Vehicle Miles	1,260,200	1,311,300	1,329,100	1,329,100	1,329,100	1,329,100
Revenue Passengers per Revenue Vehicle Hour	22.5	21.7	22.2	22.3	22.4	22.4
Operating Expenses[b]						
Annual	$2,343,200	$2,519,600	$2,552,800	$2,552,800	$2,538,400	$2,538,400
Per Revenue Passenger	1.05	1.11	1.09	1.08	1.07	1.07
Operating Revenue						
Passenger Revenue[c]						
Per Passenger[d]	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32	$ 0.32
Annual[d]	718,000	727,400	747,500	753,300	756,200	757,800
Other Revenue[e]	30,200	23,000	23,000	23,000	23,000	23,000
Total Operating Revenue	$ 748,200	$ 750,400	$ 770,500	$ 776,300	$ 779,200	$ 780,800
Percent of Operating Expenses	31.9	29.7	30.2	30.4	30.7	30.3
Operating Deficit						
Annual	$1,595,000	$1,769,200	$1,782,300	$1,776,500	$1,759,200	$1,757,600
Per Revenue Passenger	0.71	0.78	0.76	0.75	0.74	0.74

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

[b] Excludes depreciation expenses.

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

[d] Includes special contract fares from the Racine Unified School District of approximately $0.06 per systemwide revenue passenger.

[e] Includes approximately $21,000 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

Table 50

SUMMARY OF SERVICE CHARACTERISTICS BY ROUTE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 4: MAXIMUM SERVICE IMPROVEMENT

Route Number	Round-Trip Route Length (miles)	Daily Round Trips			Weekday Headways (minutes)					Saturday Headways (minutes)	Vehicles Required on Weekdays					Vehicles Required on Saturdays
		Weekday			School Year[a]		Summer[b]				School Year[a]		Summer[b]			
		School Year[a]	Summer[b]	Saturday	Peak	Off Peak	Peak	Off Peak	Evening		Peak	Off Peak	Peak	Off Peak	Evening	
1	17.00	33.0	33.0	21.5	30	30	30	30	45	30	3	3	3	3	2	3
2	18.20	38.0	33.0	21.5	20	30	30	30	45	30	5	3	3	3	2	3
3	19.25	38.0	33.0	21.5	20	30	30	30	45	30	5	3	3	3	2	3
4	18.30	38.0	33.0	21.5	20	30	30	30	45	30	5	3	3	3	2	3
5	15.45	33.0	33.0	21.5	30	30	30	30	45	30	3	3	3	3	2	3
6	13.75	33.0	33.5	21.5	30	30	30	30	45	30	3	3	3	3	2	3
7	18.45	38.0	33.5	22.0	20	30	30	30	45	30	4	3	3	3	2	3
8	13.95	32.0	32.0	22.0	30	30	30	30	60	30	2	2	2	2	1	2
9	16.70	25.0	10.0	--	30	30	60	60	60[c]	--	2	2	1	1	1[c]	--
10	12.10	23.0	22.0	14.0	40	45	45	45	45	45	1	1	1	1	1	1
Total	163.15	331.0	295.0	187.0	--	--	--	--	--	--	33	26	25	25	15	24

[a] Labor Day through Memorial Day.

[b] Memorial Day through Labor Day.

[c] Fall and spring semesters only.

Source: SEWRPC.

Table 51

RIDERSHIP AND FINANCIAL PERFORMANCE FOR THE BELLE URBAN SYSTEM UNDER ALTERNATIVE 4: 1983-1988

Operating Characteristics	1983 Estimated	Projections[a] 1984	1985	1986	1987	1988
Annual Revenue Passengers	2,231,000	2,273,000	2,480,000	2,527,000	2,554,000	2,570,000
Annual Revenue Vehicle Hours	99,100	104,700	126,200	126,200	126,200	126,200
Annual Vehicle Miles	1,260,200	1,311,300	1,568,400	1,568,400	1,568,400	1,568,400
Revenue Passengers per Revenue Vehicle Hour	22.5	21.7	19.7	20.0	20.2	20.4
Operating Expenses[b]						
Annual	$2,343,200	$2,519,600	$3,027,000	$3,027,000	$3,012,600	$3,012,600
Per Revenue Passenger	1.05	1.11	1.22	1.20	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]	718,000	727,400	793,600	808,600	817,300	822,400
Other Revenue[e]	30,200	23,000	23,000	23,000	23,000	23,000
Total Operating Revenue	$ 748,200	$ 750,400	$ 816,600	$ 831,600	$ 840,300	$ 845,400
Percent of Operating Expenses	31.9	29.7	27.0	27.5	27.9	28.1
Operating Deficit						
Annual	$1,595,000	$1,769,200	$2,210,400	$2,195,400	$2,172,400	$2,167,200
Per Revenue Passenger	0.71	0.78	0.89	0.87	0.85	0.84

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

[b] Excludes depreciation expenses.

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

[d] Includes special contract fares from the Racine Unified School District of approximately $0.06 per systemwide revenue passenger.

[e] Includes approximately $21,000 in charter service revenues in each year from 1983 through 1988.

Source: SEWRPC.

Evaluation of Transit Service Alternatives

Table 52 summarizes the performance and cost of each of the four transit service alternatives for the Racine 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 systemwide evaluation of the transit system described in Chapter V. The table indicates the degree to which each alternative satisfies the key standards, and allows for a comparative evaluation of all the alternatives.

As indicated in Table 52, the performance of the system under the four service alternatives may be expected to be virtually identical. The four alternatives may be expected to serve about the same total population and number of major traffic generators, and to provide similar service 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 between 109,000 and 110,000 persons within the study area and would provide virtually complete service-area coverage to persons residing within the City of Racine, 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.

The maximum service improvement alternative would provide significantly more service to Racine area residents and jobs through the extended hours of operation proposed under the alternative and, consequently, could be expected to generate the highest level of transit ridership over the planning period. The maximum service improvement alternative could be expected to generate about 997,000, or about 9 percent, more revenue passengers over the planning period than would the status quo alternative; about 864,000, or about 7 percent, more revenue passengers than would the minimum service improvement alternative; and about 710,000, or about 6 percent, more revenue passengers than would the moderate service improvement alternative.

Maintaining the existing system, as proposed under the status quo alternative, would entail the lowest total public funding requirement over the planning period--estimated at $8,781,000, or $1,771,000 per year. The moderate service improvement alternative would require an additional public funding requirement of about $64,000 over the planning period, or about $13,000 more per year. The minimum improvement alternative would require an additional $72,000 over the planning period, or about $14,000 more per year. The maximum service improvement alternative would require the highest total public funding requirement over the planning period, exceeding the public funding requirement for the status quo alternative by about $1,734,000, or about $347,000 per year.

In terms of cost-effectiveness, the moderate service improvement alternative would have the lowest average public funding requirement per passenger over the planning period of about $0.76. The public funding requirement per passenger for the status quo and minimum service improvement alternatives would be about $0.77, or about 1 percent more than for the moderate service improvement alternative. The public funding requirement per passenger for the maximum

Table 52

SUMMARY OF THE EVALUATION OF ALTERNATIVE TRANSIT SERVICE PLANS FOR THE BELLE URBAN SYSTEM

Evaluation Measure by Objective	Alternatives [a]			
	Status Quo	Minimum Service Improvement	Moderate Service Improvement	Maximum Service Improvement
Objective No. 1--Effectively Serve Existing Land Use Pattern				
Population Served				
Total Service Area Population	110,200	110,400	109,400	109,400
Percent of City of Racine Resident Population Served	99.8	99.8	99.8	99.8
Major Nonresidential Land Use Areas Served				
Shopping Areas	12 of 12	12 of 12	12 of 12	12 of 12
Educational Institutions	15 of 16	15 of 16	15 of 16	15 of 16
Medical Centers	6 of 6	6 of 6	6 of 6	6 of 6
Governmental and Public Institutional Centers	7 of 12	7 of 12	7 of 12	7 of 12
Employment Centers	51 of 59	52 of 59	9 of 59	49 of 59
Recreational Areas	18 of 29	18 of 29	18 of 29	18 of 29
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	32 of 37	32 of 37	31 of 37	31 of 37
Handicapped Facilities	22 of 29	22 of 29	22 of 29	22 of 29
Federally Subsidized Rental Housing	16 of 17	16 of 17	16 of 17	16 of 17
Jobs Within One-Eighth Mile of a Bus Route With Shift Times Completely Within Service Hours of Transit System	12,100	12,800	11,700	19,100
Objective No. 3--Promote Transit Utilization and Provide for User Convenience, Comfort, and Safety				
Annual Revenue Passengers				
Total 1988	2,289,000	2,320,000	2,368,000	2,570,000
Net Change 1983-1988	68,000	89,000	137,000	339,000
Total Ridership 1984-1988	11,407,000	11,540,000	11,694,000	12,404,000
Revenue Passengers Per Capita				
1988	20.8	21.0	21.6	23.5
Net Change 1983-1988	0.6	0.8	1.4	3.3
Revenue Passengers per Revenue Vehicle Hour				
1988	21.9	22.1	22.4	20.4
Net Change 1983-1988	- 0.6	- 0.4	- 0.1	- 2.1
Objective No. 4--Provide Economical and Efficient Service				
Operating Expenses				
Total Annual Expenses 1984-1988	$12,545,700	$12,661,200	$12,702,000	$14,598,800
Average Annual Expenses 1984-1988	2,509,100	2,532,200	2,540,400	2,919,800
Percent of Operating Expenses Recovered by Operating Revenues				
1988	30.0	30.5	30.8	28.1
Net Change 1983-1988	- 1.9	- 1.4	- 1.1	- 3.8
Average Annual Recovery Rate 1984-1988	30.0	30.0	30.4	28.0
Total Operating Deficit				
Total Annual Operating Deficits 1984-1988	$ 8,780,500	$ 8,853,100	$ 8,844,800	$10,514,500
Average Annual Operating Deficit 1984-1988	1,756,100	1,770,600	1,769,000	2,102,900
Total Operating Deficit per Passenger				
1988	$ 0.76	$ 0.76	$ 0.74	$ 0.84
Average Annual 1984-1988	0.77	0.77	0.76	0.85

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

Source: SEWRPC.

service improvement alternative would be about $0.85, or about 12 percent above that required under the moderate service improvement alternative.

While it is important to compare the total public funding requirement of each transit service alternative, the local share of the public funding requirement must also be considered. The local share will be dependent 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 that will 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 Racine 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 authorization 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 Racine 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 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 be available. Table 53 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 Belle Urban System is shown in Table 54. The amounts of federal funds shown in the table are based upon the funding levels 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

Table 53

ALTERNATIVE FUNDING SCENARIOS FOR FEDERAL TRANSIT OPERATING ASSISTANCE: 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	$1,767,700	$1,767,700
Funds Projected to be Deobligated	62,000	62,000
Total	$1,829,700	$1,829,700
UMTA Section 9 Funds		
Portion of Annual Allocation Available for Operating Assistance		
1984	$ 759,000	$ 759,000
1985	721,100	506,300
1986	721,100	253,100
1987	721,100	--
1988	721,100	--
Total	$3,643,400	$1,518,400
Total Operating Assistance Funds	$5,473,100	$3,348,100

Source: SEWRPC.

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 status quo, minimum service improvement, and moderate service improvement alternatives. The maximum service improvement alternative would face a shortfall of federal funds in the last year of the planning period under this scenario. State transit operating assistance levels would be more than sufficient to cover the remainder of the projected systemwide operating deficits for each alternative except the maximum service improvement alternative. Because of assumed federal and state funding levels, no local dollars would be required under the optimistic funding scenario[1] at the systemwide level for any transit service alternative except the maximum service improvement alternative.

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[1]The analysis of transit service alternatives indicates that federal and state aids would be sufficient to fund the operating deficit at the systemwide level. At the present time, several units and agencies of government, including the Village of Sturtevant, the Towns of Caledonia and Mt. Pleasant, and the University of Wisconsin-Parkside, contract for transit service from the City of Racine. As has been done in the past, it may be necessary through negotiation among the units and agencies of government concerned for the local units of government to fund any portion of the individual operating deficits of the contracted services which would not be funded by federal and state transit assistance over the planning period.

Table 54

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.....	1,766,500	1,762,300	1,761,000	1,745,700	1,745,000	8,780,500	1,756,100
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b].....	1,904,500	1,901,100	1,900,000	1,884,900	1,884,300	9,474,800	1,895,000
	Maximum Federal Share[c].....	952,250	950,550	950,000	942,450	942,150	4,737,400	947,500
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario.....	952,250	950,550	950,000	942,450	942,150	4,737,400	947,500
	Under Pessimistic Funding Scenario.....	952,250	950,550	950,000	495,300	--	3,348,100	669,600
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d].....	2,493,900	2,493,900	2,493,900	2,479,500	2,479,500	12,440,700	2,488,100
	Maximum State Share[e].....	872,900	872,900	872,900	867,800	867,800	4,354,300	870,900
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario.....	814,250	811,750	811,000	803,250	802,850	4,043,100	808,600
	Under Pessimistic Funding Scenario.....	814,250	811,750	811,000	867,800	867,800	4,172,600	834,500
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario...	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario..	--	--	--	382,600	877,200	1,259,800	252,000
Minimum Service Improvement	Total Projected Operating Deficit.....	1,778,100	1,777,800	1,776,200	1,760,800	1,760,200	8,853,100	1,770,600
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b].....	1,917,000	1,918,400	1,917,100	1,901,900	1,901,400	9,555,800	1,911,200
	Maximum Federal Share[c].....	958,500	959,200	958,550	950,950	950,700	4,777,900	955,600
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario.....	958,500	959,200	958,550	950,950	950,700	4,777,900	955,600
	Under Pessimistic Funding Scenario.....	958,500	959,200	958,550	471,850	--	3,348,100	669,600
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d].....	2,509,000	2,519,000	2,519,000	2,504,600	2,504,600	12,556,200	2,511,200
	Maximum State Share[e].....	878,150	881,650	881,650	876,600	876,600	4,394,650	878,900
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario.....	819,600	818,600	817,650	809,850	809,500	4,075,200	815,000
	Under Pessimistic Funding Scenario.....	819,600	818,600	817,650	876,600	876,600	4,209,050	840,900
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario...	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario..	--	--	--	412,350	883,600	1,295,950	259,200
Moderate Service Improvement	Total Projected Operating Deficit	1,769,200	1,782,300	1,776,500	1,759,200	1,757,600	8,844,800	1,769,000
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b].....	1,907,600	1,924,500	1,919,700	1,903,000	1,901,700	9,556,500	1,911,300
	Maximum Federal Share[c].....	953,800	962,250	959,850	951,500	950,850	4,778,250	957,000
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario.....	953,800	962,250	959,850	951,500	950,850	4,778,250	957,000
	Under Pessimistic Funding Scenario.....	953,800	962,250	959,850	472,200	--	3,348,100	669,600
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d].....	2,498,600	2,531,800	2,531,800	2,517,400	2,517,400	12,597,000	2,519,400
	Maximum State Share[e].....	874,500	886,100	886,100	881,100	881,100	4,408,900	881,800
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario.....	815,400	820,050	816,650	807,700	806,750	4,066,550	813,300
	Under Pessimistic Funding Scenario.....	815,400	820,050	816,650	881,100	881,100	4,214,300	842,900
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario...	--	--	--	--	--	--	--
	Under Pessimistic Funding Scenario..	--	--	--	405,900	876,500	1,282,400	256,500
Maximum Service Improvement	Total Projected Operating Deficit.....	1,769,200	2,210,400	2,195,400	2,172,300	2,167,200	10,514,500	2,102,900
	Federal Transit Operating Assistance							
	Projected Operating Deficit per Federal Guidelines[b].....	1,907,600	2,361,200	2,349,000	2,327,500	2,323,400	11,268,700	2,253,700
	Maximum Federal Share[c].....	953,800	1,180,600	1,174,500	1,163,750	1,161,700	5,634,350	1,126,900
	Projected Federal Assistance Available							
	Under Optimistic Funding Scenario.....	953,800	1,180,600	1,174,500	1,163,750	1,000,450	5,473,100	1,094,600
	Under Pessimistic Funding Scenario.....	953,800	1,180,600	1,174,500	39,200	--	3,348,100	669,600
	State Transit Operating Assistance							
	Eligible Operating Expenses per State Guidelines[d].....	2,498,600	3,006,000	3,006,000	2,991,600	2,991,600	14,493,800	2,898,800
	Maximum State Share[e].....	874,500	1,052,100	1,052,100	1,047,100	1,047,100	5,072,900	1,014,600
	Projected State Assistance Needed							
	Under Optimistic Funding Scenario.....	815,400	1,029,800	1,020,900	1,008,550	1,047,100	4,921,750	984,400
	Under Pessimistic Funding Scenario.....	815,400	1,029,800	1,020,900	1,047,100	1,047,100	4,960,300	992,100
	Local Transit Operating Assistance[f]							
	Under Optimistic Funding Scenario...	--	--	--	--	119,650	119,650	23,900
	Under Pessimistic Funding Scenario..	--	--	--	1,086,000	1,120,100	2,206,100	441,220

[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 Racine, Town of Caledonia, Town of Mt. Pleasant, Village of Sturtevant, Racine County, and the University of Wisconsin-Parkside.

Source: SEWRPC.

Under the pessimistic funding scenario, reduced federal funding levels would result in a shortfall of federal funds from the maximum federal share by 1987 under all transit service alternatives. State transit operating assistance funds would not be sufficient to cover the shortfall of federal funds in 1987 and 1988. 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 maximum service improvement alternative--about $2,206,100 over the planning period, or about $0.18 per revenue passenger. The lowest local public funding commitment would be required for the status quo and moderate service improvement alternatives--about $1,259,800 and $1,282,400, respectively, or about $0.11 per revenue passenger.[2]

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 55). While the minimum, moderate, and maximum service improvement alternatives each project incremental increases in transit ridership, the moderate service improvement alternative projects the lowest incremental public funding requirement. The incremental public funding requirement for the moderate service improvement alternative represents an increase of only $0.08 per additional revenue passenger over that required by the status quo alternative, and a decrease of about $0.09 per additional revenue passenger from that required by the minimum service improvement alternative. In contrast, the maximum service improvement alternative would require a total public funding requirement of about $2.35 more per additional revenue passenger than required by the moderate service improvement alternative, and a local public funding requirement of about $1.30 more per revenue passenger than required by the moderate service improvement alternative.

Recommendation

As noted in Chapter II of this report, an overriding consideration in this planning effort must be 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 expected

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[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 54 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

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

Operating Characteristics	Transit Service Alternatives[a]					
	Minimum Service Improvement Alternative	Moderate Service Improvement Alternative		Maximum Service Improvement Alternative		
	Over Status Quo Alternative	Over Status Quo Alternative	Over Minimum Service Improvement Alternative	Over Status Quo Alternative	Over Minimum Service Improvement Alternative	Over Moderate Service Improvement Alternative
Incremental Revenue Passengers						
1988	31,000	79,000	48,000	281,000	250,000	202,000
Five-Year Total 1984-1988	133,000	287,000	154,000	997,000	864,000	710,000
Incremental Operating Expenses[b]						
1988	$ 25,100	$ 39,700	$ 12,800	$ 512,100	$ 487,000	$ 473,600
Five-Year Total 1984-1988	115,500	156,300	40,800	2,053,100	1,937,600	1,896,800
Five-Year Average per Revenue Passenger	0.87	0.54	0.26	2.06	2.24	2.67
Incremental Operating Revenue[c]						
1988	$ 9,900	$ 25,300	$ 15,400	$ 89,900	$ 80,000	$ 64,600
Five-Year Total 1984-1988	42,600	92,000	49,400	319,100	276,500	227,100
Incremental Operating Deficit						
Total Deficit						
1988	$ 15,200	$ 14,400	$ -2,600	$ 422,200	$ 407,000	$ 409,600
Five-Year Total 1984-1988	72,600	64,300	-8,300	1,734,000	1,661,400	1,669,700
Five-Year Average per Revenue Passenger	0.55	0.22	-0.05	1.74	1.92	2.35
Local Share						
Under Optimistic Funding Scenario						
1988	$ --	$ --	$ --	$ 119,650	$ 119,650	$ 119,650
Five-Year Total 1984-1988	--	--	--	119,650	119,650	119,650
Five-Year Average per Average Revenue Passenger	--	--	--	0.12	0.14	0.17
Under Pessimistic Funding Scenario						
1988	$ 6,400	$ -700	$ -7,100	$ 242,900	$ 236,500	$ 243,600
Five-Year Total 1984-1988	36,150	22,600	-13,550	946,300	910,150	923,700
Five-Year Average per Revenue Passenger	0.27	0.08	-0.09	0.95	1.05	1.30

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

[b] Excludes depreciation expenses.

[c] Assumes no change in existing fare structure.

Source: SEWRPC.

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 with existing or reduced public funding was an important consideration in selecting a transit plan for the Racine area.

The evaluation of the four transit service alternatives for the Racine area indicated that the four alternatives would provide about equal coverage of the resident population and equal service to the major traffic generators and facilities for transit-dependent persons located within the area. The evaluation also indicated that while the maximum service improvement alternative would serve the most jobs and generate the highest transit ridership, it would do so at a substantial increase in public funding over the most cost-effective alternative, the moderate service improvement alternative. In this respect, the maximum service improvement alternative may be expected to generate about 6 percent more revenue passengers over the planning period than the moderate service improvement alternative, but with an increase in the total public funding requirement of about 19 percent, and a maximum possible increase in the local public funding requirement of about 72 percent, over that required by the moderate service improvement alternative. In terms of cost-effectiveness, the total incremental operating deficit for the service changes proposed under the maximum service improvement alternative would be about $2.35 more per additional passenger gained than under the moderate service improvement alternative. The maximum local share of the total incremental operating deficit would be about $1.30 more per additional revenue passenger. Therefore, because the moderate service improvement alternative was found to be slightly more cost-effective than maintaining the existing system, as proposed under the status quo alternative, and because it may be expected to have the lowest incremental public funding requirement during the plan design period of any of the alternative transit development plans considered except the status quo alternative, it was recommended by the Racine Public Transit Planning Advisory Committee that the City of Racine implement the transit service changes proposed under this alternative. A description of the recommended plan, including recommended capital improvement projects and 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 Racine area. The first alternative would maintain the existing transit system as operated at the end of 1983 throughout the planning period. The strength of the performance exhibited by the existing system with regard to indicators of effectiveness and efficiency makes this "status quo" alternative a viable alternative deserving careful consideration.

The second alternative would make a limited number of changes to the existing transit system, directed primarily at improving the performance of existing routes exhibiting the lowest levels of performance. Routing changes would be made in four routes of the system. These would increase the round-trip miles of service provided from the existing 162 miles to about 171 miles, or by about 6 percent.

The third alternative would make a moderate number of routing changes in the existing transit system. Actions proposed under this alternative would be directed primarily at improving service in the areas served by the three contract service routes operated by the transit system. The routing changes would reduce the number of routes operated by the system from 12 to 10 by directly replacing service provided by two of the contract service routes with service provided by regular city bus routes. The proposed routing changes would increase round-trip route miles slightly, from the existing 162 miles to about 163 miles, or by less than 1 percent.

The fourth alternative would provide for a substantial increase in the level of service provided by the system over the planning period. The alternative incorporates all of the routing and service changes proposed under the third alternative and, in addition, proposes that existing weekday service hours be extended by about 4.5 hours into the evening each weekday. Round-trip route miles would be the same under this alternative as under the third alternative.

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 area. The evaluation indicated that the maximum improvement alternative would serve the most jobs and generate the highest ridership, but would do so with substantially higher total public funding requirement over the planning period than indicated for the most cost-effective alternative--the moderate service improvement alternative.

Because of concern over substantially increasing the public funding requirement for the transit system during a period when federal subsidies for operating assistance may decline, the maximum service improvement alternative was not recommended for implementation. Rather, implementation of the moderate service improvement alternative, as the most cost-effective alternative over the planning period, was recommended by the Racine Public Transit Planning Advisory Committee. While generating about 6 percent fewer revenue passengers over the planning period than the maximum 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 less than 1 percent more than required under the status quo alternative, and about 16 percent less than required under the maximum service improvement alternative.

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Chapter VIII

THE RECOMMENDED PLAN

INTRODUCTION

Four alternative transit plans for the Racine area were described and evaluated in Chapter VII of this report. Based upon the evaluation of these alternatives, the Advisory Committee recommended that the moderate service improvement alternative plan 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, the options for providing special transit services for elderly and handicapped persons, the financial requirements, and actions required to achieve plan implementation.

RECOMMENDED FIXED ROUTE TRANSIT SERVICE

Operational Improvements

The recommended plan for the fixed route transit service to be provided by the Belle Urban System calls for a moderate number of changes in the existing route structure of the transit system. The specific routing changes were described in Chapter VII, and were summarized on Map 42 of that chapter. Foremost among the proposed routing changes would be the restructuring of Route 10 to eliminate unproductive route segments; the elimination of Routes 11 and 12 as separate contract service routes; the extension of Route 1 into the Town of Caledonia to replace some service provided by Route 10; the extension of Route 7 to the Amtrak station in the Village of Sturtevant to replace service provided by Route 11; and the rerouting and extension of Routes 3 and 6 into the Town of Mt. Pleasant to replace service provided by Route 12. These actions should improve transit service by reducing or eliminating the transfer and associated waiting times required of current passengers using Routes 10, 11, and 12 who transfer to or from other regular city bus routes. It should be noted that while Routes 11 and 12 are recommended to be eliminated as separate contract service routes, it is recommended that both the Village of Sturtevant and the Town of Mt. Pleasant continue a contract service arrangement with the City of Racine for the extension of Routes 3, 6, and 7.

To compensate for the routing adjustments recommended for Routes 3 and 6, it is further recommended that adjustments be made to Routes 2, 4, and 8. These adjustments would be necessary to maintain transit service to major traffic generators and residential areas presently served by Routes 3 and 6. Adjustments recommended for Route 8 would replace the service currently provided by Route 3 to Highridge Hospital, and by Route 6 to the K-Mart Department Store. Adjustments recommended for Route 2 would replace service provided by Route 8 over Lathrop Avenue between 21st Street and Durand Avenue. Adjustments recommended for Route 4 would replace service provided by Route 2 over Ohio Street between 21st Street and Durand Avenue.

The routing changes recommended for Routes 1 and 10 would result in improved service to the most densely developed areas of the Town of Caledonia. In this respect, Route 10 would be restructured from a continuous one-way loop to

a lineal route, providing two-way bus service between the Crestview residential area and the Shorecrest Shopping Center, using the eastern portion of the existing loop route. While service over the western portion of the existing loop would be eliminated from the restructured Route 10, Route 1 would be extended into the Town of Caledonia to serve the area along Douglas Avenue, Johnson Avenue, and Charles Street currently served by Route 10. It is recommended that the service hours on Route 10 be increased to be consistent with those of Route 1 and the other routes of the transit system, primarily by adding service on weekdays during the middle of the day and on Saturdays during the early morning and late afternoon periods. To provide for optimum transfer coordination among Routes 2, 4, and 10 at the Shorecrest Shopping Center, it is recommended that the restructured Route 10 be operated with weekday headways of 40 minutes during peak periods between Labor Day and Memorial Day, and with 45-minute headways during all other times of operation. Finally, special routing is recommended on Route 3 to provide service to students attending William Horlick High School, and on Route 8 to provide service to students attending McKinley Junior High School.

The routing adjustments recommended for the transit system would reduce the number of routes from 12 to 10, but would not significantly reduce the service-area coverage of the transit system. The recommended route structure and service area are shown on Map 43. Table 48 in Chapter VII summarizes the service characteristics of the recommended plan. With the exception of Route 10, extensive changes in the service levels of individual routes have not been recommended. However, because Routes 3 and 7 operate with 20-minute peak-period headways during nine months of the year, transit service to the Village of Sturtevant and portions of the Town of Mt. Pleasant would be increased slightly over that provided by Routes 11 and 12, which operate with 30-minute headways all day throughout the year. Implementation of the recommended routing and service changes would not change the number of vehicles required to operate the system--a maximum of 33 vehicles.

It is recommended that all routing and service changes be implemented by January 1, 1985, except for the special schoolday service loops recommended for Routes 3 and 8. This special school service on these routes is recommended to be implemented by Labor Day of 1984. Thus, no additional routing or service changes would 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.

Capital Improvements

Implementation of the recommended plan will 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 expansion of the bus storage garage, the construction of bus passenger shelters at major bus stops within the transit service area, and the acquisition of other operating equipment. Table 56 lists the capital improvement projects by year, together with estimated project costs.

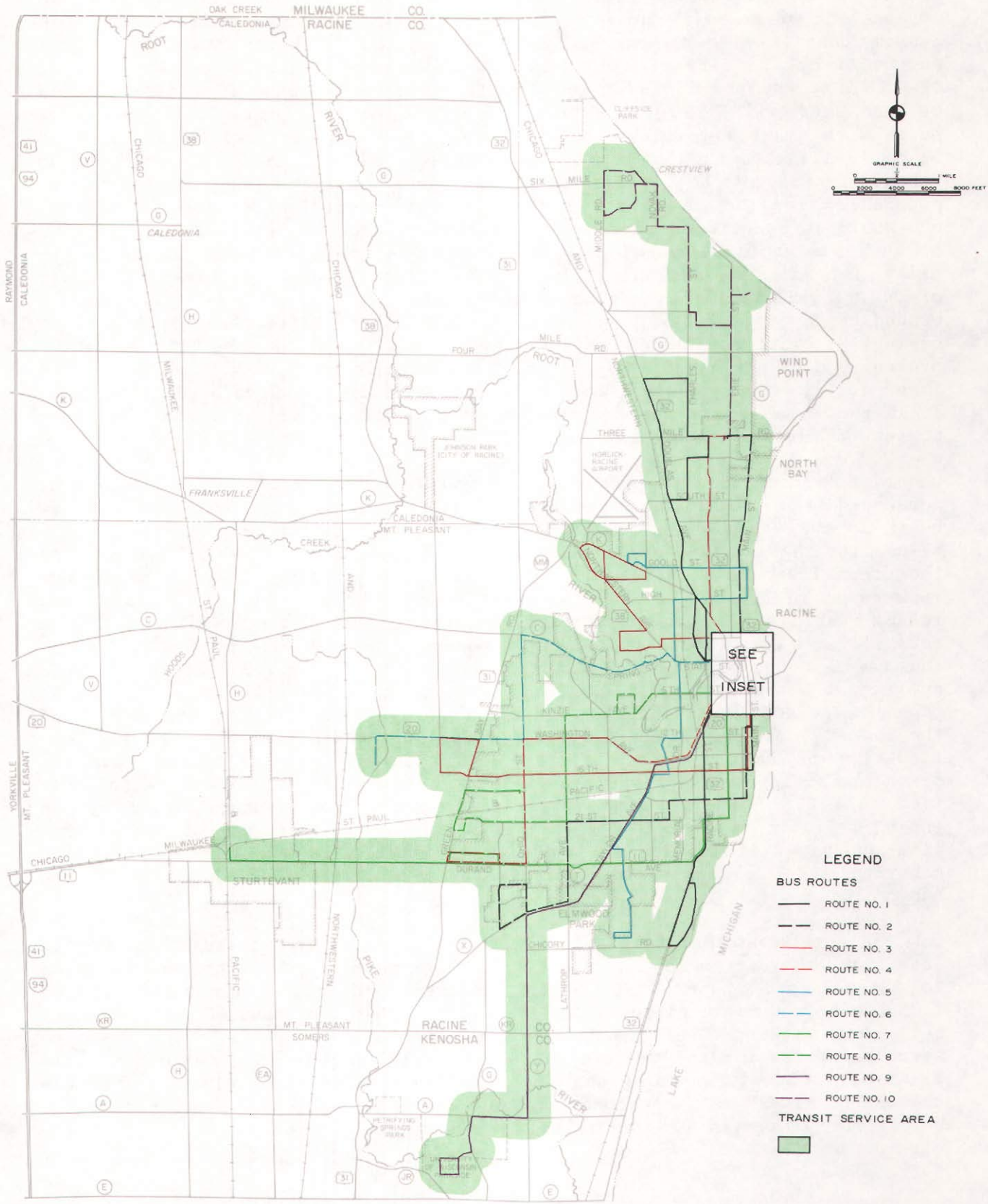
Bus Replacement and Rehabilitation: The most significant capital improvement project to be undertaken by the transit system over the next five years is the replacement or rehabilitation of the primary vehicle fleet of the Belle Urban System, consisting of 25 General Motors Corporation (GMC) new look diesel buses purchased by the City of Racine in 1976. Assuming a maximum service life of 12 to 15 years, the 25 buses would be due for replacement or rehabilitation between 1988 and 1990. The estimated cost of replacing all 25 GMC new look buses with new buses similar to the newest buses in the vehicle fleet would be $3.75 million. An alternative to purchasing all new vehicles would be the rehabilitation of the 25 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 each bus would be refurbished to make the vehicle more appealing aesthetically. Depending on the extent of the rehabilitation work performed, the cost of bus rehabilitation is estimated at one-half 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 is significant, the City of Racine 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 purchases and old bus rehabilitation.

Under the recommended program, the City would purchase nine 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, four of the new buses would be used to replace the four buses currently leased by the transit system, and the other five would be used to replace temporarily five of the 1976 GMC new look buses in the city-owned fleet, which would be sent to a contractor for rehabilitation. When completed and returned to the City in 1987, the five rehabilitated buses would be used to temporarily replace five of the 20 remaining new look buses, which would then be sent out for rehabilitation. This cycling of buses for rehabilitation would be repeated once more during the planning period--in 1988. Thus, by the end of the planning period, 15 of the 25 new look buses will have been completely rehabilitated. Assuming continuation of the bus rehabilitation cycle in 1989 and 1990, and that all of the remaining new look buses will be in suitable condition for rehabilitation, all 25 of the new look buses will be completely rehabilitated by the end of 1990. It is estimated that this combined bus purchase and rehabilitation program will result in a savings of about $1.25 million--expressed in constant 1983 dollars--over the cost of a program of purchasing all new bus replacements.

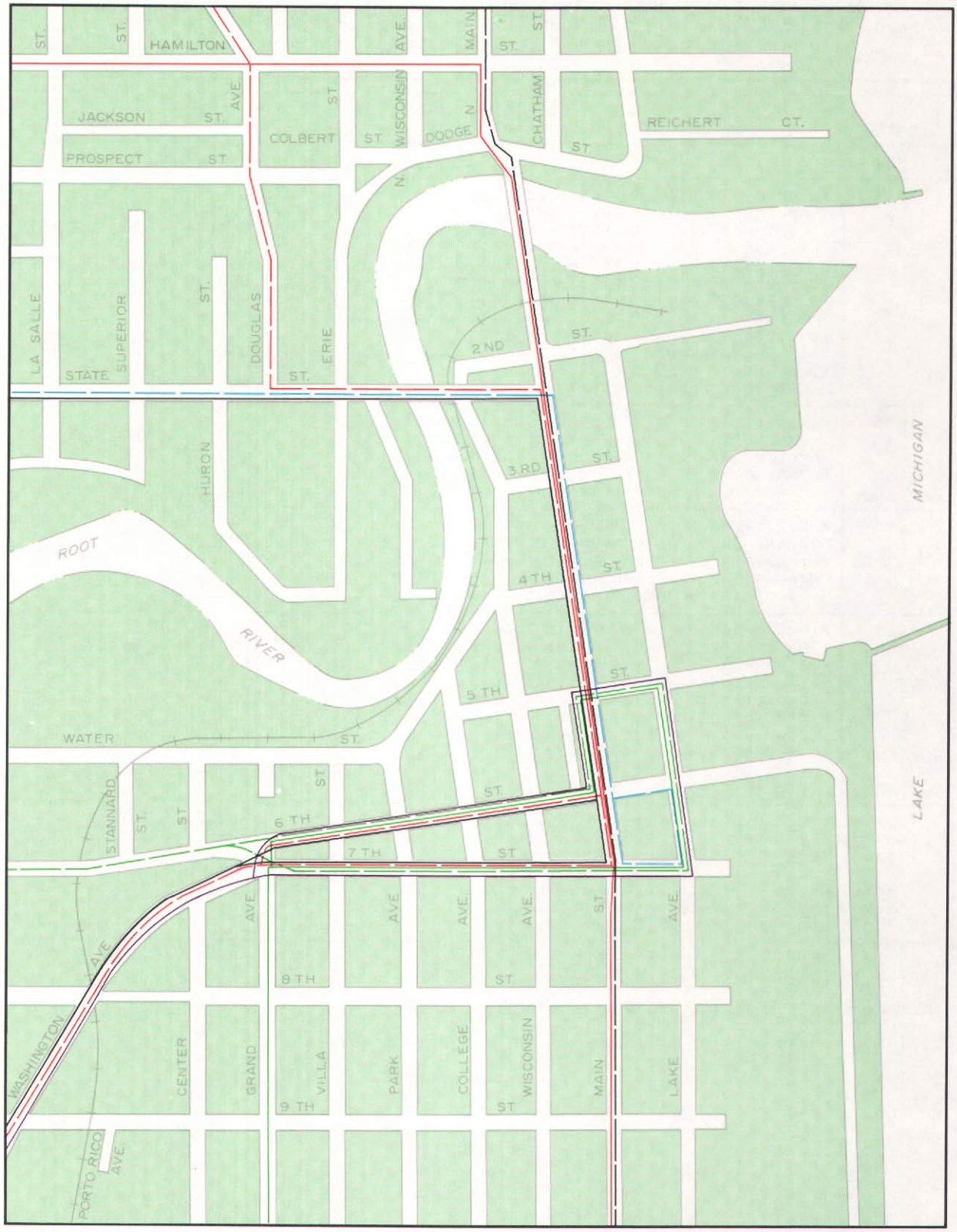
Bus Garage Expansion: Upon delivery of the nine new transit buses in mid- to late 1986, the city-owned bus fleet will be expanded from the present 39 buses to a total of 44 buses, which would include 17 advance design buses, 25 new look buses, and two mini-buses. At that time, it is recommended that the City sell the two mini-buses, as the system will have enough full-size buses to serve as spares for the vehicle fleet. This will result in a maximum vehicle fleet of 42 buses. Assuming that the City is able to rehabilitate and retain the use of all 25 new look buses in the existing fleet, the fleet size would be expected to remain at 42 vehicles through the early 1990's.

Map 43

RECOMMENDED ROUTE STRUCTURE FOR THE BELLE URBAN SYSTEM



Source: SEWRPC.



INSET GRAPHIC SCALE

0 400 800 FEET

Table 56

CAPITAL PROJECTS AND EXPENDITURES REQUIRED FOR THE BELLE URBAN SYSTEM UNDER THE RECOMMENDED TRANSIT SYSTEM PLAN AND PROGRAM: 1984-1988

Year	Project Description	Unit Cost[a]	Total Cost[a]
1984	--	--	--
1985	Purchase of nine new 35-foot-long advance design transit buses equipped with air conditioning	$150,000	$1,350,000
	Purchase of one spare replacement engine and transmission for new transit buses	25,000	25,000
	Purchase of nine mobile radio units	2,000	18,000
	Purchase of nine new registering electric locked-vault fareboxes	3,500	31,500
	Purchase and installation of 15 bus passenger shelters	5,000	75,000
	Purchase of one supervisor's car for transit system	9,000	9,000
1986	Rehabilitation of five new look transit buses in existing vehicle fleet	$ 75,000	$ 375,000
	Purchase of five new mobile radio units	2,000	10,000
	Purchase of five new registering electric locked-vault fareboxes	3,500	17,500
1987	Rehabilitation of five new look transit buses in existing vehicle fleet	$ 75,000	$ 375,000
	Purchase of five new mobile radio units	2,000	10,000
	Purchase of five new registering electric locked-vault fareboxes	3,500	17,500
1988	Rehabilitation of five new look buses in existing vehicle fleet	$ 75,000	$ 375,000
	Purchase of five new mobile radio units	2,000	10,000
	Purchase of five new registering electric locked-vault fareboxes	3,500	17,500
	Expansion of bus garage Addition of eight bus berths (4,480 square feet)	$25 per square foot	112,000
	Preliminary engineering[b]	--	11,200
Total Capital Project Costs			$2,839,200
Contingency Fund[c]			283,900
Project Administration[d]			56,800
Total Costs for Federal Grant Purposes			$3,179,900
Maximum Federal Share (80 percent)			2,543,900
Minimum Local Share (20 percent)			636,000

[a] Expressed in constant 1983 dollars.

[b] Estimated at 10 percent of construction costs.

[c] Estimated at 10 percent of total capital project costs.

[d] Estimated at 2 percent of total capital project costs.

Source: SEWRPC.

The existing bus storage building at the Kentucky Street facility has a storage capacity of 32 buses, with an additional five buses currently stored in the five maintenance bays in the maintenance garage. Up to four buses could also be parked in the existing bus wash lane and three buses in the old bus wash lane behind the management offices, bringing the maximum inside storage capacity of the operating complex to 44 buses--two more than the maximum anticipated fleet size. However, to maintain maximum flexibility in the use of the bus maintenance and servicing areas, it is recommended that the existing bus storage building be expanded to accommodate eight additional bus storage berths. A final decision on whether or not an expansion of the storage facility is warranted should be made toward the end of the planning period, after it has been determined how many of the 25 new look buses will actually be rehabilitated and retained in the vehicle fleet. Accordingly, the expansion of the bus storage garage has been tentatively included in the program of capital projects as a project for 1988.

Bus Passenger Shelters: As noted in Chapter IV of this report, the transit system currently has a total of 20 passenger waiting shelters at 18 locations throughout the transit service area. It is recommended that an additional 15 passenger waiting shelters be erected by the transit system during 1986. These 15 sites are primary locations for the proposed bus shelters because of their high passenger boarding counts, transfer potential, or proximity to an elderly or handicapped facility. These 15 primary locations are listed in Table 57 and their locations shown on Map 44. Also shown in the table and on the map are 10 secondary sites which should be viewed by the City as alternative locations should any of the 15 primary sites be determined to be unsuitable for construction of a bus passenger shelter. It is recommended that the proposed bus shelters be of similar modular design to those currently used on the transit system.

Other Operating Equipment: Other operating equipment related to the vehicle replacement and rehabilitation program would also need to be acquired over the planning period. Specifically, nine new fareboxes and mobile radios will be required for the nine new advance design buses to be delivered in 1986. It is also assumed that the fareboxes and mobile radios for the 15 new look buses to be rehabilitated during the planning period will be replaced with new equipment. Finally, the purchase of a new car for the transit system supervisor is recommended for 1985 to replace the existing supervisor's car acquired in 1977.

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

Table 57

PROPOSED BUS PASSENGER SHELTER LOCATIONS ON THE BELLE URBAN SYSTEM UNDER THE RECOMMENDED TRANSIT SYSTEM PLAN AND PROGRAM

Code Number on Map 44	Bus Stop Locations	Bus Route(s)[a]	Direction of Travel	Warranting Criteria Met[b]		
				Major Boarding Point	Transfer Point	Serves Facility for Elderly or Handicapped
	Primary Locations					
1	Regency Mall	4,7	West	X	X	--
2	Durand Avenue and Lathrop Avenue	2	North	X	X	--
3	Goold Street and Douglas Avenue	1	South	X	X	--
4	Washington Avenue and Valley Drive	4,9	West	X	X	--
5	Durand Avenue and Drexel Avenue	7	East	X	X	--
6	Racine County Highridge Hospital	8	West	X	--	X
7	LaSalle Street and Goold Street	4	North	X	X	--
8	Douglas Avenue and LaSalle Street	4	South	X	--	--
9	Goold Street and Mt. Pleasant Street	5	East	X	--	--
10	Three Mile Road and Erie Street	4	North	X	--	--
11	6th Street and College Avenue	1,4,7, 8,9	West	X	--	--
12	Sheraton Drive and LaSalle Street	4	South	X	--	--
13	Southwood Drive and Biscayne Avenue	2	North	--	--	X
14	21st Sreet and Taylor Avenue	2	East	X	X	--
15	J. I. Case High School	6	South	X	--	--
	Secondary Locations					
16	Durand Avenue and Lathrop Avenue	7	East	X	X	--
17	Washington Avenue and Ohio Street	4	North	X	X	--
18	16th Street and Ohio Street	4	North	X	X	--
19	Taylor Avenue and Meachem Road	2	South	X	--	--
20	Washington Avenue and 10th Street	1,4,9	South	X	--	--
21	Shopko Department Store	4	North	X	--	--
22	Racine County Opportunity Center	1	West	--	--	X
23	Goold Street and Main Street	2	South	X	X	--
24	Byrd Avenue and Perry Avenue	8	West	--	--	X
25	West Street and Milwaukee Avenue	1	South	--	--	X

[a]Routes using bus stop as recommended and shown on Map 43.

[b]See Objective No. 3, Standard No. 9 in Chapter II.

Source: SEWRPC.

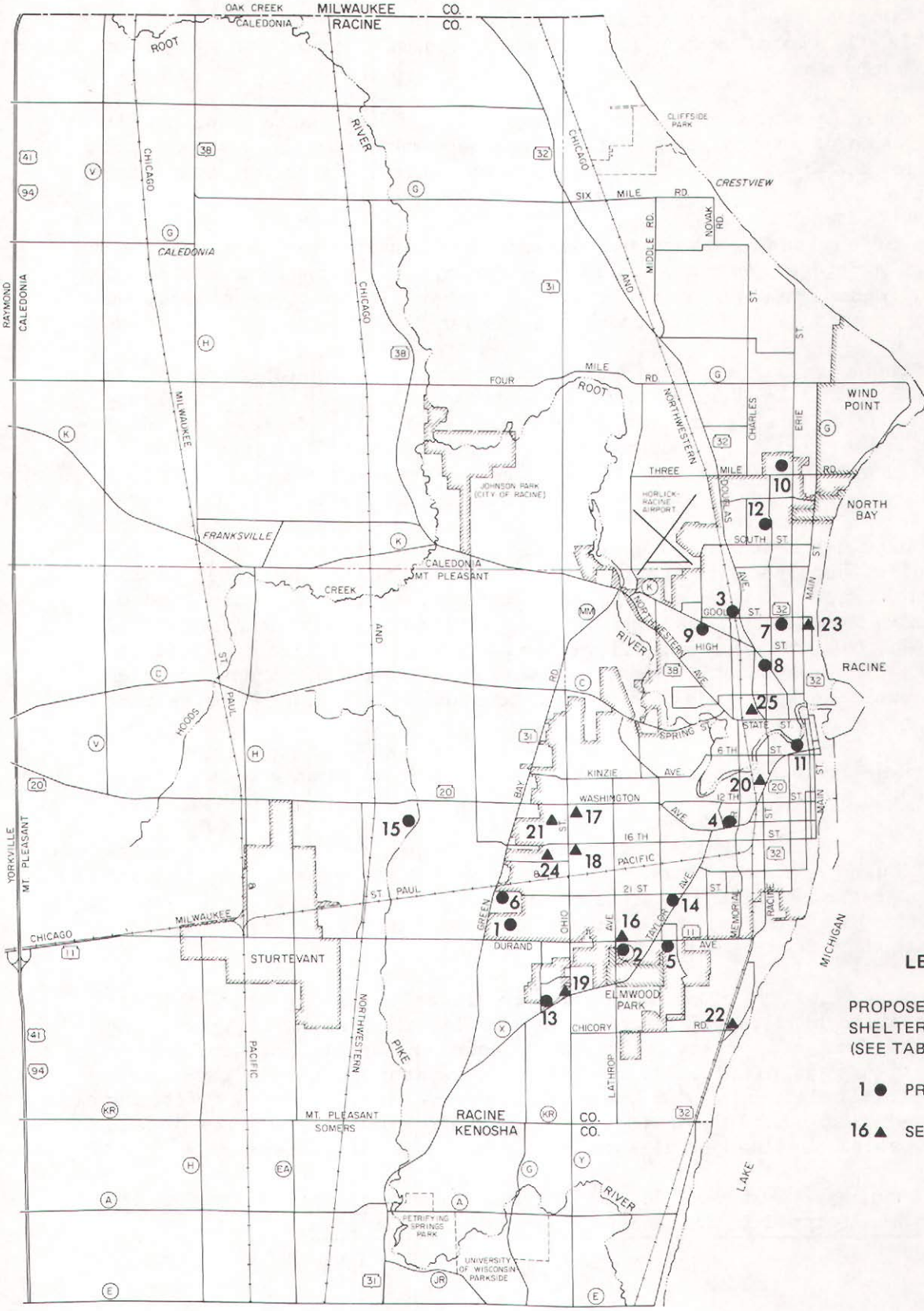
under any program or activity, such as public transit service, that receives federal financial assistance. Together, these two acts form the basis for ensuring that all federally aided transit systems in the nation take into account the special needs of persons having handicaps.

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 an urbanized area on a program to provide transit services for wheelchair

Map 44

LOCATION OF PROPOSED BUS PASSENGER SHELTERS FOR THE BELLE URBAN SYSTEM



LEGEND

PROPOSED BUS PASSENGER SHELTER LOCATION (SEE TABLE 57)

1 ● PRIMARY

16 ▲ SECONDARY

Source: SEWRPC.

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 on such special services would be comparable to those charged on standard transit buses for trips of similar length.

2. The purchase of only wheelchair accessible, fixed route equipment--including motor buses and rail passenger cars--until one-half of a vehicle bus fleet is equipped with wheelchair lifts or otherwise 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 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 City of Racine's 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 15 buses would have to be equipped with wheelchair lifts in order to meet this plan recommendation, given the need for maintenance down time.

2. A user-side subsidy program should be established to enable those transportation-handicapped persons in the Racine area living more than two blocks from a local bus route and those transportation-handicapped persons who, regardless of their 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 Racine urbanized area.

[1]See SEWRPC Planning Report No. 31, A Regional Transportation Plan for the Transportation Handicapped in Southeastern Wisconsin: 1978-1982.

3. That efforts be made to coordinate all existing public and private transportation services for the transportation handicapped.

According to this plan, the process of implementing these three recommendations was to have begun in July 1978.

However, on October 13, 1978, after careful consideration of these recommendations by the City of Racine--particularly the recommendation to retrofit 15 buses in the existing bus fleet with wheelchair lifts--the City requested an amendment to the plan permitting a two-year delay in the implementation of this recommendation. Specifically, this amendment proposed: 1) that the date for beginning the process of retrofitting 15 buses in the City's 25-bus fleet with wheelchair lifts be changed from July 1978 to July 1980; and 2) that an interim special efforts strategy instead be recommended requiring the expenditure by the City of Racine of no less than 5 percent of the Racine urbanized area's UMTA Section 5 allocation in support of a demand-responsive transportation service comparable to the regular local bus service in terms of fares, hours of service, and total travel time, and guaranteeing any wheelchair user or person with semi-ambulatory capabilities in the Racine urbanized area the availability of this service, if requested, for up to 10 round trips per week. This amendment was subsequently adopted by the Regional Planning Commission on December 7, 1978, at the specific request of the Racine Common Council. On April 1, 1979, the City of Racine initiated the specialized transportation service that was to serve as its special efforts strategy. The service was offered as an expansion of the countywide advance-reservation transportation service offered by Lincoln Lutheran Specialized Transportation for disabled persons.

On May 31, 1979, the Secretary of the U. S. Department of Transportation published rules 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 be accessible to handicapped persons through wheelchair lifts or other level-change mechanisms.

While the 1979 rules did not technically replace the old rules, the new rules removed some of the flexibility that existed under 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 a user-side subsidy program or a specialized transprotation 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 Racine jointly conducted a supplemental planning effort designed to amend the adopted regional transportation plan for the transportation handicapped. This supplemental planning 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 Racine'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 must 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 Racine Common Council on July 15, 1980, and by the Regional Planning Commission on September 11, 1980. In the interim period, until bus fleet accessibility was achieved, the City of Racine was to continue to provide accessible specialized transportation service for elderly and handicapped persons who could not use regular bus service.

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 handicapped 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 length.

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

[2]See SEWRPC Community Assistance Planning Report No. 39, A Public Transit System Accessibility Plan, Volume Three, Racine Urbanized Area.

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 Racine redetermined the strategy it intended to pursue in carrying out special efforts to provide transportation that handicapped persons can use. Based on the above-stated examples of appropriate special efforts projects and given the Racine urbanized area's history on this matter, the City of Racine chose to meet the spirit and intent of the interim final federal rules by continuing to expend annually at least 3.5 percent of the federal transit operating and capital assistance funds received on the existing accessible specialized transportation service.

Existing Accessible Specialized Transportation Service

As its current special efforts strategy, the City of Racine annually contributes funds to the specialized transportation program administered by the Racine County Human Services Department. The City of Racine is, in effect, contracting for accessible specialized transportation service for elderly and handicapped persons within the transit service area of the Belle Urban System from the countywide specialized transportation program administered by Racine County.

Within the eastern portion of the County and the Racine urbanized area, which includes all of the service area of the Belle Urban System, the Racine County Human Services Department contracts for accessible bus service from Jelco Wisconsin, Inc., a private transportation company. The service in this area is provided on an advance-reservation basis and uses up to four vehicles, with the vehicles capable of carrying from two to four 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, although efforts are made to accommodate some service requests within one hour of the request. Priority is given to medical, nutritional, and work-related trips, which allows the program to refuse requests for nonprioritized trips when the total requests for trips exceed the available capacity of the service. The State of Wisconsin's specialized transportation assistance program for counties, which funds a significant portion of the County's specialized transportation program, requires that trips be prioritized for these purposes. Based upon the results of a special study conducted by the Racine County Human Services Department during December 1983 and January 1984, between 1 and 2 percent of the service requests each month are refused, primarily because of insufficient service capacity.

The specialized service is presently provided for 11 hours each weekday between the hours of 7:00 a.m. and 6:00 p.m., and for six hours on Saturdays between the hours of 10:00 a.m. and 4:00 p.m. No service is available on Sundays or holidays. An average of 168 vehicle hours of service per week were provided during 1983 within these hours of operation. The specialized service is available to both elderly and nonelderly transportation-handicapped persons as certified by the Racine County Human Services Department. Able-bodied elderly

persons aged 60 and older are generally not eligible to use the service. Adults aged 60 and older are asked to donate $0.50 per one-way trip for trips made to or from congregate nutrition sites. All other riders must pay a fare of $0.50 per one-way trip. A summary of the one-way trips made on the specialized transportation service is presented in Table 58. As can be seen in this table, about 29,900 one-way trips were made on the service during 1983 primarily by ambulatory/elderly persons, and primarily for medical-related trips or for trips to and from nutrition sites. The service was used by an average of 280 persons each month during 1983.

The total annual costs for operation of the specialized transportation during 1983 was about $229,100, or about $7.66 per one-way trip. Passengers generated about $12,300 in revenues--about $0.41 per one-way trip--leaving a required total public subsidy of about $216,800, or about $7.25 per one-way trip. The City of Racine's public transportation program funded $125,000, or about 58 percent, of the total public subsidy for the service during 1983, amounting to about $4.18 per one-way trip. The remaining funds for the program were obtained from the State's specialized transportation assistance program for counties, authorized under Section 85.21 of the Wisconsin Statutes, and from Racine County.

Table 58

SUMMARY OF TRIPS MADE ON RACINE COUNTY 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	21,433	71.7
Ambulatory[a]/Nonelderly	3,038	10.2
Nonambulatory[b]/Elderly	2,487	8.3
Nonambulatory[b]/Nonelderly	2,920	9.8
Total	29,878	100.0
Trip Purpose		
Medical	10,235	34.3
Employment	1,496	5.0
Nutrition Sites	6,056	20.3
Nutrition--Other	3,023	10.1
Educational/Training	581	1.9
Social/Recreational	4,077	13.6
Personal Business	4,410	14.8
Total	29,878	100.0

[a]Ambulatory persons are defined as those who can walk or board and exit a vehicle with little or no assistance and would include persons using crutches, canes, walkers, or other persons as mobility aids.

[b]Nonambulatory persons are defined as those confined to wheelchairs.

Source: Racine County Human Services Department and SEWRPC.

The City of Racine has contracted for accessible specialized transportation service with operating characteristics similar to those described above since 1979. Table 59 compares the expenditure levels required for the City of Racine in order to meet the special efforts requirements suggested under the interim final rule issued in 1981 with the funds actually expended or projected to be spent by the City on specialized transportation services since the rule went into effect in 1982. As indicated in the table, about $108,300 is expected to be spent annually on accessible specialized transportation service for the three-year period from 1982 through 1984. This expenditure level is equivalent to about 8.4 percent of the average annual UMTA funds expected to be received by the City of Racine over the period, significantly exceeding the 3.5 percent funding requirement suggested in the interim final rule. Thus, the City of Racine is in compliance with the existing UMTA special efforts requirements the interim final rule.

Table 59

COMPARISON OF REQUIRED AND ACTUAL EXPENDITURE LEVELS FOR SPECIALIZED TRANSPORTATION SERVICE PROVIDED TO MEET UMTA SPECIAL EFFORTS REQUIREMENTS BY THE CITY OF RACINE: 1982-1984

Year	UMTA Funds Received		Required Expenditure Level		Actual Expenditure Level	
	Category	Amount	Amount	Percent	Amount	Percent
1982	Operating....	$ 730,489	--	--	--	--
	Capital.....	947,067	--	--	--	--
	Total	$1,627,556	$58,682	3.5	$ 75,000	4.5
1983[a]	Operating....	$ 933,100	--	--	--	--
	Capital.....	121,000	--	--	--	--
	Total	$1,054,100	$36,894	3.5	$125,000	11.9
1984[b]	Operating....	$1,125,000	--	--	--	--
	Capital.....	--	--	--	--	--
	Total	$1,125,000	$39,375	3.5	$125,000	11.1
Average Annual Expenditure 1982-1984		$1,285,552	$44,994	3.5	$108,333	8.4

[a]Unaudited.

[b]Projected.

Source: City of Racine Department of Transportation and SEWRPC.

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 service 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.

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; or

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 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, it 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 would be required to meet the criteria only to the extent possible within the cost cap.

Decisions regarding service trade-offs 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 would be 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 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 likely to be made final some time during 1984. Whereas the present special efforts program for the City's public transportation program meets the requirements of the interim final rule, a reexamination of special efforts strategies would be required under the proposed final regulation. In addition, in the past the County has maintained that, unlike the City, it is under no obligation to provide specialized transportation within the service area of the Belle Urban System, and could choose to discontinue the contract service provided for the City under the County's specialized transportation program. Such an occurrence would also necessitate an analysis of other special efforts strategies available to the City. In light of the new planning and service requirements specified under the proposed regulation and the County's position on the contract service arrangement for the existing specialized transportation service, a reexamination of alternative special efforts programs appears warranted.

Alternative Special Efforts Programs

Four basic alternative special efforts programs were examined, including maintaining the existing level of specialized transportation service either by continuing to contract for service or by establishing a service operated by the City; providing an expanded level of specialized transportation service either by contracting for service or by operation by the City; providing an accessible bus service that would meet minimum federal requirements; and providing a combination of accessible bus and specialized transportation services. Data on the average annual ridership, operating and capital expenses, and public subsidy requirements for each alternative are presented in Table 60.

Maintain Existing Specialized Transportation Service: One alternative available to the City would be to maintain the current specialized transportation program at the existing level of service, as described earlier in this chapter. The service presently generates an average annual ridership of about 29,900 persons at a total public subsidy of about $216,800, or about $7.25 per ride. Continuation of the present level of city support for the program administered by Racine County would require an average annual expenditure by the City's public transportation program of about $125,000, or about $4.18 per ride.

Should the County choose to discontinue the current contract service arrangement with the City, the City would be forced to directly contract for service from a service provider--such as the present service provider, Jelco Wisconsin, Inc.--or to operate the service itself. Under either of these options the City

Table 60

COMPARISON OF ESTIMATED AVERAGE ANNUAL RIDERSHIP, OPERATING AND CAPITAL EXPENSES, AND PUBLIC SUBSIDY REQUIREMENTS UNDER ALTERNATIVE SPECIAL EFFORTS PROGRAMS FOR THE BELLE URBAN SYSTEM

Program Characteristics	Alternative Special Efforts Program									
	Provide Existing Level of Specialized Transportation Service			Provide Expanded Level of Specialized Transportation Service			Provide Accessible Bus Service	Provide Combination of Accessible Bus and Specialized Transportation Service		
	Contract With County	Contract With Other Provider	City Operation	Contract With County	Contract With Other Provider	City Operation		Accessible Bus	Specialized Transportation	Total
Annual Ridership	29,900	29,900	29,900	43,900	43,900	43,900	300	100	29,000	30,000
Operating Expenses										
Total Annual.....	$229,100	$229,100	$209,700	$354,900	$354,900	$324,500	$ 36,000[a]	$ 13,500	$229,100	$242,600
Per Ride.....	7.66	7.66	7.01	8.08	8.08	7.39	120.00	135.00	7.66	8.07
Passenger Revenues										
Total Annual.....	$ 12,300	$ 15,000	$ 15,000	$ 18,000	$ 22,000	$ 22,000	$ 100	$ 35	$ 12,300	$ 12,335
Per Ride.....	0.41	0.50	0.50	0.41	0.50	0.50	0.35	0.35	0.41	0.41
Operating Subsidy										
Total Annual.....	$216,800	$214,100	$194,700	$336,900	$332,900	$302,500	$ 35,900	$ 13,465	$216,800	$230,265
Per Ride.....	7.25	7.16	6.51	7.67	7.58	6.89	119.65	134.65	7.25	7.68
Capital Expenses										
Total.....	$ --	$ --	$175,000[b]	$ --	$ --	$245,000[b]	$288,000[c]	$108,000[d]	$ --	$108,000
Average Annual.....	--	--	35,000	--	--	49,000	57,600	21,600	$ --	21,600
Total Public Subsidy										
Average Annual.....	$216,800	$214,100	$229,700	$336,900	$332,900	$351,500	$ 93,500	$ 35,065	$216,800	$251,865
Average Annual per Ride.....	7.25	7.16	7.68	7.67	7.58	8.01	311.67	350.65	7.25	8.40
Public Subsidy from City Public Transportation Program										
Average Annual	$125,000	$214,100	$229,700	$245,100[e]	$332,900	$351,500	$ 93,500	$ 35,065	$125,000	$160,065
Average Annual per Ride.....	4.18	7.16	7.68	5.58	7.58	8.01	311.67	350.65	4.18	5.34

[a]Assumes an average annual operating expense of $1,500 per accessible bus.

[b]Assumes a cost of $35,000 per vehicle.

[c]Assumes a cost of $12,000 per wheelchair lift for lifts on nine new buses and $15,000 per wheelchair lift to retrofit 15 old buses with lifts as part of old bus rehabilitation. The cost shown may be optimistic, as it assumes that the UMTA will permit old buses to be retrofitted with wheelchair lifts as part of a major vehicle rehabilitation program. If this option is not allowed, the City will be required to purchase 15 new wheelchair lift-equipped buses at an additional cost to the public transportation program of approximately $864,000.

[d]Assumes a cost of $12,000 per wheelchair lift for lifts on nine new buses.

[e]Assumes City's public transportation program will fund the total incremental subsidy required to expand the existing county service.

Source: SEWRPC.

could be more restrictive as to the area served by the specialized transportation service, possibly providing the service only within the one-quarter-mile service area of the fixed route transit system. The present service serves the entire planning district. Assuming that funds presently obtained by the County under Title III(B) of the Older Americans Act of 1965 will probably not be available for the service, the City could require all passengers to pay the $0.50 fare for the service and realize higher passenger revenues.[3] No other significant program changes would be anticipated.

The total average annual cost to the City's public transportation program for directly contracting with a service provider is estimated to be $214,100, or about $7.16 per ride. The total average annual cost would be higher if the City were to operate the specialized transportation service, since the City would have to purchase up to five wheelchair lift-equipped mini-buses--four vehicles to provide the service plus one spare vehicle--to provide the service. The average annual cost to the City's public transportation program for this option would be about $229,700, or about $7.68 per ride.

Under this alternative, it is assumed that the basic operating characteristics of the existing specialized transportation service would not be changed, except possibly as noted above. If operated at the existing level of service, the specialized transportation program probably would not meet all of the service criteria included in the proposed regulation. Table 61 compares the operating characteristics of the fixed route bus service provided by the Belle Urban System with those of the specialized transportation used by the City of meet the special efforts requirements of the interim rule. A review of the information 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, it is anticipated that the expenditure level for the specialized transportation service will exceed the maximum expenditure levels of either 3.0 percent or 7.1 percent suggested under the proposed final regulation under all of the options for operation, as indicated in Table 62. The average annual expenditures on the special efforts programs would represent from 5 to 9 percent of the total average annual operating budget of the City's public transportation program, and from 9 to 16 percent of the average annual federal transit operating and capital assistance expected to be received over the planning period. As previously noted, under the proposed final rule, the City would be required to spend no more than either 3.0 percent of the total average annual budget of the City's public transportation program, or 7.1 percent of the average annual federal transit assistance received by the City in order to meet the minimum service criteria.

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[3]Title III funds can be used to support the general operatng expenses of transportation services for the elderly, such as transportation to and from nutrition sites. However, the program does not allow fixed fees to be charged for such services. Under the present specialized transportation program administered by Racine County, elderly passengers traveling to or from congregate nutrition sites are requested to donate $0.50 per trip, but are not required to make the donation to use the service.

Table 61

COMPARISON OF SELECTED OPERATING CHARACTERISTICS OF THE BELLE URBAN SYSTEM AND THE SPECIALIZED TRANSPORTATION SERVICE PROVIDED THROUGH THE RACINE COUNTY HUMAN SERVICES DEPARTMENT

Operating Characteristics	The Belle Urban 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 Racine; Villages of Elmwood Park and North Bay; parts of the Village of Sturtevant and Towns of Caledonia and Mt. Pleasant; and the University of Wisconsin-Parkside in Kenosha County	Area of Racine County east of IH 94. Includes all of the City of Racine; Villages of Elmwood Park, North Bay, Sturtevant, and Wind Point; Towns of Caledonia and Mt. Pleasant; and the University of Wisconsin-Parkside in Kenosha County
Service Hours Weekdays..... Saturdays..... Sundays and Holidays...	 5:30 a.m.-7:00 p.m. 7:00 a.m.-6:00 p.m. No service	 7:00 a.m.-6:00 p.m. 10:00 a.m.-4:00 p.m. No service
Fare per One-Way Trip	$0.35	$0.50
Restrictions on Trip	None	Priority given to serving trips for medical, nutritional, and work-related purposes
Wait Period for Service	Maximum of 20 to 60 minutes	24-hour advance reservation
Waiting Lists for User Eligibility	None	None

Source: SEWRPC.

Provide Expanded Level of Specialized Transportation Service: A second alternative which could be followed by the City would be to expand the level of specialized transportation service offered under the existing program to meet the minimum service criteria not met with the existing service. The existing specialized transportation service would be expanded by adding an additional 16 vehicle hours of service to each weekday and 12 vehicle hours of service on Saturdays. This would increase the average weekly vehicle hours of service offered by the program by about 92 hours, or about 55 percent--from about 168 vehicle hours per week to about 260 vehicle hours per week. This additional service should allow the program to fully meet the service criteria for comparable hours of operation, eliminate the need to prioritize trips in meeting service requests, and respond to service requests on a demand-responsive basis within one-hour of the request.

In this respect, it is proposed under this alternative that the specialized transportation service be available each weekday between 6:30 a.m. and 8:00 p.m., and on Saturdays between 7:00 a.m. and 6:00 p.m. This would essentially be a return to the service hours operated during 1980, and would provide the same total daily hours of service as offered by the fixed route transit

Table 62

COMPARISON OF ESTIMATED EXPENDITURE LEVELS FOR ALTERNATIVE SPECIAL EFFORTS PROGRAMS

Expenditure Category	Alternative Special Efforts Program							
	Provide Existing Level of Specialized Transportation Service			Provide Expanded Level of Specialized Transportation Service			Provide Accessible Bus Service	Provide Combination of Accessible Bus and Specialized Transportation Service
	Contract With County	Contract With Other Provider	City Operation	Contract With County	Contract With Other Provider	City Operation		
Average Annual Operating Budget								
Recommended Fixed Route Transit System	$2,415,400	$2,415,400	$2,415,400	$2,415,400	$2,415,400	$2,415,400	$2,415,400	$2,415,400
Special Efforts Program[a]	125,000	229,100	244,700	250,800	354,900	373,500	93,600	160,100
Total	$2,540,400	$2,644,500	$2,660,100	$2,666,200	$2,770,300	$2,788,900	$2,509,000	$2,575,500
Percent of Total Budget Spent on Special Efforts Program[b]	4.9	8.7	9.2	9.4	12.8	13.4	3.7	6.2
Average Annual Federal Transit Assistance								
Operating Assistance[c]	$ 955,700	$1,062,800	$1,053,100	$1,015,800	$1,112,200	$1,107,000	$ 973,700	$ 962,400
Capital Assistance[d]	486,700	486,700	514,700	486,700	486,700	525,900	532,800	504,000
Total	$1,442,400	$1,549,500	$1,567,800	$1,502,500	$1,608,900	$1,632,900	$1,506,500	$1,466,400
Expenditures on Special Efforts Program as a Percent of Total Federal Transit Assistance[e]	8.7	14.8	15.6	16.7	22.1	22.9	6.2[f]	9.2

[a] Includes only average annual operating and capital expenses incurred by the City of Racine's public transportation program for the proposed special efforts programs.

[b] An expenditure level of 3 percent of the average annual operating budget for the public transportation program would be required to meet pending federal regulations.

[c] Assumes maximum federal funding of 50 percent of the public subsidy from the City of Racine's public transportation program for the proposed special efforts programs.

[d] Assumes maximum federal funding of 80 percent of capital project costs from the City of Racine's public transportation program for the proposed special efforts programs.

[e] An expenditure level of 7.1 percent of the average annual federal transit assistance funds would be required to meet pending federal regulations.

[f] Once the full fleet accessibility level of 50 percent of buses operated is reached, an expenditure of funds sufficient to operate and maintain wheelchair-lift equipment and accessible bus service would meet pending federal regulations, even if the expenditure level was below the proposed funding cap.

Source: SEWRPC.

system--13 and one-half hours on weekdays and 11 hours on Saturdays. This expansion of service hours is assumed to require only a small part of the proposed increments in daily vehicle hours. The remaining portion of the proposed daily vehicle hours would be used to expand the amount of service offered in order to respond to all service requests, thus eliminating the need to prioritize or refuse trips, and to respond to service requests within one hour of the time they are made, thus eliminating the requirement for advance reservation.

Regarding demand-responsive service, it should be noted that the proposed increment in service is based upon satisfying existing trip demands under the advance-reservation system, as measured with available data, and that the change to a demand-responsive service could generate additional trip demands for service. Depending upon the level of additional demand generated, it may not be possible to respond to all trip requests on a demand-responsive basis, even with the increments in service proposed under this alternative. Consequently, a greater increase in vehicle hours than indicated may actually be required to implement a fully demand-responsive service.

Average annual ridership on the specialized transportation program would be expected to increase under this alternative to about 43,900 one-way trips, an increase of about 47 percent over the existing ridership level. Assuming continued operation of the program by Racine County, the expanded service would require a total public subsidy of about $336,900, or about $7.67 per ride. The average annual contribution of funds by the City's public transportation program would be an estimated $240,100, or about $5.58 per ride, which would include all incremental public subsidy associated with expanding the existing specialized transportation service provided by the County. This expenditure level would constitute about 9 percent of the total average annual operating budget of the City's public transportation program, and about 17 percent of the average annual federal transit assistance it could receive over the planning period.

Assuming termination of the existing contract service arrangement between the City and the County, the City of Racine would be forced to directly contract for service or operate the service itself, as noted under the previous alternative. The total average annual cost to the City's public transportation program for contracting for the expanded level of service is estimated to be $332,900, or about $7.58 per ride. The average annual cost to the City's public transportation program if the City were to operate the service would total about $351,500, or about $8.01 per ride, including the capital costs of purchasing up to seven wheelchair lift-equipped mini-buses--six vehicles to provide the service and one spare vehicle--to provide the service. These expenditure levels would constitute about 13 percent of the total average annual operating budget of the City's public transportation program, and between 22 and 23 percent of the average annual federal transit assistance it could receive over the planning period.

Under this alternative, all handicapped users of the existing specialized transportation service who have been refused service because of the prioritization of trips or insufficient capacity on the service, or who have been unable to schedule trips because the service was not available at the time needed, would benefit from the expanded level of service. Other handicapped

users who could potentially benefit from this alternative are those who dislike having to call 24 hours in advance for transportation. Such users would benefit from the demand-responsive service which could be provided through the expanded service level.

Provide Accessible Bus Service: A third alternative available to the City of Racine would be to make 50 percent of its fixed route bus service accessible and discontinue its present strategy of funding the specialized transportation service operated by Racine County. To meet this accessibility requirement, the City would have to ensure that one-half of the buses it operates during both peak and off-peak periods are wheelchair lift-equipped or otherwise accessible to wheelchair users and semi-ambulatory persons. A total of 33 buses during the peak periods and 26 buses during off-peak periods will be required to operate the recommended fixed route transit system. To meet the requirements for accessible bus service, 17 of the buses operated during the peak period and 13 of the buses operated during the off-peak period would have to be accessible.

Under this alternative, the City would meet the special efforts requirements of the proposed rule by spending funds to equip enough buses in the vehicle fleet with wheelchair lifts to meet the 50 percent accessible service level. It is estimated that the City would need to equip a total of 21 buses with wheelchair lifts--17 accessible buses required for peak-period operation plus four spare accessible buses. The 21 accessible buses would be obtained in stages over the planning period by following the basic replacement and rehabilitation program for the vehicle fleet previously described. In this respect, nine of the 21 vehicles would be new buses purchased with wheelchair lifts. The remaining 12 accessible buses would be obtained by retrofitting old buses with wheelchair lifts as part of the vehicle rehabilitation program. The total capital cost of equipping the 21 buses with wheelchair lifts would be about $288,000, which would be spread over several years.

After the level of 21 accessible buses had been reached, the City would be required to spend only the funds necessary to maintain the lifts, administer the accessible bus service, or replace worn-out lift-equipped buses. The average annual cost of operating and maintaining the wheelchair lifts in the 21 buses is estimated at $31,500. The fact that this amount would be below the expenditure limits for a given year would not mean that the City would have to spend more funds once the prescribed fleet accessibility level was reached.

Annual ridership on the accessible bus service is very difficult to estimate. An estimate of 300 rides annually is indicated Table 60 and is based upon the experience of other public transit operators providing an extensive level of accessible bus service. Based upon the projected ridership level, the average annual public subsidy for the accessible bus service proposed under this alternative, including both operating and capital subsidies, would total about $93,500, or about $312 per ride. This expenditure level would constitute about 4 percent of the total average annual operating budget of the City's public transportation program, and about 6 percent of the average annual federal transit assistance it could expect to receive over the planning period.

This alternative would essentially benefit only those wheelchair users of the existing specialized transportation service who would be able to get to and from bus stops for a majority of their trips. Such individuals would be able to make trips on a more spontaneous basis, as they would have basically the same opportunity to use public transportation as does the general public.

It is assumed that with the loss of city funds for the existing specialized transportation service, Racine County will substantially reduce, if not totally eliminate, the service currently provided to the Racine area. Handicapped persons who clearly would not benefit from this alternative because of a reduction in, or loss of, the specialized transportation service are those individuals whose points of origin or destination are geographically too remote from the nearest bus stops, or who risk dramatically greater exposure to health, life, and safety when surfaces are slippery or the weather inclement.

Two additional considerations involve the ramifications of this alternative for the entire transit system. First, depending upon the actual level of use of wheelchair lifts realized, problems in maintaining route schedules may occur because of schedule disruption problems attendant to lift use. Second, in the past, the UMTA has discouraged retrofitting old buses with wheelchair lifts as a means of attaining fleet accessibility levels. If the UMTA maintains this position in the future, the City would be required to purchase 12 additional new wheelchair lift-equipped buses to meet fleet accessibility levels. This would add about $864,000 to the capital equipment expenditures for the recommended transit system.

Provide Combination of Accessible Bus and Specialized Transportation Service: A final alternative available to the City of Racine is the provision of a mix of accessible bus and specialized transportation services. Under this alternative, only the nine new buses to be purchased by the City under the recommended program of capital projects would be equipped with wheelchair lift devices. Because 50 percent of the service provided by the transit system would not be accessible, the City would supplement the accessible bus service it would provide with specialized transportation service.

The accessible bus service could be provided by the transit system in several ways. The accessible buses could be regularly assigned to specific trips on the most heavily traveled routes of the transit system or on routes serving facilities frequently used by handicapped persons. The City could also assign the nine accessible buses to scheduled trips on the regular routes on a demand-responsive basis, with handicapped individuals calling the City to indicate on what route and at what time they would like to travel. Such requests would have to 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 handicapped service requests. The City of Kenosha's public transit system currently operates a similar advance-reservation accessible bus service using five wheelchair lift-equipped buses.

As already noted, annual ridership on accessible bus service is very difficult to estimate, but would not be expected to exceed 100 rides under this alternative. The average annual public subsidy for the accessible bus service,

including operating and capital expenses, would then be expected to total about $35,100, or about $351 per ride. Assuming specialized transportation service will continue to be provided through the existing program administered by the Racine County Human Services Department, the average annual cost to the City's public transportation program would total about $160,100 under this alternative, or about $5.34 per ride. This expenditure level would constitute about 6 percent of the total average annual operating budget of the City's public transportation program, and about 9 percent of the average annual federal transit assistance the City could expect to receive over the planning period. Should the County discontinue the current arrangement with the City for the specialized transportation service, the costs to the City for this alternative would be substantially higher, to the degree that they would, in all likelihood, preclude its consideration as a viable alternative.

This alternative would benefit those handicapped users of the existing specialized transportation service who dislike having to call ahead for transportation and who would be able to get to and from bus stops for a majority of their trips. Providing such individuals live in an area served by accessible bus service, they would be afforded the same opportunity to use regular public transportation as the general public. Depending on how often such individuals would use the accessible bus service instead of the specialized transportation service in making trips, other users of the specialized transportation service may also benefit slightly from any extra capacity generated on the existing service.

Analysis and Preliminary Recommendations

As previously noted in this chapter, the City of Racine, by nature of its use of federal transit assistance funds, is obligated under federal regulations to provide public transportation service which can be used by handicapped persons. The City has complied with existing regulations for providing transportation services to the handicapped by subsidizing a specialized transportation service provided by Racine County. The decision to select such a strategy was made for two basic reasons: 1) a realization on the part of many that wheelchair lifts on regular buses would solve the mobility problems of only a small portion of the transportation-handicapped population; and 2) an examination of the experience of other transit operators with accessible buses, which indicated that the operation of wheelchair lifts could prove to be very costly, involving frequent mechanical failure and breakdowns.

A review of the two alternatives proposing full or partial levels of accessible bus service indicates that these concerns remain valid and can be used to justify rejection of the alternatives proposing accessible bus service. The projected ridership on the accessible bus service under both alternatives indicates that wheelchair lifts on regular buses would be effective for providing public transportation service to a very small number of transportation-handicapped individuals. The alternative proposing only accessible bus service would probably reduce the mobility of the vast majority of the transportation-handicapped persons using the existing specialized transportation service, particularly if the existing service were to be substantially reduced as a result of the loss of city funds. In this case, persons unable to use the accessible bus service could face reduced levels of tripmaking. While this

alternative has a minimal cost, its cost-effectiveness would be extremely poor when compared with that of the existing specialized transportation service. Similarly, while the total incremental costs of adding a partial level of accessible bus service to the existing level of specialized transportation service would be relatively low, the incremental cost-effectiveness would be very poor because of the small number of persons who would actually benefit from the service.

In lieu of accessible bus service, it is recommended that the City satisfy the requirements of the proposed final regulation by continuing its current special efforts strategy of providing some level of specialized transportation service. Although the operating characteristics of the existing level of specialized transportation service would probably not meet all of the minimum service criteria specified in the pending federal regulation, the expenditures for the service would exceed either alternative expenditure level set forth in the regulation and, thus, would meet the requirements of the regulation. The operation of an expanded level of specialized transportation service would more completely satisfy the proposed minimum service requirements, but would also require a substantial increase in the level of financial commitment for specialized transportation over that required to maintain the existing level of service. It must be recognized that the selection of a level of financial commitment for the City's specialized transportation program is essentially a political decision whereby elected city officials must balance what the community can afford against what is perceived as fair and equitable to the particular group to be benefited--in this case, the transportation handicapped. Because maintaining the existing level of specialized transportation service would satisfy the requirements of the proposed regulation, it is doubtful that funds would be made available by the City to expand the service. Accordingly, the alternative proposing an expanded level of specialized transportation probably could not be implemented.

It is therefore recommended that the City continue to provide the existing level of specialized transportation service. Of the three options examined for providing the service, maintaining the current contract service arrangement with the Racine County specialized transportation program would entail the lowest cost to the City's public transportation program, while meeting the proposed federal requirements. It is recommended that the City continue to follow this course of action for as long as it is made available by Racine County. Based upon past events, it is probable that the County will continue to agree to such an arrangement provided that the City funds a "fair share" of the operating subsidy for the program. A review of the expenditures required for the other two options available to the City for providing the service--contracting directly with a private service provider or operating the service itself--indicates that it would be to the City's advantage to contribute an appropriate level of funding in order to maintain the current contract arrangement with the County.

What constitutes an appropriate funding level for the City must ultimately be determined through negotiation between the City and the County. One way to determine an appropriate funding level would be to base it on a level of effort agreed to in previous years. For example, the City of Racine contributed $125,000 from its public transportation program during 1983 to the County's

specialized transportation program, representing about 57.8 percent of the total subsidy required for the specialized transportation service in the planning district, and about 5.3 percent of the total operating budget of the City's public transportation program. Either of these funding levels would provide the County with a stable level of financial commitment from the City for the specialized transportation program and could, therefore, assure continuation of the present contract arrangement.

Advisory Committee Reaction to Preliminary Recommendation

While the members of the Advisory Committee agreed with the analysis of the four alternatives considered and the preliminary recommendation, the Committee also expressed some interest in a fifth possible alternative. Under the fifth alternative, the City would operate a user-side subsidy program for the transportation handicapped. Under such a program, transportation-handicapped persons would rely on private taxicabs or chair-car carriers providing accessible transportation for transportation service, and would be directly reimbursed for a portion of the cost of their trip on the service. Although there is currently no private chair-car carrier providing accessible transportation service in the Racine area, the Committee believed that there is the potential for such a service to be initiated soon, and that the alternative would, therefore, merit consideration. However, rather than expand the current study to include the fifth alternative, the Committee recommended that the alternative be considered by the City under the separate, formal public participation process required under the proposed final federal rule. In this respect, the City must conduct a public participation process separate from this study to comply with the pending federal regulation, which requires the City to plan its program for providing transportation service to handicapped persons in consultation with such persons and groups representing them. As a part of this special planning process, the City would consider both the alternative recommended on a preliminary basis by the Committee and an alternative proposing the establishment of a user-side subsidy program. The results of a comparison of, and the public comment received on, both alternatives would serve as input to the final selection of a special efforts program. The Committee also recommended that the Regional Planning Commission be available, upon request, to provide assistance to the City in conducting the additional analysis of alternatives.

FINANCIAL COMMITMENT

This chapter has set forth the operating and capital requirements for implementing the herein recommended level of transit service on the Belle Urban 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 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 Table 49 in Chapter VII. Ridership on the transit system is projected to

increase by about 6 percent over the five-year planning period--from the 1983 level of about 2,231,000 revenue passengers to about 2,368,000 revenue passengers in 1988. This ridership projection is based primarily on recent trends which have indicated 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 22 percent, ridership on the transit system has actually declined at an average annual rate of about 1 percent since 1980. 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 2.4 million revenue passengers as recently as 1981.

System operating expenses, including expenses for the specialized transportation element, are projected to increase--in constant dollars--by about 9 percent between 1983 and 1985, from the 1983 level of about $2,343,000 to about $2,553,000 in 1985. This increase reflects the full annual costs of operating the two new routes added to the system in June 1983, the increased service levels implemented on Route 9 in November 1983, and the costs of the recommended service improvements to be implemented by January 1, 1985. It is anticipated that operating expenses will decline, as measured in constant dollars, by 1987 because of the elimination of lease costs for buses. Such expenses would be eliminated by 1987 upon the delivery and placement into service of new buses to be purchased by the City to replace the four buses presently leased by the transit system. Although operating revenues would be expected to increase somewhat with increases in ridership, operating deficits would also be expected to increase because of higher operating expenses. As a result, the total operating deficit for the system would be expected to increase by 10 percent over 1983 levels, from about $1,595,000 in 1983 to about $1,758,000 in 1988. However, the operating deficit per passenger would be expected to increase by only 4 percent over this period, from about $0.71 in 1983 to about $0.74 in 1988.

Fares

Fares are perhaps the most sensitive and visible element of transit service. 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 constrast, 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 in the existing fare structure would be made over the planning period. In this respect, the fare structure for the Belle Urban System has undergone only one change since it was implemented in 1976, essentially as recommended in the previous transit system development plan and program. The fare structure of the Belle Urban System was compared with the fare structure of eight comparable Wisconsin transit systems as part of the systemwide performance evaluation presented in Chapter V (see Table 39 in Chapter V). This comparison indicated that the $0.35 base fare charged by the Belle Urban System was equivalent to the lowest fare charged by the comparable transit systems, such fare being charged by only one of the eight transit systems.

While this might indicate that the current fares charged are too low for the size of the transit system, 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, have been sufficient to reduce the City's share of the operating deficit to close to zero since 1982. In fact, the combination of system revenues and available federal and state aids was more than sufficient to fund the transit system operating deficit in 1983. As a result, the City actually received less state transit operating assistance than the maximum of 35 percent of system operating expenses allowed under the state urban mass transit operating assistance program. 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 constant 1983 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 need to be decided 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 would be based upon increases in 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 the 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 56 indicates the capital expenditures associated with implementing the recommended five-year transit system development plan and program. These capital expenditures would be required for several recommended projects, including the purchase of nine new advance design transit buses; the rehabilitation of 15 new look transit buses in the existing vehicle fleet; the expansion of the existing bus storage garage; the purchase and construction of 15 additional bus passenger waiting shelters; and the purchase of other

operating equipment, including new fareboxes and mobile radios and a new transit system supervisor's car. The total cost of implementing all of the recommended capital projects is estimated at $3.18 million.

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 in order 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 Belle Urban System is presented in Table 63. 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 Racine under the federal operating assistance program would be derived from two sources: the unused balance of the 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 available to the City through the UMTA Section 9 program over the planning period, two alternative funding scenarios were developed in the previous chapter (see Table 53). The average annual federal funding available to the City of Racine over the planning period would be expected to range from about $669,600 to about $955,700, which would be sufficient to cover between 35 and 50 percent of the average annual operating deficit per federal guidelines (between 38 and 54 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 will be available in all years to provide up to the maximum level of state funding, which is 35 percent of

Table 63

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 Assistance							
Federal Share[b]	$ 953,800	$ 962,250	$ 959,850	$ 472,200-951,500	$ 0-950,850	$ 3,348,100-4,778,250	$ 669,600-955,700
State Share[c]	815,400	820,050	816,650	$ 807,700-881,100	$ 806,750-881,100	$ 4,066,550-4,214,300	$ 813,300-842,900
Local Share	0	0	0	$ 0-405,900	$ 0-876,500	$ 0-1,282,400	$ 0-256,500
Total	$1,769,200	$1,782,300	$1,776,500	$1,759,200	$1,757,600	$ 8,844,800	$1,769,000
Capital Assistance							
Federal Share[d]	$ --	$1,351,600	$ 360,600	$ 360,000	$ 471,100	$ 2,543,900	$ 508,800
Local Share	--	337,900	90,200	90,200	117,700	636,000	127,200
Total	$ --	$1,689,500	$ 450,800	$ 450,800	$ 588,800	$ 3,179,900	$ 636,000
Total Assistance							
Federal	$ 953,800	$2,313,850	$1,320,450	$ 832,800-1,312,500	$ 471,100-1,421,950	$ 5,892,000-7,322,150	$1,178,400-1,464,500
State	815,400	820,050	816,650	$ 807,700-881,100	$ 806,750-881,100	$ 4,066,550-4,214,300	$ 813,300-842,900
Local	0	337,900	90,200	$ 90,200-	$ 117,700-994,200	$ 636,000-1,918,400	$ 127,200-383,700
Total	$1,769,200	$3,471,800	$2,227,300	$2,210,100	$2,346,400	$12,024,700	$2,405,000

[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 UMTA Section 5 and Section 9 formula assistance programs based on the two federal funding scenarios documented in Chapter VII (see Tables 53 and 54).

[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 programs.

Source: SEWRPC.

the total operating expenses of the transit system. The average annual state funds available over the planning period would be expected to vary, based upon the federal funds available--ranging from about $813,300 to about $842,900, which would be sufficient to cover between 46 and 48 percent of the systemwide operating deficit per state guidelines.

The City of Racine and the local governmental units contracting for service would be responsible for that portion of the operating deficit not covered by federal or state operating assistance. The average annual local share of the systemwide operating deficit would be expected to range from zero to about $256,500, depending upon the level of federal transit operating assistance available. This would represent a maximum of about 14 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 63 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. It may also be necessary for the local governmental units and agencies contracting for transit service from the City of Racine to fund any portion of the individual operating deficits of the contracted services which would not be funded by federal and state transit assistance over the planning period.

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 commitment required. It is recommended that such actions to be considered include reductions in daily hours of operation, increases in peak-period headways, increases in fares, and elimination of routes, in that order.

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 further recommended to be the new UMTA Section 9 formula grant program. Under the UMTA Section 9 program, grants are provided for up to 80 percent of eligible capital expenditures, including the purchase of buses and bus-related equipment, and the expansion of the city bus garage and maintenance facility. The total capital investment required for the transit service improvements, including contingency and project administration costs,

is estimated at $3.18 million, of which about $2.54 million, or 80 percent, could be the federal share under the UMTA Section 9 formula grant program. The remaining amount of about $636,000, or 20 percent, would constitute the financial commitment required by the City of Racine.

PLAN IMPLEMENTATION

The operating characteristics and financial requirements 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 have been specified. Full implementation of the recommended plan will be dependent upon the coordinated action of several agencies of government: the City of Racine Common Council; the Village of Sturtevant Board of Trustees; the Town of Caledonia Board of Supervisors; the Town of Mt. Pleasant Board of Supervisors; the University of Wisconsin-Parkside; the Racine County Board of Supervisors; the Southeastern Wisconsin Regional Planning Commission; the Wisconsin Department of Transportation; and the U. S. Department of Transportation, Urban Mass Transportation Administration. These nine public bodies have vital roles in providing the endorsement, operations, and financial support required to achieve plan implementation.

City of Racine

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 Belle Urban System. Such actions will include presenting the recommendations of the plan and program to the three contract service agencies most affected by the plan recommendations--the Village of Sturtevant, the Town of Caledonia, and the Town of Mt. Pleasant. Through negotiations with these three local units of government, the City will be required to obtain the authorization to implement the routing changes proposed for the transit services contracted for by these agencies. Such negotiations would also provide estimates of the local costs attendant to the proposed service changes for each contracting governmental unit.

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 will require the City to schedule and hold a public hearing on the recommended routing changes because of their extensive nature. In addition, when pending final 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

including scheduling and holding 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 proposed service changes with the public hearing required in the handicapped public participation process.

The Village of Sturtevant, Town of Caledonia, Town of Mt. Pleasant, and University of Wisconsin-Parkside

These four agencies of government presently contract for public transportation services from the City of Racine. As the contracted services are an integral part of the recommended transit system plan and program, it is recommended that these governmental units continue to provide the local share of the public funding necessary to operate the transit service for their respective areas.

Racine County

The Racine County Board of Supervisors, through the Racine County Human Services Department, provides a specialized transportation service for the transportation of handicapped persons which has been partially subsidized by the City in order to satisfy the City's obligation to provide public transportation service to handicapped persons. It is recommended that the County continue to provide the City with the option of contracting for specialized transportation service from the program, as long as the City is willing to contribute a fair share toward the total public subsidy of the service. It is further recommended that the City and County work toward achieving mutual agreement on a method which can be followed annually to determine an appropriate level of funding from the City toward the County's specialized transportation program.

U. S. Department of Transportation, Urban Mass Transportation Administration; and the Wisconsin Department of Transportation

Both the U. S. Department of Transportation, Urban Mass Transportation Administration, and the Wisconsin Department of Transportation administer programs which provide financial assistance for public transit systems. It has been recommended that the City of Racine 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 areawide 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 Racine 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 Racine, 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 Racine assume responsibility 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 Racine Public Transit Planning Advisory Committee remain active and meet, at the specific determination of the City of Racine, to address any problems which may develop in the implementation of plan recommendations.

SUMMARY

The recommended plan for fixed route transit service by the Belle Urban System calls for a moderate number of changes in the existing route structure of the transit system. Foremost among the proposed routing changes would be the restructuring of Route 10 to eliminate unproductive route segments; the elimination of Routes 11 and 12 as separate contract service routes; the extension of Route 1 to provide service in the Town of Caledonia; the extension of Route 7 to provide service to the Amtrak station in the Village of Sturtevant; and the rerouting and extension of Routes 3 and 6 to provide service in the Town of Mt. Pleasant. It is recommended that all such routing changes be implemented by January 1, 1985.

Several capital projects will be required if the recommended plan is to be fully implemented. These capital projects include the purchase of nine new advance design transit buses; the rehabilitation of 15 new look transit buses in the vehicle fleet; the expansion of the existing bus storage garage; the purchase and installation of 15 bus passenger waiting shelters; the purchase of new fareboxes and mobile radios for all new and rehabilitated buses; and the purchase of a new supervisor's car for the transit system.

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. Several alternatives were presented in the chapter to indicate how the City could comply with a proposed final regulation on providing transportation to the handicapped. These alternatives basically consist of providing specialized transportation service at the existing level of service; providing specialized transportation at an expanded level of service; or providing some level of accessible bus service on the regular routes of the transit system.

The provision of accessible bus service was rejected as being ineffective in serving the mobility needs of the transportation handicapped and as being too expensive on a cost-per-ride basis. While providing a level of service that would more fully satisfy the minimum service criteria of the pending federal regulations, providing an expanded level of specialized transportation service was also rejected as being too expensive to implement in light of the expenditure limits set forth in the pending regulation. Rather, it was recommended that the City continue to provide specialized transportation service at the existing level of service in order to meet its obligation to provide public transportation to handicapped persons.

Several options for providing the recommended level of specialized transportation service also were examined. Maintaining the existing contract arrangement, whereby the City annually subsidizes a portion of the operating deficit of the specialized transportation program administered by the Racine County Human Services Department, was found to be the most advantageous service option for the City as it minimized both operating and capital expenses. It was therefore recommended that the City continue to follow this course of action as long as the program is made available by Racine County. It was further recommended that both the City and County work toward reaching mutual agreement on a method which could be followed annually to determine a fair share funding level from the City for the County's specialized transportation 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 $1,769,000. The average annual federal funds available through the UMTA transit operating assistance program could be expected to range from about $669,600 to about $955,700, 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 $813,300

to about $842,900, depending upon the federal funds available. This would leave an average annual local share of the systemwide operating deficit of between zero and $256,500.

It is also recommended that federal transit assistance be obtained to offset a portion of the total expenditures for capital improvements, estimated at $3.18 million. Of this total amount, up to about $2.54 million, or 80 percent, could be funded under UMTA capital assistance programs, leaving a minimum local share of about $636,000, or 20 percent.

The City of Racine will bear most of the responsibility for implementation of the recommended transit system plan and program. Such responsibility will include negotiating with local units and agencies of government for the authority to implement recommended routing changes; applying for federal and state transit assistance funds; and satisfying the various administrative regulations associated with the receipt and use of federal transit assistance funds.

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Chapter IX

SUMMARY AND CONCLUSIONS

INTRODUCTION

The Racine 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 outdated, having been completed in 1974 and having recommended actions for the period 1975 through 1979. 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 Racine transit system.

PURPOSE OF THE TRANSIT SYSTEM PLAN AND PROGRAM

The transit system plan and program for the Racine 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;

4. To provide a sound basis for monitoring program implementation and attendant results, and for adjusting the plan and 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 Racine 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 Racine 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 Stephen F. Olsen of the City of Racine acted in April 1982 to create a Racine 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 the transit system plan and program was the articulation of the objectives to be served by the transit system, together with the identification of supporting standards which could 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 would be assessed, alternative transit service plans designed and evaluated, and recommendations for improvement made. Therefore, it was considered essential that the objectives comprehensively represent the level of transit service and system performance desired by the Racine community, and that the standards permit direct measurement of the extent to which the objectives were being attained.

Accordingly, one of the important functions of the Racine Public Transit Planning Advisory Committee was to articulate transit service objectives and supporting standards for the Racine 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 Racine 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 Racine area while minimizing the costs entailed. More specifically, the following objectives were adopted by the Racine Public Transit Planning Advisory Committee:

1. The public transit system should effectively serve the existing land use pattern of the City of Racine and environs.

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 Racine transit system plan and program was the Racine Urban Planning District, comprised of that portion of Racine 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 Racine; the Villages of Elmwood Park, North Bay, Sturtevant, and Wind Point; the Towns of Caledonia and Mt. Pleasant; Racine County; and the Racine Unified School District. The total resident population of the District in 1980 was about 132,500 persons, of which about 85,000 persons, or 65 percent, resided within the City of Racine, and about 110,200 persons, or about 84 percent, resided within the area served by the City's public transit system.

Land Use

Land uses in the District vary greatly--from low-density agricultural uses in the Towns of Caledonia and Mt. Pleasant to high-density urban uses in the City of Racine. 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 exhibit typically 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, except for the elderly, the highest concentrations were located within the older,

intensively developed portions of the City of Racine, 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 major shopping areas, community and special medical centers, and employment centers were all well concentrated in the highly urbanized areas of the City of Racine, while educational institutions, governmental and institutional centers, and recreational areas were scattered throughout the District.

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 448,400 trips were estimated to have originated within the study area on an average weekday during 1980. Of this total, 95,400, or 21 percent, were home-based work trips; 76,300, or 17 percent, were home-based shopping trips; 154,300, or 34 percent, were home-based other trips; 85,600, or 19 percent, were nonhome-based trips; and 36,800, or 8 percent, were school-based trips.

External to the study area, the greatest concentrations of trip ends in 1980 were found in the City of Kenosha, the northern two-thirds of Milwaukee County, and the western, rural portion of Racine County. Internal to the study area, the greatest concentrations of trip ends in 1980 were found within the Racine central business district, the Elmwood Plaza shopping area, and the Washington Square shopping area--all within the City of Racine. It was anticipated that by 1983 Regency Mall would attract a significant portion of the trips that were formerly attracted to the Elmwood Plaza Shopping Center and the Washington Square shopping area.

EXISTING PUBLIC TRANSIT SERVICE

History

Urban public transit service has been available in the Racine Urban Planning District since 1883, when street railway operations were initiated over a single horse-drawn streetcar line. Public transit service in Racine was provided exclusively by electric streetcars until 1928, when service over the first feeder bus route was initiated. The system was converted to motor bus operation in 1940. Continuous declines in ridership and profits after World War II resulted in several changes in the ownership of the transit system. On

July 1, 1975, the City of Racine acquired the transit system from the last private operator, which it had subsidized for the previous two years, and began public operation of the Belle Urban System.

Management

Currently, the local bus system in the City of Racine is operated by the private management firm of Taylor Enterprises, Inc., under the direct supervision of the City of Racine Department of Transportation. The policy-making body of the transit system is the Racine Transit and Parking Commission. However, the Racine 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 12 regular city routes totaling about 162 weekday round-trip route miles. Eight of the bus routes are lineal in design and serve primarily the City of Racine. One bus route extends into Kenosha County to serve the University of Wisconsin-Parkside. The remaining three routes serve areas within the Towns of Caledonia and Mt. Pleasant and the Village of Sturtevant, and connect with other bus routes serving the City of Racine. Each route of the system is individually scheduled to best serve the major traffic generators within its service area.

Bus service is provided by the transit system for approximately 13.5 hours per day between 5:30 a.m. and 7:00 p.m. Mondays through Fridays, and for approximately 11 hours a day between 7:00 a.m. and 6:00 p.m. on Saturdays. No bus service is provided on Sundays or holidays. Ten of the 12 bus routes operate throughout the service day.

During the school year, between Labor Day and Memorial Day, the routes of the transit system operate with weekday headways of 20 to 60 minutes during the morning and afternoon peak-use periods, and 30 to 60 minutes during the off-peak periods. During the summer months between Memorial Day and Labor Day, the routes which operate with 20-minute peak-period headways during the rest of the year operate with 30-minute headways all day. Headways of 30 to 45 minutes are operated all day Saturday throughout the year.

Fares

The current one-way adult fare on the 12 local bus routes of the Belle Urban System is $0.35 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. Fares for students are paid by the Racine Unified School District if the student lives more than two miles from the school he or she attends. Such students are issued a special bus pass or tokens for use on regular school days, with the school district being charged $0.70 per pass per school day and $0.35 per token. A special fare program is also in effect for elderly and handicapped persons who, with proper identification, can ride for $0.15 per trip at all times except from 6:30 a.m. to 9:00 a.m. and 2:00 p.m. to 5:30 p.m. on weekdays between Labor Day and Memorial Day.

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 $12 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 the route originally boarded for continuation of travel in the same general direction.

Operating Equipment and Facilities

The current active fleet of the Belle Urban System consists of 39 buses. Of the 39 buses, 35 are owned by the City, including 25 General Motors Corporation (GMC) "new look" buses purchased new in 1976, eight GMC advance design buses purchased new in 1982, and two mini-buses acquired in 1975 as part of the assets of the former private transit operator. The mini-buses are used only intermittently by the City to provide transit service. The City also leases four GMC new look buses in order to maintain an adequate number of spare buses for the fleet between Labor Day and Memorial Day, when peak-period bus requirements for the transit system are highest at 33 buses.

The City of Racine has erected 20 passenger waiting shelters at 18 locations throughout the City. Each shelter is of modular design, with the size of the shelter being determined by the number of back and side wall panels used in each shelter. Each shelter is 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 Belle Urban System are conducted in two city-owned building complexes located in separate areas of the City of Racine: 1) the Kentucky Street storage, maintenance, and office complex, and 2) the Racine City Hall. The Kentucky Street storage, maintenance, and office complex includes one building used exclusively for bus-related activities, including storage, cleaning, and servicing of vehicles; and one building housing the bus maintenance and parts storage facilities, employee facilities, and general management offices of the public transit system. The Racine City Hall houses the offices of the Mayor and Common Council of the City of Racine, the Racine Transit and Parking Commission, and the City Department of Transportation--all of which contribute to the city public transportation program.

Ridership

Ridership on the transit system increased dramatically after the City began public operation, increasing about four-fold between 1975 and 1982. This rate of ridership growth surpassed the rate of increase in the level of transit service, resulting in a significant increase in the productivity of the transit system between 1975 and 1982. Of the 12 regular city routes operated, four--Routes 2, 3, 4, and 7--carried about 59 percent of the total revenue passengers on the system on an average weekday in the first six months of 1983.

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 83 percent of the transit riders resided within

the City of Racine in 1980. Only about 4 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 40 percent and 29 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 $5.00 per vehicle hour in 1975 to about $15.50 per vehicle hour in 1982. However, after an initial increase from $0.30 in 1975 to $0.51 in 1976, the operating deficit per passenger decreased to $0.43 in 1979, due primarily to the significant growth of transit ridership on the system, before increasing to $0.58 in 1982. 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 Racine 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 Racine Urban Planning District during 1983 was provided by two private taxicab companies--Courtesy Cab Company and Green's Taxi Service, Inc. Intercity transit service included bus service provided by two private carriers--Wisconsin Coach Lines, Inc., and Greyhound Lines-West, Inc.--which operated routes connecting Racine with Milwaukee, Kenosha, and Chicago, and by railway passenger train service provided by Amtrak, which operated service between Milwaukee and Chicago with a stop in the Village of Sturtevant. Specialized transit service within the District was provided by the Racine Unified School District, which contracted with the Allyn Bus Company, Ltd., and Jelco Wisconsin, Inc., for the provision of yellow school bus service to students residing both within and outside the service area of the Belle Urban System, and by the Racine County Human Services Department, which administered programs providing specialized transportation service to elderly and nonelderly transportation-handicapped and developmentally disabled persons within the District.

TRANSIT SYSTEM PERFORMANCE EVALUATION

The performance evaluation of the Belle Urban 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 Racine area. The second part of this assessment compared the ridership and financial performance of the Belle Urban 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 evaluations:

- In 1983, the Belle Urban System provided excellent service-area coverage of residential areas within the City of Racine, and good coverage of the other densely developed residential areas within the Racine 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.

- The Belle Urban System provides very good coverage of the major traffic generators identified within the study area, serving 109, or 81 percent, of the 134 major traffic generators which existed in the Planning District in 1983.

- An estimated 22,900 jobs were provided at major employment centers within the study area in 1983. About 20,000 of these jobs, or about 87 percent, were served by the routes of the transit system. Work schedules were determined for about 15,000, or about 75 percent, of the 20,000 jobs served. The vast majority--about 88 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.

- 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.

- The performance of the Belle Urban System compares very favorably with the performance of other mid-size Wisconsin transit systems. For almost every indicator examined, the performance of the Belle Urban System was significantly better than the comparable group average.

- Some routes of the transit system--Routes 1, 2, 3, 4, 5, 6, 7, and 9--were found to be more successful in attracting ridership or to operate with higher levels of effectiveness than the other routes of the transit system. These eight routes accounted for over 90 percent of the total average weekday ridership on the transit system during the first half of 1983.

- The low performance level of Route 8 may be partially attributed to temporary changes made in the route which negatively affected ridership during 1982 and 1983. However, the route had a history of low ridership, and consideration of routing or scheduling changes to improve past performance levels was found to be warranted.

- The low performance levels of Route 10 can be attributed primarily to the overall low residential density of its service area which is not favorable to generating large numbers of transit trips. Restructuring of this route to eliminate unproductive route segments, however, would require the elimination of service to some major traffic generators and residential areas presently served by the route.

- It was determined that the level of performance of Routes 11 and 12, which began operation in June 1983, could not be properly assessed until a longer period of time had elapsed from the initiation of service.

In summary, the analyses indicated that major changes to the transit system to improve performance were not needed. However, certain minor changes in the transit system could be considered if they would improve the performance of 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 Racine 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 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 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 four chapters of the Racine municipal ordinances. The most significant of these chapters establishes and defines the powers of the Racine Transit and Parking Commission. The other three chapters provide specific regulations governing the location of bus stops and bus loading zones, the periodic safety inspection of buses, and the cleanliness of buses.

Legislative Analysis

With regard to federal and state funding programs for urban public transit systems, it was determined that the City of Racine 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 in 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 Racine 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 improvement alternative, under which only a limited number of operational improvements would be made to the system, primarily involving the routes exhibiting the lowest performance levels; 3) a moderate improvement alternative, under which a moderate number of operational improvements would be made to the system involving changes in routing and service levels; and 4) a maximum improvement alternative, under which a substantial number of operational improvements would be made to the system.

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. The strength of the performance exhibited by the existing system with regard to indicators of effectiveness and efficiency made this "status quo" alternative a viable alternative deserving careful consideration. Under this alternative, annual ridership on the transit system was projected to increase by about 3 percent over the planning period, from about 2,231,000 revenue passengers in 1983 to about 2,289,000 revenue passengers by 1988. Operating deficits for the transit system were projected to increase by about 9 percent over the same period, from about $1,595,000, or about $0.71 per revenue passenger, in 1983 to about $1,745,000, or about $0.76 per revenue passenger, in 1988 as expressed in constant 1983 dollars.

Alternative Plan 2--Minimum Service Improvements

The second alternative plan considered would make a limited number of changes to the existing transit system, directed primarily at improving the performance of existing routes exhibiting the lowest levels of performance. Routing changes would be made on five routes of the system--Routes 1, 3, 6, 8, and 10. These changes would increase the round-trip miles of service provided on the transit system from the existing 162 miles to about 171 miles, or by about 6 percent. Under this alternative, annual ridership on the system would increase by about 4 percent over the planning period--from about 2,231,000 revenue passengers in 1983 to about 2,320,000 revenue passengers in 1988. Operating deficits for the transit system would increase by about 10 percent over the planning period--from about $1,595,000, or about $0.71 per revenue passenger, in 1983, to about $1,760,200, or about $0.76 per revenue passenger, in 1988 as expressed in constant 1983 dollars.

Alternative Plan 3--Moderate Service Improvements

The third alternative plan considered would make a moderate number of routing changes in the existing transit system. Actions proposed under this alternative would be directed primarily at improving service in the areas served by the three contract service routes operated by the transit system--Routes 10, 11, and 12. Route 10 would be extensively restructured to eliminate service along unproductive route segments, and Route 1 would be extended to serve part of the area formerly served by Route 10. Other routing changes would reduce the number of routes operated by the system from 12 to 10 by directly replacing service provided by two of the contract service routes--Routes 11 and 12--with service provided by regular city bus routes--Routes 3, 6, and 7. The proposed routing changes would increase round-trip route miles slightly, from the existing 162 miles to about 163 miles, or by less than 1 percent. Ridership under this alternative would increase by about 6 percent over the planning period--from about 2,231,000 revenue passengers in 1983 to about 2,368,000 revenue passengers in 1988. Operating deficits for the transit system would increase by about 10 percent over the planning period--from about $1,595,000, or about $0.71 per revenue passenger, in 1983 to about $1,757,600, or about $0.74 per revenue passenger, in 1988 as expressed in constant 1983 dollars.

Alternative Plan 4--Maximum Service Improvements

The fourth alternative plan considered would provide for a substantial increase in the level of service provided by the system over the planning period. This alternative incorporates all of the routing and service changes proposed under the third alternative, and further proposes that existing weekday service hours be extended into the evening each weekday by adding from three to six and one-half scheduled bus trips on each route. This action would extend bus service until about 11:45 p.m. each weekday evening on most of the routes. Round-trip route miles would be the same under this alternative as under the third alternative. Annual ridership under the alternative was projected to increase by about 15 percent over the 1983 level of about 2,231,000 revenue passengers to about 2,570,000 revenue passengers in 1988. Operating deficits for the transit system, as expressed in constant 1983 dollars, would increase by about 36 percent over the 1983 estimated deficit of about $1,595,000, to about $2,167,200 in 1988--an increase from about $0.71 per revenue passenger in 1983 to about $0.84 per revenue passenger in 1988.

Evaluation of Alternatives

The four alternative transit system development plans were evaluated 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. The evaluation indicated that the maximum improvement alternative would serve the most jobs and generate the highest ridership, but would do so at a substantially higher total public funding requirement over the planning period than the most cost-effective alternative--the moderate service improvement alternative.

Recommendation

Because of concern over substantially increasing the public funding requirement for the transit system during a period when federal subsidies for operating assistance may decline, the maximum service improvement alternative was not recommended for implementation. Rather, implementation of the moderate service improvement alternative, as the most cost-effective alternative over the planning period, was recommended by the Racine Public Transit Planning Advisory Committee. While generating about 6 percent fewer revenue passengers over the planning period than the maximum service improvement alternative, this 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 service improvement alternative would be less than 1 percent more than required under the status quo alternative, and about 16 percent less than required under the maximum service improvement alternative.

THE RECOMMENDED PLAN

Operational Improvements

The recommended plan for fixed route transit service by the Belle Urban System calls for a moderate number of changes in the existing route structure of the transit system. Foremost among the proposed routing changes would be the restructuring of Route 10 to eliminate unproductive route segments; the elimination of Routes 11 and 12 as separate contract service routes; the extension of Route 1 into the Town of Caledonia to replace some service provided by Route 10; the extension of Route 7 to the Amtrak station in the Village of Sturtevant to replace service provided by Route 11; and the rerouting and extension of Routes 3 and 6 into the Town of Mt. Pleasant to replace service provided by Route 12. These actions should improve transit service by reducing or eliminating the transfer and associated wait time required of current passengers on Routes 10, 11, and 12 who use the regular city bus routes.

To compensate for routing adjustments recommended for Routes 3 and 6, it was recommended that adjustments be made to Routes 2, 4, and 8. These adjustments would be necessary to maintain transit service to major traffic generators and residential areas presently served by Routes 3 and 6. Adjustments recommended for Route 8 would replace the service currently provided by Route 3 to High Ridge Hospital and by Route 6 to K-Mart. Adjustments recommended for Route 2 would replace service provided by Route 8 over Lathrop Avenue between 21st Street and Durand Avenue. Adjustments recommended for Route 4 would replace service provided by Route 2 over Ohio Street between 21st Street and Durand Avenue.

The routing changes recommended for Routes 1 and 10 would result in improved service to the most densely developed areas of the Town of Caledonia. In this respect, Route 10 would be restructured from a continuous one-way loop to a lineal route, providing two-way bus service between the Crestview residential area and the Shorecrest Shopping Center, using the eastern portion of the existing loop route. Route 1 would be extended into the Town of Caledonia to serve the area along Douglas Avenue, Johnson Avenue, and Charles Street currently served by Route 10. It was also recommended that the service hours on Route 10 be increased to be consistent with those of Route 1 and the other routes of the transit system, primarily by adding service on weekdays during the middle of the day and on Saturdays during the early morning and late afternoon periods of the day.

Finally, special routing was recommended on Route 3 to provide service to students attending William Horlick High School, and on Route 8 to provide service to students attending McKinley Junior High School.

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 of the Belle Urban System, consisting of 25 General Motors Corporation new look diesel transit buses purchased by the City of Racine in 1976. It was recommended that the City undertake a combined program of new bus purchases and old bus rehabilitation to replace or rehabilitate these buses as they reach their maximum service

life between 1988 and 1990. Under the recommended program, the City would purchase nine new advance design transit buses, similar to those acquired by the City in 1982, for delivery in the second half of 1986. Four of these buses would be used to replace four buses currently leased by the transit system. In addition, the City would rehabilitate five new look buses in the existing vehicle fleet in 1986, 1987, and 1988--a total of 15 buses during the planning period. The remaining 10 new look buses in the vehicle fleet would be rehabilitated in 1989 and 1990 if in a suitable condition for rehabilitation.

Assuming that the City will be able to rehabilitate and retain the use of all 25 new look buses, and will sell the two mini-buses in the existing fleet, the fleet size of the transit system will increase from 39 buses to 42 buses, a fleet size that can be expected to be retained through the early 1990's. The Kentucky Street operating complex presently has a maximum inside storage capacity of 44 buses--two more than the maximum anticipated fleet size. However, to maintain maximum flexibility of use of its bus maintenance and servicing areas, it is recommended that the transit system consider expanding the existing bus storage building to accommodate eight additional bus storage berths.

It is recommended that an additional 15 passenger waiting shelters be erected by the transit system in 1986. Fifteen sites were identified as primary locations and 10 sites were identified as secondary or alternative locations for the proposed bus shelters because of their high passenger boarding counts, transfer potential, or proximity to an elderly or handicapped facility. It is recommended that the proposed bus shelters be of similar modular design to those currently used on the transit system.

Finally, other operating equipment related to the bus purchase and rehabilitation program and system operations was recommended to be acquired. This equipment includes new fareboxes and mobile radios for all new and rehabilitated buses, and a new car for the transit system supervisor.

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. 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. 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. However, a new federal regulation is pending, which, when made effective, will in all likelihood require a reexamination of the City's specialized transportation program for possible modifications to meet the new requirements. Accordingly, several alternatives were briefly examined to indicate how the City could comply with a proposed final regulation on providing transportation to the handicapped. These alternatives basically consist of providing specialized transportation service at existing and expanded levels of service; providing accessible bus service only on the regular routes of the transit system; and providing a combination of accessible bus and specialized transportation services.

The alternatives calling for the provision of accessible bus service were rejected as being ineffective in serving the mobility needs of the transportation handicapped and as being too expensive on a cost-per-ride basis. While providing a level of service that would more fully satisfy the minimum service criteria of the pending federal regulations, the alternative calling for the provision of an expanded level of specialized transportation service was also rejected as being too expensive to implement in light of the expenditure limits set forth in the pending federal regulation. Rather, it was recommended that the City continue to provide specialized transportation service at the existing level in order to meet its obligation to provide public transportation to handicapped persons.

Several options available to the City for providing the recommended level of specialized transportation service also were examined. These options included continuing to contract for service from the Racine County specialized transportation program, contracting for service directly from a private transportation company, or operating the service itself. Maintaining the existing contract arrangement, whereby the City annually subsidizes a portion of the operating deficit of the specialized transportation program administered by the Racine County Human Services Department, was found to be the most advantageous service option for the City as it minimized both operating and capital expenses. It was therefore recommended that the City continue to follow this course of action as long as it is made available by Racine County. It was further recommended that the City and County work toward reaching mutual agreement on a method which could be followed annually to determine a fair share funding level from the City for the County's specialized transportation program.

While recommending that the City continue to contract with Racine County for the existing level of specialized transportation service, the Committee also expressed some interest in determining the merits of establishing a user-side subsidy program in lieu of the existing specialized transportation service. However, rather than expand the existing study to consider this issue, the Committee recommended that the City consider both the recommended alternative and an alternative proposing the establishment of a user-side subsidy program in a separate public participation process which must be followed by the City in order to meet the requirements of the pending federal rule on providing transportation service to the handicapped.

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.

Operating Expenditures: Ridership on the transit system is projected to increase by about 6 percent over the five-year planning period--from a 1983 level of about 2,231,000 revenue passengers to about 2,368,000 revenue passengers in 1988. System operating expenses, including expenses for the specialized transportation element, are projected to increase--in constant dollars--by about 9 percent between 1983 and 1988, from the 1983 estimated level of $2,343,000 to about $2,538,000 in 1988. Although operating revenues

would be expected to increase somewhat with increases in ridership, operating deficits would also be expected to increase because of higher operating expenses. As a result, the total operating deficit for the system would be expected to increase by about 10 percent over 1983 levels, from about $1,595,000 in 1983 to about $1,758,000 in 1988. However, the operating deficit per passenger would be expected to increase by only 4 percent over this period, from about $0.71 in 1983 to about $0.74 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, have been more than sufficient in the recent past to cover all of the system's operating expenses. As long as system revenues and available federal and state funds meet or exceed the system operating expenses, no fare increases 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 $1,769,000. The average annual funds available through the UMTA transit operating assistance program could be expected to range from about $669,600 to about $955,700, 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 $813,300 to about $842,900, depending upon the federal funds available. This would leave an average annual local share of the systemwide operating deficit of between zero and $256,500.

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 1983 constant 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 be required to cover the shortfall of federal and state funds resulting from inflated operating deficits. It may also be necessary for the local governmental units and agencies contracting for transit service from the City of Racine to fund any portion of the individual operating deficits of the services which would not be funded by federal and state transit assistance over the planning period.

Capital Project Expenditures: Several capital improvement projects are recommended in the five-year transit system plan and program, requiring capital expenditures. These projects include the purchase of nine new advance design transit buses; the rehabilitation of 15 new look transit buses in the existing vehicle fleet; the expansion of the existing bus storage garage; the purchase and construction of 15 additional bus passenger waiting shelters; the purchase of new fareboxes and mobile radios for all new and rehabilitated buses; and the purchase of a new car for the transit system supervisor. The total cost of implementing all of the recommended capital projects is estimated at $3.18 million, in constant 1983 dollars. It is recommended that federal transit assistance be obtained to offset a portion of these expenditures for capital improvements. Of this total amount, up to about $2.54 million, or 80 percent, could be funded under UMTA capital assistance programs, leaving a minimum local share of about $636,000, or 20 percent.

PLAN IMPLEMENTATION

The City of Racine will bear most of the responsibility for implementation of the recommended transit system plan and program. Such responsibility will include negotiating with local units and agencies of government for the authority to implement recommended routing changes; applying for federal and state transit assistance funds; and satisfying the various administrative regulations associated with the receipt and use of federal transit assistance funds. It is also recommended that the City of Racine 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 Village of Sturtevant, the Town of Caledonia, the Town of Mt. Pleasant, and the University of Wisconsin-Parkside are an integral part of the recommended transit system plan and program, these governmental units continue to provide the local share of the public funding necessary to operate the transit service for their respective areas.

2. That Racine County continue to provide the City of Racine with the option of contracting for specialized transportation service from the program administered by the Racine County Human Services Department, as long as the City is willing to contribute a fair share toward the total public subsidy of the service; and that the City and County work toward achieving mutual agreement on a method which can be followed annually to determine an appropriate level of funding from the City toward the County's specialized transportation program.

3. 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.

4. 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 Racine, 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 Racine area can provide a valuable guide for improving the effectiveness and efficiency of the public transit system serving the City of Racine 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.

APPENDICES

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Appendix A

RACINE PUBLIC TRANSIT PLANNING ADVISORY COMMITTEE

Dr. William J. Murin.....Associate Professor of Political Science, University of Wisconsin-Parkside
Chairman
Jean M. Braun.....Supervisor, Town of Mt. Pleasant
Vice-Chairman
Edwin W. Benter.....Director of Transportation, Racine Unified School District
John M. Bjelajac.....Chairman, Racine Transit and Parking Commission
William Brayden.....Supervisor, Village of Sturtevant
Agnes A. Buckley.....President, Village of North Bay
A. Brian Calhoun.....Supervisor, Racine County, Tenth District
James C. Cefalu.....Vice-President of Operations, Racine Area Manufacturers and Commerce
James L. Delagrave.....Supervisor, Town of Caledonia
Ricardo Enriquez.....Executive Director, Spanish Centers of Racine, Kenosha, and Walworth, Inc.
Robert G. Heck.....Alderman, City of Racine, Eighth District
Raymond Mathews.....Executive Director, Urban League of Racine
Lloyd G. Miller.....Secretary of Economic Development, City of Racine
Catherine Puta Mocarski.....Plan and Budget Specialist, Racine County Human Services Department
Lloyd Vanderkwaak.....Executive Director, Society's Assets

Nonvoting Technical Staff Members

Kurt W. Bauer.....Executive Director, Southeastern Wisconsin Regional Planning Commission
Arnold L. Clement.....Planning Director and Zoning Administrator, Racine County Planning and Development Department
Michael J. Glasheen.....Transit Planner, City of Racine
John M. Hartz.....Director, Bureau of Transit, Wisconsin Department of Transportation
William A. Heimlich.....Planning Supervisor, Wisconsin Department of Transportation, District 2
Jack Taylor.....President, Taylor Enterprises, Inc.

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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 Racine 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

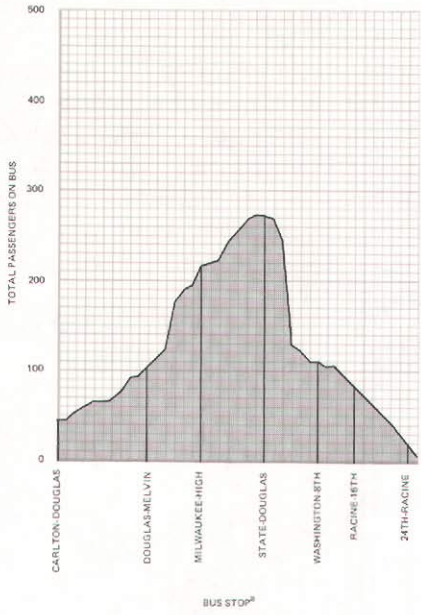
AVERAGE WEEKDAY PASSENGER VOLUMES

The passenger loading characteristics for each route of the Belle Urban System were determined from a survey of boarding and alighting passengers conducted by the Regional Planning Commission staff during the three-day period from May 11 through May 13, 1983. Figures C-1 through C-10 present the average weekday passenger volumes for each of the 10 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.

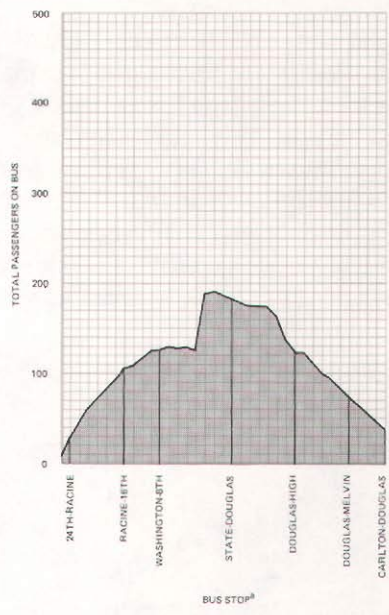
Figure C-1

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 1

CARLTON AND DOUGLAS TO
24TH AND RACINE



24TH AND RACINE TO
CARLTON AND DOUGLAS



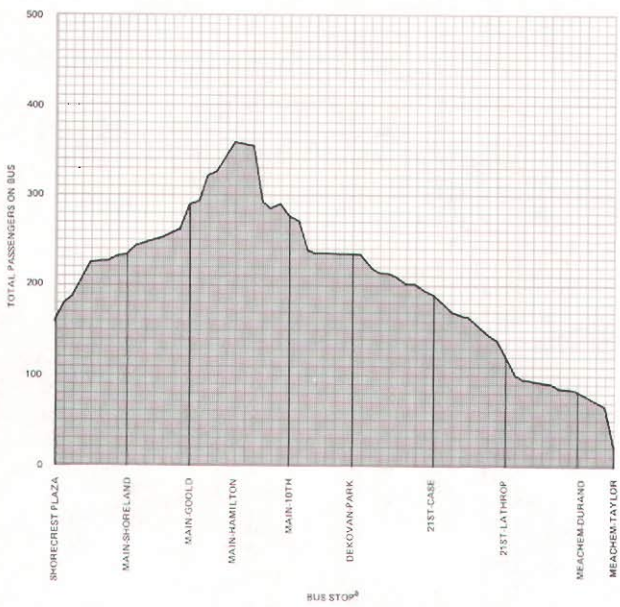
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

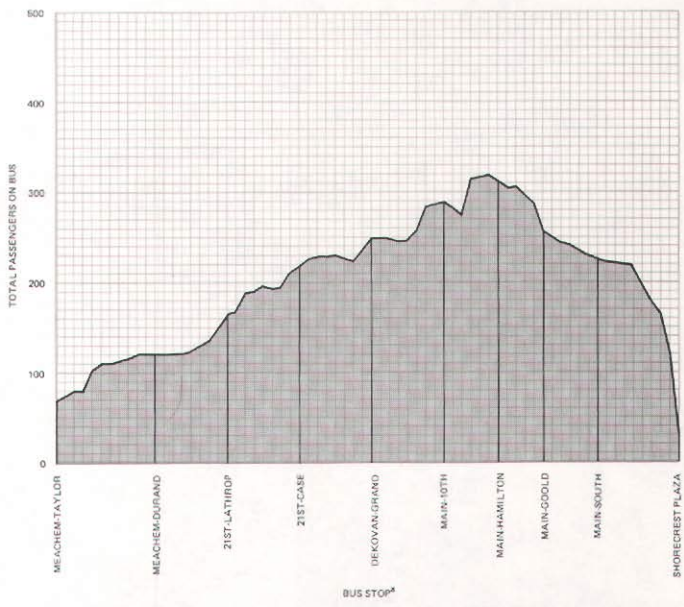
Figure C-2

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 2

SHORECREST PLAZA TO
MEACHEM AND TAYLOR



MEACHEM AND TAYLOR TO
SHORECREST PLAZA



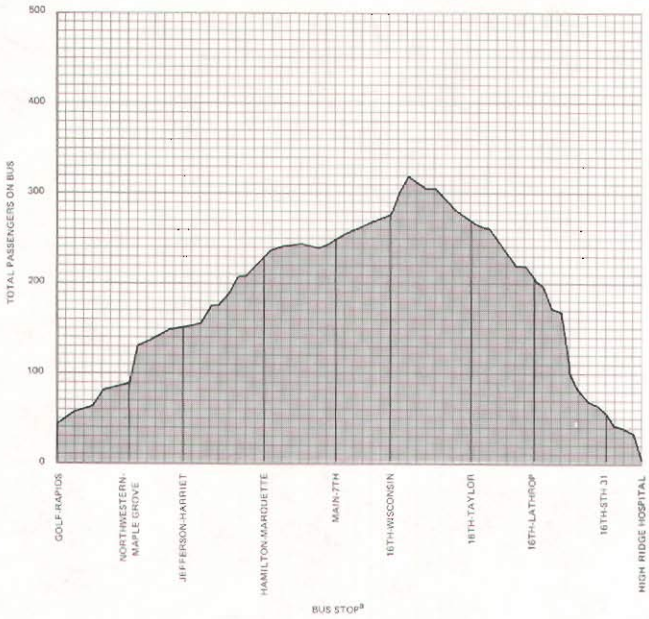
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

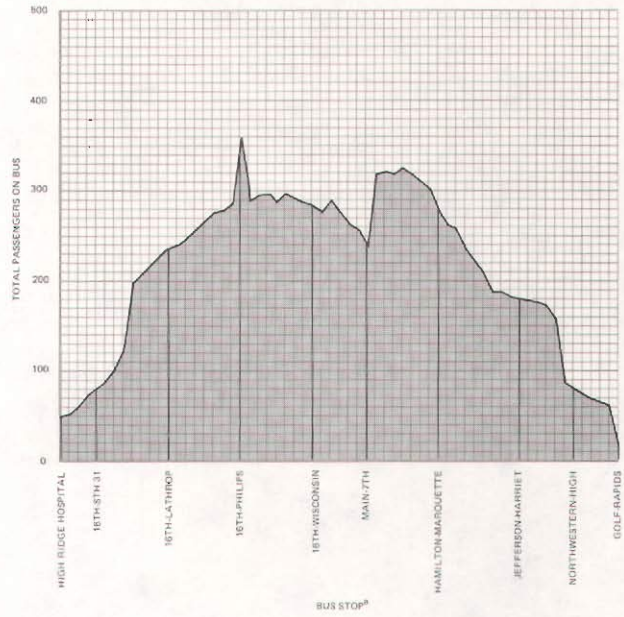
Figure C-3

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 3

GOLF AND RAPIDS TO
HIGH RIDGE HOSPITAL



HIGH RIDGE HOSPITAL TO
GOLF AND RAPIDS



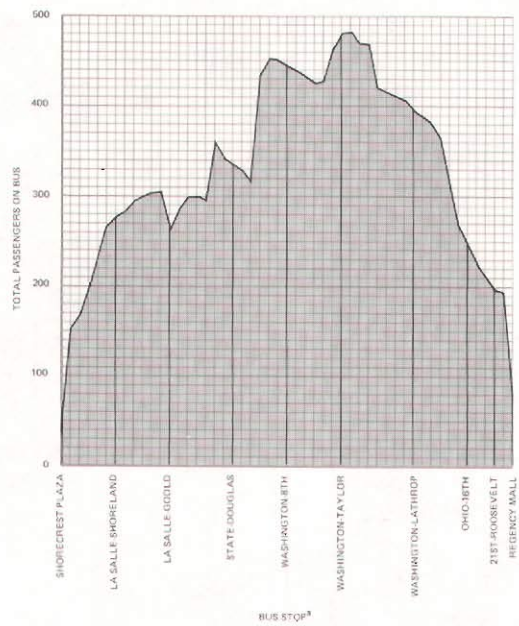
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

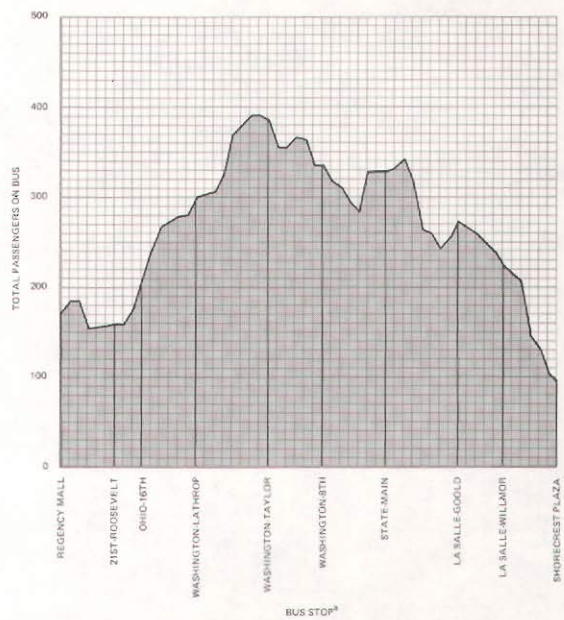
Figure C-4

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 4

SHORECREST PLAZA TO
REGENCY MALL



REGENCY MALL TO
SHORECREST PLAZA



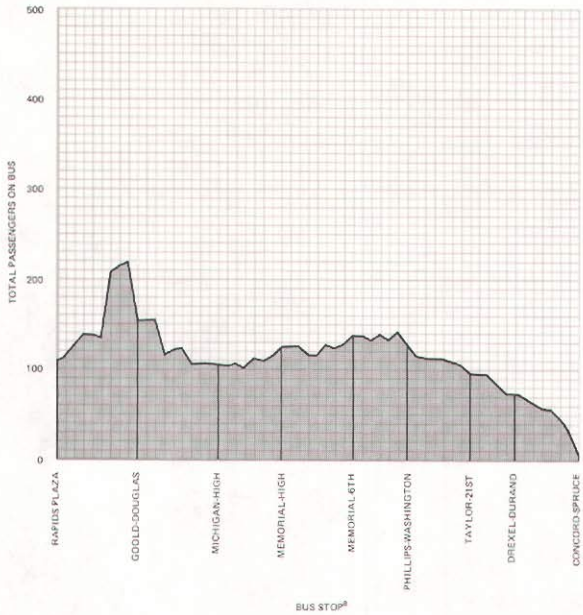
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

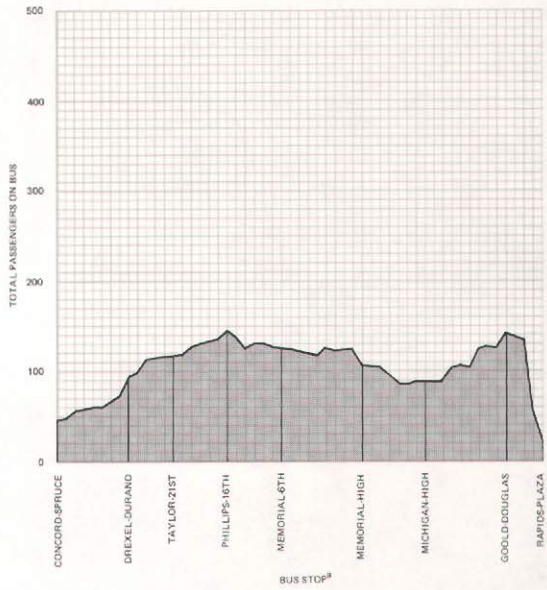
Figure C-5

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 5

RAPIDS PLAZA TO
CONCORD AND SPRUCE



CONCORD AND SPRUCE TO
RAPIDS PLAZA



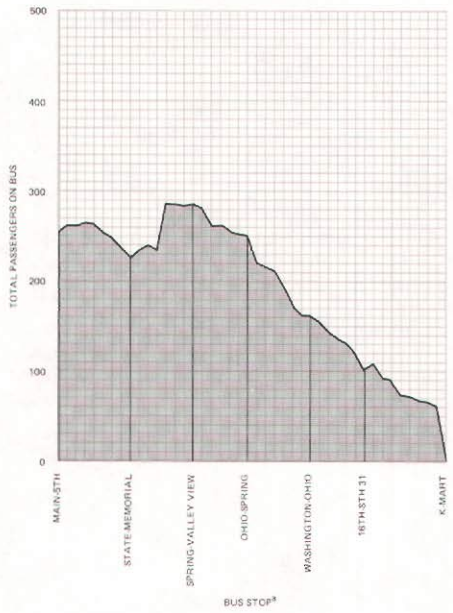
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

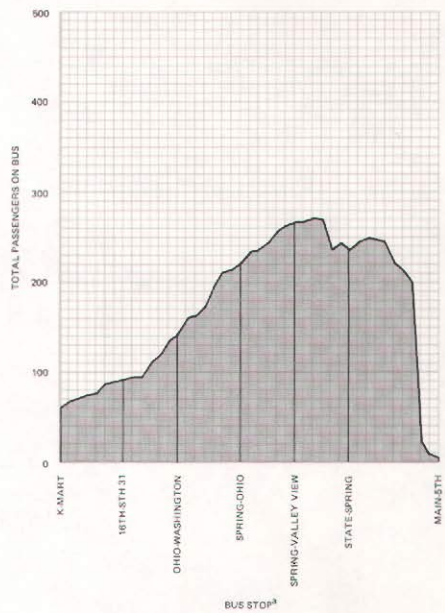
Figure C-6

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 6

MAIN AND 5TH TO
K-MART



K-MART TO
MAIN AND 5TH



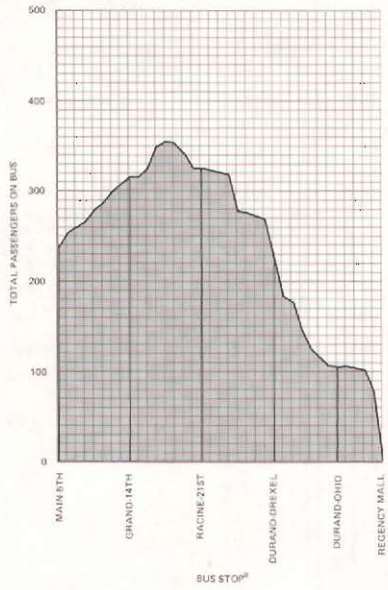
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

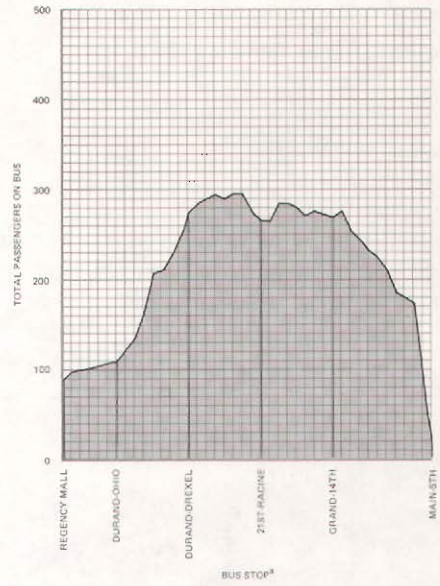
Figure C-7

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 7

MAIN AND 5TH TO
REGENCY MALL



REGENCY MALL TO
MAIN AND 5TH



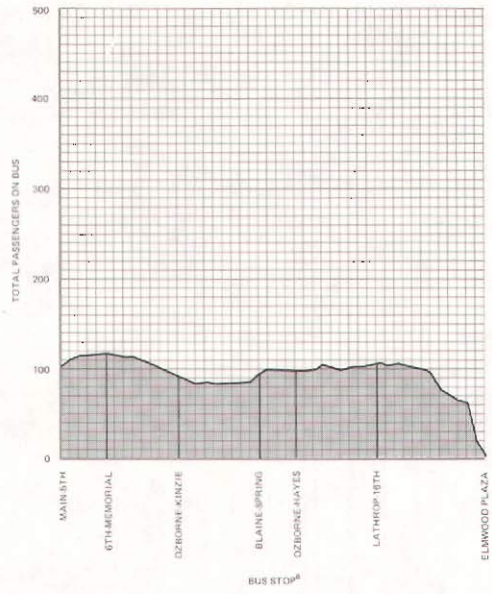
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

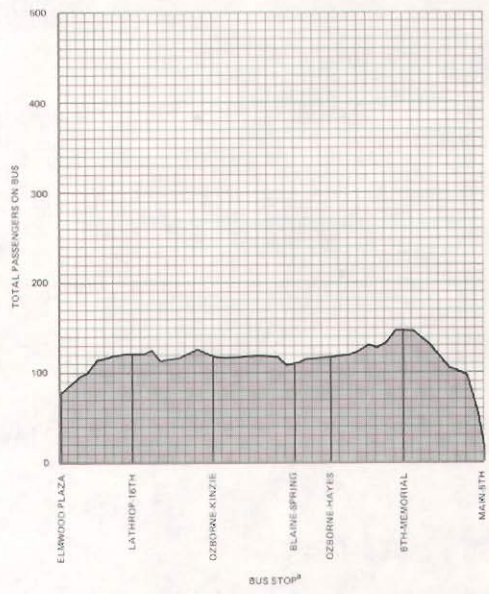
Figure C-8

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 8

MAIN AND 5TH TO
ELMWOOD PLAZA



ELMWOOD PLAZA TO
MAIN AND 5TH



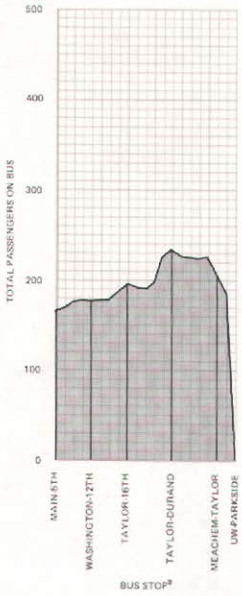
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

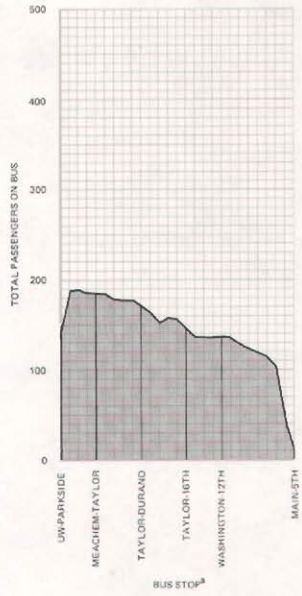
Figure C-9

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 9

MAIN AND 5TH TO UW-PARKSIDE



UW-PARKSIDE TO MAIN AND 5TH



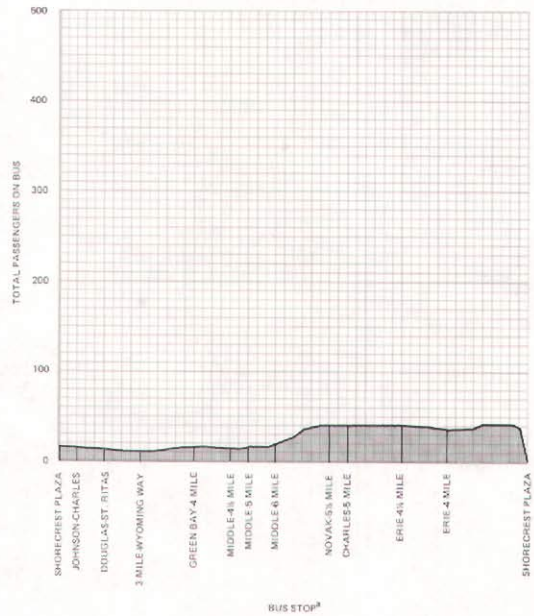
[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.

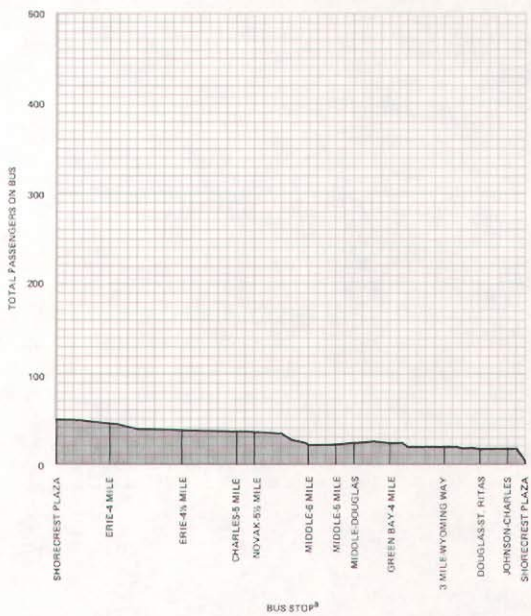
Figure C-10

AVERAGE WEEKDAY PASSENGER VOLUMES BY BUS STOP FOR ROUTE 10

CLOCKWISE



COUNTER-CLOCKWISE



[a]ONLY MAJOR STREET INTERSECTIONS ARE LISTED.

Source: SEWRPC.