



STUDY DESIGN FOR THE CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY: 1992-2000

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Prepared by the
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Chapter I

INTRODUCTION

BACKGROUND

In January of 1963, the Southeastern Wisconsin Regional Planning Commission, in cooperation with the U. S. Bureau of Public Roads,¹ the U. S. Housing and Home Finance Agency,² the State Highway Commission of Wisconsin,³ and the constituent county and local units of government within the seven-county planning area, undertook a three-and-one-half-year regional land use-transportation study designed to provide two of the key elements of a comprehensive plan for the physical development of the Region: a land use plan and a transportation system plan. The plans were prepared for the design year 1990.

Ancillary objectives of the regional land use-transportation study included:

1. Establishment of the complete pattern of movement of people and goods within the Region by highway and transit.
2. Quantitative analysis of the existing and probable future transportation supply and demand and the quantitative assignment of future traffic demand to the developing arterial street and highway and transit systems of the Region.
3. Establishment of a coordinated and uniform data collection and analysis system that would readily provide, on a continuing basis, summary data on population, employment, motor vehicle ownership, land use, soil and water capabilities, recreation-related resources, travel origins and designations, arterial traffic volumes and transit

use, auto occupancy, transportation facilities, public utilities, and financial resources for the Region. With respect to the transportation system, the data were to permit quantitative determination of the levels of service provided by those facilities and the changes in those levels of service over time. These data were to be available in a form suitable for use by all levels and agencies of government and by private investors in making development decisions.

4. Promotion of better understanding by public officials, planners, and engineers of the interrelationships existing between land use and transportation and of the factors influencing residential, industrial, and commercial land development within the Region, thereby providing a better insight into local and regional growth patterns and attendant transportation system needs.
5. Establishment of an increased awareness of the effect of the plan of each local community on surrounding communities and on the Region and promotion of the coordination of the land use and transportation planning efforts of all levels of government within the Region.
6. Collection and analysis of data that would permit forecasts and recommendations to be made regarding future patterns of economic activity, population and attendant housing unit distribution, land use development, and long-term impacts of alternative transportation system arrangements; costs and benefits of alternative transportation systems and specific transportation facility improvements; and programs for the best utilization of existing transportation facilities and for the construction of new transportation facilities as may be dictated by needs.
7. Collection and analysis of data that would permit analyses of the impacts of regional land use and transportation facility development, and of alternatives thereto, on the underlying and sustaining natural environ-

¹Currently the Federal Highway Administration of the U. S. Department of Transportation (FHWA).

²Currently the U. S. Department of Housing and Urban Development.

³Currently the Division of Highways of the Wisconsin Department of Transportation.

ment, including the woodlands, wetlands, surface waters and related floodlands and shorelands, wildlife habitat, soils, groundwater, and air; on the socioeconomic environment; and on energy consumption.

The initial regional land use-transportation study was completed in December 1966 with the publication and adoption by the Commission of a land use plan and a transportation system plan for southeastern Wisconsin. The initial study thereby fully met its primary objectives and generally met its ancillary objectives.

The 1962 Federal Aid Highway Act required that, in order to be eligible for continued government aid for new highway construction, all urbanized areas in the United States were to have underway a continuing, comprehensive, areawide transportation planning process carried on cooperatively by the State and local communities. The necessary transportation planning process was to be supported by written memoranda of understanding between the State and governing bodies of the local communities in order to ensure that the planning decisions are reflective of, and responsive to, both the programs of the State and the needs and desires of local communities. The 1964 federal Urban Mass Transportation Act established similar areawide planning prerequisites for aid in support of transit system development. Therefore, even prior to the completion of the initial regional land use-transportation planning effort, the Commission, its constituent local units of government, and the affected state and federal agencies gave consideration to the establishment of a continuing regional land use-transportation planning effort in southeastern Wisconsin.

A study design published in August of 1967 described the major work elements to be undertaken under the first continuing regional land use-transportation study. The first continuing land use-transportation planning effort in southeastern Wisconsin was conducted in accordance with that study design from January 1, 1967, through December 31, 1969. A second study design was prepared in December 1970 and revised in December 1971. The continuing regional land use-transportation study has been conducted essentially in accordance with that design through December 31, 1991. The study design was supplemented by annual operations plans, or overall work programs, reviewed and

approved by all of the funding agencies. The work progress, findings, and recommendations of the continuing land use-transportation study were published in a series of planning reports and in the annual reports of the Commission, issued pursuant to Section 66.945(8)(b) of the Wisconsin Statutes.

Primary emphasis in the continuing land use-transportation planning effort was initially placed on surveillance and plan implementation, with later efforts directed at plan reevaluation and plan extension. Major work elements completed under the continuing study included, among others, the completion of jurisdictional highway system plans for each of the seven counties comprising the Region, including recommended capital improvements schedules for state and county trunk highway construction within each county; the completion of second-generation regional land use and transportation system plans for the design year 2000; the completion of detailed plans for integrating the stub ends of the Lake Freeway South, Lake Freeway North, Park Freeway East, Park Freeway West, Stadium Freeway South, and Stadium Freeway North into the surface arterial system; a primary, that is, rapid, transit system plan for the greater Milwaukee area; transportation system management plans for the Kenosha, Milwaukee, and Racine areas, including a detailed transportation system management plan for the Northwest Side of Milwaukee County; transit system development plans for the Kenosha, Racine, Waukesha, and West Bend areas; elderly and handicapped transportation plans for the entire Region, with particular emphasis on the Kenosha, Milwaukee, Racine, and Waukesha areas; and a freeway traffic management system plan for the greater Milwaukee area. Importantly, a new comprehensive travel inventory was undertaken in 1972 to provide the data needed to validate and recalibrate as necessary the travel and traffic simulation models developed under the initial land use-transportation study effort.

In 1973 the Governor, acting pursuant to new United States regulations, designated the Southeastern Wisconsin Regional Planning Commission as the metropolitan planning organization for the purpose of carrying out continuing, comprehensive, cooperative urban transportation planning for the Kenosha, Milwaukee, and Racine urbanized areas. Also pursuant to new

federal regulations issued in 1975, transportation improvement programs for the Kenosha, Milwaukee, and Racine urbanized areas were prepared annually over the period from 1976 through the present time. The transportation improvement program adopted in 1991 for the period 1992 through 1996 included an assessment for the conformity of the program with Wisconsin's implementation plan for achieving air quality standards as required by the federal Clean Air Act of 1990. Also pursuant to the requirements of that Act, a conformity assessment of the adopted regional transportation system plan was completed.

All highway and transit improvements undertaken within the Region since the adoption of the first-generation regional transportation system plan in 1966 have been in conformance with that plan and have served to implement that plan. The improvements made in accordance with the plan included many major highway improvement projects, including the construction of facilities on new location, as well as the widening of existing facilities; the institution of an integrated system of park-pool and park-ride commuter automobile parking lots throughout the greater Milwaukee area; the institution of a network of freeway flyer bus routes operating over the regional freeway system; and the reestablishment of transit systems in the Kenosha, Racine, and Waukesha urbanized areas. The plan implementation actions have also included important jurisdictional transfers of highways between state, county, and local levels of government.

The Commission's initial and continuing land use-transportation system planning program was carried out from 1963 through 1979 in conformance with the stringent requirements of the U. S. Bureau of Public Roads and its successor agency, the U. S. Department of Transportation, and of the federal Urban Mass Transportation Administration, with additional oversight from the State Highway Commission of Wisconsin and its successor agency, the Wisconsin Department of Transportation. Until 1980 this oversight process required annual certification of the continuing planning effort by the cognizant agencies, when a self-certification process was initiated by the federal government. The Commission continued, however, to pursue the continuing planning effort in accordance with the sound principles developed coopera-

tively for the study by the federal and state agencies concerned and by the Commission and its constituent county and local units of government. Importantly, the Commission continued to report on the results of the monitoring efforts conducted under the continuing planning effort its annual reports, doing so in a format approved by the federal and state governments upon initiation of the continuing study effort.

With the adoption of the federal Intermodal Surface Transportation Efficiency Act of 1991, a renewed importance was attached by the federal government to the metropolitan transportation planning and programming process. This renewed emphasis was further strengthened by the requirements of the federal Clean Air Act of 1990. It was, therefore, considered essential to prepare a new study design for a continuing land use-transportation planning effort in southeastern Wisconsin. The new study design was intended to meet the planning requirements of the federal Intermodal Surface Transportation Efficiency Act of 1991 to the maximum extent possible in the absence of supporting federal regulations. This study design is a revision of the study design previously prepared for the continuing regional land use-transportation study, as published in 1967 and in 1970, and is intended to provide the framework within which annual operations plans for the continuing study beyond December 31, 1991, can be developed. As such, the study design is intended to outline generally the major work elements to be undertaken in the continuing regional land use-transportation study, identifying and generally scheduling all items of a recurrent, as well as ad hoc, nature.

This study design is also intended to identify those transportation-related work elements necessary for the Commission to meet its obligations under the federal Clean Air Act of 1990. Unlike the major planning effort that followed enactment of the federal Clean Air Act Amendments of 1977, wherein the Commission prepared and adopted a comprehensive regional air quality attainment and maintenance plan, the Commission's role in the planning effort required by the federal Clean Air Act of 1990 will be more narrowly confined to assisting the Wisconsin Department of Natural Resources in the evaluation of the contributions of mobile sources to the ozone air pollution problem and in the postulation and evaluation of transporta-

tion control measures likely to be required to meet the ozone air quality standard within the time specified in the new Act. Toward this end, the Commission proposes to seek separate agreements with the Wisconsin Department of Natural Resources to provide the required data and assist in carrying out the required analyses. Because this work is highly interrelated with the regular transportation planning work conducted by the Commission in carrying out its responsibilities as the metropolitan planning organization, the air quality management planning-related work is being considered an integral part of the continuing land use-transportation study.

It must be recognized that new techniques, methods, and approaches may be developed to deal with certain aspects of the work as the continuing study progresses, not only to meet the unique problems which may be presented by the continuing study within southeastern Wisconsin but also to add to the overall knowledge of regional land use-transportation planning. For this reason, this study design has been kept sufficiently general so that latitude in the selection of specific techniques to accomplish the necessary work elements may be exercised by the study staff. Modifications may be necessary as the work progresses, and these will be recognized through the preparation of the annual operations plans and through the arrangement and conduct throughout the study of conferences and meetings with public and private groups directly concerned with the study methods and results. The Technical Coordinating and Advisory Committee on Regional Transportation Planning, established as an integral part of the organization for the continuing study, will play an important role in the consideration and approval of such modifications as may be required from time to time. In addition, other Commission advisory committees, including the Technical Coordinating and Advisory Committee on Regional Land Use Planning, the seven-county Jurisdictional Highway Planning Committees, and the Intergovernmental Coordinating and Advisory Committees on Transportation Improvement Programming, can also be expected to contribute significantly to the development and implementation of the work program set forth in this study design. Indeed, a subsequent section of this study design will address this advisory committee structure and, as may be necessary and desirable, propose

modifications to that structure in light of the planning and programming requirements set forth in the Intermodal Surface Transportation Efficiency Act of 1991.

BASIC DEFINITIONS

As in the initial regional land use-transportation planning effort, the term "land uses" refers to the generalized human activities that group together to form the overall pattern of urban, suburban, and rural development considered at a regional scale. Particular emphasis is placed by the Commission on those aspects of land use which, either through their individual or aggregate effects, are regional in scope and not only interact strongly with the need for major utility, recreational, and transportation facilities but also exert a heavy demand upon the natural resource base. These include large land-consuming uses, such as agriculture; regional park and open space reservation; woodlands, wetlands, and surface waters; residential uses; and major commercial and industrial centers. These also include major concentrations of land use activities, such as regional shopping, office, and institutional centers and major transportation terminals. Local land uses, as distinct from regional land uses, will receive attention only as to the aggregate area required and approximate spatial distribution desired; they will not be considered as to actual site location, as will the regional land uses.

Similarly, the term "transportation system" refers to the arterial street and highway facilities, mass transit facilities, and transportation system management measures considered on a regional scale. This transportation system, as identified in the initial study effort, is considered down to, but not including, the neighborhood and major activities center level. Such transportation facilities as interregional railway yards and terminals, airports, and seaports will be studied under this program only as major trip generators which must be adequately served by arterial street and highway facilities and transit facilities. The term transportation will, therefore, be defined to include the intraregional and interregional movement of people by highway and transit facilities and the movement of goods by truck.

With the passage of the federal Intermodal Surface Transportation Efficiency Act of 1991, it

will be necessary to broaden somewhat the definition of the term "transportation" as it has been historically defined in the Commission's initial and continuing regional land use-transportation studies. For example, the new Surface Transportation Program created by the Act explicitly permits local units of government to use federal funds in support of the construction and maintenance of facilities that are functionally defined as urban collector streets. Moreover, the new Act permits local governments to expend federal funds on pedestrian and bicycle facilities. Consequently, the continuing regional transportation planning process will have to deal explicitly with such facilities. The term "transportation" is hereby being redefined to be able to include these categories of facilities. The work program set forth later in this study design will explicitly address how these additional transportation facilities will be dealt with in the continuing planning process.

The continuing regional land use-transportation study is being carried out as an integral part of the comprehensive regional planning program for the Southeastern Wisconsin Region. The scope of the total transportation planning effort being carried out as a part of that overall regional planning program is intended to include all modes of transportation for the movement of both people and goods. Accordingly, the Commission completed a first-generation regional airport system plan in 1976, and a second-generation regional airport system plan in 1987. The regional airport system planning efforts and the continuing regional land use-transportation system planning program were carefully coordinated by the Commission. Areas of particularly close interrelationship include the supply of, and need for, good surface transportation facilities to the existing and proposed airports; the inventories of existing air transportation movement necessary to establish the complete pattern of air and interconnected surface travel; the forecasts of the demand for air and interconnected surface travel; and, of course, the recommended long-range airport system plan itself, with its impact upon supporting surface transportation facilities. The highway and transit system planning efforts under the continuing regional land use-transportation study and the airport system planning efforts under the regional airport planning program thus serve to mutually reinforce, refine, and detail each other.

The regional transportation planning efforts in southeastern Wisconsin are conducted not only within the context of a regional land use planning effort, but also within the context of a comprehensive regional planning effort which addresses economic development, air and water quality management, sewerage and water supply, drainage and flood control, and park and open space reservation, as well as land use and transportation.

It is intended that full use be made in the continuing study of all existing and available surveys, studies, and reports and other data which may influence or affect phases of the continuing study and that additional data collection activities be conducted only as necessary to develop original data unavailable elsewhere or to supplement or update existing data. Where the term "will" is used in subsequent chapters of this report relating to work elements to be accomplished, it is intended to indicate that the work elements referred to are considered to be essential to the objectives of the study and, therefore, definitely will be accomplished under the continuing study effort. Where the term "may" is used, the work elements referred to are either considered desirable, but not essential, and, therefore, will be done only if staff, time, and budgetary limitations allow or the work elements are such that their necessity remains to be determined through completion of the other work elements of the study.

OBJECTIVES OF THE CONTINUING STUDY

The initial land use-transportation study in southeastern Wisconsin focused on essentially two points in time: the base year 1963, in which various travel, transportation facility, socioeconomic, land use, and natural resource base inventories were conducted, and the plan design year 1990, for which socioeconomic, land use, resource, and travel demand forecasts were prepared and for which the land use and transportation plans were designed, although the plans were staged for the years 1970 and 1980. Socioeconomic, land use, and traffic simulation models were developed in the initial study, which not only established the functional relationships existing between population and economic activity and land use within the Region and, in turn, between the demand for land use and travel, but which provided a systematic and objective means for calculating

the quantitative results of any given combination of existing or postulated regional activity, land use pattern, travel demand, and transportation network. The existence of the models obviated the need to puzzle over the surmised effect of changes in portions of the land use or transportation plan on other elements of these plans and continues to provide the means by which changes in regional growth patterns can be evaluated within a comprehensive framework. The traffic models were validated and recalibrated under the continuing study, utilizing the results of the full scale travel survey conducted in 1972, and, again, utilizing the results of a small travel survey conducted in 1984.

The continuing regional land use-transportation study is intended to be an integral part of the total regional planning program in southeastern Wisconsin and, as such, to secure and maintain confidence in a commitment to the agreed-upon courses of action with respect to regional land use and transportation system development recommended in the adopted regional land use and transportation plans. This will require that the inventories, forecasts, and plans prepared under the initial study be maintained current, accurately reflecting the current state of development within the Region and responsive to any departures of such actual development from such development as proposed in the adopted plans. The continuing study as it is proposed to be conducted beyond December 31, 1991, therefore, has six specific objectives:

1. To meet the planning and programming requirements of the federal Intermodal Surface Transportation Efficiency Act of 1991 so as to continue to qualify the constituent state and local units of government concerned for federal aids in partial support of the development of highway and transit facilities within the Region and to assist in meeting the planning review requirements of Gubernatorial Order 29 which, in effect, continues the procedures established under Section 204 of the federal Demonstration Cities and Metropolitan Development Act and the U. S. Bureau of the Budget Circular Memorandum A-95 issued pursuant to the federal Intergovernmental Cooperation Act.
2. To update continuously and revise the data collected in, and the forecasts prepared

under, the initial regional land use-transportation study so that the full value of these data and forecasts can be realized and development decisions within the Region made intelligently upon current factual information.

3. To update periodically and revise the plans prepared under the initial study effort in light of changing conditions within the Region.
4. To provide for the continued integration of the land use and transportation planning efforts within the Region with other elements of the comprehensive areawide planning effort, including the preparation of airport, water quality management, sewerage and water supply, drainage and flood control, and park and open space plan elements.
5. To help the Wisconsin Department of Natural Resources meet the planning requirements attendant to the management of mobile sources of pollution as set forth in the federal Clean Air Act of 1990, including the formulation and evaluation of those transportation-control measures needed to achieve air quality objectives, fully integrating those measures with the transportation planning and programming efforts required under the federal Intermodal Surface Transportation Efficiency Act.
6. Finally, and perhaps most importantly, to convert the plans prepared under the initial and continuing study efforts into action programs for plan implementation.

The attainment of the foregoing objectives will require a continuation of the close working relationships established under the initial study between the Commission and those agencies of government and private organizations responsible for land use and transportation system development within the Region. It will also require a continuing modification and adaptation of the plans and the means of implementation to changing conditions. Local planning and plan implementation efforts must continue to be closely coordinated with each other and with the efforts of the other governmental agencies involved, using the evolving documented long-range regional plans as a basis for such coordi-

nation. Moreover, the data collected, the plans prepared, and the plan implementation policies recommended in the initial planning effort must be extended in a meaningful manner as a basis for making development decisions within the Region on a day-to-day basis.

To meet the foregoing objectives, the continuing regional land use-transportation study must perform the following five basic functions.

1. Surveillance

Under the continuing regional land use-transportation study, regional development must be carefully monitored and analyzed in relation to the adopted regional land use and transportation plans, the forecasts and basic assumptions underlying those plans, and the techniques used in the preparation and evaluation of those plans, including the various mathematical simulation models. In addition, regional development must be monitored and analyzed in order to keep current both short- and long-term capital improvement programs and to permit evaluation of the continued validity of the planning data for use in project design. Definitive data must be collected on the amount and spatial location of changes in actual population and economic activity levels, land use development, automobile availability, trip generation, mode of transportation utilized, travel patterns, transportation facility capacity and utilization, and on local land use and transportation plan development and plan implementation actions within the Region. These changes must be carefully analyzed in order to determine whether the forecasts and assumptions underlying the plans are holding over time and whether the plans and the techniques used in the preparation and evaluation of these plans remain valid. If changing conditions so dictate, the forecasts and assumptions underlying the plans, the techniques, including the simulation models used in the preparation of the plans, as well as the plans themselves, may require revision.

2. Reappraisal

Under the continuing regional land use-transportation study, the regional land use and transportation plans will have to be reappraised in light of changes in actual regional development as may be revealed

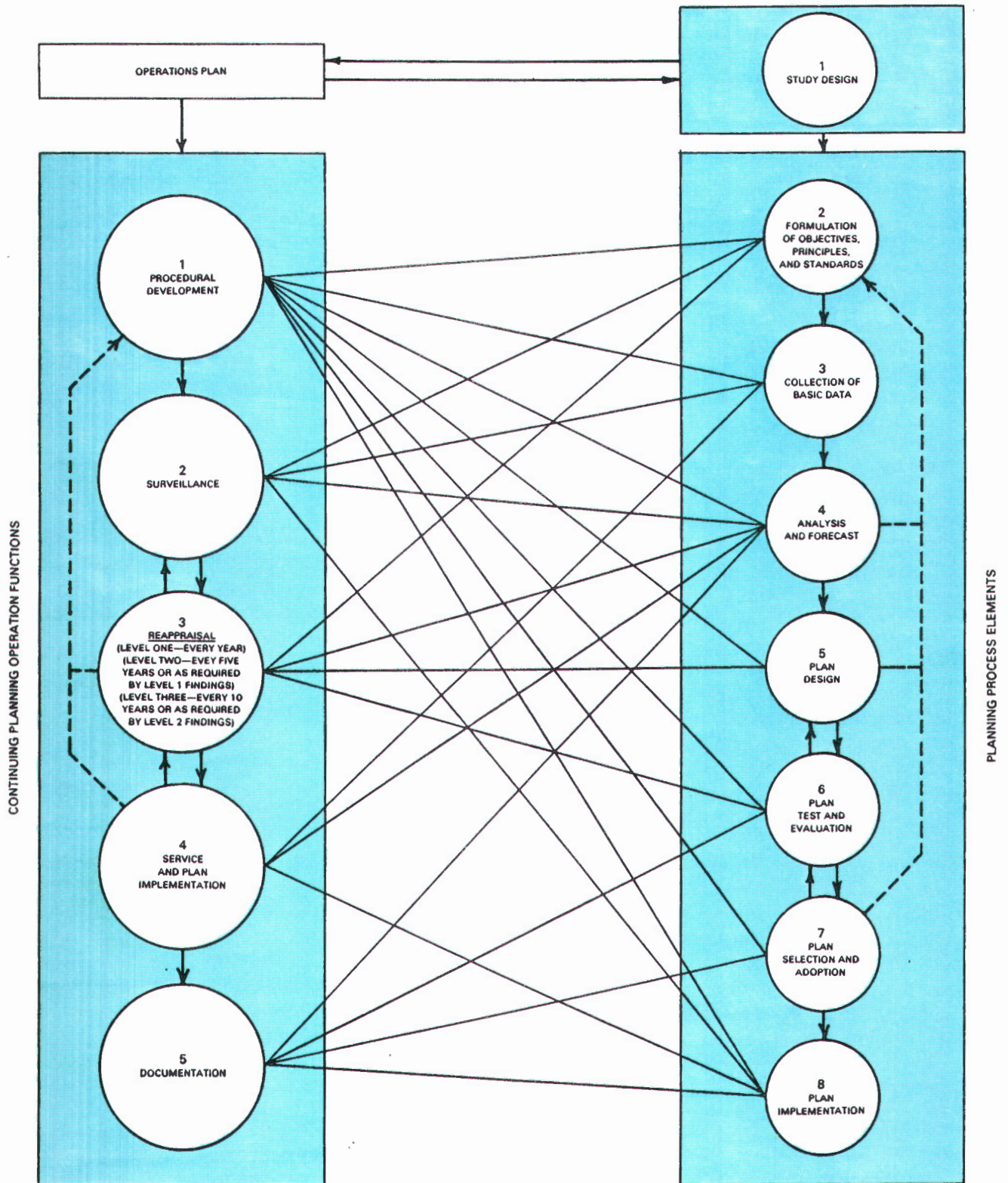
by the surveillance function. Transportation system plan reappraisal is expected to become particularly important following the completion of new travel surveys in 1992.

The plan reappraisal process will be carried on at three levels of depth or intensity. The first level will consist of a routine annual review and analysis of the results of the surveillance program in order to determine whether or not actual development within the Region is occurring in accordance with the forecasts on which the regional plans are based. If this first level of reappraisal indicates that development is generally occurring in accordance with the forecasts and plans, the reappraisal process will be terminated at this level. If not, the second level of reappraisal will be undertaken, consisting of a review of the forecasts on which the plans are based. In any event, major review of certain forecasts and plan elements will be undertaken at regular 10-year intervals following decennial censuses, regardless of the annual findings of the surveillance program. Again, if no significant changes are found, the reappraisal process will be terminated at this level. If significant changes in the forecasts and plan elements are indicated by the second level of reappraisal, a complete reexamination of the regional land use and transportation plans will be undertaken at the third level of reappraisal. In any event, such a complete reexamination will be undertaken at such time that a setting forward of the design year of the plan is required in order to provide an approximately 20-year plan design period. A flow chart relating these three levels of reappraisal to the surveillance, service and plan implementation, procedural development, and documentation functions, on the one hand, and to the eight basic steps involved in the regional land use-transportation planning process, on the other hand, is indicated in Figure 1.

The plan reappraisal process as described above will have to be designed in part to meet the requirements of the federal Clean Air Act of 1990, as well as the requirements of the federal Intermodal Surface Transportation Efficiency Act of 1991. More particularly, the reappraisal process

Figure 1

RELATIONSHIP BETWEEN HISTORICALLY DEFINED U. S. DEPARTMENT OF TRANSPORTATION CONTINUING PLANNING OPERATION FUNCTIONS^a AND SEWRPC PLANNING PROCESS ELEMENTS



^aSee "Operation Plans for Continuing Urban Transportation Planning," INSTRUCTIONAL MEMORANDUM 50-4-68, Federal Highway Administration, Bureau of Public Roads, U. S. Department of Transportation, May 3, 1968.

Source: SEWRPC.

will have to examine actual changes in automobile occupancy rates and vehicle miles of travel to determine the extent to which the travel demand modification objectives associated with the Wisconsin clean air implementation plan are being met. In addition, the reappraisal process will have to address explicitly the extent to which the plan implementation agencies at the state, county, and local levels of government are implementing the transportation control measures recommended in the regional transportation and air quality implementation plans. If the surveillance results indicate that the plan implementation agencies are not following through in programming and carrying out the transportation control measures identified in the plans, then it will be necessary to address these deficiencies through the appraisal process and perhaps substitute other transportation control measures in order to achieve the desired modifications to the transportation system that will help ensure that the federal Clean Air Act objectives will ultimately be met.

New plan design years will have to be selected for use in setting forward the target year of the land use and transportation system plans. Importantly, the simulation models utilized in plan preparation and in plan test and evaluation must be periodically reexamined in order to ascertain whether the rationale and assumptions underlying the models to remain valid.

3. Service and Plan Implementation

If the regional land use and transportation plans are to be converted into action programs, the plans and the data and forecasts underlying these plans must be extended to the sponsoring agencies and constituent local units of government as a basis for day-to-day development decision making. This is necessary to assure the full integration of state, regional, and local development plans and plan implementation efforts. Plan implementation activities which are not included under the continuing land use-transportation study, but are important to its success include such major efforts as the preparation of subregional community plans and plan implementation

devices and the preparation of additional regional plan elements, such as regional and subregional economic development, sanitary sewerage, drainage and flood control, and park and open space plans.

As a part of the service and plan implementation function, the Regional Planning Commission is able to, and does, provide both administrative and technical support services for the preparation and administration of available state and federal loans and grants available to public or private agencies within the Region. The Commission provides technical assistance in support of short-range improvement studies, subsystem planning studies, facilities planning and preliminary engineering studies, research and development studies, and other special studies. In so doing, the Commission extends to such studies pertinent data available in the Commission's files and makes available for application in the studies, as may be necessary, such planning tools as the Commission's traffic simulation models. As an integral part of the service and plan implementation effort under the continuing regional land use and transportation planning program, the Regional Planning Commission will annually prepare highway and transit improvement programs and will, within statutory constraints and staff and budgetary limitations, promote the implementation of such programs in every way practicable.

The continuation of such administrative and technical support services is considered essential to regional plan implementation and to avoiding unnecessary duplication of efforts and attendant costs. The basic planning and engineering data required for the development of improved transportation services within the Region for both highway and transit services and for both short-range and long-range improvements can best be collected on a continuing basis at the regional level and extended to the interested and concerned line agencies as needed. In this respect, it should be noted that the agencies responsible for the construction, operation, and maintenance of highway and transit facilities within the Region will actively partici-

pate in the definition of the data requirements for the preparation of both short-range and long-range transportation improvement programs through the technical advisory committee structure established for the continuing study and, wherever possible, through the assignment of staff to the continuing study.

It is also important to note that the surveillance, plan reappraisal, and service and plan implementation functions are inextricably interrelated and, as such, require a truly comprehensive, as well as area-wide, approach. For example, the surveillance function may reveal certain changes in land use development in the Region, which may, in turn, require changes in the type and location of transportation facilities and services to be provided to certain subareas of the Region, or in the staging of the provision of such facilities and services, thereby affecting the plan reappraisal, as well as the service and plan implementation functions.

4. Procedural Development

Rapidly changing technology will require a continual reappraisal of the techniques and procedures used in the initial and continuing land use-transportation study phases and the development of new techniques and procedures as necessary. It is proposed, therefore, that major attention be focused, in this respect, on two areas of concern. One involves the development of a sound procedure for quantitatively monitoring on an annual basis the performance of the regional transportation system with particular emphasis on highway congestion and, for air quality purposes, vehicle occupancy and vehicle miles of travel. The other area of concern involves the development of better land use planning and plan implementation and of techniques for better integration of land use and transportation planning and plan implementation.

5. Documentation

In order to present properly the results of the continuing land use-transportation planning process, an annual report, summarizing the results of the surveillance, reappraisal, service and plan implementation, and procedural development efforts, will be issued to the participating units of

government and to interested private citizens. The report will provide data which can be used to help judge successes or failures in plan implementation, as reflected in major land use and transportation facility development within the Region and in vehicle miles of travel, and may recommend required changes in the forecasts, plans, and plan implementation efforts. In addition, planning reports, technical reports, and technical records will be issued on a work progress basis, as required.

Budgetary, staff, and time limitations preclude giving equal weight and attention to each of the foregoing five functions of a continuing regional land use-transportation study. During the first continuing study period, from July 1966 through December 1969, major emphasis was placed upon two of the five functions: the surveillance and the service and plan implementation functions. During the second continuing study period, extending from January 1970 through December 1991, these two functions continued to be emphasized. Increasing attention, however, was focused on the reappraisal function and preparations made for a setting forward of the plan design year and major revision of both the land use and transportation plans. The surveillance function will continue to be emphasized, not only because of its fundamental importance to any sound continuing planning operation, but also because of its extreme importance to a planning operation which is entirely advisory. If government officials and private developers are to be expected to continue to seek the advice of the Regional Planning Commission on development decisions before making these decisions, then the Commission must continue to have a better fund of knowledge about factors affecting development than any other agency operating in the same geographic area. The initial regional land use-transportation study provided the Commission with just such a fund of knowledge. The continuing land use-transportation study must maintain the position of that fund of knowledge.

The service and plan implementation function will continue to be emphasized because of the importance of converting the adopted regional land use and transportation plans to action programs. The success of the regional planning effort must ultimately be measured, not in terms

of the technical excellence of the areawide plans that may be prepared or even by the scope and depth of the basic planning and engineering data which this effort may assemble, important as the latter may be, but rather, in terms of the ultimate effects that the areawide planning operation will have on the evolving regional settlement patterns. That effect can come about only through effective plan implementation.

Because almost 25 years will have elapsed since the completion and adoption of the initial regional land use and transportation system plans and almost 15 years since completion and adoption of the second-generation land use and transportation system plans, and because the United States decennial census of population and housing, conducted in 1990, and the new travel survey, to be completed in 1992, will provide excellent benchmarks for plan surveillance, the reappraisal function will initially receive major emphasis in the continuing study as proposed herein. It is not only expected that some significant developments will have occurred within the Region that will require plan reappraisal and perhaps plan revision, but also that the design year of the plan will have to be set ahead to the year 2020.

The documentation effort of the continuing regional land use-transportation study is anticipated to continue the production of annual reports and the production of a limited number of planning reports, technical reports, technical records, program documents, and special memoranda as required. In addition, informal documentation in the form of letter reports, staff memoranda, and oral presentations before governing bodies will be provided as necessary to help direct development decisions on a day-to-day basis within the Region.

OVERVIEW OF THE LAND USE-TRANSPORTATION PLANNING PROCESS

The initial regional land use-transportation study employed a seven-step planning process by which the Region and its principal function relationships could be accurately described both graphically and numerically, the complex movement of people and vehicles over highway and

transit facilities simulated, and the effect of different courses of action with respect to regional land use and transportation system development evaluated. The seven steps involved in this original planning process were: 1) study design, 2) formulation of objectives and standards, 3) inventory, 4) analysis and forecast, 5) plan design, 6) plan test and evaluation, and 7) plan selection and adoption. Each step in this planning process included many individual operations which had to be carefully designed, scheduled, and controlled to fit into the overall process. The end results of this planning process were not only regional land use and transportation plans properly scaled to future land use, travel, and resource demands and consistent with regional development objectives, but the beginning of a continuing planning process that permits modification and adaptation of the plans and the means of implementation to changing conditions.

The continuing planning process involves one step in addition to the aforementioned seven-step process, namely, plan implementation. It is this eighth step which was pursued most vigorously in the first continuing land use-transportation study and which, if the recommendations contained in the adopted plans, prepared under the land use-transportation study are to be brought to fruition, must also be pursued in subsequent continuing land use-transportation study programs. The continuing regional land use-transportation planning effort must, therefore, be designed to permit the continued application of the initial planning process by maintaining the inventories, analyses, and forecasts in a current state; revising the development objectives and standards as necessary; and revising the plans and the recommendations concerning plan implementation as necessary. As already noted, the relationship between the five continuing operation planning functions and the eight-step planning process is shown in Figure 1.

This report constitutes the first step of the eight-step planning process for the continuing regional land use-transportation study proposed to be conducted beyond 1991. Work proposed to be accomplished in each of the other seven steps is described in the succeeding sections of this study design.

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Chapter II

OBJECTIVES, PRINCIPLES, AND STANDARDS

Since planning is a rational process for formulating and meeting objectives, the formulation of regional development objectives was a necessary task undertaken in the initial regional land use-transportation study effort. The advisory committee structure created by the Commission for the regional land use-transportation study provided a practical and effective means by which public officials, technicians, and citizen leaders could become involved in the regional planning process; it was through this committee structure that the initial formulation of the regional development objectives was channeled. As described in Volume Two of Planning Report No. 7,¹ the regional development objectives were augmented by supporting principles and their quantification and relationship to the physical development plans facilitated by the preparation of detailed land use and transportation system planning standards. The objectives, principles, and standards were reevaluated and very modestly revised as a part of the work effort required to produce the second-generation land use and transportation system plans for the Region.²

The application of the land use and transportation system planning standards, along with an assessment of the extent to which the standards were satisfied and, therefore, the development objectives achieved under each of the alternative plans, was instrumental in facilitating the final selection of the recommended land use and transportation plans. Thus, the objectives and standards served a most significant purpose in the plan design, evaluation, and selection phases of the initial planning process.

¹See Chapter II, *SEWRPC Planning Report No. 7, The Regional Land Use-Transportation Study, Volume Two, Forecasts and Alternative Plans—1990, June 1966.*

²See Chapter II, *SEWRPC Planning Report No. 25, A Regional Land Use and Regional Transportation System Plan for Southeastern Wisconsin, Volume Two, Alternative and Recommended Plans, May 1978.*

The regional development objectives formulated under the first- and second-generation regional land use-transportation planning efforts were necessarily conditioned by the then existent knowledge of conditions within the Region, as well as by the then present state of planning at the state, regional, and local levels. It is, therefore, possible that, with the passage of time, with the attainment of additional knowledge about the Region and with the fulfillment of certain of the adopted regional development objectives through plan implementation, as well as with the failure to fulfill others, some revision of the regional development objectives may become necessary.

The continued validity of the basic objectives on which the adopted regional land use and transportation plans are based, as well as the relative priorities which the citizens of the Region may assign to each of these objectives and to other objectives not directly related to land use and transportation system development, which are ultimately derived from community values, can probably best be assessed through the process of the human interaction which takes place in the established political system as the implementation actions for various plan proposals are advanced over time. Thus, a very pragmatic approach is proposed to be taken to any reappraisal of the regional development objectives through assessment of community reaction to proposed specific plan implementation actions. Under such an approach, continued adverse public reaction or response to plan implementation proposals might indicate a need to reevaluate the specific objectives, principles, and standards for their continued relevance. Conversely, favorable public reaction will be appropriately recorded in the context of plan implementation achievement. Care will have to be exercised to ensure that any reaction, favorable or unfavorable, not only truly reflects the values of the citizen body as a whole within the Region and not the values of a small special "pressure" or "interest" groups, but also that the reaction reflects long-term, stable values and not ephemeral reactions. To this end, the attitudinal and personal opinion surveys proposed to be undertaken as a part of the new regional travel inventory will be extremely valuable. These

surveys will provide information covering public preferences not only for various types and levels of transportation facilities and services but also for various housing types and locations. When analyzed in relation to the results of the accompanying behavioral studies of travel habits and patterns and housing locations, these surveys will provide an excellent measure not only of current public attitudes and opinions but also of changes in these attitudes and opinions over time and, therefore, a sound basis for considering needed revisions in regional development objectives and standards.

A major reevaluation of the regional development objectives or of their supporting principles and standards will be undertaken when the surveillance activities indicate that such reevaluation is necessary either as a result of plan implementation, or of the lack of such implementation, or of the attitudinal surveys proposed to be conducted as a part of the new regional travel survey. Care will have to be taken, in any case, that the elapsed time since the adoption of the regional land use and transportation plans and the development objectives and standards which these plans express will have been long enough to provide the necessary base of experience from which to make such a major reevaluation. It may also be anticipated that the regional land use and

transportation system development objectives, principles, and standards will be expanded under other planning programs, such as air quality and water management programs undertaken by the Commission in cooperation with the various levels and units of government concerned. It should be noted that any such review, expansion, refinement, or detailing of the regional land use or transportation development objectives, principles, and standards will be documented as an integral component of the continuing land use-transportation planning program.

Finally, under the continuing land use-transportation study, it is proposed that the planning standards which support the regional development objectives be periodically reevaluated and revised as necessary. It is anticipated that this be accomplished by comparing the recommended planning standards with the results of the various current inventories conducted under the surveillance function. Through such comparison the continued validity and relevance of the recommended standards, as well as the degree of progress being made toward the meeting of the standards may be assessed. This proposed reevaluation of the planning standards provides an opportunity for a reassessment of the regional development objectives the standards are intended to support.

Chapter III

COLLECTION OF BASIC DATA

INTRODUCTION

Reliable basic planning and engineering data collected on a uniform, areawide basis are absolutely essential to the formulation of workable development plans. If these plans are to be implemented and, as necessary, adapted to changing conditions, these inventory data must be maintained in a current state through a surveillance function. Thus, a continuing data inventory operation becomes the major, and most important, element of the necessary surveillance function. The major inventory operation described herein entails the collation of data collected by other operating agencies and the collection of new data by the Commission itself. In order to avoid duplication of effort, secondary data sources will be used wherever possible.

The necessary surveillance function of a continuing regional land use planning process requires that factual data be maintained current on the existing land use pattern, on the potential demand for each of the various major land use categories, on the major determinants of these demands, and on existing local development objectives and constraints and on the underlying natural resource and public utility base and its ability to support land use development.

The necessary surveillance function of a continuing regional transportation planning process requires that factual data be maintained current on the existing and potential demand for transportation between various points within the Region and outside the Region, on the relative demand for alternative modes of transportation, on the major determinants of these demands, and on the existing and potential supply of transportation system capacity.

The methodology, the techniques, to be used in the surveillance function are intended to be indicated herein in only very broad general terms. The specific techniques proposed to be used will be detailed and documented in appropriate staff memoranda as the study progresses and will be subject to appropriate advisory committee review and approval prior to implementation.

COLLECTION OF BASIC DATA

Mapping and Aerial Photography

General- and Special-Purpose Base Maps: General base maps of the Region are required to provide a medium for recording and presenting in graphic form the results of the planning studies and portraying the natural and man-made features of the Region. A secondary purpose of the general base maps is to permit the information collected in the various studies to be related on a continuing basis to the geographic area from which it is taken and, particularly, to permit geographic identification of data by machine methods.

General-purpose regional base maps have been prepared by the Commission and are available for the continuing study. These maps portray each county in the Region at scales ranging from 1:24000 to 1:96000. In addition, a great many special-purpose maps have been prepared by the Commission, including large-scale topographic, planimetric, and cadastral maps of certain subareas of the Region. All maps prepared by the Commission under any of its several planning programs will be available to the continuing study. It will be necessary, however, under the continuing study, to update certain of the general-purpose base maps in order to reflect changes brought about by street and highway construction, jurisdictional realignment of streets and highways, revisions in corporate limits lines, changes in certain topographic and hydrographic features, and changes in public land holdings.

In addition, certain of the special-purpose maps derived from the base maps may have to be adapted to reflect changing conditions and techniques. Specifically, the maps showing traffic analysis zones and districts and the transportation system networks and the physical and operational characteristics of the levels in these networks will be updated to reflect changes or additions to the arterial street and highway and transit systems and revisions in the zone and district boundaries necessitated by changing conditions and analytical techniques. The scheme of traffic analysis zones for the Region will be reviewed and evaluated in connec-

tion with the new regional travel survey, particularly in areas where new development has occurred or where the quantity of trip generation has increased substantially. In these areas it may be necessary to delineate new traffic analysis zones as subzones of the original zones. The node numbering scheme used for the base year network maps will be revised to conform with the scheme used for the design year maps and to take maximum advantage of the diagnostic data summaries available from the current battery of traffic assignment computer programs. State plane coordinates of all link-intersections (nodes) in the updated arterial street and highway and transit networks will be maintained along with procedures developed for application of automatic data plotting. Finally, the network mapping system will be revised to provide maximum compatibility with the overall base mapping scheme for the Region and to provide for easier and more efficient graphic analyses and data retrieval operations.

Special maps will be prepared displaying such data as current traffic volume counts, count station location, travel speed, travel time contours, link capacity, and average trip lengths by link as required for the continuing transportation planning effort.

All updating of the general-purpose base maps will be accomplished by the Cartographic Division of the Commission staff. Revisions in corporate limits lines will be made periodically from municipal plat maps, furnished by the Division of Highways of the Wisconsin Department of Transportation, showing current corporate limits lines and public streets and highways open to traffic. Changes in such features as stream and lake shorelines, street and highway pavements, and railway, airport, and harbor facilities will be made at regular five-year intervals beginning in 1990 and will require the continuation of the program of aerial photography initiated by the Commission in 1963 under which ratioed and rectified photographs are obtained at scales of 1 inch equals 400 feet and 1 inch equals 2,000 feet at regular five-year intervals. Updating of special-purpose maps will be accomplished either by the Commission's Cartographic Division or, in certain cases, by the Land Use and Transportation Divisions.

An effort will be made to convert all Commission base maps to digital form. In addition, Commission plan maps will be converted to digital form.

The digital production, storage, and maintenance of land use and transportation plan maps will greatly facilitate quantification and manipulation of the plan data.

Detailed Planning Base Maps: Since its inception the Commission has recommended to local units of government and has itself pursued the eventual creation of multipurpose parcel-based land information systems. The early efforts were directed at the development of the needed geometric framework in the form of a high order survey control network combining the U. S. Public Land Survey and State Plane Coordinate systems and in the preparation of the needed large-scale, 1 inch equals 100 feet and 1 inch equals 200 feet with 2 foot contours, topographic base and cadastral maps. More recent efforts undertaken by Kenosha, Milwaukee, and Waukesha Counties, in accordance with plans prepared and administered by the Commission, involved digitization of the maps and related files on soils, wetlands, flood hazards, real property ownership and zoning, among others. The maps and related data produced under this important effort will constitute an invaluable resource at the disposal of the continuing study for use in detailed planning and plan implementation.

Horizontal and Vertical Control Survey Data: All the horizontal and vertical control survey data collected under the large-scale topographic and cadastral mapping efforts carried out by the Commission under various planning programs, as well as such data collected by county and local units of government under compatible large-scale mapping efforts, have been collated and published in SEWRPC Technical Report No. 7 (Second Edition), Horizontal and Vertical Survey Control in Southeastern Wisconsin (1990). The survey control will be maintained and the attendant survey and mapping data updated periodically, as needed, under the continuing study; revised inserts to Technical Report No. 7 will be issued for use by state and local governments and private engineers and land surveyors operating within the Region.

Aerial Photography: Aerial photography of the entire Region was taken in the spring of 1963 under the initial regional land use-transportation study at a negative scale of 1 inch equals 2,000 feet and in the spring of 1967 under the first continuing regional land use-transportation study at a negative scale of 1 inch equals 1,600 feet. Ratioed enlargements of

this photography were prepared in each case on stable base material at a scale of 1 inch equals 400 feet in order to provide the basic original data source and the new data source for the necessary updating of existing land use information and of basic data concerning certain elements of the natural resource base.

New aerial photography of the Region, resulting in the preparation of ratioed enlargements at a scale of 1 inch equals 400 feet from low-altitude photography at a negative scale of 1 inch equals 1,600 feet, and in the preparation of ratioed and rectified enlargements at a scale of 1 inch equals 2,000 feet of high-altitude photography at a negative scale of 1 inch equals 6,000 feet, has been provided at regular five-year intervals since the spring of 1970. The low-altitude photography with stereo coverage will continue to be required to provide a means for the delineation and measurement of current land uses essential to updating the existing land use inventory and monitoring land use development in relation to the adopted regional land use plan. Photography will be scheduled to coincide with the U. S. Censuses of Population and Housing, that is, on the census years, and, in addition, on mid-census years, and will provide an excellent basis for comparing the actual land use development and trends in such development with respect to the land use patterns recommended in the adopted regional land use plan. The high-altitude photography will be required to update the Commission's base maps and provide the only practical means for adding new cultural features to those maps.

In addition to providing a high-quality data base for the identification of cultural and natural features and a historic record for census and land use information, the aerial photographs will also provide current information for inputs into such land use-transportation study work elements as the county-based jurisdictional highway system planning programs; subregional land use and transportation plan implementation studies, such as mass transit and highway corridor refinement studies and related land use planning efforts; the regional airport system planning program; and regional and subregional studies concerning the natural resource base, special facilities and utilities, and community planning assistance. Current high-quality aerial photographs of the Region are a major and indispensable planning tool and are

not only utilized daily by many general- and special-purpose units and agencies of government operating in southeastern Wisconsin which are involved in both long-range and short-range planning and plan implementation programs, but are also used by private agencies and individuals in the preparation of development plans which can serve to implement the adopted regional land use and transportation plans.

Inventory of Transportation Facilities

Highway Facilities and Service Levels: The inventory of the existing arterial street and highway system and of the existing service levels on that system, carried out under the initial regional land use-transportation study, will be maintained current on an annual basis. Under the initial regional land use-transportation study, all streets and highways within the Region were classified into three categories: freeways, standard arterials, and collector and land access streets. Under the continuing study, this classification will be revised to make it consistent with the functional reclassification of highways required under the federal Intermodal Surface Transportation Efficiency Act of 1991. Under that Act, all streets and highways are to be functionally reclassified, with the reclassification being approved by the federal government no later than September 30, 1993. The functional reclassification is to utilize the following categories in urban areas: principal arterials, minor arterials, collector streets, and land access streets; and the following in rural areas: principal arterials, minor arterials, major collector streets and highways, minor collector streets and highways, and land access streets and highways. In connection with this functional reclassification, the Commission will work with the Wisconsin Department of Transportation and the county and local governments concerned to define the National Highway System (NHS), which is to consist of all interstate highways and selected urban and rural principal arterials.

For the purposes of regional transportation planning, the following functionally classified highways are herein collectively defined as the "regional arterial highway system": urban principal arterials, urban minor arterials, rural principal arterials, rural minor arterials, and rural major collector streets and highways. Together, this group of functionally classified highways not only will be referred to as the regional arterial highway system, but also will

be designated as the system of roads eligible for federal aid. While federal law would permit federal funds to be used on urban collector streets, the level of anticipated federal funding when measured against the needs on the regional arterial system makes it prudent to exclude urban collector streets from the designated system receiving these aids. Thus, while it is understood that the Wisconsin Department of Transportation is obligated to identify urban collector streets as a functional class, it is not intended that such streets be eligible for federal aid funds. Nor are federal funds to be available for use on rural minor collector streets and highways or on land access streets and highways in both urban and rural areas. The only exception to the foregoing are federal bridge funds, which are available for use on all functionally classified streets and highways.

In addition, the inventory of existing transportation facilities will be expanded to include formally marked and designated bicycle and/or pedestrian lanes and paths. The inventory will distinguish between off-roads and on-road paths and between arterials and nonarterials.

The following data will be maintained current on an annual basis for each link in the arterial and major collector network: facility; jurisdictional system designation; federal category, whether National Highway System or Federal Aid Primary or Federal Aid Secondary; node location by state plane coordinates; link location by zone, district, and county, and link length; right-of-way width; pavement width; pavement type; number of traffic lanes; parking; turning lanes; area type; link capacity; and average running speed. In addition, traffic volume and vehicle-miles of travel will be periodically updated. The maintenance of these data will be coordinated with the State to ensure compatibility with any proposed state and federal management systems.

Characteristics indicative of the level of service provided by the arterial and major collector street and highway facilities will also be monitored on an annual basis. These characteristics include a congestion index, defined as the ratio of traffic volume count to operational capacity (volume-capacity ratio), accident rates, and peak-and off-peak-hour operating speeds. Special studies will be carried out to ensure that certain data are maintained within the levels of accuracy and precision required for the continuing

transportation planning effort. As resources permit, these studies will include a comparison of 24-hour arterial segment capacity to intersection peak-hour capacity, which would include consideration of factors affecting hourly capacity, such as directional split, peak-hour factors, percentage of commercial traffic factors, turning movement percentages, and traffic signal splits, and will be conducted in cooperation with state, county, and municipal traffic engineering operations to ensure that the basis for the calculation of facility capacity continues to represent average urban and rural use conditions at reasonable levels of service.

Within the surveillance function of the continuing land use and transportation study, the Commission will work with the Wisconsin Department of Transportation, the county highway departments, and the local units of government to carry out a continuing traffic volume counting program. This program will provide, on a continuing basis, the traffic volume count data necessary to monitor traffic growth within the Region, measure the level of congestion on the various segments of the arterial system, provide a basis for comparing the results of traffic simulation model applications used in the planning process with ground counts, and yield traffic-flow information frequently requested by various public and private agencies throughout the Region. The traffic-count program will be evaluated periodically to ensure that the location and frequency of traffic counts obtained in each major phase of the program, including the continuous count, control count, and coverage count phases, are properly related to any changes in the volume and pattern of traffic flow within the Region. Following a thorough analysis of the traffic operating characteristics within selected subareas of the Region. Such traffic-count data, traffic-count factors will be developed for facilities with various operating characteristics within selected subareas of the Region. Such traffic-count adjustment factors will include annual average daily and weekday factors and monthly average daily and weekday factors. In addition, certain other traffic flow characteristics will be monitored, including weekday, weekend, monthly, and seasonal traffic variation factors. Special traffic-count programs may be conducted as necessary to assist in monitoring changes in traffic demand, to obtain data on the impact of new highway facilities, and to permit surveillance

of the performance of the traffic flow simulation models.

Special attention will also have to be given in the continuing study to the transportation system data base needs of the Wisconsin Department of Natural Resources for air quality management planning purposes. More particularly, it is proposed that for the base year 1990 and for possible future base years, estimates of vehicle miles of travel and vehicle speed for each link of the arterial and major collector system be prepared by hour and by vehicle classification for an average summer weekday, an average summer Saturday, and an average summer Sunday. Similar estimates would be prepared for the rural minor collector and land access street and highway system, quantitatively summarizing such data by U. S. Public Land Survey one-quarter section. The development of such data may require special vehicle classification counts to meet the data needs of the simulation modeling to be done under the air quality management planning program.

Changes in travel time on the arterial and major collector system provide a good measure of the effect of traffic growth and street and highway facility improvements on the operation of such systems. Travel time studies will be conducted to monitor changes in both peak- and off-peak-hour travel times on the system to the level of accuracy required for use in the traffic simulation models, including the modal split, trip distribution, and traffic assignment submodels, and to provide a measure of the level of service provided by the arterial and major collector street and highway system. A travel time study of the entire arterial and major collector system within the Region will be conducted in 1992 to coincide with the conduct of the new regional travel survey, with periodic updating of the travel time data on those segments of the system for which average vehicle operating speeds are judged to have increased as a result of improvements to the facility or decreased due to higher traffic volumes.

An integral portion of the inventory phase of the continuing regional land use-transportation study will be an areawide accident study. In order to identify dangerous, accident-prone areas within the Region and to compare the accident experience between various facilities on an

areawide basis, an arterial and major collector network map showing accident rates for intersections and links by accident type will be prepared. Such a map will, after its preparation, be periodically updated consistent with the availability of accident data and the needs of the continuing study. It is anticipated that the necessary accident data will be available from the Wisconsin Department of Transportation and from local sheriff and police department records.

Transit Facilities and Service Levels: The inventory of existing transit facilities and levels of service conducted under the regional land use-transportation planning effort will be maintained current. The following data will be maintained current on an annual basis for each link in the transit network: type of link; link travel time, based upon stop spacing and average running speeds; average running speed; walk time, based upon stop service area size and population distribution within the stop service area; transfer time, based upon headways of intersecting routes; link length; link location by zone, district, and county; and node location by state plane coordinates. In a similar manner, the following data will be maintained current on an annual basis for each line in the transit network: type of service; line number; hours of service; frequency and regularity of service; line capacity; quantity of service, based upon seats per vehicle and service frequency for the total 24-hour service period and for each of the morning and evening peak-hour service periods; and line passenger volumes. In addition, the following data will be maintained current for each public transit system within the Region: revenue passengers carried annually, fare structure, operating cost, and accidents.

Special transit service studies may be conducted to monitor changes in transit utilization habits and to obtain data on the impact of improved service on transit utilization.

Transportation Terminal Facilities: The inventory of the supply and type of vehicle parking facilities available in the central business district of the City of Milwaukee, carried out under the initial and first continuing regional land use-transportation planning efforts, will be maintained current by utilizing data from the files of the municipal engineering department.

In addition, new inventories of the supply and type of vehicle parking facilities available will be made of all areas proposed as major commercial centers on the adopted regional land use plan. Data to be maintained current for each block or grouping of blocks within the central business district will include: the total number of on-street spaces; the number of short-term, on-street spaces and attendant utilization costs; the number of long-term, on-street spaces and attendant utilization costs; and, where available, data permits, turnover rates. Similar data will be maintained current for off-street public and private spaces.

The updating of truck terminal locations and sizes will be accomplished through the continuing land use inventory described below. If analyses of the results of the land use inventory updating so indicate, special studies will be made on the location and relocation of truck terminals, including the number of vehicle loading/unloading docks, the number of vehicles loaded/unloaded, the service area, and annual tonnage handled.

The inventory of airports and air operations data developed as a result of the regional airport planning program will be periodically maintained current. Such data should include: airport name, location, type of ownership, name of owner, runway surface, number of runways, runway length, runway lighting, number of based aircraft, FAA classification, number and type of operation at each airport, number of commercial air-carrier passengers, amount of baggage mail and freight handled, type of commodity handled, and automobile parking and truck terminal space.

Automobile and Truck Availability: The inventory of automobile and truck availability prepared under the initial land use-transportation study will be maintained current by county on an annual basis. These data will continue to be obtained from reports on motor vehicle registration published by the Wisconsin Department of Transportation, Division of Motor Vehicles. In addition, data obtained from the 1990 census and the new regional travel survey will be used to update the inventory of automobile and truck availability by U. S. Public Land Survey one-quarter section. This information will provide a current measure of one of the key independent parameters used in the trip generation equations.

Inventory of Existing Transportation Movement and Behavioral Factors Affecting Travel Habits and Patterns

Among the major inventories conducted under the initial regional land use-transportation study in 1963 was an inventory of existing transportation movements and travel habits and patterns within the seven-county Southeastern Wisconsin Region. This inventory, the largest and most exhaustive inventory of travel conducted in the Region up to that time, consisted of a home interview, a truck and taxi survey, a postal questionnaire, and a roadside external survey.

Common to all these surveys was the collection of data relating to the geographic location and the land use at the origin and at the destination of each trip, the mode of travel utilized, the purpose of the trip, and the times of travel for each trip. As a part of the home interview survey, data were also obtained tracing the history of changes in the home and work addresses of the heads of household and information relating to the reason for the change and to certain corresponding personal and household characteristic data at the time of change. Also as a part of the home interview survey, adult members of a subsample of households were asked to reply to an attitudinal questionnaire, giving their opinions on the quality of existing travel and their suggestions for improving such travel and on existing costs of housing, their preferences in housing types, the reasons for selecting their existing housing units and neighborhoods, and the principal items to be considered in the selection of new homes and neighborhoods.

In this initial inventory, travel data were obtained from approximately 16,000 households and from approximately 3,600 truck and taxi operators through personal interviews in the urbanizing areas of the Region, from approximately 11,000 households and approximately 3,000 truck and taxi operators in postal questionnaire surveys conducted in the largely rural areas of the Region, and from the drivers of approximately 43,000 vehicles entering or leaving the Region through roadside interviews conducted at an external cordon of the Region.

In 1972 a second inventory of transportation movements and travel habits and patterns

within the Region was undertaken. Travel data were obtained from approximately 15,400 households and from approximately 3,800 truck and taxi operators through personal interviews within the entire Region, and from drivers of approximately 80,300 vehicles entering or leaving the Region through roadside interviews conducted at an external cordon of the Region. Data from this survey were used to validate and recalibrate the Commission traffic simulation models and to prepare the second-generation regional transportation system plan.

In addition to conducting these two major travel surveys, the Commission under the continuing land use-transportation study conducted a number of special travel surveys, including such surveys on the developing "freeway flyer" transit routes in the greater Milwaukee area; on the developing Kenosha, Racine, and Waukesha transit systems; at the major airports within the Region; and at major regional parks. A small-scale general travel survey was also conducted in 1985 to monitor the continued validity of the Commission traffic simulation models. These survey efforts provide an invaluable pool of historic data, the breadth and depth of which is probably unique within the United States, useful in continuing planning and in research and development efforts.

A third major inventory of existing transportation movements and travel habits and patterns within the Region is being conducted beginning in late 1991 and scheduled for completion in early 1993. This inventory will be on the same scale as the initial and second inventories and will provide a reliable measure of the impact on the patterns of travel brought about by a number of varied and highly significant changes which have occurred within the Region since the conduct of the last major inventory in 1972. These changes include major improvements in the regional transportation system; massive changes in the location and densities of residential, commercial, and industrial development within the Region, both within the central cities of the Region and within the outlying areas; and significant changes in the social structure of the Region including, importantly, the increased labor force participation rate resulting from the entry of greater numbers of women into the labor force, which has profound implications for transportation. The data from the new inventory

are also considered essential to the sound detailed planning and engineering of certain major and costly transportation improvements proposed for implementation in the 1990s, including express bus and light rail transit facilities, commuter rail facilities, and an area-wide freeway traffic management system.

The use of, and therefore need for, the data from a comprehensive travel survey is a function of the philosophy and concepts underlying the areawide transportation planning effort in any particular region. In southeastern Wisconsin that process is not directed exclusively at the development of a long-range transportation system plan, but rather is directed at the development of a comprehensive regional development plan and at securing implementation of such plan through appropriate short-range and operational, as well as long-range, planning efforts. To this end, the areawide planning agency must fully understand the forces which shape regional land use, as well as transportation system, development and must be able to meet in a timely and positive manner requests from federal, state, and local officials for information pertinent to making day-to-day land use, and transportation facility development, decisions.

Thus, within the context of a comprehensive regional planning program, the use of travel survey data for the formulation and calibration of the traffic simulation models required for the preparation of long-range transportation system plans is only one use of that data. The data are also required to permit the Commission to be involved actively in transportation system improvement project selection and design, in operations planning, and in the provision of valid information to both private and public sector interests required to make day-to-day development decisions within the Region. The information required may range from data on daytime versus nighttime population levels and densities, through data on the socioeconomic characteristics of transportation facility users in relation to fare and schedule adjustments, to data bearing on the adequacy of the size of a local taxicab fleet or the adequacy of inter-regional scheduled air transportation service.

Perhaps the most important purpose of the data, however, is to provide public officials with an understanding of the forces which shape the

demand for land and for supporting transportation facilities and services within the Region and of the trends in changes in these forces over time. Such understanding can come only from comprehensive surveys which provide complete information not only on travel habits and patterns but on the basic demographic, economic, and land use activities which create the demand for travel.

Finally, none of the principal reasons for the conduct of a new travel survey within the Region relate directly to any compelling need to reformulate or recalibrate the traffic simulation models developed by the Commission. Instead, those reasons relate to the need to provide valid travel data in support of short-range, as well as long-range planning, operations planning, day-to-day decision making concerning regional development and, most importantly, a better understanding of the forces shaping regional development and transportation demand. Up-to-date data also inspire public confidence in the Commission's analytical findings and plan recommendations. It should be noted, however, that the new travel data will permit a very rigorous and true test to be made of the continued validity of the entire battery of mathematical models used in the regional transportation planning effort.

Major Elements of the Third Regional Inventory of Travel: The following outline sets forth the necessary major work elements of a third regional inventory of travel in southeastern Wisconsin.

The inventory design is based upon the following assumptions:

1. That the primary purpose of the regional inventory of travel is to obtain current measures of the kinds, amounts, and distributional patterns of travel in the Region to provide: a) a thorough evaluation of the effect on travel patterns of the massive changes in the transportation system and in the land use pattern of the Region since the initial and second travel inventories in 1963 and 1972, b) a test of the continuing validity of the entire battery of mathematical models utilized in the preparation of the regional transportation plan, and c) a new factual base of travel data upon which to soundly base short-range facilities planning and engineering, as well as long-range system planning.

2. That a series of origin-destination surveys will be undertaken as a single inventory of travel and that the fieldwork of such surveys will be conducted between October 1991 and May 1992, and that it will include such major surveys as a home interview survey, a truck-taxi survey, and an external cordon survey. That, in addition, a number of special origin-destination studies will be conducted within this inventory of travel, including an in-depth survey of mass transit use.

A description of the personal, socioeconomic, and travel data to be collected under the various elements of the major origin-destination travel survey follows (see Table 1).

1. Screenline Survey—As in the 1963 and 1972 screenline survey, data to be collected will include the total number and type of all vehicles crossing each screenline in each direction each hour during an average weekday within the survey period. Manual vehicle classification counts will be conducted at each screenline station for periods of 14 or 24 hours, depending on the average daily traffic volume passing the station. The classification count data at each station will be supplemented by machine traffic counts taken over nonsuccessive 48-hour periods. Such counts will be obtained during the survey period for each day of the week so as to yield average weekday and weekend day traffic volume data. In addition, for screenlines intersecting local bus routes in urban areas, the hourly volume of bus passengers crossing the screenline in each direction during the survey period will be obtained.
2. Home Interview Survey—A comprehensive home interview survey will be conducted for a sample of households throughout the Region. This survey will include two elements: a personal, socioeconomic, and travel characteristics survey and a personal opinion survey.
 - a. Personal, Socioeconomic, and Travel Characteristics—Information to be collected in the home interview survey will, as in the initial and second home interview surveys, include such personal characteristic data relating to each resident and to each visitor as the age,

Table 1

SUMMARY OF CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY TRAVEL SURVEYS

Inventory	Data to be Collected	Application of the Data	Issues to be Addressed
<p>Home Interview Survey Personal, Socioeconomic, and Travel Characteristics</p> <p><u>Sample Universe</u> All households in Region</p> <p><u>Sample Rate</u> Varying from an average of 2.0 percent in urban areas to an average of 4.0 percent in rural areas of the Region. Average rate overall, 2.5 percent</p> <p><u>Sample Size</u> Approximately 17,000 households (11,000 home interview and private citizens of the Region 6,000 mailout-mailback)</p> <p>Personal Opinion</p> <p><u>Sample Universe</u> All households sampled in home interview survey</p>	<p>Information to be obtained in this survey will include personal socioeconomic characteristic data relating to regional residents and visitors such as age, sex, employment status, and auto driver license status; trip characteristics data such as the geographic locations of and land uses at points of trip origin and destination, trip purpose, times of arrival and departure, mode of travel utilized, number of blocks walked at origin and destination, number of passengers carried in each auto driver trip, kind of parking utilized in each auto driver trip; and household characteristic data such as type of living quarters and structure, number of persons per household, number of automobiles garaged at a household, and household annual income</p> <p>Information to be obtained in this survey will include personal opinions and attitudes of respondents concerning the quality of existing transportation facilities and services; concerning how these facilities may best be improved and funded; and concerning the kind of transportation facilities which should be emphasized in long-range planning and in response to the federal Clean Air Act. Personal opinions and attitudes of respondents will also be obtained relating to the principal reasons for selecting present housing units and present neighborhoods and the principal items which would be considered in selecting new housing units and new neighborhoods</p>	<p>The information obtained in this survey will provide current measures of the independent variables of traffic and land use simulation models, which measures will be used to test the continuing validity of the models, or, if necessary, in the formulation of new models. The survey data will also provide detailed information relating to current regional travel habits and patterns and to changes in these habits and patterns over time upon which sound recommendations to assist operating transportation agencies, public or private, can be made, and upon which a better understanding of the forces shaping the demand for transportation within the Region can be developed. The survey data will also provide a large bank of up-to-date demographic, economic, and land use information and materials, not available from secondary sources, vital to local units and agencies of government, and highly useful to business and industry, as well as to private citizens of the Region</p> <p>The information obtained in this survey will provide a current measure of public opinions and attitudes and of shifts in such opinions and attitudes concerning transportation facilities and services and preferences in housing types and services. Consideration of such opinions in the preparation of both short- and long-term land use and transportation plans is one important way of increasing the public participation in plan formulation and implementation</p>	<p>The survey is addressed to such major issues as: 1) the continuing validity of the traffic simulation models; 2) the evaluation of the need for making changes in the adopted regional land use and transportation plans; and 3) the continuing need to provide up-to-date information and sound recommendations concerning land use and transportation system development and transportation system operation to local units and agencies of government, to business and industry, and to private citizens of the Region</p> <p>The personal opinion survey is addressed to such major issues as: 1) increased citizen participation in the formulation and implementation of land use and transportation plan recommendations through thorough consideration of resident opinions and attitudes; and 2) the reappraisal of public attitudes and opinions through examination of the current status of, and changes over time in, such attitudes and opinions relating to transportation facilities and services and housing types and amenities and locations</p>
<p>Mass Transit Survey</p> <p><u>Sample Universe</u> All internal transit passengers in Region</p> <p><u>Effective Sample Rate</u> 6 percent</p> <p><u>Sample Size</u> Approximately 13,000 passengers</p>	<p>Information to be obtained in this survey will include the sex, age, race, driver license status, household size and income, household automobile availability, and the home address of the passenger; the place and time of boarding; the geographic locations of trip origin and destination; trip purpose; the point of transfer and route number transferred to; type of fare paid; time of trip beginning and ending; frequency of bus travel; and whether the trip made was a part of a round trip. Tallies trip made was a part of a round trip</p>	<p>Desire lines of transit travel compared with actual lines of such travel as revealed in the survey will provide one measure of the effectiveness of the existing transit systems. The patterns of transit travel as documented in the survey will provide an in-depth examination of transit travel and will be used to formulate recommendations on the means for improving the level and quality of service provided. Identification in this survey of factors leading to transit ridership by choice will be examined in an attempt to refine the existing mode choice model</p>	<p>The transit survey will be addressed to such major issues as: 1) the effectiveness of the configurations of existing transit systems to serve existing desire lines of transit travel and total person travel; 2) the adequacy of existing levels and quality of transit services being provided; 3) the development of a data base sufficiently detailed to support recommendations relating to transit at an operational level; and 4) the need for an in-depth examination of the personal characteristics and attitudes leading to transit ridership by choice</p>
<p>Truck and Taxi Survey</p> <p><u>Sample Universe</u> All trucks and taxis in Region</p> <p><u>Effective Sample Rate</u> Trucks—6.0 percent Taxis—30 percent</p> <p><u>Sample Size</u> Approximately 10,000 trucks and 200 taxis</p>	<p>Information to be obtained in this survey will include for each vehicle the type, license number, make and year of manufacture, garaging address, name and address of the vehicle operator, and kind of business and industry in which it is used. Data will also be obtained relating to trips made by the vehicle, including the geographic locations of, and land uses at, points of trip origin and destination, trip purpose, times of arrival and departure, the total number of miles traveled, and the type and weight of each commodity picked up or delivered on each trip, including the locations of points of origin and destination of such commodities</p>	<p>The information obtained in this survey will provide an inventory of the current distribution of trucks and taxis by type and of changes in this distribution over time; and a current measure of the travel patterns of such vehicles and of changes in these patterns over time. The information will be used as input to test the continued validity of the traffic simulation validity of the traffic simulation modes, and will be essential to determining the pattern and volume of the movement of goods within the Region</p>	<p>The truck and taxi survey will be addressed to such major issues as: 1) the continuing validity of the regional traffic simulation models as the models relate to truck and taxi trip generation and distribution; 2) interregional and intraregional movement of goods; 3) truck terminal location; and 4) taxicab fleet sizes and operations</p>

Table 1 (continued)

Inventory	Data to be Collected	Application of the Data	Issues to be Addressed
<p>External Travel Surveys Cordon Interview</p> <p><u>Sample Universe</u> All 240,000 external motor vehicle drivers and 290,000 passengers</p> <p><u>Sample Rate</u> 30 percent</p> <p><u>Sample Size</u> Approximately 72,000 vehicle drivers and 87,000 vehicle passengers</p> <p>On-Board Railroad</p> <p><u>Sample Universe</u> All internal to external railroad passengers (internal origin or destination)</p> <p><u>Effective Sample Rate</u> 90 percent</p> <p><u>Sample Size</u> Approximately 900 passengers</p> <p>On-Board Intercity Bus</p> <p><u>Sample Universe</u> All internal to external coach line passengers (internal origin or destination)</p> <p><u>Effective Sample Rate</u> 65 percent</p> <p><u>Sample Size</u> Approximately 400 passengers</p>	<p>Information to be obtained in this survey will include vehicle type, number of occupants, time of crossing the cordon, and the garaging address. Data concerning each auto driver and auto passenger will include the geographic locations of and land uses at points of trip origin and destination and trip purpose. Data concerning truck trips will include the geographic locations of, and land uses at, points of trip origin and destination and trip purpose</p> <p>Information to be obtained in this survey will include for each railroad passenger the age, occupation, and household income of the passenger, the geographic locations of the true origin and ultimate destination of the trip, trip purpose, the mode of travel to the boarding station; the frequency of travel by railroad; and the availability of an automobile as an alternative mode of travel for that particular trip</p> <p>Information will be obtained in this survey will include, for each motor bus passenger whose trip originated within the Region, the age, occupation, and household income of the passenger, the geographic locations of the true origin and ultimate destination of the trip, the mode of travel to the boarding station, trip purpose, and the availability of an automobile as an alternative trip. Counts of "through passengers" will also be made</p>	<p>Information obtained in this survey will provide an inventory of the current distribution of trucks and taxis by type and of changes in this distribution over time; and a current measure of the travel patterns of such vehicles and of changes in these patterns over time. The information will be used as input to test the continued validity of the traffic simulation validity of the traffic simulation modes, and will be essential to determining the pattern and volume of the movement of goods within the Region</p> <p>These data area intended to become a part of a complete file on regional travel. Such data will provide a better understanding of total internal-external travel as it relates to the Region through quantification of interregional railway travel, and will be important to sound interregional air and highway, as well as rail, transportation planning</p> <p>Not previously obtained, the information is also intended to become a part of a complete data file on regional travel. Such data will also provide a better understanding of total internal-external travel as it relates to the Region through quantification of interregional bus travel and will be important to sound interregional air and rail, as well as highway, transportation planning</p>	<p>The truck and taxi survey will be addressed to such major issues as: 1) the continuing validity of the regional traffic simulation models as the models relate to truck and taxi trip generation and distribution; 2) interregional and intraregional movement of goods; 3) truck terminal location; and 4) taxicab fleet sizes and operations</p> <p>The on-board railroad survey will be addressed to such major issues as: 1) the total interchange of travel by all modes between the Region and other regions; and 2) operations planning related to interregional travel</p> <p>The on-bus bus survey will be addressed to such major issues as: 1) the total interchanges of travel by all modes between the Region and other regions; and 2) operations planning related to interregional travel</p>
<p>Screenline Classification and Traffic Count</p> <p><u>Sample Universe</u> All vehicles and local transit passengers crossing each screenline to be established within the Region</p> <p><u>Sample Rate</u> 100 percent</p> <p><u>Sample Size</u> The number of vehicles to be counted and classified is dependent upon the number of screenlines established and the traffic volume on each street and highway intersected by a screenline. The number of local transit passengers counted is dependent upon the total volume of ridership on the bus routes crossing the screenline</p>	<p>Information to be collected in this survey will include the volume and type of all motor vehicles and the number of local transit passengers crossing each screenline in each direction for each hour period during an average weekday within the survey period. Motor vehicles will be classified into the following categories: passenger cars; taxis; buses; motorcycles; two axle, single tire trucks; two axle dual trucks; and tractor-trailer combinations. Machine traffic counts will be obtained at each screenline station for each day of the week. To obtain the best results from this check, the location of the screenline must be carefully selected and accurate ground counts and vehicle classifications must be obtained at every street or highway crossing the screenline</p>	<p>The major purpose of the screenline survey is to provide information which can be used to check the completeness and accuracy of all vehicle and local bus passenger trips which occur within the study area as reported in the travel inventories. The screenline check will be made by comparing the number of vehicles by type and the number of local bus passengers which are counted crossing the screenline to the number of vehicle or bus passenger trips reported to have crossed the screenline from the origin-destination surveys. Checks of the travel data will be made by direction of crossing for time periods, as well as for the 24-hour total during an average weekday</p>	<p>To provide confidence in the expanded travel data that is needed and to be sure that meaningful and reliable forecasts of travel demand can be made, the travel data collected in the origin-destination survey must be submitted to a series of accuracy checks. The issues addressed by the screenline survey will be: 1) the hourly and 24-hour total number of vehicles by type counted crossing the screenline in each direction during an average weekday within the survey period; and 2) the hourly and 24-hour total number of bus passengers on each local bus route counted crossing the screenline in each direction during an average weekday within the survey period</p>

Source: SEWRPC.

sex, race, driver license status, industry of employment, and occupation; to such trip characteristic data as the geographic locations and the land uses at the origin and destination of each trip, the trip arrival and departure times, the purpose of the trip, the number of blocks walked at each end of the trip, the mode of travel utilized, the number of passengers carried and the kind of parking utilized in each auto driven trip, and whether a transit tripmaker had the alternative of making the trip as an auto driver; and to such household characteristic data as the type of living quarters and the type of structure in which the quarters are located, the number of persons in the household, the number of automobiles garaged there, and the household annual income.

- b. Personal Opinion—Also as a part of the home interview survey, as in the initial and second surveys, information will be obtained from household members in a subsample of households relating to their reasons for selecting a particular mode of travel and concerning their opinions of the quality of existing transportation facilities and services, of how these facilities and services may best be improved, and of the kind of transportation facilities which should be provided for in long-range planning. Also in this questionnaire, household members will be requested to give the most important reasons for selecting their existing dwelling units and for selecting their present neighborhoods, as well as the principal items to be considered in selecting new quarters and new neighborhoods.

The sample rate for the home interview survey, including the household history survey and the attitudinal questionnaire survey, will be an average rate of approximately 2 percent. The number of households expected to be listed for interview under such a sample rate will amount to approximately 15,000.

3. Truck and Taxi Survey—Information to be collected in the truck and taxi survey will, as in the initial and second surveys, include such information as the vehicle

type, license number, make, and year of manufacture; the garaging address; the name and address of the operator of the vehicle; and the kind of business and industry for which it is used. Information to be obtained concerning the trips made by this vehicle include the geographic locations and the land uses at trip origin and destination, the purpose of the trip, the start and arrival times of the trip, and the commodity delivered or picked up on each trip.

The sample rate for the truck and taxi survey will be an average rate of 6 percent. The total number of trucks and taxis combined expected to be listed for interviews under such a sample rate will amount to approximately 30,000 vehicles.

4. External Surveys—In the new inventory of external travel, roadside interviews with the operators of automobiles, trucks and taxis will again be conducted at the boundary of the Region and inventories of external travel by railway and by intercity bus will be conducted in order to provide a complete accounting of external travel.

- a. Cordon Interview—In the external cordon survey, the information collected will include such information as the vehicle type, the number of occupants, and the garaging address and such information concerning the trip as the geographic location and the land use at the origin and destination, the purpose of the trip, the identification of the interview station through which the vehicle passes, and the time of interview. Additionally, information concerning the commodity delivered or picked up will be obtained from the drivers of trucks and, for those vehicles which just pass through the Region, the route of entrance or exit will be determined.

- b. On-Board Railway—In the survey of external travel by railway, interviews on the trains will be conducted with all persons having origins inside and destinations outside the Region on all railways serving passengers in the Region. Counts of through passengers will also be taken. The information to be collected will include the age, sex, and

home address of the passenger; the geographic location and land use at the trip origin and destination; the trip purpose; the time of the trip; and the availability of an automobile as an alternative mode of travel on that particular trip.

- c. On-Board Intercity Bus—In the survey of external travel by intercity bus, personal interviews, where possible, will be conducted with bus passengers having origins inside and destinations outside the Region. Where interviews are not possible, a questionnaire will be given to each bus passenger to be completed aboard the bus and mailed back. The bus drivers will be expected to assume the responsibility for collecting and returning such questionnaire forms. Information to be obtained in this survey will also include the age, sex, and home address of each passenger; the geographic location and the land use at the trip origin and destination; the trip purpose; the time of the trip; and the availability of an automobile as an alternative mode of travel on that particular trip.
5. Mass Transit Survey—Special emphasis is intended to be placed in the new origin-destination survey on the determination of the factors affecting modal choice and the use of mass transit. Special surveys related to mass transit are proposed to provide not only the information necessary to develop a better understanding of the existing transit travel habits and patterns and the factors affecting these habits and patterns and the choice of mode but also to provide a sound basis for the revision and improvement of existing transit service to better meet current transit travel needs, thereby assisting to maintain a viable mass transit system within the Region. A special mass transit survey will provide data for the in-depth analysis of travel habits and patterns of existing transit users, which will be particularly useful in day-to-day decision making concerning mass transit service improvements within the Region.

Under the special mass transit survey of existing transit ridership, a questionnaire form will be given to each mass transit

passenger on a representative average weekday. Information requested on this form will include the home address of the passenger; the place and time of boarding; the geographic locations, land use, and trip purpose at the points of trip origin and destination; the point of transfer and the route transferred to; the age, sex, race, occupation, and household income; driver license status; the availability of an automobile as an alternative mode for the trip; and the time of the beginning of the trip. Survey personnel would be stationed aboard each bus to distribute the questionnaires, to encourage complete returns by all passengers, and to tally the number of persons boarding and exiting the mass transit vehicle at various key locations as the vehicle proceeds on its route, thus obtaining not only accurate information on passenger traffic flow volumes but also control totals to be used in connection with the analysis and expansion of the results of completed questionnaires.

Emphasis in this survey would be directed at providing data for two areas of analysis: 1) an examination of the factors which lead "choice," as opposed to "captive," riders to choose mass transit as the mode of transportation over the private auto, and 2) an examination of true transit desire line trip patterns by a careful analysis of transfer data. The latter would be useful as a basis for short-term action-oriented transit improvement programs, as well as for long-term transit improvement programs.

Inventory of Land Use

The Commission has always recognized the need to prepare both a land use plan and a transportation system plan as two inextricably inter-related major elements of a comprehensive regional plan. A complete inventory of land uses within the Region was conducted initially in 1963. This inventory was updated in 1967, 1970, 1975, 1980, and 1985. An update for 1990 is to be completed in 1992. Further updates are envisioned at five-year intervals, including in all decennial census years.

The reinventory of land use provides up-to-date information on land use changes within the seven-county Region which can be directly related to the U. S. Censuses of Population and Housing and to the envisioned stages of the land

use and transportation system plans for the Region. In addition, up-to-date land use data will serve as a major input into the periodic reevaluation of the land use and transportation plans and will enable the Commission to establish a current data base for the extension of the land use plan and the transportation system plan to new design years. Since the land use changes within the urban areas of the Region affect the land use and transportation system plans as much as such land use changes in areas of peripheral expansion and growth, good land use information of the entire Region is required in order that adequate reinventory and reevaluation of these changes is made as they affect regional plan implementation. The updating procedure will utilize the same land use categories and techniques used in the original 1963 land use inventory and as refined for the subsequent inventories.

The updating will be accomplished primarily from low-altitude, large-scale aerial photography flown for this purpose in the spring of the inventory years.

Field checks similar to those used in the original land use inventory will be carried out to assure the accuracy of the data acquired through aerial photo interpretations and all data will be reduced through a system of land use codes to a form suitable for consolidated data processing. Where applicable, recently completed local land use inventories will be incorporated into the land use updating process. Particular attention will be paid to the peripheral urban area expansion patterns in order to monitor development in this area and to determine its compatibility with the regional plan proposals. Quantitative and qualitative comparisons will be made of land use changes and the proposals embodied in the adopted regional land use plan. Appropriate graphic displays of land use distributions will be developed for publication. By combining the land use information compiled during the land use updates with census information on population and housing units and with employment estimates derived from federal and state data within controlled geographic areas, appropriate measures of changes in land use intensity will be produced. As already noted, these elements will be important inputs into evaluations of the impacts of new urban growth patterns on the continued validity of the adopted regional land use and transportation system plans and will

also be important as major reference sources for the proposed extension of the design year of the regional plans.

Because of the large number of general-purpose units of government, as well as the many special-purpose districts, within the Southeastern Wisconsin Region, the use of secondary sources for the collation of land use information is not considered practical if the data are to be uniform and consistent over the entire Region. The most expeditious method of collecting current land use data is by complete reinventory. Complete reinventory by one primary agency will allow for careful quality control and a higher quality product. It is for these reasons and the aforementioned purposes that it is proposed to conduct a complete reinventory of existing land use at regular five-year intervals in the Southeastern Wisconsin Region, beginning updates coinciding with federal censuses and with new regional travel surveys.

Inventory of Community Plans and Zoning

Data collected in the initial regional land use-transportation study on adopted county and local land use plans and zoning ordinances will be updated every ten years under the continuing land use-transportation study. Assessments will be made of changes in local development objectives and the compatibility of these changes with adopted regional development objectives and of the impacts these changes may have on the implementation of the regional land use plans.

The updating of the community plans and zoning will involve a resurvey of the present status of the local community plans and zoning documents and, in particular, the levels of adoption and implementation these documents have received by the various units of government. The information will be gathered through personal interviews with public officials and analysis of all changes revealed through the interview process in the local plans and zoning from the initial 1963 and subsequent inventories will be mapped by community onto Regional Planning Commission base maps and will be used for comparison of compatibility with the regional land use-transportation plan and serve as a major input for regional plan reevaluations. The update of the community plans and zoning data will be facilitated through the ongoing community assistance programs of the Commission. All information, when obtained, will be analyzed in respect to its influence on the

implementation of the regional land use and transportation plans and its impact upon the regional natural resource base.

Inventory of Demographic Factors

Under the initial work programs of the Commission, including, but not limited to, the initial regional land use-transportation study effort, an extensive amount of detailed demographic information was collected and analyzed for various geographic units within the Southeastern Wisconsin Region. To maintain these data current will require the continuation of ongoing data collection procedures; the assimilation into the Commission data files of demographic data collected by other agencies, primarily the U. S. Bureau of the Census and the Wisconsin Department of Administration; and the development of new programs and procedures whereby estimates of current size, characteristics, and distribution of the population can be prepared and disseminated. In order to achieve these objectives, the programs or procedures outlined below will be undertaken during the continuing land use-transportation study.

Preparation of Technical Report on the Population of Southeastern Wisconsin: Under earlier Commission work programs, a technical report was prepared which traced historic population growth in the Region; described the current population size, characteristics, and distribution; and presented short- and long-term forecasts of the population within the Region. Under the initial and first continuing land use-transportation studies, these early forecasts were reviewed and modified. It is anticipated that, with the availability of the 1990 census data, the continuing land use-transportation study will foster the preparation of a third technical report dealing with the changes which have occurred within the Region with regard to population size, characteristics, and distribution and that the forecasts prepared under earlier studies will be reviewed and modified, as warranted, and the forecast year set ahead.

As was done in the previously prepared technical reports concerning population, in order to deal with uncertainties inherent in the demographic and economic factors affecting population growth and change, an "alternative futures" approach will be utilized to prepare a set of population projections for the Region. Three alternative regional population scenarios will be developed, each of which will be closely

linked to a corresponding economic condition scenario for the Region. Two of these will represent "low-growth" and "high-growth" extremes of future regional employment levels; the third will identify an intermediate-growth future, a future that lies between the two extremes. While carried out under an alternative futures approach, the regional population projections will be developed, using a cohort-component procedure similar to that used by the Commission in its previous population projections effort. The range of population projections developed in this manner will allow evaluation of the performance of regional land use and transportation system plans under greatly varying future conditions, and the selection of "robust" plans that may be expected to perform well under varying conditions.

Current Population Estimates: In addition, the Commission will annually monitor population change in the Region by county based upon data provided by the Wisconsin Department of Administration, reporting estimated population levels relative to forecast levels in the Commission Annual Report.

Inventory of Economic Factors

Preparation of a Technical Report on the Economy of Southeastern Wisconsin: Under earlier Commission work programs, a technical report was prepared which traced historic employment growth in the Region, described the structure of the regional economy by dominant and subdominant industry group, and presented short- and long-term forecasts of employment within the Region. Under the initial and first continuing land use-transportation studies, these early forecasts were reviewed and modified. It is anticipated that, with the availability of 1990 employment data from the Wisconsin Department of Industry, Labor and Human Relations for firms with employees covered by unemployment compensation insurance and data from the U. S. Bureau of Economic Analysis, a third technical report will be prepared dealing with the changes which have occurred within the Region since 1960 with regard to employment levels, characteristics, and distribution. The forecasts prepared under earlier studies will be reviewed and modified, as warranted, and the forecast year set ahead.

As was done in the previously prepared technical reports concerning the population and the economy of the Region, in order to deal with the

uncertainties inherent in the economic factors affecting employment growth and change, an "alternative futures" approach will be utilized in preparing a set of employment projections for the Region. Three alternative regional economic scenarios will be developed. Two of these will represent "low-growth" and "high-growth" extremes of future regional employment levels; the third will identify an intermediate-growth future, a future that lies between the two extremes. While carried out under an alternative futures approach, the regional employment projections will be developed using an approach similar to that used successfully by the Commission in its previous employment projection efforts, that is, by preparing a range of projections for each of the dominant and subdominant industry groups within the Region in order to arrive at projections of total regional employment levels under the most optimistic and most pessimistic futures that could be reasonably envisioned for the economy of southeastern Wisconsin. This range of employment projects will allow the development of system plans at the regional level and facility plans at the local level which may be expected to remain viable under greatly varying future conditions.

Current Employment Estimates: The Commission will also annually monitor employment change in the Region by county based upon data provided by the Wisconsin Department of Industry, Labor and Human Relations and the U. S. Bureau of Economic Analysis, reporting estimated employment levels relative to forecast levels in the Commission Annual Report.

Inventory of Public Financial Resources

Under earlier Commission work programs, a complete review of the public revenue and expenditure patterns of the 154 constituent county and local units of government within the Region was accomplished. Particular attention was focused on the revenues available and the monies expended for transportation purposes in order to make a proper assessment of the financial feasibility of alternative functional transportation plans. The revenue and expenditure data for these earlier Commission work programs were obtained from the Wisconsin Department of Administration, Bureau of Municipal Audit. In 1974 the responsibility for the collection, collation, and analysis of public revenue and expenditure data was transferred

from the Department of Administration to the Department of Revenue and later renamed the Bureau of Local Financial Assistance. During 1986 the Bureau of Local Financial Assistance significantly modified the report form utilized in collecting public revenue and expenditure data, both to simplify the report form and to eliminate reporting discrepancies which had previously been discovered. This modification will make any direct comparisons between data collected before 1986 and data collected after that date difficult. Under the continuing land use-transportation study, the Commission will collect public revenue and expenditure data tabulated by the Wisconsin Bureau of Local Financial Assistance since 1986 for use in proper assessment of the financial feasibility of alternative functional transportation plans and, to the extent practicable, relate such data to earlier historic data.

Also under earlier Commission work programs, data were collected pertaining to the assessed and equalized value of real and personal property, which are important components of the public financial resource base of the Region. Under the continuing land use-transportation study, these data will be further updated.

Inventory of Natural Resource and Public Utility Base

Under the initial study, an extensive amount of information about the quality, extent, and future development potential of the natural resource base of the Region and extensive information on the public and private utility systems in the Region, was collected, analyzed, and incorporated into the land use and transportation plan designs. In order to maintain these data current and to assess the status after several years of urban growth within the Region, the inventories of existing scenic, scientific, and historic sites; existing and potential park sites; and existing prime wildlife habitat areas, forest and woodlands, wetlands, prime agricultural lands, and utility systems will be evaluated during the continuing regional land use-transportation study. In addition, special studies will be undertaken to develop ways and means by which the resource base might be protected. Basic inputs to these studies that will be considered, in addition to the natural resources, include the detailed watershed planning proposals and the detailed regional public utilities planning proposals and

their respective impacts upon the region-wide development possibilities and natural resource elements.

Some of these inventories and reevaluations will be done in conjunction with cooperating agencies at the local, county, and state level to indicate current conditions, trends, and specific recommendations for the future role of the natural resource base as it relates to the regional plan and the increasing population and urbanization trends of southeastern Wisconsin.

Completion and Maintenance of a Regional Street Address Coding Guide and Geographic Base File

Under the initial land use-transportation study, an address coding guide was developed which enabled computerized coding of trip origins and destinations identified by street address to U. S. Public Land Survey one-quarter sections and to traffic analysis zones and districts within the Milwaukee, Racine, and Kenosha urbanized areas of the Region. Under the continuing land use-transportation study, the initial coding guide was refined to facilitate the computerized coding of street addresses to block face and to geographic systems other than U. S. Public Land Survey one-quarter sections and traffic analysis zones and districts, including census tracts, postal zip codes, municipal wards, and congressional districts. Under the second-generation land use-transportation study, the computerized street address coding guide was extended into the rural portions of the Region and was used extensively in the computerized geographic coding of trip origin and destination data col-

lected under the new major travel survey conducted in 1972. Subsequently, the Commission worked with the U. S. Bureau of the Census to develop and use within the Region geographic base files known as the Dual Independent Map Encoding (DIME) files. These files assign Wisconsin state plane coordinates to geographic features, such as street intersections, streams or railway crossings of streets, and significant directional changes on curved streets and dead-end streets. The preparation of this file for southeastern Wisconsin was part of a nationwide effort for all metropolitan areas and was used for census data retrieval and other purposes, including geographic coding of travel data.

The geographic base file to be used in the third-generation land use-transportation study will be the Topologically Integrated Geographic Encoding and Referencing System (TIGER) file developed by the U. S. Bureau of the Census which assigned Wisconsin state plane coordinates to geographic features, including street intersections, and also identifies the address range for each street segment. The TIGER file represents a refinement and extension of the DIME file. This geographic base file can be merged with other similarly defined geographic base files, such as the U. S. Public Land Survey one-quarter sections. The Commission staff will be using the TIGER file, together with the Commission's U. S. Public Land Survey one-quarter section geographic base file, to provide a computerized coding of trip origin and destination data to U. S. Public Land Survey one-quarter sections as collected under the new major travel survey conducted in 1991 and 1992.

Chapter IV

ANALYSES AND FORECASTS

DATA CONVERSION, FILING, AND RETRIEVAL

Under the initial land use-transportation study, more than 92 million individual items of planning information concerning past, present, and probable future conditions within the Region were recorded and stored in the Commission's basic data files. Most of this information was contained on machine punch cards; some was contained on magnetic tape and some was contained on printed forms. The basic system approach used for data retrieval was to produce summary card files from one or more basic survey card files and to use the summary file for present and future reporting. The primary reason for the selection of this approach was that it represented a simple and inexpensive means of retrieving data. The greatest drawback to this approach was that it led to a proliferation of data files. Most of the data in the files developed under the initial regional land use-transportation study were maintained in a current state under the first continuing study. In order to expedite the maintenance of these data, a more effective system for data conversion, filing, and retrieval was developed.

The basic geographic data collection unit generally adhered to under both the initial and continuing data collection programs was the U. S. Public Land Survey one-quarter section. There are, however, many necessary and useful geographic configurations which do not coincide with the one-quarter section unit, such as civil divisions, census tracts, school districts, traffic analysis zones and districts, and many special-purpose districts. In addition, such areas as the central business districts of cities within the Region require a more refined (smaller) unit for the organization and analysis of information. Consequently, the data system was designed to permit the ready collation of data for various geographic units so that the information on file can be aggregated or disaggregated in an efficient and timely manner.

The systems approach used for data retrieval was changed under the first continuing land use-transportation study to maintaining basic data files on magnetic tape and producing summary

reports directly from the basic data file. This change was possible because of the advent of third-generation computers, which were significantly less expensive than comparable second-generation computers. The resulting reduction in computer costs allowed installation of a computer equipped with magnetic tape drives. In most cases, a summary report could be produced in less time by passing an entire base file on tape than by reading a deck of summary cards. During the first continuing study, therefore, the only new files generated were those that resulted from the gathering of new data. Retrieval from data gathered in the initial study was accomplished using the same techniques as those for new data; data were retrieved from the basic data files on magnetic tape.

The conversion of punch card and magnetic tape records to a master-file information system based upon use of a tape-oriented computer system resulted in the creation of a planning data bank which permitted the efficient conversion, filing, and retrieval of the planning and engineering data essential for areawide comprehensive planning. This conversion and such extension as was necessary to accommodate new data collected under the first continuing study resulted in the development of a total of over 700 data files, consisting of 560 reels of magnetic tape and over one million punched cards containing more than 100 million individual items of planning information.

The data contained in the planning data bank was subsequently converted to micro-computer storage media and has been maintained in a current state under the continuing regional land use-transportation study. As new data are collected under the continuing study, including the new regional travel survey underway, these data will be integrated into the existing data files, rather than generating additional files. In this manner, current, historic, and planned socioeconomic, land use, and travel data will be maintained for each U. S. Public Land Survey one-quarter section or each traffic analysis zone as appropriate. Existing data conversion and retrieval software will be reevaluated and improved as necessary.

DATA ANALYSES AND FORECASTS

As already noted, planning data have been collected and assembled under both the initial and continuing regional land use-transportation studies by U. S. Public Land Survey one-quarter sections. In addition, specially coded traffic analysis zones and districts were delineated, comprising aliquot parts of, or combinations of, entire one-quarter sections. These areas are all used for data presentation and analyses within the regional planning concept. In addition, the Commission has delineated existing and proposed sanitary sewer service areas within the Region. These define rational urban service areas and generally include the existing developed areas and the contiguous surrounding areas into which the urban area concerned may be expected to expand. For these various planning analysis areas to be compatible with the Commission's data base and methods of retrieval and presentation, delineations must be made in relation to the control framework comprised of one-quarter section lines.

The traffic analysis zone layout developed during the initial and continuing land use-transportation studies will be reviewed and revised as required to improve the results of traffic simulation model application. The traffic analysis zone system will be periodically reviewed in relation to the arterial street and highway network and particularly to changes in that network. The travel demand contributed to the network emanates from the traffic zone centroids; therefore, the location, number, and distribution of these centroids must be properly related to the traffic zone system itself, a fact necessitating full coordination between the zone system and the functional arterial network. The number of zones, as well as their size and distribution, will also be adjusted as closely as possible to census tract boundaries so as to enable census information to be readily adaptable to traffic analysis zone aggregation. Zone boundaries will be adjusted to conform to changes in the arterial street system, and to changes in major physical barriers which may serve to form a logical division between differing types of land use activities. Finally, the traffic analysis zones and districts will be reviewed and revised in relation to the most recent land use inventory information.

Forecasts of probable future events and conditions are necessary to any planning operation.

It is also imperative, once plans have been prepared on the basis of such forecasts, that the changing conditions be continuously monitored in order to determine the continued relevance of the forecasts. It is anticipated that the forecasts prepared under the study program will, as a part of the surveillance and reappraisal functions, be monitored and updated as necessary. The necessity to update forecasts of primary input data required in the preparation of regional land use and transportation plans will be determined based upon the analysis and evaluation of data resulting from the decennial census and the major travel survey to be conducted in 1991. These forecasts include: population, employment, public financial resources, land use demand, automobile and truck availability, and travel demand.

The Commission's work program has, from its inception, embraced utilization of a unique combination of conventional graphic and analytic planning techniques with newer systems engineering techniques, including simulation modeling. Regional population and employment forecasts under the initial regional land use-transportation study effort were made independently, employing four separate techniques for economic forecasting, including three conventional techniques and a simulation model technique.¹ Conventional techniques were used to prepare forecasts of public financial resource availability, land use demand, and automobile and truck availability. Simulation model techniques were utilized for the preparation of forecasts of the spatial distribution of the various land uses and of travel demand. Under the first continuing land use-transportation study, conventional techniques exclusively were applied to the monitoring and updating of employment, land use, public financial resources, and automobile and truck availability; conventional and simulation model techniques both were applied to the monitoring and updating of resident population levels; and simulation model techniques exclusively were applied to the forecast of travel demand. The continuing land

¹See *SEWRPC Planning Report No. 7, The Regional Land Use-Transportation Study, Volume Two, Forecasts and Alternative Plans—1990*, pp. 31-41.

use-transportation study will follow the same dual approach, application of conventional and simulation model techniques, utilized in the first continuing land use-transportation study.

Demographic Analysis and Population Forecast

Under the initial land use-transportation study, in addition to analyzing the size, composition, and geographic distribution of the 1960 population, eight methods of forecasting future population levels were developed and tested; and from among the results, a "single best" estimate was selected for plan design purposes.² Under the initial continuing study, in addition to the monitoring of the population forecasts on an annual basis, the Commission undertook analyses of the size, composition, and distribution of the 1970 and 1980 levels of population based on the programmed availability of federal census data. The census data also provided a current base upon which to reevaluate the population forecasts and underlying methodologies prepared under the initial and continuing studies. In addition, the periodic extension of the plan design year also precipitated such a reevaluation of the forecasts.

The Commission, in similar fashion to earlier population forecast efforts, will utilize a simulation model based upon the cohort-survival method in determining future resident population levels under the continuing land use-transportation study. In order to deal with the uncertainties inherent in the determination of future population growth and change within an urbanizing region like southeastern Wisconsin, an "alternative futures" approach in preparing this set of population forecasts will be used. Three alternative regional population scenarios will be developed, each of which will be closely linked to a corresponding economic future scenario for the Region. Two of these will represent "low-growth" and "high-growth" extremes of future regional population levels. The third will identify an "intermediate-growth" future, a future that lies within the two extremes. The range of population forecasts developed in this manner will allow the test and evaluation of alternative system and facility plans under

widely varying future development conditions and the adoption of plans that may be expected to remain viable under greatly varying future conditions.

Economic Analysis and Employment Forecast

Under the initial land use-transportation study, employment within the Region was analyzed with respect to size, composition, and spatial distribution. Four methods of forecasting future employment levels for the Region were developed and tested; from among these, a "single best" estimate was selected for plan design purposes. Under the initial continuing study, in addition to the monitoring of the employment forecasts on an annual basis, the Commission undertook an analysis of the size, composition, and spatial distribution of the 1970 and 1980 employment levels. The analysis was based upon employment data available from state and federal agencies. Updated employment information from these agencies also provided a current base upon which to periodically reevaluate the employment forecast prepared and the underlying methodologies utilized under the initial and continuing studies. Under the continuing study, it is proposed to continue to use the dominant-subdominant industry analysis methodology developed and previously utilized by the Commission in its economic base and structure studies and in forecasting future employment levels within the Region. As in the approach to be taken to resident population forecasting, however, the Commission, in order to deal with the uncertainties inherent in the factors affecting employment growth and change, will utilize an "alternative futures" approach in preparing a new set of employment projections for the Region. Three alternative regional economic scenarios will be developed. Two of these will represent "low-growth" and "high-growth" extremes of future regional employment levels; the third will identify an "intermediate-growth" future, a future that lies between the two extremes. The various resident population and employment projections and forecasts will be internally consistent, given projected and forecast labor force participation rates. The range of employment projections, like the range of population projections, will allow the test and evaluation of alternative system and facility plans under varying future development conditions and the adoption of plans that may be expected to remain viable under greatly varying future conditions.

²See *SEWRPC Planning Report No. 7, Volume Two, Forecasts and Alternative Plans—1990*, pp. 7-26.

Public Financial Resources

Analysis and Forecast

Under the initial land use-transportation study, two basic forecasts of public revenues were prepared: one of total local government revenues and one of total transportation revenues, originally highway revenues, available for use within the Region by all levels of government. Under the continuing study program, it is anticipated that, in addition to monitoring changes in total public revenue and expenditure patterns, efforts will be made continually to analyze and evaluate transportation expenditure patterns as a measure of progress towards implementation of the staged regional transportation plan and the individual jurisdictional highway system and transit system development plans. Updated and extended forecasts of total local government revenues and total transportation revenues will also be prepared under the continuing land use-transportation study.

Land Use Demand Analysis and Forecast

Under the initial land use-transportation study, forecasts of future land use to accommodate the forecast future population were developed by applying existing land use ratios. The analyses were carried out for all the alternative plans, as well as for the unplanned alternative, and incorporated into the recommended regional land use plan.

Under the continuing land use-transportation study, the relationship between periodically inventoried actual land use and population levels is monitored, and the land use demand forecasts are reevaluated using the most recent population and land use ratios. Such analyses, using current data, can help reveal departures from the forecast data developed under the study and the extent to which proposed modifications in existing land use development trends are being achieved. Finally, detailed analysis of types of major land use centers, such as commercial, industrial, and recreational, will enable the development of measures of performance to indicate whether land uses are being established in accordance with the plan and will also reveal any abrupt departures from the plan.

Automobile and Truck

Availability Analysis and Forecast

Automobile and truck availability forecasts prepared under the initial land use-transportation study will continue to be monitored by county on an annual basis. The primary source

of information will continue to be the reports on motor-vehicle registration published by the Wisconsin Department of Transportation, Division of Motor Vehicles, Bureau of Vehicle Registration and Licensing. Data obtained in the new regional travel survey underway will also be valuable in monitoring automobile and truck availability. These data will be analyzed in light of the continued decrease in the ratio of persons to automobiles available and the effect such decrease may have on the validity of the forecasts.

Travel Demand Analysis and Forecast

Under the initial regional land use-transportation study, forecasts of travel demand within the Region were made for the years 1970, 1980, and the initial plan design year 1990. These travel demand forecasts were analyzed and evaluated in light of the results of the 1972 travel survey. New forecasts were prepared and staged to a new plan design year, 2000, utilizing the traffic simulation models as those models were refined on the basis of the new travel survey data and utilizing such revised or refined measures of the socioeconomic and land use parameters for each traffic analysis zone as necessary.

Using data provided by the new origin-destination survey to be conducted in 1991 and 1992 and by various continuing study inventories, including the land use, population, and economic activity inventories, current estimates will be prepared by U. S. Public Land Survey one-quarter section of the socioeconomic and land use parameters of the Commission trip generation model originally formulated under the initial regional land use-transportation study and refined under the continuing study. The model will then be applied to produce a forecast of current zonal trip productions and attractions. These will be compared with the results of the new travel survey, the differences evaluated, trip generation equations revised or refined as necessary, and new productions and attractions calculated. The modal split and trip distribution models will then be applied to these trip productions and attractions to prepare both new transit and vehicle-trip tables. These will be compared with the results of the new travel survey, with differences again evaluated and modal split and trip distribution models recalibrated as necessary. The recalibrated models will be used to calculate new trip tables, which will then be

assigned to the respective current transportation system networks. Assigned transit and vehicular traffic volumes will then be compared with current traffic volume counts on an individual link, corridor, and screenline, as well as area-wide, basis. These comparisons may indicate a need to further revise, refine, or recalibrate the travel forecasting models.

The forecasts of travel demand for the years 1990 and 2000 prepared under the continuing land use-transportation study will be reappraised in light of the analyses conducted and forecasts for a new plan design year, 2010, will be prepared.

SIMULATION MODEL APPLICATION

Demographic Model

A population forecasting model based upon the cohort-survival technique of population estimation was developed under the first continuing regional land use-transportation study. Inputs to the model include birth, death, and migration levels and rates. The model utilized in all Commission population forecasting efforts since the first continuing land use-transportation study will be applied using the most recent decennial census results as a supplementary and independent means of population forecasting. The model will provide population forecasts by race, age, and sex.

Economic Simulation Model

Under the initial land use-transportation study, a series of long-range regional economic forecasts were made, using a dynamic input-output Regional Economic Simulation Model that generated a synthetic history of the regional economy based on forecasts of national consumer, government, and export spending. The base year used for data collection and the subsequent determination of the model parameters was 1963. The regional economic simulation model originally developed by the Commission under the initial land use-transportation study required the collection of a significant amount of data, including input-output parameters, both national and regional, relating to sales and purchases of all of the industries in the model; internal resource parameters in each industry, relating to material purchases, capital spending, employment, and wages in each industry to the output of that industry; and updated history of the exogenous variables of consumer purchases,

federal government purchase, and gross exports, as well as forecasts of these same variables for the new plan design year. The collection of these data required personal structured interviews with the chief executive officers of the dominant industries within the Region, a difficult, time-consuming, costly process. The prohibitive cost of these data collection measures coupled with the satisfactory performance and reliability of conventional employment forecasting techniques based upon the dominant/subdominant industry groups led to the decision to abandon use of the economic simulation model following the initial land use-transportation study.

Land Use Design Model

A Land Use Design Model was developed and applied in the initial land use-transportation study to aid in the formulation of land development and public works program policies necessary to implement the selected regional land use plan. In the model runs, alternative residential land development patterns were simulated, based on a planned transportation network and prelocated employment and commercial areas. A set of policies emphasizing the crucial nature of sanitary sewer planning was developed as a result of the simulation test runs.

Since the initial land use-transportation study, the Commission has made significant progress in identifying and delineating planned urban service areas tributary to the 48 sewage treatment plants operating within the Region serving 85 sanitary sewer service areas. In addition, the probable location of new major commercial and industrial employment centers has been identified. The availability of the aforementioned urban service area and major commercial and industrial employment center locations coupled with the fact that the Commission will be utilizing an alternative futures approach, developing alternative land use scenarios based upon a range of population and employment projections, led to the decision to abandon use of the Land Use Design Model following the initial land use-transportation study.

Traffic Simulation Models

Under the initial land use-transportation study, a series of traffic simulation models were developed to simulate trip generation, modal split, trip distribution, and traffic flow within the Region mathematically. These models were validated and recalibrated under the continuing study, utilizing the data collected in the full-scale 1972

travel survey and in the small-scale 1985 survey. The data provided by the new travel survey being undertaken within the Region under the continuing regional land use-transportation study in 1991 and 1992 will not only permit a detailed reevaluation and refinement of the traffic simulation models but also permit many special analyses to be made that will contribute to a better understanding of travel habits and patterns within the Region and of the forces shaping those habits and patterns. Important among these analyses will be those relating to changes in public attitudes toward transportation modes and service levels; to time and spatial patterns in travel; to trip generation; and to choice of mode.

Trip Generation Model: The regional trip generation model was developed under the initial regional land use-transportation study. During the first continuing regional land use-transportation study, the regional trip generation model was recalibrated and reviewed for special studies, including the Milwaukee County Mass Transit Technical Planning Study and the jurisdictional highway planning studies. A detailed review of the trip generation equations was accomplished using current measures of the independent parameters provided by the 1972 regional travel surveys and by the 1970 census data as updated through certain continuing study inventories, including current inventories of land use, population, and employment. A comparison was made by traffic analysis zone of the number of trips generated by the model and of the actual trips reported in the new travel survey in order to check the continued validity of the model. The conclusion of this analysis was that the model continued to be valid and accurately predicted zonal trip generation. The model was recalibrated and refined using data from the 1972 regional travel survey and recalibrated using the results of the small-scale 1985 travel survey. Consideration will be given to further refining the model, utilizing the socioeconomic land use and travel data collected in the new regional travel survey. That survey will permit a complete review and recalibration as necessary of the model, something not possible utilizing the results of the small-scale 1985 survey. Such model refinement will be conducted in light of the current state of the art of traffic simulation modeling.

Trip Distribution Model: During the first continuing study, the regional trip distribution model was recalibrated for subregional areas in conjunction with work for the Milwaukee County Mass Transit Technical Planning Study. Further recalibration and refinement of the trip distribution model was undertaken, using the current travel pattern data developed from the 1972 full-scale regional travel survey. Comparative analyses of the reported trip lengths in the 1972 survey and the model simulated trip lengths were conducted and it was concluded that the model continued to be valid, as it accurately predicted 1972 trip lengths. The model was recalibrated and refined with the 1972 regional travel survey data and revalidated using the results of the small-scale 1985 travel survey. The model will again be reviewed and refined with data from the current new regional travel survey. Again that survey will present a complete review and recalibration as necessary of the model, something not possible utilizing the results of the small-scale 1985 survey.

Modal Split Model: In conjunction with the Milwaukee County Mass Transit Technical Planning Study, the modal split model initially developed for the preparation of the regional transportation plan was calibrated for the Milwaukee metropolitan area. Under the continuing study, a comparison was made with 1972 data of the validity of the modal split model, that is, its ability to predict 1972 transit travel. The conclusion of this analysis was that the model continued to be valid and that it accurately predicted zonal transit travel. The model was recalibrated and refined with data from the 1972 regional travel survey, and revalidated using the results of the small-scale 1985 travel survey. Consideration will be given to further refinement of the model utilizing the socioeconomic, land use, and travel data collected in the new regional travel survey. A similar comparison of reported and estimated travel will be made using current measures of the level of service provided by the transit and highway systems, as well as current measures of automobile availability, socioeconomic characteristics of households, and trip data. Attention will be given to recalibrating and refining the submodels for the Racine and Kenosha areas, as well as the submodel for the Milwaukee area. Such complete recalibration, as well as revalidation,

was not possible utilizing the results of the 1985 small-scale survey.

Traffic Assignment Model: During the initial continuing study, the inputs to the transit-traffic assignment models were converted to run under the HUD IBM-360 Transit Assignment Package. During the continuing study, the inputs to the highway traffic assignment model have been converted to run under the FHWA "Planpac" Highway Assignment Package. Further conversion and refinement was made to conduct traffic assignment under the Federal Urban Transportation Planning System "UROAD" package, and ultimately under the "TRANPLAN" package of transportation planning computer model systems. The transit and highway networks are annually updated to reflect the current status of the arterial street and highway and transit systems. Results of highway and transit travel time studies and special capacity studies are used to maintain the assignment models current. The continued validity of the traffic assignment model is checked every five years by comparing simulated current year traffic volumes to traffic counts. Minor modifications and refinements will continue to be made on a subarea basis to provide for plan implementation purposes more refined traffic volume forecasts.

The traffic simulation model may be refined under the continuing study to permit morning peak-hour and evening peak-hour, as well as 24-hour traffic assignments to be made for the highway system. This refinement is expected to be accomplished through the use of the trip data obtained in the new regional travel survey and may involve the development of peak period trip

generation, modal split, and trip distribution, as well as traffic assignment models. The models will be retested by assigning traffic demand derived from current measures of the independent parameter provided by the continuing study inventories to the highway network and comparing the results with traffic volume counts on an individual location, corridor, and screenline basis using the 1991 travel data obtained from the origin-destination studies and the 1991 highway and transit network inventories.

Air Pollutant Emission Model

Under the first continuing land use-transportation study, the Commission installed and applied a model to estimate the air pollutant emissions of the regional transportation system. This model forecast air pollutant emissions by type, including hydrocarbon, carbon monoxide, sulfur dioxides, nitrous oxides, and particulate emissions, based upon the number of vehicle-miles of travel by type of vehicle and the speed of the vehicles. The model is applied by segment of the arterial street and highway system. Under the continuing land use-transportation study, the commission installed and maintained the initial version of the U. S. Environmental Protection Agency's air pollutant emission model, Mobile 1.0. The current version of this model is Mobile 4.1, which has recently been installed and applied by the Regional Planning Commission. This model and its future updates will be used to estimate transportation system air pollutant emissions for transportation system planning, air quality management planning, and annual conformity analyses of the regional transportation improvement program with the State Implementation Plan for Air Quality Management.

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Chapter V

PLAN DESIGN, TEST AND EVALUATION, AND IMPLEMENTATION

INTRODUCTION

This chapter outlines the work to be undertaken in the continuing regional land use-transportation study relative to the design, test, and evaluation of regional land use and transportation system plans, the selection and adoption of those plans, and the promotion of implementation of those plans over time. The chapter begins with a brief overview of the comprehensive regional plan framework which includes as important elements the regional land use and transportation system plans. Following that overview, the chapter includes descriptions of the work to be undertaken in reviewing, reevaluating, and extending the regional land use and regional transportation plans, as well as the measures to be taken to promote plan implementation. Particular emphasis is given to the requirements of the federal Clean Air Act of 1990 and the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

THE REGIONAL PLAN: AN OVERVIEW AND STATUS REPORT

Plan Design Function

The Commission is charged by law with the function and duty of "making and adopting a master plan for the physical development of the Region." The permissible scope and content of this plan, as outlined in the enabling legislation, extend to all phases of regional development, implicitly emphasizing, however, the preparation of alternative spatial designs for the use of land and for supporting transportation and utility facilities.

The scope and complexity of areawide development problems prohibit the making and adopting of an entire comprehensive development plan at one time. The Commission has, therefore, proceeded with the preparation of individual plan elements which together comprise the required comprehensive plan. Each element is intended to deal with an identified areawide developmental or environmental problem. The individual elements are coordinated, indeed, integrated, by being related to an areawide land use plan. Thus, the land use plan comprises the

most basic regional plan element, an element on which all other elements are based.

The Commission has placed great emphasis upon the preparation of a comprehensive plan for the physical development of the Region in the belief that such a plan is essential if land use development is to be properly coordinated with the development of supporting transportation, utility, and community facility systems; if the development of each of these individual functional systems is to be coordinated with the development of the others; if serious and costly environmental and developmental problems are to be minimized; and if a more healthful, attractive, and efficient regional settlement pattern is to be evolved. Under the Commission's approach, the preparation, adoption, and use of the comprehensive plan are considered to be the primary objectives of the planning process; all planning and plan implementation techniques are based upon, or related to, the comprehensive plan.

The comprehensive plan not only provides the necessary framework for coordinating and guiding growth and development within a multi-jurisdictional urbanizing region having essentially a single community of interest, but also provides the best conceptual basis available for the application of systems engineering skills to the growing problems of such a region. This is because systems engineering basically must focus upon a design of physical systems. It seeks to achieve good design by setting good objectives, determining the ability of alternative plans to meet these objectives through quantitative analyses, cultivating interdisciplinary team activity, and considering all the relationships involved both within the system being designed and between the system and its environment.

Adopted Plan Elements: September 1992

The Commission initiated the important plan design function in 1963 when it embarked upon a major program to prepare a regional land use plan and a regional transportation plan. Beginning in the early 1970s, this plan design function has included the conduct of major plan reappraisals as well as the preparation of new plan elements.

By September 1992, the adopted regional plan consisted of 24 individual plan elements, identified in Table 2. Four of these elements are land use-related: the regional land use plan, the regional housing plan, the regional library facilities and services plan, and the regional park and open space plan.

Eight of the plan elements are transportation-related. These consist of the regional transportation plan, which includes highway and transit elements and jurisdictional planning for the arterial street and highway system, the regional airport system plan, the regional transportation systems management plan, the elderly and handicapped transportation plan, and detailed transit system development plans for the Kenosha, Racine, Waukesha, and West Bend urban areas.

Ten of the adopted plan elements fall within the broad functional area of environmental planning. These consist of the regional water quality management plan, the regional wastewater sludge management plan, the regional air quality attainment and maintenance plan, and comprehensive watershed development plans for the Root, Fox, Milwaukee, Menomonee, Kinnickinnic, and Pike River and Oak Creek watersheds.

The final two plan elements consist of comprehensive community development plans for the Kenosha and Racine urbanized areas.

The Cyclical Nature of the Planning Process

The Commission views the planning process as cyclical in nature, alternating between system, or areawide, planning, and project, or local, planning. For example, with respect to transportation planning, under this concept transportation facilities development and management proposals are initially advanced at the areawide systems level of planning, and then an attempt is made to implement the proposals through local project planning. If, for whatever reasons, a particular facility construction or management proposal advanced at the areawide systems planning level cannot be implemented at the project level, that determination is taken into account in the next phase of systems planning.

Status of Regional Land Use and Transportation Plans

Given the cyclical nature of the planning process, the Commission has over the years proceeded to produce several generations of regional plans. The following summarizes the historic

development and present status of regional land use planning:

1. The first-generation regional land use plan was adopted in 1966 and had a design year of 1990. That plan was documented in the three-volume SEWRPC Planning Report No. 7, The Regional Land Use-Transportation Study.
2. A second-generation regional land use plan was adopted in 1977 and had a design year of 2000. That plan is documented in the two-volume SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin—2000.
3. A third-generation regional land use plan was adopted in 1992 and has a design year of 2010. That plan is documented in the one-volume SEWRPC Planning Report No. 40, A Regional Land Use Plan for Southeastern Wisconsin—2010.

All three generations of the regional land use plan embody the same three essential concepts: the centralization of new urban development to the greatest degree practicable, the preservation and protection of primary environmental corridor lands, and the preservation and protection of prime agricultural lands. Each succeeding generation of regional land use plan took into account land use decisions that were made following adoption of the plan of the previous generation. Each succeeding generation of the regional land use plan also took into account the results of more refined and detailed planning undertaken at the county and local levels of government, including county farmland preservation planning, county and local park and open space planning, and county and local comprehensive land use planning. At the present time, then, the Commission has an adopted regional land use plan for the design year 2010, a nominal 20-year design period. Under the Commission's practice, it should be expected that a fourth-generation regional land use plan would be prepared and adopted in the mid 1990s, and in that effort the plan design year would be set forward to the year 2020, thereby maintaining a 20-year horizon.

The following summarizes the historic development and present status of regional transportation system planning:

Table 2

THE ADOPTED REGIONAL PLAN: SEPTEMBER 30, 1992

Functional Area	Plan Element	Plan Document	Date of Adoption
Land Use, Housing, and Community Facility Planning	Regional Land Use Plan ^a	Planning Report No. 40, <u>A Regional Land Use Plan for Southeastern Wisconsin—2010</u>	September 23, 1992
	Amendment—Kenosha County	Community Assistance Planning Report No. 45, <u>A Farmland Preservation Plan for Kenosha County, Wisconsin</u>	June 17, 1982
	Amendment—Racine County	Community Assistance Planning Report No. 46, <u>A Farmland Preservation Plan for Racine County, Wisconsin</u>	June 17, 1982
	Amendment—Ozaukee County	Community Assistance Planning Report No. 87, <u>A Farmland Preservation Plan for Ozaukee County, Wisconsin</u>	June 16, 1983
	Amendment—Pewaukee Area	Community Assistance Planning Report No. 76, <u>A Land Use Plan for the Town and Village of Pewaukee: 2000, Waukesha County, Wisconsin</u>	December 1, 1983
	Amendment—Town of Pleasant Prairie	Community Assistance Planning Report No. 88, <u>A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, Kenosha County, Wisconsin</u>	March 11, 1985
	Amendment—IH 94 South Corridor	Community Assistance Planning Report No. 200, <u>A Land Use and Transportation System Development Plan for the IH 94 South Freeway Corridor, Kenosha, Milwaukee, and Racine Counties</u>	January 15, 1992
	Regional Library Facilities and Services Plan	Planning Report No. 19, <u>A Library Facilities and Services Plan for Southeastern Wisconsin</u>	September 12, 1974
	Regional Housing Plan	Planning Report No. 20, <u>A Regional Housing Plan for Southeastern Wisconsin</u>	June 5, 1975
	Regional Park and Open Space Plan	Planning Report No. 27, <u>A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000</u>	December 1, 1977
	Amendment—Ozaukee County Park and Open Space Plan	Community Assistance Planning Report No. 133, <u>A Park and Open Space Plan for Ozaukee County</u>	September 14, 1987
	Amendment—Kenosha County Park and Open Space Plan	Community Assistance Planning Report No. 131, <u>A Park and Open Space Plan for Kenosha County</u>	December 5, 1988
	Amendment—Racine County Park and Open Space Plan	Community Assistance Planning Report No. 134, <u>A Park and Open Space Plan for Racine County</u>	March 6, 1989
	Amendment—Washington County Park and Open Space Plan	Community Assistance Planning Report No. 136, <u>A Park and Open Space Plan for Washington County</u>	March 7, 1990
	Amendment—Waukesha County Park and Open Space Plan	Community Assistance Planning Report No. 137, <u>A Park and Open Space Plan for Waukesha County</u>	March 7, 1990
	Amendment—Walworth County Park and Open Space Plan	Community Assistance Planning Report No. 135, <u>A Park and Open Space Plan for Walworth County</u>	March 4, 1992
	Amendment—Milwaukee County Park and Open Space Plan	Community Assistance Planning Report No. 132, <u>A Park and Open Space Plan for Milwaukee County</u>	June 17, 1992
Transportation Planning	Regional Transportation Plan ^b	Planning Report No. 25, <u>A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	June 1, 1978
	Amendment—Lake Freeway South Corridor	<u>Amendment to the Regional Transportation Plan—2000, Lake Freeway South Corridor</u>	June 18, 1981
	Amendment—Milwaukee Area Primary Transit System	Planning Report No. 33, <u>A Primary Transit System Plan for the Milwaukee Area</u>	June 17, 1982

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Transportation Planning (continued)	Amendment—Racine County	<u>Amendment to the Regional Transportation Plan—2000, Racine County</u>	December 2, 1982
	Amendment—Waukesha County	<u>Amendment to the Regional Transportation Plan—2000, Waukesha County</u>	December 2, 1982
	Amendment—Milwaukee Northwest Side/Ozaukee County	<u>Planning Report No. 34, A Transportation System Plan for the Milwaukee Northwest Side/Ozaukee County Study Area</u>	September 8, 1983
	Amendment—Lake Freeway North/Park Freeway East	<u>Amendment to the Regional Transportation Plan—2000, Lake Freeway North/Park Freeway East</u>	December 1, 1983
	Amendment—Stadium Freeway South Corridor	<u>Amendment to the Regional Transportation Plan—2000, Stadium Freeway South Corridor</u>	March 11, 1985
	Amendment—Waukesha County	<u>Amendment to the Regional Transportation Plan—2000, Waukesha County</u>	June 20, 1988
	Amendment—Washington County	<u>Amendment to the Washington County Jurisdictional Highway System Plan—2000</u>	June 20, 1990
	Amendment—Racine County	<u>Amendment to the Racine County Jurisdictional Highway System Plan—2000</u>	December 5, 1990
	Amendment—Kenosha County	<u>Amendment to the Regional Transportation Plan—2000, Kenosha County</u>	December 5, 1990
	Amendment—IH 94 South Corridor	<u>Community Assistance Planning Report No. 200, A Land Use and Transportation System Development Plan for the IH 94 South Freeway Corridor, Kenosha, Milwaukee, and Racine Counties</u>	January 15, 1992
	Amendment—Walworth County	<u>Amendment to the Walworth County Jurisdictional Highway System Plan—2010</u>	March 4, 1992
	Racine Area Transit Development Plan	<u>Community Assistance Planning Report No. 3, Racine Area Transit Development Program: 1975-1979</u>	September 12, 1974
	Regional Airport System Plan ^c	<u>Planning Report No. 38, A Regional Airport System Plan for Southeastern Wisconsin: 2010</u>	June 15, 1987
	Kenosha Area Transit Development Plan ^d	<u>Community Assistance Planning Report No. 183, Kenosha Transit System Development Plan: 1991-1995, City of Kenosha, Wisconsin</u>	June 17, 1992
	Transportation Systems Management Plan	<u>Community Assistance Planning Report No. 50, A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin: 1981</u>	December 4, 1980
	Amendment—Milwaukee Northwest Side/Ozaukee County	<u>Planning Report No. 34, A Transportation System Plan for the Milwaukee Northwest Side/Ozaukee County Study Area</u>	September 8, 1983
	Amendment—Milwaukee Area	<u>Planning Report No. 39, A Freeway Traffic Management System Plan for the Milwaukee Area</u>	December 5, 1988
	Elderly-Handicapped Transportation Plan ^e	<u>Planning Report No. 31, A Regional Transportation Plan for the Transportation Handicapped in Southeastern Wisconsin: 1978-1982</u>	April 13, 1978
	Amendment—Racine Area	<u>SEWRPC Resolution No. 78-17</u>	December 7, 1978
	Amendment—Milwaukee County	<u>Memorandum Report No. 58, A Paratransit Service Plan for Disabled Persons—Milwaukee County Transit System</u>	January 15, 1992
	Amendment—Kenosha Area	<u>Memorandum Report No. 59, A Paratransit Service Plan for Disabled Persons—City of Kenosha Transit System</u>	January 15, 1992
	Amendment—Racine Area	<u>Memorandum Report No. 60, A Paratransit Service Plan for Disabled Persons—City of Racine Transit System</u>	January 15, 1992
	Amendment—City of Waukesha	<u>Memorandum Report No. 61, A Paratransit Service Plan for Disabled Persons—City of Waukesha Transit System Utility</u>	January 15, 1992
	Amendment—Waukesha County	<u>Memorandum Report No. 62, A Paratransit Service Plan for Disabled Persons—Waukesha County Transit System</u>	January 15, 1992

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Transportation Planning (continued)	Waukesha Transit Development Plan	Community Assistance Planning Report No. 154, <u>A Transit System Development Plan for the City of Waukesha, 1988-1992</u>	June 20, 1990
	West Bend Transit Development Plan	Community Assistance Planning Report No. 189, <u>A Transit System Feasibility Study and Development Plan for the City of West Bend: 1992-1996</u>	March 4, 1992
Environmental Planning	Root River Watershed Plan	Planning Report No. 9, <u>A Comprehensive Plan for the Root River Watershed</u>	September 22, 1966
	Fox River Watershed Plan	Planning Report No. 12, <u>A Comprehensive Plan for the Fox River Watershed, Volume One, Inventory Findings and Forecasts; Volume Two, Alternative Plans and Recommended Plan</u>	June 4, 1970
	Amendment—Water Pollution Control Time Schedule	<u>Amendment to the Comprehensive Plan for the Fox River Watershed</u>	September 13, 1973
	Amendment—Lower Watershed Drainage Plan	Community Assistance Planning Report No. 5, <u>Drainage and Water Level Control Plan for the Waterford-Rochester-Wind Lake Area of the Lower Fox River Watershed</u>	June 5, 1975
	Amendment—Pewaukee Flood Control Plan	Community Assistance Planning Report No. 14, <u>Floodland Management Plan for the Village of Pewaukee</u>	June 1, 1978
	Milwaukee River Watershed Plan	Planning Report No. 13, <u>A Comprehensive Plan for the Milwaukee River Watershed, Volume One, Inventory Findings and Forecasts; Volume Two, Alternative Plans and Recommended Plan</u>	March 2, 1972
	Amendment—Lincoln Creek Flood Control Plan	Community Assistance Planning Report No. 13 (2nd Edition), <u>Flood Control Plan for Lincoln Creek, Milwaukee County, Wisconsin</u>	December 1, 1983
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Menomonee River Watershed Plan	Planning Report No. 26, <u>A Comprehensive Plan for the Menomonee River Watershed, Volume One, Inventory Findings and Forecasts; Volume Two, Alternative Plans and Recommended Plan</u>	January 20, 1977
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Regional Wastewater Sludge Management Plan	Planning Report No. 29, <u>A Regional Wastewater Sludge Management Plan for Southeastern Wisconsin</u>	September 14, 1978
	Kinnickinnic River Watershed Plan	Planning Report No. 32, <u>A Comprehensive Plan for the Kinnickinnic River Watershed</u>	March 1, 1979
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Regional Water Quality Management Plan†	Planning Report No. 30, <u>A Regional Water Quality Management Plan for Southeastern Wisconsin, Volume One, Inventory Findings; Volume Two, Alternative Plans; Volume Three, Recommended Plan</u>	July 12, 1979
	Amendment—Root River Watershed	Community Assistance Planning Report No. 37, <u>A Nonpoint Source Water Pollution Control Plan for the Root River Watershed</u>	March 6, 1980
	Amendment—Walworth County Metropolitan Sewerage District	Community Assistance Planning Report No. 56 (2nd Edition), <u>Sanitary Sewer Service Areas for the Walworth County Metropolitan Sewerage District, Walworth County, Wisconsin</u>	December 4, 1991
	Amendment—Cities of Brookfield and Waukesha	<u>Amendment to the Regional Water Quality Management Plan—2000, Cities of Brookfield and Waukesha</u>	December 3, 1981

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—Kenosha County	Community Assistance Planning Report No. 45, <u>A Farmland Preservation Plan for Kenosha County, Wisconsin</u>	June 17, 1982
	Amendment—Racine County	Community Assistance Planning Report No. 46, <u>A Farmland Preservation Plan for Racine County, Wisconsin</u>	June 17, 1982
	Amendment—City of Muskego	Community Assistance Planning Report No. 64 (2nd Edition), <u>Sanitary Sewer Service Area for the City of Muskego</u>	March 3, 1986
	Amendment—Ashippun Lake, Waukesha County	Community Assistance Planning Report No. 48, <u>A Water Quality Management Plan for Ashippun Lake, Waukesha County, Wisconsin</u>	September 9, 1982
	Amendment—Okauchee Lake, Waukesha County	Community Assistance Planning Report No. 53, <u>A Water Quality Management Plan for Okauchee Lake, Waukesha County, Wisconsin</u>	September 9, 1982
	Amendment—Lac La Belle, Waukesha County	Community Assistance Planning Report No. 47, <u>A Water Quality Management Plan for Lac La Belle, Waukesha County, Wisconsin</u>	September 9, 1982
	Amendment—North Lake, Waukesha County	Community Assistance Planning Report No. 54, <u>A Water Quality Management Plan for North Lake, Waukesha County, Wisconsin</u>	December 2, 1982
	Amendment—City of West Bend	Community Assistance Planning Report No. 35, <u>Sanitary Sewer Service Area for the City of West Bend, Washington County, Wisconsin</u>	December 2, 1982
	Amendment—Village of Grafton	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Grafton</u>	December 2, 1982
	Amendment—City of Brookfield	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Brookfield</u>	December 2, 1982
	Amendment—Village of Sussex	Community Assistance Planning Report No. 84, <u>Sanitary Sewer Service Area for the Village of Sussex, Waukesha County, Wisconsin</u>	June 16, 1983
	Amendment—Ozaukee County	Community Assistance Planning Report No. 87, <u>A Farmland Preservation Plan for Ozaukee County, Wisconsin</u>	June 16, 1983
	Amendment—Village of Germantown	Community Assistance Planning Report No. 70, <u>Sanitary Sewer Service Area for the Village of Germantown, Washington County, Wisconsin</u>	September 8, 1983
	Amendment—Village of Saukville	Community Assistance Planning Report No. 90, <u>Sanitary Sewer Service Area for the Village of Saukville, Ozaukee County, Wisconsin</u>	December 1, 1983
	Amendment—City of Port Washington	Community Assistance Planning Report No. 95, <u>Sanitary Sewer Service Area for the City of Port Washington, Ozaukee County, Wisconsin</u>	December 1, 1983
	Amendment—Pewaukee	Community Assistance Planning Report No. 76, <u>A Land Use Plan for the Town and Village of Pewaukee: 2000, Waukesha County, Wisconsin</u>	December 1, 1983
	Amendment—Belgium Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Onion River Priority Watershed Plan</u>	December 1, 1983
	Amendment—Geneva Lake Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Geneva Lake Area Communities</u>	December 1, 1983
	Amendment—Village of Butler	Community Assistance Planning Report No. 99, <u>Sanitary Sewer Service Area for the Village of Butler, Waukesha County, Wisconsin</u>	March 1, 1984
	Amendment—City of Hartford	Community Assistance Planning Report No. 92, <u>Sanitary Sewer Service Area for the City of Hartford, Washington County, Wisconsin</u>	June 21, 1984
	Amendment—Mukwonago Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Mukwonago, Towns of East Troy and Mukwonago</u>	June 21, 1984
	Amendment—Village of Fredonia	Community Assistance Planning Report No. 96, <u>Sanitary Sewer Service Area for the Village of Fredonia, Ozaukee County, Wisconsin</u>	September 13, 1984
	Amendment—Village of East Troy	Community Assistance Planning Report No. 112, <u>Sanitary Sewer Service Area for the Village of East Troy and Environs, Walworth County, Wisconsin</u>	September 13, 1984

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—City of Milwaukee	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Milwaukee</u>	September 13, 1984
	Amendment—Town of Pleasant Prairie	<u>Community Assistance Planning Report No. 88, A Land Use Management Plan for the Chiwaukee Prairie-Carol Beach Area of the Town of Pleasant Prairie, Kenosha County, Wisconsin</u>	March 11, 1985
	Amendment—Village of Belgium	<u>Community Assistance Planning Report No. 97 (2nd Edition), Sanitary Sewer Service Area for the Village of Belgium, Ozaukee County, Wisconsin</u>	June 15, 1987
	Amendment—Town of Addison	<u>Community Assistance Planning Report No. 103, Sanitary Sewer Service Area for the Allenton Area, Washington County, Wisconsin</u>	March 11, 1985
	Amendment—Town of Yorkville	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Yorkville</u>	March 11, 1985
	Amendment—Village of Williams Bay	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Williams Bay/Walworth County Metropolitan Sewerage District</u>	March 11, 1985
	Amendment—Town of Trenton City of West Bend	<u>Amendment to the Regional Water Quality Management Plan—2000, City of West Bend/Town of Trenton</u>	March 11, 1985
	Amendment—Village of Hartland	<u>Community Assistance Planning Report No. 93, Sanitary Sewer Service Area for the Village of Hartland, Waukesha County, Wisconsin</u>	June 17, 1985
	Amendment—Village of Jackson	<u>Community Assistance Planning Report No. 124, Sanitary Sewer Service Area for the Village of Jackson, Washington County, Wisconsin</u>	June 17, 1985
	Amendment—Pewaukee Area	<u>Community Assistance Planning Report No. 113, Sanitary Sewer Service Area for the Town of Pewaukee Sanitary District No. 3, Lake Pewaukee Sanitary District, and Village of Pewaukee, Waukesha County, Wisconsin</u>	June 17, 1985
	Amendment—City of Waukesha	<u>Community Assistance Planning Report No. 100, Sanitary Sewer Service Area for the City of Waukesha and Environs, Waukesha County, Wisconsin</u>	December 2, 1985
	Amendment—Village of Slinger	<u>Community Assistance Planning Report No. 128, Sanitary Sewer Service Area for the Village of Slinger, Washington County, Wisconsin</u>	December 2, 1985
	Amendment—Delafield/ Nashotah Area	<u>Community Assistance Planning Report No. 127, Sanitary Sewer Service Area for the City of Delafield and the Village of Nashotah and Environs, Waukesha County, Wisconsin</u>	December 2, 1985
	Amendment—Kenosha Area	<u>Community Assistance Planning Report No. 106, Sanitary Sewer Service Areas for the City of Kenosha and Environs, Kenosha County, Wisconsin</u>	December 2, 1985
	Amendment—Town of Eagle	<u>Amendment to the Regional Water Quality Management Plan—2000, Eagle Spring Lake Sanitary District</u>	December 2, 1985
	Amendment—Town of Salem	<u>Community Assistance Planning Report No. 143, Sanitary Sewer Service Area for the Town of Salem Utility District No. 2, Kenosha County, Wisconsin</u>	March 3, 1986
	Amendment—Friess Lake, Washington County	<u>Community Assistance Planning Report No. 98, A Water Quality Management Plan for Friess Lake, Washington County, Wisconsin</u>	March 3, 1986
	Amendment—Geneva Lake, Walworth County	<u>Community Assistance Planning Report No. 60, A Water Quality Management Plan for Geneva Lake, Walworth County, Wisconsin</u>	March 3, 1986
	Amendment—Pewaukee Lake, Waukesha County	<u>Community Assistance Planning Report No. 58, A Water Quality Management Plan for Pewaukee Lake, Waukesha County, Wisconsin</u>	March 3, 1986
	Amendment—Waterford/ Rochester Area	<u>Community Assistance Planning Report No. 141, Sanitary Sewer Service Area for the Waterford/Rochester Area, Racine County, Wisconsin</u>	June 16, 1986
	Amendment—City of Burlington	<u>Community Assistance Planning Report No. 78, Sanitary Sewer Service Area for the City of Burlington, Racine County, Wisconsin</u>	June 16, 1986

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—City of Waukesha/ Town of Pewaukee	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Waukesha/ Town of Pewaukee</u>	December 1, 1986
	Amendment—Salem/Paddock Lake/Bristol Area	Community Assistance Planning Report No. 145, <u>Sanitary Sewer Service Area for the Town of Salem Utility District No. 1, Village of Paddock Lake, and Town of Bristol Utility District Nos. 1 and 1B, Kenosha County, Wisconsin</u>	December 1, 1986
	Amendment—Racine Area	Community Assistance Planning Report No. 147, <u>Sanitary Sewer Service Area for the City of Racine and Environs, Racine County, Wisconsin</u>	December 1, 1986
	Amendment—Town of Lyons	<u>Amendment to the Regional Water Quality Management Plan—2000, Country Estates Sanitary District/Town of Lyons</u>	March 2, 1987
	Amendment—Village of Silver Lake	Community Assistance Planning Report No. 119, <u>Sanitary Sewer Service Area, Village of Silver Lake, Kenosha County, Wisconsin</u>	June 15, 1987
	Amendment—Village of Twin Lakes	Community Assistance Planning Report No. 149, <u>Sanitary Sewer Service Area, Village of Twin Lakes, Kenosha County, Wisconsin</u>	June 15, 1987
	Amendment—Cedarburg/ Grafton Area	Community Assistance Planning Report No. 91, <u>Sanitary Sewer Service Area, City of Cedarburg, Village of Grafton, Ozaukee County, Wisconsin</u>	June 15, 1987
	Amendment—Town of Walworth	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Walworth Utility District No. 1/Walworth County Metropolitan Sewerage District</u>	June 15, 1987
	Amendment—City of West Bend	<u>Amendment to the Regional Water Quality Management Plan—2000, City of West Bend</u>	June 15, 1987
	Amendment—City of Whitewater	Community Assistance Planning Report No. 94, <u>Sanitary Sewer Service Area for the City of Whitewater, Walworth County, Wisconsin</u>	September 14, 1987
	Amendment—Town of Lyons	Community Assistance Planning Report No. 158, <u>Sanitary Sewer Service Area for the Town of Lyons Sanitary District No. 2, Walworth County, Wisconsin</u>	September 14, 1987
	Amendment—City of Hartford	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Hartford</u>	September 14, 1987
	Amendment—Milwaukee Harbor Estuary Plan	Planning Report No. 37, <u>A Water Resources Management Plan for the Milwaukee Harbor Estuary, Volume One, Inventory Findings; Volume Two, Alternative and Recommended Plans</u>	December 7, 1987
	Amendment—City of New Berlin	Community Assistance Planning Report No. 157, <u>Sanitary Sewer Service Area for the City of New Berlin, Waukesha County, Wisconsin</u>	December 7, 1987
	Amendment—Village of Sussex	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Sussex</u>	December 7, 1987
	Amendment—Kenosha Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Kenosha and Environs</u>	December 7, 1987
	Amendment—Village of Kewaskum	Community Assistance Planning Report No. 161, <u>Sanitary Sewer Service Area for the Village of Kewaskum, Washington County, Wisconsin</u>	March 7, 1988
	Amendment—Town of Darien	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Darien/Walworth County Metropolitan Sewerage District</u>	June 20, 1988
	Amendment—Village of Sussex	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Sussex</u>	June 20, 1988
	Amendment—Village of Darien	Community Assistance Planning Report No. 123 (2nd Edition), <u>Sanitary Sewer Service Area for the Village of Darien, Walworth County, Wisconsin</u>	September 23, 1992
	Amendment—West Bend Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of West Bend/Town of West Bend</u>	September 12, 1988
	Amendment—Hartford Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Hartford</u>	September 12, 1988
	Amendment—Town of Waterford	<u>Amendment to the Regional Water Quality Management Plan—2000, Western Racine County Sewerage District</u>	September 12, 1988

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—Hartford Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Hartford</u>	December 5, 1988
	Amendment—City of Waukesha	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Waukesha</u>	December 5, 1988
	Amendment—Oconomowoc Area	<u>Community Assistance Planning Report No. 172, Sanitary Sewer Service Area for the City of Oconomowoc and Environs, Waukesha County, Wisconsin</u>	March 6, 1989
	Amendment—Village of Genoa City	<u>Community Assistance Planning Report No. 175, Sanitary Sewer Service Area for the Village of Genoa City, Kenosha and Walworth Counties, Wisconsin</u>	March 6, 1989
	Amendment—Village of Germantown	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Germantown</u>	March 6, 1989
	Amendment—Racine Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Racine and Environs</u>	March 6, 1989
	Amendment—Upper Fox River Watershed	<u>Amendment to the Regional Water Quality Management Plan—2000, Upper Fox River Watershed—Brookfield and Sussex Sewage Treatment Plants</u>	May 15, 1989
	Amendment—Racine Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Racine and Environs</u>	June 19, 1989
	Amendment—Lake Geneva Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Lake Geneva and Environs</u>	June 19, 1989
	Amendment—Town of Geneva	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Geneva, Walworth County Metropolitan Sewerage District</u>	November 6, 1989
	Amendment—Town of Waterford	<u>Amendment to the Regional Water Quality Management Plan—2000, Western Racine County Sewerage District</u>	December 4, 1989
	Amendment—Delavan Lake Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Delavan Lake Sanitary District/Walworth County Metropolitan Sewerage District</u>	December 4, 1989
	Amendment—East Troy Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Towns of East Troy, LaFayette, and Spring Prairie, and Village of East Troy</u>	December 4, 1989
	Amendment—Waukesha Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Waukesha and Town of Waukesha</u>	June 20, 1990
	Amendment—Village of Silver Lake	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Silver Lake and Salem Utility District No. 2</u>	June 20, 1990
	Amendment—Village of Union Grove	<u>Community Assistance Planning Report No. 180, Sanitary Sewer Service Area for the Village of Union Grove and Environs, Racine County, Wisconsin</u>	September 12, 1990
	Amendment—Town of Somers	<u>Amendment to the Regional Water Quality Management Plan—2000, Kenosha and Racine Sanitary Sewer Service Areas</u>	September 12, 1990
	Amendment—City of Franklin	<u>Community Assistance Planning Report No. 176, Sanitary Sewer Service Area for the City of Franklin, Milwaukee County, Wisconsin</u>	December 5, 1990
	Amendment—Village of Mukwonago	<u>Community Assistance Planning Report No. 191, Sanitary Sewer Service Area for the Village of Mukwonago, Waukesha County, Wisconsin</u>	December 5, 1990
	Amendment—Village of Dousman	<u>Community Assistance Planning Report No. 192, Sanitary Sewer Service Area for the Village of Dousman, Waukesha County, Wisconsin</u>	December 5, 1990
	Amendment—Towns of Yorkville and Mt. Pleasant	<u>Amendment to the Regional Water Quality Management Plan—2000, Towns of Yorkville and Mt. Pleasant</u>	December 5, 1990
	Amendment—Town of Bristol	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Bristol</u>	March 6, 1991

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Environmental Planning (continued)	Amendment—Village of Pewaukee	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Pewaukee</u>	March 6, 1991
	Amendment—Town of Brookfield	<u>Amendment to the Regional Water Quality Management Plan—2000, Brookfield and Waukesha Sanitary Sewer Service Areas</u>	March 6, 1991
	Amendment—Delavan Area	<u>Amendment to the Regional Water Quality Management Plan—2000, Walworth County Metropolitan Sewerage District/Delavan-Delavan Lake Sanitary Sewer Service Area</u>	March 6, 1991
	Amendment—Oconomowoc Lake, Waukesha County	Community Assistance Planning Report No. 181, <u>A Water Quality Management Plan for Oconomowoc Lake, Waukesha County, Wisconsin</u>	June 19, 1991
	Amendment—Town of Salem	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Salem</u>	June 19, 1991
	Amendment—Town of Caledonia	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Caledonia</u>	June 19, 1991
	Amendment—Village of Hartland	<u>Amendment to the Regional Water Quality Management Plan—2000, Village of Hartland</u>	June 19, 1991
	Amendment—Town of Caledonia	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Caledonia</u>	September 11, 1991
	Amendment—Town of Norway	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Norway</u>	September 11, 1991
	Amendment—Town of Rochester	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Rochester</u>	September 11, 1991
	Amendment—Town of Norway	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Norway</u>	September 11, 1991
	Amendment—Brookfield/Elm Grove Area	Community Assistance Planning Report No. 109, <u>Sanitary Sewer Service Area for the City and Town of Brookfield and the Village of Elm Grove, Waukesha County, Wisconsin</u>	December 4, 1991
	Amendment—Racine Area	<u>Amendment to the Regional Water Quality Management Plan—2000, City of Racine and Environs</u>	December 4, 1991
	Amendment—Pewaukee Lake Area	<u>Amendment to the Regional Water Quality Management Plan: 2000, Lake Pewaukee Sanitary District</u>	December 4, 1991
	Amendment—West Bend Area	<u>Amendment to the Regional Water Quality Management Plan: 2000, City of West Bend/Town of West Bend</u>	December 4, 1991
	Amendment—Town of Salem	<u>Amendment to the Regional Water Quality Management Plan: 2000, Town of Salem</u>	December 4, 1991
	Amendment—City of Mequon and Village of Thiensville	Community Assistance Planning Report No. 188, <u>Sanitary Sewer Service Area for the City of Mequon and the Village of Thiensville, Ozaukee County, Wisconsin</u>	January 15, 1992
	Amendment—City of West Bend/Town of West Bend/Silver Lake Sanitary District	<u>Amendment to the Regional Water Quality Management Plan—2000, City of West Bend/Town of West Bend/Silver Lake Sanitary District</u>	March 4, 1992
	Amendment—Town of Somers	<u>Amendment to the Regional Water Quality Management Plan—2000, Town of Somers</u>	June 17, 1992
	Regional Air Quality Plan	Planning Report No. 28, <u>A Regional Air Quality Attainment and Maintenance Plan for Southeastern Wisconsin: 2000</u>	June 20, 1980
	Amendment—Emission Reduction Credit Banking and Trading System	<u>Amendment to the Regional Air Quality Attainment and Maintenance Plan: 2000, Emission Reduction Credit Banking and Trading System</u>	December 1, 1983
	Pike River Watershed Plan	Planning Report No. 35, <u>A Comprehensive Plan for the Pike River Watershed</u>	June 16, 1983
	Amendment—Town of Mt. Pleasant	<u>Amendment to the Pike River Watershed Plan, Town of Mt. Pleasant</u>	June 15, 1987
	Amendment—City of Kenosha/Town of Somers	<u>Amendment to the Pike River Watershed Plan, City of Kenosha/Town of Somers</u>	June 15, 1987
	Oak Creek Watershed Plan	Planning Report No. 36, <u>A Comprehensive Plan for the Oak Creek Watershed</u>	September 8, 1986

Table 2 (continued)

Functional Area	Plan Element	Plan Document	Date of Adoption
Community Assistance Planning	Kenosha Planning District Comprehensive Plan	Planning Report No. 10, <u>A Comprehensive Plan for the Kenosha Planning District</u> , Volumes One and Two	June 1, 1972
	Racine Urban Planning District Comprehensive Plan	Planning Report No. 14, <u>A Comprehensive Plan for the Racine Urban Planning District</u> , Volume One, <u>Inventory Findings and Forecasts</u> ; Volume Two, <u>The Recommended Comprehensive Plan</u> ; Volume Three, <u>Model Plan Implementation Ordinances</u>	June 5, 1975

^aThe regional land use plan is a third-generation plan. The initial regional land use plan was adopted by the Commission on December 1, 1966, and documented in SEWRPC Planning Report No. 7, Land Use-Transportation Study, Volume Three, Recommended Regional Land Use and Transportation Plans—1990. The second-generation regional land use plan was adopted by the Commission on December 19, 1977, and documented in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, Volume One, Inventory Findings, and Volume Two, Alternative and Recommended Plans.

^bThe regional transportation plan is a second-generation plan. The initial regional transportation plan was adopted by the Commission on December 1, 1966, and documented in SEWRPC Planning Report No. 7, Land Use-Transportation Study, Volume Three, Recommended Regional Land Use and Transportation Plans—1990, and was subsequently amended by the adoption on June 4, 1970, of the Milwaukee County jurisdictional highway system plan documented in SEWRPC Planning Report No. 11, A Jurisdictional Highway System Plan for Milwaukee County; the adoption on March 2, 1972, of the Milwaukee area transit plan set forth in the document entitled Milwaukee Area Transit Plan; the adoption on March 4, 1973, of the Walworth County jurisdictional highway system plan documented in SEWRPC Planning Report No. 15, A Jurisdictional Highway System Plan for Walworth County; the adoption on March 7, 1974, of the Ozaukee County jurisdictional highway system plan documented in SEWRPC Planning Report No. 17, A Jurisdictional Highway System Plan for Ozaukee County; the adoption on June 5, 1975, of the Waukesha County jurisdictional highway system plan documented in SEWRPC Planning Report No. 18, A Jurisdictional Highway System Plan for Waukesha County; the adoption on September 11, 1975, of the Washington County jurisdictional highway system plan documented in SEWRPC Planning Report No. 23, A Jurisdictional Highway System Plan for Washington County; the adoption on September 11, 1975, of the Kenosha County jurisdictional highway system plan documented in SEWRPC Planning Report No. 24, A Jurisdictional Highway System Plan for Kenosha County; and the adoption on December 4, 1975, of the Racine County jurisdictional highway system plan documented in SEWRPC Planning Report No. 22, A Jurisdictional Highway System Plan for Racine County.

^cThe regional airport system plan is a second-generation plan. The initial plan was adopted by the Commission on March 4, 1976, and is documented in SEWRPC Planning Report No. 21, A Regional Airport System Plan for Southeastern Wisconsin.

^dThe Kenosha area transit development plan is a third-generation plan. The initial plan was adopted by the Commission on June 3, 1976, and documented in SEWRPC Community Assistance Planning Report No. 7, Kenosha Area Transit Development Plan: 1976-1980. The second-generation plan was adopted on March 11, 1985, and documented in SEWRPC Community Assistance Planning Report No. 101, Kenosha Area Transit System Plan and Program: 1984-1988.

^eThe 1992 amendments to the 1978 elderly-handicapped transportation plan supersede a series of earlier amendments to the 1978 plan. These earlier amendments are as follows: 1) an amendment adopted by the Commission on June 20, 1980, and documented in SEWRPC Community Assistance Planning Report No. 39, A Public Transit System Accessibility Plan, Volume Two, Milwaukee Urbanized Area/Milwaukee County; 2) three amendments adopted by the Commission on September 11, 1980, and documented in SEWRPC Community Assistance Planning Report No. 39, A Public Transit System Accessibility Plan, respectively, in Volume One, Kenosha Urbanized Area; Volume Three, Racine Urbanized Area; and Volume Four, Milwaukee Urbanized Area/Waukesha County; 3) an amendment adopted by the Commission on June 18, 1981, and documented in the Amendment to the Public Transit Accessibility Plan for the Milwaukee Urbanized Area/Waukesha County, City of Waukesha Transit System; 4) five amendments adopted by the Commission on December 7, 1987, and documented, respectively, in SEWRPC Memorandum Report No. 17, A Public Transit Program for Handicapped Persons—City of Waukesha Transit System Utility; SEWRPC Memorandum Report No. 21, A Public Transit Program for Handicapped Persons—Milwaukee County Transit System; SEWRPC Memorandum Report No. 22, A Public Transit Program for Handicapped Persons—Waukesha County Transit System; SEWRPC Memorandum Report No. 23, A Public Transit Program for Handicapped Persons—City of Kenosha Transit System; and SEWRPC Memorandum Report No. 24, A Public Transit Program for Handicapped Persons—City of Racine Transit System.

^fThe regional water quality management plan is a second-generation plan. The initial plan was adopted by the Commission on May 13, 1974, and documented in SEWRPC Planning Report No. 16, A Regional Sanitary Sewerage System Plan for Southeastern Wisconsin.

Source: SEWRPC.

1. The first-generation regional transportation system plan was adopted in 1966 and had a design year of 1990. That plan was documented in the three-volume SEWRPC Planning Report No. 7, The Regional Land Use-Transportation Study.
2. A second-generation regional transportation system plan was adopted in 1978 and had a design year of 2000. That plan is documented in the two-volume SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin—2000.

Both generations of the regional transportation system plan have included two essential elements: an arterial street and highway element and a transit element. The second-generation regional transportation system plan took into account the results of more refined and detailed planning undertaken through the preparation of a series of seven county jurisdictional highway system plans, as well as the results of efforts to implement the recommendations contained in the first-generation plan.

While the first- and second-generation regional transportation system plans included explicit consideration of what came to be called “transportation systems management” (TSM) measures, pursuant to federal regulations the Commission in 1980 adopted a transportation systems management plan element. That plan element is set forth in SEWRPC Community Assistance Planning Report No. 50, A Transportation Systems Management Plan for the Kenosha, Milwaukee, and Racine Urbanized Areas in Southeastern Wisconsin. The plan explicitly recommended the implementation of such management measures as a freeway traffic management system, improved transit services, a system of park-ride and park-pool lots, and promotion of carpooling and vanpooling. In addition, this plan element called for specific studies for integration of the “stub ends” of uncompleted freeways into the arterial street and highway system, for the examination of the potential for work time rescheduling to reduce peak travel period demands, for the examination of taxi fares and regulation, and for the examination of the structures of parking rates to discourage the use of single-occupancy motor vehicles for commuting within the Region.

Based upon studies derived from the transportation system management plan recommendations, the second-generation regional transportation system plan was subsequently amended to provide specific recommendations for the integration into the arterial street network of the “stub ends” of the Lake Freeway South, the Lake Freeway North, the Park Freeway East, the Stadium Freeway South, the Stadium Freeway North, and the Park Freeway West. These plan amendments were completed over the period 1981 through 1985 (see Table 2).

In addition, the second-generation regional transportation system plan was further amended through the completion and adoption in 1982 of a major transit planning effort in the Milwaukee area. The findings and recommendations of that effort are documented in SEWRPC Planning Report No. 33, A Primary Transit System Plan for the Milwaukee Area. Specific recommendations regarding the provision of rapid transit service in the greater Milwaukee area were set forth in that document, including recognition of the potential for the provision of light- and commuter-rail transit services in certain travel corridors.

In 1983, the Commission completed a comprehensive transportation study of the Milwaukee Northwest Side/Ozaukee County study area, an area that had in the first-generation regional transportation system plan been proposed to be served by the Park Freeway West and Stadium Freeway North. The purpose of this study was to identify both the short-range and long-range highway and transit improvements for that portion of the Region which would be required in the absence of the previously planned freeway improvements. The results of that study were documented in SEWRPC Planning Report No. 34, A Transportation System Plan for the Milwaukee Northwest Side/Ozaukee County Study Area. In addition to specific recommendations for the integration of the freeway “stub ends” at the Park Freeway West and Stadium Freeway North into the surface arterial system, that plan included short-range recommendations to abate congestion and accident problems along 20 segments of the surface arterial street system, as well as short-term improvements to public transit service in the study area. The long-range plan element included proposed freeway improvements on IH 43 North, freeway traffic

management improvements, surface arterial street extensions and widenings, and major public transit improvements, including a proposal to provide rapid transit service in the corridor either through express buses or light rail operating on exclusive transitways and reserved lanes. This major plan amendment was adopted in 1983.

In 1987, the Commission completed, at the request of Milwaukee County, a major transit plan implementation study, an alternatives analysis, of the Milwaukee northwest travel corridor. That study was designed to address in detail whether the public transit service to be provided in the corridor, as recommended in the earlier plan amendment, should be provided through express-bus or light-rail transit. The results of this study are set forth in SEWRPC Community Assistance Planning Report No. 150, A Rapid Transit Facility Plan for the Milwaukee Northwest Corridor. Based upon the results of this study, the Milwaukee County Board and County Executive selected the express bus alternative as the preferred method of providing rapid transit service in this travel corridor. Implementation of that alternative was then undertaken.

Further major amendments to the second-generation regional transportation system plan were made in 1990. During that year, updated jurisdictional highway system plans were completed for Washington and Racine Counties and for the eastern portion of Kenosha County. Those detailed planning efforts maintained a design year of 2000.

Work began in 1990 on the preparation of a third-generation regional transportation system plan that would be a companion to the third-generation regional land use plan and that would have a design year 2010. Owing to special needs and circumstances, work efforts were first directed toward subareas of the Region, recognizing that it would subsequently be necessary to integrate these subregional plans into a new regional plan. The following represents the present status of that work effort:

1. A new transportation system plan has been prepared and adopted for the IH 94 South corridor in Kenosha, Milwaukee, and Racine Counties.

2. A new jurisdictional highway system plan has been prepared and adopted for Walworth County.
3. A new jurisdictional highway system plan has been prepared for Ozaukee County. That plan has been approved by the Ozaukee County Board of Supervisors.
4. A new transportation system plan for the IH 94 West corridor in Waukesha County is currently under preparation and scheduled for completion by the end of 1992.
5. New jurisdictional highway system plans for Kenosha and Waukesha Counties are under preparation and scheduled for completion early in 1993.
6. A municipal-level arterial street and highway system plan for the West Bend urban area is under preparation and scheduled for completion late in 1992.

Within the framework of the second-generation regional transportation system plan, more detailed short-range transit development plans have also been completed, adopted, and kept current for the Kenosha, Racine, and Waukesha urban areas. In addition, a new short-range transit development plan has recently been completed and adopted for the West Bend urban area.

Finally, the Commission also has completed and adopted a transportation plan for elderly and disabled persons. The original such plan was adopted in 1978; this plan element is updated periodically to meet the requirements of changing federal laws and regulations. Most recently, in early 1992, the elderly and handicapped transportation plan as it applies to the public transit service areas of the Region was updated through the preparation and adoption of para-transit service plans. Those service plans specifically are intended to meet the requirements of the federal Americans with Disabilities Act.

REGIONAL LAND USE PLAN REVIEW, REEVALUATION, AND EXTENSION

As noted above, the Commission completed and adopted a new regional land use plan in 1992. That plan is intended to serve not only as a basis for completing a companion new regional

transportation system plan, but also as the formal framework for more detailed land use planning efforts in the Region. The time period of this study design extends through the year 2000. During that time, the Commission intends to conduct the following regional land use planning and related activities designed not only to aid in plan implementation, but also to ensure that a fourth-generation regional land use plan is put in place in a timely way:

1. Regional Land Use

Plan Refinement Efforts

Over the next eight-year period, it should be expected that the third-generation regional land use plan will be refined and detailed through further subregional land use planning efforts. These planning efforts are expected to occur in one of the following ways:

a. Corridor plans

A detailed land use plan for the IH 94 West corridor, which is intended to refine and detail the regional land use plan, is scheduled for completion and adoption late in 1992. Depending upon the needs and concerns expressed by state, county, and local governments, additional corridor planning efforts may be undertaken attendant to other regional freeways. Potential candidates for such corridor refinement efforts are IH 43 North and IH 43 South.

b. County development plans

Depending upon the needs and desires of counties in the Region, additional plan refinement efforts may be undertaken in the form of county development plans. Waukesha County, for example, is currently considering the preparation of such a plan in cooperation with the Commission over the 1994 through 1995 period. Kenosha County has also indicated that it may proceed with the preparation of a county development plan also in cooperation with the Commission.

c. District plans

Depending upon local government interests, the Commission may prepare detailed land use plans for municipal

planning districts, whereby two or more municipalities jointly agree to prepare a community land use plan. Such a district-level planning effort is currently underway, for example, east of IH 94 in Kenosha County, for the City of Kenosha, Village of Pleasant Prairie, and Town of Somers. Those local governments, working cooperatively with Kenosha County, have asked the Commission to prepare such a plan.

d. Municipal plans

It should be expected that individual municipalities in the Region will proceed to complete new or update old municipal land use plans to refine and detail the new regional land use plan. In some cases, municipalities accomplish this work effort with their own staff or consultants; in other cases, municipalities request the Commission to help conduct the local planning effort. Examples of the latter include the recently completed land use plans for the Cities of Cedarburg, New Berlin, and West Bend and the Town of LaGrange, which are based upon the new regional land use plan. Similar planning efforts are now underway in the City of Waukesha and the Villages of Slinger and Kewaskum.

2. Regional Land Use Plan

Updating and Extension

In the middle of the study design period, probably in 1996 and 1997, it is intended that a work effort be mounted to prepare a fourth-generation regional land use plan. That fourth-generation plan would have a design year of 2020 and, upon its adoption, would ensure that the Commission's planning effort maintains a 20-year time horizon period. The preparation of this new plan would take into account the results of the previously described inventory or surveillance activities, particularly including the results of the inventories of land use in 1990 and 1995, the results of a new inventory of community plans and zoning, and the results of the major studies of population and economic activity which provide the basis for new forecasts of growth and change in the Region to the year 2020.

REGIONAL TRANSPORTATION PLAN REVIEW, REEVALUATION, AND EXTENSION

Geographic Area for Planning

The new federal transportation legislation requires for the first time that the metropolitan transportation planning process be conducted for a geographic area that extends beyond the census-designated boundaries of the urbanized area. Under prior federal legislation, the metropolitan transportation planning process needed to be conducted in southeastern Wisconsin only for the Kenosha, Milwaukee, and Racine urbanized areas as those areas were redefined after every decennial census. The new legislation requires that the process be conducted over an expanded area, providing flexibility in the definition of that expanded area to meet particular circumstances throughout the Nation. This new transportation legislation requires, however, that where there are severe problems attendant to the nonattainment of air quality standards with respect to ozone and carbon monoxide, the transportation planning process extend geographically over the entire nonattainment area.

In southeastern Wisconsin, the metropolitan planning process has never been confined to the federally designated urbanized areas. Rather, that process has always been fully integrated with the comprehensive regional planning process and has encompassed the entire seven-county Southeastern Wisconsin Region. In addition, the transportation planning process has also fully encompassed the historic designation of areas in southeastern Wisconsin for nonattainment with respect to ozone and carbon monoxide.

As shown on Map 1, at the present time all seven counties in the Southeastern Wisconsin Region have been designated as an ozone nonattainment area. Six of the seven counties have been collectively designated in the "severe" category with respect to ozone, while Walworth County has been designated in the "marginal" category. Since the Commission will continue to conduct metropolitan transportation planning over the entire seven-county Region, since that Region corresponds to the currently designated nonattainment area with respect to ozone, and since there are no longer any nonattainment areas in Southeastern Wisconsin with respect to such other pollutants as particulates and carbon

monoxide, the continued conduct of the transportation planning process for the entire seven-county Region should fully meet the new federal requirements with respect to the geographic area of coverage.

Third-Generation Regional Transportation System Plan

The initial major task to be addressed in meeting the new federal transportation planning requirements consists of the preparation of a third-generation regional transportation system plan for the design year 2010. That plan will be based upon, and be designed to serve and support, the companion year 2010 regional land use plan. It is intended that this third-generation plan be readied for formal adoption by the Commission in December 1993. The process to be followed consists of the following major steps, recognizing, however, that there are interrelationships between these steps and that the final plan will necessarily have to integrate the products produced in each step (see Table 3):

1. Completion of Subregional
Plans Now Underway

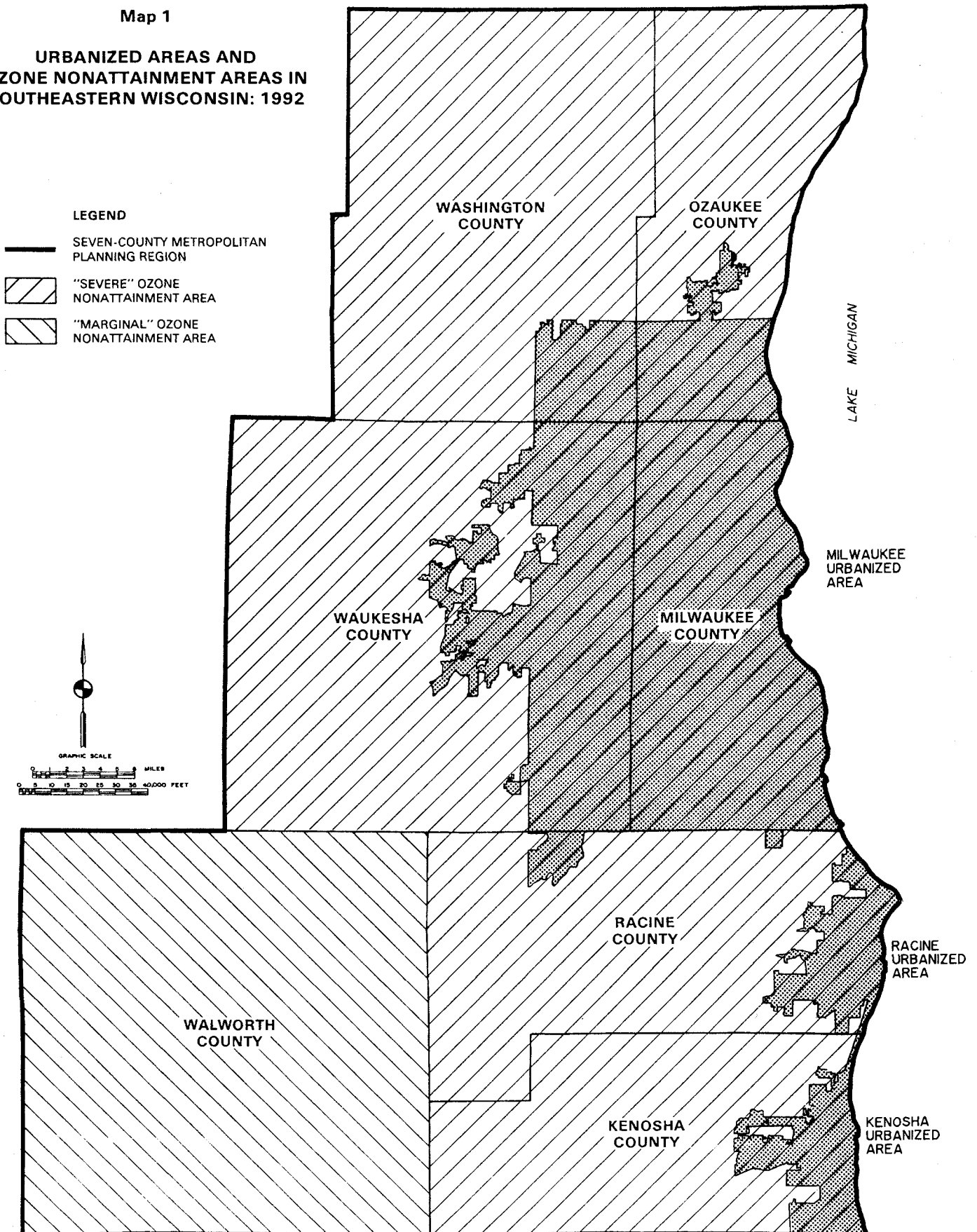
The first step in the process will be to complete those subregional plan elements noted earlier that are now underway. This includes completion of the transportation system plan for the IH 94 West corridor, completion of the new jurisdictional highway system plans for Kenosha and Waukesha Counties, and completion of the arterial street and highway system plan for the West Bend urban area. Each of these plans will be documented in a separate Commission report. No additional subregional plan elements will be initiated prior to completion of the entire third-generation regional transportation system plan.

2. Highway Facilities Plan Element

A regional highway facilities plan element for the year 2010 will be prepared. That plan element will be confined to the following functional highway categories: urban principal arterials, urban minor arterials, rural principal arterials, rural minor arterials, and rural major collector streets and highways. Collectively, this group of functionally classified highways will hereinafter be referred to as "arterials." This element of the plan will be designed to meet anticipated vehicle travel demands in

Map 1

**URBANIZED AREAS AND
OZONE NONATTAINMENT AREAS IN
SOUTHEASTERN WISCONSIN: 1992**



Source: SEWRPC.

the year 2010 derived from the application of the battery of traffic simulation models discussed in Chapter IV. This plan element will also identify which of the arterials should be designated freeway and expressway facilities. The plan element will also identify any proposed new freeway interchanges and any major modifications to existing freeway interchanges. The highway plan element may be expected to be directly affected and shaped by the results of planning operations attendant to the transit and transportation systems management elements described below.

The planning operations used to prepare this plan element will favor full utilization of existing arterial highway facilities. As necessary, new facilities or additional capacity on existing facilities will be recommended to relieve existing or forecast traffic congestion as determined in accordance with a set of agreed-upon objectives and standards. The planning operations will give explicit consideration to providing appropriate arterial highway access to seaports and major marinas, airports identified in the regional airport system plan, major parks identified in the regional park and open space plan, and other major land uses identified in the regional land use plan.

In designing the regional arterial highway system, coordination will be maintained with the Wisconsin Department of Transportation, the Illinois Department of Transportation, the Illinois Tollway Authority, and the Chicago Area Transportation Study to ensure appropriate highway connectivity at the margins of the Southeastern Wisconsin Region. The arterial highway plan element will also specifically address any identified special needs regarding freight movements through the Region, particularly including the movement of oversized loads. In accordance with the intent of the new federal transportation legislation, the arterial highway plan element will be scaled to fit the anticipated availability of fiscal resources for such facilities.

The regional arterial highway plan element will have both a functional subelement and a jurisdictional subelement. The functional

subelement will identify the number of through travel lanes proposed to be provided on the entire recommended network of existing and proposed arterial highway facilities. The functional subelement will also identify all existing and proposed freeway interchanges. Specific recommended cross-sections for system segments will not be provided at the regional, or systems-level scale of planning.

While the functional subelement of the plan will be designed to meet the travel demands associated with the new recommended regional land use plan, that plan being based upon an intermediate-growth future, it is also intended that sensitivity analyses be undertaken to ascertain the extent, if any, to which arterial street and highway segment improvement recommendations and public transit improvement recommendations might be different under travel demand conditions associated with an intermediate-growth decentralized future and a high-growth decentralization future. These analyses will be done by applying the battery of traffic simulation models to forecast conditions reflected in alternative regional land use plans associated with those futures. In many cases, these analyses may show that the anticipated future travel demand levels under the low- or high-growth futures are not so different as to require different improvements. In some cases, however, and particularly under the high-growth future conditions, the analyses may show the need for additional improvements in the arterial highway system beyond those required to serve the intermediate-level growth envisioned in the adopted land use plan. In such cases, the results of these sensitivity analyses may warrant incremental capital investment with respect to such features as bridge lengths and widths and the reservation of additional right-of-way to provide for future contingencies.

The jurisdictional subelement will identify which segments of the planned highway arterial system should properly be the responsibility of state government, which segments should properly be the responsibility of county government, and which segments should properly be the responsi-

Table 3

**HOW THE SEWRPC CONTINUING LAND USE-TRANSPORTATION STUDY WILL
ADDRESS THE FIFTEEN SPECIFIC METROPOLITAN PLANNING CONSIDERATIONS SET FORTH
IN THE FEDERAL INTERMODAL SURFACE TRANSPORTATION AND EFFICIENCY ACT (ISTEA)**

Federal ISTEA Metropolitan Planning Consideration		Proposed SEWRPC Response
Number	Description	
1	Preservation of existing transportation facilities and, where practical, ways to meet transportation needs by using existing transportation facilities more efficiently	SEWRPC planning process emphasizes full and efficient use of existing transportation facilities. In determining facility needs, planning assumptions always favor maximum existing facility use, e.g., removal of parking during peak travel periods, intersection improvements and channelization, coordinated operation of traffic signals, and freeway traffic management system. Programming process reflects transportation agency priorities to preserve existing systems
2	The consistency of transportation planning with applicable federal, state, and local energy conservation programs, goals, and objectives	SEWRPC regional planning program includes acknowledgment of energy conservation programs. Regional land use plan seeks to promote compact, energy efficient urban development pattern. Plan seeks to promote carpooling, vanpooling, and efficient transit use. Preparation of transportation plan will include environmental assessment that will quantitatively demonstrate motor fuel consumption differential between planned and nonplanned situations
3	The need to relieve congestion and prevent congestion from occurring where it does not yet occur	SEWRPC planning process quantitatively analyzes and explicitly identifies system-level congestion through application of traffic simulation models and level of service standards. Transit, system management, and highway facility construction recommendations are made in a balanced way to relieve existing and avoid anticipated future congestion
4	The likely effect of transportation policy decisions on land use and development and the consistency of transportation plans and programs with the provisions of all applicable short- and long-term land use and development plans	SEWRPC regional land use and regional transportation plans are prepared in a concurrent and consistent manner and seek to reinforce each other
5	The programming of expenditure on transportation enhancement activities	SEWRPC third-generation transportation system plan will have a transportation enhancement element that will include transportation corridor preservation recommendations and activities to encourage the development and implementation of bikeway and pedestrianway systems at the local level. Other transportation enhancement activities will be programmed at the discretion of transportation agencies
6	The effects of all transportation projects to be undertaken within the metropolitan area, without regard to whether such projects are publicly funded	SEWRPC transportation planning process takes into account the effects of transportation projects whether or not they are publicly funded
7	International border crossings and access to ports, airports, intermodal transportation facilities, major freight distribution routes, national parks, recreation areas, monuments and historic sites, and military installations	SEWRPC planning process explicitly addresses arterial highway and transit access and service to airports, seaports, major park and recreation areas, and military installations; new third-generation regional transportation system plan will include an intermodal facilities element and will appropriately take into account freight distribution routes
8	The need for connectivity of roads within the metropolitan area with roads outside the metropolitan area	SEWRPC will continue to coordinate its metropolitan planning with the WisDOT, Illinois Department of Transportation, Illinois Tollway Authority, and Chicago Area Transportation Study

Table 3 (continued)

Federal ISTEA Metropolitan Planning Consideration		Proposed SEWRPC Response
Number	Description	
9	Transportation needs identified through use of the management systems required by ISTEA	Upon promulgation of federal regulations, SEWRPC will develop and implement a congestion management system for a four-county Milwaukee transportation management area. SEWRPC will also work with WisDOT to develop statewide management systems for pavement, bridges, safety, congestion, public transportation, and intermodal transportation. The needs identified through these management systems will be reflected in transportation system plan recommendations
10	Preservation of rights-of-way for construction of future transportation projects, including identification of unused rights-of-way which may be needed for future transportation corridors and identification of those corridors for which action is most needed to prevent destruction or loss	The third-generation regional transportation plan will include an explicit element that evaluates linear rights-of-way needed to meet potential future transportation needs and will make recommendations for the preservation as appropriate of those rights-of-way
11	Methods to enhance the efficient movement of freight	SEWRPC will work with WisDOT on development of statewide and regional freight facility plan
12	The use of life-cycle costs in the design and engineering of bridges, tunnels, or pavement	Regional transportation system plans include consideration life-cycles of facilities in determining cost of system plan and alternatives
13	The overall social, economic, energy, and environmental effects of transportation decisions	SEWRPC planning process will include a systems-level environmental assessment of the third-generation regional transportation system plan
14	Methods to expand and enhance transit services and to increase the use of such services	SEWRPC planning process includes an explicit transit element in the regional transportation plan
15	Capital investments that would result in increased security in transit systems	This item is most appropriately addressed in subregional transit planning done by or for the transit agencies; SEWRPC will assist transit agencies in doing that planning upon request

Source: SEWRPC.

bility of local, or city, village, or town, government. The implications of the potential new National Highway System on jurisdictional classification recommendations will be addressed. The criteria for completing that identification process have been developed as part of prior county jurisdictional highway planning efforts. It is not anticipated that there will be any special public authority or privately owned highway facilities in the regional arterial system. Similarly, it is not expected that any of these facilities would be tollways.

It should be expected that the preparation of the arterial highway element of the plan

will largely take place through the integration at the regional level of all of the recently completed updates and extensions of the county jurisdictional highway system plans. For all but Milwaukee County, such new and updated county plans will have been completed by early 1993. It is proposed that the preparation of the new third-generation regional transportation system plan incorporate the updating and extension of the Milwaukee County jurisdictional highway system plan.

It is intended that the highway element of the new plan be documented in a major Commission planning report along with

other elements to be described below. The plan documentation effort is further intended to include the preparation and publication of a composite regional highway plan map at a scale of 1 inch equals 8,000 feet. That map will summarize both the functional and jurisdictional subelements of the plan. In addition, it is intended that there be separately published highway plan maps at appropriate larger scales identifying for each of the seven counties in summary form a new jurisdictional highway system plan for the year 2010.

3. Transit Facilities and Services Element

A regional transit facilities and services plan element for the year 2010 will be prepared. The transit facilities and services to be recommended will take into account the demand for such services in the year 2010 as determined through the application of the battery of traffic simulation models discussed in Chapter IV, but will also reflect the recommendations of the transportation systems management element and the air quality-related transportation control measures element of the plan discussed below. Like the arterial highway facilities element, it may be necessary to scale the transit facilities and services element of the plan to anticipated fiscal resource availability.

The regional transit plan element will explicitly address the provision of transit services at three levels: rapid transit service, defined as either bus-or rail-based service provided on exclusive rights-of-way or bus-based service provided on operationally controlled freeways on either regular freeway lanes or high-occupancy vehicle lanes; express transit service, defined as either bus- or rail-based service provided on reserved lanes on surface arterial streets; and local service, defined as all other transit service, including feeder-bus service to rapid and express routes and circulation and distribution service. At the regional level of planning, explicit consideration will be given to both the rapid and express levels of service in terms of defining the network of routes, the frequency of service, and the location of terminals and stops, and as well to local transit service.

The regional transit plan element will build upon past transit planning efforts, including the major rapid transit study for the Milwaukee area completed in 1982, the transit alternatives analysis for the Milwaukee northwest travel corridor completed in 1988, and the transit alternatives analysis for the Milwaukee east-west travel corridor by the Wisconsin Department of Transportation now underway.

The transit plan will address the extent to which the recommended land use plan, as opposed to a projection of current land use development trends, will promote increased transit ridership. Also to be considered in this respect will be policies such as parking restrictions and site design that may increase transit use.

The transit element of the new plan will be documented in the aforementioned major Commission planning report. The plan documentation is intended to include the preparation and publication of a composite regional transit map at a scale of 1 inch equals 8,000 feet.

4. Transportation Systems Management Element

The new regional transportation plan will have an explicit transportation systems management element. At a minimum, it is envisioned that that element will be comprised of the following three components:

a. Freeway Traffic Management

Building upon a major freeway traffic management study completed in 1988 and upon subsequent engineering studies conducted by the Wisconsin Department of Transportation, a comprehensive freeway traffic management system will be included in the third-generation regional transportation system plan. The effects of the operation of that system will be reflected in the application of the battery of traffic simulation models documented in Chapter IV. The freeway traffic management element of the plan will consist of the following measures: a traffic incident management system, a traffic advisory information system, a central traffic management center for monitoring and control, a system of ramp meters

to control freeway access, and preferential freeway access ramps for buses and other high-occupancy vehicles.

b. High-Occupancy Vehicle Lanes

A major new effort in the third-generation regional transportation system plan will involve the postulation and evaluation of the addition of high-occupancy vehicle lanes to existing freeways in the Region's major travel corridors. Consideration will be given to the potential of converting existing freeway lanes to high-occupancy vehicle use during peak travel periods. Consideration will also be given to potential major freeway reconstruction projects in the central Milwaukee portion of the freeway system in order to provide high-occupancy vehicle lanes. Such lanes could comprise important parts of the transit element of the plan, providing the basis for rapid transit service. Consideration will also be given to the potential for providing high-occupancy vehicle lanes on selected arterial surface streets, particularly in those travel corridors of the Region where freeways have not been constructed.

c. Travel Demand Management

The third component of the transportation systems management element the plan would consider activities intended to address the management of travel demand. Travel demand management efforts at the regional scale of planning will be focused on structuring an aggressive carpooling and vanpooling program, with particular attention given to the need for additional carpooling lots, to the provision of shuttle services at parking terminals which provide preference for high-occupancy vehicles, to the institution of a "guaranteed ride home" program that would remove an impediment to carpooling and vanpooling, and to innovative parking and pricing strategies which together would provide incentives for greater use of carpooling and vanpooling opportunities. Such ridesharing and related demand management programs will be postulated and reflected in the operation of the battery of traffic simulation models and

related analyses. This effort will be fully coordinated with the activities being conducted to identify the transportation control measures needed to help meet air quality objectives.

5. Multimodal and Intermodal Facilities Element

To the extent practicable, the regional transportation plan will incorporate a facilities element directed at better coordinating trip-making on multiple transportation modes. The Wisconsin Department of Transportation has been awarded a federal grant to prepare such a facilities plan element for the greater Milwaukee area. This element should identify those additional transportation facilities which may be desirable to enable arriving passengers at General Mitchell International Airport better to understand and gain access to the mass transportation system. Similarly, explicit attention should be given to measures for facilitating trips being made by intercity railway passenger service, by local bus and railway passenger service, and by local bus and intercity bus service.

6. Air Quality-Related Transportation Control Measures Element

The third-generation regional transportation system plan will directly incorporate those transportation control measures ultimately included in the Wisconsin air quality implementation plan now being prepared to demonstrate how the Southeastern Wisconsin Region is to achieve and maintain attainment status with respect to standards for ozone pollution. The formulation, test, evaluation, and selection of these transportation control measures is the responsibility of the Wisconsin Natural Resources Board as the governing body of the state air quality agency, the Wisconsin Department of Natural Resources. As the metropolitan transportation planning organization, the Commission is working closely with the Wisconsin Department of Natural Resources, as well as the Wisconsin Department of Transportation, in helping the former Department fulfill its responsibilities in this respect.

To a significant degree, the transportation control measures now under consideration

for inclusion in the Wisconsin air quality implementation plan are directly derived from the second-generation regional transportation system plan and incorporated by the Commission into a regional air quality attainment and maintenance plan completed in 1980.¹ This includes increased levels of transit services, freeway traffic management, and ridesharing strategies. In addition, other measures which are classified as transportation control in nature are now under consideration. These include specific parking and pricing strategies connected with the use of transportation facilities; the elimination through public purchase of older, high-polluting automobiles; the federally mandated employee trip reduction program; the encouragement of telecommuting and alternative work schedules to reduce travel and modify travel patterns; encouragement of the options of biking and walking to work; encouragement of land use and urban design strategies to support carpooling and transit use; and reduction in excessive vehicle idling.

7. Transportation Enhancement Activities Element

It is proposed that the following specific activities be undertaken which together would comprise the transportation enhancement element of the third-generation regional transportation system plan.

Also being considered are measures which would reduce emissions emitted by automobiles, including alternatively fueled vehicles, reduced fuel vapor pressure, expanded vehicle emission inspection and maintenance, and more stringent vehicle emission standards.

a. Transportation Corridor Preservation

On the basis of prior Commission inventories of historic transportation and utility corridors in the Region, it is proposed that a transportation corridor preservation plan element be prepared.

This element will include an analysis of the potential for such corridors ultimately to provide for transportation services. From that analysis, a set of recommendations regarding the establishment of a "bank" of potential transportation rights-of-way would be formulated.

b. Pedestrian and Bicycle Facilities and Trails

It is proposed that a bicycle and pedestrian plan element be prepared, and, although separately documented, be incorporated in the third-generation regional transportation system plan. The Commission will prepare a regional system-level bikeway plan designed to encourage potential automobile trips for work, shopping, and other purposes, to be made instead by bicycle. The plan will be directed towards the major travel corridors of the three urbanized areas of the Region: Milwaukee, Racine, and Kenosha. Trips of less than five miles in length with a potential for conversion to the bicycle mode are concentrated in these three urbanized areas.

The Commission will also encourage and foster the development and implementation of bikeway system plans by local units of government in the Region, coordinating those efforts as may be necessary and desirable with a view toward increasing the importance of bicycling not only as a recreational activity, but also as a mode of transportation for specific tripmaking. The Commission will prepare, as part of the plan, a planning guide to promote the development of bicycling and pedestrian travel plans at the local level. The planning guide would identify the planning considerations that need to be taken into account in developing local bikeway and pedestrian plans, suggest potential bicycle and pedestrian transportation objectives and policies, and provide suggested bikeway and pedestrian facility development and maintenance standards.

Additional future work could include plan elements concerning landscaping and scenic beautification; preservation of his-

¹See SEWRPC Planning Report No. 28, A Regional Air Quality Attainment and Maintenance Plan for Southeastern Wisconsin: 2000.

toric transportation buildings, structures, and facilities; the control and removal of outdoor advertising; transportation-related archaeological activities; and transportation-related water pollution abatement activities.

8. Financial Element

The financial element of the plan will be structured to demonstrate the feasibility of implementing the various facilities and services elements of the long-range plan. Based upon the inventories and analyses of the financial resources set forth earlier in this document, estimates of future financial resources available for transportation purposes will be made. These resources include federal, state, county, and local government funds. The potential resources that could be made available through a regional transportation authority will also be identified. The total available resources will be scaled against plan implementation needs and any shortfalls noted. The existence of significant shortfalls could lead to scaling back one or more elements of the plan. No consideration is proposed to be given to the use of tolls as a financing measure. Consideration may, however, be given to such techniques as special assessments and impact fees.

The foregoing individual plan elements will be synthesized into a third-generation regional transportation system plan. Once that plan is completed in draft form, the planning operations will conclude with the following two assessments:

1. Environmental Assessment

Based upon systems-level data, an assessment will be made of the overall socioeconomic, energy, and environmental effects that likely would be associated with a collective decision to implement the plan fully. These impacts will be compared with an alternative that would postulate "no build" or "do nothing new" conditions.

2. Air Quality Conformity

An analysis would be undertaken, based upon guidelines promulgated by the U. S. Environmental Protection Agency, to demonstrate conformity of the third-generation regional transportation system plan to the

objectives of the federal Clean Air Act as reflected in the Wisconsin air quality implementation plan.

The foregoing elements of the third-generation regional transportation system plan and the related assessments will be documented in a major Commission planning report. The Commission's Regional Transportation Planning Advisory Committee would provide overall guidance in the preparation of the plan and the structuring of the draft report document. A public information and review program would be formulated and carried out. Following public review, and following a recommendation by the Advisory Committee, the Regional Planning Commission would be asked to adopt a third-generation regional transportation system plan.

Transportation Management Area and Attendant Congestion Management System

Under new federal legislation, the U. S. Secretary of Transportation must designate any metropolitan area having at least 200,000 population as a transportation management area (TMA). The TMA designation is to apply to the entire metropolitan area. In southeastern Wisconsin this will mean that once forthcoming federal rules regarding transportation management areas and related planning work are finalized, at least the four-county Milwaukee metropolitan area, consisting of Milwaukee, Ozaukee, Washington, and Waukesha Counties, will be designated as the Milwaukee Transportation Management Area.²

Once the Milwaukee Transportation Management Area has been designated, the Commission will have to proceed to implement a congestion management system (CMS). Until the federal rules concerning transportation management areas and congestion management systems are known, a work program attendant to the development of a congestion management system for the Milwaukee Transportation Management Area must be held in abeyance. Conceptually, however, it is expected that such a work program will involve the following basic activities:

²*Draft federal rules would require an expansion of this area to include the remainder of the Region.*

1. Identification of the specific transportation facilities which are to comprise the congestion management system.
2. Establishment of agreed-upon performance measures attendant to that system.
3. The conduct of a data collection effort to identify the location, duration, and severity of existing traffic congestion on that system.
4. The identification and evaluation of potential congestion abatement strategies.
5. The development of a specific implementation strategy attendant to the abatement of congestion.
6. Continuation of data collection efforts to monitor the effectiveness of any congestion abatement strategy selected for implementation.

The establishment of a congestion management system is expected to lead to the formulation of congestion abatement recommendations to be included in the regional transportation system plan. Owing to the timing of events, the third-generation regional transportation system plan may be completed and adopted without the benefit of any specific recommendations that might emanate from a formal congestion management system for the Milwaukee Transportation Management Area. Accordingly, it should be expected that once federal rules on transportation management areas and congestion management systems are known, and once the congestion management system for the Milwaukee Transportation Management Area is developed and implemented, a congestion management plan element will be prepared for the Milwaukee area. This plan element may serve to amend the third-generation regional transportation system plan.

State-Level Management Systems

The new federal transportation legislation requires that the metropolitan transportation planning process address needs identified through federally required state-level management systems attendant to: highway pavements, bridges, highway safety, traffic congestion, public transportation facilities and equipment, and intermodal facilities and equipment. The Wisconsin Department of Transportation is

responsible for formulating and implementing those six management systems. The congestion management system and related plan for the greater Milwaukee area as prepared by the Commission should become a part of the state-level plan and program. Accordingly, the Commission anticipates working closely with the Department in the development of those management systems. Any needs identified through those systems and not already reflected in the third-generation regional transportation system plan will be addressed either through amendments to that plan or in the preparation of the fourth-generation regional transportation system plan.

Fourth-Generation Regional Transportation System Plan

In 1997 and 1998 it is intended that a work effort be mounted to prepare a fourth-generation regional transportation system plan. That plan would be based upon the previously noted fourth-generation regional land use plan; would have a design year of 2020; and, upon its adoption, would ensure that the Commission planning effort maintained a 20-year planning horizon. The preparation of this fourth-generation plan would take into account the results of inventory or surveillance activities previously described, as well as the needs emanating from the operation of the congestion management system in the Milwaukee Transportation Management Area and any needs identified through the statewide management systems previously described.

PLAN IMPLEMENTATION

Plan Refinement and Detailing

One of the ways in which the regional land use and regional transportation plans are implemented is through the conduct of county and local studies that refine and detail the regional plans. During the eight-year period covered by this study design, it is anticipated that the following types of plan refinement and detailing efforts will be conducted:

1. The preparation of county, district, and municipal land use plans that refine and detail the regional land use plan.
2. The preparation of municipal arterial and collector street and highway system plans which expand the scope of, and add detail to, the regional transportation plan, par-

ticularly in the identification of urban collector streets and in the formulation of specific cross section recommendations for arterial highway segments.

3. The preparation of short-range transit development plans and programs for transit service areas and corridors. Such plans are intended to detail and refine the transit element of the regional transportation plan.
4. The preparation of short-range transit plans to meet the transportation needs of the elderly and disabled, including identifying how federal requirements can best be met.
5. The preparation of municipal traffic engineering plans for specific areas, corridors, or intersections which refine and detail the regional plan recommendations.
6. The conduct, on an ad hoc basis, of special studies which may lead to amendments to the regional transportation plan. Included in this category are such major studies as transit alternatives analyses in selected travel corridors where modal decisions are formally made.

In developing its annual work programs, the Commission must maintain a capability to be responsive to the Wisconsin Department of Transportation, the county and highway planning and transportation departments, and the municipal departments of public works and departments of planning in helping those agencies conduct such detailed planning efforts.

Transportation Improvement Programming and Project Selection

Under the new federal transportation legislation, additional emphasis is given to the transportation improvement programming (TIP) process. The preparation of a transportation improvement program is an important step toward regional transportation system plan implementation. Within the latitude permitted by the legislation, the Commission intends to discharge its responsibilities with respect to transportation improvement programming in the following manner:

1. Programming Period
The legislation envisions that transportation improvement programs will address

projects and project priorities in terms of three-year periods. The Commission intends to meet this requirement by adopting an overall six-year programming period. That programming period will be divided into two, three-year parts. In the first three-year part, the program will identify projects on an annual basis. In the second three-year part, projects will be identified for implementation only for the three-year period concerned.

2. Updating Interval

The legislation requires that the transportation improvement program be updated at least once every two years. The Commission intends to meet this requirement by updating the program annually.

3. Programming Scope

In accordance with the intent of the legislation and with sound planning practice, the geographic scope of the transportation improvement program will be the entire seven-county Region, as historically has been the case. In addition, the substantive scope of the program will extend to all highway, transit, and related transportation projects proposed to be undertaken even if federal transportation funding is not being sought.

4. Financial Feasibility

In accordance with the intent of the new legislation, the annual transportation improvement program will include a feasibility analysis which will demonstrate that the projects being programmed can reasonably be expected to move forward given projected available funding. The transportation improvement program, then, will be constrained to funding availability, recognizing, however, the need to provide for a modicum of overprogramming in order to deal with unanticipated events that cause individual products to be delayed or dropped.

5. Project Priorities

The scaling of the scope of the transportation improvement program to available financial resources, together with the foregoing intent to identify individual projects on a year-by-year basis for the first three of the six-year programming

period, should provide the type of priority setting envisioned under the federal transportation legislation.

6. Programming Process

In accordance with past practices, the Commission will cooperatively develop the annual transportation improvement program, working closely with the Wisconsin Department of Transportation and the county and local transportation agencies concerned. Overall guidance in the preparation of the annual transportation improvement program will be provided by advisory committees in the manner described in Chapter VI. Each annual transportation improvement program will be subjected to a public involvement program that will provide citizens, affected public agencies, representatives of transportation agency employees, private providers of transportation, and other interested parties with reasonable notice of, and an opportunity to comment on, the proposed program. A description of the detailed process to be followed in preparing, reviewing, and adopting transportation improvement programs is set forth in Appendix A.

7. Air Quality Conformity

Based upon guidelines promulgated by the U. S. Environmental Protection Agency, an analysis will be undertaken to demonstrate conformity of the annual transportation improvement program to the objectives of the federal Clean Air Act as reflected in the Wisconsin air quality implementation plan.

8. Program Approval

After review by the advisory committee concerned, the annual transportation improvement program will be reviewed and approved by the Southeastern Wisconsin Regional Planning Commission as the designated metropolitan planning organization under federal law. The Commission will formally transmit the approved program to the Secretary of the Wisconsin Department of Transportation, who has been delegated the authority by the Governor of the State of Wisconsin to act for him in approving the program.

9. Project Selection

Upon approval of the annual transportation improvement program, the Commission will work with the Wisconsin Department of Transportation in the selection of projects for federal funding. It is expected that the project selection process will become an integral part of the preparation of the annual program.

Extension of Planning and Engineering Data

The day-to-day extension of planning and engineering data and of the plan recommendations emanating from that data base constitutes an important means of regional plan implementation. Accordingly, throughout the period covered by this study design, the Commission will, upon request, provide land use, socioeconomic, transportation, and other data to public and private agencies throughout the Region. Each annual work program to be formulated by the Commission during the period covered by this study design will include one or more projects that provide for this ongoing work effort.

Chapter VI

SCOPE, TIMING, STAFF, BUDGET, AND ADVISORY COMMITTEE CONSIDERATIONS

SCOPE

The general scope of the work program recommended to be accomplished under the continuing regional land use-transportation study over the period 1992-2000 is summarized in Table 4.¹ The data sources, anticipated level of detail, and the frequency of performance with respect to the work projects involved are noted for each major work element. Careful review of this table will make the comprehensive nature and potential usefulness of the continuing land use-transportation study more readily apparent. If sufficient resources can be obtained over the study design period to carry out the work elements summarized in Table 4, then not only should all the requirements of the federal Intermodal Surface Transportation Efficiency Act be met, but the Region will be well served with an updated set of regional land use and regional transportation system plans. These updated regional plans will provide an essential framework within which to conduct more detailed federal, state, county, and local government land use and transportation planning, engineering, and programming in the years ahead.

The scope of work also includes the regional geographic information system (GIS) and companion county land information systems (LIS). During the study design period 1992-2000, the GIS and LIS systems will continue to be developed as part of the comprehensive regional planning program. The Commission's GIS/LIS operations are carried out using the proprietary GENAMAP software product that is capable of a wide variety of map digitizing, map production, and map-related analytical functions, including network- and land parcel-based functions. The computer graphics hardware configuration upon which GENAMAP operates

currently is based upon two networked Hewlett-Packard Series 9000, Model 370, engineering work stations, each having a 19-inch, 16-color monitor and two 571-megabyte disks. These work stations share a Hewlett-Packard dual-density tape drive and a Hewlett-Packard high-resolution, eight-color pen plotter. The two work stations jointly serve as the support devices for seven Hewlett-Packard 12-inch, eight-color terminals, six of which are attached to Calcomp high-precision digitizing tables for interactive map data capture and editing. A Calcomp color electrostatic plotter is also available for off-line production.

The Commission's regional geographic data base is being built over time with the initial emphasis placed on soils, land use, and natural resource base data. Increasingly, the GIS is being used to directly prepare maps for report production. The GIS is also currently being used to demonstrate its utility in transit planning, using a current updating effort for the Racine transit development program as a basis for that demonstration. Under separate, but fully coordinated efforts, the Commission is working with counties in the Region toward the development of land information systems which are parcel-based.

TIMING

The anticipated general timing for the various major work elements included in the continuing regional land use-transportation study is set forth in Figure 2. In some cases, activities are proposed to be conducted once during the eight-year study design period. In other cases, the activities are scheduled to be conducted twice. In some cases, the activities are scheduled to be conducted on a continuous basis. The time schedule reflects the completion of the major travel survey efforts early in 1993, although comprehensive analyses of the data collected in the travel survey will continue for another two years. The schedule reflects the anticipated completion of the third-generation regional transportation system plan by the end of 1993, as well as the completion of the fourth-generation regional land use and regional

¹The general scope of work excludes any activities relating to the update and extension of the regional airport system plan. That work effort will be documented in a separate Commission staff memorandum.

Table 4

**SUMMARY OF CONTINUING REGIONAL LAND USE-TRANSPORTATION
STUDY WORK PROGRAM ELEMENTS: 1992-2000**

Work Program Category	Work Element Description	Data Sources	Anticipated Level of Detail	Anticipated Frequency of Performance	Basic Planning Function
Study Design	Study design preparation, review, and publication	Prior study designs, overall work programs, staff memoranda	Identification of scope of work program	Periodically; next study design to be prepared in year 2000	Work program development
Formulation of Objectives, Principles, and Standards	Assessment of continued validity of regional development objectives, principles, and standards	Public reaction to plan implementation; attitudinal and personal opinion surveys; behavioral studies	Regional in scope	Once during study design period	Reappraisal
	Monitoring and reevaluation of planning standards	Inventories relating to standards; e.g., land use, natural resources, travel	Regional in scope	Annually	Surveillance
Collection of Basic Data	General and special-purpose base maps; updating as required	Aerial photographs, utility records, county and municipal records, WisDOT, WisDNR	1:24000 to 1:96000 scale	Annually	Surveillance
	Detailed planning base maps	Contract preparation	1:1200 to 1:2400 scale, two-foot contour interval	Annually by implementing agencies	Surveillance
	Update and maintenance of horizontal and vertical control survey data	Contract development, private surveyors, county surveyors, WisDOT	Related to U. S. Public Land Survey section and one-quarter-section corners; control density spacing of 0.5 mile	Annually	Surveillance
	Aerial photography	Contract preparation	1:4800 and 1:24000 scales	1995 and 2000	Surveillance
	Inventory of highway facilities and service levels	Field surveys, county and municipal records, WisDOT	Arterials and major rural collectors, bicycle and pedestrian ways	Annually	Surveillance
	Inventory of transit facilities and service levels	Transit agencies, WisDOT	All transit service	Annually	Surveillance
	Inventory of transportation terminal facilities	Field surveys, county and municipal records, WisDOT	Milwaukee central business district, major commercial centers, selected truck terminals, selected airports	Once during study design period	Surveillance
	Inventory of automobile and truck availability	WisDOT	Region, county, civil division	Annually	Surveillance
	Inventory of existing transportation movement and behavioral factors affecting travel habits and patterns	Screenline survey, home interview survey, truck and taxi survey, external travel surveys, and mass transit surveys	Regional in scope	Once during study design period	Surveillance
	Inventory of land use	Aerial photography, field surveys, municipal records	63-category land use classification system; data summarized by U. S. Public Land Survey one-quarter section	Five-year intervals, 1990, 1995, 2000	Surveillance
	Inventory of community plans and zoning	Municipal and county planning and zoning documents	Composite regional zoning maps	Once during study design period	Surveillance
	Inventory of demographic factors: regional data	U. S. Bureau of the Census	Regional, county, civil division	Once during study design period	Surveillance
	Inventory of demographic factors: current population estimates	U. S. Bureau of the Census, WisDOA	Regional, county, civil division, and U. S. Public Land Survey one-quarter section	Annually; 1990, 1995, and 2000 at one-quarter-section level	Surveillance
	Inventory of economic factors: regional data	U. S. Bureau of Economic Analysis; WisDILHR	Regional, county	Once during study design period	Surveillance
	Inventory of economic factors: current employment estimates	U. S. Bureau of Economic Analysis; WisDILHR	Regional, county, and U. S. Public Land Survey one-quarter section	Annually; 1990, 1995, and 2000 at one-quarter-section level	Surveillance
	Inventory of public financial resources	WisDOA, WisDOR, county and municipal records	Regional, county, municipal	Annually	Surveillance
	Inventory of natural resource and public utility base	Aerial photography, field surveys, municipal records, WisPSC, WisDNR	Regional in scope	Once during study design period	Surveillance
	Geographic base file (TIGER)	U. S. Bureau of the Census	Regional in scope; street segments	Once during study design period	Surveillance

Table 4 (continued)

Work Program Category	Work Element Description	Data Sources	Anticipated Level of Detail	Anticipated Frequency of Performance	Basic Planning Function
Analysis and Forecast	Data conversion, filing, and retrieval	SEWRPC data files	U. S. Public Land Survey one-quarter section, traffic analysis zone, highway and transit network links, civil divisions, planning analysis areas, urban service areas	Continuously	Reappraisal
	Demographic analysis and population forecast	Inventory findings	Region, county, planning analysis area, traffic analysis zone	Once during study design period	Reappraisal
	Economic analysis and employment forecast	Inventory findings	Region, county, planning analysis area, traffic analysis zone	Once during study design period	Reappraisal
	Public financial resources analysis and forecast	Inventory findings	Region, county, minor civil division	Once during study design period	Reappraisal
	Land use demand analysis and forecast	Inventory findings	Region, county	Once during study design period	Reappraisal
	Automobile and truck availability analysis and forecast	Inventory findings	Region, county	Once during study design period	Reappraisal
	Travel demand analysis and forecast	Inventory findings	Region, county, subregional areas	Twice during study design period	Reappraisal
	Demographic simulation model	Inventory findings	Region, county	Once during study design period	Reappraisal
	Economic simulation model; not proposed to be used	--	--	--	--
	Land use design model; not proposed to be used	--	--	--	--
	Traffic simulation models	Inventory findings	Region	Twice during study design period	Reappraisal
	Air pollutant emission model	Regional transportation plan, regional transportation improvement programs	Region	Annually	Reappraisal
Plan Review, Reevaluation, and Extension Plan Selection and Adoption	Fourth-generation land use plan	Findings of surveillance and reappraisal work; subregional plans	Region	Once during study design period: 1997	Reappraisal
	Third-generation transportation plan (includes highway, transit, systems management, intermodal facilities, air quality control measures, transportation enhancement, and financial elements)	Findings of surveillance and reappraisal work; subregional plans	Region	Once during study design period: 1993	Reappraisal
	Milwaukee transportation management area and congestion management system	WisDOT, county and local agencies, field surveys	Four-county area	Annually	Reappraisal
	Fourth-generation transportation plan	Findings of surveillance and reappraisal work; subregional plans	Region	Once during study design period: 1998	Reappraisal
Plan Implementation	Plan refinement and detailing	System level plans, field surveys	County, municipal, special areas	Annually	Service and plan implementation
	Transportation improvement programming	WisDOT, all highway and transit agencies	Region	Annually	Service and plan implementation
	Extension of planning and engineering data	System level plans	County, municipal, private sector	Continuously	Service and plan implementation

NOTE: The regional geographic information system (GIS) and companion integrated county land information systems (LIS) are used to help perform and support the basic planning operations of inventory, analysis, plan design and evaluation, plan implementation, and report production.

Source: SEWRPC.

Figure 2

**TIMING OF MAJOR WORK ELEMENTS FOR THE CONTINUING
REGIONAL LAND USE-TRANSPORTATION STUDY: 1992-2000**

Work Program Element	1992	1993	1994	1995	1996	1997	1998	1999	2000
STUDY DESIGN	■								■
OBJECTIVES, PRINCIPLES, AND STANDARDS									
Assessment of Continued Validity		■				■	■		
Monitoring of Planning Standards	■	■	■	■	■	■	■	■	■
COLLECTION OF BASIC DATA									
Base Map Updating	■	■	■	■	■	■	■	■	■
Detailed Planning Base Maps	■	■	■	■	■	■	■	■	■
Horizontal and Vertical Control Survey Data	■	■	■	■	■	■	■	■	■
Aerial Photography				■	■				■
Highway Facilities and Service Levels	■	■	■	■	■	■	■	■	■
Transit Facilities and Service Levels	■	■	■	■	■	■	■	■	■
Transportation Terminal Facilities	■	■	■	■	■	■	■	■	■
Automobile and Truck Availability	■	■	■	■	■	■	■	■	■
Major Travel Survey									
Screenline Classification and Counts	■	■	■	■	■	■	■	■	■
Home Interview Survey	■	■	■	■	■	■	■	■	■
Truck and Taxi Survey	■	■	■	■	■	■	■	■	■
Mass Transit Survey	■	■	■	■	■	■	■	■	■
External Travel Surveys	■	■	■	■	■	■	■	■	■
Data Coding, Checking, Factoring, and Processing	■	■	■	■	■	■	■	■	■
Data Analyses	■	■	■	■	■	■	■	■	■
Land Use	■	■	■	■	■	■	■	■	■
Community Plans and Zoning	■	■	■	■	■	■	■	■	■
Demographic Factors—Regional Data	■	■	■	■	■	■	■	■	■
Demographic Factors—Current									
Population Estimate	■	■	■	■	■	■	■	■	■
Economic Factors—Regional Data	■	■	■	■	■	■	■	■	■
Economic Factors—Current									
Employment Estimate	■	■	■	■	■	■	■	■	■
Public Financial Resources	■	■	■	■	■	■	■	■	■
Natural Resource and Public Utility Base	■	■	■	■	■	■	■	■	■
Geographic Base File	■	■	■	■	■	■	■	■	■
Geographic Information System (GIS)/ Land Information System (LIS)	■	■	■	■	■	■	■	■	■
ANALYSIS AND FORECAST									
Data Conversion, Filing, and Retrieval	■	■	■	■	■	■	■	■	■
Demographic Analysis and Population Forecast	■	■	■	■	■	■	■	■	■
Economic Analysis and Employment Forecast	■	■	■	■	■	■	■	■	■
Public Financial Resources	■	■	■	■	■	■	■	■	■
Land Use Demand	■	■	■	■	■	■	■	■	■
Automobile and Truck Availability	■	■	■	■	■	■	■	■	■
Travel Demand	■	■	■	■	■	■	■	■	■
PLAN REVIEW, REEVALUATION, AND EXTENSION									
Third-Generation Regional Transportation Plan	■	■	■	■	■	■	■	■	■
Milwaukee Area Congestion Management System	■	■	■	■	■	■	■	■	■
Fourth-Generation Regional Land Use Plan	■	■	■	■	■	■	■	■	■
Fourth-Generation Regional Transportation Plan	■	■	■	■	■	■	■	■	■
PLAN SELECTION AND ADOPTION									
Third-Generation Regional Transportation Plan	■	■	■	■	■	■	■	■	■
Fourth-Generation Regional Land Use Plan	■	■	■	■	■	■	■	■	■
Fourth-Generation Regional Transportation Plan	■	■	■	■	■	■	■	■	■
PLAN IMPLEMENTATION									
Plan Refinement and Detailing	■	■	■	■	■	■	■	■	■
Transportation Improvement Programming	■	■	■	■	■	■	■	■	■
Extension of Planning and Engineering Data	■	■	■	■	■	■	■	■	■

Source: SEWRPC.

transportation plans later in the study design period. These latter efforts involve setting forward the plan design year to 2020.

STAFF REQUIREMENTS

The broad scope of the continuing regional land use-transportation study requires a staff trained and experienced in many different skills and professional disciplines. The proposed organizational structure for the continuing study over the 1992-2000 time period is shown in Figure 3. More detailed organizational charts for each of the Commission staff operating divisions are set forth in Figures 4 through 11.

The organizational structure reflects primary reliance upon permanent staff for the performance of the necessary work.² Temporary part-time consulting services are anticipated to be required with respect to the special demographic and economic studies intended to serve as the basis for the preparation of new population and employment forecasts for the Region. The structure also reflects the assignment of one engineer by the Wisconsin Department of Transportation to work directly with the Commission staff in the Transportation Planning Division.

The integrated nature of the Commission's planning program makes it likely that staff in nearly all of the Commission planning and support divisions will become directly involved in the conduct of the continuing regional land use-transportation study. In many cases, however, that involvement is on a part-time basis. Overall, it is expected that in a typical year under the continuing study, the equivalent of 42 full-time staff members will work directly on land use-transportation project activities. This includes all of the staff identified in the Transportation Planning Division, a substantial portion of the staff in the Land Use Planning Division, and other staff members in the Commission's Environmental and Cartographic and

Graphic Arts Divisions. In addition, indirect staff support is provided in the Commission's Executive, Administrative, and Geographic Information Systems Divisions.

BUDGET

It is proposed that the continuing regional land use-transportation study for southeastern Wisconsin be funded cooperatively by the federal, state, and local units of government concerned. Local funding would be regularly provided through the Commission's regional planning tax levy. State funding would be regularly provided through local transportation aids made available by the Wisconsin Department of Transportation. Federal funding would be regularly provided by both the Federal Highway Administration and the Federal Transit Administration. In the latter two cases, funds would be made available to the continuing study through the Wisconsin Department of Transportation, making it unnecessary for the Commission to deal contractually directly with the federal government. The aforementioned funding sources may be supplemented by federal funding provided by the Federal Railway Administration for special projects relating to railway-related planning and intermodal facilities.

The estimated cost of conducting the major travel survey over the 1991-1993 period is \$1.8 million (see Table 5). By prior agreement, all of that cost has been funded directly by the Wisconsin Department of Transportation under a special one-time appropriation. Accordingly, while the major travel survey is an integral part of the continuing study, the cost associated with conducting those surveys should be viewed separately from the continuing study effort.

A typical annual budget for the continuing regional land use-transportation study is shown in Table 6. The total annual cost is estimated at \$2.3 million. Suggested cost shares among the participating agencies in the continuing program are also identified in Table 6. It is recognized in this respect that the specific level of work effort and attendant budget for the continuing study will have to be defined annually through the vehicle of the overall work program. As that work program is prepared and negotiated each year, it should be expected that the cost shares identified on Table 6 may vary depending on fiscal resource availability.

²The staff structure reflected in this discussion does not include the temporary staff assembled to carry out the major regional travel survey over the 1991-1992 time period. The conduct of the major travel survey involved the temporary addition to the Commission staff of nearly 200 persons.

Figure 3 **ORGANIZATIONAL STRUCTURE FOR THE CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY: 1992-2000**

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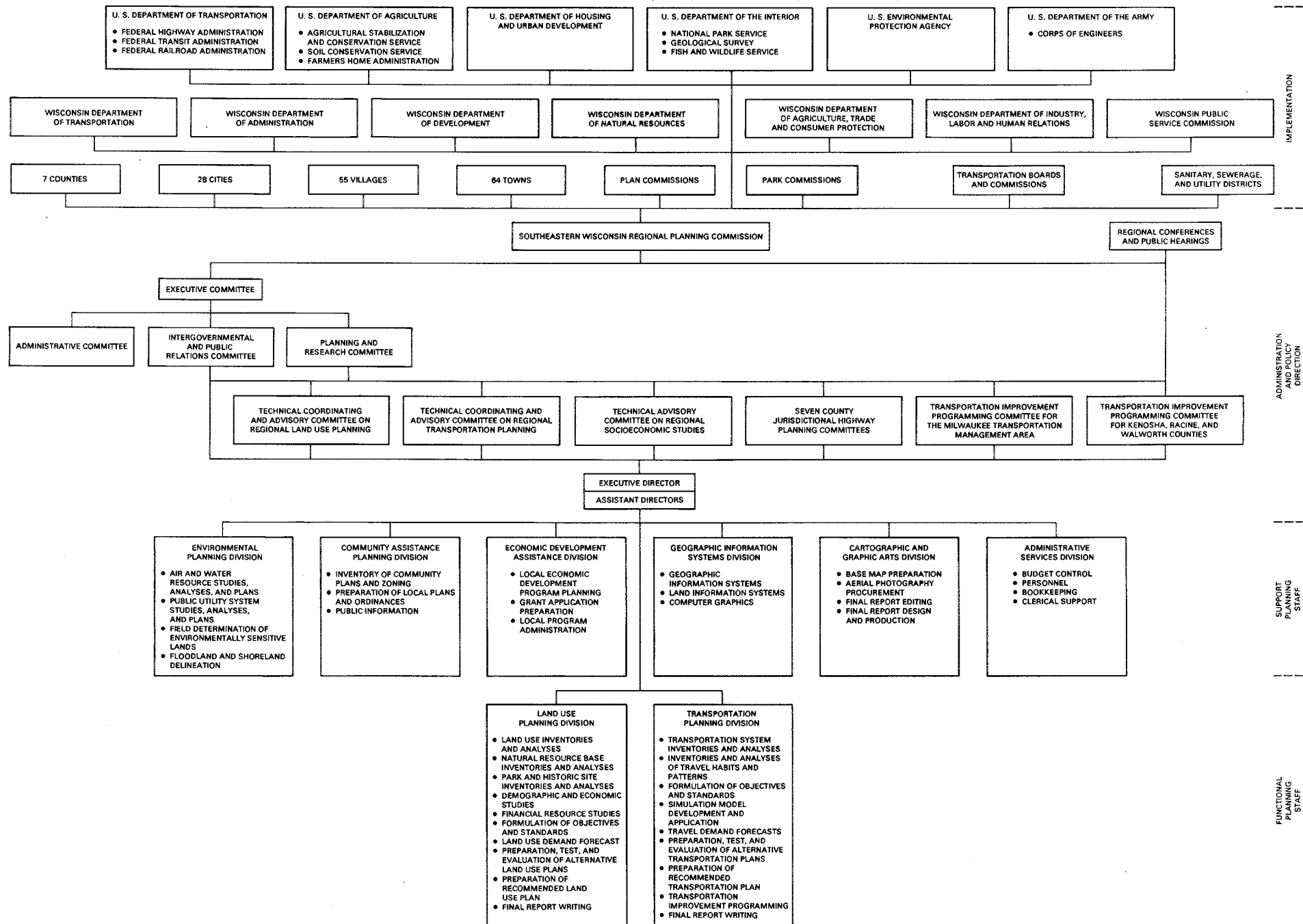
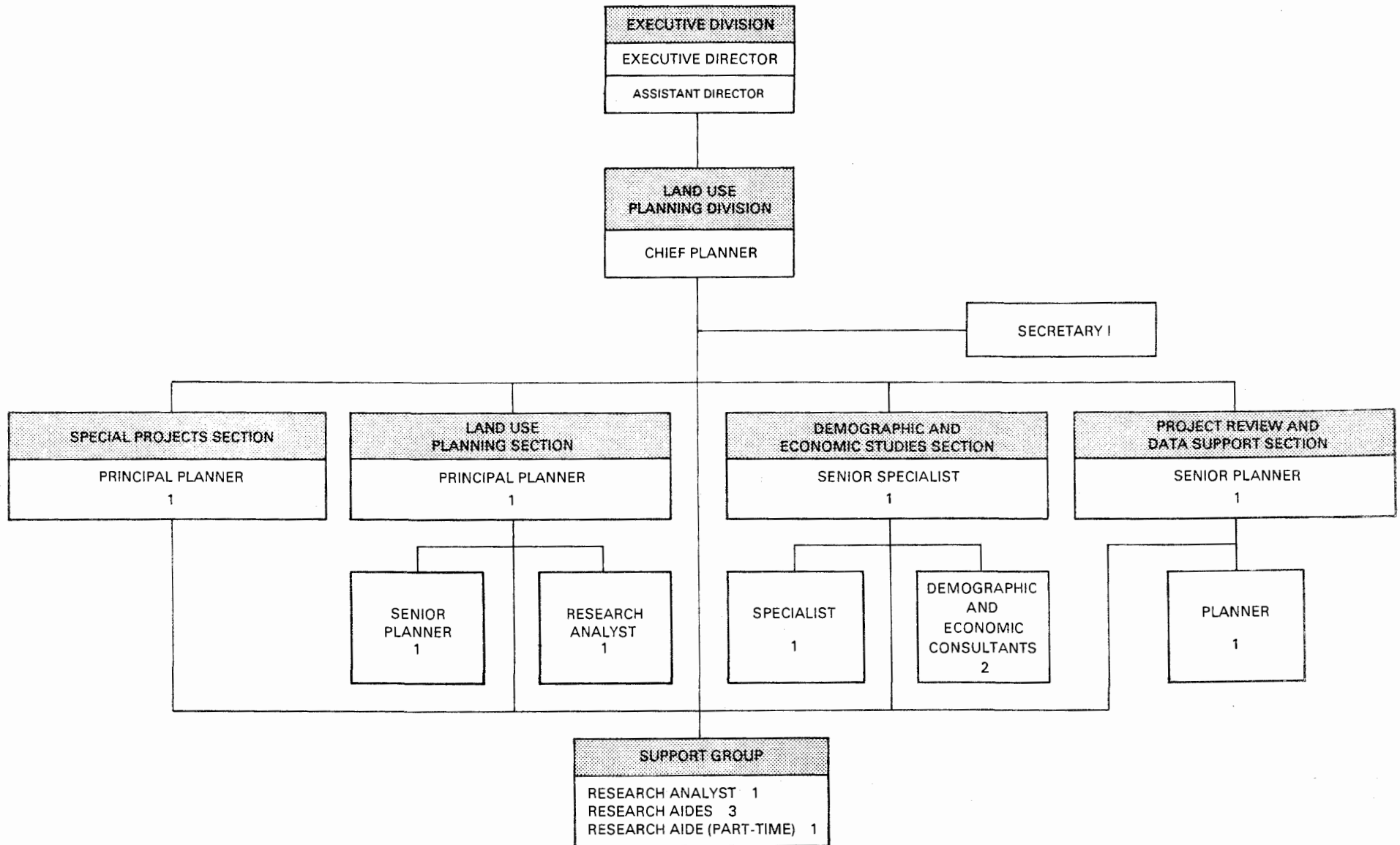


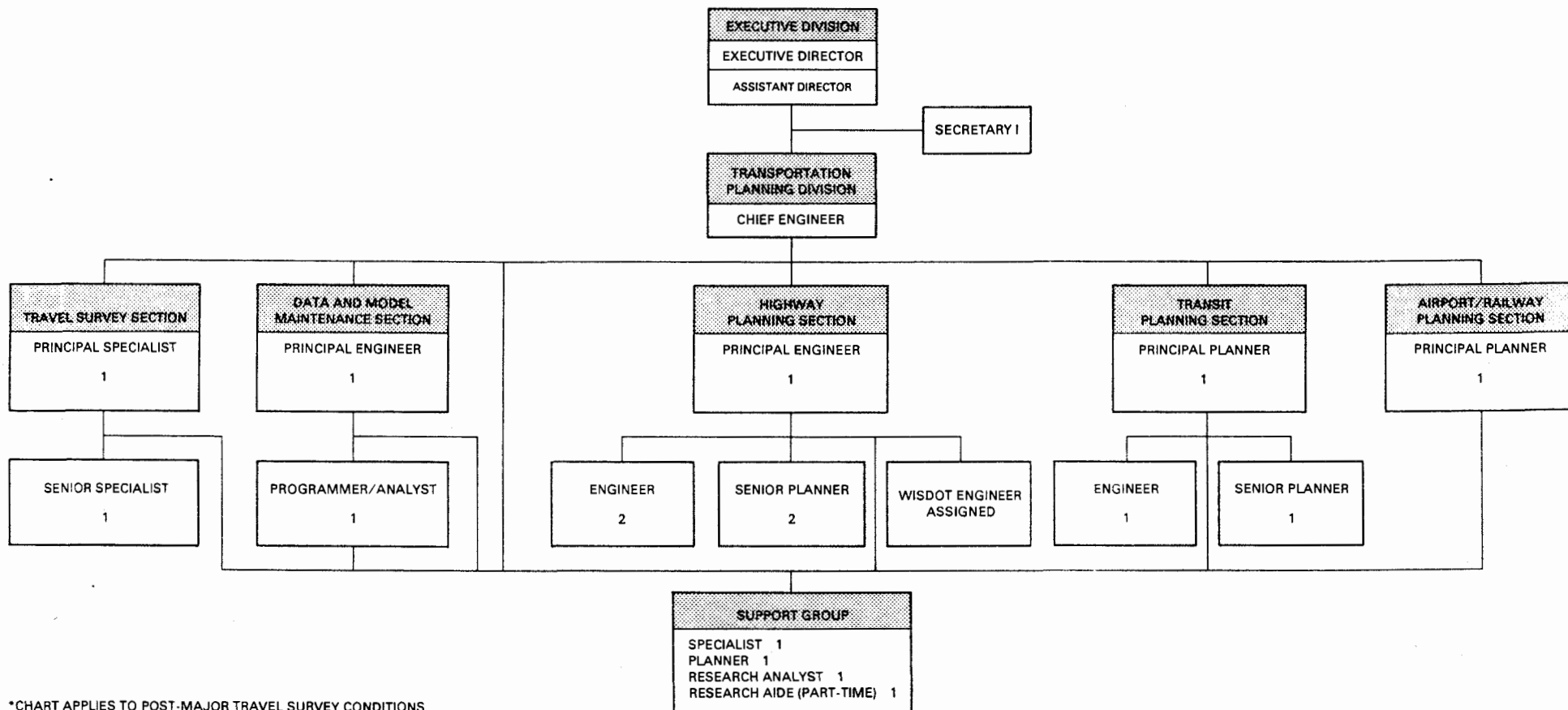
Figure 4

**ORGANIZATIONAL CHART
SEWRPC LAND USE PLANNING DIVISION**



Source: SEWRPC.

Figure 5
ORGANIZATIONAL CHART
SEWRPC TRANSPORTATION PLANNING DIVISION

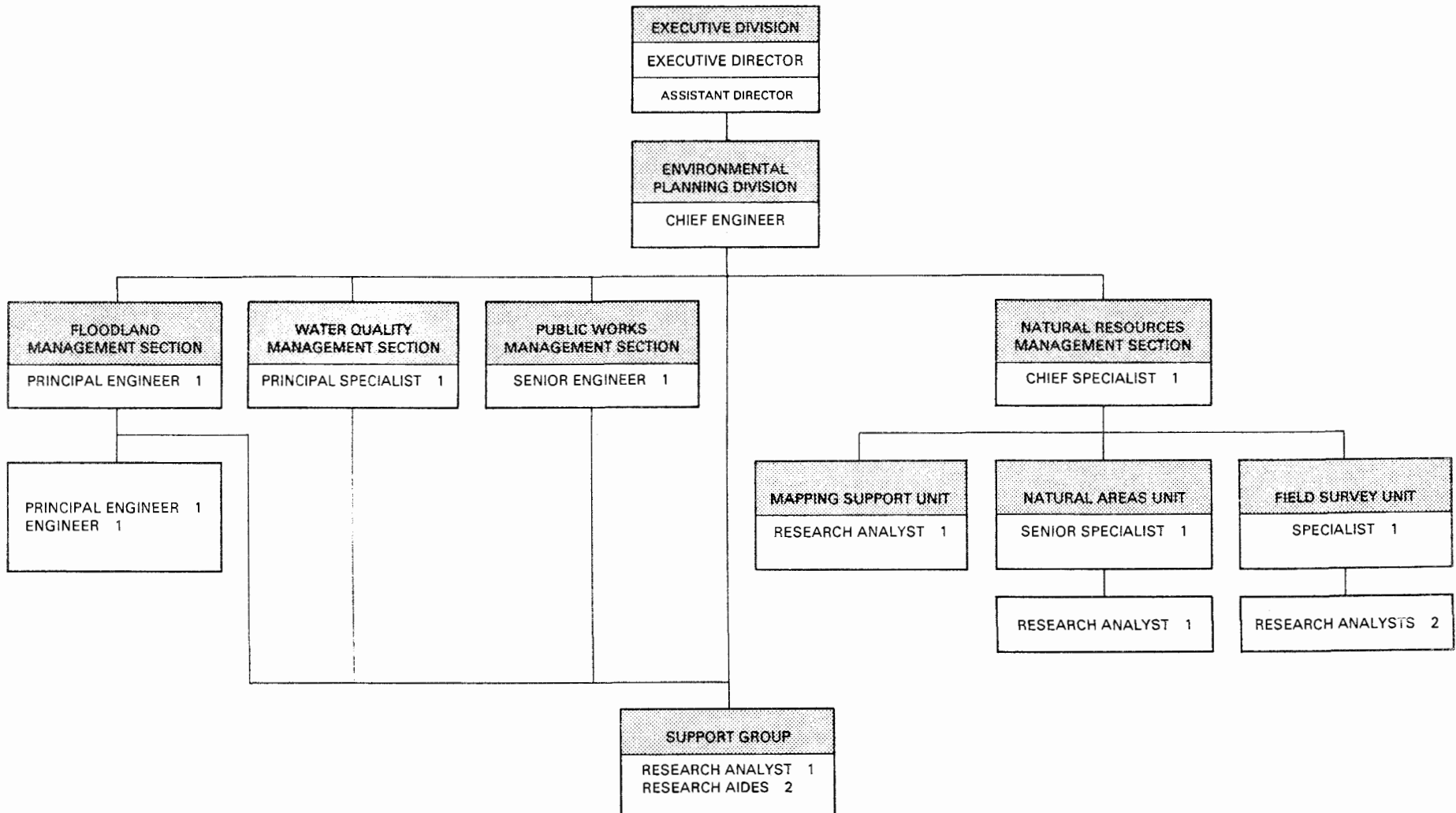


*CHART APPLIES TO POST-MAJOR TRAVEL SURVEY CONDITIONS.

Source: SEWRPC.

Figure 6

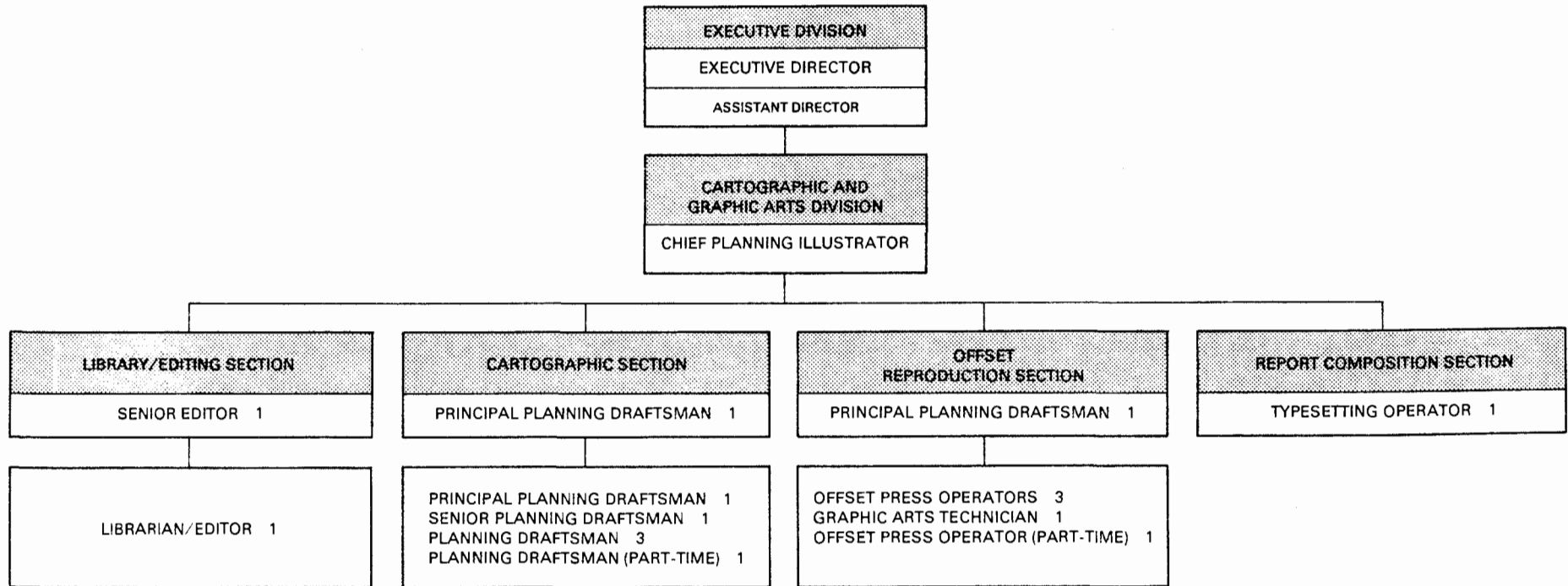
**ORGANIZATIONAL CHART
SEWRPC ENVIRONMENTAL PLANNING DIVISION**



Source: SEWRPC.

Figure 7

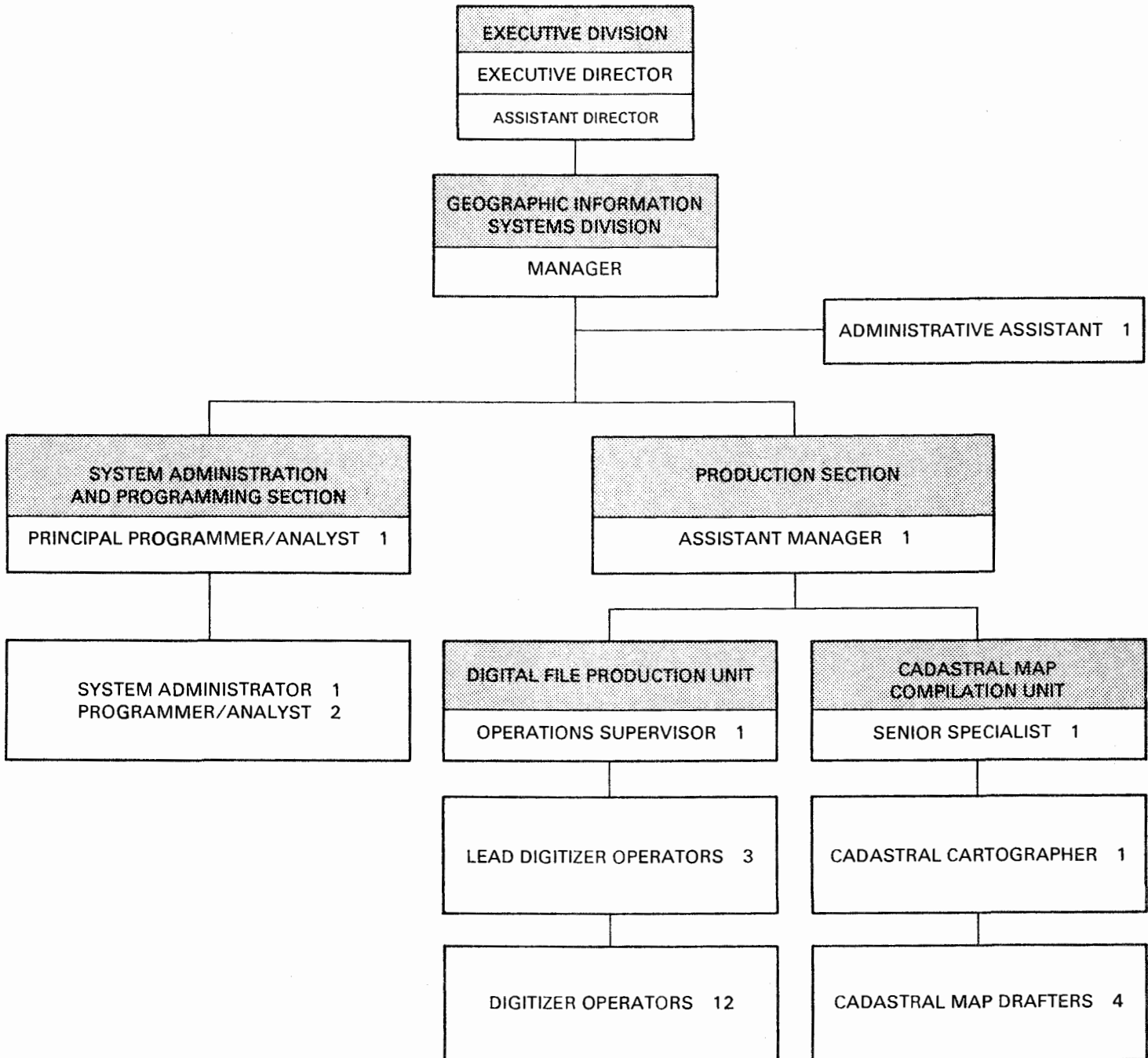
**ORGANIZATIONAL CHART
SEWRPC CARTOGRAPHIC AND GRAPHIC ARTS DIVISION**



Source: SEWRPC.

Figure 8

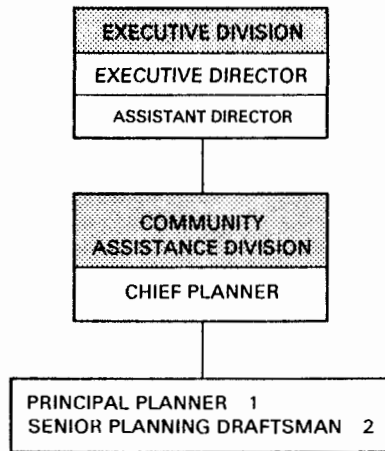
**ORGANIZATIONAL CHART
SEWRPC GEOGRAPHIC INFORMATION SYSTEMS DIVISION**



Source: SEWRPC.

Figure 9

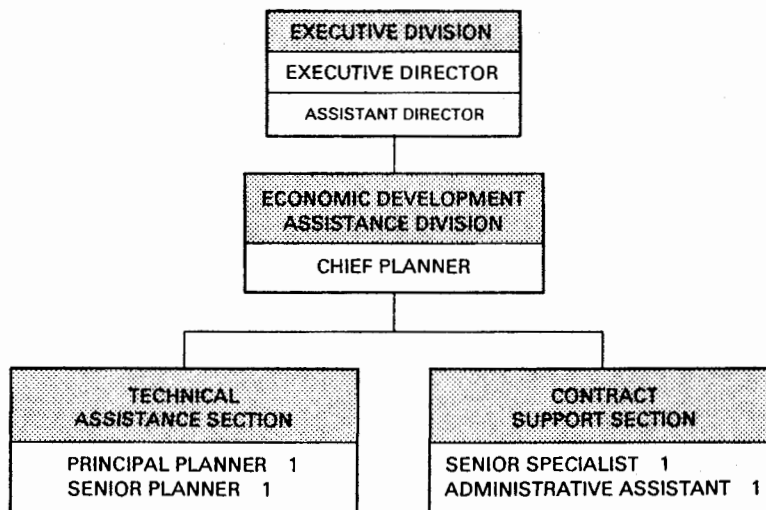
**ORGANIZATIONAL CHART
SEWRPC COMMUNITY ASSISTANCE DIVISION**



Source: SEWRPC.

Figure 10

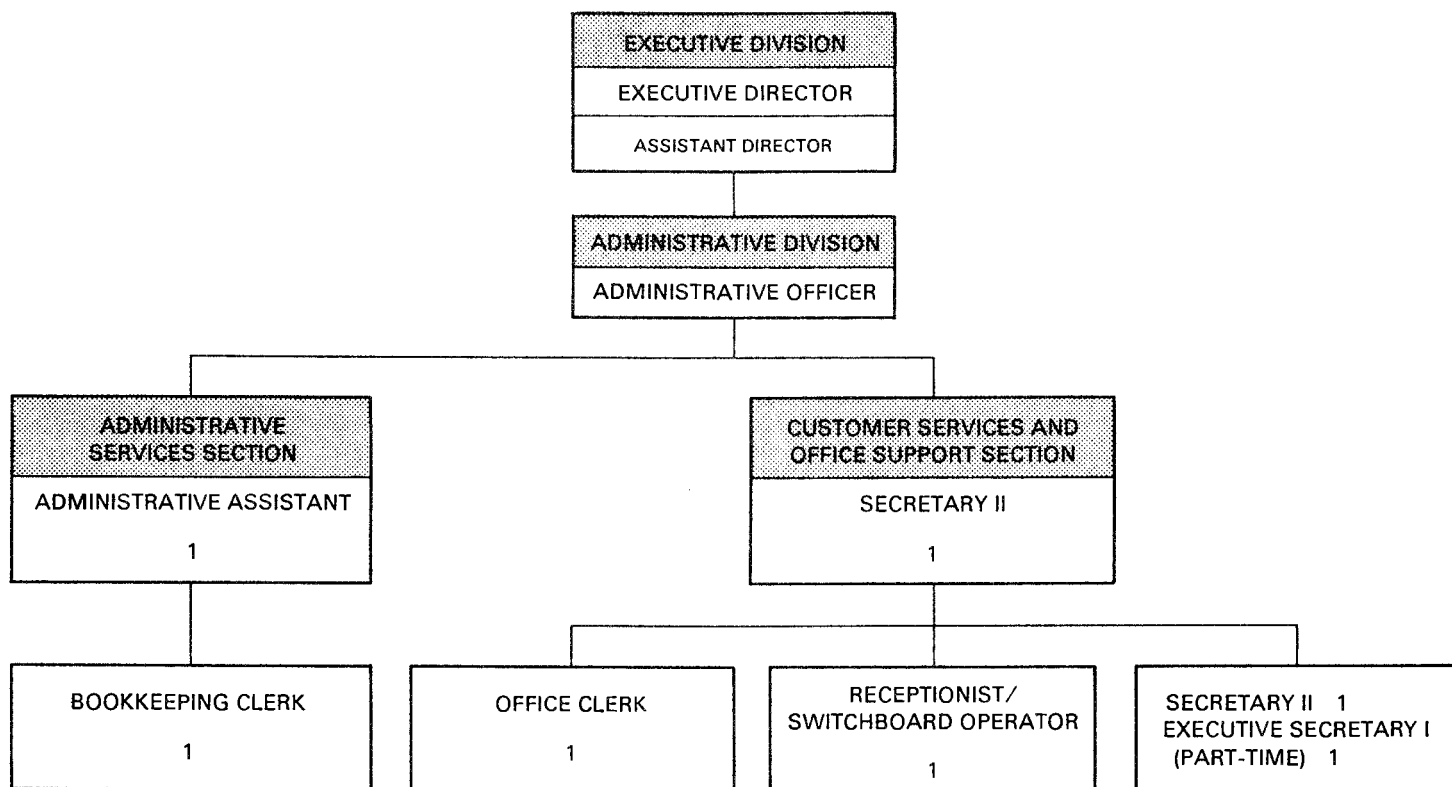
**ORGANIZATIONAL CHART
SEWRPC ECONOMIC DEVELOPMENT ASSISTANCE DIVISION**



Source: SEWRPC.

Figure 11

**ORGANIZATIONAL CHART
SEWRPC ADMINISTRATIVE DIVISION**



Source: SEWRPC.

COMMITTEE STRUCTURE

The regional land use-transportation study in southeastern Wisconsin has, since its inception in 1963, been guided not only by the Southeastern Wisconsin Regional Planning Commission as the legally designated metropolitan planning organization (MPO), but also by a series of advisory committees. The Commission itself consists of county and local elected officials and citizen leaders and provides the most basic and meaningful form of public participation in the comprehensive planning process. It has been the Commission's intent in structuring the advisory committees, which are envisioned to broaden the basis for public participation in the planning process, to secure the active participation of all

parties concerned in the conduct of the study and in the formulation of recommended land use and transportation plans. The new federal Intermodal Surface Transportation Efficiency Act reinforces the need to actively involve a variety of interests in the planning effort. The active involvement of advisory committees in the work program, including detailed review of all documents intended to become part of the formally adopted regional plan, represents a major way in which the Commission secures widespread public participation in the planning process. At the present time, for example, and taking into account the entire Commission planning program, the Commission sponsors 28 advisory committees with membership totalling over 500 persons.

Table 5

**ESTIMATED COSTS OF THE
REGIONAL TRAVEL SURVEYS IN
SOUTHEASTERN WISCONSIN: 1991-1993**

Travel Survey	Survey Characteristics and Cost
Households	
Sample Rate	2.0 percent
Number	15,000
Type of Survey	Home interview
Cost	\$1,200,000
Truck	
Sample Rate	16.0 percent
Type of Survey	Mail
Cost	\$110,000
Urban Transit	
Sample Rate	50.0 percent
Type of Survey	On-board
Cost	\$350,000
External Cordon (highway)	
Sample Rate	70.0 percent
Type of Survey	Roadside postcard
Cost	\$110,000
Special Surveys (taxi, long-distance train, intercity bus)	
Sample Rate	100.0 percent
Type of Survey	On-board for bus and train; mail for taxi
Cost	\$30,000
Total	\$1,800,000

Source: SEWRPC.

Another important way in which public participation in the planning process is secured involves the conduct of massive attitudinal and behavioral surveys. The major travel surveys described earlier in this document provide a great deal of information directly from citizens that is used in the planning process. Public participation is facilitated through a number of Commission documents, including the bimonthly Newsletter, the Annual Report, news releases, and staff memoranda, as well as Commission planning documents which are made available upon request. The process also includes regional planning conferences, public informational meetings, and formal public hearings.

The advisory committee structure recommended for the continuing regional land use-transportation study over the 1992-2000 period is as follows:

1. Technical Coordinating and Advisory Committee on Regional Land Use Planning

This Committee would have primary responsibility for guiding the preparation of new regional land use plans. Membership on this Committee is set forth in Appendix C-1. The Committee membership includes county and local planners, federal and state agency representatives concerned with land use planning and development, park and recreation interests, and representatives of the utility, university, environmental, and legal communities.

2. Technical Coordinating and Advisory Committee on Regional Transportation System Planning

This Committee would have primary responsibility for guiding the preparation of new regional transportation plans. Membership on this Committee is set forth in Appendix C-2. The Committee membership has been drawn to include county transportation officials, local directors of public works and city engineers, transit operators, federal and state agency representatives, and representatives of environmental and other public interest groups. To permit more extensive consideration of selected issues and concerns, ad hoc subcommittees may be formed from this committee during the preparation of the third-generation regional transportation system plan.

3. Technical Advisory Committee on Regional Socioeconomic Studies

This Committee would have primary responsibility for guiding the conduct of the demographic and economic studies, including the preparation of new forecasts of population and employment. Membership on this Committee is set forth in Appendix C-3. The Committee membership has been drawn to make available to the Commission the best technical talent available in terms of socioeconomic considerations and includes federal and state agency representatives, members of the

Table 6

**TYPICAL ANNUAL BUDGET FOR THE CONDUCT OF THE
CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY:1992-2000**

Study Element	Approximate Annual Cost	Funding Agency	Amount
Land Use Planning			
Personnel Costs	\$ 289,500	FTA Section 9	\$ 0
Direct Costs	10,000	FTA Section 8	0
Administrative		FHWA	66,600
Indirect Costs	44,100	WisDOT	8,300
Regional Geographic		SEWRPC	295,100
Information Systems			
Indirect Costs	26,400		
Subtotal	\$ 370,000	Subtotal	\$ 370,000
Transportation Planning			
Personnel Costs	\$1,214,600	FTA Section 9	\$ 116,300
Direct Costs	46,100	FTA Section 8	319,300
Administrative		FHWA	809,300
Indirect Costs	177,800	WisDO	155,600
Regional Geographic		SEWRPC	155,600
Information Systems			
Indirect Costs	117,600		
Subtotal	\$1,556,100	Subtotal	\$1,556,100
Planning Research			
Personnel Costs	\$ 338,900	FTA Section 9	\$ 33,700
Direct Costs	13,400	FTA Section 8	92,700
Administrative		FHWA	224,100
Indirect Costs	51,600	WisDOT	43,800
Regional Geographic		SEWRPC	43,800
Information Systems			
Indirect Costs	34,200		
Subtotal	\$ 438,100	Subtotal	\$ 438,100
All Elements			
Personnel Costs	\$1,843,000	FTA Section 9	\$ 150,000
Direct Costs	69,500	FTA Section 8	412,000
Administrative		FHWA	1,100,000
Indirect Costs	273,500	WisDOT	207,700
Regional Geographic		SEWRPC	494,500
Information Systems			
Indirect Costs	178,200		
Total	\$2,364,200	Total	\$2,364,200

Source: SEWRPC.

university community, representatives of the utility industry and county and local governments.

4. Jurisdictional Highway Planning Committees

The Commission will maintain, over the study design period, the seven Intergovernmental Coordinating and Advisory Com-

mittees on County Jurisdictional Highway Planning. Membership on these Committees is set forth in Appendices C-4 through C-10. The basic structure of these Committees enables the direct participation in the formulation of the highway plans at the county level by each affected local unit of government. Each Committee also includes federal and state agency representatives.

5. Transportation Improvement Programming Committees

Since 1976, the Commission has relied upon three advisory committees to prepare and maintain current the annual transportation improvement program, one each for the Kenosha, Milwaukee, and Racine urbanized areas. The new federal transportation legislation requires an adjustment be made to this committee structure to reflect the creation of the Milwaukee Transportation Management Area over the entire four-county Milwaukee metropolitan area. In addition, the new Act requires that Walworth County be formally included in the transportation improvement programming process. Accordingly, as graphically summarized on Map 2, it is proposed that the Commission dissolve the three previously created committees and put in its place two committees (see Appendix C-11 and Appendix C-12) as follows:

a. Transportation Improvement Programming Committee for the Milwaukee Transportation Management Area

This Committee would have the primary responsibility for preparing that portion of the regional transportation improvement program that pertains to the four-county Milwaukee Transportation Management Area. It would also have the responsibility to program and select specific projects to be funded with those federal surface transportation program (STP) funds which are allocated directly to the Milwaukee urbanized area. It is proposed that this Committee consist of 21 members, with the membership drawn to ensure total geographic representation and, to the extent feasible, to reflect representation proportional to the population of the Milwaukee urbanized area. The proposed structure is very similar to the current structure and includes the following:

- 1) Five representatives from Milwaukee County.
- 2) One representative each from Ozaukee, Washington, and Waukesha Counties.
- 3) Five representatives from the City of Milwaukee.

4) One representative from the Milwaukee North Shore suburban communities of Bayside, Brown Deer, Fox Point, River Hills, Glendale, Shorewood, and Whitefish Bay.

5) Two representatives from the western Milwaukee suburban communities of Wauwatosa, West Allis, and West Milwaukee.

6) One representative from the southwest Milwaukee suburban communities of Franklin, Greendale, Greenfield, and Hales Corners.

7) One representative from the Milwaukee South Shore suburban communities of Cudahy, Oak Creek, St. Francis, and South Milwaukee.

8) Three representatives from all of the communities in eastern Waukesha County which lie within the urbanized area.

b. Transportation Improvement Programming Committee for Kenosha, Racine, and Walworth Counties

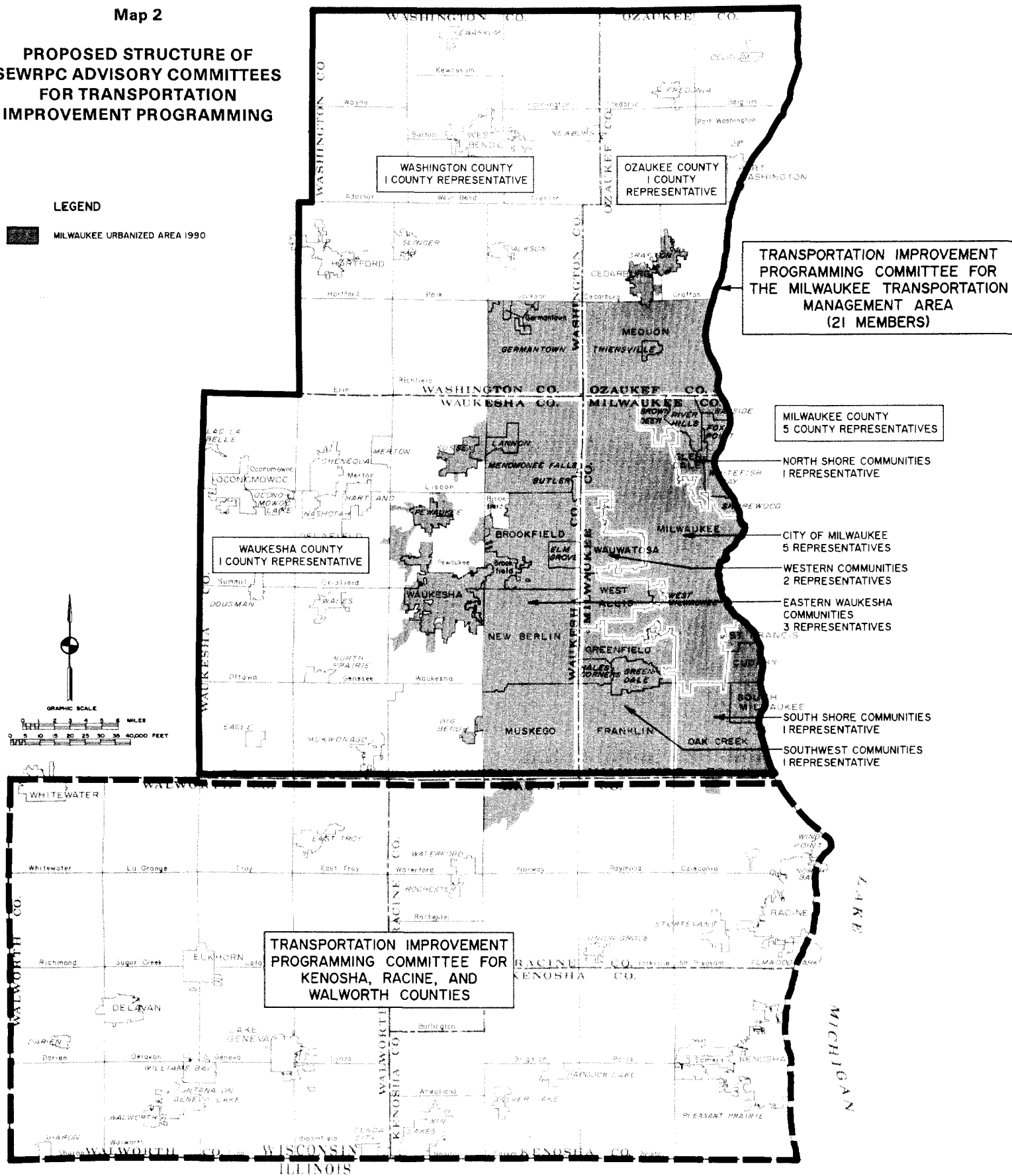
This Committee would have primary responsibility for preparing that portion of the regional transportation improvement program that pertains to Kenosha, Racine, and Walworth Counties. In effect, it is proposed that the prior Kenosha and Racine urbanized area committees be combined and appropriate representation from Walworth County be added.

6. Technical Advisory Committee on Regional Bicycle and Pedestrian Facilities Planning

This Committee would have primary responsibility for guiding the preparation of the bicycle and pedestrian elements of the new regional transportation plans. Membership on this Committee is set forth in Appendix C-13. Membership on this Committee has been drawn to include county and local planners and engineers, including traffic engineers; federal and state transportation agency officials; and representatives of the environmental and bicycling communities.

PROPOSED STRUCTURE OF SEWRPC ADVISORY COMMITTEES FOR TRANSPORTATION IMPROVEMENT PROGRAMMING

MILWAUKEE URBANIZED AREA 1990



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APPENDICES

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Appendix A

PROPOSED PROCESS FOR PREPARING THE ANNUAL TRANSPORTATION IMPROVEMENT PROGRAM

INTRODUCTION

This appendix outlines the proposed process for preparing the annual regional transportation improvement program (TIP) for the seven-county Southeastern Wisconsin Region. The program is intended to have a six-year time horizon and to be updated annually. The process builds upon historic practice in preparing TIPs for the Region, supplemented as necessary to meet the requirements of the federal Clean Air Act and the federal Intermodal Surface Transportation Efficiency Act. The proposed process is summarized in Figure A-1. Each step in the process is described below.

STEP ONE: PROJECT SUBMITTAL (FEBRUARY 1 THROUGH JUNE 30)

The TIP process would begin on February 1 of each year with project submittal. A specific time schedule for completing the process is set forth in Table A-1. The first step consists of the submittal of projects for inclusion in the Draft TIP. Owing to the provisions of federal and state laws, responsibility for project submittal and initiation is shared by the SEWRPC as the metropolitan planning organization (MPO) and the Wisconsin Department of Transportation (WisDOT). The project submittal step consists of the following four separate but coordinated activities:

1. Highway Project Submittal (WisDOT)

The WisDOT has the responsibility to nominate for inclusion in the TIP all state, county, and local highway projects intended to use the following federal program funds: Interstate Highway Substitution; Interstate Highway Maintenance; National Highway System; Federal Bridge; Congestion Mitigation and Air Quality; Surface Transportation Program outside the Milwaukee Urbanized Area; Transportation Enhancement; and Safety.¹ In addition, the WisDOT nominates all highway projects funded entirely by the State. The Regional Planning Commission secures information on all other highway projects that are totally county and local funded.

To fulfill this responsibility, the WisDOT operates its own processes that initiate the consideration of candidate projects for funding and ultimately result in selected projects for funding to be included in the Draft TIP. These processes are considered to be internal to the WisDOT and, therefore, outside the scope of this memorandum. Upon completion of these independent processes, the WisDOT submits directly to the SEWRPC all highway projects proposed for inclusion in the TIP, scaling the projects individually to anticipated federal and state revenue levels for each year for the first three years of the six-year program, as well as collectively for a second three year period. Upon receipt of the candidate projects, the SEWRPC has the responsibility to screen each project to ensure that the project is in conformance with, and serves to implement, the adopted regional transportation system plan.

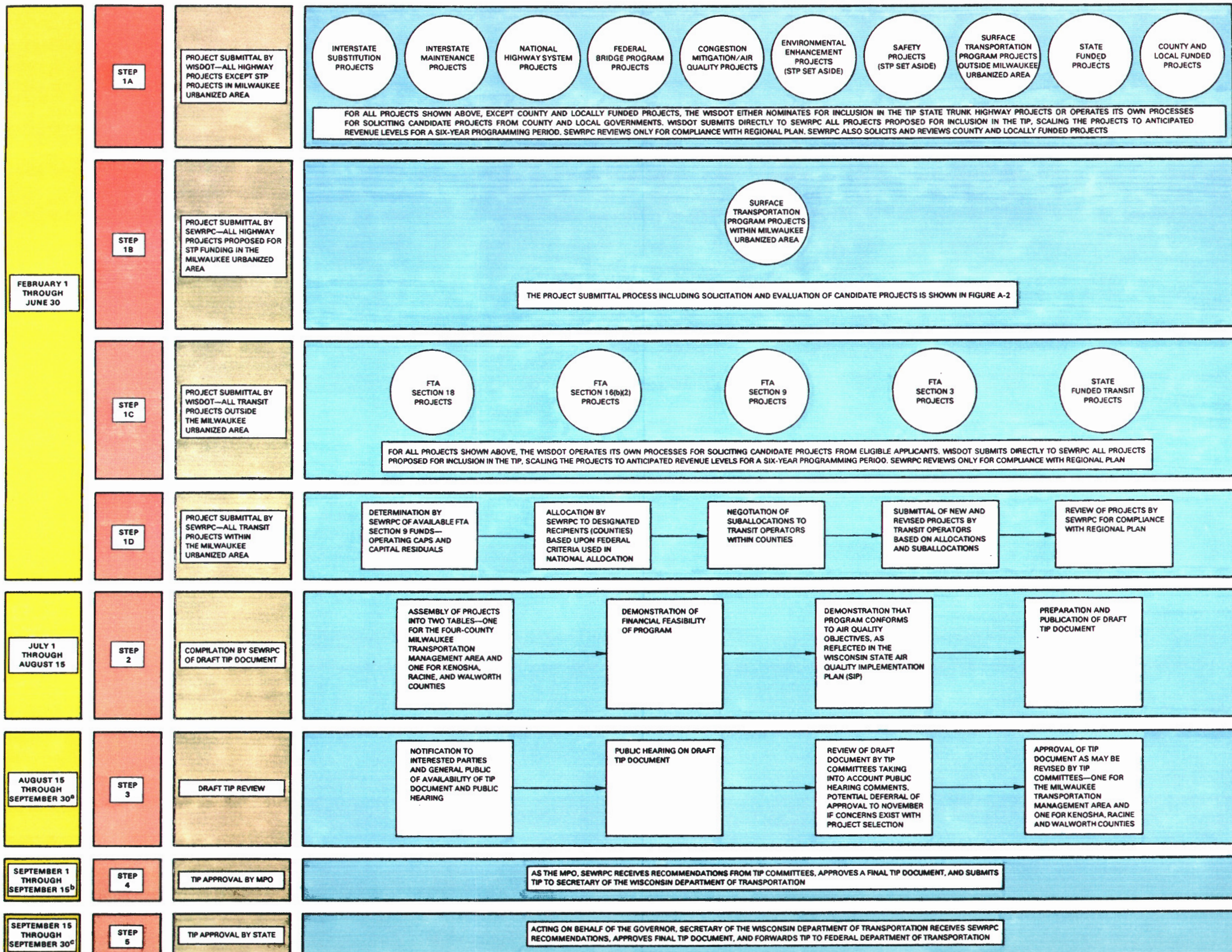
2. STP Milwaukee Urbanized Area Project Submittal (SEWRPC)

The SEWRPC has the responsibility to nominate for inclusion in the TIP all highway projects intended to use federal Surface Transportation Program (STP) funds within the Milwaukee urbanized area. Those funds can be used for either highway or transit projects; however, the TIP Committee for the Milwaukee Urbanized Area recommended that through federal fiscal year 1994 the funds be earmarked entirely for highway projects, owing to the availability of sufficient alternative sources of revenue for all anticipated transit capital projects. In the future, however,

¹For an overview of the structure of federal program funding as established under the Intermodal Surface Transportation Efficiency Act of 1991, see Figure B-1 in Appendix B of this report.

Figure A-1

PROPOSED PROCESS FOR PREPARING THE ANNUAL REGIONAL
TRANSPORTATION IMPROVEMENT PROGRAM (TIP) FOR SOUTHEASTERN WISCONSIN



^aPotential to extend final approval to November.

^bPotential to extend final approval to December if necessary to accommodate TIP Committee approval.

^cPotential to extend final approval to December if necessary to accommodate TIP Committee and Commission approval.

Source: SEWRPC.

Table A-1

**SPECIFIC PERFORMANCE DATES FOR PREPARATION OF THE
ANNUAL TRANSPORTATION IMPROVEMENT PROGRAM (TIP)**

Process Step		Specific Activity	Responsible Party	Performance Period or Deadline Date
Number	Name			
1A	Highway Project Submittal (all except STP in Milwaukee Urbanized Area)	Conduct processes that result in the nomination of all highway projects except Milwaukee Urbanized Area STP projects	WisDOT	May 31
		Submit candidate projects to SEWRPC	WisDOT	May 31
1B	Highway Project Submittal (Milwaukee Urbanized Area STP)	Determine allocation of available funds among highway and transit	SEWRPC/WisDOT/TIP Committee	March 15
		Determine allocation of available STP funds	WisDOT/SEWRPC	March 20
		Determine STP fund balances	WisDOT/SEWRPC	March 20
		Notify agencies of fund balances and solicit new and revised projects	SEWRPC	March 20
		Submit new and revised projects to SEWRPC	Individual highway agencies	May 1
1C	Transit Project Submittal (all except Milwaukee Urbanized Area)	Conduct processes that result in the nomination of all transit projects outside Milwaukee Urbanized Area	WisDOT	May 31
		Submit candidate projects to SEWRPC	WisDOT	May 31
1D	Transit Project Submittal (Milwaukee Urbanized Area)	Determine allocation of Section 9 funds to Milwaukee Urbanized Area	SEWRPC	March 15
		Notify designated recipients of Section 9 operating and capital marks	SEWRPC	April 1
		Determine the division of the Waukesha County marks between Waukesha County and the City of Waukesha	Waukesha County	April 10
		Submit new and revised projects to SEWRPC	Individual transit agencies	May 31
2	Compilation of Draft TIP Document	Screen all projects for compliance with regional plan	SEWRPC	June 15
		Assemble all eligible projects into program tables	SEWRPC	June 15
		Conduct financial feasibility analyses; adjust program tables as necessary	SEWRPC	June 20
		Conduct air quality conformity demonstration	SEWRPC	July 20
3	Review of Draft TIP	Prepare and publish draft TIP document	SEWRPC	August 1
		Notification of availability of draft TIP document, "open house" question and answer session, and formal public hearing	SEWRPC	August 1
		Conduct of "open house" and public hearing	SEWRPC	August 10
		Preparation of public hearing record	SEWRPC	August 13
		Conduct of TIP Committee meetings to review and approve TIP	SEWRPC	August 15
4	TIP Approval by MPO	Interagency and additional TIP Committee meetings as needed	SEWRPC	August-September
		Formal approval action on TIP document	SEWRPC	September 15
5	TIP Approval by State	Formal notification by SEWRPC to WisDOT Secretary of MPO action	SEWRPC	September 20 ^a
		Formal approval action by WisDOT Secretary	WisDOT	December 1

^aIf the federal funds established to be available to Wisconsin and southeastern Wisconsin by congressional and presidential action in October or November vary substantially from that assumed in the TIP, then the TIP may require amendment by the TIP Committees and Commission prior to State action in December.

Source: SEWRPC.

the reconstituted TIP Committee for the Milwaukee Transportation Management Area may determine to allocate some of the STP monies for transit capital projects. It is proposed that the Committee consider annually whether such allocation is desirable. In addition, the TIP Committee for the Milwaukee Urbanized Area recommended that the available STP funds be allocated to meet capital needs on arterial streets and highways in the adopted regional transportation system plan not anticipated to be placed on the National Highway System irrespective of jurisdiction. Moreover, the Committee recommended that a formula allocation system be used to suballocate the available STP monies annually to the state, county, and local governments concerned on the basis of their respective jurisdictional shares of the planned

number of arterial lane miles. These latter determinations are also subject to review and revision from time to time.²

To initiate the consideration of candidate projects and evaluate and recommend projects for submittal for inclusion in the Draft TIP, the following process, as summarized in Figure A-2, has been used by the SEWRPC in the past and is proposed to be used by the SEWRPC in the future to discharge its responsibilities in this matter (see Table A-1 for specific dates of performance):

- a. The SEWRPC and the WisDOT will annually assess the desirability of allocating STP funds between transit and highway capital projects by reviewing the capital funds necessary for such projects and the funds available for such projects. The TIP Committee, composed of representatives of the local units of government in the Milwaukee area, will review the Commission staff analyses relating to this issue and recommend the allocation of funds between transit and highway projects (March 15).
- b. The SEWRPC and the WisDOT will together determine the allocation of the next year's STP funds to transit agencies and to the state and local highway agencies concerned according to the planned arterial lane mile formula (March 20).
- c. The SEWRPC and the WisDOT will together determine anticipated fund balances for each highway agency based upon prior funding commitments (March 20).
- d. The SEWRPC will formally notify all eligible applicants of their fund balances and of the schedule for submitting revised and new projects for inclusion in the next TIP (March 20).
- e. The eligible highway agencies will submit new data for the revised projects on forms to be supplied by the SEWRPC. The form to be used to gather TIP-related data on each candidate project is reproduced as Figure A-3. The completion of the form should be adequate to meet the WisDOT's needs in determining project eligibility for state funding. Where an applicant submits more than one project, it will be asked to indicate local priority preferences (May 1).
- f. Upon receipt of project information, the SEWRPC will review projects for compliance with the regional transportation system plan. With respect to arterial system facilities to be included in the draft TIP document, all highway projects must be located on the agreed-upon regional arterial system. The plan conformance finding will relate to the scope of the proposed improvement project and the relationship of that scope to the plan recommendation for functional improvements. Proposed projects must be found to be in conformance with the adopted regional transportation system plan and county jurisdictional highway system plans. Any proposed projects not so conforming will be brought to the attention of the Advisory Committee, together with a staff recommendation for action (May 15).
- g. For all highway projects except those submitted by the WisDOT and by the City of Milwaukee, the SEWRPC will calculate a ratio for each project of the STP fund balance for each highway agency to the federal share of the proposed project. The resulting ratios will be used to establish a rank order for program and subsequent project selection purposes. Because the City of Milwaukee and the WisDOT have relatively large annual allocations, those two agencies will simply submit sufficient projects to use the annual allocations (May 20).
- h. Using the rank ordering resulting from the ratios, the SEWRPC will identify projects to be included in the first three years of the program, scaling the projects to the funds that are anticipated to become available. All remaining projects will be placed in the second three-year period of the program (May 20-May 31).

²The Milwaukee TIP Committee's recommendations were based on a SEWRPC Staff Memorandum reproduced as Appendix B.

Figure A-2

**PROPOSED PROCESS FOR PROJECT INITIATION AND SUBMITTAL FOR FEDERAL
SURFACE TRANSPORTATION PROGRAM—MILWAUKEE URBANIZED AREA FUNDS**

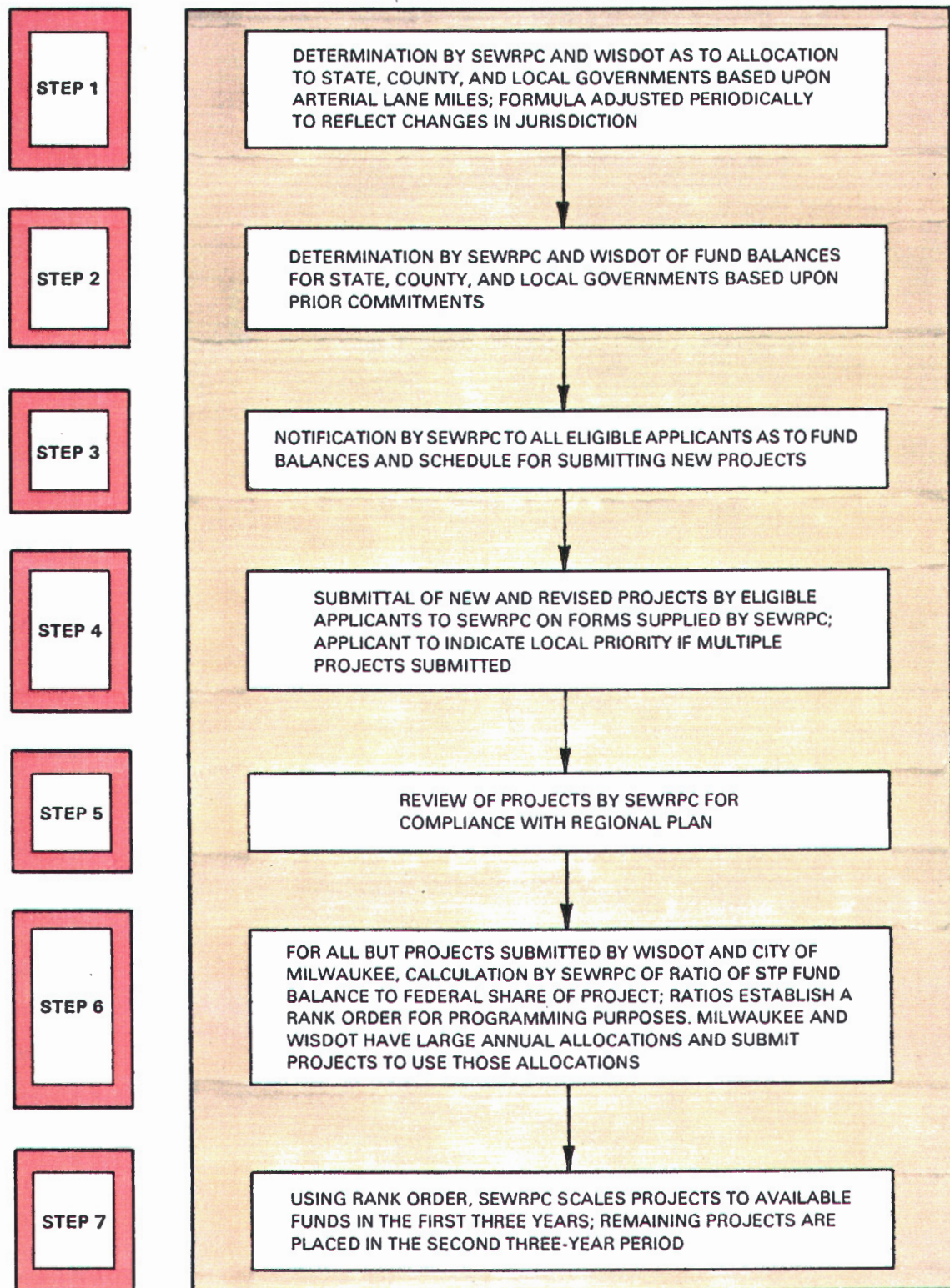


Figure A-3

FORM USED TO COLLECT PROJECT DATA FOR TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

S.E.W.R.P.C. TIP Project Data Sheet

PROJECT NO.	GN	SN	CPRI	GEO29	RDOC	TSM	EC1	EC2

Urbanized Area	County	IMP-Agency	MC	State Project Id.
				- -

PROJECT

1	
2	
3	
4	
5	
6	

LENGTH (miles)	
----------------	--

Type of Federal Funds	
-----------------------	--

Project Needs Type	
--------------------	--

Costs and Shares (Encode to nearest \$100)

	FEDERAL	STATE	LOCAL	TOTAL
YEAR 1				
	0 0	0 0	0 0	0 0
	(1/1/93 to 12/31/93)			
YEAR 2				
	0 0	0 0	0 0	0 0
	(1/1/94 to 12/31/94)			
YEAR 3				
	0 0	0 0	0 0	0 0
	(1/1/95 to 12/31/95)			
YEAR 4-6				
	0 0	0 0	0 0	0 0
	(1/1/96 to 12/31/98)			

TIP Detail Costs (Encode to nearest \$100)

	PE	ROW	CONST	OTHER
YEAR 1				
	0 0	0 0	0 0	0 0
	(1/1/93 to 12/31/93)			
YEAR 2				
	0 0	0 0	0 0	0 0
	(1/1/94 to 12/31/94)			
YEAR 3				
	0 0	0 0	0 0	0 0
	(1/1/95 to 12/31/95)			
YEAR 4-6				
	0 0	0 0	0 0	0 0
	(1/1/96 to 12/31/98)			

This candidate project initiation, evaluation, and selection process, which was reviewed and approved by the TIP Committees at their April 16, 1992, meeting, is shown in Figure A-2.

3. Transit Project Submittal (WisDOT)

The WisDOT has the responsibility to nominate for inclusion in the TIP all transit projects intended to use the following federal program funds: Section 18 Program (Public Transportation for Nonurbanized Areas), Section 16(b)(2) Program (Transit Service for Elderly and Disabled Individuals), Section 9 Program (Formula Transit Capital and Operating Program), outside the Milwaukee Urbanized Area, and Section 3 Program (Discretionary Transit Capital Program) outside the Milwaukee Urbanized Area. In addition, the WisDOT nominates all transit projects funded totally by the State, and secures information on any other transit projects that are totally county and local funded.

To fulfill this responsibility for consideration and evaluation of candidate projects and selection of projects for funding to be included in the Draft TIP, the WisDOT operates its own processes. Upon completion of these independent processes, the WisDOT submits directly to the SEWRPC all transit projects proposed for inclusion in the TIP, scaling the projects to anticipated federal and state revenue levels for each year for the first three years of the six-year program, and collectively for a second three-year period. Upon receipt of the candidate projects, the SEWRPC has the responsibility to screen each project to ensure that the project is in conformance with, and serves to implement, the adopted regional transportation plan.

4. Transit Project Submittal (SEWRPC)

The SEWRPC has the responsibility to nominate for inclusion in the TIP all transit projects intended to use either Section 9 (Formula Transit Capital and Operating Program) or Section 3 (Discretionary Transit Capital Program) funds within the Milwaukee Urbanized Area. Certain Section 9 funds can be used for either highway or transit projects; at the present time, however, all such funds are being earmarked entirely for transit projects.

The following process has been used by the SEWRPC in the past, and is proposed to be used by the SEWRPC in the future to discharge its responsibility in this matter:

- a. The SEWRPC will annually determine in consultation with the Federal Transit Administration the allocation of Section 9 transit funds to the Milwaukee Urbanized Area. This will include a determination of how much the Federal Transit Administration will allow to be used for operations purposes and how much, therefore, may be considered residual and available for capital projects.
- b. The SEWRPC will suballocate the available Section 9 operating and capital funds to those designated recipients which operate transit services. At present there are four designated recipients eligible for the suballocation: the Counties of Milwaukee, Ozaukee, Washington, and Waukesha. Also at present, only Milwaukee and Waukesha Counties operate transit systems. The criteria used by the Federal Transit Administration to allocate Section 9 funds to the urbanized areas of the nation are used by the SEWRPC in the suballocation process within the Milwaukee Urbanized Area. The suballocation procedure and results are annually reviewed by the transit operators.
- c. In those cases where there is more than one transit operator in a county, as is currently the situation in Waukesha County, the SEWRPC will work with the designated recipient and the transit operators to negotiate a division of the suballocation to the transit systems concerned.
- d. Each transit operator will then submit to the SEWRPC new and revised transit operating and capital projects based upon the Section 9 suballocations and divisions thereof. In addition, any operator seeking Section 3 discretionary funds will notify the SEWRPC of such projects.
- e. Upon receipt of project information, the SEWRPC will review projects for compliance with the regional transportation plan.

Figure A-4

PROPOSED TABLE FORMAT FOR SEWRPC TRANSPORTATION IMPROVEMENT PROGRAM

Table 1

TRANSPORTATION IMPROVEMENT PROGRAM FOR THE MILWAUKEE COUNTY
PORTION OF THE MILWAUKEE TRANSPORTATION MANAGEMENT AREA: 1993-1998

Project Sponsor	Project			Estimated Cost (\$000)				Source of Funds (\$000)				GEO 29 APVL ^b
	No.	Description	Type ^a	1993	1994	1995	Total TIP	1993	1994	1995	Total TIP	
City of Milwaukee	303	Reconstruction of the N. Sherman Boulevard Bridge over Lincoln Creek (0.10 mile)	HP	PE 40.00	PE 0.00	PE 0.00	PE 40.00	LOCAL 8.00	LOCAL 229.20	LOCAL 0.00	LOCAL 237.20	P
				ROW 0.00	ROW 0.00	ROW 0.00	ROW 0.00	STATE 0.00	STATE 0.00	STATE 0.00	STATE 0.00	
				CONST 0.00	CONST 1,146.00	CONST 0.00	CONST 1,146.00	FED 32.00	FED 916.80	FED 0.00	FED 948.80	
				OTHER 0.00	OTHER 0.00	OTHER 0.00	OTHER 0.00	(BRFU)	(BRFU)	(BRFU)	(BRFU)	
				TOTAL 40.00	TOTAL 1,146.00	TOTAL 0.00	TOTAL 1,146.00	TOTAL 40.00	TOTAL 1,146.00	TOTAL 0.00	TOTAL 1,186.00	

^aType key: HP = Highway Preservation; HI = Highway Improvement; HE = Highway Expansion; TE = Transportation Enhancement; HS = Highway Safety; TP = Transit Preservation; TI = Transit Improvement; TE = Transit Expansion; OH = Off Arterial Highway System; PL = Planning.

^bAction key: A = Approved; P = Approval Pending More Detailed Project Definition.

Source: SEWRPC.

STEP TWO: DRAFT TIP DOCUMENT COMPILATION (JULY 1 THROUGH AUGUST 15)

The second step in the TIP process involves the compilation by the SEWRPC of a draft TIP document. Using the project information developed under the various components of Step 1, the SEWRPC assembles the TIP by preparing two basic tables: one table setting forth all highway and transit projects for the four-county Milwaukee Transportation Management Area, and one for Kenosha, Racine and Walworth Counties. The basic table format to be used is illustrated in Figure A-4. Each of the TIP tables will be structured to provide project lists within each of the two subregional areas by county, and within each county by implementing agencies: the WisDot, county, cities, villages, and towns. The tables will identify for each project the estimated cost by year for the first three years of the six-year program and for the total program, and will further identify the source of funds for the first three years of the program and for the total program. The tables will classify the projects by 10 categories: highway preservation, highway improvement, highway expansion, transit preservation, transit improvement, transit expansion, environmental enhancement, highway safety, off-arterial highway system, and planning. They will further indicate which projects have been deemed to have received clearinghouse review and approval under the federal intergovernmental review process.

The draft TIP document will also include a demonstration that the entire transportation improvement program is reasonably feasible financially. This will be accomplished by an analysis that will compare, on a funding program-by-funding program basis, the aggregate amount of funds required to carry out the projects with the anticipated program revenues likely to be available. The program will, by design, allow for overprogramming of up to 10 percent of the authorized level of federal funding, owing to the uncertainty of the amount of such funding available in the various program categories at the time the TIP was being prepared annually and also owing to the need to allow for unforeseen circumstances which can lead to a particular project being deferred, or being dropped after the TIP has been approved.

The next step in preparing the draft TIP document is to conduct a demonstration that the program as a whole conforms to the federal air quality objectives as they are reflected in the commitments set forth in the Wisconsin State Air Quality Implementation Plan (SIP). The SEWRPC will look for guidance to the U. S. Environmental Protection Agency and the U. S. Department of Transportation in carrying out and documenting the results of that conformity demonstration. The findings of that demonstration will be included in the draft TIP document.

Finally, all the information attendant to the proposed TIP program will be assembled into a draft TIP document. That draft document will be reproduced in quantity in preparation for the next step in the TIP process.

STEP 3: DRAFT TIP REVIEW (AUGUST 15 THROUGH SEPTEMBER 1)

The following are the proposed activities that together constitute the process of draft TIP document review:

1. The SEWRPC will provide notification to interested parties and the general public of the availability of the draft TIP document and of the date, time, and place of a public hearing to be held on that document. Notification shall include, but not be limited to, letters, news releases, and publication of display ads in major newspapers. A special effort will be made to give personal notification through letters to highway and transit agencies, representatives of transportation agency employees, private providers of transportation, and other interested parties, including environmental organizations.
2. An evening public hearing on the draft TIP document will be held, sponsored by the SEWRPC. During the hours immediately before the hearing, an "open house" will be noticed and held to enable individuals to confer on a one-to-one basis with Commission staff, which will answer questions on the draft document and the TIP process. The SEWRPC will prepare a formal record of the public hearing.

3. The draft TIP document and the record of the public hearing will be provided to the two advisory committees created by the Commission to guide the TIP process: The Transportation Improvement Program Advisory Committee for the Milwaukee Transportation Management Area, and the Transportation Improvement Program Advisory Committee for Kenosha, Racine, and Walworth Counties. Those two committees will meet and take action on their respective portions of the draft TIP document, taking into account the public hearing comments. The Committees' actions will be reflected in minutes of the meetings and will be reported to the SEWRPC in the next step.

If the TIP Committees determine to defer approval of the TIP, for example, because they do not concur with the projects submitted for inclusion in the draft TIP, interagency discussions to resolve project funding concerns will follow the initial TIP meeting in September. Additional TIP meetings to consider a revised TIP will occur in October. To avoid such delays, it is recommended that the WisDOT involve local governments in project initiation, including project evaluation, selection, and submittal. As discussed at the May 28, 1992, TIP Committee meetings, the WisDOT should have the TIP Committees review its project initiation and submittal processes for the various federal funding categories.

STEP 4: TIP APPROVAL BY MPO (SEPTEMBER 1 THROUGH DECEMBER 10)

The recommendations of the two TIP committees will be forwarded to the SEWRPC as the designated Metropolitan Planning Organization under the federal transportation legislation. The SEWRPC will also receive a summary of the public hearing comments on the draft document. The SEWRPC will deliberate on these matters, approve a final TIP document, and submit that document and its recommendations to the Secretary of the Wisconsin Department of Transportation. Consideration of the TIP could occur in early September if the TIP Committees approve the TIP at their initial meeting. However, in the event that the TIP Committees determine to defer approval of the TIP, consideration by the SEWRPC may be delayed to December.

STEP 5: TIP APPROVAL BY STATE (NOVEMBER 1 THROUGH DECEMBER 31)

The final step in the TIP process consists of approval by the State of the recommended TIP document. The Governor of the State of Wisconsin has delegated that responsibility to the Secretary of the Wisconsin Department of Transportation. Accordingly, the SEWRPC will forward the final TIP document and its recommendations to the Secretary. The Secretary will then give due consideration to these matters, approve the final TIP document with or without conditions, and forward the approved TIP to the U. S. Department of Transportation. At that point the SEWRPC as the MPO and the State of Wisconsin have fulfilled their respective TIP-related responsibilities.

PROJECT IMPLEMENTATION

The inclusion of a project within the first and second years of the transportation improvement program means that the project is eligible to be "selected" for implementation. This means that upon approval of the TIP, sponsors of projects included in the first and second years of the program are eligible to work with the WisDOT in developing and executing a contract between the project sponsor and the Department that will enable the project to proceed and the federal funds identified in the TIP to be obligated to that project. Once such a contract is in place, the project is deemed to have been "selected" in terms of the federal transportation legislation. To be "selected," a project must meet the design standards adopted by the WisDOT. The project selection process, then, is one that is completed by WisDOT after approval of the TIP document.

Appendix B

SEWRPC STAFF MEMORANDUM

ESTIMATED SURFACE TRANSPORTATION PROGRAM FUNDING NECESSARY TO IMPLEMENT THE ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN AND COUNTY JURISDICTIONAL HIGHWAY SYSTEM PLANS AND ALTERNATIVE SURFACE TRANSPORTATION PROGRAM FUNDING ALLOCATIONS FOR THE SOUTHEASTERN WISCONSIN REGION

INTRODUCTION

This memorandum presents an estimate of the funding needed to implement those portions of the adopted regional transportation system plan and county jurisdictional highway system plans which may be expected to be funded through the new federal Surface Transportation Program (STP) as administered by the U. S. Department of Transportation, Federal Highway Administration. Those portions of the adopted regional transportation system plan and county jurisdictional highway system plans which may be expected to be the principal recipients of the new Surface Transportation Program funding are county and municipal trunk highways on the adopted plans, as well as state trunk highways on the adopted plans which may not be on the new National Highway System (NHS) and funded through NHS funds. The funding programs and estimated funding levels for the nation and State of Wisconsin as authorized by the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 are summarized on Figure B-1.

The estimated funding needs are presented for the Milwaukee urbanized area and for the remainder of southeastern Wisconsin outside the Milwaukee urbanized area. The estimated Surface Transportation Program funding need within the Milwaukee urbanized area is compared to the available Surface Transportation Program funding for the Milwaukee urbanized area required under the Intermodal Surface Transportation Efficiency Act of 1991. In addition, for the Milwaukee urbanized area, alternative formulas for the allocation of that Surface Transportation Program funding are defined. For the remainder of southeastern Wisconsin outside the Milwaukee urbanized area, the Surface Transportation Program funding needed to implement the adopted plans is compared to estimated statewide Surface Transportation Program funds which are available to the State of Wisconsin.

This memorandum is organized into three sections following this introduction. The first section presents the basis for the funding needs estimates presented in the memorandum and for the allocation formulas presented for the Milwaukee urbanized area. The second section of the memorandum presents the estimated Surface Transportation Program funding needs to implement the adopted plans for the Milwaukee urbanized area and also reviews alternative allocation formulas within the Milwaukee urbanized area. The third section of the memorandum presents the estimated Surface Transportation Program funding needs to implement the adopted plans for the remainder of southeastern Wisconsin outside the Milwaukee urbanized area and compares those estimated funding needs to the total estimated Surface Transportation Program funding available within southeastern Wisconsin.

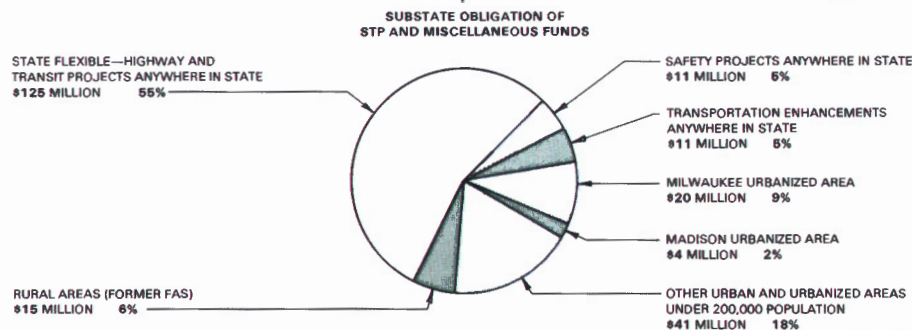
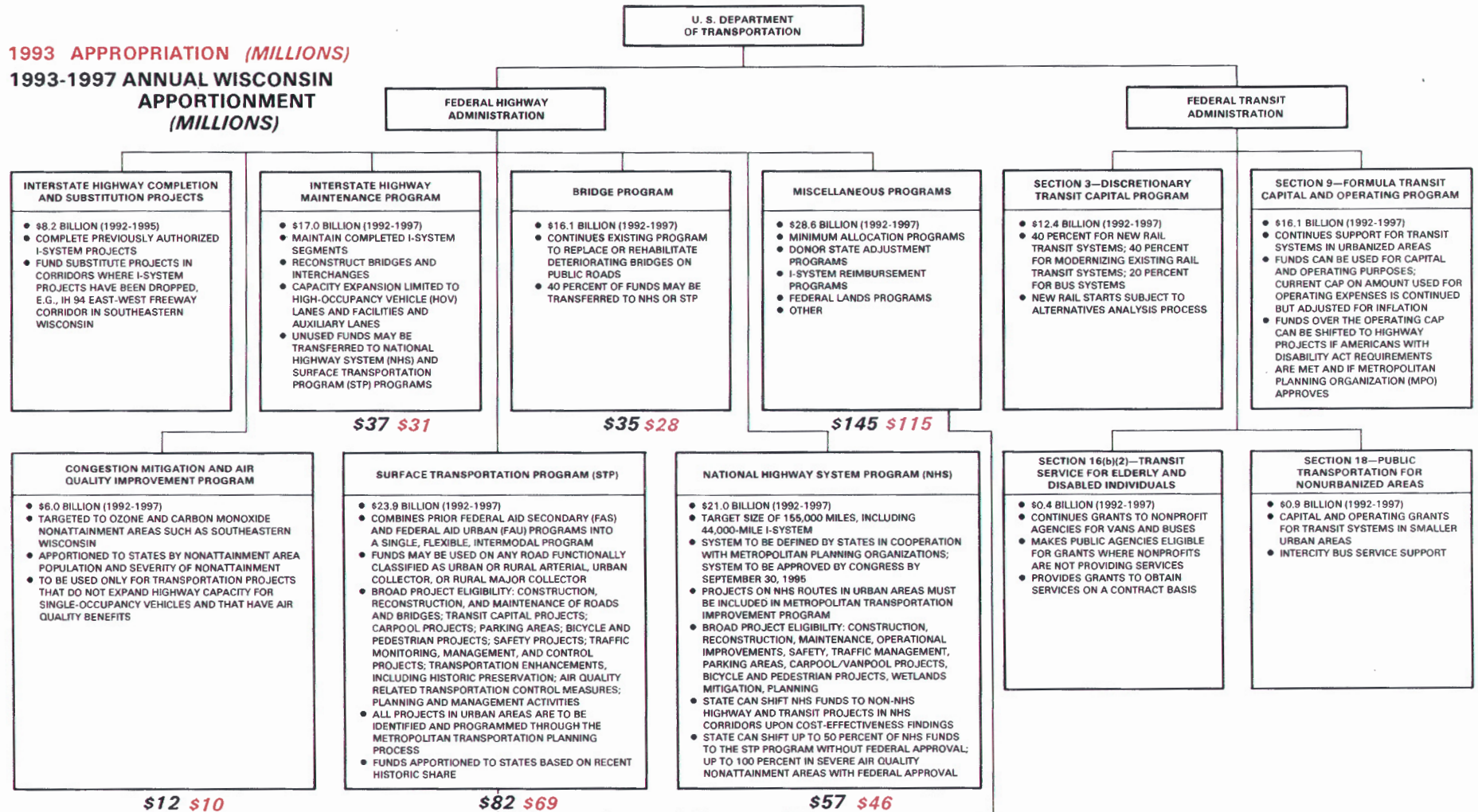
BASIS FOR SURFACE TRANSPORTATION PROGRAM FUNDING NEED ESTIMATES AND ALTERNATIVE MILWAUKEE URBANIZED AREA ALLOCATION FORMULAS

The funding needs estimate is based upon the estimated cost to implement the adopted regional transportation system plan and the adopted county jurisdictional highway system plans for the seven-county Southeastern Wisconsin Region. Map B-1 identifies the facilities on the adopted regional transportation system plan and their planned jurisdiction. Map B-2 identifies the major facility improvements recommended under the plan, that is, the widening of existing facilities to provide additional traffic lanes and the construction of new facilities proposed under the adopted regional

Figure B-1

PROGRAM FUNDING STRUCTURE UNDER THE FEDERAL INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991

1993 APPROPRIATION (MILLIONS)
1993-1997 ANNUAL WISCONSIN
APPORTIONMENT
(MILLIONS)



NOTES: 1. ALL DOLLAR FIGURES REPRESENT AUTHORIZED LEVELS OF EXPENDITURES OVER THE SIX-YEAR PERIOD 1992-1997. ACTUAL EXPENDITURE LEVELS ARE SUBJECT TO ANNUAL APPROPRIATIONS LEGISLATION.

2. EXCEPT FOR INTERSTATE HIGHWAY PROJECTS, WHICH WILL CONTINUE TO BE FUNDED ON A 90 PERCENT FEDERAL-10 PERCENT STATE BASIS, ALL HIGHWAY AND TRANSIT PROJECTS ARE TO BE FUNDED ON AN 80 PERCENT FEDERAL-20 PERCENT STATE/LOCAL BASIS.

Source: Prepared by SEWRPC from materials developed by the National Association of Regional Councils.

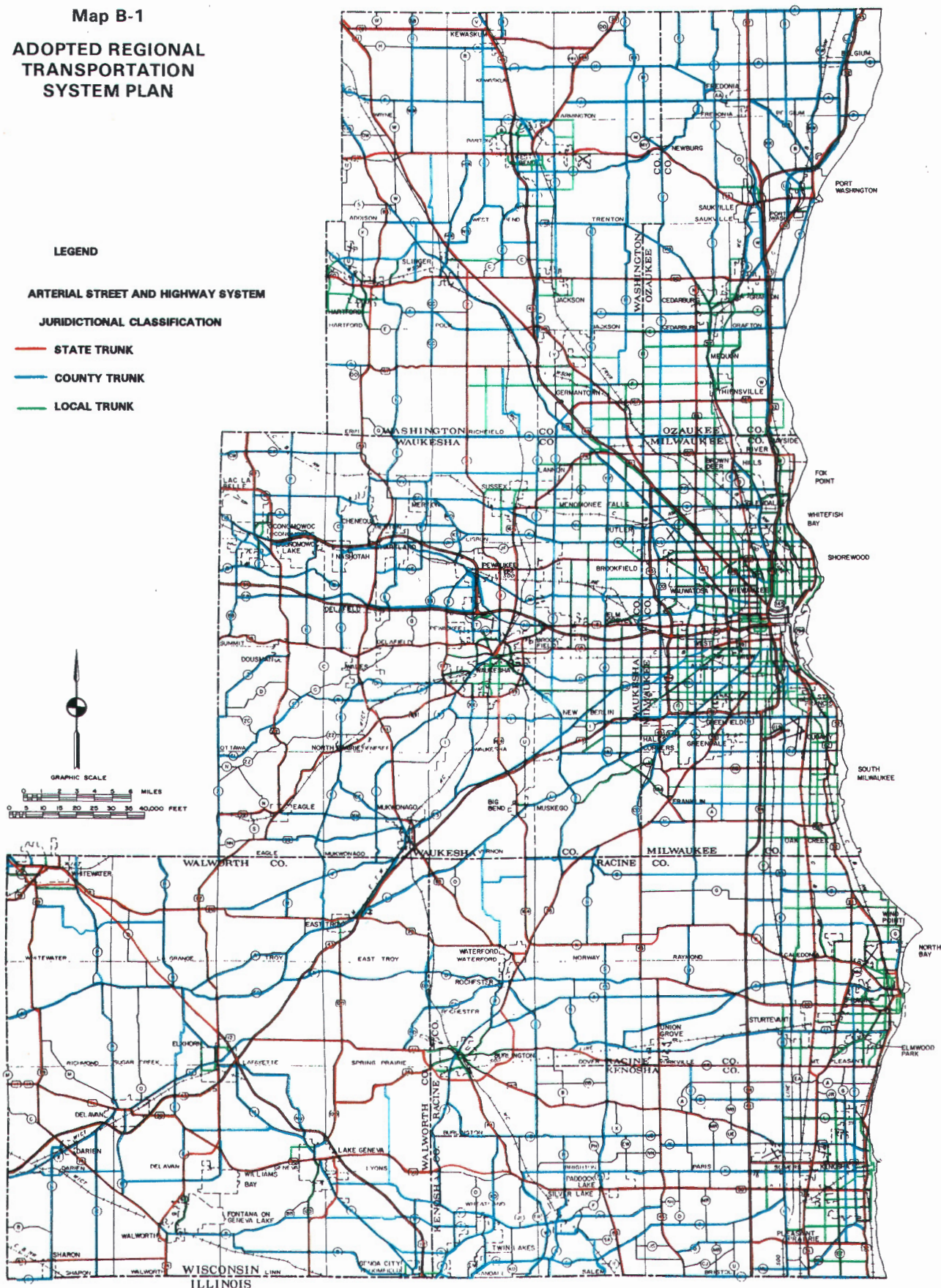
Map B-1
ADOPTED REGIONAL
TRANSPORTATION
SYSTEM PLAN

LEGEND

ARTERIAL STREET AND HIGHWAY SYSTEM

JURISDICTIONAL CLASSIFICATION

- STATE TRUNK
- COUNTY TRUNK
- LOCAL TRUNK



Source: SEWRPC.

transportation system plan. Map B-3 presents the recommended transfers of highway jurisdiction proposed to occur under the implementation of the adopted regional transportation system plan.

The funding needs estimate which has been prepared is intended to identify those costs attendant to implementation of the adopted regional transportation system plan which may be funded by the new Surface Transportation Program of the federal Intermodal Surface Transportation Efficiency Act of 1991. The new STP essentially replaces the prior Federal Aid Urban and Federal Aid Secondary programs and a part of the prior Federal Aid Primary program. A new National Highway System program replaces the prior Federal Aid Primary program; however, the National Highway System may only be expected to be about 40 percent the size of the prior Federal Aid Primary System, about 50 percent of the prior Federal Aid Primary System in urbanized areas and only about 30 percent in rural areas. As a result, about 60 percent of the prior Federal Aid Primary System, which are largely state trunk highways, will have to be combined with the prior Federal Aid Urban and Federal Aid Secondary systems for funding with the new Surface Transportation Program funds. With respect to the adopted regional transportation plan and county jurisdictional highway system plans, this means that the county trunk facilities on the plan and the municipal trunk facilities on the plan, along with those state trunk highway facilities not on the National Highway System, will need to be funded through the Surface Transportation Program.

In order to prepare an estimate of the Surface Transportation Program funding needed to implement the adopted regional transportation system plan and county jurisdictional highway system plans, a preliminary National Highway System was identified. Map B-4 presents that preliminary National Highway System. It may be noted that preliminary National Highway System is comprised largely of existing and planned state trunk highways, including freeways, although it does include some planned state trunk highway facilities which are currently under county or local jurisdiction and two local trunk facilities which are existing and planned, respectively, in the Milwaukee urbanized area. The Surface Transportation Program funding analysis assumes that the National Highway System will be funded through National Highway System funding and would not utilize Surface Transportation Program funding. Also, it is assumed that the Surface Transportation Program system of arterials would not utilize National Highway System funding. Both the use of Surface Transportation Program funding on the National Highway System and National Highway System funding on a Surface Transportation Program Highway System are possible under the new Act.

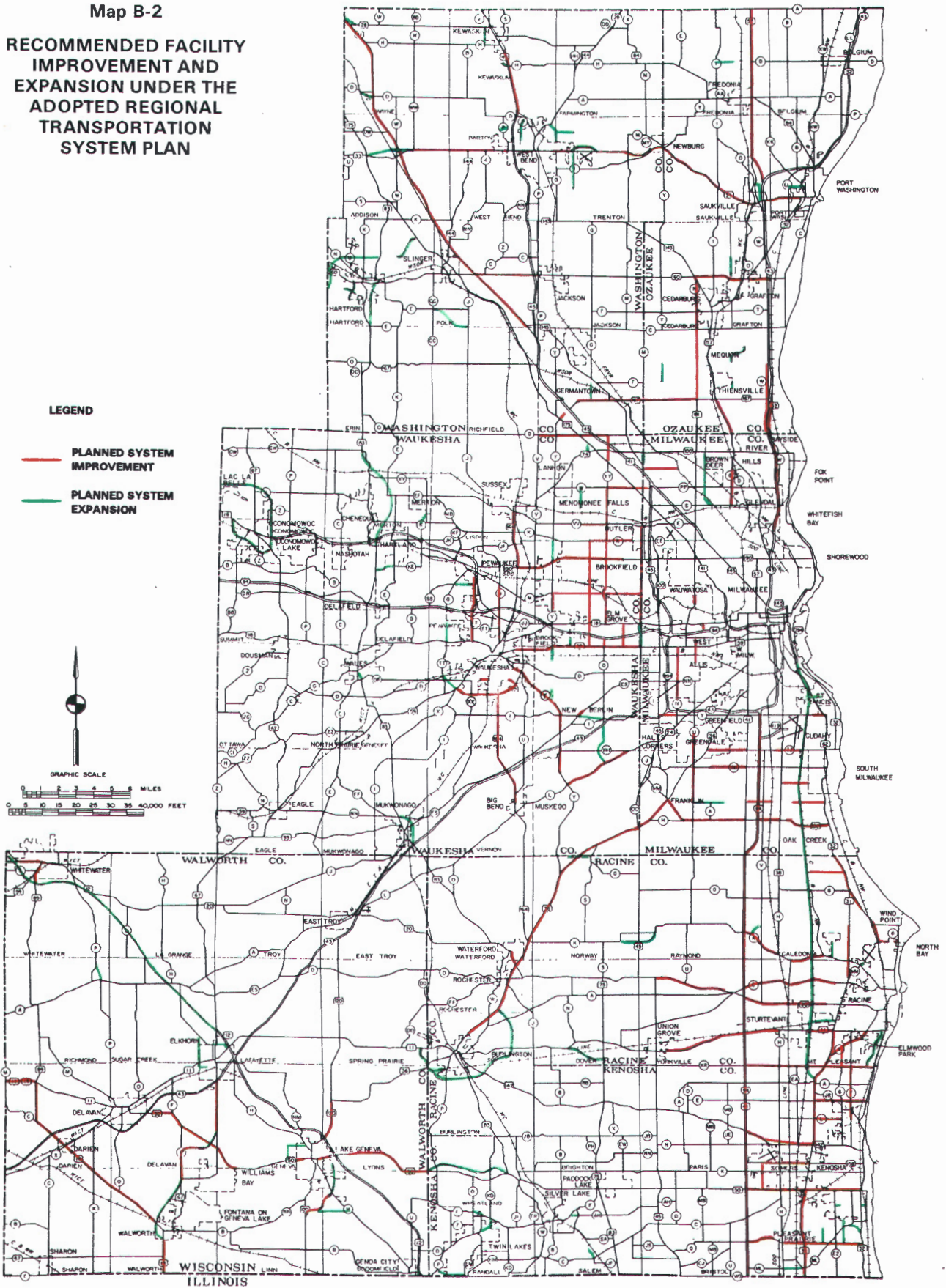
Eligible projects for Surface Transportation Program funding include new construction, reconstruction to the same or to additional capacity, and resurfacing of the county, municipal and state facilities on the adopted plans but not on the National Highway System. The Surface Transportation Program funding needs estimate includes the estimated construction cost of all recommended capacity expansions, including new facilities and widened existing facilities, as well as the necessary resurfacing and reconstruction of facilities requiring preservation of existing capacity. The unit costs used in the preparation of the needs estimate are shown in Table B-1.

Other eligible projects for Surface Transportation Program funding include construction, reconstruction, and resurfacing of urban collector facilities which serve to link the arterial facilities on the plan to land access streets; transportation safety projects; transportation enhancement projects; and transportation emission control projects. In addition, transit capital projects are also eligible projects for Surface Transportation Program funding. For this analysis, however, it was assumed that funding for safety projects and enhancement projects would be obtained from separate statewide transportation safety and enhancement funding. Also, it was assumed that transportation emission control measures would be funded from the statewide federal Congestion Mitigation and Air Quality Improvement Program funding. It was also assumed that urban collector facility needs would continue to be met with local funds.

With respect to transit capital projects, it was assumed that increased Federal Transit Administration Section 9 funding, if appropriated as authorized, together with some Congestion Mitigation and Air Quality Improvement Program funding, will be adequate to meet anticipated transit capital improvement needs. Such needs have an \$11 million shortfall in southeastern Wisconsin compared

Map B-2

**RECOMMENDED FACILITY
IMPROVEMENT AND
EXPANSION UNDER THE
ADOPTED REGIONAL
TRANSPORTATION
SYSTEM PLAN**



Source: SEWRPC.

Table B-1

**ESTIMATED UNIT CONSTRUCTION COSTS
FOR PLAN IMPLEMENTATION**

	Preservation		Improvement and Expansion	
	Resurfacing ^a (dollars per mile)	Reconstruction to Same Capacity (dollars per mile)	Reconstruction with Additional Capacity (dollars per mile)	New Construction (dollars per mile)
Urban				
Four-Lane Undivided	\$350,000	\$1,600,000	\$1,700,000	\$2,000,000
Four-Lane Divided	400,000	1,700,000	2,000,000	2,300,000
Six-Lane Divided	800,000	2,600,000	3,000,000	3,600,000
Rural				
Two-Lane	\$100,000	\$ 700,000	- -	\$1,300,000
Four-Lane Divided	200,000	1,200,000	\$1,600,000	1,900,000

^aEach facility recommended for capacity preservation is assigned a cost including 85 percent of the appropriate resurfacing cost and 15 percent of the appropriate reconstruction cost.

Source: SEWRPC.

to existing federal funding. This \$11 million shortfall is the funding necessary to maintain the present bus transit system and to improve and expand that bus system as recommended in the adopted regional transportation system plan. It was further assumed that any rail transit capital funding will be provided from special funding such as the Interstate Cost Estimate funding and Federal Transit Administration Section 3 discretionary funding. It should be noted that in the event federal funding proves to be inadequate to maintain the existing bus system or to improve and expand the existing bus system, then the Surface Transportation Program funding for the Milwaukee urbanized area would need to address both arterial highway funding and transit capital funding.

In summary, the needs estimate presented in this memorandum represent the estimated costs to implement those portions of the adopted regional transportation system plan which would be eligible for Surface Transportation Program funding, that is, the county trunk facilities, the municipal trunk facilities, and that portion of the state trunk facilities which will not be on the National Highway System. Transportation safety enhancement and emission control measure funding needs are assumed to be met from other federal funding available within the State. Federal National Highway System needs are assumed to be met by the separate funding available for this purpose. It has also assumed that transit capital projects in the adopted regional transportation system plan would be fully funded through increased Federal Transit Administration Section 9 funding and new federal Congestion Mitigation and Air Quality Improvement funding.

SURFACE TRANSPORTATION PROGRAM FUNDING NEEDS AND ALTERNATIVE FUNDING ALLOCATIONS FOR THE MILWAUKEE URBANIZED AREA

The estimated costs to implement the "Surface Transportation Program Element" of the adopted regional transportation system plan and the adopted county jurisdictional highway system plans within the Milwaukee urbanized area are presented in Table B-2. The estimated costs include all costs to implement the highway element of the adopted regional transportation system plan to year 2010, with the exception of the National Highway System. It may be noted that the estimated cost of fully implementing the plan within the Milwaukee urbanized area is \$37.8 million annually over the next 20 years, representing a federal funding need of approximately \$30.2 million per year. This may be

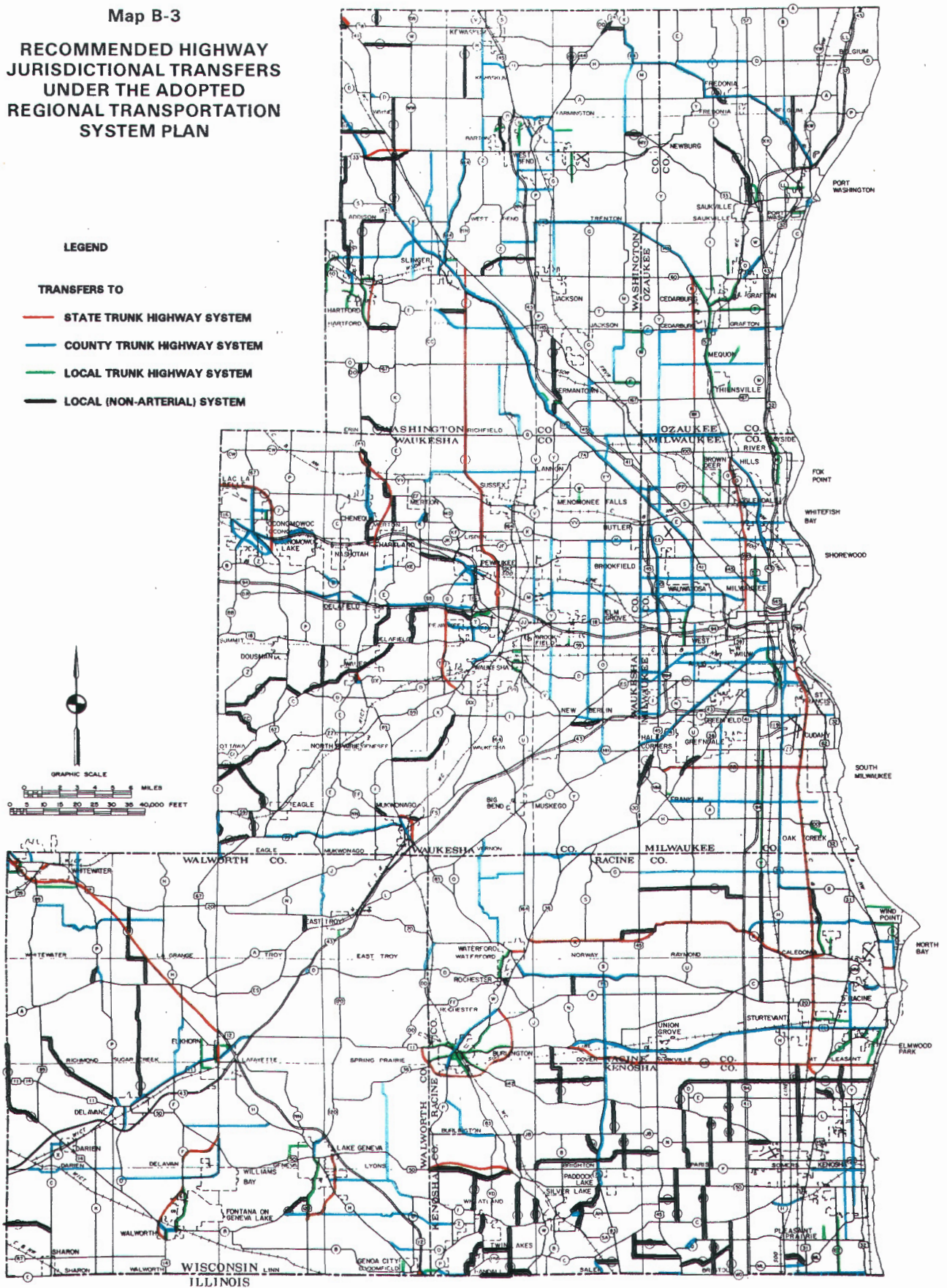
Map B-3

**RECOMMENDED HIGHWAY
JURISDICTIONAL TRANSFERS
UNDER THE ADOPTED
REGIONAL TRANSPORTATION
SYSTEM PLAN**

LEGEND

TRANSFERS TO

- STATE TRUNK HIGHWAY SYSTEM
- COUNTY TRUNK HIGHWAY SYSTEM
- LOCAL TRUNK HIGHWAY SYSTEM
- LOCAL (NON-ARTERIAL) SYSTEM



Source: SEWRPC.

Table B-2

ESTIMATED CONSTRUCTION COSTS TO THE YEAR 2010 OF THE SURFACE TRANSPORTATION PROGRAM (STP) ELEMENT OF THE ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN AND COUNTY JURISDICTIONAL HIGHWAY SYSTEM PLANS BASED UPON EXISTING HIGHWAY JURISDICTION

Area and Type of Highway	Based Upon Existing Highway Jurisdiction									
	(1992 dollars)									
	Kenosha County	Milwaukee County			Ozaukee County	Racine County	Walworth County	Washington County	Waukesha County	Region
		In City of Milwaukee	Outside City of Milwaukee	Total						
Milwaukee Urbanized Area										
State Trunk Highways	\$ 0	\$ 40,313,000	\$ 66,336,000	\$106,649,000	\$ 15,735,000	\$ 190,000	\$ 0	\$ 3,709,000	\$ 55,249,000	\$ 181,532,000
County Trunk Highways	0	29,566,000	55,443,000	85,009,000	20,964,000	612,000	0	6,287,000	67,628,000	180,500,000
Local Trunk Highways	0	146,186,000	99,998,000	246,184,000	40,118,000	2,726,000	0	16,312,000	88,419,000	393,759,000
Subtotal	\$ 0	\$216,065,000	\$221,777,000	\$437,842,000	\$ 76,817,000	\$ 3,528,000	\$ 0	\$ 26,308,000	\$211,296,000	\$ 755,791,000
Outside Milwaukee Urbanized Area										
State Trunk Highways	\$ 53,163,000	\$ 0	\$ 0	\$ 0	\$ 40,638,000	\$ 91,287,000	\$109,258,000	\$ 43,521,000	\$ 66,659,000	\$ 404,526,000
County Trunk Highways	60,844,000	0	0	0	31,034,000	42,716,000	44,453,000	26,080,000	47,817,000	252,944,000
Local Trunk Highways	41,577,000	0	0	0	9,592,000	54,579,000	25,983,000	60,144,000	7,206,000	199,081,000
Subtotal	\$155,584,000	\$ 0	\$ 0	\$ 0	\$ 81,264,000	\$188,582,000	\$179,694,000	\$129,745,000	\$121,682,000	\$ 856,551,000
Southeastern Wisconsin Region										
State Trunk Highways	\$ 53,163,000	\$ 40,313,000	\$ 66,336,000	\$106,649,000	\$ 56,373,000	\$ 91,477,000	\$109,258,000	\$ 47,230,000	\$121,908,000	\$ 586,058,000
County Trunk Highways	60,844,000	29,566,000	55,443,000	85,009,000	51,998,000	43,328,000	44,453,000	32,367,000	115,445,000	433,444,000
Local Trunk Highways	41,577,000	146,186,000	99,998,000	246,184,000	49,710,000	57,305,000	25,983,000	76,456,000	95,625,000	592,840,000
Total	\$155,584,000	\$216,065,000	\$221,777,000	\$437,842,000	\$158,081,000	\$192,110,000	\$179,694,000	\$156,053,000	\$332,978,000	\$1,612,342,000

Source: SEWRPC

compared to \$20 million per year of new Surface Transportation Program funding available to the Milwaukee area in the federal fiscal years of 1993 through 1997. Thus, if that funding is dedicated to the appropriate arterial facilities, substantial, but not full, implementation of the adopted plan in the Milwaukee urbanized area may be expected to occur.

Table B-3 presents the proposed method for allocating the Surface Transportation Program funds within the Milwaukee urbanized area to each level and unit of government concerned. Table B-4 provides the same information summarized for each county within the Milwaukee urbanized area. Table B-5 provides this funding allocation information for the City of Milwaukee. The recommended method would allocate the available funds based upon the planned traffic lane-miles on the "Surface Transportation Program Element" of the adopted regional transportation system plan for each level and unit of government operating within the Region. This method of allocation would promote plan implementation by scaling the funding available to each level and unit of government to the lane-miles which must be provided and maintained to implement the plan.

It should be noted that this funding allocation method proposes to allocate Surface Transportation Program funding based on existing, rather than planned, jurisdiction. As planned transfers of highway jurisdiction are implemented, funding allocations for future years for those highway segments would be transferred as well. The transfer of past years funding allocations, particularly for major improvements, may be another consideration in highway jurisdictional transfer negotiations between levels of government. It may be expected that this allocation method may serve to implement

Map B-4

**PRELIMINARY
NATIONAL HIGHWAY SYSTEM
IDENTIFIED FOR SURFACE
TRANSPORTATION PROGRAM
(STP) FUNDING ANALYSIS**

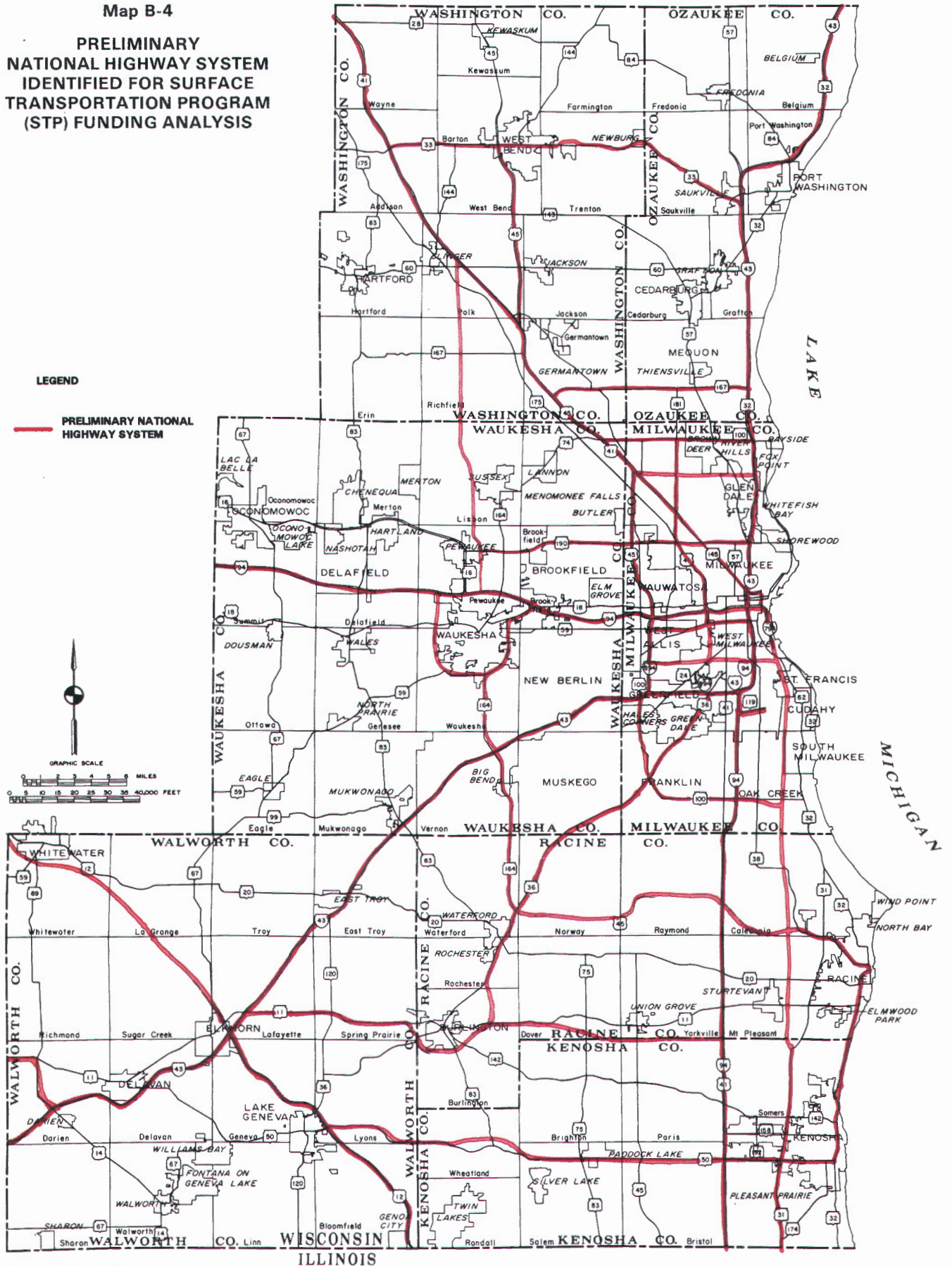


Table B-3

**POTENTIAL FEDERAL FISCAL YEAR 1993 SURFACE TRANSPORTATION
PROGRAM (STP) ALLOCATION UNDER RECOMMENDED ALLOCATION FORMULA**

Civil Division	Potential Federal Fiscal Year 1993 Surface Transportation Program Allocation Adopted Plan Facility Lane-Miles
State	\$ 4,961,254
Milwaukee County	
County	\$ 1,779,613
Village of Bayside	0
Village of Brown Deer	93,947
City of Cudahy	134,638
Village of Fox Point	14,361
City of Franklin	173,533
City of Glendale	81,979
Village of Greendale	65,225
City of Greenfield	163,361
Village of Hales Corners	47,871
City of Milwaukee	4,885,857
City of Oak Creek	343,476
Village of River Hills	47,871
City of St. Francis	61,036
Village of Shorewood	57,445
City of South Milwaukee	172,935
City of Wauwatosa	375,789
City of West Allis	608,563
Village of West Milwaukee	48,470
Village of Whitefish Bay	90,955
Subtotal	\$ 9,246,926
Waukesha County	
County	\$ 1,794,573
Village of Big Bend	3,590
City of Brookfield	613,948
Town of Brookfield	32,313
Village of Butler	15,558
Village of Elm Grove	63,429
Village of Lannon	9,574
Town of Lisbon	26,329
Village of Menomonee Falls	347,665
City of Muskego	101,726
City of New Berlin	315,352
Town of Pewaukee	35,903
Village of Pewaukee	45,478
Village of Sussex	55,650
Town of Vernon	0
City of Waukesha	475,122
Town of Waukesha	29,321
Subtotal	\$ 3,965,533

Table B-3 (continued)

Civil Division	Potential Federal Fiscal Year 1993 Surface Transportation Program Allocation Adopted Plan Facility Lane-Miles
Ozaukee County	
County	\$ 206,445
City of Cedarburg	49,068
Town of Cedarburg	14,361
Town of Grafton	9,574
Village of Grafton	54,454
Village of Mequon	793,466
Village of Thiensville	28,723
Subtotal	\$ 1,156,090
Racine County	
County	\$ 38,297
Town of Caledonia	23,936
Town of Norway	43,084
Town of Raymond	0
Subtotal	\$ 105,317
Washington County	
County	\$ 170,541
Town of Germantown	7,181
Village of Germantown	387,159
Subtotal	\$ 564,880
Milwaukee Urbanized Area	\$20,000,000

Source: SEWRPC.

the adopted plan both with respect to functional and jurisdictional transfer elements. The higher levels of government which are proposed to assume jurisdiction for facilities requiring major improvement will thus have an incentives to pursue the timely transfer of jurisdiction. Also, if higher levels of government do not pursue such transfers, the lower levels of government will be accumulating the federal funding required to implement the major improvements without transfer of jurisdiction.

The funding allocation method recommended to distribute Surface Transportation Program funding in the Milwaukee urbanized area would carry forward the balances from the Federal Aid Urban program shown in Table B-6. The selected funding allocation method should be considered as an interim method, with additional refinements or changes possible in succeeding years as experience with the method is accumulated. Such changes could include, for example, special treatment for proposed highway jurisdictional transfers to promote such transfers and the major improvements usually involved with those transfers.

Table B-4

**POTENTIAL FEDERAL FISCAL YEAR 1993 SURFACE TRANSPORTATION
PROGRAM (STP) ALLOCATION UNDER RECOMMENDED ALLOCATION FORMULA**

Civil Division	Potential Federal Fiscal Year 1993 Surface Transportation Program Allocation Adopted Plan Facility Lane-Miles
Milwaukee County	
State	\$ 3,113,277
County	1,779,613
Village of Bayside	0
Village of Brown Deer	93,947
City of Cudahy	134,638
Village of Fox Point	14,361
City of Franklin	173,533
City of Glendale	81,979
Village of Greendale	65,225
City of Greenfield	163,361
Village of Hales Corners	47,871
City of Milwaukee	4,885,857
City of Oak Creek	343,476
Village of River Hills	47,871
City of St. Francis	61,036
Village of Shorewood	57,445
City of South Milwaukee	172,935
City of Wauwatosa	375,789
City of West Allis	608,563
Village of West Milwaukee	48,470
Village of Whitefish Bay	90,955
Subtotal	\$ 9,246,926
Waukesha County	
State	\$ 1,382,198
County	1,794,573
Village of Big Bend	3,590
City of Brookfield	613,948
Town of Brookfield	32,313
Village of Butler	15,558
Village of Elm Grove	63,429
Village of Lannon	9,574
Town of Lisbon	26,329
Village of Menomonee Falls	347,665
City of Muskego	101,726
City of New Berlin	315,352
Town of Pewaukee	35,903
Village of Pewaukee	45,478
Village of Sussex	55,650
Town of Vernon	0
City of Waukesha	475,122
Town of Waukesha	29,321
Subtotal	\$ 3,965,533

Table B-4 (continued)

Civil Division	Potential Federal Fiscal Year 1993 Surface Transportation Program Allocation Adopted Plan Facility Lane-Miles
Ozaukee County	
State	\$ 273,774
County	206,445
City of Cedarburg	49,068
Town of Cedarburg	14,361
Town of Grafton	9,574
Village of Grafton	54,454
Village of Mequon	793,466
Village of Thiensville	28,723
Subtotal	\$ 1,156,090
Racine County	
State	\$ 19,382
County	38,297
Town of Caledonia	23,936
Town of Norway	43,084
Town of Raymond	0
Subtotal	\$ 105,317
Washington County	
State	\$ 172,623
County	170,541
Town of Germantown	7,181
Village of Germantown	387,159
Subtotal	\$ 564,880
Milwaukee Urbanized Area	\$20,000,000

Source: SEWRPC.

ESTIMATED SURFACE TRANSPORTATION PROGRAM FUNDING NEEDS FOR THE REMAINDER OF SOUTHEASTERN WISCONSIN OUTSIDE THE MILWAUKEE URBANIZED AREA

The estimated cost to implement the "Surface Transportation Program Element" of the adopted regional transportation system plan and the adopted county jurisdictional highway system plans outside the Milwaukee urbanized area is presented in Table B-2. The estimated costs include all costs to implement the highway element of the adopted regional transportation system plan to year 2010, except the National Highway System, that is, all planned capacity improvements and necessary resurfacing and reconstruction to preserve existing capacity. The estimated cost of fully implementing the plan within that portion of the Southeastern Wisconsin Region outside the Milwaukee urbanized

Table B-5

**POTENTIAL FEDERAL FISCAL YEAR 1993 SURFACE TRANSPORTATION
PROGRAM (STP) ALLOCATION UNDER RECOMMENDED ALLOCATION FORMULA**

Civil Division	Potential Federal Fiscal Year 1993 Surface Transportation Program Allocation Adopted Plan Facility Lane-Miles
City of Milwaukee	
State	\$1,286,539
County	790,474
City of Milwaukee	4,885,857
Total	\$6,962,870

Source: SEWRPC.

area is \$42.8 million annually over the next 20 years, representing a federal funding need of approximately \$34.2 million annually. Approximately \$16.2 million of the federal funding need is for state trunk highways and \$18.0 million is for county and local trunk highways.

Thus, the total federal Surface Transportation Program funding needed to implement the adopted regional plan and county jurisdictional highway system plans is \$64.4 million annually, with \$30.2 million required in the Milwaukee urbanized area and \$34.2 million required in the remainder of the Southeastern Wisconsin Region.

A "fair share" of the total \$200 million annual federal Surface Transportation Program funding statewide, based upon any reasonable measure such as population, employment, or vehicle-miles of travel, would approximate about 30 percent, or \$60 million. This would be nearly adequate to implement the plan fully over a 20-year period.

However, the Surface Transportation Program funding which the Wisconsin Department of Transportation has proposed be made available in the Southeastern Wisconsin Region is \$20 million annually in the Milwaukee urbanized area, leaving an annual federal funding shortfall of \$2.3 million on state trunk highways and \$7.9 million on county and local trunk highways. With respect to the remainder of the Southeastern Wisconsin Region, the total federal Surface Transportation Program funding need is \$34.2 million annually, with \$16.2 million for state trunk highways and \$18.0 million for county and local trunk highways. The Wisconsin Department of Transportation has proposed annual Surface Transportation Program funding of about \$4.0 million for the county and local trunk highways within southeastern Wisconsin outside the Milwaukee urbanized area, representing a federal funding shortfall of \$14 million annually. In total, the proposed federal Surface Transportation Program funding proposed for southeastern Wisconsin county and local trunk highways is annually about \$21.9 million less than the total \$40.9 million annual funding needed, or 54 percent less, and also that much less than a "fair share" of federal Surface Transportation Program funding.

Table B-7 identifies all the new federal funding programs and the 1993 federal fiscal year funding level for the State of Wisconsin. Also shown is an estimated "fair share" level of these funds for southeastern Wisconsin and the procedures which have been proposed by the Wisconsin Department of Transportation to utilize these funds.

Table B-6

**EXISTING ESTIMATED FEDERAL AID URBAN (FAU) PROGRAM BALANCES
IN THE MILWAUKEE URBANIZED AREA AND POTENTIAL FEDERAL FISCAL YEAR 1992
AND 1993 BALANCES ASSUMING DISTRIBUTION OF NEW SURFACE TRANSPORTATION
PROGRAM (STP) FUNDING ACCORDING TO RECOMMENDED ALLOCATION APPROACH**

Civil Division	Total FAU Funds Received through 1991	FAU Projects Committed to Agreement as of March 25, 1992	FAU Projects Scheduled to Contract as of March 25, 1992	Current FAU Balance	1992		1993	
					Lane-Mile Formula Allocation	Balance	Lane-Mile Formula Allocation	Balance
State	\$ 7,636,845	\$ 5,872,335	\$ 0	\$ 1,764,510	\$ 4,164,297	\$ 5,928,807	\$ 4,961,254	\$ 10,890,061
Milwaukee County								
County	\$ 8,527,235	\$ 12,911,026	\$ 0	-\$ 4,383,791	\$ 1,493,743	-\$ 2,890,048	\$ 1,779,613	-\$ 1,110,436
Village of Bayside	2,382	0	0	2,382	0	2,382	0	2,382
Village of Brown Deer	293,901	308,939	0	-15,038	78,856	63,818	93,947	157,765
City of Cudahy	750,650	1,069,304	0	-318,654	113,010	-205,644	134,638	-71,006
Village of Fox Point	81,516	25,592	0	55,924	12,054	67,978	14,361	82,340
City of Franklin	1,451,478	1,499,268	0	-47,790	145,657	97,867	173,533	271,401
City of Glendale	357,452	279,747	0	77,705	68,811	146,516	81,979	228,495
Village of Greendale	319,273	754,158	0	-434,885	54,747	-380,138	65,225	-314,913
City of Greenfield	718,644	684,339	844,875	-810,570	137,119	-673,451	163,361	-510,091
Village of Hales Corners	169,615	117,172	0	52,443	40,181	92,624	47,871	140,496
City of Milwaukee	51,265,553	47,257,071	4,868,079	-859,597	4,101,011	3,241,414	4,885,857	8,127,271
City of Oak Creek	2,070,425	1,534,907	0	535,518	288,301	823,819	343,476	1,167,295
Village of River Hills	277,814	281,627	0	-3,813	40,181	36,368	47,871	84,240
City of St. Francis	454,155	237,845	0	216,310	51,231	267,541	61,036	328,577
Village of Shorewood	236,952	708,408	0	-471,456	48,218	-423,238	57,445	-365,793
City of South Milwaukee	781,549	945,190	0	-163,641	145,155	-18,486	172,935	154,449
City of Wauwatosa	1,591,217	2,493,421	0	-902,204	315,424	-586,780	375,789	-210,991
City of West Allis	2,088,957	2,310,085	0	221,128	510,806	289,678	608,563	898,241
Village of West Milwaukee	272,365	470,236	0	-197,871	40,684	-157,187	48,470	-108,718
Village of Whitefish Bay	326,667	581,169	0	-254,502	76,345	-178,157	90,955	-87,202
Subtotal	\$ 72,037,800	\$ 74,469,504	\$ 5,712,954	-\$ 8,144,658	\$ 7,761,534	-\$ 383,124	\$ 9,246,926	\$ 8,863,802
Waukesha County								
County	\$ 7,816,545	\$ 7,408,079	\$ 1,224,000	-\$ 815,534	\$ 1,506,299	\$ 690,765	\$ 1,794,573	\$ 2,485,338
Village of Big Bend	11,078	0	0	11,078	3,014	14,092	3,590	17,682
City of Brookfield	1,909,731	868,838	0	1,040,893	515,326	1,556,219	613,948	2,170,168
Town of Brookfield	25,292	0	0	25,292	27,122	52,414	32,313	84,728
Village of Butler	44,700	431,320	0	-386,620	13,059	-373,561	15,558	-358,003
Village of Elm Grove	337,442	297	0	337,145	53,240	390,385	63,429	453,815
Village of Lannon	58,142	345,867	0	-287,725	8,036	-279,689	9,574	-270,114
Town of Lisbon	142,509	0	0	142,509	22,100	164,609	26,329	190,938
Village of Menomonee Falls	2,106,071	1,114,522	1,320,000	-328,451	291,817	-36,634	347,665	311,031
City of Muskego	643,511	106,762	0	536,749	85,385	622,134	101,726	723,861
City of New Berlin	1,652,023	992,651	0	659,372	264,695	924,067	315,352	1,239,418
Town of Pewaukee	117,152	0	0	117,152	30,136	147,288	35,903	183,191
Village of Pewaukee	100,996	0	0	100,996	38,172	139,168	45,478	184,646
Village of Sussex	209,954	414,843	0	-204,889	46,711	-158,178	55,650	-102,528
Town of Vernon	9,584	0	0	9,584	0	9,584	0	9,584
City of Waukesha	1,588,931	1,320,531	192,000	76,400	398,800	475,200	475,122	950,322
Town of Waukesha	65,118	26,733	448,000	-409,615	24,611	-385,004	29,321	-355,683
Subtotal	\$ 16,838,779	\$ 13,030,443	\$ 3,184,000	\$ 624,336	\$ 3,328,524	\$ 3,952,860	\$ 3,965,533	\$ 7,918,393
Ozaukee County								
County	\$ 1,520,750	\$ 1,863,598	\$ 0	-\$ 342,848	\$ 173,282	-\$ 169,566	\$ 206,445	\$ 36,879
City of Cedarburg	334,637	119,000	0	215,637	41,186	256,823	49,068	305,891
Town of Cedarburg	90,023	53,056	0	36,967	12,054	49,021	14,361	63,383
Town of Grafton	146,796	0	0	146,796	8,036	154,832	9,574	164,407
Village of Grafton	159,041	996,655	0	-837,614	45,706	-791,908	54,454	-737,454
City of Mequon	4,042,657	4,537,654	0	-494,997	666,006	171,009	793,466	964,475
Village of Thiensville	165,752	126,291	0	39,461	24,109	63,570	28,723	92,293
Subtotal	\$ 6,459,656	\$ 7,696,254	\$ 0	-\$ 1,236,598	\$ 970,380	-\$ 266,218	\$ 1,156,090	\$ 889,872
Racine County								
County	\$ 85,474	\$ 120,224	\$ 0	-\$ 34,750	\$ 32,145	-\$ 2,605	\$ 38,297	\$ 35,692
Town of Caledonia	323,402	170,196	0	153,206	20,091	173,297	23,936	197,232
Town of Norway	16,590	0	0	16,590	36,163	52,753	43,084	95,837
Town of Raymond	195,002	0	0	195,002	0	195,002	0	195,002
Subtotal	\$ 620,468	\$ 290,420	\$ 0	\$ 330,048	\$ 88,399	\$ 418,447	\$ 105,317	\$ 523,764
Washington County								
County	\$ 853,718	\$ 448,888	\$ 0	\$ 404,830	\$ 143,146	\$ 547,976	\$ 170,541	\$ 718,517
Town of Germantown	52,251	0	0	52,251	6,027	58,278	7,181	65,459
Village of Germantown	2,109,172	3,258,304	0	-1,149,132	324,967	-824,165	387,159	-437,007
Subtotal	\$ 3,015,141	\$ 3,707,192	\$ 0	-\$ 692,051	\$ 474,140	-\$ 217,911	\$ 564,880	\$ 346,970
Milwaukee Urbanized Area	\$106,608,689	\$105,066,148	\$8,896,954	-\$7,354,413	\$16,787,275	\$9,432,862	\$20,000,000	\$29,432,862

Source: SEWRPC.

Table B-7

**NEW FEDERAL HIGHWAY ADMINISTRATION FUNDING PROGRAMS: 1993 FEDERAL FISCAL
YEAR STATE OF WISCONSIN FUNDING LEVELS AND SOUTHEASTERN WISCONSIN "FAIR SHARE"**

Federal Highway Administration Funding Program	Federal Fiscal Year 1993 State of Wisconsin Funding Level	Southeastern Wisconsin "Fair Share"	Programmed Funding in Southeastern Wisconsin in 1993-1998 TIP	Proposed Wisconsin Department of Transportation Funding Procedures ^a
Interstate Highway Maintenance	\$ 37 million	\$11 million	15	State selects projects
National Highway System	\$ 57 million	\$17 million	14	State selects projects
Bridges	\$ 35 million	\$11 million	9	State: State selects projects Local: Entitlement to County. State selects within County from prioritized list
Congestion Mitigation and Air Quality Improvement	\$ 12 million	\$11 million	12	State: State selects projects Local: State selects from local proposed projects
Surface Transportation Program: Safety	\$ 11 million	\$ 3 million	6	State: State selects projects Local: State selects from local proposed projects
Surface Transportation Program: Enhancement	\$ 11 million	\$ 3 million	4	State: State selects projects Local: State selects from local proposed projects
Surface Transportation Program: Urbanized Areas of 200,000+ Population	\$ 24 million	\$20 million	21	SEWRPC, the Metropolitan Planning Organization (MPO) selects projects. Allocation formula proposed for Milwaukee area
Surface Transportation Program: Urbanized Areas of Less than 200,000 Population and Rural Areas	\$ 56 million	\$10 million	- ^b	Municipalities and Counties within urbanized areas and rural areas to receive increased entitlements. State to select projects from entitlements. State to select State project
Surface Transportation Program: Discretionary	\$118 million	\$35 million	- ^b	State selects projects

^aAll state project selection within southeastern Wisconsin would be done in consultation with SEWRPC as the Metropolitan Planning Organization. SEWRPC, however, under the Act, is to lead in project selection in Milwaukee, Ozaukee, Washington, and Waukesha Counties for all Surface Transportation Program funding and Congestion Mitigation and Air Quality Improvement funding. Project selection by SEWRPC within the Milwaukee urbanized area with Surface Transportation Program funding allocated by federal law to the Milwaukee urbanized area would be done in consultation with WisDOT.

^bThe combined programmed level of funding for the Surface Transportation Program—Urbanized areas of less than 200,000 population and rural areas in southeastern Wisconsin, and the Surface Transportation Program—Discretionary for 1993 is \$14 million. This may be compared to the sum of \$45 million designated as the "fair share" for southeastern Wisconsin for these funding programs.

Source: U. S. Department of Transportation, Federal Highway Administration; Wisconsin Department of Transportation; and SEWRPC.

Appendix C

CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY ADVISORY COMMITTEE ROSTERS

Appendix C-1

TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON REGIONAL LAND USE PLANNING

Arnold L. Clement Director of Planning and Development, Racine County
Chairman
Harlan E. Clinkenbeard Administrator/Planner, Town of Pewaukee
Vice-Chairman
Kurt W. Bauer Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary
John B. Capelle Director of Community Development, City of West Bend
Thurmon D. Dansby Director, Milwaukee County Department of Parks, Recreation and Culture
Lewis R. Dixon Manager, Land Use Planning, Wisconsin Energy Corporation
Francis H. Dobbs Director, Walworth County Planning, Zoning, and Sanitation Department
Robert R. Dreblow Director of Engineering and Public Works, City of Cedarburg
Daniel F. Ertl Director of Planning and Zoning, City of Brookfield
Raymond A. Forgianni, Jr. Director of City Development, City of Kenosha
Frank M. Hedgcock Director of Community Development, City of Waukesha
Gregory I. Igl District Conservationist, U. S. Soil Conservation Service, Walworth County
J. David Jelinski Director, Land and Water Resources Bureau, Wisconsin
Department of Agriculture, Trade and Consumer Protection
Gordon M. Kacala Executive Director, Racine County Economic Development Corporation
G. Andrew Larsen Director, Riveredge Nature Center
James J. Lynch Director of Community Development, Village of Shorewood
Gloria L. McCutcheon District Director, Southeast District,
Wisconsin Department of Natural Resources
George E. Melcher Director of Planning and Development, Kenosha County
Paul E. Milewski Director of Community Development, City of Oak Creek
Paul E. Mueller Administrator, Washington County Land Use and Park Department
Kirsten A. Nyrop Commissioner, Department of City Development, City of Milwaukee
David L. Peterson Attorney, Quarles and Brady
Gordon Rozmus City Planner, City of Wauwatosa
Brad Lee G. Steinke Director of Community Development, City of Mequon
Walter J. Tarmann Director, Waukesha County Park and Planning Commission
Jean M. Werbie Planning and Zoning Administrator, Village of Pleasant Prairie
Dan A. Wilson Resource/Horticulture Agent, UWEX-Washington County
Lawrence P. Witzling Associate Dean of Architecture and Urban
Planning, University of Wisconsin-Milwaukee
Thomas N. Wright Director of City Development, City of Racine
Representative to be Named Southeast District, Wisconsin Department of Transportation
Representative to be Named Central Office, Wisconsin Department of Transportation

Appendix C-2

TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON REGIONAL TRANSPORTATION SYSTEM PLANNING

Patrick Marchese	Director of Public Works and Development, Milwaukee County
Chairman	
Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary	
Edward A. Beimborn	Professor of Civil Engineering and Mechanics, University of Wisconsin-Milwaukee
Peter W. Beitzel	Vice President of International Trade, Transportation, and Business Development, Metropolitan Milwaukee Association of Commerce
John M. Bennett	City Engineer, City of Franklin
Richard A. Bolte	Director of Transportation, Waukesha County
Benjamin J. Coopman, Jr.	Highway Commissioner, Walworth County
John A. Erickson	City Engineer, City of Milwaukee
Joel P. Ettinger	Regional Administrator, Region V, Federal Transit Administration, U. S. Department of Transportation
Michael J. Glasheen	Transit Planner, City of Racine
Michael L. Hansen	Chairman, Wisconsin Coach Lines, Inc.
Donald K. Holland	City Administrator, City of Kenosha
Milton L. Howell	Director of Public Works, City of New Berlin
Thomas A. Howells	President, Wisconsin Motor Carriers Association
Dennis M. Johnson	Acting City Engineer, City of West Allis
Robert C. Johnson	Transit Coordinator, City of Waukesha
Rob Kennedy	Senior Fellow, Madison Institute
Kenneth S. Kinney	Strategic Planning Director, Department of Administration, City of Milwaukee
David A. Kuemmel	Associate Professor, Civil and Environmental Engineering, Marquette University
Thomas P. Kujawa	Managing Director, Milwaukee Transport Services, Inc.
Joseph McCarthy	Director of Transportation, City of Kenosha
Robert R. Packee	District Director, District 2, Division of Highways, Wisconsin Department of Transportation
Frederick J. Patrie	Highway Commissioner, Kenosha County
Donald A. Roensch	Administrator, City of Mequon
James F. Rooney	Public Works Director, Racine County
James E. St. John	Division Administrator, Federal Highway Administration, U. S. Department of Transportation
Frank B. Scharrer	Highway Commissioner, Washington County
Philip Scherer	Executive Director, Transportation Development Association of Wisconsin
Roger L. Schrantz	Administrator, Division of Planning and Budget, Wisconsin Department of Transportation
Donald F. Theiler	Director, Bureau of Air Management, Wisconsin Department of Natural Resources
Rodney Vanden Noven	Director of Public Works, City of Waukesha
Sylvester N. Weyker	Highway Commissioner, Ozaukee County

Appendix C-3

TECHNICAL ADVISORY COMMITTEE ON REGIONAL SOCIOECONOMIC STUDIES

Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Johnny E. Brown	District Director, International Trade Administration, U. S. Department of Commerce, Milwaukee
Christine B. Butterfield	General Manager-Network Planning, Wisconsin Telephone Company, Milwaukee
John Duncan	President, Metropolitan Milwaukee Association of Commerce
Patricia A. Guhleman	Demographer, Center for Health Statistics, Wisconsin Department of Health and Social Services
Balkrishna D. Kale	Demographer, Demographic Services Center, Wisconsin Department of Administration
Dale A. Lundgren	Manager, Customer Research and Planning, Wisconsin Electric Power Company
George E. Melcher	Director of Planning and Development, Kenosha County
Paul E. Milewski	Director of Community Development, City of Oak Creek
Roger M. Nacker	Director, Bureau of Information Services, Wisconsin Department of Development
Kirsten A. Nyrop	Commissioner, Department of City Development, City of Milwaukee
Robert R. Packee	District Director, Transportation District 2, Wisconsin Department of Transportation, Milwaukee
Ronald A. Ramlow	Manpower Information Supervisor, Job Service, Wisconsin Department of Industry, Labor and Human Relations
Helen A. Ramon	Executive Director, Southeastern Area Agency on Aging, District 2B, Waukesha
Gordon Rozmus	City Planner, City of Wauwatosa
Dr. Eric Schenker	Dean, School of Business Administration, University of Wisconsin-Milwaukee
John Stibal	Director of Development, City of West Allis
Richard J. Theado	Executive Director, Planning Council for Health and Human Services
Thomas N. Wright	Director of City Development, City of Racine
Sandra Wysocki	Research Manager, The Milwaukee Journal/Sentinel

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR KENOSHA COUNTY

Frederick J. Patrie	Highway Commissioner, Kenosha County
Chairman	
Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary	
John Antaramian	Mayor, City of Kenosha
Shirley Boening	Chairman, Town of Salem
Ralph L. Drinkwine, Jr.	President, Village of Silver Lake
Raymond A. Forgianni, Jr.	Director of City Development, City of Kenosha
Thomas L. Frank	Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
Gerald K. Graff	Chairman, Town of Randall
Donald K. Holland	Administrator, City of Kenosha
David D. Holtze	Chairman, Town of Somers
Francis H. Kerkman	Chairman, Town of Wheatland
Thomas W. Kerkman	Chairman, Town of Brighton
Norman H. Krueger	President, Village of Paddock Lake
George E. Melcher	Director of Planning and Development, Kenosha County
Larry Oberhofer	President, Village of Twin Lakes
Robert R. Packee	District Director, Wisconsin Department of Transportation
Robert W. Pitts	Chairman, Kenosha County Highway and Parks Committee
Michael R. Pollocoff	Administrator, Village of Pleasant Prairie
Audrey J. Van Slochteren	Chairman, Town of Bristol
August Zirbel, Jr.	Chairman, Town of Paris

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR MILWAUKEE COUNTY

Patrick Marchese	Director of Public Works and Development, Milwaukee County
Chairman and Secretary	
Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
John A. Erickson	City Engineer, City of Milwaukee
Thomas L. Frank	Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
James R. Grassman	Administrator, City of Wauwatosa
Dennis Johnson	Acting City Engineer, City of West Allis
Robert R. Packee	District Director, Wisconsin Department of Transportation
Nick T. Paulos	Village Engineer, Village of Greendale
James St. John	Division Administrator, U. S. Department of Transportation, Federal Highway Administration
David M. Weis	City Engineer, City of Glendale

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR RACINE COUNTY

James F. Rooney	Chairman	Commissioner, Racine County Highway Commission
Cecil F. Mehring	Secretary	Highway Engineer, Racine County
Gilbert B. Bakke		President, Village of Waterford
Kurt W. Bauer		Executive Director, Southeastern Wisconsin Regional Planning Commission
Arnold L. Clement		Planning and Development Director, Racine County
Thomas L. Frank		Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
Robert J. Grady		President, Village of Wind Point
Lloyd Human		Chairman, Town of Norway
Edmund Karczewski		Chairman, Town of Dover
Christopher Kocaja		Acting City Engineer, City of Burlington
William J. Korducki		Chairman, Town of Burlington
John Korzilius		Trustee, Village of Union Grove
Robert Langmesser		Chairman, Town of Waterford
Fred H. Larson		Commissioner of Public Works, City of Racine
Brian J. Lawler		Trustee, Village of Elmwood Park
Wayne A. Loppnow		Chairman, Town of Raymond
Dennis C. Mahoney		President, Village of North Bay
Clay E. Morgan		President, Village of Sturtevant
James E. Moyer		Chairman, Town of Yorkville
Robert R. Packee		District Director, Wisconsin Department of Transportation
Richard G. Rehberg		Chairman, Town of Rochester
Antony Rogers		Trustee, Village of Rochester
Michael F. Weber		Administrator, Town of Mt. Pleasant
Robert Wilson		Chairman, Town of Caledonia
Thomas N. Wright		Director of City Development, City of Racine

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR OZAUKEE COUNTY

Sylvester N. Weyker	Highway Commissioner, Ozaukee County
Chairman	
Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary	
Leland J. Allen	Chairman, Town of Port Washington
Lester A. Bartel, Jr.	Chairman, Town of Grafton
Daniel E. Birenbaum	Street Commissioner, Village of Thiensville
Paul H. Brunquell	Supervisor, Town of Saukville
Donald C. Bystricky	President, Village of Belgium
Anthony R. Depies	City Engineer, City of Port Washington
Robert R. Dreblow	Director of Engineering and Public Works, City of Cedarburg
Thomas L. Frank	Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
William S. Heimlich	Planning Supervisor, Wisconsin Department of Transportation
Frederick Kaul	Chairman, Ozaukee County Highway Committee
Francis J. Kleckner	Chairman, Town of Belgium
Jeffery P. Knight	President, Village of Saukville
Fred W. Koehler, Jr.	Chairman, Town of Fredonia
D. Michael Mucha	Assistant City Engineer, City of Mequon
William Rathstack	President, Village of Fredonia
Kenneth A. Roell	Administrator, Town of Cedarburg
James R. Struck	Public Works Director, Village of Grafton

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR WALWORTH COUNTY

Benjamin Coopman	Chairman	Highway Commissioner, Walworth County
Kurt W. Bauer	Secretary	Executive Director, Southeastern Wisconsin Regional Planning Commission
James Bilskey		Chairman, Town of Darien
Gary W. Boden		City Manager, City of Whitewater
David Bollweg		Chairman, Town of Linn
Gerald E. Byrnes		Chairman, Town of Troy
James W. Byrnes		Chairman, Town of East Troy
Beatrice A. Dale		Mayor, City of Lake Geneva
Thomas L. Frank		Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
Harold J. Friestad		President, Village of Williams Bay
Carl A. Gustafsen		Supervisor, Town of LaFayette
Craig A. Guthrie		Chairman, Town of Sugar Creek
William S. Heimlich		Planning Supervisor, Wisconsin Department of Transportation
Albert J. Jones		President, Village of Walworth
Neal J. Kedzie		Chairman, Town of LaGrange
Marilyn Kienbaum		Chairman, Town of Whitewater
Paul Kitzman		Chairman, Town of Richmond
Dean Logertman		President, Village of Darien
Alfred Lynch		President, Village of Sharon
William R. Mangold		Chairman, Town of Lyons
James A. Mitchell		President, Village of East Troy
Allen L. Morrison		Chairman, Town of Sharon
Paul Ormson		Mayor, City of Elkhorn
Richard Ploch		Chairman, Town of Geneva
Joseph H. Schaefer		Chairman, Walworth County Highway Committee
Charles Schuren		President, Village of Genoa City
Lyle A. Smith		Public Works Director, City of Delavan
David S. Stebnitz		Supervisor, Town of Delavan
James Stowell		Chairman, Town of Spring Prairie
Robert W. Tilton		Chairman, Town of Bloomfield
William S. Turner		President, Village of Fontana on the Lake
James Van Dresser		Chairman, Town of Walworth

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR WASHINGTON COUNTY

Kenneth M. Pesch	City Engineer, City of West Bend
Chairman	
George B. Allman	Chairman, Town of Kewaskum
Vice-Chairman	
Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary	
Gerald E. Boldt	President, Village of Jackson
Howard O. Buth	Supervisor, Washington County
John B. Cappelle	Director of Community Development, City of West Bend
David L. Dourn	Chairman, Town of Barton
Peter Gonnering	Supervisor, Washington County
James E. Heipp	Supervisor, Town of West Bend
Willard F. Heppe	Chairman, Town of Polk
Gordon C. Hoffmann	Clerk, Town of Jackson
Carl Hohlweck	Chairman, Town of Wayne
John B. Kohl	Chairman, Town of Richfield
Paul J. Metz	Chairman, Town of Germantown
Michael R. Miller	Mayor, City of West Bend
Paul E. Mueller	Administrator, Land Use and Park Department, Washington County
Dean A. Otte	Clerk, Village of Slinger
Robert R. Packee	District Director, Wisconsin Department of Transportation
William Ripp	City Engineer, City of Hartford
James St. John	Division Administrator, U. S. Department of Transportation, Federal Highway Administration
Franklin B. Scharrer	Commissioner, Washington County Highway Department
Reuben J. Schmahl	Chairman, Washington County Board
Daniel S. Schmidt	Administrator, Village of Kewaskum
Donald M. Shane	Citizen Member, Town of Trenton
Robert C. Skeen	Chairman, Town of Erin
John C. Spielmann	Economic Development Coordinator, City of Hartford
Maurice P. Strupp	Chairman, Town of Hartford
John Theusch	Chairman, Town of Farmington
Cheryl Vogt	Clerk, Town of Addison
Gary Wendorff	Member, Planning Commission, City of Hartford
Todd W. Wetteran	Trustee, Village of Germantown
Milton Wilkins	President, Village of Newburg
Arthur H. Zabel	President, Village of Germantown

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TECHNICAL COORDINATING AND ADVISORY COMMITTEE ON JURISDICTIONAL HIGHWAY PLANNING FOR WAUKESHA COUNTY

Richard A. Bolte	Director of Transportation, Waukesha County
Chairman	
Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary	
Robert T. Audley	Chairman, Town of Delafield
Marvin Becker	President, Village of Merton
James R. Behrend	Mayor, City of Delafield
Kathryn C. Bloomberg	Mayor, City of Brookfield
John W. Brunner	Chairman, Town of Waukesha
Randall A. Burr	President, Village of Elm Grove
Richard A. Ensslin	President, Village of Butler
Lawrence E. Farrell	President, Village of Pewaukee
Paul Fleischmann	President, Village of Sussex
Thomas L. Frank	Planning and Research Engineer, U. S. Department of Transportation, Federal Highway Administration
Cheri A. Frederick	Chairman, Waukesha County Public Works Committee
Terry Gissal	President, Village of Lannon
James Hansen	President, Village of North Prairie
Donald R. Holt	Chairman, Town of Lisbon
Vytautas Janusonis	Chairman, Town of Ottawa
Rasmus Kalnes	President, Village of Eagle
Thomas E. Kraus	Chairman, Town of Merton
Craig H. Lake	President, Village of Big Bend
David C. Lamerand	President, Village of Hartland
Robert A. Macur	Chairman, Town of Vernon
Robert R. Packee	District Director, Wisconsin Department of Transportation
Brent Redford	Chairman, Town of Pewaukee
Edwin H. Rohloff	Chairman, Town of Summit
Joseph St. Thomas	Chairman, Town of Oconomowoc
Wayne G. Salentine	Mayor, City of Muskego
Gordon Scheuneman	President, Village of Nashotah
Robert N. Schreiber	Chairman, Town of Genesee
Marlene M. Schumacher	Mayor, City of Oconomowoc
Robert J. Steliga	President, Village of Menomonee Falls
George Stumpf	President, Village of Lac La Belle
Bryce Styza	Trustee, Village of Chenequa
Edmond Templeton	President, Village of Oconomowoc Lake
Eugene Tenges	Supervisor, Town of Brookfield
Duane A. Thornton	Trustee, Village of Mukwonago
Timothy Tully	Mayor, City of New Berlin
Paul G. Vrakas	Mayor, City of Waukesha
Jay Weinkauff	President, Village of Dousman
Michael J. Wettstein	President, Village of Wales
Don Wilton	Chairman, Town of Eagle
Gilbert Yerke	Chairman, Town of Mukwonago

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TRANSPORTATION IMPROVEMENT PROGRAMMING COMMITTEE
FOR THE MILWAUKEE TRANSPORTATION MANAGEMENT AREA

MILWAUKEE COUNTY REPRESENTATIVES

5 to be named

CITY OF MILWAUKEE REPRESENTATIVES

5 to be named

MILWAUKEE NORTH SHORE COMMUNITIES REPRESENTATIVE

1 to be named

MILWAUKEE WESTERN COMMUNITIES REPRESENTATIVES

Dennis M. Johnson Acting City Engineer, City of West Allis
S. Howard Young Engineering and Operations Administrator, City of Wauwatosa

MILWAUKEE SOUTHWESTERN COMMUNITIES REPRESENTATIVE

Nick T. Paulos Village Engineer, Village of Greendale

MILWAUKEE SOUTH SHORE COMMUNITIES REPRESENTATIVE

1 to be named

WAUKESHA COUNTY REPRESENTATIVE

Richard A. Bolte Director of Transportation, Waukesha County

WAUKESHA EASTERN COMMUNITIES REPRESENTATIVES

Paul G. Vrakas Mayor, City of Waukesha
2 to be named

OZAUKEE COUNTY AND COMMUNITY REPRESENTATIVE

Sylvester N. Weyker Highway Commissioner, Ozaukee County

WASHINGTON COUNTY AND COMMUNITY REPRESENTATIVE

Frank B. Scharrer Highway Commissioner, Washington County

Ex Officio Nonvoting Members

Kurt W. Bauer Executive Director, Southeastern Wisconsin Regional Planning Commission
Secretary
Joel P. Ettinger Regional Administrator, Region V, U. S. Department of
Transportation, Federal Transit Administration
Wolfgang H. Klassen Director, Bureau of Air Management,
Wisconsin Department of Natural Resources
Thomas P. Kujawa Managing Director, Milwaukee County Transit System
Toya M. Nelson Director, Bureau of Transit, Wisconsin Department of Transportation
Robert R. Packee District Director, District 2, Division of Highways,
Wisconsin Department of Transportation
James E. St. John Division Administrator, U. S. Department of
Transportation, Federal Highway Administration
Ernest Wittwer Director, Bureau of Program Management,
Wisconsin Department of Transportation

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TRANSPORTATION IMPROVEMENT PROGRAMMING COMMITTEE FOR KENOSHA, RACINE, AND WALWORTH COUNTIES

Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
James J. Blazek	City Engineer, City of Racine
Benjamin J. Coopman, Jr.	Highway Commissioner, Walworth County
Jon J. Dederich	Plan Commissioner, Village of Elmwood Park
Joel P. Ettinger	Regional Administrator, Region V, U. S. Department of Transportation, Federal Transit Administration
Robert J. Grady	President, Village of Wind Point
George Gundersen	Director, Bureau of System Planning, Division of Planning and Budget, Wisconsin Department of Transportation
Janice R. Hand	Chairman, Town of Mt. Pleasant
Donald K. Holland	City Administrator, City of Kenosha
David D. Holtze	Chairman, Town of Somers
Wolfgang H. Klassen	Director, Bureau of Air Management, Wisconsin Department of Natural Resources
Dennis C. Mahoney	President, Village of North Bay
Joseph McCarthy	Director of Transportation, City of Kenosha
Douglas E. McIntosh	Traffic Engineer, City of Racine
Clay E. Morgan	President, Village of Sturtevant
Toya M. Nelson	Director, Bureau of Transit, Wisconsin Department of Transportation
Cheryl L. Newton	Environmental Protection Specialist, Region V, U. S. Environmental Protection Agency
Robert R. Packee	District Director, District 2, Division of Highways, Wisconsin Department of Transportation
Frederick J. Patrie	Highway Commissioner, Kenosha County
Francis J. Pitts	Commissioner, Southeastern Wisconsin Regional Planning Commission
Michael R. Pollocoff	Administrator, Village of Pleasant Prairie
James F. Rooney	Director of Public Works, Racine County
James E. St. John	Division Administrator, U. S. Department of Transportation, Federal Highway Administration

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TECHNICAL ADVISORY COMMITTEE ON REGIONAL BICYCLE AND PEDESTRIAN FACILITIES PLAN

Kurt W. Bauer	Executive Director, Southeastern Wisconsin Regional Planning Commission
Thurmond B. Dansby, Jr.	Director, Milwaukee County Department of Parks, Recreation and Culture
John A. Erickson	City Engineer, City of Milwaukee
Paul A. Feller	City Engineer, City of Waukesha
Raymond A. Forgianni, Jr.	Director of City Development, City of Kenosha
Stephen J. Hiniker	Environmental Policy Coordinator, City of Milwaukee
Thomas P. Huber	Bicycle Coordinator, Wisconsin Department of Transportation
Mary Ellen Johnson	Racine-Kenosha Sierra Club
Bruce Kaniewski	Planning Director, City of Franklin
Douglas Kowalski	Area Representative, League of American Wheelmen
Jaclyn Lawton	Assistant Engineering Coordinator, Federal Highway Administration
Randal LeClaire	Traffic Engineer, City of Kenosha
Douglas E. McIntosh	Traffic Engineer, City of Racine
Robert R. Packee	District Director, Wisconsin Department of Transportation
Clifford Philpott	Cream City Cycle Club
Walter J. Tarmann	Director, Waukesha County Park and Planning Commission
Michael L. Theis	Assistant Planner, City of Brookfield
Gary R. Weiher	Director, Milwaukee County Transit and Traffic Engineering Department
Terry L. Witkowski	Safety Director, City of Milwaukee Police Department
Thomas N. Wright	Director of City Development, City of Racine
S. Howard Young	Engineering and Operations Administrator, City of Wauwatosa

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