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### STUDY DESIGN FOR THE

# CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY

FOR THE FIVE-YEAR PERIOD FROM JANUARY 1, 1970, THROUGH DECEMBER 31, 1974

# SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

December 1969

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# TABLE OF CONTENTS

		Page
Chapter	IINTRODUCTION	l
	Background	1 6 7
	Reappraisal	9
	Procedural Development.	10 10 12
	Overview of the Land Use-Transportation Planning Process.	14
Chapter	IIOBJECTIVES, PRINCIPLES, AND STANDARDS	17
Chapter	IIIINVENTORIES	20
	Maps	20 20
	Aerial Photography.	22
	Detailed Planning Base Maps Inventory of Existing Highway Facilities and	22
	Service Levels	23
	Service Levels.	25
	Inventory of Transportation Terminal Facilities	25
	Inventory of Existing Land Use.	26
	Inventory of Community Plans and Zoning Inventory of Existing Transportation Movement and	28
	Denavioral Factors Affecting Travel Habits and Patterns .	28
	Inventory of Population Prating	30
	Inventory of Public Pinencial Reserves	31
	Inventory of Planning Logiclation	33
	Inventory of Natural Resource Base	34 34
Chapter	IVANALYSES AND FORECASTS	35
	Data Conversion, Filing, and Retrieval	35
	Data Forecaste	36
	Population.	37
	Employment.	38
	Public Financial Resources	38 20
	Land Use Demand	30
		30

# S1078/Rev. K!/B/ea 8/17/70

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# LIST OF APPENDICES

Appendix		Page
A	Typical Resolution Enacted by Local Units of Government Concerned Providing for the Establishment of a Continuing Land Use-Transportation Planning Process in the Southeastern Wisconsin Region	75
	Units of Government by Resolution Pledging Agreement and Cooperation with the State Highway Commission of Wisconsin through the Continuing Planning Process of the Southeastern Wisconsin Regional Planning Commission	78
В	Cooperative Agreement for a Continuing Regional Land Use and Transportation Study in Southeastern Wisconsin	80
С	List of Major Southeastern Wisconsin Regional Planning Commission Data Files	90
D	Membership Lists of the Southeastern Wisconsin Regional Planning Commission Intergovernmental and Public Relations Committee and the Technical Coordinating and Advisory Committee for Land Use-Transportation Planning	96

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# LIST OF TABLES

Table		Page
1	SEWRPC Regional Person-Trip Generation Equations	43
2	Milwaukee Transit Service Area Trip Generation Equations Transit Trip Equations	44
3	Milwaukee Transit Service Area Trip Generation Equations Total Person-Trip Equations	45
4	Summary Table of Continuing Land Use-Transportation Study Work Program Elements: 1970-1974	56-64
5	Continuing Regional Land Use-Transportation Study Cost Estimates for Calendar Year 1970	65 <del>-</del> 70

# S1078/Rev. KWB/bg 8/17/70

# LIST OF FIGURES

Figure		Page
1	Relationship between U. S. Bureau of Public Roads Continuing Planning Operation Functions and SEWRPC Planning Process Elements	11
2	Major Work Element Diagram Continuing Regional Land Use- Transportation Study in Southeastern Wisconsin	16
3	Southeastern Wisconsin Regional Planning Commission Existing Staff and Committee Structure	54

## LIST OF MAPS

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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,<sup>1</sup> the U. S. Housing and Home Finance Agency,<sup>2</sup> the State Highway Commission of Wisconsin,<sup>3</sup> and the constituent 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 plan.

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 the probable future transportation supply and demand on both a local and regional basis and the quantitative assignment of future traffic demand to the developing regional freeway and major 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 destinations, transportation facilities, public utilities, and financial resources for the Region. These data were to be available in a form suitable to assist federal, state, and local agencies of government and 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.

Presently a bureau of the U.S. Department of Transportation.

<sup>2</sup>Presently the U.S. Department of Housing and Urban Development.

<sup>&</sup>lt;sup>3</sup>Presently the Division of Highways of the Wisconsin Department of Transportation.

- 5. Establishment of an increased awareness of the effect of each local community's plans 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 distribution, land use development, and longterm impacts of alternative transportation system arrangements; costs and benefits of alternative generalized 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.

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

The 1962 Federal Aid Highway Act requires that, in order to be eligible for continued federal aid for new highway construction, all urbanized areas in the United States must have underway a continuing, comprehensive, areawide transportation planning process carried on cooperatively by the state and local communities. The necessary transportation planning program must be supported by written memoranda of understanding between the state and the 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. 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 the necessary continuing regional land use-transportation planning effort in southeastern Wisconsin.

There are 44 local units of government within the Region that, as integral parts of the three urbanized areas within the Region, are directly affected by the planning requirements of the 1962 Federal Aid Highway Act (see Map 1). In the spring and summer of 1965, 43 of these 44 municipalities -the Village of West Milwaukee being the sole exception -- enacted formal resolutions agreeing to cooperate with the State Highway Commission of Wisconsin, through the Regional Planning Commission, in the required areawide transportation planning program. The 43 cooperating municipalities represent 99.6 percent of the population of the three urbanized areas affected and 99.7 percent of the area. Cooperative action by local units of government on this scale was unprecedented within the Region and represented a major achievement in demonstrating the principle that the solution of areawide development problems can be achieved through voluntary intergovernmental cooperation. A copy of the kind of resolution enacted is reproduced in Appendix A, together with the full list of the local units of government which enacted the resolution and the dates of the enactments. With the adoption of these resolutions by the



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municipalities involved, pledging cooperation in the mutual utilization by the state and local municipalities concerned of the organizational structure and working arrangements established by the Regional Planning Commission for the regional land use-transportation study, that study fully met the organizational requirements of the 1962 Federal Aid Highway Act. Since the study already fully met the technical requirements of that Act, the means for the continuing, areawide transportation planning program within the Southeastern Wisconsin Region were formally established. On October 11, 1965, the Commission approved and published a Prospectus for a continuing land usetransportation study; and based upon this Prospectus, the seven constituent county boards agreed to provide the local funds necessary for the conduct of the continuing planning effort from July 1, 1966, through December 31, 1969. The State Highway Commission of Wisconsin, on behalf of the U. S. Bureau of Public Roads, as well as itself, and the U.S. Department of Housing and Urban Development subsequently entered into planning grant contracts with the Commission based upon the Prospectus; and the continuing study was thereby fully funded.

A Study Design was subsequently published in August of 1967 which outlined more fully the major work elements to be undertaken in the first continuing regional land use-transportation study and described the work program of that study in greater detail than did the Prospectus. The first continuing land use-transportation planning effort in southeastern Wisconsin was conducted in accordance with that Study Design through December 31, 1969, with the work progress, findings, and recommendations being published annually in the Annual Reports of the Commission, issued pursuant to Section 66.945(8)(b) of the Wisconsin Statutes. These reports were intended to constitute the primary documentation of the results of the continuing land use-transportation planning effort in southeastern Wisconsin. Primary emphasis in this initial continuing land use-transportation planning effort was directed at surveillance and plan implementation. Major work elements completed under the first continuing study included the completion of a jurisdictional highway system plan for Milwaukee County, including recommended capital improvement schedules for state and county trunk highway construction within the county through the plan design year of 1990; the initiation of jurisdictional highway planning programs in Ozaukee, Racine, Walworth, and Waukesha Counties; active participation in the Milwaukee County Mass Transit Technical Planning Study designed to implement the rapid transit and modified mapid transit proposals contained in the adopted regional transportation plan; and active participation in the corridor refinement and route location studies and attendant public informational meetings and hearings for the additional freeway facilities recommended in the adopted regional transportation plan.

In the negotiation of a cooperative agreement<sup>4</sup> for a continuing regional land use and transportation study in southeastern Wisconsin beyond December 31, 1969, the agencies concerned agreed that the continuing program would be

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<sup>&</sup>lt;sup>4</sup> See Appendix B for the cooperative agreement governing the conduct of the continuing land use-transportation study in the Southeastern Wisconsin Region as entered into by the Wisconsin Department of Transportation and the Southeastern Wisconsin Regional Planning Commission.

conducted in accordance with two types of documents that together would meet requirements of the U. S. Bureau of Public Roads Instructional Memorandum 50-4-68, as amended. The first type of document was to consist of a general plan for the continuing land use-transportation planning program and, as such, to set forth the background for, and framework within which, the continuing areawide land use-transportation planning effort was to be conducted, including necessary information on the objectives of the study; the organization for the study; the general functions of the study; and the general scope, content, and timing of all recurring inventories, analyses, and forecasts and plan design and implementation efforts. This document was to consist of a revision of the study design for the continuing land use-transportation study, as published in August 1967, and was to be entitled <u>Study Design for the Continuing Land Use-Transportation Study for the Five-Year Period from January 1, 1970, through December 31, 1974</u>. This report constitutes that document,

The second type of document is to consist of an annual operations plan which, within the framework of the general plan for the continuing work program, as set forth in the study design, is to set forth specifically but briefly the work elements to be conducted in each individual calendar year. The annual operations plan is to be prepared each year in time to permit review of proposed plans by the State Division of Highways and the U. S. Bureau of Public Roads prior to the beginning of the calendar year which the annual operations plan is intended to govern. This annual operations plan is to set forth, in addition to a description of the specific work elements to be accomplished during the calendar year, the staff and budgetary requirements for the calendar year and the allocation of the total study costs between participating agencies.

As already noted, this Study Design is a revision of the Study Design for the first continuing regional land use-transportation study, as published in August 1967, and is intended to provide the general framework within which annual operations plans for the continuing study beyond December 31, 1970, 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 usetransportation study, identifying and generally scheduling all items of a recurrent, as well as ad hoc, nature. It must be recognized that new techniques, methods, and approaches will have to be developed as the continuing study progresses to deal with certain aspects of the work, not only to meet the unique problems inherent in 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 Land Use-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.

### 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 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 and industrial 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 but 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 and to mass transit facilities considered at a regional scale. This transportation system, as identified in the initial study effort, is considered down to, but not including, the neighborhood level. Such transportation facilities as railways, airports, and seaports will be studied under this program only to the extent that they directly affect arterial street and highway and transit system development. The term transportation will, therefore, be defined to include the intra- and inter-regional movement of people by highway and transit facilities and the movement of goods by truck.

It is important to note here that the continuing regional land usetransportation study is being carried out as an integral part of the comprehensive regional planning program for the Southeastern Wisconsin Region and that the scope of the total transportation planning effort 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 SEWRPC has programmed the initiation in calendar year 1970 of a three-year comprehensive regional airport system planning program. The need for, the specific major work elements of, the organization for, and the costs of this major transportation planning effort are documented in a Prospectus published by the Commission in December 1969. The regional airport planning program and the continuing regional land use-transportation planning program are closely interrelated and will be 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

<sup>&</sup>lt;sup>5</sup>See <u>Comprehensive Regional Airport Planning Program Prospectus</u>, Southeastern Wisconsin Regional Planning Commission, December 1969.

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 will thus serve to mutually reenforce, refine, and detail each other. Similar transportation planning efforts will be mounted by the Commission as the need dictates for rail and water transportation and transportation terminal facilities.

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 will 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. Staff, time, and budgetary limitations cannot be fully established at this time because of the unknown demands which plan implementation activities may place on the study resources.

#### 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 target 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 the growth of 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 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 continuing regional land use-transportation study is intended to comprise 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 stage 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, therefore, has five specific objectives:

- 1. To meet the planning requirements of the 1962 Federal Aid Highway Act and the 1964 Federal Urban Mass Transportation Act, 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 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 continuously update 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 periodically update 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 watershed development, sewerage and water supply, airport, park, library, and community shelter plan elements.
- 5. Finally, and perhaps most importantly, to convert the plans prepared under the initial study effort 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 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 state and federal agencies involved, using the evolving documented long-range regional plans as a basis for such coordination. 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 usetransportation study must perform the five basic functions as outlined in the following paragraphs.

### 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. 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 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.

### 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. Since the initial continuing study period extending from July 1966 through December 1969 was concerned with administering plan elements which were only recently completed and adopted, it was not anticipated that any major changes would be required in the plans themselves. More time has now elapsed since adoption of the regional land use and transportation plans; and certain significant changes in regional land use and transportation system development have taken place, as documented in the Commission's Annual Reports from 1967 through 1969. Consequently, plan reappraisal is expected to become more important in the second continuing study period extending from January 1970 through December 1974.

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 5- and 10-year intervals, 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.

It is also anticipated that, during this period, a new plan design year will have to be selected and preparation made for the major plan revision entailed in setting forward the target year of the land use and transportation plan, although the actual plan revision would probably not begin until after 1974. 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 continue to remain valid. Unless otherwise indicated by the reappraisal function, it is proposed that major reexamination of the simulation models be accomplished only at approximately 10-year intervals.

# Service and Plan Implementation

If the regional land use and transportation plans are to be converted into action programs, these 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 in order to assure the full integration of state, regional, and local development plans and plan implementation efforts. Plan implementation activities not included under the continuing land use-transportation study, but important to its success, will 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 a regional sanitary sewerage system plan.

#### Procedural Development

Rapidly changing technology will require a continual reappraisal of the techniques and procedures used in the initial and continuing land usetransportation study phases and the development of new techniques and procedures as necessary. In order to avoid duplication of effort, the U. S. Bureau of Public Roads is encouraging each major metropolitan, or regional, transportation study in the United States to focus its procedural development efforts on one phase of the land use-transportation process. It is proposed, therefore, that major attention be focused in the southeastern Wisconsin study on developing



FIGURE I

See "Operation Plans for Continuing Urban Transportation Planning", INSTRUCTIONAL MEMORANDUM 50-4-68, Bureau of Public Roads, U.S. Department of Transportation, May 3, 1968 Source: SEWRPC

better land use planning techniques, including the development of a land use plan design model. In addition, it is anticipated that further progress will be made towards integrating land use and transportation planning and plan implementation. Better methods will be sought for use in land use and transportation plan design and for use in the collection of basic data concerning such elements of the natural resource base as soils, surface and ground water, woodlands, wetlands, and wildlife habitat.

### Documentation

In order to present properly the results of the continuing land usetransportation 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 federal, state, and local units of government and to interested private citizens. The Report will summarize any success or failure in plan implementation, as reflected in major land use and transportation facility development within the Region, and will recommend required changes in the forecast 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 the foregoing five functions of a continuing regional land usetransportation study. During the first continuing study period, extending from July 1966 through December 1969, major emphasis was placed upon two of the five functions: 1) surveillance and 2) service and plan implementation. During the second continuing study period, extending from January 1970 through December 1974, these two functions will continue to be emphasized. Increasing attention will, however, be 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 beginning in 1975. 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 function which is entirely advisory. If state, county, and local officials and private developers are to be expected to continue to seek the advice of the Regional Planning Commission on development decisions prior to 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 usetransportation 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 this latter function may be, but rather, in terms of the ultimate effects that the areawide planning operation will have on the evolving regional S1078/Rev. KWB/bg 8/17/70

> settlement patterns. That effect can only come about through effective plan implementation. The attention given in comprehensive areawide transportation planning operations throughout the nation to the development of planning techniques and to the refinement of these techniques has, to date, been out of proportion to the attention given to implementation of the plans produced by the techniques.

Because almost three years will have elapsed since the completion and adoption of the regional land use and transportation plans and because a United States decennial census will be conducted in 1970, providing an excellent bench mark for plan surveillance, the reappraisal function will receive major emphasis in the second continuing regional land use-transportation study. 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 preparations will have to be made for the setting ahead of the plan design year.

The primary emphasis under the second continuing regional land usetransportation study on surveillance, reappraisal, and service and plan implementation, coupled with the fact that the Commission is an operating, and not a research, agency, requires that only limited attention be devoted during the second continuing study to the procedural development function. The development of a land use plan design model was completed by the Commission under a separately funded planning and research demonstration project from the U.S. Department of Housing and Urban Development (Project No. Wis. PD-1). Further procedural development will be confined to the application and refinement of this model, to the application and refinement of the socioeconomic and land use simulation models developed under the initial regional land use-transportation study, and to efforts to further integrate land use and transportation planning and plan implementation. Finally, the very nature of the continuing study operation is such as to necessitate a limited documentation function. Unlike the initial land use-transportation planning effort, which produced two major planning reports published in four volumes, five technical reports, and 12 technical records totaling 2,119 pages of printed report material, the output of the first continuing regional land use-transportation study effort produced only one major planning report,<sup>6</sup> one technical report,<sup>7</sup> two technical records,<sup>8</sup>

<sup>6</sup>SEWRPC Planning Report No. 11, <u>A Jurisdictional Highway System Plan for</u> <u>Milwaukee County</u>, March 1969.

7 SEWRPC Technical Report No. 7, Horizontal and Vertical Survey Control in Southeastern Wisconsin, January 1968.

SEWRPC Technical Record Volume 3, No. 1, February 1968 and Volume 3, No. 2, December 1969.

two special memoranda reports,  $^9$  and three annual reports,  $^{10}$  totaling 736 pages of formal printed report material.

The documentation effort of the second continuing regional land usetransportation study is anticipated to parallel that of the first such study, with the continued production of annual reports and the production of a limited number of planning reports, primarily relating to the preparation of jurisdictional highway system plans, technical reports, technical records, and special memoranda as required. This more limited documentation effort is consistent with the experience under the first continuing study, which indicated that greater effort would have to be devoted to directing development decisions on a day-to-day basis; and, therefore, more emphasis would be placed upon, and effort would be required to produce informal documentation in the form of letter reports, staff memoranda, and oral presentations before governing bodies than in the form of formal printed reports, although some of the latter, as indicated, will be issued.

# 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 functional 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. These steps were fully described in Chapter II of SEWRPC Planning Report No. 7, Volume 1, Inventory Findings--1963, May 1965. The end results of this planning process were not only regional land use and transportation plans 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.

<sup>&</sup>lt;sup>9</sup>"Transit System Development Objectives, Principles, and Standards Prepared for the Milwaukee County Mass Transit Technical Planning Study," Southeastern Wisconsin Regional Planning Commission, March 1969; and "Staff Memorandum Prepared by the Southeastern Wisconsin Regional Planning Commission for the Milwaukee County Expressway and Transportation Commission on Areawide Planning Considerations Involved in the Location of the Proposed Stadium and Bay Freeways," Southeastern Wisconsin Regional Planning Commission, April 1969.

<sup>10</sup> 1966 Annual Report, 1967 Annual Report, 1968 Annual Report, Southeastern Wisconsin Regional Planning Commission.

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 which were prepared under the initial 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; and revising the plans and the recommendations concerning plan implementation, as necessary. 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 second continuing regional land use-transportation study. Work proposed to be accomplished in each of the other seven steps is described in the succeeding sections of this Study Design. The major work elements of the continuing land use-transportation study in southeastern Wisconsin are diagrammed in Figure 2.







Source: SEWRPC

#### 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<sup>1</sup> provided a practical and effective means by which public officials, technicians, and citizen leaders could become involved in the regional planning process; and it was through this committee structure that the initial formulation of the regional development objectives was channeled. As described in Volume 2 of Planning Report No. 7,<sup>2</sup> the proposed 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 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.

The regional development objectives formulated under the initial regional land use-transportation planning effort 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, a major reevaluation 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, being 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

<sup>&</sup>lt;sup>1</sup>See SEWRPC Planning Report No. 7, Volume 1, <u>Inventory Findings-1963</u> pp. 7-9.
<sup>2</sup>See SEWRPC Planning Report No. 7, Volume 2, <u>Forecasts and Alternative Plans-1990</u>, Chapter II.

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--adverse or favorable--not only truly reflects the values of the citizen body as a whole within the Region and not the values of a small "pressure" group, but also that the reaction reflects long-term, stable values and not ephemeral reactions.

A major reevaluation of the regional development objectives or of their supporting principles and standards is contemplated only when the surveillance activities indicate that such reevaluation is necessary either as a result of plan implementation or the lack of such implementation. 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.

Under the first continuing land use-transportation study, the transit system development objectives, principles, and standards formulated and adopted under the initial regional land use-transportation study were refined and detailed for application in the Milwaukee County Mass Transit Technical Planning Study. It is anticipated that, as other specific plan implementation programs are mounted, the adopted regional land use and transportation development objectives, principles, and standards will continue to be reviewed, refined, detailed, and revised as appropriate. A recent example of such refinement of the regional development objectives is set forth in the Lake Freeway Location Report prepared for the Wisconsin Department of Transportation by Consoer, Townsend and Associates. In this report the seven regional transportation system development objectives were restated into 15 route-location objectives, and the rank-based expected value method of plan evaluation<sup>3</sup> was applied under each objective against four alternative route locations. In the application of this plan evaluation technique, each alternative is rigorously and systematically subject to a rank-ordering procedure designed to evaluate the extent to which the objective is met or satisfied. This evaluation procedure carries the dual benefit of not only placing the objective itself under careful

<sup>&</sup>lt;sup>3</sup> The rank-based expected value method of plan evaluation was adopted by the SEWRPC from a technique used extensively in corporate and military decisionmaking and applied to the evaluation of three alternative regional development plans. For a more thorough review of this adoption, see Chapter VI, SEWRPC Planning Report No. 7, Volume 2, Forecasts and Alternative Plans--1990.

scrutiny but of facilitating the selection of a plan or route from among the various alternatives presented. It is anticipated that future plan implementation actions will continue to be related in a comparable manner to the adopted regional development objectives. It is also anticipated that these objectives, principles, and standards will be expanded under such programs as the regional airport planning program, proposed to be undertaken by the Commission, in cooperation with the federal, state, and local 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 second continuing land use-transportation study, it is proposed to continuously monitor and reevaluate the planning standards which support the regional development objectives. 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 and, through such comparison, to assess the continued validity and relevance of the recommended standards, as well as the degree of progress being made toward the meeting of the standards.

#### Chapter III

#### INVENTORIES

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 data inventory operation described herein entails the collation of data collected by other operating agencies, as well as 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 operation requires that factual data must 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, as well as on the underlying natural resource and public utility base and the ability of this base to support land use development.

The necessary surveillance function of a continuing regional transportation planning process requires that factual data must 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; and on the major determinants of these demands, as well as on the existing and potential supply of transportation system capacity.

The methodology or techniques to be used in the surveillance function are intended to be indicated in only very broad general terms herein. 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.

MAPS

### General 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, as well as 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 largescale 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, transit service extensions or abandonments, revisions in corporate limits lines, and changes in certain topographic features.

In addition, certain of the special-purpose maps derived from the base maps may have to be adapted to 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 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 determined and appropriate 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 graphical analyses and data retrieval operations.

Special maps will be prepared displaying such data as current traffic volume counts, count station location, travel time band, 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 annually from municipal plat maps, furnished by the Division of Highways of the Wisconsin Department of Transportation, showing current corporate limits lines and streets and highways open to traffic. Changes in cultural features, such as stream and lake shorelines, street and highway pavements, railway, airport, and harbor facilities, were made in 1967 under the first continuing study from ratioed and rectified high altitude aerial photographs provided by the Division of Highways at a scale of 1" = 2000', having a date of photography of November 1966 and an original negative scale of 1" = 6000'. Such updating will be required at regular five-year intervals beginning in 1970 and will require the preparation of such photography under the continuing land use-transportation study at regular five-year intervals beginning in the spring of 1970. 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.

### Aerial Photography

New 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  $1^{11} = 2000'$  and in the spring of 1967 under the first continuing regional land use-transportation study at a negative scale of  $1^{11} = 1600'$ . Ratioed enlargements of this photography were prepared in each case on stable base material at a scale of  $1^{11} = 400'$  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" = 400' from low altitude photography at a negative scale of 1" = 1600' and in the preparation of ratioed and rectified enlargements at a scale of 1" = 2000' of high altitude photography at a negative scale of 1" = 6000', will be required at regular five-year intervals beginning in the spring of 1970. The low altitude photography will 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. This photography will coincide with the 1970 Federal Census of Population and Housing and will provide an excellent basis for comparing the actual land use development and trends in such development with respect to the 1970 land use pattern that was recommended in the staging of the 1990 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 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 jurisdictional highway system planning programs, land use and transportation plan implementation studies, such as mass transit and highway corridor refinement studies and related land use planning efforts and the regional airport planning program, as well as several special 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 generaland 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 utilized by private agencies and individuals in the preparation of development plans which can serve to implement the adopted regional land use and transportation plans.

### Detailed Planning Base Maps

In order to carry out the plan implementation recommendations, as set forth in SEWRPC Planning Report No. 7, Volume 3, <u>Recommended Regional Land Use</u> and Transportation Plans--1990, additional 1" = 100' scale, two-foot contour interval maps, based upon a monumented control survey network relating the U. S. Public Land Survey system to the State Plane Coordinate System, were prepared under the first continuing study and, under special supplemental agreement with the State Highway Commission of Wisconsin, for portions of the proposed Belt and Bay Freeways. Such maps were prepared under the initial regional land use-transportation study and under special letter agreements with the State Highway Commission for the proposed Bay, Belt, Lake, and West Bend Freeways. The maps were intended to provide the basis for the official mapping of these proposed freeways by local municipalities and the Division of Highways of the Wisconsin Department of Transportation and will thereby provide a most important plan implementation device essential to the advance reservation of right-of-way for these important freeway facilities. Additional large-scale base maps will be prepared under the continuing study only as required and under special agreement with the Division of Highways.

All the horizontal and vertical control survey data collected under the large-scale mapping efforts carried out under the initial and first continuing regional land use-transportation studies, as well as such data collected by county and local units of government under compatible large-scale mapping efforts, were collated and published under the first continuing study in SEWRPC Technical Report No. 7, <u>Horizontal and Vertical Survey Control in Southeastern Wisconsin</u>. These survey data will be updated periodically, as needed, under the continuing study; and 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.

# INVENTORY OF EXISTING 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. The functional classification of the total existing street and highway system, which classifies all streets and highways within the Region into the following categories--freeways, expressways, parkways, and standard arterials-will be reviewed annually in cooperation with the Technical Advisory Committee and, in this manner, will be maintained current. Consideration will be given to the establishment of further functional subclassifications of the regional arterial street and highway facilities in order to permit a closer correlation with state highway plan, national functional, and TOPICS arterial classifications. In addition, the functional classification will be reviewed as an integral part of the preparation of jurisdictional highway plans for each county within the Region, as recommended in SEWRPC Planning Report No. 7, Volume 3, Chapter VIII; and any necessary changes in the network maps will be made.

In addition, the following data will be maintained current on an annual basis for each link in the arterial network: facility type; jurisdictional system designation; federal aid category; 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; turning lanes; vertical alignment; percent passing opportunity; area type; link capacity; speed limit; and average running speed. In addition, pavement condition, traffic volume, and vehicle-miles of travel will be updated at regular two-year intervals. The maintenance of these data will be coordinated with the state to ensure compatibility with the State Highway Network Data Information (HNDI) System.

Characteristics indicative of the level of service provided by the arterial 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 determination of factors affecting capacity, such as directional split, peak-hour factors, percentage of commercial traffic factors, load factors, turning movement percentages, and traffic signal splits, and will be conducted in cooperation with state, county, and city 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, a continuing traffic volume counting program for the Region will be conducted in cooperation with the Wisconsin Department of Transportation, the Milwaukee County Highway Department, and several of the local units of government, including the Cities of Kenosha, Milwaukee, Racine, Waukesha, Wauwatosa, and West Allis. 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 will yield traffic flow information frequently requested by several public and private agencies throughout the Region. The traffic count program will be evaluated annually to ensure that the location and frequency of traffic counts obtained in each major phase of the program, including the control count, seasonal count, and coverage count phases, is properly related to any changes in the volume and pattern of traffic flow within the Region. Following a thorough analysis of the 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 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.

Changes in travel time on the arterial system provide a good measure of the effect of traffic growth and street and highway facility improvements on the operation of arterial street and highway systems. Travel time studies will be conducted to monitor changes in both peak- and off-peak-hour-travel times on the arterial 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 street and higway system. A travel time study of the entire arterial system within the Region will be conducted once during the continuing study, with an annual updating of the travel time data on those segments of the arterial 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 a second 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 network map showing accident rates for intersections and links by accident type will be prepared. Such a map will, after its preparation, be updated annually, 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 Division of Motor Vehicles and from local police department records, and all efforts will be coordinated with the Wisconsin Bureau of Highway Safety Promotion.

# INVENTORY OF EXISTING TRANSIT FACILITIES AND SERVICE LEVELS

The inventory of existing transit facilities and levels of service, conducted under the initial 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 zone size and population distribution; zone 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 bus 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 transit company 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.

## INVENTORY OF TRANSPORTATION TERMINAL FACILITIES

The inventory of the supply and type of automobile parking facilities available in the central business districts of the Cities of Kenosha, Milwaukee, and Racine, carried out under the original regional land use-transportation effort, will be maintained current by utilizing data from the files of the traffic engineering departments of the cities concerned. In addition, new inventories of the supply and type of automobile parking facilities available will be made of all areas proposed as major retail and service centers on the adopted regional land use plan. Data to be maintained current for each block within the central business districts will include: the total number of onstreet 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 survey described below. If analyses of the results of the land use survey 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 referred to earlier in this Study Design will be maintained current on an annual basis. Such data 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; and type of commodity.

#### INVENTORY OF EXISTING LAND USE

The original plan design concept in southeastern Wisconsin involved the preparation of both a land use plan and a transportation plan as two inextricably interrelated major elements of a comprehensive regional plan. It is, therefore, the Commission's intent to provide in 1970 a complete reinventory of land uses within the Region for the purpose of updating the original 1963 and 1967 regional land use inventories. The resulting land use information will become a major input into almost all continuing regional planning programs and will draw on the files of the various public agencies operating within the Region to supplement the land use inventory. It is proposed to complete the land use reinventory for the entire Region in 1970, with completion of the analysis of the 1970 land use data scheduled for 1971.

The reinventory of land use will provide up-to-date information on land use changes within the seven-county Region which can be directly related to the 1970 Census of Population and Housing and to the 1970 staged land use and transportation plans for the Region. In addition, up-to-date land use data will serve as a major input into the reevaluation of the 1990 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 plan beyond the original 1990 design year. Since the land use changes within the urban areas of the Region affect the land use and transportation 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

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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, including, however, any refinements in land use coding adopted for the 1967 land use update. Certain categories of land use may be further subdivided in order to obtain greater detail and in order to assure greater compatibility with the types of zoning districts recommended for application in regional land use plan implementation in the Commission model zoning ordinance.1

The updating will be accomplished primarily from low altitude, large-scale aerial photography flown in the spring of 1970 and at regular five-year intervals thereafter. Field checks similar to those used in the original land use inventory will be carried out in order 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 machine data processing. Where applicable, recently completed local land use inventories, such as those carried out by the Commission for the Kenosha and Racine Planning Districts, 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 1970 land use distributions for both the county and regional levels will be developed for publication. By combining the land use information compiled during this land use update with 1970 U.S. Census information on population and employment within controlled geographic areas, appropriate measures of changes in land use intensity will be produced. As already mentioned, these elements will be important inputs into any reevaluations to be made on the impacts of new urban growth patterns on the continued validity of the 1990 regional land use and transportation plans; and they will also be important as major reference sources for the proposed extension of the design year of the regional plan.

In addition, the need for more detailed regional land use inventories on a parcel-by-parcel basis will be investigated. Special detailed land use inventories may be required in conjunction with detailed regional and subregional land use planning programs of the Commission, such as the Milwaukee County mass transit technical study, the various jurisdictional highway planning studies, the regional airport planning program, and the Racine Planning District Program. The means for assigning state plane coordinates to any detailed parcel inventories will be considered. Special floor area surveys, trip generator surveys, and a regional housing study may be the initial recipients of any detailed land use coding techniques established during the second continuing land use-transportation study.

Due to the large number of general-purpose units of government, as well as the many special-purpose districts within the Southeastern Wisconsin Region,

See Appendix A, SEWRPC Planning Guide No. 3, Zoning Guide, April 1964.

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 in 1970.

### INVENTORY OF COMMUNITY PLANS AND ZONING

Data collected in the initial regional land use-transportation study efforts on adopted county and local land use plans and zoning ordinances and kept current during the initial continuing study will be updated every five years in the continuing land use-transportation study. Assessments will be made of changes in local development objectives and the compatibility of these changes within adopted regional development objectives and the impacts these changes have on the implementation of the regional land use plans.

The updating of these 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. This 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 inventory will be mapped by community onto the Regional Planning Commission's 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 their influence on the implementation of the regional land use and transportation plans and the impact made upon the regional natural resource base.

## INVENTORY OF EXISTING TRANSPORTATION MOVEMENT AND BEHAVIORAL FACTORS AFFECTING TRAVEL HABITS AND PATTERNS

A complete survey of the daily travel within the Region was carried out as a part of the initial land use-transportation study effort, including volume and vehicle classification counts, determination of points of travel origin and destination, trip lengths, frequencies and purposes, modes used, and reasons for selecting modes used through home interview, postal questionnaire, and roadside interview survey techniques. No major, but a number of highly important minor, origin-destination surveys were conducted under the first continuing regional land use-transportation study. Included in these origin-destination surveys were:

1. On-bus origin-destination surveys of "Freeway Flyer" passengers on each of the Mayfair and Bayshore routes in 1966.

- 2. Roadside origin-destination surveys of recreation travel in Mauthe Lake and Terry Andrae State Parks and in the Root River Parkway in Greendale in 1968.
- 3. Roadside origin-destination surveys of travel generated by General Mitchell Field in 1968.
- 4. On-bus origin-destination surveys of "Freeway Flyer" passengers on each of the Capitol Drive, West Allis, and Hales Corners routes in 1969.

A complete new survey of daily travel is recommended during the second continuing regional land use-transportation study for the following reasons:

- 1. Major improvements in the regional transportation system have taken place since the conduct of the basic travel inventories under the initial regional land use-transportation study. In 1963 there were a total of only 61 miles of freeway open to traffic in the entire Region; and this mileage consisted largely of scattered, disconnected segments, very little of which served the urban areas of the Region. By the end of 1969, there were a total of 152 miles of freeway open to traffic within the Region, almost two and onehalf times the 1963 mileage. Moreover, this freeway mileage had been molded into a relatively well-integrated system of freeways, at least as compared to the disconnected segments of 1963, most of which now serve the urban areas of the Region. Because of this dramatic change in the transportation system, it is vital to measure the effects of this change on such basic travel characteristics as the amount of travel generated, the spatial distribution of that travel, and the length of that travel.
- 2. The establishment of modified rapid transit "Freeway Flyer" service in the Region since 1963 has attracted an entirely different kind of transit ridership. This fact, coupled with massive changes in conventional mass transit service in the Racine and Kenosha areas, requires up-to-date travel information and reexamination of the factors affecting choice of mode.
- 3. Massive changes have occurred since 1963 in the location and densities of residential, commercial, and industrial development within the Region, including the development of three new regional shopping centers, each of which is larger than any existing in 1963; the development of three large new industrial parks in outlying areas of the Region, a renaissance of high-rise office building construction in the central business district of Milwaukee; and the completion of several major urban renewal projects, all of which may have significantly changed travel habits and patterns.
- 4. A complete travel survey conducted during the second continuing study would derive considerable benefit from correlation with the U. S. decennial census data, such as the socioeconomic characteristics
of the resident population and certain of their travel characteristics, including, most importantly, the quantity and spatial distribution of trips to work.

5. The great changes in the physical and operational characteristics of the arterial highway network and the mass transit systems require that new data be provided to evaluate the continued validity of the entire battery of transportation simulation models developed in the initial regional land use-transportation study. The opportunity to test these models using data obtained in the 1970 census and to compare traffic assignment results using the new data with traffic assignments for the staged 1970 regional land use and transportation plans is timely.

It is recommended, therefore, that a total reinventory of travel within the Region be conducted in 1971 employing an overall regional sampling rate of 3 percent of the total households, that annual travel demand surveillance surveys be thereafter initiated, representing an approximately 0.6 percent sampling rate of total regional households, either through selection of a permanent sample or through sampling annually of 20.0 percent of the total samples selected in 1971, with annual adjustments to reflect observed land use changes occurring within each traffic analysis unit. Included in the proposed reinventory of travel, in addition to the origin-destination studies conducted, would be the necessary external cordon interview surveys, traffic volume and vehicle classification counts, and truck and automobile fleetowner surveys. The extension of the travel inventories to a six- or sevenday basis will be considered in order to develop data on weekend travel habits and patterns. A goods movement study will also be considered.

In addition to the total reinventory of travel recommended to be undertaken in 1971, certain other transportation-related inventories may be conducted during the second continuing land use-transportation study. These inventories include on-bus origin-destination surveys over the entire regional mass transit systems; recreational travel surveys; major work-place surveys; and regional shopping center surveys.

# INVENTORY OF ECONOMIC ACTIVITY AND TRENDS

Under the initial work programs of the Commission, including, but not limited to, the initial regional land use-transportation study, an extensive amount of detailed information about the economy of the Region was collected and analyzed. Under the first continuing land use-transportation study, employment estimates were maintained current on an annual basis. Under the second continuing land use-transportation study, the program to prepare annual employment estimates will be continued. These estimates will be prepared by using employment data reported to the Wisconsin Department of Industry, Labor, and Human Relations by firms employing an average of three or more workers covered by unemployment compensation insurance, the data being factored to produce an estimate of total employment. In addition, a major review of national and regional economic activity patterns will be undertaken in order to assess the impact of any changes in such patterns on the economy of southeastern Wisconsin. This review will entail thorough in-depth analyses of all the regionally dominant industries and will include special analyses of the retail, wholesale, and service industries. A report will be issued on the economy of the Region which will trace changes within the economic base and structure since 1963 and which will reexamine the industry group forecasts prepared under earlier Commission work programs and under the initial regional land use-transportation study. Specific attention will also be given to such factors as the size, skills, productivity levels, and employment and unemployment rates of the labor force; on the number, type, and location of jobs; on changing levels of income; and on industrial linkages in the chain of supplies, services, raw materials, processes, and markets.

### INVENTORY OF POPULATION 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's data files of demographic data collected by other agencies, primarily, the U. S. Bureau of the Census; 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 following programs or procedures will be undertaken during the second continuing land use-transportation study:

# a. Completion and Maintenance of a Regional Street Address Coding Guide

Under the initial land use-transportation study, an address coding guide was developed which facilitated the coding of trip-ends to U. S. Public Land Survey one-quarter sections. This initial coding guide was particularly useful within the Milwaukee, Racine, and Kenosha urbanized areas of the Region. Under the first continuing land use-transportation study, in cooperation with the U.S. Department of Commerce, Bureau of the Census, the initial coding guide was refined and detailed to facilitate the coding of data to the block face of any given street address. In addition, additional features were added to the guide, such as the census tract number, the postal zip code number, the municipal ward number, and the congressional district number. Under the second continuing land use-transportation study, it is anticipated that the street address coding guide will be completed for the remaining portions of the Region for which address systems are in effect and that a method will be developed whereby the guide can be systematically maintained current for maximum utility.

### b. Preparation of a Geographic Base File

In order to facilitate retrieval of census data from the files of the U. S. Bureau of the Census, a nationwide effort has been mounted by the Bureau, with the support and encouragement of the U. S. Departments of Housing and Urban Development and Transportation, to develop geographic base files in each metropolitan area. These geographic base files are to be prepared through a process known as the DIME (Dual Independent Map Encoding) process, which entails the assignment of X-Y grid coordinate values to certain geographic features, such as street intersections, streams or railroad crossings of streets, and significant directional changes on curved streets and dead-end streets. It is anticipated that, under the second continuing land use-transportation study, the Commission will work cooperatively with the Bureau to establish the geographic base file within the Region, utilizing the Wisconsin State Plane Coordinate System as the basis for the coordinate assignment.

# c. Preparation of Community Socioeconomic Profiles

Repeated requests for information about various communities within the Region have precipitated the need for community socioeconomic profiles which would record in one document the relevant data about each community which is now contained in various Commission files and reports. Effective plan implementation efforts also require a consistent and readily available up-to-date data base for specific areas within the Region. It is, therefore, proposed to: 1) prepare a data base file and report for each minor civil division within the Region drawing upon existing primary data in the Commission's files and secondary data from such sources as federal census documents, state agency records, and selected community files and to include such information as population size, characteristics, and distribution; birth, death, and migration rates; school enrollment data; employment; assessment value summaries; platting activity; annexations; public financial resource data; land use information; automobile availability; and trip generation; 2) to assist, upon specific request and on a cost-reimbursable basis, in the conduct of annual local school population censuses in order to obtain current school-age population; total population; school enrollment by district; family migration information; and place-of-workplace-of-residence information for workers in each household; and 3) to prepare a socioeconomic data file for each traffic analysis zone within the Region which will include all of the socioeconomic data about the community and school district that can be disaggregated to the smaller zones and aggregated into zones larger than the civil division. The data obtained in the 1970 Federal Census of Population and Housing will be obtained from the Bureau of the Census by means of special requests for use in the preparation of the minor civil division and traffic analysis zone data files and reports indicated above.

The Commission's cooperative efforts with the Bureau of the Census in preparation for the 1970 census provided the Commission with an opportunity to place in the census files a data retrieval code which, when specifically identified to describe the boundaries of traffic zones, can facilitate the tabulation of census data for each traffic zone in the urbanized portion of the Region. Whereas the costs entailed in such special requests are not yet known, the mechanism has been established which will permit such data tabulations.

# d. <u>Preparation of a Detailed Report on the Population of Southeastern</u> Wisconsin

Under earlier Commission work programs, a detailed planning report was prepared which traced historic population growth in the Region; described the current (1960) 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 on an annual basis. It is anticipated that, with the availability of the 1970 census data, the second continuing land use-transportation study will foster the preparation of a second major planning report dealing with the changes which have occurred within the Region since 1960 with regard to population size, characteristics, and distribution and that the forecasts prepared under earlier studies will be reviewed and modified, if warranted.

# INVENTORY OF PUBLIC FINANCIAL RESOURCES

Under the initial land use-transportation study, a complete review of the public revenue and expenditure patterns of the 153 constitutent county and local units of government and of the various school districts within the Region was accomplished. Particular attention was focused on the revenues available and the monies expended for highway purposes in order to make a proper assessment of the financial feasibility of alternative functional transportation plans. Under the first continuing land use-transportation study, the information pertaining to revenues available and monies expended for highway purposes was maintained current on an annual basis in order to make a proper assessment of the financial feasibility of jurisdictional highway plans. Under the second continuing land use-transportation study, it is anticipated that all data initially collected will be brought to a current status through the establishment of a close working relationship with the Bureau of Municipal Audit of the Wisconsin Department of Administration and with the Wisconsin Department of Transportation, which routinely collect such data.

Also under the initial land use-transportation study, 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 first continuing land use-transportation study, an update of these data pertaining to assessed and equalized values of real property was conducted. It is anticipated that these data will be further updated under the second continuing land use study.

### INVENTORY OF PLANNING LEGISLATION

Under the initial land use-transportation study, an inventory was made of the legal framework for planning and plan implementation existing within the Region. The results were presented in SEWRPC Technical Report No. 6, Planning Law in Southeastern Wisconsin. Because of the continual changes occurring in the law through statutory amendments and court decisions, it will be necessary to periodically update these data on the legal framework within which plan preparation, modification, and implementation must be carried out. It is anticipated that the planning law inventory under the second continuing study focus on the specific means by which the various levels of government operating within the Region can refine and preserve the two major types of corridors identified in the adopted land use and transportation plans. These two corridor types--travel and environmental (natural resource)--are essential elements of the adopted plans and, as such, deserve thorough, specific consideration. The proposed inventory and evaluation of means available to preserve these corridors will serve as a guide to the various governments in their implementation efforts.

# INVENTORY OF THE NATURAL RESOURCE 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 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, and prime agricultural lands will be reevaluated during the second 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.

### 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 have been 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 while preparing a base for future retrieval. The greatest drawback to this approach is that it leads to a tremendous 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; and, 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 quarter section. There are, however, many necessary and useful geographic configurations which do not coincide with the quarter-section unit, such as the civil division, the census tract, the school district, traffic analysis zones and districts, and many special-purpose districts. In addition, areas such as the central business districts of cities within the Region require a more refined (smaller) unit for information organizing and analysis purposes. 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 are significantly less expensive than comparable second generation computers; and the resultant reduction in computer costs allowed installation of a computer equipped with magnetic tape drives. In most cases a summary report can 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; that is, data were retrieved from the basic data file on magnetic tape. The conversion of punch card and magnetic tape records to a master-file information system based upon use of an IBM System 360 Model 20 tape-oriented system resulted in the creation of a planning data bank which permits 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 1 million punched cards containing more than 100 million individual items of planning information. A summary list of the major data files is contained in Appendix C of this Study Design.

Much of the data contained in the planning data bank will have to be maintained in a current state under the second continuing regional and land use-transportation study. The sheer magnitude of the data base precludes the installation of a fully automated data filing and retrieval system, at least within the staff and budgetary limits of the study. Efficient and economical data filing and retrieval will, nevertheless, be accomplished through continued refinement of the interactive information system established under the initial study and the first continuing study. The total number of data files will be significantly reduced by merging and consolidating files, as well as by culling obsolete and redundant information. Additional cross indices will be established to facilitate retrieval and to integrate the Dual Independent Map Encoding (DIME) system of the U.S. Bureau of the Census, described above, into the Commission data filing and retrieval system. As new data are collected under the continuing study, they will be incorporated into the existing files, if possible, rather than generating additional files to accommodate the data. Existing data conversion and retrieval "software" will be reevaluated and improved as necessary.

# Plan Data Analyses Areas

As already noted, planning data have been collected and assembled under both the initial and first continuing regional land use-transportation study by U. S. Public Land Survey quarter sections. In addition, specially coded traffic analysis zones and districts were delineated comprising one or more quarter sections; and existing corporate limits lines of the local governmental units were delineated. Both are used as subareas for data presentation within the regional planning concept. Because of the rapidity with which local municipal boundaries can change and the need to keep regional planning data usable and relevant under these rapidly changing local conditions, a study of planning data analyses areas may be undertaken. This study would define rational urban service areas and generally include, but not be limited to, the existing corporate limits, as well as extraterritorial planning jurisdiction boundaries, of the minor civil divisions within the Region. For these plan analyses areas to be compatible with the Regional Planning Commission's data base and methods of retrieval and presentation, delineations will be made to the nearest quartersection line and/or to the nearest traffic analysis zone boundary. The relevance and usability of data presented to local units of government would be increased for use in day-to-day decision-making by the delineation and use of such planning areas.

The traffic analysis zone layout developed during the initial land usetransportation study will be reviewed and revised as required to improve the results of the 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; and, 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 final freeway locations, arterial street changes, and changes in other major physical barriers which 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; that is, the completed 1967 and proposed 1970 land use update. The necessary revisions in the zone and district boundaries will be made once during the second continuing study.

### DATA FORECASTS

Forecasts of possible and 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 continuous monitoring of changing conditions be accomplished in order to determine the continued relevance on the forecasts. It is anticipated that the forecasts prepared under the initial study program will, as a part of the surveillance and reappraisal functions, be monitored and updated as necessary. 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 conventional techniques for regional population forecasting and four separate techniques for economic forecasting, including three conventional techniques and a simulation model technique.<sup>1</sup> 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. This dual approach will be continued, with conventional and simulation model techniques being applied to the monitoring and updating of the population, employment, and land use demand forecasts; conventional techniques being applied to the forecast of public financial resource and automobile and truck availability;

<sup>&</sup>lt;sup>1</sup>See SEWRPC Planning Report No. 7, Volume 2, Forecasts and Alternative Plans--1990, pages 31-41.

and simulation model techniques exclusively being applied to the forecast of travel demand.

### Population

Under the initial land use-transportation study, eight methods of forecasting future population were utilized; and from among their results, a "single best" estimate was selected for plan design purposes.<sup>2</sup> Under the second continuing study, in addition to the monitoring of the forecasts on an annual basis, the availability of more recent birth, death, and migration statistics for both the national and state populations, along with the programmed availability of the 1970 census data, a reevaluation of the forecasts and the underlying methodologies will be undertaken. In addition, the possible extension of the plan design year beyond 1990, as described in Chapter V of this Study Design, would precipitate a reevaluation of the forecasts. Also, because of the continuous need for current, long-range, and reliable small area demographic data, it may be necessary to develop population forecast techniques applicable to areas smaller than the county, such as the minor civil division and the traffic analysis zone, to supplement the small area population forecasts now made primarily through evaluation of regional land use development.

### Employment

Under the initial land use-transportation study, four methods of forecasting future employment levels for the Region were utilized; and from among these, a "single best" estimate was selected for plan design purposes. Under the second continuing study, in addition to the need for the monitoring of the forecasts in light of current knowledge, the need for small area information will require the development of a new employment forecasting technique to meet this need. Moreover, any extension of the plan design year beyond 1990 will necessitate a reevaluation of the forecasts and the underlying methodologies employed.

# Public Financial Resources

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 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, particular efforts will be made to continually evaluate highway expenditure patterns as a measure of progress towards implementation of the staged regional transportation plan and the individual jurisdictional highway system plans.

#### Land Use Demand

Under the initial land use-transportation study, land use demand for the unplanned alternative to the recommended regional land use plan was forecast

<sup>&</sup>lt;sup>2</sup>See SEWRPC Planning Report No. 7, Volume 2, Forecasts and Alternative Plans--1990, Chapter II.

by applying existing (1963) population to land use ratios to forecast future population levels. Under the continuing study, it is anticipated that these forecasts will be monitored and reevaluated in light of more recent inventories, such as the 1968 historic platting study and the 1967 and 1970 land use inventories. It would be desirable to review current development in terms of these land use forecasts, in order to determine whether the trends reflected in the forecasts are continuing or whether the land use development is occurring in accordance with the plan which proposes modifications to these trends.

### Automobiles and Trucks

Automobile and truck availability forecasts prepared under the initial land use-transportation study will continue to be monitored by county and by civil division 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 Vehicle Registration.

### TRAVEL DEMAND FORECAST

Under the initial regional land use-transportation study, forecasts of travel demand were made for the Region through the year 1990. No major modification or refinement of these regional travel demand forecasts will be considered until the update of the travel simulation models, developed under the initial regional land use-transportation study utilizing the origindestination and land use surveys conducted under the initial study, is accomplished. Minor modifications and refinements will continue to be made, as required, to provide current estimates of the future travel demand with respect to certain subareas within the Region, as required for plan refinement and implementation.

### Travel Forecast

Using data provided by the 1970 census and various continuing study inventories, including the land use and economic activity inventories, current estimates will be prepared by zone of the land use and socioeconomic parameters of the trip generation model. The model will then be applied to produce a forecast of current zonal trip productions and attractions. The modal split and trip distribution models will then be applied to these trip productions and attractions to prepare both new transit and new vehicle-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 areawide, basis. These comparisons may indicate a need to recalibrate the travel forecasting models or a need to collect additional travel habit and pattern data in order to provide a more detailed basis for verifying the continued validity of the traffic simulation models. The forecasts of travel demand for 1980 and 1990, prepared under the initial regional land use-transportation study, will be reappraised in light of the comparison of current synthetic estimates of travel and current traffic count data.

#### SIMULATION MODEL APPLICATION

#### The Regional 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. To provide continuing economic forecasts as checks on conventionally prepared forecasts, the model data will be updated in 1970 and a new series of economic forecasts prepared using 1970 as a base year. The data categories that would require updating before new forecasts can be made are:

- 1. Input-output parameters, national and regional, relating the sales and purchases of all the industries in the model.
- 2. Internal resource parameters in each industry, relating material purchases, capital spending, employment, and wages in each industry to the output of that industry.
- 3. Updated history of the exogenous variables of consumer purchases, Federal Government purchases, and gross exports for the years 1964-1970 and forecasts of these same variables for 1980, 1990, and any new plan design year that may be established.

In addition, the rationale and techniques upon which the model was based will be reviewed and any necessary and desirable changes in the structure of the model made. These may involve the regrouping of certain industries and the modification of some equations. The model was originally run on an IBM-7090 computer and will be converted to run on an IBM-360 computer.

### The Regional 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; and the model was run on an IBM-360 computer. The model will be applied under the second continuing study, utilizing new data inputs from the 1970 census as a supplementary and independent means of population forecasting. In addition, the model will be modified to provide population forecasts by race, as well as age and sex.

# The Land Use Simulation Model

A Land Use Simulation 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, residential land development was simulated, based on a planned transportation network and prelocated employment and commercial areas. The model was run on an IBM-7090 computer using the LP-90 linear programming package and will be converted to run on an IBM-360 computer. A set of policies emphasizing the crucial nature of sanitary sewer planning was developed as a result of the simulation test runs.

Under the continuing study program, the simulation model will again be applied as a test of plan effectuation, utilizing new input data on land development costs and development trends. In addition, the rationale and techniques upon which the model was based will be reviewed and any necessary or desirable changes in the structure of the model made.

### Traffic Simulation Models

Under the initial land use-transportation study, a series of traffic simulation models were developed which could be used to simulate trip generation, modal split, trip distribution, and traffic flow within the Region through the year 1990.

### Trip Generation Model<sup>3</sup>

During the first continuing regional land use-transportation study, the regional trip generation model was recalibrated and reviewed for subregional areas in conjunction with work done for the Milwaukee County Mass Transit Technical Planning Study and the jurisdictional highway planning studies. As already noted, further review of the trip generation rates will be accomplished using data provided by the 1970 census and current origin-destination studies. The regional trip generation model will be applied using current measures of the independent parameters provided by the 1970 census and continuing study inventories, including land use, population, and employment.

#### 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 recalibrated for the Milwaukee metropolitan area. The recalibration of the model included restructuring to achieve a greater sensitivity to changes in the service provided by both the highway and transit systems. Home-to-work trip information obtained by mode from the 1970 census will be compared with results of the modal split model to provide a further evaluation of the accuracy of the model.

#### 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. Work-trip information gathered in the 1970 census will be used to check the calibration of the distribution model for the work purpose. Further evaluation of the trip distribution model will be conducted as current travel pattern data become available from origin-destination studies accomplished under the second continuing study.

 $<sup>^3</sup>$ SEWRPC trip generation equations are shown in Tables 1, 2, and 3.

#### Traffic Assignment Model

During the initial continuing study, the inputs to the transit-traffic assignment model were converted to run under the HUD IBM-360 Transit Assignment Package. It is intended that, during the second continuing study, the inputs to the highway traffic assignment model will be converted to run under the BRP IBM-360 Highway Assignment Package. It is further intended that the transit and highway networks will be updated to reflect the current arterial and bus route systems. Results of highway and transit travel time studies and special capacity studies will be used to maintain the assignment models current. As already noted, to check the continued validity of the assignment models, the 1970 vehicular and transit simulated travel demand will be compared to current traffic counts for each of the respective systems.

Minor modifications and refinements will continue to be made on a subarea basis to refine for plan implementation purposes traffic volume forecasts. In addition, a major effort will be made to convert the traffic simulation model and peripheral programs converted to run on an IBM-360 computer, using the U. S. Department of Transportation, Bureau of Public Roads, "Planpac" highway-oriented package of computer programs and the U. S. Department of Housing and Urban Development transit-oriented package of computer programs. It is further envisioned that the capability of running these programs in-house will be developed through the installation of a teleprocessing terminal.

The traffic simulation model will be refined under the second continuing study to permit morning-peak, evening-peak, and off-peak hour traffic assignments to be made for both the highway and transit systems and added to obtain average daily traffic flows. The models will be thoroughly retested in 1970 by assigning traffic demand derived from the 1970 census data to the highway network and comparing the results with traffic volume counts on an individual location, corridor, and screenline basis.

# Table 1

# SEWRPC REGIONAL PERSON TRIP GENERATION EQUATIONS

				Coeffic	cients of	Independent Vari	ables		
						Employment	a	Net Land Area	(Acres)
Dependent Variable	Constant	Total Population	Households	Automobiles Available	Total	Total On Retail and Service Land	Retail On Retail and Service Land	In Residential Use	In Retail and Service Use
Total Person Trip Productions									
Home Based Work	-11.0	0.47	0.62						
Home Based Shopping	6.5		-0.34	1.54				-1.36	
Home Based Other	- 6.4			2.47				-1.78	
All Non-Home Based	5.6	0.24			0.28	0.82			
Total Person Trip Attractions Home Based Work									
Urbanizing Areas	2.6				1.73	~-			
Remainder of Region	1.0				2.22				
Home Based Shopping	- 0.5						7,14		
Home Based Other	2.9		1.43		0.27	0.73			23.48
ALL Non-Home Based	3.9		0.91			0.97		** <b>**</b>	
Fransit Person Trip Attractions									
Home Based Work	455			-0.53	0.42	1.09			
Home Based Shopping	- 248						3.21		
Home Based UtherD	287				0.04	0.16	0.29		- 1.50
ALL NON-HOME Based	124			-0.08		0.28			

<sup>a</sup>The employment variables used in the trip generation equations are intended to represent zonal employment levels on an average weekday and are calculated as a percentage of the total number of existing and forecast jobs available and assumed filled in the zone.

<sup>b</sup>Calculated using data only from zones with more than 100 home-based other transit trip attractions.

Source: SEWRPC.

# Table 2

# MILWAUKEE TRANSIT SERVICE AREA TRIP GENERATION EQUATIONS TRANSIT TRIP EQUATIONS

									the second s
				Co	officients of th	T. J			
				0	Potail & Sorrian	Independent Va	riables		
·					Fmploumont on	Ketail	Total		
				Total	Potoil 6	Lmployment	Employment		
Dependent Variable	Constant	Population	Autos	Employment	Service Land	UN RETAIL &	On Retail &	Residential	2
	**************************************			Daip 10y mente		Service Land	Service Land	Land	Households
Trip Productions CBD & Non CBD									
Home Based Work	- 39,171		-0 529						
Home Based Shop	- 8.011		-0 104	<del></del>		<b></b>			0.981
Home Based Other	3.708		-0.223		**				0.192
	00000		-0.220				-		0.367
CBD Only									
Non Home Based	-51.246			0.089		0.502		~~	
Non CBD Only									
Non Home Based	41.893			0.012	0.148			-0.190	
Trip Attractions CBD									
Home Based Work	-576,217			0 776		1 000			
Home Based Shop	-487.848			0.770		1.092	0.227		
Home Based Other	- 25.692			0 100	dina dan	3.054			
Non Home Based	-115.020			0.190		0.464			~-
				0.075		0.685			
Non CBD									
Home Based Work	- 50,903			0 364					
Home Based Shop	- 66.322	300 000		0.004	tillen 1949	0.000			
Home Based Other	11,601	0.015				0.923			
Non Home Based	- 3.840					0.001	0.243		
					**	0.301			0.020

Source: SEWRPC.

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# Table 3

# MILWAUKEE TRANSIT SERVICE AREA TRIP GENERATION EQUATIONS TOTAL PERSON TRIP EQUATIONS

			Coeff	icients of the In	dependent Variables		
Dependent_Variable .	Constant	Population	Autos	Total Employment	Retail & Service Employment On Retail & Service Land	Retail Employment On Retail & Service Land	Total Employment On Retail & Service Land
Trip Productions CBD & Non CBD							
Home Based Work Home Based Other	-143.019 - 58.711	0.424	0.887				
Home Based Other	114.887		2.193				
CBD Only							
Non Home Based	-109.018			0.660		~~	
Non CBD Only Non Home Based	- 67.353		0.515	0 216	2 405		
Trip Attractions CBD			0.013	0.210	3.406		
Home Based Work	-310.164			2.150			
Home Based Shop	-659.896	40 <b>-</b>				ц 802	
Home Based Other	61.595		**	0.915		4.002	
Non Home Based	93.6			0.5534	v: •.		
Non CBD							
Home Based Work	24.216	-		2 094			
Home Based Shop	- 28.396			2.034			
Home Based Other	517.161		1.212			TO./23	
Non Home Based	85.76	<b>Tes ap</b>	0.584	***	3.538		2.226

Source: SEWRPC.

#### Chapter V

#### PLAN DESIGN, TEST, AND EVALUATION

#### INTRODUCTION

Work with respect to plan design, test, and evaluation will, under the continuing regional land use-transportation study, be directed toward plan implementation and will be concerned primarily with plan refinement and detailing, although increasing attention will be given to plan reevaluation as the second continuing study progresses. The major work effort in this respect will continue to be devoted to the planning studies required for the conversion of the functional highway system plan produced under the initial regional land use-transportation study to a jurisdictional plan and to the planning and engineering studies required to achieve advance reservation of rights-of-way for the freeway, arterial street, highway, and transit facilities recommended in the adopted plans through corridor refinement and official mapping.

# JURISDICTIONAL HIGHWAY PLANS

Because a total street and highway system must serve several important functions and because two of the most important of these functions--traffic movement and land access--are basically conflicting, the total street and highway system of the Region was, under the initial regional land use-transportation study, divided into functional subsystems according to the primary character of service which the individual facilities comprising each subsystem were expected to provide. Three functional groups of facilities were recognized in the necessary functional classification: arterial, collector, and minor (local land access). Only the first of these groups was considered to be of direct concern in areawide planning; and, therefore, the initial land use-transportation planning effort divided the total street and highway system into only two classes: arterial and "all other." The arterial system included freeways, expressways, and certain parkways, as well as standard surface arterial streets and highways, which together comprised an integrated areawide system. Thus, the initial regional land use-transportation planning effort produced a "functional" plan which identified the existing arterial street and highway system, determined its existing and probable future deficiencies, and recommended specific additions and improvements required to serve adequately existing and forecast travel demands.

One of the first, and most essential, tasks in converting the functional plan produced under the initial land use-transportation planning effort to an action program is the conversion of the functional plan to a jurisdictional plan. This requires the assignment of jurisdictional responsibility for the various facilities comprising the total arterial street and highway system, as identified in the plan, to the various levels and units of government concerned. Just as a functional classification of highway facilities is essential to transportation plan preparation, a jurisdictional classification is essential to plan implementation. In addition, the assignment of jurisdictional responsibility for the various portions of the total arterial street and highway system is essential to:

- 1. Promote implementation of the adopted regional transportation plan.
- 2. Provide a sound basis for the efficient multi-jurisdictional management of the total arterial street and highway system and for the attainment of the necessary intergovernmental coordination in that management and thereby to avoid conflicts over, and duplication in, the administration, financing, design, construction, maintenance, and operation of the individual facilities which must comprise the total arterial street and highway system.
- 3. Provide a sound basis for the efficient design and improvement of the total arterial street and highway system by combining into subsystems those facilities which, because of the type and level of service provided, should have similar standards for design, construction, operation, and maintenance.
- 4. Provide a basis for the establishment of a sound, long-range fiscal policy and for the systematic programming of arterial street and highway improvements and thereby to assure the most effective use of the total public resources in the provision of highway transportation, focusing the appropriate resources and capabilities on corresponding areas of need.
- 5. Provide a basis for the more equitable distribution of highway system development costs and revenues among the levels and agencies of government concerned.

The jurisdictional plan thus specifies the governmental level and unit which should have responsibility for acquiring, constructing, maintaining, and operating each of the existing and proposed facilities which comprise the total physical system.

SEWRPC Planning Report No. 7, Volume 3, Recommended Regional Land Use and Transportation Plans--1990, Chapter VII, "Plan Implementation," recommends that the functional plans produced under the initial land use-transportation study effort be converted to jurisdictional plans on a county-by-county basis through a cooperative effort involving the Division of Highways of the Wisconsin Department of Transportation, the county highway committees, the local units of government, and the Regional Planning Commission. Under the first continuing study, a jurisdictional highway planning study was completed for Milwaukee County; 1 and studies were initiated in Ozaukee, Racine, Walworth, and Waukesha Counties. It is proposed to initiate jurisdictional highway planning operations in the remaining two counties -- Kenosha and Washington -under the second continuing regional land use-transportation planning effort.

<sup>1</sup> See SEWRPC Planning Report No. 11, <u>A Jurisdictional Highway System Plan</u> for Milwaukee County, March 1969.

The work will continue to be done on a county-by-county basis under the aegis of the County Highway Committee, and a special Intergovernmental Technical Advisory Committee will be created in each county to assist in the jurisdictional planning operation.

The planning operation itself requires the development of a set of criteria which may be used as a basis for the assignment of jurisdictional responsibility. The criteria deemed most significant to a jurisdictional classification will be related to three basic characteristics of the facilities: trip service, area service, and operational characteristics of the facilities themselves. The plans produced assign jurisdictional responsibility to three levels of government--state, county, and local--and the finished jurisdictional plans recommer for each county, within the context of the adopted state and regional highway plans, a system of state trunk, county trunk, and local trunk highways. The plans, in addition, contain recommendations concerning realignment of the various federal aid systems necessary to implement the adopted functional and jurisdictional plans.

#### CORRIDOR REFINEMENT

The transportation facilities shown on the recommended regional transportation plan represent general locations, either on and along existing rights-of-way or on new locations, within traffic corridors varying from onequarter up to two miles in width. Once the jurisdictional responsibility for a facility has been assumed by the appropriate state, county, or local units of government, it will become necessary to refine these traffic corridor locations within the context of the continuing transportation planning process as a prerequisite to any reservation of the necessary right-of-way for the facilities.

This corridor refinement requires the preparation of precise and definitive plans by the state, county, or local units of government having jurisdictional responsibility, working in close cooperation with the other agencies and local units that have related transportation system and land use development responsibilities. Such plans must ultimately set forth proposals for the precise centerline location and ultimate right-of-way width required for each facility for frontage road treatment and alterations in related existing facilities, for types of access control, and for the types and locations of grade separations and interchanges.

Surveying, mapping, and electronic computing techniques now available make the preparation of such definitive plans along new locations feasible without the need of resorting to expensive and time-consuming field location surveys. Such plans can be developed entirely upon photogrammetrically compiled topographic and cadastral maps when the horizontal control for such maps consists of relocated and monumented U. S. Public Land Survey corners related to the precise and accurate field identification of the proposed facility location, as well as land acquisition, without the need for traditional, time-consuming, and expensive centerline location surveys. The preparation of such definitive plans will do much to allow state and local officials to bring the full weight of plan implementation devices at their disposal to bear upon the reservation and advance acquisition of the necessary right-of-way, as well as to assist county and local planners in making intelligent recommendations on desirable highway-related land use development alternatives.

The adopted regional transportation plan includes recommendations for approximately 291 miles of new freeways, 8.5 miles of new expressways and parkways, 67 miles of improved existing freeways, 192 miles of new standard arterials, and 929 miles of reconstructed standard arterials. The adopted plan also includes recommendations concerning 89 miles of modified rapid transit lines and approximately 4.3 miles of rapid transit line. Staff and budgetary limitations have precluded simultaneous action on all of these recommended major traffic corridors contained in the regional transportation plan. Therefore, the necessary corridor refinement studies have been limited initially to the recommended freeway, expressway and parkway, and rapid transit facilities and have proceeded in a two-stage operation, consisting of preliminary corridor refinement studies followed by precise mapping and exact centerline location studies. The work has been under the joint efforts of the Division of Highways of the Wisconsin Department of Transportation, Milwaukee County Expressway Commission, the seven county highway committees, the local units of government, and the Regional Planning Commission. The Regional Planning Commission has coordinated such work and will, upon request, make all necessary traffic assignments and administer precise mapping contracts. The Division of Highways and the Milwaukee County Expressway Commission have provided the necessary engineering studies needed to determine centerline locations and rightof-way requirements.

During the second continuing study, corridor refinement studies will be continued to be conducted and will follow the two-step process initiated in the first continuing study.

In the first step of the corridor refinement studies, the one-quarter mile to two-mile-wide major transportation corridors shown on the adopted regional transportation plan will be narrowed to a one-quarter mile-wide corridor. In the second step, the necessary topographic and cadastral maps of the refined corridor will be prepared and the centerline location and rightof-way requirements delineated on these maps. The location maps produced by the second stage will provide the basis for advance reservation of right-of-way through official mapping, subdivision control, and zoning. Map 2 shows the status of the 291 miles of freeways proposed in the transportation plan.

## TRANSIT PLAN IMPLEMENTATION

Transit plan implementation efforts under the second continuing regional land use-transportation study will continue to be directed toward the corridor refinement studies necessary to preserve the rights-of-way required for the busway proposed in the adopted regional transportation plan. These efforts require the continued close cooperation between the staff of the Regional Planning Commission and the staffs of the Division of Highways of the



> Wisconsin Department of Transportation and the Milwaukee County Expressway Commission. In addition, engineering and planning services with respect to local transit operations will be provided upon request to local units of government to assure the continuance and improvement of all transit service within the Region. It is anticipated that portions of the corridor refinement studies and local transit service studies will be carried out under special interagency agreements.

#### TRAFFIC ENGINEERING

Under the second continuing regional land use-transportation study, assistance to local units of government will be provided, upon request, for the preparation of traffic operations plans designed to increase the trafficcarrying capacity of arterial street and highway facilities so that, through a systematic application of traffic engineering principles and techniques, a more efficient and safer transportation system might be created. Certain data needed to prepare these traffic operations plans, such as arterial street and highway facility inventory data, traffic count data, and estimates of future traffic volumes, can be made available to the local units of government from the SEWRPC file maintained current under the continuing study. Upon appropriate request, such other transportation planning data as may be useful in the day-to-day work of both public and private agencies within the Region will be provided.

### REGIONAL LAND USE AND TRANSPORTATION PLAN REEVALUATION

The 1970 federal census, coupled with the land use and travel habit reinventories proposed in this Study Design, will provide a sound basis for a comprehensive, in-depth examination of the trends in regional development which may have emerged since the adoption of the regional land use and transportation plans in 1966 and for a comparison of these trends with the regional development plans and the objectives and standards upon which these plans were based, as well as of the policies and programs required for plan implementation. It is proposed that, upon completion of the proposed land use and travel habit reinventories under the second continuing study and upon receipt of the data from the 1970 census, that a major planning report be prepared, setting forth the results of a careful analysis of the findings of the census and the reinventories and the implications of these analyses with respect to the continued validity of the plans. The report would carefully document any major departures from the plan recommendations which may have occurred since their adoption; analyze the implications which such departures might have for the regional development objectives upon which the plans are based, as well as for the plans themselves, and the policies and programs for implementation; and recommend necessary revisions in both the adopted regional land use and transportation plans.

The report would also examine the need to set a new plan design year beyond 1990. In the selection of such a design year, consideration would be given to the concept of an "ultimate" plan for the long-range development of the Region, as well as to the use of specific interim target years. The recommendations with respect to revision of the target years and/or preparation of a plan for the ultimate development of the Region would provide the basis for the preparation of a Study Design for the third continuing regional land use-transportation study, extending from the period 1975 through 1979; and such a design would provide for the preparation of land use and transportation plans for the new target years.

#### SUMMARY

It will be seen from the foregoing that the plan design efforts contemplated under the second continuing regional land use-transportation study will be most closely related to the service and plan implementation function. They will, moreover, provide important feedbacks to the surveillance and reappraisal functions. Major plan revisions for new target years would await analyses of the data provided by the 1970 U. S. Census and reinventories proposed in this Study Design and would be initiated in the 1975 through 1979 planning period.

#### Chapter VI

### SCOPE, TIMING, STAFF, AND EQUIPMENT REQUIREMENTS

#### SCOPE

The scope of the work program recommended to be accomplished under the second continuing land use-transportation study as described herein is summarized in Table 4. The data sources, the level of detail, and the frequency of collection or analysis are noted for each major work element. Careful review of this table will make the comprehensive nature and potential usefulness of the second continuing study more readily apparent. It should be noted that certain work elements of significant importance to a continuing land usetransportation planning function in the Southeastern Wisconsin Region have been included in this five-year Study Design which were not included as a part of the first continuing land use-transportation study. These work elements include: a reinventory of existing transportation movements and behavioral factors affecting travel habits and patterns, reanalyses of the economic base and structure of the Region, and reanalyses of the regional population characteristics in 1970.

### TIMING

Because the proposed planning program is a continuing one, any time schedule must recognize that certain work elements will be accomplished on a recurring annual basis, while others will be accomplished on a project basis involving one major work element during the five-year period extending from January 1, 1970, through December 31, 1974. Work elements of the former type will include the updating of the population inventory, economic inventory, automobile and truck availability, traffic volume count data, and the arterial street and highway and transit network revisions. Work elements of the latter type will include the land use inventory, the natural resources inventory, the public utility inventory, the community plans and zoning inventory, the travel inventories, and the planning law inventory.

### STAFF REQUIREMENTS

The broad scope of the proposed study requires a staff trained and experienced in many different skills and professional disciplines. The organizational structure for the continuing regional land use-transportation study is shown in Figure 3 and reflects primary reliance upon permanent staff for the performance of the necessary work. To accommodate certain variable workloads encountered for the project-type work elements, particularly the land use and special travel pattern studies, as well as to involve more actively certain particularly important plan implementation agencies directly in the continuing land use-transportation study effort, the permanent staff will be augmented by the assignment of personnel from cooperating agencies and by the temporary employment of technical and clerical personnel. Interagency staff assignments will include at least the assignment of planning engineers to the study staff by the U. S. Bureau of Public Roads, the State Department of Transportation, the County of Milwaukee, and the City of Milwaukee.

# Figure 3 SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION EXISTING STAFF AND COMMITTEE STRUCTURE





#### EQUIPMENT

The equipment assembled in the initial land use-transportation study under the terms of the contract governing the initial study has been made available to the continuing study and is deemed fully adequate to meet the needs of this study. In addition to the usual office equipment, a data processing center will be required. The center will be equipped with an IBM System 360 Model 20 computer, including necessary teleprocessing equipment for data transmission with remote IBM-360/65 systems, and necessary support equipment, consisting of the following unit record equipment: three 029 keypunches, three 059 verifiers, and an 082 sorter. Thus equipped, the data processing center should be able to perform all the necessary data reduction and processing operations and all the necessary analyses and forecast computation requirements.

#### COST ESTIMATES

Detailed estimated study costs will be prepared as a part of the annual operations plan for each calendar year of work contemplated to be undertaken within the five-year continuing study period. The estimated costs for the work elements to be undertaken in the calendar year 1970 are set forth in Table 5 and are based upon the scope of work, time schedules, and study organization set forth in this Study Design. The costs were prepared by estimating time and personnel requirements necessary to complete the various subcategories of the work and adding necessary equipment, data processing, administrative, and report costs to obtain total costs. Subsequent annual cost estimates for calendar years 1971, 1972, 1973, and 1974 will be prepared annually utilizing the same format as Table 5.

### COMMITTEE STRUCTURE

The committee structure established under the initial regional land usetransportation study and reorganized under the first continuing study is, with two major changes, proposed to be maintained under the second continuing study as the basis for actively involving the various governmental bodies, technical agencies, and private interest groups operating within the Region in the land usetransportation study effort. The SEWRPC Technical Coordinating and Advisory Committee on Regional Land Use-Transportation Planning will be continued with its present composition for the second continuing study. (See Appendix D for subcommittee structure used for complete Committee membership.) In addition to the foregoing, technical coordinating and advisory committees will be established in each county to coordinate the necessary jurisdictional highway plan preparation work. The SEWRPC Intergovernmental and Public Relations Committee, a standing Committee of the Regional Planning Commission, will function as the Intergovernmental Coordinating Committee on Regional Land Use-Transportation Planning, replacing the Intergovernmental Coordinating Committee provided under the original organizational structure for the initial regional land use-transportation study. (See Appendix D for complete membership.)

# Table 4

# SUMMARY TABLE OF CONTINUING LAND USE-TRANSPORTATION

# STUDY WORK PROGRAM ELEMENTS: 1970-1974

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
1. STUDY DESIGN	Previous Study Designs and Operation Plans and Secondary Sources	Specific Work Elements	Once during each five year period	n/a
2. FORMULATION OF OBJECTIVES, PRINCIPLES, STANDARDS (Monitor)	Planning & Engineering Studies for Plan Imple- mentation Inventory Findings	Region	Annually	Surveillance
3. COLLECTION OF BASIC DATA	(As indicated)	(As indicated)	(As indicated)	Surveillance
3.1 <u>Mapping &amp; Aerial</u> <u>Photography</u>				
3.1.1 General Base Maps (Updated)	Current Aerial Photographs, Public and Private Utility Company Records, Municipal Records, Wisconsin Depart- ment of Transportation, Wis. Dept. of Natural Resources	l:24000 to l:96000 Scale	Annually	Surveillance
3.1.2 Detailed Planning Base Maps (New)	General Base Maps and Pri- mary and Secondary Sources	l:1200 Scale, Two Foot Contour Interval	As prepared for plan implemen- tation	Surveillance

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
3.1.3 Aerial Photography (new)	Contract	1:4800 and 1:24000 Scale	Once during each five year period	Surveillance
3.2 Inventories				
3.2.1. Inventory of Trans- portation Facilities:				
3.2.1.1. Highway Facili- ties and Ser- vice Levels (Update)	Field Survey, Municipal Records, Wisconsin Depart- ment of Transportation	Standard Ar- terials, Park- ways, Express- ways, and Free- ways	Annually	Surveillance
3.2.1.2 Transit Facili- ties and Service Levels (Update)	Private Transit Company Records	All Transit lines with one hour service frequency	Annually	Surveillance
3.2.1.3 Transportation Terminal Facili- ties (Update)	Municipal & Private Company Records & Field Survey	At each Facility	Once during each five year period	Surveillance
3.2.1.4 Automobiles and Trucks	Vehicle Registration	Civil Division	Annually	Surveillance
3.2.2 Inventory of Exist- ing Transportation Movement and Be- havioral Factors Affecting Travel Habits and Patterns (New)	Home Interview for Selected Sample of Total Regional Households, External Cordon Surveys, Screen Line Sur- veys, Traffic Counts, and Other Field Surveys.	Region	Once during each five year period	Surveillance

57

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
3.2.3 Inventory of Existing Land Use (Update)	Current Aerial Photographs, Field Survey, Local Commu- nities.	Two Digit Land Use Classifica- tion. U.S.Public Land Survey Quar- ter Section.	Once during each five year period.	Surveillance
3.2.4 Inventory of Commu- nity Plans & Zoning (Update)	Local Community Plans & Zoning Documents, & Personal Interview.	Seven Major Zon- ning Categories.	Once during each five year period.	Surveillance
3.2.5 Demographic & Economic Inventories:				
3.2.5.1 Regional Popula- tion Factors (New)	U.S. Census Bureau and SEWRPC Published Reports	Minor Civil Divisions, Re- gional, & U.S.	Once during each five year period.	Surveillance
3.2.5.2 Current Popula- tion Factors (New)	U.S. Census Bureau, State Department of Health & Social Services, Milwaukee Journal Consumer Analysis, Annual Public School Cen- suses, Local Community Estimates, Building Per- mit Records, Public & Private Utility Company Records.	Minor Civil Divisions & Region	Annually	Surveillance

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
3.2.5.3 Regional Economic Factors (New)	State Dept. of Industry, Labor, & Human Relations; State Dept. of Revenue, State Dept. of Health & Social Services; Milwau- kee Journal Consumer Analysis Survey; Wis. Economic Indicators; Misc. National Publications such as Survey of Cur- rent Business, the Cen- suses of Business & Manufacturers, and County Business Patterns; and SEWRPC Published Reports.	Minor Civil Divisions, Re- gion, and U.S.	Once during each five year period.	Surveillance
3.2.5.4 Current Employ- ment Estimates (Update)	State Dept. of Industry, Labor, & Human Relations; State Dept. of Revenue; State Dept. of Health & Social Services; Milwau- kee Journal Consumer Analy- sis Survey; Wis. Economic Indicators, Misc. National Publications such as Sur- vey of Current Business, the Census of Business & Manufacturers, & Co. Business Patterns.	Minor Civil Divisions & Re- gion.	Annually	Surveillance

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
<b>3.2.6 Inventory of Public</b> Fin <b>an</b> cial Resources (Update)	State Dept. of Revenue; State Dept. of Transpor- tation; State Dept. of Administration; Local Municipalities.	Minor Civil Divi- sion & Region.	Annually	Surveillance
3.2.7 Inventory of Planning Legislation (Update)	Court Decisions, Statutory Amendments	Municipal, Re- gion, State & United States,	Once during each five year period.	Surveillance
3.2.8 Inventory of the Natural Resource & Public Utility Base (Update)	State Public Service Commis- sion, Local Communities, Private Utility Co. Records, State Dept. of Natural Resources, Field Survey.	Resource Site & Environs, Service Area, Minor Civil Division, County and Region.	Once during each five year period.	Surveillance
4. ANALYSIS AND FORECAST	(As indicated)	(As indicated)	(As indicated)	Reappraisal
4.1 <u>Data Conversion, Filing</u> , <u>and Retrieval</u>	SEWRPC Data Files	Origin & Des- tination Data by Trip High- way Network Links, Transit Networks Links on Disk, Tape, and Cards, Cen- sus Block, U.S. Public Land Sur- vey Quarter Sec- tion.	day-to-day	Reappraisal

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
4.2 Data Analysis				
4.2.1 Demographic (Monitor)	Inventory Findings	U.S.Public Land Survey Quarter Section, Traffic Analysis Zone, Minor Civil Divi- sion, Region	Once during the five year period.	Reappraisal
4.2.2 Economic (M <b>oni</b> tor)	Inventory Findings	Small Geogra- phic Area where Practicable, Minor Civil Division & Re- gion	Once during the five year period.	Reappraisal.
4.2.3 Public Financial Resources (Monitor)	Inventory Findings	Small Geogra- phic Area where Practicable, Minor Civil Division & Re- gion.	Once during the five year period	Reappraisal
4.2.4 Land Use Demand (Monitor)	Inventory Findings	County, Region	Once during the five year period.	Reappraisal
4.2.5 Automobiles & Trucks (Monitor)	State Dept. of Transpor- tation	Minor Civil Division, County, Region	Once during the five year period	Reappraisal

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
4.2.6 Travel Demand (Monitor)	Inventory Findings, State Dept. of Transportation, Special Studies.	Selected Sub- regional Areas, Regional Bounda- ries, and Region	Once during each five year period.	Reappraisal
4.3 Forecasts				
4.3.1 Population (Monitor)	Inventory Findings	Traffic Analy- sis Zone, Minor Civil Division, Region, U. S. Public Land Sur- vey Quarter Sec- tion.	Once during each five year period.	Reappraisal
4.3.2 Employment (Monitor)	Inventory Findings	Small Geogra- phic Area where Practicable, Minor Civil Division & Re- gion.	Once during each five year period.	Reappraisal
4.3.3 Public Financial Resources (Monitor)	Inventory Findings	Small Geogra- phic Area where Practicable, Minor Civil Division & Re- gion.	Once during each five year period.	Reappraisal
4.3.4 Land Use Demand (Monitor)	Inventory Findings	County, Region	Once during each five year period.	Reappraisal

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION	
4.3.5 Automobiles & Trucks (Monitor)	State Dept. of Transporta- tion	Minor Civil Division, County Region	Once during each five year period	Reappraisal	
4.3.6 Travel Demand (Monitor)	Inventory Findings, State Dept. of Transportation, Special Studies	Selected Sub- regional Areas, Regional Boun- daries & Region	Once during each five year period	Reappraisal	
4.4 Model Application					
4.4.1 Demographic Model (Monitor)	Inventory Findings	Region	Once during each five year period	Reappraisal	
4.4.2 Regional Economic Simulation Model (Monitor)	Inventory Findings Special Studies	Region	Once during each five year period	Reappraisal	
4.4.3 Land Use Simulation Model (Monitor)	Inventory Findings	Region	Once during each five year period	Reappraisal	
4.4.4 Traffic Model (Monitor)	Inventory Findings	Region	Once during each five year period	Reappraisal	
5. PLAN DESIGN					
5.1 Regional Land Use and Transportation Plan Reevaluation (New)	Inventory Findings and Analysis, Adopted Func- tional Transportation Plan, and Special Studies	Minor Civil Division, Counties, and Region.	Once during each five year period	Reappraisal	63

WORK ELEMENT	DATA SOURCES	LEVEL OF DETAIL	FREQUENCY	PRIMARY PLANNING OPERATION FUNCTION
6. PLAN TEST AND EVALUATION	Plan Reevaluation & Redesign	Minor Civil Divi- sion, County, & Region	Once during each five year period	Reappraisal
7. PLAN SELECTION AND ADOPTION	Plan Test and Evaluation, Results, & Public Hearings	Region	Once during each five year period	Reappraisal
8. PLAN IMPLEMENTATION	(As indicated)	(As indicated)	(As indicated)	Imp <b>lem</b> en- tation
8.1 <u>Extension of Planning</u> and Engineering Data	All SEWRPC Data and Study Findings	Highway Net- work Links to Region	As requested	Implemen- tation
8.2 Transit Plan Implemen- tation (New)	Inventory Findings & Analy- sis, and Adopted Functional Transportation Plan & Social Studies	Service Areas, Minor Civil Divisions & Counties	Once during each period or as re- quested.	Implemen- tation
8.3 <u>Jurisdictional Highway</u> <u>Plans (New)</u>	Inventory Findings & Analy- sis, and Adopted Functional Transportation Plan	County	As requested	Implemen- tation
8.4 <u>Traffic Corridor</u> <u>Refinement (New)</u>	Inventory Findings & Analy- sis, Adopted Functional Transportation Plan, and Special Studies	Traffic Corridor	As requested	Implemen- tation

# Table 5

# CONTINUING REGIONAL LAND USE-TRANSPORTATION STUDY COST ESTIMATES

# FOR CALENDAR YEAR 1970

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	STUDY FUNDING			
	SOURCE OF FUNDS			
WORK ELEMENT	USDHUD1/	SHCW-USBPR <sup>2</sup> / LOCAL		TOTAL
1. STUDY DESIGN				<b>en n</b>
2. FORMULATION OF OBJECTIVES, PRINCIPLES, AND STANDARDS	\$ 243	\$ 330	\$ 162	\$ 735
3. COLLECTION OF BASIC DATA				
3.1 Mapping & Aerial Photography				
3.1.1 General Base Maps	1,650	2,250	1,100	5,000
3.1.2 Detailed Planning Base Maps				
3.1.3 Aerial Photography	12,540	17,100	8,360	38,000
(Subtotal - 3.1 Mapping & Aerial Photography)	(\$14,190)	(\$19,350)	(\$ 9,460)	(\$43,000)
3.2 <u>Inventories</u>				
3.2.1 Inventory of Transportation Facilities:				
3.2.1.1 Highway Facilities and Service Levels	2,310	3,150	1,540	7,000

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S10787Rev. KWB/ea 8/17/70

Table 5 (Continued)

		FUNDING		
	SC	URCE OF FUNDS		
WORK ELEMENT	USDHUD1/	SHCW-USBPR2/	LOCAL	TOTAL
3.2.1.2 Transit Facilities and Service Levels	\$ 990	\$ 1,350	\$ 660	\$ 3,000
$3.2.1.3 (n/a)^{3/}$				
3.2.1.4 Automobiles and Trucks	50	68	33	151
3.2.2 Inventory of Existing Transportation Movement and Behavioral Factors Affecting Travel Habits & Patterns	940	1,282	627	2,849
3.2.3 Inventory of Existing Land Use	7,260	9,900	4,840	22,000
3.2.4 (n/a)				
3.2.5 Demographic & Economic Inventories:				
3.2.5.1 Regional Population Factors	3,267	4,455	2,178	9,900
3.2.5.2 Current Population Estimates	363	495	242	1,100
3.2.5.3 Regional Economic Factors	1,848	2,520	1,232	5,600
3.2.5.4 Current Employment Estimates	528	720	352	1,600
3.2.6 Inventory of Public Financial Resources	_ 264	360	176	800

# S1078/Rev. KWB/ea 8/17/70

Table 5 (Continued)

		Y FUNDING		
	sc	URCE OF FUND	S	
WORK ELEMENT	USDHUD1/	SHCW-USBPR	2/ LOCAL	TOTAL
(Subtotal - 3.2 Inventories)	(\$ 17,8 <b>2</b> 0)	(\$ 24,300)	(\$ 11,880)	(\$ 54,000)
3.2.7 & 3.2.8 (n/a)				
(Subtotal - 3. Collection of Basic Data)	(\$ 32,010)	(\$ 43,650)	(\$ 21,340)	(\$ 97,000)
<ul> <li>4. ANALYSES AND FORECASTS</li> <li>4.1 <u>Data Conversion</u>, Filing, and Retrieval</li> </ul>	41,250	56,250	27,500	125,000
4.2 <u>Data Analysis</u> 4.2.1 Demographic	1,485	2,025	990	4,500
4.2.2 Economic	1,650	2,250	1,100	5,000
4.2.3 (n/a)				
4.2.4 Land Use Demand	2,640	3,600	1,760	8,000
4.2.5 Automobiles and Trucks	165	225	110	500
4.2.6 Travel Demand	825	1,125	550	2,500

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	S	OURCE OF FUNE	)S	
WORK ELEMENT	USDHUD1/	SHCW-USBPR	2/ LOCAL	TOTAL
(Subtotal - 4.2 Data Analyses)	(\$ 6,765)	(\$ 9,225)	(\$ 4,510)	(\$ 20,500)
4.3 (n/a)				
4.4 Model Application				
4.4.1, 4.4.2, & 4.4.3 (n/a)				
4.4.4 Traffic Model	2,805	3,825	1,870	8,500
(Subtotal - 4.4 Model Application)	(\$ 2,805)	(\$ 3,825)	(\$ 1,870)	(\$ 8,500)
(Subtotal - 4. Analyses and Forecasts)	(\$50,820)	(\$69,300)	(\$33,880)	(\$154,000)
5., 6., & 7. (n/a)				
8. PLAN IMPLEMENTATION				
8.1 Extension of Planning & Engineering Data	\$14,850	\$20,250	\$ 9,900	\$ 45,000
8.2 Transit Plan Implementation	ll,880	16,200	7,920	36,000
8.3 Jurisdictional Highway Plans	7,755	10,575	5,170	23,500
8.4 Traffic Corridor Refinement	1,815	2,475	1,210	5,500

		Y FUNDING	Π	
	SC	URCE OF FUND	<u>s</u>	
WORK ELEMENT	USDHUD1/	SHCW-USBPR	TOTAL	
(Subtotal - 8. Plan Implementation)	(\$ 36,300)	(\$ 49,500)	(\$ 24,200)	(\$110,000)
9. ADMINISTRATIVE COSTS AND OFFICE AND EQUIPMENT EXPENSES				
9.1 Administrative Costs	14,091	19,215	9,394	42,700
9.2 Office and Equipment Expenses				
9.2.1 Rent 9.2.2 Office, Drafting & Data Processing	8,910	12,150	5,940	27 ,000
Supplies 9.2.3 Reproduction 9.2.4 Telephone 9.2.5 Postage 9.2.6 Travel 9.2.7 Publication	2,475 1,980 1,584 495 1,584 1,650	3,375 2,700 2,160 675 2,160 2,250	1,650 1,320 1,056 330 1,056 1,100	7,500 6,000 4,800 1,500 4,800 5,000
(Subtotal - 9.2 Office & Equipment Expenses)	(\$ 18,678)	(\$ 25,470)	(\$ 12,452)	(\$ 56,600)
(Subtotal - 9. Administrative Costs and Office and Equipment Expenses	(\$ 32,769)	(\$ 44,685)	(\$ 21,846)	(\$ 99,300)

# Table 5 (Continued)

	STUDY FUNDING	
	SOURCE OF FUNDS	
WORK ELEMENT	USDHUD <sup>1/</sup> SHCW-USBPR <sup>2</sup> / LOCAL TOTAL	
GROSS TOTAL PROJECT COSTS	\$152,142 \$207,465 \$101,428 \$461,035	
Anticipated Miscellaneous Revenues	19,305 26,324 12,871 58,500	
NET PROJECTS COSTS	132,837 181,141 88,557 402,535	
Percent of Total	33.00 45.00 22.00 100.00	

# 1/

U. S. Department of Housing and Urban Development.

2/ State Highway Commission of Wisconsin-U. S. Bureau of Public Roads.

### 3/

Work element not scheduled in calendar year 1970.

#### Chapter VII

#### SUMMARY

The 1962 Federal Aid Highway Act requires that, in order to be eligible for continued federal aid for new highway construction, all urbanized areas in the United States must have underway a continuing, comprehensive, areawide transportation planning process carried on cooperatively by the state and local communities. Following the completion in December of 1966 of an initial regional land use-transportation study, which produced a land use plan and a transportation plan for southeastern Wisconsin, the necessary continuing land use-transportation planning program was founded within the seven-county Region by written memoranda of understanding executed in the spring and summer of 1965 between the State Department of Transportation, Division of Highways; the Southeastern Wisconsin Regional Planning Commission; and the governing bodies of the counties, cities, villages, and towns directly affected by the planning requirements of the 1962 Federal Aid Highway Act.

A Prospectus for a continuing regional land use-transportation study was subsequently published by the Regional Planning Commission in August of 1967. This Prospectus recommended the establishment of a continuing transportation planning effort in southeastern Wisconsin that would meet the requirements of the 1962 Federal Aid Highway Act. The study, mounted pursuant to the Prospectus, became known as the first continuing regional land use-transportation study and was approved for the 42-month period extending from July 1966 through December 1969. Following approval of this Prospectus by all the units and agencies of government concerned, a Study Design for the continuing regional land use-transportation study was prepared. This Study Design outlined the major work elements to be undertaken under that first continuing study. The first continuing land use-transportation planning effort in southeastern Wisconsin was conducted in accordance with that Study Design through December 31, 1969, with the work progress, findings, and recommendations being published annually in the Annual Reports of the Commission.

In December of 1969, a cooperative agreement for the second continuing regional land use-transportation study in southeastern Wisconsin was negotiated by the agencies concerned, in which it was agreed that the continuing study would be conducted in accordance with two basic documents: the first consisting of a general plan setting forth the background for, and framework within which the continuing areawide land use-transportation planning effort was to be conducted, including information on the objectives of the study; the organization for the study; the functions of the study; and the general scope, content, and timing of all recurring inventories, analyses, and forecasts and plan design and implementation efforts. This Study Design constitutes that document. The second type of document was to consist of an annual operations plan which, within the framework of the general plan for the continuing work program, as set forth in this Study Design, is to set forth specifically the work elements to be conducted in each individual calendar year, a description of the specific work elements to be accomplished during the calendar year, the staff and budgetary requirements for the calendar year,

and the allocation of the total study costs between participating agencies. The annual operations plan is to be prepared each year and is subject to review and approval by the State Division of Highways and the U.S. Bureau of Public Roads.

#### OBJECTIVES OF THE CONTINUING STUDY

The continuing regional land use-transportation study, as established in southeastern Wisconsin, has six specific objectives:

- To meet the planning requirements of the 1962 Federal Aid Highway Act and the 1964 Federal Urban Mass Transportation Act, 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 Section 204 of the Federal Demonstration Cities and Metropolitan Development Act and U. S. Bureau of the Budget Circular Memorandum A-95, issued pursuant to the Federal Intergovernmental Cooperation Act.
- 2. To continuously update 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 periodically update 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 watershed development, sewerage and water supply, airport, park, library, and community shelter plan elements.
- 5. To periodically evaluate alternatives to the adopted plans as significant changes in community values and conditions are identified.
- 6. Finally, and perhaps most importantly, to convert the plans prepared under the initial study effort 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 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 state and federal agencies involved, using the evolving, documented, long-range regional plans as a basis for such coordination. 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.

### FUNCTIONS

To meet the foregoing objectives, the continuing regional land usetransportation study must perform five basic functions:

- 1. Surveillance, under which regional development is carefully monitored and analyzed in relation to the adopted land use and transportation plans; the forecasts and basic assumptions underlying these plans; and the techniques used in the preparation and evaluation of those plans, including the various mathematical simulation models.
- 2. Reappraisal, under which the continued validity and effectiveness of the regional land use and transportation plans, in light of the surveillance findings, are evaluated.
- 3. Service and plan implementation, in which the regional land use and transportation plans are converted into action programs and the plans and the data and forecasts underlying the plans extended to sponsoring agencies and constituent local units of government as a basis for day-to-day decision-making.
- 4. Procedural development, in which new techniques are developed and older techniques refined in order to make the continuing land usetransportation study process more efficient and effective.
- 5. Documentation, or the issuance of an Annual Report presenting the findings and recommendations of the continuing land usetransportation planning process.

S1078/Rev. KWB/bg 8/17/70

APPENDICES

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#### Appendix A

## TYPICAL RESOLUTION ENACTED BY LOCAL UNITS OF GOVERNMENT CONCERNED PROVIDING FOR THE ESTABLISHMENT OF A CONTINUING LAND USE TRANSPORTATION PLANNING PROCESS IN THE SOUTHEASTERN WISCONSIN REGION

#### RESOLUTION

WHEREAS, the (Common Council) (Village Board) (Town Board) (County Board) of the (City) (Village) (Town) (County) of \_\_\_\_\_\_, Wisconsin, is aware of the comprehensive transportation planning requirements of the 1962 Federal-Aid Highway Act of 1962, hereinafter referred to as the Act, which provide that:

"It is declared to be in the national interest to encourage and promote the development of transportation systems embracing various modes of transport in a manner that will serve the States and local communities efficiently and effectively. To accomplish this objective the Secretary shall cooperate with the States, as authorized in this title, in the development of long-range highway plans and programs which are properly coordinated with plans for improvements in other affected forms of transportation and which are formulated with due consideration to their probable effect on the future development of urban areas of more than fifty thousand population. After July 1, 1965, the Secretary shall not approve under Section 105 of this title any program for projects in any urban area of more than fifty thousand population unless he finds that such projects are based on a continuing comprehensive transportation planning process carried on cooperatively by States and local communities in conformance with the objectives stated in this section."

#### and

WHEREAS, the Secretary of the United States Department of Commerce, referred to above, through the Bureau of Public Roads has interpreted "cooperatively" to mean the establishment of a formal procedure - supported by a written memorandum of understanding - between the State and the governing bodies of the local communities within the "Urbanized Area" for carrying out the transportation planning process on a continuing basis in a manner that will insure that the planning decisions are reflective of and responsive to both the programs of the State and the needs and desires of the local communities, and

WHEREAS, the State will be expected to show by suitable evidence that concerted efforts have been made to carry out the intent of the Act with respect to cooperative action by all Urbanized Area political subdivisions, and WHEREAS, it is of mutual benefit to the municipalities within the Urbanized Area and the State, and also in the public interest to comply with the requirements of the 1962 Federal-Aid Highway Act, and

WHEREAS, the transportation planning process is concerned with all facilities used for the movement of persons and goods (including terminal facilities and traffic control systems) and is based on:

Collection, analysis, and interpretation of pertinent data concerning existing conditions and historic trends, such data relating specifically to the following enumerated elements: (1) economic factors affecting development, (2) population, (3) land use, (4) transportation facilities including those for mass transportation, (5) travel patterns, (6) terminal and transfer facilities, (7) traffic control features, (8) zoning ordinances, (9) financial resources, and (10) social and community value factors such as preservation of open space, historical sites and buildings, parks, and recreational facilities, and environmental amenities and aesthetics.

Establishment of community goals and objectives.

Preparation of forecasts of future area land development and travel patterns.

Selection from alternatives, adoption, implementation, and continuing evaluation, refinement, and updating of land use and transportation and public facility plans, and

WHEREAS, the Southeastern Wisconsin Regional Planning Commission has been created under Section 66.945 of the Wisconsin Statutes to provide advisory areawide planning services in a region consisting of the counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha, and to prepare and maintain a comprehensive plan for that region, and

WHEREAS, the (City) (Village) (Town) (County) of is within \_\_\_\_\_\_ County and is represented on the Southeastern Wisconsin Regional Planning Commission by duly appointed Commissioners from said County, and

WHEREAS, the Southeastern Wisconsin Regional Planning Commission is by formal agreement with and financial assistance of the State Highway Commission of Wisconsin engaged in a Regional Land Use-Transportation Study intended to produce a comprehensive transportation plan for the region which includes the (City) (Village) (Town) (County) of \_\_\_\_\_\_, and

WHEREAS, the <u>(City) (Village) (Town) (County)</u> of recognizes the Southeastern Wisconsin Regional Land Use-Transportation Study as outlined in the Study Prospectus dated April 1962 and in the contract relating to said study between the State Highway Commission of Wisconsin and the Southeastern Wisconsin Regional Planning Commission dated December 12, 1962, as being reflective of its needs and desires in the continuing, cooperative, comprehensive transportation planning process required by the 1962 Federal-Aid Highway Act,

NOW THEREFORE, BE IT RESOLVED, that in conformance with the requirements and objectives of the 1962 Federal-Aid Highway Act, the <u>(City) (Village)</u> (Town) (County) of \_\_\_\_\_\_\_\_\_agrees to cooperate with the State Highway Commission of Wisconsin, through the Regional Land Use-Transportation Study of the Southeastern Wisconsin Regional Planning Commission in the preparation of a comprehensive transportation plan and in the continuing planning process for the <u>(Milwaukee) (Racine) (Kenosha)</u> urbanized area and the Southeastern Wisconsin Region.

BE IT FURTHER RESOLVED, that to develop and maintain a meaningful and attainable transportation planning process in conformance with the provisions and objectives stated above, the <u>(City) (Village) (Town) (County)</u> of \_\_\_\_\_\_\_\_\_, with the State Highway Commission of Wisconsin, will evidence cooperation by mutual utilization of the organizational structure and working arrangements established for the Regional Land Use-Transportation Study of the Southeastern Wisconsin Regional Planning Commission as a means of continuing coordination of state and local transportation plans on a regional basis.

Passed and Adopted this \_\_\_\_\_day of \_\_\_\_\_, 1965

Approved this \_\_\_\_\_ day of \_\_\_\_\_, 1965

Attest:\_\_\_\_\_

# UNITS OF GOVERNMENT BY RESOLUTION PLEDGING AGREEMENT AND COOPERATION WITH THE STATE HIGHWAY COMMISSION OF WISCONSIN THROUGH THE CONTINUING PLANNING PROCESS OF THE SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

Unit of Government	Date of Adoption
Kenosha County	August 17, 1965
City of Kenosha	June 21, 1965
Town of Somers	June 14, 1965
lown of Pleasant Prairie	August 23, 1965
Milwaukee County	June 16, 1965
City of Cudahy City of Franklin City of Glendale City of Greenfield City of Milwaukee City of Oak Creek City of South Milwaukee City of St. Francis City of Wauwatosa City of West Allis	June 15, 1965 June 2, 1965 June 1, 1965 June 2, 1965 July 13, 1965 June 15, 1965 June 15, 1965 July 20, 1965 June 15, 1965 June 15, 1965
Village of Bayside Village of Brown Deer Village of Fox Point Village of Greendale Village of Hales Corners Village of River Hills Village of Shorewood Village of Whitefish Bay	June 3, 1965 June 7, 1965 June 22, 1965 June 1, 1965 June 14, 1965 June 25, 1965 June 7, 1965 June 7, 1965
Racine County	July 27, 1965
City of Racine	July 6, 1965
Village of Elmwood Park Village of North Bay	June 10, 1965 June 14, 1965
Town of Caledonia Town of Mt. Pleasant	June 14, 1965 June 25, 1965

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# S1078/Rev. KWB/bg 8/17/70

Unit of Government	Date of Adoption
Ozaukee County	June 28, 1965
City of Cedarburg City of Mequon	June 24, 1965 August 3, 1965
Village of Thiensville	July 8, 1965
Waukesha County	June 22, 1965
City of Brookfield City of Muskego City of New Berlin City of Waukesha	September 7, 1965 July 27, 1965 June 22, 1965 June 15, 1965
Village of Butler Village of Elm Grove Village of Lannon Village of Menomonee Falls	June 15, 1965 August 9, 1965 June 14, 1965 July 19, 1965
Town of Waukesha	July 9, 1965

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#### Appendix B

#### COOPERATIVE AGREEMENT FOR A CONTINUING REGIONAL LAND USE AND TRANSPORTATION STUDY IN SOUTHEASTERN WISCONSIN

This Cooperative Agreement entered into this day of December 1969 by and between the State Department of Transportation, Division of Highways (herein called the Division of Highways) and the Southeastern Wisconsin Regional Planning Commission (herein called the Planning Commission).

#### WITNESSETH:

WHEREAS, the Planning Commission desires to fulfill its statutory function and duty of preparing, adopting, maintaining and promulgating a master plan for the physical development of the southeastern region of Wisconsin, consisting of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties; and,

WHEREAS, such a plan shall show, among other things, the Planning Commission's recommendations for an integrated transportation network within the Region; and,

WHEREAS, such a regional transportation network must form an integral part of the state and national transportation network; and,

WHEREAS, a plan for an integrated transportation network within the Region has been prepared by the Planning Commission under a cooperative agreement with the State Highway Commission of Wisconsin, the predecessor agency of the Division of Highways; and

WHEREAS, great changes in population density and land development have taken place in the Region and are expected to continue to take place; and,

WHEREAS, these changes in population density and land development have been accompanied by significant shifts in the relative roles and importance of highway, rail, water, and air transport; by the construction of many new transport and terminal facilities and major traffic generators; and by comparable shifts in transportation demands; and

WHEREAS, a great and continuing need exists to define and quantify these changing transportation demands so that a practical and workable integrated transportation system for the Region can be planned, designed, financed, and constructed; and,

WHEREAS, such activities integrated into an areawide land use-transportation study on a continuing basis are a prerequisite to the use of federal highway aids in the region, and WHEREAS, this contract relating to such a continuing regional land usetransportation study has received approval of the U. S. Department of Transportation, Federal Highway Administration, Bureau of Public Roads; and,

WHEREAS, a separate contract is annually drawn between the Planning Commission and the U. S. Department of Housing and Urban Development, providing for the use of federal planning assistance funds in partial support of the continuing regional land use-transportation study in accordance with Section 701 of the Federal Housing Act of 1954, as amended, all in coordination with the provisions of this contract; and,

WHEREAS, separate agreements have been executed pursuant to the planning requirements of the 1962 Federal Aid Highway Act, as amended, between the State Highway Commission of Wisconsin and 42 of the 43 affected local units of government within the urbanized areas of the Region designating the Planning Commission as the vehicle through which the required continuing, cooperative, comprehensive, areawide transportation planning effort in southeastern Wisconsin should be carried out;

NOW, THEREFORE, in consideration of these premises and of their mutual and dependent needs, promises, and agreements, the parties hereto contract and agree as follows:

(1) Scope of Work. The Planning Commission hereby agrees to perform and carry out in a satisfactory and proper manner a continuing, cooperative, comprehensive, areawide transportation planning program for the southeastern Wisconsin Region. This program will be conducted in accordance with two types of documents that are hereby made a part of this agreement. These two types of documents and the Regional Planning Commission Annual Reports are together intended to meet the requirements of Bureau of Public Roads Instructional Memorandum 50-4-68, as amended. The first type of document shall consist of a plan for a continuing work program which sets forth the background for, and framework within which, the continuing areawide transportation planning effort in southeastern Wisconsin is to be conducted, including the objectives of the study, the organization for the study, the functions of the study, and the general scope, content, and timing of all recurring inventories, analyses, and forecasts, and plan design and implementation efforts. This document shall be entitled "Study Design for the Continuing Land Use-Transportation Study" and shall cover a five-year period beginning in a federal census year.

The second type of document shall consist of an annual operations plan, which, within the framework of the plan for a continuing work program, will specifically set forth the work elements to be conducted in individual calendar years. The annual operations plan shall be prepared each year in time to permit review of the proposed plan by the Division of Highways and the Bureau of Public Roads prior to the beginning of the calendar year which the plan is intended to govern. The annual operations plan sets forth, in addition to a description of the specific work elements to be accomplished during the calendar year, the staff and budgetary requirements for the calendar year and the allocation of the total study costs between the participating agencies.

It is understood that the foregoing work will be performed by the staff of the Planning Commission and/or consultants to be retained by the Planning Commission, and will be closely coordinated with the long-range planning efforts of the Division of Highways and the local units of government within the Region. It is understood that this planning program is intended to refine and maintain current and to promote implementation of a workable plan to guide the staged development of transportation facilities to serve the evolving region and will therefore develop and maintain current data on: the overall potential demand for transportation between the various points within the Region and outside the Region based upon alternative arrangements of spatial activity; the relative demand for alternative means of transportation; the major determinants of these demands; future patterns of economic activity, population distribution, and land use based upon long-term impacts of alternative transportation system arrangements; costs and benefits of alternative generalized systems and specific improvements; and programs for the best utilization of existing transportation facilities and for the construction of new transportation facilities within the Region as may be dictated by the developing needs and available financial resources.

The Division of Highways hereby reserves the right to review and advise upon basic study methods, procedures, and analytical techniques to be applied in carrying out the work. The progress of the work shall be subject to review and inspection by the Division of Highways and the Bureau of Public Roads at such time as either may desire.

The Planning Commission will upon request furnish the Division of Highways, for its use, with copies of data, data analysis and synthesis, studies, reports, surveys, proposals, plans, codes and regulations, maps, charts, schedules, photographs, exhibits, and other materials prepared or developed under the provisions of this agreement subject only to a charge for reproduction or special processing costs.

- (2) Area. The Planning Commission shall perform all of the necessary services provided under this agreement for the entire jurisdictional area of the Planning Commission being that Region comprising the Counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha.
- (3) <u>Material To Be Furnished to the Planning Commission</u>. All information, data, reports, records, and maps which are existing,

available, and necessary for the carrying out of the work outlined above shall be furnished to the Planning Commission by the Division of Highways subject only to a charge for reproduction or special processing costs; and the Division of Highways shall cooperate fully with the Planning Commission in carrying out this agreement.

- (4) Personnel.
  - (a) The Planning Commission represents that it has or will secure as part of the project cost all personnel and consultant services required to perform the services under this contract. Any consultant services so employed shall be in accordance with the provisions of existing State and Federal regulations. There shall be no discrimination against any employee who is employed in the performance of the services to be performed under the agreement or against any applicant for such employment because of sex, race, religion, color, or national origin. Such personnel exclusive of consultants shall not be employees of, or have any contractual relationship with, the Wisconsin Department of Transportation except that certain personnel of the Wisconsin Department of Transportation may, by mutual agreement by and between the Wisconsin Department of Transportation and the Planning Commission, be assigned to the planning program as service agreement personnel. The salary and expenses of such personnel while assigned to the planning program may be charged to the program costs but be paid by the Division of Highways, with such payments being credited against the Division of Highways share of the study costs. The Planning Commission may upon mutual agreement by and between the Division of Highways and the Planning Commission employ the Division of Highways or other public agencies in a consultant capacity to accomplish any specific item of authorized work in the program.
  - (b) All of the services required hereunder shall be performed by the Planning Commission or under the supervision of its personnel, and all personnel engaged in the work shall be fully qualified. The Division of Highways and the Bureau of Public Roads reserve the right to review the qualifications of all personnel, staff, or consultants to be employed in accomplishing the work and to reject any individual or consultant deemed not fully qualified.
  - (c) The responsible fiscal agent of the Planning Commission, together with key staff members, shall be bonded in the amount of \$100,000.00.

- (5) Coordinating Committees. The Planning Commission agrees to establish the various committees described in the "Study Design for the Continuing Land Use-Transportation Study" and to convene and maintain records for them. The Wisconsin Department of Transportation shall continue to have representation on the Intergovernmental Coordinating Committee, and the Wisconsin Department of Transportation and Bureau of Public Roads shall continue to have representation on the Technical Coordinating and Advisory Committee as outlined in the Study Design.
- (6) <u>Time of Performance</u>. The time of performance of the work to be undertaken under the provisions of this contract are to be determined by the Study Design and the annual operations plans.
- (7) Financing. Funds necessary for the performance of this study program shall be provided jointly by the Division of Highways, the Bureau of Public Roads, the U. S. Department of Housing and Urban Development, and the Southeastern Wisconsin Regional Planning Commission in accordance with the annual operations plans and with this and related agreements between the Planning Commission and the other contributing agencies. It is agreed that any funds made available for this study from any other source shall be applied to lower the total cost of the study to the aforementioned agencies but shall not affect the percentage participation of the agencies as outlined under Item (8).
- (8) Total Cost and Cost Sharing. The total cost of the continuing study for calendar year 1970 is estimated to be \$461,035.00, of which anticipated service charges and other miscellaneous revenues are estimated to contribute \$58,500.00 for net estimated project cost of \$402,535.00. The Division of Highways and the Bureau of Public Roads together shall provide 45.00 percent of the net project cost, estimated as \$181,141.00 and representing 85 percent of the estimated cost of those portions of the project considered to be principally of a transportation and highway planning nature; the U. S. Department of Housing and Urban Development, 33.00 percent, estimated as \$132,837.00, and representing twothirds of the estimated cost of those portions of the project considered to be principally of a general community planning nature; and the Planning Commission itself, 22.00 percent, estimated as \$88,557.00. The foregoing cost allocation among the various units and levels of government is an estimate based upon an equitable cost distribution of the major transportation and general community planning work elements between the U.S. Department of Housing and Urban Development Section 701 Planning Grant Program and the Bureau of Public Roads Highway Planning Survey Fund Program.

The total cost of the continuing study for each succeeding calendar year and the proportion of this total cost to be borne by the Division of Highways, the Planning Commission, and any other contributing agencies shall be mutually agreed upon at such time as each annual operations plan is prepared. Upon approval of the annual operations plan by the Planning Commission and the Division of Highways, such plan shall be deemed to constitute an extension of amendment to this contract with respect to the study costs and cost sharing arrangements.

- (9) Method of Payment.
  - (a) It is agreed that in accordance with this and related agreements between the Planning Commission and all other contributing agencies, all costs during the progress of the study will be shared by the various units and agencies of government involved on the basis of the predetermined percentages of the total estimated cost as these are set forth in this agreement and in all subsequent annual operations plans approved pursuant to the provisions of this contract, and that, therefore, the Division of Highways will pay on behalf of the Bureau of Public Roads and itself their predetermined share of the total actual annual costs, estimated for calendar year 1970 as 45.00 percent, regardless of individual work element costs.
  - (b) It is further agreed, however, that upon completion of this phase of the continuing planning program, and after payment, provision for payment, or reimbursement of all program costs is made, the final cost of the project to each contributing agency shall be determined from the actual cost of the major work elements.
  - (c) It is agreed that the Division of Highways and Bureau of Public Roads' share of the study costs will be made available to the Planning Commission in the amount of and upon the receipt of adequately detailed monthly expenditure reports and requisitions submitted to the Division of Highways for reimbursement of its pro-rata share on a work progress basis. The Division of Highways and Bureau of Public Roads' total annual contribution, however, shall not exceed the amount agreed upon for any calendar year in the annual operations plan for that year, without the specific written permission of the Division of Highways. Said monthly reports shall be in such detail as required for the Division of Highways to requisition the Federal share from the Bureau of Public Roads.
  - (d) It is agreed that if necessary the Division of Highways may advance funds to carry out the work in accordance with the time schedule and that any such advance in any calendar year will be deducted from the Division of Highways allocated share due in the next following calendar year. Advances for any calendar year shall be the subject of a supplemental

agreement between the Division of Highways and the Planning Commission.

(e) It is agreed that the Planning Commission shall establish for the program a separate account to which all funds provided for, accruing to, or otherwise received from the federal, state, and local units of government or any other quasipublic or private source under the provisions of this contract shall be deposited, which account shall be hereafter collectively referred to as the "Continuing Transportation Study Program Account."

The Planning Commission shall charge to the Continuing Transportation Study Program Account all eligible costs of the program; and all costs, including paid services and expenses contributed by the Planning Commission and the Division of Highways shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers evidencing in proper detail the nature and propriety of the charges. All checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining to the program shall be clearly identified and readily accessible. The Division of Highways and the Bureau of Public Roads shall have authority to review or audit all such records and the "Continuing Transportation Study Program Account."

(f) It is the intent and purpose of this contract that the program expenditures and costs shall be confined to those necessary to directly carry out the program, including charges for administrative services, office space, office equipment and supplies, office utilities, transportation, and communications; and no part of the program account shall be used by the Planning Commission for expenditures or charges that are (1) contrary to the provisions of this agreement, (2) not directly for the carrying out of the program, and (3) incurred without the consent of the Division of Highways after written notice of the suspension or termination of any or all of the Division of Highways obligations under the provisions of this contract. Salaries, wages, and expenses of officers and employees of the Planning Commission, other than Commissioners, and employees of the Division of Highways who have been assigned specifically for the purpose of directing or participating in the program and who devote part of their official time directly to the program under specific assignments and respecting whom adequate records of the time devoted to the services performed for the program are maintained may be considered as proper costs of the program to the extent of the time and expenses thus devoted and recorded, if they are otherwise in accordance with the provisions hereof.

- (g) All non-expendable equipment purchased in whole or in part under the initial regional transportation study effort shall continue to be used for the continuing study effort under this agreement without further charges to any of the parties concerned. Upon termination of this or, if applicable, a succeeding agreement, title to such non-expendable equipment and any such equipment purchased in whole or in part as a charge to this agreement shall be vested with the contributing agencies in proportion to their actual cost contribution to the purchase of the equipment. By mutual agreement any contributing agency may acquire clear title to such equipment by reimbursing the other agencies for their pro-rata share of the then current value of the equipment, which value shall be established by agreement between the contributing agencies, including the Bureau of Public Roads. Failure to obtain such mutual agreement shall constitute cause to dispose of the equipment and credit each contributing agency on the basis of their prorata share of the total cost of the terminated study. Expendable equipment and materials shall be disposed of in similar manner.
- (h) The Planning Commission shall carry out the program and shall incur obligations against and make disbursements of Continuing Transportation Study Program Account funds only in conformity with the latest annual budget for the program. The annual budget may be revised from time to time, and any such revisions which may affect the total overall cost of the study shall be submitted to the Division of Highways for review and approval. A new annual budget will be prepared each year as a part of the annual operations plan.
- (10) Insurance. The Planning Commission shall maintain valuable document insurance covering the value of study materials, and the cost of this item shall be chargeable to the total project cost.
- (11) Termination of Agreement for Cause. If, through any cause, the Planning Commission shall fail to fulfill in timely and proper manner its obligations under this agreement, or if the Planning Commission shall violate any of the covenants, agreements, or stipulations of this agreement, the Division of Highways shall thereupon have the right to terminate this agreement by giving written notice to the Planning Commission of such termination and specifying the effective date thereof at least sixty days before the effective date of such termination. In such event, copies of all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports pertaining to the study shall, at the option of the Division of Highways, become its property; and the Planning Commission

shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents.

- (12) Changes. The Division of Highways or the Planning Commission may, from time to time, request changes in the scope of the services to be performed hereunder. Such changes, including any increase or decrease in the amount of the Division of Highways cost which are mutually agreed upon by and between the Division of Highways and the Planning Commission, shall be incorporated in written amendments to this contract.
- (13) Identification of Documents. All reports, maps, and other documents completed as a part of this agreement, other than documents prepared exclusively for internal use within the Planning Commission shall carry the following notation on the same page (or in the case of maps, in the same block) containing the name of the Planning Commission:

The preparation of this (report, map, document, etc.) was financed in part through a joint planning grant from the Wisconsin Department of Transportation, Division of Highways, the U. S. Department of Transportation, Bureau of Public Roads, and the U. S. Department of Housing and Urban Development, under the provisions of the Federal Aid Highway Legislation and Section 701 of the Housing Act of 1954, as amended.

- (14) Progress Reports. Immediately after the close of each calendar month a report on the progress of the work shall be submitted to the Division of Highways, a copy of which will then be transmitted to the Bureau of Public Roads.
- (15) Copyright. No reports, maps, or other documents produced in whole or in part under this contract shall be the subject of an application for copyright by or on behalf of the Planning Commission.
- (16) Plans and Reports. Reports suitable for publication may be prepared by the Planning Commission on study methods, findings, and proposals. No reports, maps, or other documents produced in whole or in part under this contract shall be published under this contract without the review and approval of the Division of Highways and the Bureau of Public Roads. However, where agreement cannot be reached on all elements of such documents, each party shall have the right to publish independently, in which event non-concurrence of the other party shall be set forth in the applicable publication if requested.

(17) Release of Information Prior to Publication of Report. Neither party shall release information developed under this contract prior to publication of approved pertinent reports except upon written approval of the other party.

IN WITNESS WHEREOF the Division of Highways and the Planning Commission have executed this AGREEMENT as of the date first above written.

ΒY

Attesting Witness

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

Deputy Secretary

Chairman

Date

Attesting Witness

WISCONSIN DEPARTMENT OF TRANSPORTATION. DIVISION OF HIGHWAYS

ΒY

Secretary, Highway Commission

Chairman, Highway Commission Date

# Appendix C

# List of Major

# Southeastern Wisconsin Regional Planning Commission

# Data Files

Card No.	Description	Program/ Project	Year Collected	Primary/ Secondary Source	Year Updated	Detail List Unit
001	Person and Household Characteristics Data for Urbanizing Areas - Home Interview.	P-23	1963	P		НН
00P	Person and Household Characteristics; for Outlying Areas - Postal Questionnaire.	P-23	1963	P		НН
002	Person Trip Data for Urbanizing Areas - Home Interview.	P-23	1963	Р		Pers. Trip
007	Person Trip Data for Outlying Areas - Postal Questionnaire.	P-23	1963	Р		Pers. Trip
003	Vehicle Trip Data for Trips Entering and Leaving the Region - Roadside Interview.	P-23	1963	Р		Veh. Trip
004	Truck and Taxi Characteristic and Trip Data for Urbanizing Areas - Operator Interview.	P-23	1963	Р		Veh. Trip
800	Truck and Taxi Characteristic and Trip Data for Outlying Areas - Postal Questionnaire.	P-23	1963	P		Veh. Trip
005	Household History Data for Urbanizing Areas - Personal Interview.	P-23	1963	P		НН
006	Personal Opinion Survey Data for Urbanizing and Outlying Areas - Postal Questionnaire.	P-23	1963	Р		Person
245	Vehicle Data for Trips Entering and Leaving West Bend - Roadside Interview.	P-23	1963	S		Veh. Trip

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# S1078/Rev. KWB/ea

Data Files (Continued)

Card No.	Description	Program/ Project	Year Collected	Primary/ Secondary Source	Year Up <b>da</b> ted	Detail List Unit
065	Person and Vehicle Data for Trips Entering and Leaving General Mitchell Airport - Roadside Interview	P-70	1968	Р		Pers. Trip
224	Freeway Flyer Person Trip Data For Mayfair Line - Personal Interview.	P-23	1964	Р	1967	Pers. Trip
010	Freeway Flyer Person Trip Data for Mayfair and Bayshore Lines - Personal Interview.	P-70	1967	Р		Pers. Trip
012	Freeway Flyer Person Trip Data for Treasure Island Capitol Drive, Treasure Island West Allis, and Hales Corners Lines - Personal Interview.	P-70	1969	Р		Pers. Trip
488	Person Trip Data for Urbanizing and Outlying Areas - Forecast for Years 1970, 1980, and 1990.	P-23	Forecast	Р		Pers. Trip
495	Vehicle Trip Data for Trips Entering and Leaving the Region - Forecast for Years 1970, 1980, and 1990.	P-23	Forecast	Р		Veh. Trip
521	Truck Trip Data for Urbanizing and Outlying Areas - Forecast for Years 1970, 1980, and 1990.	P-23	Forecast	Р	± =	Veh. Trip
336	Auto and Truck Availability Data for 1963.	P-23	1963	ΡεS	Annually	Veh.
489	Auto and Truck Availability Data - Forecast for Years 1970, 1980, and 1990	P-23	Forecast	Р		Veh.
319	Arterial Highway Network Inventory Data for 1963.	P-23	1963	P&S	Annually	Link
320	Transit Network Inventory Data for 1963.	P-23	1963	S	Annually	Link
154	Vehicle Classification Inventory Data for 1963.	P-23	1963	Р		Veh.
155	Traffic Count Inventory Data for 1963.	P-23	1963	PES	[riennial	Link
160	Arterial Highway Network Description Data for Years 1970, 1980, and 1990 And Transit Network Description Data.	P-23	Forecast	P	Annually	Link

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S1078/Rev. KWB/ea <u>8/17/70</u>

Data Files (Continued)

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Card No.	Description	Program/ Project	Year Collected	Primary/ Secondary Scource	Year Updated	Detail List Unit
535	Arterial Highway Network Construction Cost Data for 1990.	P-23	1965	Р		Link
496	Arterial Highway Traffic Assignment Volume Data for Years 1970, 1980, and 1990.	P-23	Forecast	P		Link
035	Person and Vehicle Data for Trips Entering and Leaving Mauthe Lake State Park and Terry Andrae State Park - Roadside Interview.	P-70	1968	Р	-	Pers. Trip
036	Person and Vehicle Data for Trips on the Root River Parkway between W. Grange Avenue and S. 76th Street - Roadside Inter- view.	P-70	1968	Р		Pers. Trip
015	Land Use Inventory Update	P-70	1968	P	1968	1/4 Sec.
018	Detailed Land Use Milwaukee River Watershed (Outside Region)	P-70	1968	Р		1/4 Sec.
020	1963 Detail Land Use Inventory	P-23	1963	Ρες	1967	1/4 Sec.
021	Potential Park & Open Space Inventory	P-23	1964	Р	1968	1/4 Sec.
029	Public & Private Recreation Area Inventory	P-70	1967	S		Civ. Div.
168	Inventory of Existing Recreation Areas for Region	P-23	1964	S	1968	1/4 Sec.
169	Inventory of Existing Historic Sites for Region.	P-23	1964	S		1/4 Sec.
181	City of Milwaukee Detail Land Use Inventory.	P-23	1964	S		1/4 Sec.
190	City of Milwaukee, Racine & Kenosha, CBD Land Use Block Totals	P-23	1963	S		1/4 Sec
203	1963 Land Use Summary by County, Town Range, by Land Use	P-23	1968	P		Th Range
207	1963 Land Use Summary by Traffic District & Zone	P-23	1964	P		Dist 7ono
258	1963 Land Use Population Analysis by Zone	P-23	1964	P		7ono
333	1963 Urban Developed Land by Quarter Section	P-23	1964	P		1/4 Sec.

S1078/Rev. KWB/ea

Data Files (Continued)

Card No.	Description	Program/ Project	Year Collected	Primary/ Secondary Source	Year Updated	Detail List Unit
470	Plan A - Existing & Planned Land Uses (Controlled Existing Trend Plan 1990)	P-23	. 1962/66	Ρες		1/4 Sec.
4 <b>7</b> 6	Plan A - Land Use Summary By Zone	P-23	1965/66	P&S		1/4 Sec.
504	Plan B - Existing & Planned Land Uses (Corridor Plan 1990)	P-23	1965/66	P&S		1/4 Sec.
507	Plan B - Land Use Summary by Zone	P-23	1965/66	P&S		Zone
514	Plan C - Existing & Planned Land Uses (Satellite City Plan 1990)	P-23	1964/66	Ρες		1/4 Sec.
517	Plan C - Land Use Summary By Zone	P-23	1964/66	P&S		Zone
544	Plan D - Existing & Forecast Land Uses (Uncontrolled Sprawl 1990)	P-23	1966	Ρες		1/4 Sec.
547	Plan D - Land Use Summary by Zone	P-23	1966	Ρξς		Zone
<b>7</b> 04	Plan E - Existing & Planned Land Uses (Recommended Regional Land Use Plan 1990)	P <b>-2</b> 3	1966	S		1/4 Sec.
707	Plan E - Land Use Summary By Zone	P-23	1966	S		Zone
714	Plan F - Existing & Planned Land Uses (Recommended Regional Land Use Plan 1980)	P-23	1966	S		1/4 Sec.
717	Plan F - Land Use Summary by Zone	P-23	1966	S		Zone
724	Plan G - Existing & Planned Land Uses (Recommended Regional Land Use Plan 1970)	P-23	1966	S		1/4 Sec.
727	Plan G - Land Use Summary by Zone	P-23	1966	S		1/4 Sec.
730	Plan E - Environmental Corridor Lands (1990 Recommended Plan)	P-23	1966	S		1/4 Sec.
733	Plan E - Neighborhood Delineations of 1990 Recommended Plan.	P-23	1966	P		1/4 Sec.
821	Mass Transit Study Land Use & Structure Condition Inventory	MT52	1969	P	1. ••••	1/4 Sec.

693

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S1078/Rev. KWB/ea

Data Files (Continued)

Card No.	Description	Program/ Project	Year Collected	Primary/ Secondary Source	Year Updated	Detail List Unit
E019	1967 Detailed Land Use Inventory	P-70	1967/68	P		1/4 Sec.
1458	1963-67 Existing Land Use Data	P <b>-7</b> 0	1967/68	Ρξς		1/4 Sec.
023	Quarter Section Closure & Area	P <b>-7</b> 0	1968	Р	1969	1/4 Sec. Corner
0 <b>7</b> 0	Land Use Design Model Input	PD-1	1963/67	P&S	1969	1/4 Sec.
213	Regional Economic Model Data Catalog	P-23	1963/64	Ρες		SIC Group
433	Land Use Simulation Model	P-23	1963/64	Ρες		Major Use
485	Soils Data for Land Use Models	P-23	1963/65	Р		Soils Type
361	Regional Water Quality Study Input	P-23	1963	Р	Annual	Sampling Station
388	Water Use Analysis by Watershed by Station by Parameter	P-23	1965	Р		Sampling Station
432	Water Quality Analysis by Watershed, by Station, by Parameter	P-23	1966	Р		Sampling Station
022	Kenosha Planning District Land Use Inventory	P-42	1966	Р		Parcel
032	Inventory of Local Planning Agencies	P <b>-7</b> 0	1967	S		Cil. Div.
289	Commun. Plans & Zoning - Total Area Figures	P-23	1964	S	1967	1/4 Sec.
<b>3</b> 85	Existing School and School Site Inventory	P-23	1965	S	1968	Tn Range
013	Historic Platting Inventory	P-70	1968	Р		1/4 Sec.
132	Industrial Survey Summary	P-23	1964	P		Company
143	Wisconsin Industrial Comm. Employment Data	P-23/ P-70	1964	Ρ.	1969	Company

S1078/Rev. KWB/ea

Data Files (Continued)

Card No.	Description	Program/ Project	Year	Primary/ Secondary	Year	Detail List Unit
152	Land Use Assessment - Full Value	P-23/ P-70	1964	s	1969	Civil Div.
156	Personal Property Value, Land-Use	P-23/ P-70	1964	S	1969	Civil Div.
250	Financial Resources Tax Structure	P-23	1964	S	1968	Civil Div.
267	Intercensal Population Estimate for Cities, Towns, and Villages in Each County	P-23	1964	Р	Annually	Civil Div.
270	Number of households by Family Size Group	P-23	1964	Р		Traffic Zone
275	Financial Resources Receipts and Disbursements	P-23	1964	S	1968	County
31 <b>7</b>	Economic Data from Survey of Current Business	P-23	1964	S		SIC Code
370	Current & Projected Population Figures	P-23	1965	Р		Traffic Zone
523	Population Forecasts by Age & Sex for Southeastern Wisconsin Region	P-23	1966	Р		County
E100	Census Coding Guide	P-90	1968	Р	19 <b>7</b> 0	1/4 Sec.
106	1963 Address Coding Guide	P-23	1963	S	1969	1/4 Sec.
040	1970 Census Coding Guide	P-116	1969	S		Block Face

Appendix D

#### COMMITTEE MEMBERSHIP LISTS

Intergovernmental and Public Relations Committee of the Southeastern Wisconsin Regional Planning Commission

Eugene Hollister, Chairman Chairman, Walworth County Park and Planning Commission; Chairman, Walworth County Board	
of Supervisors; Commissioner, SEWRPC.	
Ray r. Blank, Vice-Chairman Member, Ozaukee County Board of Supervisors	,
Commissioner, SEWRPC.	
Seorge C. Berteau Commissioner and Chairman, SEWRPC.	
Jacob Kammerzelt Member, Kenosha County Board of Supervisors	,
Commissioner, SEWRPC.	
Theodore F. Matt Member, Waukesha County Park and Planning	
Commission; Member, Town of Oconomowoc	
Plan Commission; Member, Maukesha County	
Board of Supervisors; Commissioner, SEWRPC.	
Richard C. Nowakowski Member, Milwaukee County Board of Super-	
visors; Commissioner, SEWRPC.	
Joseph A. Schmitz Member, Washington County Board of Super-	
visors; Member, Village of Germantown Plan	
Commission; Commissioner, SEWRPC.	
Sarth R. Seehawer Member, Racine County Board of Supervisors:	
Commissioner, SEWRPC.	

Technical Coordinating and Advisory Committee on Regional Land Use-Transportation Planning

The Technical Coordinating and Advisory Committee on Regional Land Use-Transportation Planning is divided into several functional subcommittees. Members of the Committee often serve on more than one subcommittee. The following key identifies the various functional subcommittees: 1) Land Use Subcommittee; 2) Highway Subcommittee; 3) Socio-Economic Subcommittee; 4) Natural and Recreation-Related Resources Subcommittee; 5) Transit Subcommittee; 6) Utilities Subcommittee; 7) Traffic Studies, Models, and Operations Subcommittee.

Stanley H	E. Altenbern (5)	•	٠	•	٠	•	•	•	President, Wisconsin Coach Lines, Inc., Waukesha
Jack M. H	Bennett (1,4)	•			¢				City Engineer, City of Franklin
Richard H	Brandt (1)	•	•		•	•	٠	•	Manager, Markets and Sales Program,
Robert W.	Brannan (2,5).	•	•	•	٠	•	•	٠	Wisconsin Gas Company, Milwaukee Transportation Director, Milwaukee County Expressively and Transportation Commission
Robert R.	Brown (5)	•	•	•	•	٠	•	٠	General Superintendent, The Milwaukee Road, Milwaukee
Martin E.	Bruening (5,7)					8			Traffic Engineer. City of Milwaukee
Thomas A.	Campbell (1,2)	•				•			City Planner, City of West Allis

Arthur W. Carlson (1,2,7). . . . . . Chief, Airports Branch Planning Section, Federal Aviation Administration, U. S. Department of Transportation, Minneapolis Thomas R. Clark (2,5,7). . . . . . . Urban Planning Supervisor, District 2, Division of Highways, Wisconsin Department of Transportation Arnold L. Clement (1,2). . . . . . . Planning Director and Zoning Administrator, Racine County Vencil F. Demshar (2). . . . . . . . County Highway Commissioner, Waukesha County Russell A. Dimick (2). . . . . . . . City Engineer, City of Cedarburg Arthur Doll (1,4). . . . . . . . . Bureau of Outdoor Recreation Planning, Wisconsin Department of Natural Resources, Madison John L. Doyne (1,5). . . . . . . . . . County Executive, Milwaukee County Michael Drozd (4). . . . . . . . . . County Agricultural Agent, Ozaukee County H. W. Ellefson (5) . . . . . . . . . . . Superintendent, The SooLine Railroad, Stevens Point Gerald M. Elliott (1,3). . . . . . Director of Business Research, Wisconsin Telephone Company, Milwaukee Thomas G. Frangos (1,4,6). . . . . . Administrator, Division of Environment Protection, Wisconsin Department of Natural Resources, Madison John M. Fredrickson (1,2,3,4). . . . . Village Manager, Village of River Hills Kenneth E. Fry (3,5) . . . . . . . Deputy Commissioner, Department of City Development, City of Milwaukee Arne L. Gausmann (1,2,5,7) . . . . . Director, Bureau of System Planning, Wisconsin Department of Transportation, Madison Norman N. Gill (1,3) . . . . . . . . Executive Director, Citizens Governmental Research Bureau, Milwaukee Herbert A. Goetsch (2,4,6) . . . . . Commissioner of Public Works, City of Milwaukee Howard W. Gregg (2,4). . . . . . . . General Manager, Milwaukee County Park Commission Douglas F. Haist (1,2,3,4,5,7) . . . Director, Bureau of Policy Planning, Wisconsin Department of Transportation, Madison R. William Harms (1). . . . . . . Meteorologist in Charge, U. S. Department of Commerce, Milwaukee Roger A. Harris (1,2,6). . . . . . Director of Public Works, City of Cudaby Sebastian J. Helfer (3). . . . . . Director, Campus Planning and Construction, Marquette University, Milwaukee Bill R. Hippenmeyer (1,2,3,5). . . . Director of Planning, City of Oak Creek Lester Hoganson (2,6). . . . . . . . City Engineer, City of Racine Donald K. Holland (2,6). . . . . . Director of Public Works, City of Kenosha Karl B. Holzwarth (2,4). . . . . . . Parks Director, Racine County Maurice J. Hovland (4) . . . . . . . County Agricultural Agent, Washington County Stanley Ihlenfeldt (1,4) . . . . . . County Agri-Business Agent, Walworth County Paul G. Jaeger (1,2,4) . . . . . . . County Agricultural Agent, Kenosha County Paul Johnson (1,4) . . . . . . . . . . Area Conservationist, U. S. Soil Conservation Service, Waukesha Cyril Kabat (1,4). . . . . . . . . . Assistant Director, Bureau of Research, Division of Services, Wisconsin Department of Natural Resources, Madison

Al J. Karetski (1,2) . . . . . . . Director, Bureau of Local and Regional Planning, Wisconsin Department of Local Affairs and Development, Madison Lawrence S. Katz (1,3) . . . . . . Director, Federal Housing Administration, Milwaukee Maurice L. Kimbrough (2,7) . . . . . City Engineer, City of West Allis Robert Kolstad (1,2,4) . . . . . . . City Planner, City of Kenosha Thomas A. Kroehn (4,6) . . . . . . . Regional Director, Division of Environmental Protection, Wisconsin Department of Natural Resources, Milwaukee Francis D. Kuckuck (2,6) . . . . . . City Engineer, City of Wauwatosa Wilmer Lean (2,7). . . . . . . . . . County Highway Commissioner, Walworth County Ray D. Leary (3,6) . . . . . . . . . . . . Chief Engineer and General Manager, Milwaukee Metropolitan Sewerage Commissions Elwin G. Leet (1,3,4). . . . . . . . . County Agricultural Agent, Racine County Department of Commerce, Milwaukee William L. Marvin (2,7). . . . . . Director, Traffic Engineering Department, American Automobile Association, Madison Henry M. Mayer (5) . . . . . . . . Operations Manager, Milwaukee and Suburban Transport Corporation, Milwaukee Elam E. McElroy (3). . . . . . . Manager, Economic Research Division, Metropolitan Milwaukee Association of Commerce George Mead (3). . . . . . . . . . . . Marketing Research Manager, The Milwaukee Journal Robert J. Mikula (4) . . . . . . . . County Landscape Architect, Milwaukee County Park Commission Melvin Noth (2,6). . . . . . . . . Director of Public Works, Village of Menomonee Falls Robert H. Paddock (2,5,7). . . . . . Division Engineer, Bureau of Public Roads, U. S. Department of Transportation, Madison John B. Prince (6) . . . . . . . . Electrical Systems Engineer, Wisconsin Electric Power Company, Milwaukee Carl H. Quast (1,2). . . . . . . . . . . . Planning Director, Department of City Development, City of Milwaukee Richard Repert (3) . . . . . . . . . Associate for United Community Services Planning, United Community Services of Greater Milwaukee Albert P. Rettler (2,7). . . . . . . County Highway Commissioner, Washington County Donald Roensch (1,6) . . . . . . Director of Public Works, City of Mequon William D. Rogan (1,4) . . . . . . . County Agri-Business Agent, Waukesha County Gordon Rozmus (1,3). . . . . . . . . Associate Planner, City of Wauwatosa Milton W. Schaefer (1,6) . . . . . . City Engineer, City of West Bend Dr. Eric Schenker (5,7). . . . . . . Professor, Department of Economics, University of Wisconsin-Milwaukee James Schrader (1,3,4,6) . . . . . . Office of the Administrator, U. S. Department of Housing and Urban Development, Chicago Donald H. Schwenk (2). . . . . . . . . City Manager, Central Greyhound Lines, Milwaukee John A. Seefeldt (2,3) . . . . . . . Municipal Port Director, City of Milwaukee Harvey Shebesta (2,5,7). . . . . . . District Engineer, District 9, Division of Highways, Wisconsin Department of Transportation

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