

EVALUATION OF THE MILWAUKEE AREA RIDESHARE PROGRAM: 1979-1982

**SOUTHEASTERN WISCONSIN
REGIONAL PLANNING COMMISSION**

KENOSHA COUNTY

Leon T. Dreger
Donald E. Mayew
Francis J. Pitts

RACINE COUNTY

Raymond J. Moyer
Earl G. Skagen
Michael W. Wells

MILWAUKEE COUNTY

Irene M. Brown
Richard W. Cutler,
Secretary
Harout O. Sanasarian,
Vice-Chairman

WALWORTH COUNTY

John D. Ames
Anthony F. Balestrieri
Allen L. Morrison

OZAUKEE COUNTY

Allen F. Bruederle
Thomas H. Buestrin
Alfred G. Raetz,
Chairman

WASHINGTON COUNTY

Harold F. Ryan
Thomas J. Sackett
Frank F. Uttech

WAUKESHA COUNTY

Robert F. Hamilton
William D. Rogan,
Treasurer
Paul G. Vrakas

**SOUTHEASTERN WISCONSIN REGIONAL
PLANNING COMMISSION STAFF**

Kurt W. Bauer, PE, AICP, RLS. Executive Director
Philip C. Evenson Assistant Director
Kenneth R. Yunker, PE Assistant Director
Robert P. Biebel, PE Chief Environmental Engineer
John W. Ernst. Data Processing Manager
Leland H. Kreblin Chief Planning Illustrator
Donald R. Martinson Chief Transportation Engineer
Thomas D. Patterson Chief of Planning Research
Bruce P. Rubin Chief Land Use Planner
Roland O. Tonn, AICP. Chief Community Assistance Planner
Joan A. Zenk Administrative Officer

TECHNICAL REPORT
NUMBER 28

EVALUATION OF THE MILWAUKEE AREA
RIDESHARE PROGRAM: 1979-1982

Prepared by the
Southeastern Wisconsin Regional Planning Commission
P. O. Box 769
Old Courthouse
916 N. East Avenue
Waukesha, Wisconsin 53187-1607

The preparation of this report was financed in part by the U. S. Department of Transportation, Federal Highway Administration; and in part by Milwaukee County.

May 1983

Inside Region \$ 2.50
Outside Region \$ 5.00

(This page intentionally left blank)

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

916 NO. EAST AVENUE

P.O. BOX 769

WAUKESHA, WISCONSIN 53187

TELEPHONE (414) 547-6721

Serving the Counties of:

KENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA

May 1, 1983

STATEMENT OF THE EXECUTIVE DIRECTOR

On September 17, 1979, after a three year lapse in public rideshare promotional efforts, Milwaukee County, in cooperation with the Federal Highway Administration, the Wisconsin Department of Transportation, and the Southeastern Wisconsin Regional Planning Commission, began a three year ridesharing promotional effort in the four-county Milwaukee Standard Metropolitan Statistical Area. Like the initial county program, which was operated for one year from April 1975 to March 1976, this program was designed to encourage higher vehicle occupancy and thereby to effect savings in motor fuel use and to reduce traffic congestion and automobile parking requirements in the greater Milwaukee area.

In order to again permit a thorough and objective evaluation to be made of the effectiveness of the program in achieving the intended objectives, the Southeastern Wisconsin Regional Planning Commission undertook, in the third and last year of the program, a survey to provide definitive information on the effectiveness of the program. The survey was intended to measure the extent of carpool use within the four-county study area, and corresponding changes in automobile traffic and motor fuel consumption. The survey also was designed to provide data on the socioeconomic characteristics of ridesharers and nonridesharers, and on public attitudes toward ridesharing in order to assist in the design of possible future promotional campaign strategies. This technical report presents the findings of this survey and, where appropriate, makes comparisons to the similar study conducted by the Commission at the end of the initial one year rideshare program in 1976. The report deserves careful consideration by all those concerned not only with the institution, construction, or expansion of ridesharing programs, but also with transportation system planning and development, within the greater Milwaukee area.

The survey data indicated that ridesharing within the four-county study area does provide substantial motor fuel as well as cost savings as a result of reduced work trip-related vehicular travel. Of the 583,000 employed persons living in the study area, over 18 percent, or about 107,000, were found to rideshare on a regular basis in 1982; compared to 92,000 in 1976 at the end of the County's initial one-year carpool demonstration program; and 85,000 in 1979 just prior to the initiation of the continuing three-year program. The increase of 22,000 ridesharers from 1979 to 1982 is estimated to have resulted in a savings of \$10.8 million in total user cost savings over this three year period and a \$3.9 million savings in fuel costs. The survey findings also disclosed a significant latent demand for ridesharing, an indication that further efforts in rideshare promotion should continue to be successful.

The survey also indicated, as in the 1976 survey, that the process of diverting auto drivers to ridesharing is an arduous task, requiring perseverance in a consistent long-range program; and that, even with successful program implementation, heavy reliance on the auto driver mode of travel can be expected to continue within the study area.

Respectfully submitted,



Kurt W. Bauer
Executive Director

(This page intentionally left blank)

TABLE OF CONTENTS

| | Page |
|---|------|
| CHAPTER I - INTRODUCTION | 1 |
| CHAPTER II - DESCRIPTION OF THE MILWAUKEE AREA RIDESHARE PROGRAM..... | 3 |
| Introduction..... | 3 |
| First Year of Continuous Ridesharing Promotional Activities..... | 3 |
| Second Year of Ridesharing Activities..... | 4 |
| Third Year of Activities..... | 7 |
| Other Rideshare Programs in Southeastern Wisconsin..... | 7 |
| CHAPTER III - INVENTORY FINDINGS..... | 9 |
| Introduction..... | 9 |
| Conduct of the Survey..... | 9 |
| Survey Objectives..... | 9 |
| Extent of Ridesharing Within the Four-County Area..... | 10 |
| Socioeconomic Characteristics of Ridesharers..... | 12 |
| Awareness of the Program..... | 14 |
| Factors Influencing Rideshare Formation..... | 16 |
| Factors Preventing Rideshare Formation..... | 16 |
| Characteristics of Carpools..... | 20 |
| Benefits from Ridesharing..... | 23 |
| CHAPTER IV - EVALUATION AND RECOMMENDATIONS..... | 29 |
| Introduction..... | 29 |
| Continuation of Rideshare Program..... | 29 |
| Recommendations for Future Activities of a Continued Milwaukee Area Rideshare Program..... | 30 |
| CHAPTER V - SUMMARY..... | 33 |
| The Rideshare Promotion and Matching Program..... | 33 |
| Other Rideshare Programs in Southeastern Wisconsin..... | 34 |
| Findings of the Evaluation of the Program..... | 35 |
| Recommendations..... | 36 |

LIST OF APPENDICES

| | | |
|---|--|----|
| A | Rideshare Questionnaires..... | 41 |
| B | Ad Hoc Review Committee..... | 47 |
| C | Local Newspaper Clippings..... | 49 |
| D | Household Survey Design, Conduct, and Accuracy Checks..... | 57 |
| | Map D-1 Zip Code Areas and Civil Division Boundaries in the Milwaukee Area..... | 58 |
| | Table D-1 Distribution of Occupied Housing Units in the Milwaukee Area As Shown in the 1980 Census and the 1982 Sample Size and Sample Rates for the Household Survey..... | 59 |
| | Table D-2 Distribution of Households by Household Income by County in the Milwaukee Area: 1982 Survey and 1980 Census..... | 61 |

| | | |
|-----------|--|----|
| Table D-3 | Distribution of Employed Persons in the Milwaukee Area: 1982 Survey and 1980 Census..... | 62 |
| Table D-4 | Vehicle Availability by County for Fiscal Year 1982 and 1982 Survey..... | 62 |

LIST OF TABLES

Chapter III

| Table | | Page |
|-------|---|------|
| 1 | Distribution of Households by County in the Milwaukee Area by Number of Ridesharers per Household: 1982 and 1976..... | 11 |
| 2 | Distribution of Employed Persons Living in the Milwaukee Area by Rideshare Status: 1982 and 1976..... | 12 |
| 3 | Distribution of Ridesharers in the Milwaukee Area by Age: 1982 and 1976..... | 13 |
| 4 | Distribution of Ridesharers Living in the Milwaukee Area by Sex: 1982 and 1976..... | 13 |
| 5 | Distribution of Ridesharers Living in the Milwaukee Area by Educational Level: 1982 and 1976..... | 13 |
| 6 | Percentage Distribution of Households in the Milwaukee Area by Awareness of Services: 1982 and 1976..... | 14 |
| 7 | Sources of Information on the Rideshare Program: 1982 and 1976... | 15 |
| 8 | Percentage Distribution of Factors Motivating Rideshare Formation as Reported by Ridesharers: 1982 and 1976..... | 16 |
| 9 | Distribution of Reasons Preventing Employed Persons From Ridesharing: 1982 and 1976..... | 17 |
| 10 | Distribution of Anticipated Rideshare Formation by Employed Nonridesharers Living in the Milwaukee Area: 1982 and 1976..... | 18 |
| 11 | Distribution of Circumstances Under Which Nonridesharers Living in the Milwaukee Area Would Decide to Rideshare: 1982 and 1976..... | 19 |
| 12 | Distribution by Carpool Size of Ridesharers Living in the Milwaukee Area: 1982 and 1976..... | 21 |
| 13 | Frequency of Rideshare Use in the Milwaukee Area During an Average Week for Travel to Work or School: 1982 and 1976..... | 22 |
| 14 | Distribution of Ridesharers Living in the Milwaukee Area by Driving Arrangements: 1982 and 1976..... | 23 |
| 15 | Distribution of Ridesharers Living in the Milwaukee Area by One-Way Distance Traveled: 1982 and 1976..... | 25 |
| 16 | Comparison of 1976 and 1982 Household Survey Estimated Carpoolers and Automobile Occupancy Survey Estimated Carpoolers..... | 26 |
| 17 | Estimate of Energy Cost and User Cost Savings Due to the Increase in Ridesharing in the Four-County Milwaukee Area From October 1979 to September 1982..... | 27 |

LIST OF FIGURES

| Figure | | Page |
|--------|---|------|
| 1 | Distribution of Ridesharer Arrival at Work Times: 1982 and 1976..... | 24 |
| 2 | Distribution of Ridesharer Departure from Work Times: 1982 and 1976..... | 24 |

(This page intentionally left blank)

Chapter I

INTRODUCTION

Milwaukee County first became actively involved in carpool promotion and matching in April 1975. With the aid of a Federal Highway Administration grant, Milwaukee County operated a one-year carpool promotion and matching program from April 1975 to April 1976. The elements of this program and its estimated impacts were described in SEWRPC Technical Report No. 20, Carpooling in the Metropolitan Milwaukee Area, (March 1977). Also presented in that report was an evaluation of the program and recommendations for future action. It was specifically recommended that the carpool promotion and matching activities be continued. Pursuant to that recommendation, Milwaukee County prepared and submitted on February 6, 1978, a formal application for a federal grant in partial support of the continuation of the program for three years. This application was approved by the Federal Highway Administration on September 17, 1979 and was funded at an annual level of \$75,000 with 75 percent contributed from federal aid urban funds and 25 percent from Milwaukee County funds.

Like the initial program, the three-year program--which was named the "Milwaukee Area Rideshare Program"--was designed to consist of two elements: 1) a ridesharing promotion and matching program, and 2) an evaluation of the program and recommendations for future actions. The first element was conducted over the entire three years of the project. An intensive ridesharing promotional campaign was carried out to continue and stimulate interest in ridesharing in the greater Milwaukee area, consisting of Milwaukee, Ozaukee, Washington, and Waukesha Counties. Direct personal contacts were made with major employers, community service organizations, labor unions, units of government, and the news media. Radio and television were used to inform employees of small companies, self-employed persons, students, and the public about the advantages of ridesharing, and roadside signs were used to inform the public of the rideshare program. The rideshare program also provided assistance to firms and agencies in initiating and maintaining company rideshare programs, as well as providing a matching service for persons in search of rideshare partners.

The second phase of the program began in March 1982 with the initiation of a program evaluation. The purpose of the program evaluation was to determine the impact of the program activities on ridesharing by establishing the extent of ridesharing within Milwaukee County and outlying Ozaukee, Washington, and Waukesha Counties. A survey of a sample of the resident households of the four-county area was conducted to provide information for this evaluation.

This report documents the findings of this evaluation of the continuing Milwaukee area rideshare program. Chapter II presents a description of ridesharing activities which were conducted under the program; Chapter III presents the analysis of the household survey data and an estimate of the benefits of the ridesharing promotion program; Chapter IV presents recommendations for future ridesharing activities promotion; and Chapter V provides an overall summary of the findings and recommendations of the program evaluation.

(This page intentionally left blank)

Chapter II

DESCRIPTON OF THE MILWAUKEE AREA RIDESHARE PROGRAM

INTRODUCTION

This chapter describes the ridesharing promotion and matching activities of the Milwaukee area rideshare program (MARP). This phase of the program was in operation from October 1979 through September 1982. The description of this element of the program is presented in three parts, one for each year of the program.

FIRST YEAR OF CONTINUOUS RIDESHARING PROMOTIONAL ACTIVITIES

During the first year of the continuous ridesharing promotional program--October 1979 through September 1980--the MARP conducted the following activities:

- A program of rideshare promotion through individual contacts with major employers and business and government leaders;
- A program of rideshare promotion through advertising and newspaper articles;
- The provision of matching services for potential carpool and vanpool members.

The promotional campaign through individual contacts was initiated with a letter from Milwaukee County Executive William F. O'Donnell to selected major employers in the Milwaukee area. The letter requested the employers to promote ridesharing by informing their employees of the rideshare program. Rideshare promotional materials and applications for rideshare matching were provided to each employer. The employers were asked to distribute materials to their employees, to collect completed matching applications from interested employees, and to return the completed applications to Milwaukee County. Promotional materials and rideshare matching applications were sent to approximately 450 employers. Rideshare program staff met with 33 employers which expressed an interest in rideshare promotion. The following promotional and application materials were distributed:

- A U. S. Department of Transportation brochure, "How Ridesharing Can Help Your Company."
- A brochure developed by Milwaukee County entitled, "We Were Wondering," which asked companies to start a rideshare program.
- A U. S. Department of Transportation brochure, "Have You Ever Thought About Sharing a Ride to Work?"
- A variety of other promotional materials and posters explaining the benefits of ridesharing, including, but not necessarily limited to: brochures and leaflets entitled 1) "Average Monthly Costs and Savings," 2) "Carpooling--What It Means to Management, Employees, Our Community, the Nation," and 3) "Gallons Free with MPG."

- Milwaukee County Transit System route maps and schedules.
- Application forms for requesting ridesharing matching services.

The promotional campaign of individual contacts also included staff presentations at two Metropolitan Milwaukee Association of Commerce meetings. These presentations described the purpose and activities of the ridesharing program, and solicited cooperation in providing ridesharing programs. These meetings resulted in the provision of information to 40 other major employers. Ridesharing staff also worked with the Private Industry Council of the Milwaukee area. Other contact activities included information displays at the 1980 Wisconsin State Fair, the Energy Conservation Fair, Alverno College, and the Brookfield Square Shopping Center. In addition, displays and ridesharing information were provided to the American Lung Association to be used at their information displays.

The program was able to obtain the donation of 1,018 service advertising "spots" valued at \$57,000 from the local radio and television stations. Staff provided the public service tapes and scripts used in this advertising, many of which were obtained from the Federal Highway Administration, Wisconsin Department of Transportation, and other rideshare agencies. The value of these public service advertisements (PSA's) was used to offset the 25 percent matching monies required of Milwaukee County as its contribution to the program. Radio and television stations routinely furnish PSA's to public service agencies upon request. Also, information on the program was prepared and sent to newspapers and radio stations located in Milwaukee County and in the Counties of Kenosha, Ozaukee, Racine, Walworth, Washington, and Waukesha. Such information was also provided to news media outside of the greater Milwaukee area--including such media in Rock, Jefferson, Dane, Dodge, Fond du Lac, and Sheboygan Counties--and was intended to reach people commuting long distances to central Milwaukee County.

During the first year of operation, more than 1,300 requests for rideshare matching were received by the program staff. The information required to match potential participants was provided by completed application forms which were returned by mail or over the telephone. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) provided the computer services required to facilitate the matching of the rideshare requests.

At the start of the continuing rideshare program in October 1979, SEWRPC was using the Federal Highway Administration (FHWA) first generation carpool matching program. During January and February of 1980, this matching program was replaced with the newer FHWA matching program, known as the Commuter Information System (CIS). The CIS matching program has several features not included in the FHWA first generation carpool matching program, including the capability to consider a much larger geographic area in the grid system used to describe the area, an automatic rematch option, an improved letter response format, and improved file management capabilities.

SECOND YEAR OF RIDESHARING ACTIVITIES

During the second year of the program, from October 1980 through September 1981, the MARP continued the three program elements of the first year, specifically promotion through individual contact of employers, promotion through

advertising and special events, and provision of matching services. In addition, promotional materials were inventoried, evaluated, and improved.

The promotion of ridesharing through employer contacts was focused in the second year of the program toward geographical concentrations of large employers. This focusing was done for three reasons. First, it increased the probability of successfully matching rideshare applicants, because applicants from employers located within short distances of each other could be placed in the same carpool. Second, it permitted the transportation problems unique to the area of a concentration of employers to be recognized and incorporated in the program's approach to the employers. Third, it permitted program staff time to be used more efficiently. A number of employers could be contacted on the same day and with each contact, the number of potential employees to become involved was large.

A computerized information system was developed to maintain information about each employer to be contacted. The information in the computer file included the location of the employer, the employer's name, address, telephone number, contact person's name, and information which summarized the reaction of the employer to proposed participation in the program.

Nine concentrations of 262 major employers were identified. One target area, including 29 employers, was contacted on a trial basis in May and June 1981, and four other target areas were contacted beginning in July 1981. In the target areas, 184 of the total 262 employers were contacted, resulting in 82 requests for promotional materials. Of these 82 employers, 15 did not respond as to the results of promoting ridesharing among their employees, eight stated there was no interest among their employees, four had a program of their own, and 55 distributed more than 13,000 applications for ridesharing. Only 69 of the 13,000 applications for rideshare matching were returned to the rideshare program for matching purposes.

The promotional campaign consisted of four steps. In step 1, a letter was mailed to each employer in the target area. The letter described the rideshare promotion program and its benefits, and requested the employer to participate in the program. The letter indicated that a member of the rideshare program staff would call in a week to discuss the possibility of the employer's participation in the program. In the second step, a telephone call was placed by a member of the rideshare staff to the presidents or personnel directors of the firms contacted. The desirability of participation in the program was discussed and the services available from the rideshare program staff were identified. The necessary actions to be taken by the employer were discussed and the employer then made a decision as to whether or not to participate in the program. The third step was to offer ridesharing materials to cooperative employers. These materials were used in the implementation of rideshare activities. These materials included brochures and rideshare matching applications. The employers would distribute the materials to employees and would collect all completed applications for transmittal to the program office. With these materials, a letter was transmitted to the employer identifying further ways in which ridesharing could be promoted among employees, including the designation of a company carpool coordinator. In the fourth step in the campaign, telephone calls were made to monitor the participation of the employees of each employer in the program.

Also in the second year of the program, individual contact of employers was made through a general mailing of program materials and a letter requesting participation to 1,365 area employers. The materials mailed to the employers included a letter, a sample application, and two rideshare posters. The mailing was conducted in early September 1981. The mailing resulted in requests from 50 employers for additional program materials, including rideshare matching applications.

Promotion of ridesharing through advertising and special events was also continued through the second year of the program. Rideshare public service "spot" announcements were distributed to local news media three times during 1981. These public service "spot" announcements were broadcast periodically throughout the year by 26 local radio stations and five local television stations.

As shown in Appendix C, newspaper articles reporting on the rideshare program were published in the two largest circulation local papers in 1981. In addition, a number of similar articles were published in area community papers. Rideshare program staff also participated in talk shows on local radio stations. A newsletter format flyer was also prepared by the Milwaukee Area Rideshare Program (MARP) for general distribution to program applicants, employers, local public officials, and other rideshare agencies.

Thursday, February 26, 1981, was proclaimed by the Governor of the State of Wisconsin as rideshare day in the State of Wisconsin. A promotional tour of Wisconsin, including southeastern Wisconsin, was arranged for a national spokesman on ridesharing. Fourteen events in southeastern Wisconsin were arranged, including an appearance on a television talk show, three television news interviews, eight radio interviews, one newspaper interview, and a meeting with Milwaukee County Executive, William F. O'Donnell.

Perhaps the most effective promotional program was the installation of 44 highway signs reading, "Rideshare Info: Call 272-RIDE." White-on-blue highway information signs were fabricated in two sizes. The larger 6.5-by-4.5 foot signs were installed at 16 locations along area freeways and other major arterials. The smaller 4.5-by-3.5 foot signs were installed along freeway entrance and exit ramps.

Also during the second year of the project, a comprehensive inventory, evaluation, and improvement of program promotional materials was made. The inventory included a review of approaches and materials used by rideshare programs in over 50 other cities, counties, or states. As a result of this research into the promotional materials and services of programs in other areas, an extensive effort was made to update and improve the program's materials, services, and image. The actions that were taken to improve the program's promotional materials included:

- Shortening the program name to RIDESHARE and changing the telephone number to 272-RIDE, and utilizing this name and number on all program materials, including stationery, envelopes, and posters.
- Modifying the application form to make it easier to complete and return; and incorporating an informational brochure describing the program, its services, and the benefits of ridesharing.

- Consolidating several leaflets into one brochure to be sent to all applicants. This "Follow-Up" brochure contains suggestions for successful ridesharing and other information about carpooling and mass transit.
- Producing a list of third-party vanpool providers to help interested individuals and employers find sources of vans.
- Producing manual matching instructions which can be used in conjunction with a carpool grid map.
- Producing a "Carpool Wanted" organizer which is designed to be used by individuals to help set up their own ridesharing. Applicants who cannot be provided any names of potential ridesharers by the program would be sent such an organizer to help them set up their own carpool.
- Designing an order form to make it easier for employers to ask for and receive program materials.
- Designing and producing an 8.5-by-11 inch easel-backed display card with a pocket to hold the application brochures. This "counter card" is designed to be used for personnel offices, lunchrooms, bulletin boards, and in other high traffic areas, such as banks and department stores.
- Updating the program information kit and materials. The kit now contains: an application brochure, a follow-up brochure, a list of third-party vanpool providers, manual matching instructions, a "Carpool Wanted" organizer to help individuals form their own carpools, an order form for companies to order RIDESHARE materials, two program posters, and the "How Ridesharing Can Help Your Company" employer's manual.

THIRD YEAR OF ACTIVITIES

During its third year, the rideshare program maintained its promotional and matching services and carried out an evaluation of the program. As already noted, the findings and recommendations of that evaluation are presented in this report.

Other Rideshare Programs in Southeastern Wisconsin

From April 1978 through December 1980--that is, through the first year and part of the second year of the Milwaukee Area Rideshare Program--the University of Wisconsin-Extension, Division of Urban Outreach, Office of Statewide Transportation Programs (OSTP), also carried out a rideshare promotion project in the Milwaukee area. The project was funded by grants from the Wisconsin Department of Administration, State Energy Office. The project promoted ridesharing at large traffic generators within a radius of 150 miles of the City of Milwaukee.

A total of 500 large traffic generators with a high potential for ridesharing was identified. Of these 500 large traffic generators, 84 were contacted by the project staff. Of the 84 contacted, seven requested the project staff to conduct a rideshare study. Five of the seven traffic generators requesting project staff to conduct rideshare promotional studies were located within the

four-county Milwaukee area. The studies inventoried existing travel mode use and travel patterns at the generator, assessed interest in ridesharing, and established the potential for increased ridesharing at the generator. Recommendations for promoting ridesharing were developed and presented to the employers at each large traffic generator. Continuing assistance by the OSTP was not requested by any of these large traffic generators.

The Wisconsin Department of Transportation (WisDOT) has available \$200,000 to fund vanpools of employers with 15 or more employees. These funds cover 75 percent of the loan required to obtain a van, and up to \$500 per vehicle of the reasonable promotional, matching, and administrative expenses during the first year of the employer's vanpool operation. In addition, the Wisconsin Department of Administration (DOA) operates about 70 vanpools within the State primarily for state employees, serving over 900 employees in total. In the Southeastern Wisconsin Region, there were five DOA vanpools operating in 1982.

Chapter III

INVENTORY FINDINGS

INTRODUCTION

An important basis for the evaluation of the Milwaukee Area Rideshare Program (MARP) was a survey of Milwaukee area households conducted in March 1982. This survey was intended to assess the public awareness of the program and the current level of participation in ridesharing in the greater Milwaukee area. This chapter sets forth the procedures used in the conduct of the survey; describes the accuracy checks performed on the survey results; documents the extent of ridesharing determined to exist in the four-county Milwaukee metropolitan area; describes the socioeconomic characteristics of ridesharers; describes the level of awareness of rideshare program services within the general population; lists the factors determined to encourage or discourage ridesharing; describes the travel characteristics of area carpools, and the historical mode of travel used by such pools for work or school purposes; and documents the benefits derived from ridesharing. Comparisons to inventory findings of a similar rideshare survey conducted in spring 1976 are also presented.

CONDUCT OF THE SURVEY

The survey consisted of six principal work elements: 1) development and clarification of survey objectives; 2) survey design and questionnaire development; 3) determination of sample size; 4) survey data collection; 5) survey data reduction, conversion, checking, and retrieval; and 6) analysis of survey results. Descriptions of survey design and questionnaire development; determination of sample size; data collection, data reduction, conversion, and retrieval; and accuracy checks are provided in Appendix D.

Survey Objectives

The basic purpose of the survey was to provide the data necessary to permit an evaluation of the effectiveness of the MARP and of the effectiveness of other rideshare promotional activities. Objectives of the survey included:

1. Determination of the number of carpools currently being used to make trips to and from work or school within the four-county Milwaukee metropolitan area.
2. Determination of pertinent characteristics of the existing carpools, including size, driving arrangements, arrival and departure times, trip length, and the socioeconomic characteristics of the rideshare participants.
3. Identification of the factors influencing persons to choose ridesharing over other modes of transportation to and from work or school.
4. Identification of the factors encouraging or discouraging participation in ridesharing as a means of transportation to and from work or school.

5. Determination of the extent to which ridesharing promotes energy conservation by quantifying the reduction of vehicle miles traveled in the metropolitan area.
6. Determination of the temporal distribution of rideshare formation and its relationships to such factors as energy shortages, escalating costs of energy, and rideshare promotional campaigns.
7. Estimation of the latent demand for ridesharing in the metropolitan area and identification of the characteristics of this latent demand.
8. Determination of the extent to which workers in the metropolitan area know of and understand the services provided by the MARP.

Fulfillment of these objectives will not only help to determine the existing status of and potential for ridesharing, but will also assist in short- and long-term transportation system planning in the greater Milwaukee area.

EXTENT OF RIDESHARING WITHIN THE FOUR-COUNTY AREA

As shown in Table 1, the 1982 survey indicated that 10 percent of area households contained one ridesharer, accounting for about 50,300 ridesharers in the four-county area; about 5 percent of area households contained two rideshare members, accounting for about 46,600 ridesharers; and somewhat less than 1 percent of area households contained three or more rideshare members, accounting for 10,400 ridesharers. Thus, in 1982 a total of about 107,300 ridesharers were estimated to be living within the four-county area compared to about 92,000 ridesharers in 1976, an increase of nearly 17 percent over the six-year period. The 1982 and 1976 survey instruments were designed to obtain detailed information for two ridesharers per household. Specific information concerning ridesharing activities exists for about 103,100 of the total 107,300 ridesharers living in the area in 1982; and for about 90,000 of the total 92,000 ridesharers living in the area in 1976.

As would be expected, the largest numbers of ridesharers in both 1982 and 1976 live in the counties with the largest populations in the four-county area, namely, Milwaukee and Waukesha Counties. Of the 107,300 ridesharers in 1982, about 76,300 reside in Milwaukee County; and about 14,500 reside in Waukesha County, as shown in Table 2. In 1976 the number of ridesharers in Milwaukee County was 69,100 and in Waukesha County the number was 12,000.

The relative importance of ridesharing as an alternative mode of travel is best illustrated, however, by the distribution of ridesharers as a percent of employed persons residing in the County. Although the area average, in both 1982 and 1976, indicates that about 18 percent of employed persons are ridesharers, there is a wide variation from this average within the counties. The 1982 and 1976 averages by county are, respectively, 27 percent and 28 percent in Washington County; 23 percent and 24 percent in Ozaukee County; 19 percent and 18 percent in Milwaukee County; and, 13 percent and 14 percent in Waukesha County. Between 1976 and 1982 the total number of ridesharers increased from about 92,000 to 107,300 or about 17 percent while the total number of nonriders increased from about 413,300 to 475,400, an increase of 15 percent.

Table 1

DISTRIBUTION OF HOUSEHOLDS BY COUNTY IN THE MILWAUKEE AREA
BY NUMBER OF RIDESHARERS PER HOUSEHOLD: 1982 AND 1976

| Ridesharers per Household | 1982 Metropolitan Milwaukee Area Households | | | | | | | | | |
|---------------------------------|---|---------|-------------------|---------|----------------------|---------|--------------------|---------|---------|---------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 0 | 310,564 | 85.4 | 17,465 | 80.4 | 19,148 | 71.6 | 76,947 | 86.9 | 424,124 | 84.7 |
| 1 | 33,934 | 9.3 | 1,833 | 8.4 | 5,519 | 20.6 | 9,007 | 10.2 | 50,293 | 10.0 |
| 2 | 16,838 | 4.6 | 2,326 | 10.7 | 2,068 | 7.8 | 2,100 | 2.4 | 23,332 | 4.7 |
| 3 or More.. | 2,492 | 0.7 | 114 | 0.5 | -- | -- | 444 | 0.5 | 3,050 | 0.6 |
| Total | 363,828 | 100.0 | 21,738 | 100.0 | 26,735 | 100.0 | 88,498 | 100.0 | 500,799 | 100.0 |

| Ridesharers per Household | 1976 Metropolitan Milwaukee Area Households | | | | | | | | | |
|---------------------------------|---|---------|-------------------|---------|----------------------|---------|--------------------|---------|---------|---------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| 0 | 294,373 | 84.6 | 13,211 | 78.4 | 15,423 | 78.4 | 59,235 | 88.0 | 382,242 | 84.6 |
| 1 | 39,269 | 11.3 | 2,545 | 15.1 | 2,993 | 15.2 | 4,668 | 7.0 | 49,475 | 10.9 |
| 2 | 13,647 | 3.9 | 970 | 5.8 | 921 | 4.7 | 3,051 | 4.5 | 18,589 | 4.1 |
| 3 or More.. | 835 | 0.2 | 121 | 0.7 | 345 | 1.7 | 359 | 0.5 | 1,660 | 0.4 |
| Total | 348,124 | 100.0 | 16,847 | 100.0 | 19,682 | 100.0 | 67,313 | 100.0 | 451,996 | 100.0 |

Source: SEWRPC.

Table 2

**DISTRIBUTION OF EMPLOYED PERSONS LIVING IN THE
MILWAUKEE AREA BY RIDESHARE STATUS: 1982 AND 1976**

| County | Employed Persons: 1982 | | | | | | Ridesharers as Percent of Total Employed |
|---------------|------------------------|--------------|----------------|--------------|----------------|--------------|---|
| | Ridesharers | | Nonridesharers | | Total | | |
| | Number | Percent | Number | Percent | Number | Percent | |
| Milwaukee.... | 76,296 | 71.1 | 330,250 | 69.5 | 406,546 | 69.8 | 18.8 |
| Ozaukee..... | 6,827 | 6.4 | 22,402 | 4.7 | 29,229 | 5.0 | 23.4 |
| Washington... | 9,655 | 9.0 | 25,763 | 5.4 | 35,418 | 6.1 | 27.3 |
| Waukesha..... | 14,539 | 13.5 | 96,995 | 20.4 | 111,534 | 19.1 | 13.0 |
| Total | 107,317 | 100.0 | 475,410 | 100.0 | 582,727 | 100.0 | 18.4 |

| County | Employed Persons: 1976 | | | | | | Ridesharers as Percent of Total Employed |
|---------------|------------------------|--------------|----------------|--------------|----------------|--------------|---|
| | Ridesharers | | Nonridesharers | | Total | | |
| | Number | Percent | Number | Percent | Number | Percent | |
| Milwaukee.... | 69,068 | 75.0 | 308,578 | 74.7 | 377,646 | 74.8 | 18.3 |
| Ozaukee..... | 4,848 | 5.3 | 15,514 | 3.7 | 20,362 | 4.0 | 23.8 |
| Washington... | 6,100 | 6.6 | 15,768 | 3.8 | 21,868 | 4.3 | 27.9 |
| Waukesha..... | 12,027 | 13.1 | 73,414 | 17.8 | 85,441 | 16.9 | 14.1 |
| Total | 92,043 | 100.0 | 413,274 | 100.0 | 505,317 | 100.0 | 18.2 |

Source: SEWRPC.

SOCIOECONOMIC CHARACTERISTICS OF RIDESHARERS

Data were collected on the age, sex, and educational level of ridesharers in both 1982 and 1976 in an effort to provide information useful in the design or modification of promotional campaigns to encourage further ridesharing. Presented below are comparisons of the socioeconomic characteristics as reported in both the 1982 survey and 1976 survey.

As shown in Table 3 the percentage distribution by age group between 1976 and 1982 shows somewhat fewer ridesharers under 24 years of age, 18 percent in 1982 and 23 percent in 1976; more ridesharers in the 25-44 year age group, 51 percent in 1982 and 45 percent in 1976; and, about the same percentage distribution of ridesharers over 45 years of age, 32 percent in 1982 and 33 percent in 1976.

The distribution of ridesharers by sex, as shown in Table 4, is similar for both 1982 and 1976. As noted in SEWRPC Technical Report No. 20 the proportion of ridesharers who are female is greater than their proportion of employed persons. In 1976 it was estimated that females comprised about 37 percent of employed persons, but accounted for 43 percent of the ridesharers.

The percentage distribution of ridesharers by educational level is displayed in Table 5. In 1982 there were 5 percent fewer ridesharers who had educational levels below the high school graduate level--9 percent in 1982 and 14 percent in 1976. In total, 91 percent of the 1982 ridesharers and 86 percent of the 1976 ridesharers had attained an educational level of high school graduate or higher--an indication that ridesharers may tend to be somewhat better educated than the general population. In comparison, data obtained in 1970 and 1980 by the U. S. Bureau of the Census indicate that 58 percent in 1970 and 72 percent in 1980 of the persons 25 years of age and older in the four-county area had attained an educational level of high school graduate or higher.

Table 3

DISTRIBUTION OF RIDESHARERS IN THE MILWAUKEE AREA BY AGE: 1982 AND 1976

| Age | Ridesharers | | | |
|-------------------|-------------|------------------|--------|------------------|
| | 1982 | | 1976 | |
| | Number | Percent Reported | Number | Percent Reported |
| 19 and Under..... | 4,074 | 4.0 | 4,860 | 5.5 |
| 20-24..... | 14,342 | 13.9 | 15,081 | 17.1 |
| 25-34..... | 28,321 | 27.5 | 22,751 | 25.8 |
| 35-44..... | 23,610 | 23.0 | 16,468 | 18.7 |
| 45-54..... | 18,002 | 17.5 | 18,062 | 20.5 |
| 55-64..... | 13,307 | 12.9 | 10,794 | 12.3 |
| 65 and Over..... | 1,250 | 1.2 | 121 | 0.1 |
| Total Reported | 102,906 | 100.0 | 88,137 | 100.0 |
| Not Reported | 151 | -- | 1,836 | -- |
| Total | 103,057 | 100.0 | 89,973 | 100.0 |

Source: SEWRPC.

Table 4

DISTRIBUTION OF RIDESHARERS LIVING IN THE MILWAUKEE AREA BY SEX: 1982 AND 1976

| Sex | 1982 | | 1976 | |
|----------------|---------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| Male..... | 59,434 | 57.7 | 50,697 | 56.9 |
| Female..... | 43,623 | 42.3 | 38,434 | 43.1 |
| Total Reported | 103,057 | 100.0 | 89,131 | 100.0 |
| Not Reported | -- | -- | 842 | -- |
| Total | 103,057 | 100.0 | 89,973 | 100.0 |

Source: SEWRPC.

Table 5

DISTRIBUTION OF RIDESHARERS LIVING IN THE MILWAUKEE AREA BY EDUCATIONAL LEVEL: 1982 AND 1976

| Educational Level | 1982 | | 1976 | |
|---------------------------|---------|---------|--------|---------|
| | Number | Percent | Number | Percent |
| Some Grade School..... | 909 | 0.9 | 1,392 | 1.6 |
| Grade School Graduate.... | 2,644 | 2.6 | 3,911 | 4.5 |
| Some High School..... | 5,751 | 5.6 | 7,097 | 8.1 |
| High School Graduate..... | 40,455 | 39.8 | 34,963 | 40.0 |
| Some College..... | 28,831 | 28.3 | 20,473 | 23.4 |
| College Graduate..... | 15,034 | 14.8 | 11,673 | 13.4 |
| Post-Graduate Studies.... | 8,137 | 8.0 | 7,830 | 9.0 |
| Total Reported | 101,761 | 100.0 | 87,339 | 100.0 |
| Not Reported | 1,296 | -- | 2,634 | -- |
| Total | 103,057 | 100.0 | 89,973 | 100.0 |

Source: SEWRPC.

AWARENESS OF THE PROGRAM

Table 6 indicates the effectiveness of the Milwaukee Area Rideshare Program (MARP) promotional campaign to inform the public of rideshare program services. The percentage of households in 1982 that had at least one member of the household aware of the existence of the MARP ranged from 54 percent in Washington County to 65 percent in Waukesha County and averaged 61 percent in the four-county area. In 1976 well over 65 percent of the households in each of the counties of the four-county area were aware of the existence of the MARP. The level of awareness of the MARP and its services has declined from 1976 to 1982 in each of the counties. In 1976, 50 percent of the study area households were aware that the MARP furnished information to press, television, radio and company newsletters; by 1982 this awareness had declined to 36 percent. About 49 percent of the households were aware that the MARP matches potential ridesharers in 1976 while in 1982, about the same percentage, or 46 percent were so aware. In 1976, 45 percent of households were aware that the MARP assists firms/agencies in starting and maintaining matching programs and in 1982 only 29 percent indicated such awareness. In 1976, 44 percent of the households were aware that the MARP can be used by anyone living in the four-county area and in 1982, 37 percent indicated such awareness. About 43 percent of households

Table 6

PERCENTAGE DISTRIBUTION OF HOUSEHOLDS IN THE MILWAUKEE AREA BY AWARENESS OF SERVICES: 1982 AND 1976

| Services Offered | Percent of Households Indicating Awareness of Services: 1982 | | | | |
|---|--|----------------|-------------------|-----------------|-------|
| | Milwaukee County | Ozaukee County | Washington County | Waukesha County | Total |
| Can Be Used by Anyone in the Four-County Area..... | 36.8 | 30.7 | 28.2 | 39.3 | 36.5 |
| Can Match Potential Ridesharers..... | 47.8 | 37.5 | 36.5 | 46.8 | 46.4 |
| Can be Joined by Submitting Application..... | 37.4 | 30.4 | 20.5 | 36.4 | 35.9 |
| Furnishes Information to Press, Television, Radio, and Company Newsletters..... | 35.6 | 27.6 | 25.6 | 41.7 | 35.8 |
| Assists Firms/Agencies in Initiating and Maintaining Carpooling Programs..... | 29.5 | 20.3 | 21.6 | 29.8 | 28.6 |
| Provides Speakers to Interested Groups..... | * | * | * | * | * |
| Does Not Charge for These Services..... | 31.1 | 20.2 | 15.4 | 27.0 | 28.9 |
| Households Aware of Existence of MARP..... | 60.6 | 57.3 | 53.9 | 64.8 | 60.9 |

| Services Offered | Percent of Households Indicating Awareness of Services: 1976 | | | | |
|---|--|----------------|-------------------|-----------------|-------|
| | Milwaukee County | Ozaukee County | Washington County | Waukesha County | Total |
| Can be Used by Anyone in the Four-County Area..... | 43.5 | 48.9 | 38.9 | 47.0 | 44.0 |
| Can Match Potential Ridesharers..... | 48.7 | 53.3 | 44.8 | 51.4 | 49.1 |
| Can be Joined by Submitting Application..... | 42.2 | 41.5 | 41.0 | 45.6 | 42.8 |
| Furnishes Information to Press, Television, Radio, and Company Newsletters..... | 49.5 | 45.2 | 47.9 | 55.6 | 50.2 |
| Assists Firms/Agencies in Initiating and Maintaining Carpooling Programs..... | 44.0 | 43.7 | 41.5 | 50.7 | 44.9 |
| Provides Speakers to Interested Groups..... | 15.6 | 15.6 | 12.1 | 22.5 | 16.5 |
| Does Not Charge for These Services..... | 29.3 | 32.1 | 18.8 | 33.9 | 29.6 |
| Households Aware of Existence of MARP..... | 67.7 | 65.5 | 68.8 | 71.0 | 68.2 |

*Question not on 1982 Survey since the MARP did not provide speakers during the current program.

Source: SEWRPC.

in 1976 were aware that the match program can be used by submitting an application while in 1982, 36 percent of households were so aware. The level of knowledge of the fact that the MARP does not charge a fee for its services was nearly identical in both years--30 percent in 1976 and 29 percent in 1982.

The decline in the levels of awareness of the MARP and its services on the part of households in the four-county area from 1976 to 1982 indicates that advertising and promotional activities of the MARP may need to be made more effective. Behavioral changes in mode of travel occur slowly over time and must be reinforced by perceived benefits. Promotion of the benefits resulting from ridesharing need to be emphasized frequently in order to induce changes in attitude of potential participants. Although the total number of ridesharers increased from 1976 to 1982 the proportion of ridesharers as a percent of total employed persons remained substantially unchanged over the six year period.

Indicated in Table 7 is the relative effectiveness of the information dissemination channels utilized by the MARP. In 1982 two new sources were listed--highway signs placed in May 1981 which read "RIDESHARE INFO--CALL 272-RIDE," accounting for 41 percent of the ridesharers in the four-county area and brochures which accounted for 2 percent of ridesharers. The highway signs were the most effective information source. The remaining sources in order of impor-

Table 7

SOURCES OF INFORMATION ON THE RIDESHARE PROGRAM: 1982 AND 1976

| Informational Efforts Responsible for Ridesharer Awareness | Percent of Total Ridesharers: 1982 | | | | |
|--|------------------------------------|----------------|-------------------|-----------------|-------|
| | Milwaukee County | Ozaukee County | Washington County | Waukesha County | Total |
| Television Advertisements... | 33.9 | 33.4 | 19.9 | 24.9 | 31.3 |
| Newspaper Advertisements.... | 5.7 | 9.0 | 5.6 | 13.2 | 6.9 |
| Radio Advertisements..... | 15.9 | 29.0 | 15.2 | 21.4 | 17.4 |
| Billboards..... | 19.0 | 15.8 | 10.0 | 10.1 | 16.7 |
| Employer Contacts..... | 11.9 | 7.7 | 8.6 | 10.1 | 11.1 |
| Brochures*..... | 1.7 | -- | 6.1 | 3.4 | 2.3 |
| Highway Signs*..... | 43.4 | 46.0 | 26.7 | 33.0 | 40.6 |
| Unaware of Any of the Above..... | -- | -- | -- | -- | -- |
| Friend or Relative..... | 5.5 | 10.9 | -- | 1.6 | 4.8 |
| Other..... | 1.2 | -- | 1.4 | -- | 1.0 |

| Informational Efforts Responsible for Ridesharer Awareness | Percent of Total Ridesharers: 1976 | | | | |
|--|------------------------------------|----------------|-------------------|-----------------|-------|
| | Milwaukee County | Ozaukee County | Washington County | Waukesha County | Total |
| Television Advertisements... | 49.4 | 35.0 | 51.0 | 41.5 | 47.7 |
| Newspaper Advertisements.... | 33.5 | 15.0 | 18.9 | 7.7 | 28.2 |
| Radio Advertisements..... | 24.5 | 22.5 | 13.2 | 16.9 | 22.6 |
| Billboards..... | 22.9 | 25.0 | 18.9 | 20.0 | 22.3 |
| Employer Contacts..... | 24.4 | 7.5 | 11.3 | 12.3 | 19.6 |
| Unaware of Any of the Above..... | 15.1 | 22.5 | 18.9 | 13.8 | 15.6 |
| Friend or Relative..... | 8.6 | 12.5 | 5.7 | 6.1 | 8.3 |
| Other..... | 0.8 | -- | 3.8 | 1.5 | 1.1 |

*Applicable to 1982 only.

Source: SEWRPC.

tance in 1982 were: television, 31 percent; radio 17 percent; billboards, 17 percent; employer contacts, 11 percent; newspapers, 7 percent; and, friend or relative, 5 percent. In 1976 the sources in order of importance were: television, 48 percent; newspapers, 28 percent; radio, 23 percent; billboards, 22 percent; employer contacts, 20 percent; and, friend or relative, 8 percent. In 1982 the response "unaware of any of the above" was not checked by any of the ridesharers indicating that households having ridesharers were aware of the MARP.

FACTORS INFLUENCING RIDESHARE FORMATION

Ridesharers were asked to rank in order their three most important reasons for joining a carpool, as shown in Table 8. In both 1982 and 1976 the most frequently listed reason for ridesharing was to save money-- with 28 percent and 27 percent respectively, of the respondents giving this reason. The second and third most frequently listed reasons in 1982 were energy conservation, 13 percent, and companionship, 11 percent. In 1976 the second and third most frequently listed reasons for joining a carpool were: more convenient than bus, 11 percent, and energy conservation, somewhat less than 11 percent.

FACTORS PREVENTING RIDESHARE FORMATION

The factors which prevent rideshare formation as reported in the 1982 and 1976 surveys are displayed in Table 9. Approximately one-third of the nonridesharers do not rideshare because their work times and/or locations change too frequently. The second most frequently mentioned reason for not ridesharing is

Table 8

PERCENTAGE DISTRIBUTION OF FACTORS MOTIVATING RIDESHARE FORMATION AS REPORTED BY RIDESHARERS: 1982 AND 1976

| Motivation for Rideshare Formation | Percent of Ridesharer Responses | | | | | | | |
|--|---------------------------------|--------|---------------|--------|--------------|--------|-------------|---------|
| | First Reason | | Second Reason | | Third Reason | | All Reasons | |
| | 1982 | 1976 | 1982 | 1976 | 1982 | 1976 | 1982 | 1976 |
| Save Money..... | 45.2 | 39.3 | 21.3 | 19.1 | 13.6 | 15.8 | 28.2 | 27.3 |
| Energy Conservation..... | 9.0 | 8.0 | 19.5 | 11.9 | 11.1 | 14.0 | 13.1 | 10.6 |
| Companionship..... | 6.7 | 4.0 | 13.1 | 12.7 | 15.8 | 18.3 | 11.4 | 10.1 |
| More Convenient Than Bus..... | 2.3 | 10.0 | 8.1 | 9.9 | 16.5 | 15.3 | 8.3 | 11.2 |
| Eliminate Need for Second Auto... | 7.7 | 6.8 | 7.4 | 9.8 | 5.8 | 6.3 | 7.1 | 7.6 |
| Avoid Stress of Driving..... | 5.0 | 2.9 | 6.0 | 7.4 | 9.8 | 5.2 | 6.7 | 4.9 |
| No Other Mode Available..... | 7.5 | 6.5 | 6.5 | 4.9 | 4.2 | 6.0 | 6.2 | 5.9 |
| Help a Friend..... | 5.1 | 10.6 | 7.1 | 5.3 | 6.5 | 5.4 | 6.1 | 7.7 |
| Make Auto Available to Family.... | 3.9 | 3.9 | 6.0 | 8.9 | 5.6 | 5.3 | 5.1 | 5.9 |
| Concern for Environment..... | 0.5 | 0.2 | 2.1 | 5.4 | 4.2 | 3.1 | 2.1 | 2.6 |
| More Convenient Than Passenger in Family Auto..... | 0.2 | 1.1 | 1.6 | 2.1 | 3.1 | 1.9 | 1.5 | 1.6 |
| Employer Incentives..... | 2.4 | 1.0 | -- | -- | 0.6 | 0.6 | 1.1 | 0.6 |
| Reduce Air Pollution ^a | -- | -- | 0.4 | -- | 1.6 | -- | 0.6 | -- |
| Keep U. S. Oil Dollars at Home ^b .. | -- | -- | -- | -- | -- | 1.6 | -- | 0.4 |
| Other..... | 4.5 | 5.7 | 0.9 | 2.6 | 1.6 | 1.2 | 2.5 | 3.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Total Responses | 89,920 | 85,273 | 77,647 | 61,583 | 68,668 | 44,208 | 236,235 | 191,064 |
| Percent of Ridesharers Who Indicated Motivation (1982 = 103,057; 1976 = 89,973)..... | 87.3 | 94.8 | 75.3 | 68.5 | 66.6 | 49.1 | 87.3 | 94.8 |

^aUsed only in 1982.

^bUsed only in 1976.

Source: SEWRPC.

Table 9

DISTRIBUTION OF REASONS PREVENTING EMPLOYED PERSONS FROM RIDESHARING: 1982 AND 1976

| Reasons Preventing Rideshare Formation | Nonridesharing Employed Persons: 1982 | | | | | | | | | |
|--|---------------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|----------------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Work Times and/or Locations Change Too Frequently..... | 97,564 | 33.1 | 7,275 | 35.3 | 6,666 | 27.3 | 35,859 | 39.5 | 147,364 | 34.2 |
| No One to Rideshare With..... | 47,028 | 16.0 | 4,231 | 20.5 | 5,533 | 22.7 | 18,760 | 20.7 | 75,552 | 17.6 |
| Satisfied With Present Mode.... | 55,478 | 18.8 | 2,856 | 13.9 | 3,552 | 14.5 | 9,669 | 10.7 | 71,555 | 16.6 |
| Need Free Use of Auto..... | 41,380 | 14.0 | 2,761 | 13.4 | 4,711 | 19.3 | 10,433 | 11.5 | 59,285 | 13.8 |
| Not Willing to Give Up Auto.... | 28,712 | 9.7 | 2,121 | 10.3 | 1,727 | 7.1 | 9,748 | 10.7 | 42,308 | 9.8 |
| Like to Ride Alone..... | 11,990 | 4.1 | 298 | 1.4 | 697 | 2.8 | 2,592 | 2.8 | 15,577 | 3.6 |
| Ridesharing Would Increase Travel Time Too Much..... | 5,206 | 1.8 | -- | -- | 161 | 0.7 | 1,072 | 1.2 | 6,439 | 1.5 |
| Other..... | 7,222 | 2.5 | 1,074 | 5.2 | 1,366 | 5.6 | 2,648 | 2.9 | 12,310 | 2.9 |
| Total Reported | 294,580 | 100.0 | 20,616 | 100.0 | 24,413 | 100.0 | 90,781 | 100.0 | 430,390 | 100.0 |
| Not Reported | 31,070 | -- | 1,428 | -- | 324 | -- | 5,568 | -- | 38,390 | -- |
| Total | 325,650 | 100.0 | 22,044 | 100.0 | 24,737 | 100.0 | 96,349 | 100.0 | 468,780 | 100.0 |

| Reasons Preventing Rideshare Formation | Nonridesharing Employed Persons: 1976 | | | | | | | | | |
|--|---------------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|----------------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Work Times and/or Locations Change Too Frequently..... | 102,767 | 35.2 | 4,726 | 32.5 | 5,755 | 37.9 | 25,489 | 37.2 | 138,737 | 35.5 |
| No One to Rideshare With..... | 60,991 | 20.9 | 3,757 | 25.9 | 4,144 | 27.3 | 13,462 | 19.6 | 82,354 | 21.1 |
| Satisfied With Present Mode.... | 32,306 | 11.0 | 1,212 | 8.3 | 345 | 2.3 | 5,205 | 7.6 | 39,068 | 10.0 |
| Need Free Use of Auto..... | 32,027 | 11.0 | 2,666 | 18.3 | 2,187 | 14.4 | 12,026 | 17.5 | 48,906 | 12.5 |
| Not Willing to Give Up Auto.... | 12,253 | 4.2 | 727 | 5.0 | 230 | 1.5 | 2,872 | 4.2 | 16,082 | 4.1 |
| Like to Ride Alone..... | 8,911 | 3.0 | 242 | 1.7 | 345 | 2.3 | 1,615 | 2.4 | 11,113 | 2.9 |
| Ridesharing Would Increase Travel Time Too Much..... | 5,291 | 1.8 | 727 | 5.0 | 805 | 5.3 | 1,615 | 2.4 | 8,438 | 2.2 |
| Other..... | 37,597 | 12.9 | 485 | 3.3 | 1,381 | 9.0 | 6,283 | 9.1 | 45,746 | 11.7 |
| Total Reported | 292,143 | 100.0 | 14,542 | 100.0 | 15,192 | 100.0 | 68,567 | 100.0 | 390,444 | 100.0 |
| Not Reported | 16,435 | -- | 972 | -- | 576 | -- | 4,847 | -- | 22,830 | -- |
| Total | 308,578 | 100.0 | 15,514 | 100.0 | 15,768 | 100.0 | 73,414 | 100.0 | 413,274 | 100.0 |

Source: SEWRPC.

simply that there is no rideshare partner available--18 percent in 1982 and 21 percent in 1976. Seventeen percent of persons in 1982 indicated they were satisfied with their present mode, while in 1976 about 10 percent were satisfied. Those not willing to give up their auto totaled 4 percent in 1976, and 10 percent in 1982. The percentage of those requiring free use of an automobile remained about the same in both 1982 and 1976 at 14 percent and 13 percent, respectively.

As shown in Table 10, almost 9 percent of nonrideshare respondents stated that they intend to rideshare in the future in both 1982 and 1976. In the 1976 survey, it was estimated that if the 35,000 respondents who stated they intended to rideshare would do so, they would increase the rate of ridesharing to 25 percent. Using 1982 data, the rate of ridesharing would also increase from 18 percent to about 25 percent.

Those respondents who said they did not intend to rideshare in the future were asked under what circumstances they would decide to rideshare (see Table 11). In 1982, 17 percent of the respondents said they would rideshare if a rideshare partner could be found; 19 percent would consider ridesharing if there was a change in job or school hours; 18 percent would consider ridesharing if there was a change in work or school location; and 22 percent said they would not rideshare under any circumstances. In 1976 approximately 16 percent of the

Table 10

DISTRIBUTION OF ANTICIPATED RIDESHARE FORMATION BY EMPLOYED NONRIDESHARERS LIVING IN THE MILWAUKEE AREA: 1982 AND 1976

| Intent | Employed Nonridesharers: 1982 | | | | | | | | | |
|---|-------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|---------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Intend to Rideshare in Near Future..... | 26,300 | 9.2 | 1,530 | 7.0 | 2,439 | 10.1 | 7,386 | 8.3 | 37,655 | 8.9 |
| Do Not Intend to Rideshare..... | 260,384 | 90.8 | 20,345 | 93.0 | 21,766 | 89.9 | 81,279 | 91.7 | 383,774 | 91.1 |
| Total Reported | 286,684 | 100.0 | 21,875 | 100.0 | 24,205 | 100.0 | 88,665 | 100.0 | 421,429 | 100.0 |
| Not Reported | 38,966 | -- | 169 | -- | 532 | -- | 7,684 | -- | 47,351 | -- |
| Total | 325,650 | 100.0 | 22,044 | 100.0 | 24,737 | 100.0 | 96,349 | 100.0 | 468,780 | 100.0 |

| Intent | Employed Nonridesharers: 1976 | | | | | | | | | |
|---|-------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|---------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Intend to Rideshare in Near Future..... | 25,343 | 8.4 | 1,454 | 9.5 | 1,151 | 7.6 | 6,821 | 9.7 | 34,769 | 8.7 |
| Do Not Intend to Rideshare..... | 274,879 | 91.6 | 13,817 | 90.5 | 13,927 | 92.4 | 63,363 | 90.3 | 365,986 | 91.3 |
| Total Reported | 300,222 | 100.0 | 15,271 | 100.0 | 15,078 | 100.0 | 70,184 | 100.0 | 400,755 | 100.0 |
| Not Reported | 8,356 | -- | 243 | -- | 690 | -- | 3,230 | -- | 12,519 | -- |
| Total | 308,578 | 100.0 | 15,514 | 100.0 | 15,768 | 100.0 | 73,414 | 100.0 | 413,274 | 100.0 |

Source: SEWRPC.

Table 11

**DISTRIBUTION OF CIRCUMSTANCES UNDER WHICH
NONRIDESHARERS LIVING IN THE MILWAUKEE AREA
WOULD DECIDE TO RIDESHARE: 1982 AND 1976**

| Circumstances Which Would Influence Decisions to Rideshare | Employed Nonridesharers: 1982 | | | | | | | | | |
|--|-------------------------------|---------------------|-------------------|---------------------|----------------------|---------------------|--------------------|---------------------|----------------|---------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Would Not Rideshare Under Any Circumstances..... | 55,290 | 21.6 | 3,891 | 20.0 | 3,374 | 14.8 | 19,534 | 24.1 | 82,089 | 21.6 |
| Change in Job or School Hours..... | 45,850 | 17.9 | 3,189 | 16.4 | 4,977 | 21.9 | 19,182 | 23.7 | 73,198 | 19.3 |
| Change in Work or School Location..... | 44,290 | 17.3 | 5,012 | 25.8 | 6,603 | 29.1 | 12,000 | 14.8 | 67,905 | 17.9 |
| Find a Rideshare Partner... Not Need Free | 43,888 | 17.1 | 1,934 | 10.0 | 4,464 | 19.6 | 15,096 | 18.7 | 65,382 | 17.2 |
| Use of Auto..... | 22,068 | 8.6 | 1,878 | 9.7 | 1,194 | 5.3 | 5,859 | 7.2 | 30,999 | 8.2 |
| Only If No Other Mode Available..... | 22,388 | 8.7 | 1,389 | 7.1 | 416 | 1.8 | 4,174 | 5.2 | 28,367 | 7.5 |
| Only If Gasoline Is Rationed..... | 9,884 | 3.9 | 1,258 | 6.5 | 853 | 3.8 | 3,141 | 3.9 | 15,136 | 4.0 |
| Only If Gasoline Becomes Too Costly..... | 7,886 | 3.1 | 874 | 4.5 | 850 | 3.7 | 956 | 1.2 | 10,566 | 2.8 |
| Other..... | 4,678 | 1.8 | -- | -- | -- | -- | 997 | 1.2 | 5,675 | 1.5 |
| Total Reported | 256,222 | 100.0 | 19,425 | 100.0 | 22,731 | 100.0 | 80,939 | 100.0 | 379,317 | 100.0 |
| Not Reported | 69,428 | -- | 2,619 | -- | 2,006 | -- | 15,410 | -- | 89,463 | -- |
| Total | 325,650 | 100.0 | 22,044 | 100.0 | 24,737 | 100.0 | 96,349 | 100.0 | 468,780 | 100.0 |

| Circumstances Which Would Influence Decisions to Rideshare | Employed Nonridesharers: 1976 | | | | | | | | | |
|--|-------------------------------|---------------------|-------------------|---------------------|----------------------|---------------------|--------------------|---------------------|----------------|---------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Would Not Rideshare Under Any Circumstances..... | 53,471 | 20.1 | 2,909 | 21.8 | 3,338 | 25.4 | 9,154 | 15.9 | 68,872 | 19.7 |
| Change in Job or School Hours..... | 59,043 | 22.2 | 1,697 | 12.7 | 3,914 | 29.8 | 11,666 | 20.3 | 76,320 | 21.8 |
| Change in Work or School Location..... | 28,129 | 10.6 | 2,061 | 15.5 | 2,302 | 17.5 | 6,283 | 10.9 | 38,775 | 11.1 |
| Find a Rideshare Partner... Not Need Free | 44,282 | 16.7 | 2,424 | 18.2 | 1,496 | 11.4 | 9,334 | 16.3 | 57,536 | 16.4 |
| Use of Auto..... | 26,458 | 9.9 | 1,212 | 9.1 | 1,036 | 7.9 | 9,334 | 16.3 | 38,040 | 10.9 |
| Only If No Other Mode Available..... | 19,217 | 7.2 | 1,818 | 13.6 | 230 | 1.8 | 5,206 | 9.1 | 26,471 | 7.6 |
| Only If Gasoline Is Rationed..... | 8,077 | 3.0 | 242 | 1.8 | -- | -- | 1,257 | 2.2 | 9,576 | 2.7 |
| Only If Gasoline Becomes Too Costly..... | 3,620 | 1.4 | 242 | 1.8 | 115 | 0.9 | 1,616 | 2.8 | 5,593 | 1.6 |
| Other..... | 23,627 | 8.9 | 727 | 5.5 | 691 | 5.3 | 3,589 | 6.2 | 28,634 | 8.2 |
| Total Reported | 265,924 | 100.0 | 13,332 | 100.0 | 13,122 | 100.0 | 57,439 | 100.0 | 349,817 | 100.0 |
| Not Reported | 42,654 | -- | 2,182 | -- | 2,646 | -- | 15,975 | -- | 63,457 | -- |
| Total | 308,578 | 100.0 | 15,514 | 100.0 | 15,768 | 100.0 | 73,414 | 100.0 | 413,274 | 100.0 |

Source: SEWRPC.

respondents said they would rideshare if a rideshare partner could be found; 22 percent would consider ridesharing if there was a change in work or school hours; and 20 percent said they would not rideshare under any circumstances. The only significant change was in those respondents who would consider ridesharing if there was a change in work or school location which increased to 18 percent in 1982--an increase of 7 percent from 1976 where this response was 11 percent.

CHARACTERISTICS OF CARPOOLS

Characteristics of carpools, particularly important to transportation system management and improvement planning, include size, frequency of use and purpose, driving arrangements, time of day, trip length, and mode shifts due to ridesharing.

As indicated in Table 12, about 70 percent of the ridesharers in the four-county area belonged to carpools that transported two persons in 1982. In 1976 about 61 percent of ridesharers were in two-person carpools. As a result, average carpool occupancy was estimated to have decreased from 2.37 persons in 1976 to 2.27 persons in 1982.¹ In Ozaukee County the percent of two-person carpools increased from 56 percent in 1976 to 86 percent in 1982 and in Milwaukee County the percent of two-person carpools increased from 59 percent in 1976 to 70 percent in 1982.

The frequency of travel to work by ridesharers by county is displayed in Table 13. In 1982, 70 percent of the ridesharers carpooled to work four or more days per week compared to 82 percent in 1976. In 1982, ridesharing was used five or more days per week by 81 percent of ridesharers in Washington County, 80 percent of ridesharers in Ozaukee County, 69 percent of ridesharers in Milwaukee County, and 62 percent of ridesharers in Waukesha County. As shown, there are more persons ridesharing in 1982, however, they do not as frequently use ridesharing on a five day a week basis as did their counterparts in 1976.

As shown in Table 14, approximately 24 percent of the ridesharers drive only, 29 percent are passengers only, and 46 percent share driving in 1982. This percentage distribution has not changed substantially from 1976 where the survey found 23 percent of ridesharers drive only, 34 percent are passengers only, and 43 percent share driving. Rideshare arrangements often reflect auto availability to ridesharers and agreements for sharing the cost of travel. The largest percentage of ridesharers in 1982, 46 percent, apparently prefer to share costs by alternating driving responsibilities. This sharing arrangement has at least two important advantages for the ridesharers. First, there are no direct cash payments to other rideshare members; and second, the auto previously used for the work trip can be made available to other household members on a periodic basis.

¹These findings are corroborated by the Milwaukee County Peak-Hour Auto Occupancy Study, Wisconsin Department of Transportation, Transportation District No. 2, Planning Section, March 1982, which found that carpool occupancy in March 1982 was 2.21 persons per auto during the A.M. peak period.

Table 12

DISTRIBUTION BY CARPOOL SIZE OF RIDESHARERS LIVING
IN THE MILWAUKEE AREA: 1982 AND 1976

| Carpool Size | Milwaukee Area Ridesharers: 1982 | | | | | | | | | |
|---------------------------|----------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|---------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Two Persons..... | 48,308 | 69.9 | 5,404 | 86.0 | 5,532 | 59.3 | 9,308 | 71.7 | 68,552 | 70.1 |
| Three Persons..... | 14,658 | 21.2 | 278 | 4.4 | 1,915 | 20.5 | 2,485 | 19.2 | 19,336 | 19.8 |
| Four Persons..... | 5,124 | 7.4 | -- | -- | 1,431 | 15.3 | 475 | 3.7 | 7,030 | 7.2 |
| Five or More Persons..... | 1,062 | 1.5 | 602 | 9.6 | 455 | 4.9 | 705 | 5.4 | 2,824 | 2.9 |
| Total Reported | 69,152 | 100.0 | 6,284 | 100.0 | 9,333 | 100.0 | 12,973 | 100.0 | 97,742 | 100.0 |
| Not Reported | 3,442 | -- | 429 | -- | 322 | -- | 1,122 | -- | 5,315 | -- |
| Total | 72,594 | 100.0 | 6,713 | 100.0 | 9,655 | 100.0 | 14,095 | 100.0 | 103,057 | 100.0 |
| Average Carpool Occupancy | 2.26 | -- | 2.17 | -- | 2.43 | -- | 2.26 | -- | 2.27 | -- |

| Carpool Size | Milwaukee Area Ridesharers: 1976 | | | | | | | | | |
|---------------------------|----------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|--------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| Two Persons..... | 39,268 | 58.5 | 2,666 | 56.4 | 3,223 | 59.6 | 8,437 | 74.6 | 53,594 | 60.5 |
| Three Persons..... | 19,773 | 29.5 | 1,333 | 28.2 | 1,611 | 29.8 | 1,615 | 14.3 | 24,332 | 27.5 |
| Four Persons..... | 5,292 | 7.9 | 364 | 7.7 | 461 | 8.5 | 1,256 | 11.1 | 7,373 | 8.3 |
| Five or More Persons..... | 2,785 | 4.1 | 364 | 7.7 | 115 | 2.1 | -- | -- | 3,264 | 3.7 |
| Total Reported | 67,118 | 100.0 | 4,727 | 100.0 | 5,410 | 100.0 | 11,308 | 100.0 | 88,563 | 100.0 |
| Not Reported | 1,115 | -- | -- | -- | 115 | -- | 180 | -- | 1,410 | -- |
| Total | 68,233 | 100.0 | 4,727 | 100.0 | 5,525 | 100.0 | 11,488 | 100.0 | 89,973 | 100.0 |
| Average Carpool Occupancy | 2.39 | -- | 2.44 | -- | 2.37 | -- | 2.23 | -- | 2.37 | -- |

Source: SEWRPC.

Table 13

**FREQUENCY OF RIDESHARE USE IN THE MILWAUKEE AREA DURING
AN AVERAGE WEEK FOR TRAVEL TO WORK OR SCHOOL: 1982 AND 1976**

| Number of Days per Week Ridesharing Is Used | Milwaukee Area Ridesharers: 1982 | | | | | | | | | |
|---|----------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|---------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| One..... | 1,668 | 2.3 | 258 | 3.9 | -- | -- | 484 | 3.6 | 2,410 | 2.4 |
| Two..... | 7,340 | 10.3 | 298 | 4.4 | 561 | 5.9 | 1,358 | 10.3 | 9,557 | 9.5 |
| Three..... | 8,930 | 12.6 | 690 | 10.3 | 456 | 4.8 | 1,814 | 13.8 | 11,890 | 11.8 |
| Four..... | 4,424 | 6.2 | 129 | 1.9 | 826 | 8.7 | 1,394 | 10.6 | 6,773 | 6.8 |
| Five or More.... | 48,744 | 68.6 | 5,338 | 79.5 | 7,651 | 80.6 | 8,125 | 61.7 | 69,858 | 69.5 |
| Total Reported | 71,106 | 100.0 | 6,713 | 100.0 | 9,494 | 100.0 | 13,175 | 100.0 | 100,488 | 100.0 |
| Not Reported | 1,488 | -- | -- | -- | 161 | -- | 920 | -- | 2,569 | -- |
| Total | 72,594 | 100.0 | 6,713 | 100.0 | 9,655 | 100.0 | 14,095 | 100.0 | 103,057 | 100.0 |

| Number of Days per Week Ridesharing Is Used | Milwaukee Area Ridesharers: 1976 | | | | | | | | | |
|---|----------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|--------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| One..... | 557 | 0.8 | 242 | 5.5 | 115 | 2.2 | 538 | 4.8 | 1,452 | 1.7 |
| Two..... | 3,063 | 4.7 | 121 | 2.8 | 115 | 2.2 | 359 | 3.3 | 3,658 | 4.2 |
| Three..... | 4,177 | 6.3 | -- | -- | 345 | 6.7 | 179 | 1.6 | 4,701 | 5.4 |
| Four..... | 4,177 | 6.3 | 606 | 13.9 | 345 | 6.7 | 538 | 4.8 | 5,666 | 6.5 |
| Five or More.... | 54,029 | 81.9 | 3,393 | 77.8 | 4,259 | 82.2 | 9,514 | 85.5 | 71,195 | 82.2 |
| Total Reported | 66,003 | 100.0 | 4,362 | 100.0 | 5,179 | 100.0 | 11,128 | 100.0 | 86,672 | 100.0 |
| Not Reported | 2,230 | -- | 365 | -- | 346 | -- | 360 | -- | 3,301 | -- |
| Total | 68,233 | 100.0 | 4,727 | 100.0 | 5,525 | 100.0 | 11,488 | 100.0 | 89,973 | 100.0 |

Source: SEWRPC.

Table 14

**DISTRIBUTION OF RIDESHARERS LIVING IN THE MILWAUKEE
AREA BY DRIVING ARRANGEMENTS: 1982 AND 1976**

| Driving Arrangement | Milwaukee Area Ridesharers | | | |
|---------------------|----------------------------|------------------|--------|------------------|
| | 1982 | | 1976 | |
| | Number | Percent Reported | Number | Percent Reported |
| Drive Only..... | 25,052 | 24.4 | 20,556 | 23.1 |
| Passenger Only..... | 30,119 | 29.3 | 30,192 | 33.9 |
| Share Driving..... | 47,656 | 46.3 | 38,366 | 43.0 |
| Total Reported | 102,827 | 100.0 | 89,114 | 100.0 |
| Not Reported | 230 | -- | 859 | -- |
| Total | 103,057 | 100.0 | 89,973 | 100.0 |

Source: SEWRPC.

The patterns of ridesharers arrival and departure times in 1982 do not differ significantly from those found in the 1976 survey as shown in Figures 1 and 2. Ridesharing continues to be oriented toward peak periods of travel--those times of day when a reduction of vehicles on the highway is most beneficial to overall travel times, fuel efficiency, and dollar savings for rideshare participants.

The median one-way trip length, as shown in Table 15, for the four-county area ridesharers in 1982 was nine miles, and in 1976 was about the same--eight miles. Across counties the median one-way trip length remained at seven miles for Milwaukee County in 1976 and 1982; remained at about the same, 13 miles and 14 miles in Ozaukee County; decreased from 19 miles to 16 miles in Washington County; and remained about the same at 15 miles and 16 miles in Waukesha County. The 1976 survey collected information on trip lengths for nonridesharers which were; for Milwaukee County, five miles; for Washington County, six miles; and for Ozaukee and Waukesha Counties, 10 miles. Comparison of trip lengths by ridesharers and nonridesharers suggests that ridesharers travel longer distances to work than nonridesharers, and that as trip length increases, the proportion of ridesharers increases. Ridesharing appeals to the long distance commuter because, in addition to substantial savings, the increased travel time and/or distance due to ridesharing would account for a relatively small percentage increase in total trip lengths.

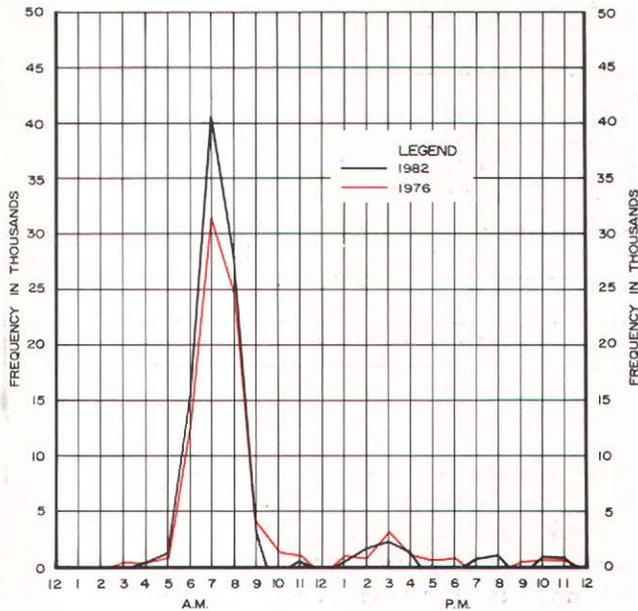
BENEFITS FROM RIDESHARING

The household survey also provides the data necessary to estimate the benefits of the increase in ridesharing in the four-county Milwaukee area from October 1979 to September 1982. The survey indicates that there were approximately 107,000 ridesharers in March 1982, and that in September 1979, there were approximately 85,000 ridesharers in the four-county Milwaukee area. This compares to the estimated 92,000 carpoolers in the four-county Milwaukee area in March 1976 at the end of the original one-year Milwaukee Area Carpool Program.²

²There were 57,000 carpoolers in the four-county area in 1975 at the beginning of the original one-year Milwaukee Area Carpool Program.

Figure 1

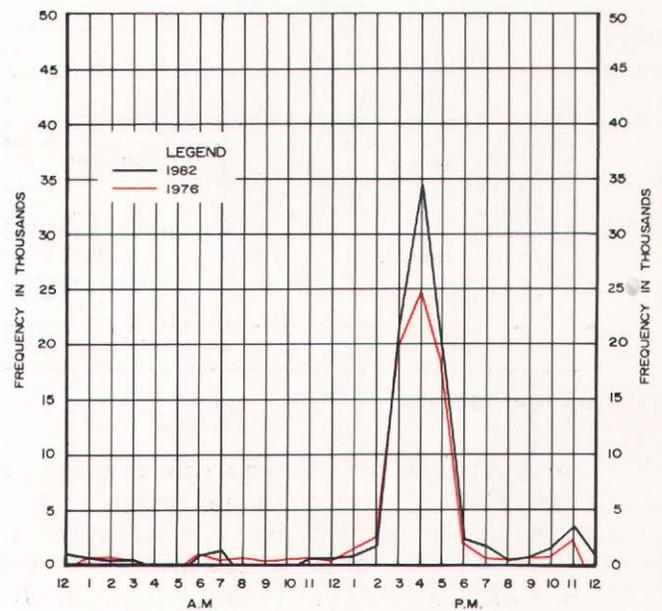
DISTRIBUTION OF RIDESHARER ARRIVAL AT WORK TIMES 1982 AND 1976



Source: SEWRPC.

Figure 2

DISTRIBUTION OF RIDESHARER DEPARTURE FROM WORK TIMES 1982 AND 1976



Source: SEWRPC.

These survey estimates indicate that the number of carpoolers in the Milwaukee area decreased from March 1976 to October 1979, and then increased over the next three years. In this respect, it should be noted that these findings are based on the small sample surveys of area households, and that the estimates of carpools from these surveys can only be considered to be accurate within 10 percent at a 95 percent level of confidence. That is, there are 95 chances out of 100 that the estimates are accurate within 10 percent, and there are 5 chances out of 100 that the estimates are not accurate within 10 percent. The findings of the small sample surveys, however, compare well with automobile occupancies observed by the Wisconsin Department of Transportation on area freeways and surface streets, as shown in Table 16. It is likely that many factors influenced this change in ridesharing. One key factor may be the relative stability of motor fuel prices from 1976 to 1979, and the rapid increase during 1979 and 1980. Another may be the continuation of the rideshare program from 1979 to 1982 after a three-year lapse.

Table 15

DISTRIBUTION OF RIDESHARERS LIVING IN THE MILWAUKEE AREA BY ONE-WAY DISTANCE TRAVELED: 1982 AND 1976

| One-Way Trip Length (miles) | Milwaukee Area Ridesharers: 1982 | | | | | | | | | |
|-----------------------------|----------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|---------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| 1-5..... | 26,960 | 39.5 | 1,392 | 22.3 | 1,810 | 19.2 | 1,358 | 10.3 | 31,520 | 32.5 |
| 6-10..... | 21,634 | 31.7 | 1,123 | 18.0 | 1,755 | 18.6 | 2,336 | 17.7 | 26,848 | 27.6 |
| 11-15..... | 14,762 | 21.6 | 860 | 13.8 | 1,869 | 19.9 | 2,795 | 21.2 | 20,286 | 20.9 |
| 16-20..... | 2,958 | 4.3 | 278 | 4.5 | 1,120 | 11.9 | 2,767 | 21.0 | 7,123 | 7.3 |
| 21-25..... | 954 | 1.4 | 1,208 | 19.4 | 779 | 8.3 | 1,640 | 12.4 | 4,581 | 4.7 |
| 26-30..... | 400 | 0.6 | 1,108 | 17.8 | 484 | 5.1 | 1,578 | 12.0 | 3,570 | 3.7 |
| 31 and Over..... | 592 | 0.9 | 263 | 4.2 | 1,602 | 17.0 | 705 | 5.4 | 3,162 | 3.3 |
| Total Reported | 68,260 | 100.0 | 6,232 | 100.0 | 9,419 | 100.0 | 13,179 | 100.0 | 97,090 | 100.0 |
| Not Reported | 4,334 | -- | 481 | -- | 236 | -- | 916 | -- | 5,967 | -- |
| Total | 72,594 | 100.0 | 6,713 | 100.0 | 9,655 | 100.0 | 14,095 | 100.0 | 103,057 | 100.0 |
| Median Miles | 7 | -- | 13 | -- | 16 | -- | 16 | -- | 9 | -- |

| One-Way Trip Length (miles) | Milwaukee Area Ridesharers: 1976 | | | | | | | | | |
|-----------------------------|----------------------------------|------------------|----------------|------------------|-------------------|------------------|-----------------|------------------|--------|------------------|
| | Milwaukee County | | Ozaukee County | | Washington County | | Waukesha County | | Total | |
| | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported | Number | Percent Reported |
| 1-5..... | 24,233 | 38.7 | 1,331 | 29.7 | 1,840 | 34.0 | 1,618 | 16.4 | 29,022 | 35.2 |
| 6-10..... | 24,231 | 38.7 | 726 | 16.2 | 230 | 4.3 | 1,617 | 16.4 | 26,804 | 32.5 |
| 11-15..... | 8,358 | 13.3 | 1,211 | 27.1 | 460 | 8.5 | 2,514 | 25.4 | 12,543 | 15.2 |
| 16-20..... | 3,344 | 5.3 | 727 | 16.2 | 920 | 17.0 | 1,616 | 16.4 | 6,607 | 8.0 |
| 21-25..... | 1,114 | 1.8 | 363 | 8.1 | 1,151 | 21.3 | 2,158 | 21.8 | 4,786 | 5.8 |
| 26-30..... | 557 | 0.9 | -- | -- | 575 | 10.6 | 180 | 1.8 | 1,312 | 1.6 |
| 31 and Over..... | 837 | 1.3 | 121 | 2.7 | 230 | 4.3 | 180 | 1.8 | 1,368 | 1.7 |
| Total Reported | 62,674 | 100.0 | 4,479 | 100.0 | 5,406 | 100.0 | 9,883 | 100.0 | 82,442 | 100.0 |
| Not Reported | 5,559 | -- | 248 | -- | 119 | -- | 1,605 | -- | 7,531 | -- |
| Total | 68,233 | 100.0 | 4,727 | 100.0 | 5,525 | 100.0 | 11,488 | 100.0 | 89,973 | 100.0 |
| Median Miles | 7 | -- | 14 | -- | 19 | -- | 15 | -- | 8 | -- |

Source: SEWRPC.

Table 16

COMPARISON OF 1976 AND 1982 HOUSEHOLD SURVEY ESTIMATED CARPOOLERS AND AUTOMOBILE OCCUPANCY SURVEY ESTIMATED CARPOOLERS

| Household Surveys | | | Carpooling Estimates ^a | | |
|---|----------------------|--|-----------------------------------|--------|--------|
| | | | 1976 | 1979 | 1982 |
| | | | Total carpoolers..... | 92,000 | 85,000 |
| Carpoolers as a percent of commuters..... | | 18 | 15 | 18 | |
| Automobile Occupancy Survey | Automobile occupancy | A.M. peak hour | | | |
| | | Freeways..... | 1.22 | 1.17 | 1.23 |
| | | Surface streets.... | 1.24 | 1.23 | 1.25 |
| | | Total | 1.23 | 1.19 | 1.24 |
| | P.M. peak hour | Freeways..... | 1.30 | 1.24 | -- |
| | | Surface streets.... | 1.34 | 1.32 | -- |
| | | Total | 1.32 | 1.27 | -- |
| | | Occupants of multiple occupant automobile as a percent of total occupants of all automobiles | A.M. peak hour | | |
| Freeways..... | 32.3 | | 27.9 | 34.3 | |
| Surface streets.... | 35.0 | | 33.9 | 35.7 | |
| Total | 33.4 | | 29.7 | 34.7 | |
| P.M. peak hour | Freeways..... | 41.1 | 36.4 | -- | |
| | Surface streets.... | 45.9 | 44.3 | -- | |
| | Total | 43.3 | 39.2 | -- | |

^a The automobile occupancy surveys were undertaken in March of 1976, 1979, and 1982. The household surveys were undertaken in March of 1976 and 1982.

Source: Wisconsin Department of Transportation and SEWRPC.

The benefits of the estimated increase of 22,000 ridesharers in the four-county Milwaukee area from October 1979 to September 1982 are quantified in Table 17 in terms of direct user cost savings and energy savings. The user cost and energy savings are based on estimated savings in vehicle-miles of travel which, in turn, are based on the increase in carpools, the average carpool occupancy, the average one-way carpool trip length, the previous mode of travel of the carpools, and the average cost of gasoline and of automobile travel over the duration of the program. The estimated benefits of the increase in ridesharing over the three years--\$10.8 million in total user cost savings and \$3.9 million fuel cost savings--is substantial.

As noted earlier, the total estimated increase in carpools and benefits cannot be attributed to the Milwaukee Area Rideshare program. However, if as little as 2 percent, or 450 new carpools, could be attributed to the program, its benefits would outweigh its costs. Over 5,600 people requested a match with a potential carpooler under the program, and over 3,600 were provided a match with at least one potential carpool member. Applications for carpool matching were higher during periods of intensive employer contacts and advertising, and immediately after the roadside signs displaying the rideshare information telephone number were installed. The 1976 survey following the initial carpool program indicated that 23 percent of the new carpools since the program initiation considered their joining a carpool to be directly influenced by the program. Therefore, it may be concluded that the public user benefits of the program substantially exceed its costs.

Table 17

ESTIMATE OF ENERGY COST AND USER COST SAVINGS
DUE TO THE INCREASE IN RIDESHARING IN THE FOUR-COUNTY
MILWAUKEE AREA FROM OCTOBER 1979 TO SEPTEMBER 1982

| Savings Estimate | Estimate of Energy Cost and User Cost Savings |
|--|---|
| Average Number of Additional Ridesharers per Year ^a .. | 12,800 carpoolers |
| Average Carpool Occupancy Rate..... | 2.27 persons per carpool |
| Average Number of Days per Week Carpooled..... | 4.3 days per week |
| Median Carpool Trip Length (one-way)..... | 9 miles |
| Percent of Carpoolers Whose Previous Mode of Travel was Auto Driver..... | 62 percent |
| Estimate VMT Savings per Year ^b | 16.5 million VMT |
| Total Energy Cost ^c Savings per Year of Program | \$1.26 million |
| Total User Cost ^d Savings per Year of Program | \$3.6 million |

^aThe estimate of the average number of additional ridesharers per year assumes that the number of additional ridesharers increased uniformly from October 1979 to a total of 22,000 in March 1982, and was maintained at that level to September 1982.

$$\begin{aligned}
 \text{b VMT Savings per Year} &= \left[\begin{array}{c} \text{average} \\ \text{additional} \\ \text{number of} \\ \text{ridesharers} \\ \text{per year} \end{array} \right] \times \left[\begin{array}{c} \text{proportion of} \\ \text{ridesharers who} \\ \text{were formerly} \\ \text{auto drivers} \end{array} \right] \times \left[\begin{array}{c} \text{Median} \\ \text{ridesharer} \\ \text{trip length} \\ \text{in miles} \end{array} \right] \\
 &\times 2 \times \left[\begin{array}{c} \text{average carpool} \\ \text{occupancy} - 1 \\ \text{average carpool} \\ \text{occupancy} \end{array} \right] \times \left[\begin{array}{c} \text{average number} \\ \text{of days car-} \\ \text{pooled per week} \\ 5 \end{array} \right] \\
 &\times (240 \text{ workdays per year}) \\
 &= (12,800) \times (0.62) \times (9) \times 2 \times \left[\frac{2.27 - 1.0}{2.27} \right] \\
 &\times \frac{4.3}{5} \times 240 = 16.5 \text{ million vehicle miles of travel.}
 \end{aligned}$$

$$\begin{aligned}
 \text{c Total Energy Cost Savings per Year} &= \left[\begin{array}{c} \text{VMT savings} \\ \text{per year} \end{array} \right] \times \left[\begin{array}{c} 1 \\ \text{average auto} \\ \text{fuel efficiency} \\ \text{in mpg} \end{array} \right] \times \left[\begin{array}{c} \text{average auto} \\ \text{motor fuel price} \\ \text{in dollars} \\ \text{per gallon} \end{array} \right] \\
 &= 16.5 \text{ VMT} \times \frac{1}{16.5} \times (\$1.26) \\
 &= 1.0 \text{ million gallons of fuel saved} \times (\$1.26) \\
 &= \$1.26 \text{ million}
 \end{aligned}$$

Average fuel efficiency based on average reported by FHWA in 1979, 1980, 1981, and 1982. Average fuel price based on average price in 1979, 1980, 1981, and 1982.

$$\begin{aligned}
 \text{d Total User Cost Savings per Year} &= \left[\begin{array}{c} \text{VMT savings} \\ \text{per year} \end{array} \right] \times \left[\begin{array}{c} \text{cost per mile} \\ \text{of auto travel} \end{array} \right] \\
 &= (16.5 \text{ million VMT}) \times (\$0.226)
 \end{aligned}$$

Cost per mile based on average of compact and intermediate automobile costs reported by FHWA in 1979 and 1982.

Source: SEWRPC.

(This page intentionally left blank)

Chapter IV

EVALUATION AND RECOMMENDATIONS

INTRODUCTION

The preceding chapters of this report provided a description of the Milwaukee Area Rideshare Program, an estimate of the impacts of the program on ridesharing in the four-county Milwaukee area as determined from a household survey, and a comparison of the benefits and costs of the program. The second Milwaukee Area Rideshare Program provided rideshare promotion and matching activities over a three-year period, from October 1979 through September 1982. A survey of households of the four-county Milwaukee area indicated that in March 1982, the number of ridesharers in the four-county area had increased from 85,000 at the initiation of the program to 107,000, an increase of 22,000, or about 25 percent since the initiation of the program. Of this total increase, 4,400, or 20 percent, could be conservatively attributed to the efforts of the rideshare program, based upon the finding in the 1976 survey that over 20 percent of new ridesharers considered themselves to be influenced by the rideshare program. The annual user cost savings accruing to that proportion of the new ridesharers which could be attributed to the existence of the program, estimated at \$720,000 per year, would substantially exceed the costs of the program estimated at \$75,000 per year.¹

In the following sections of this chapter, recommendations regarding the continuation of the program are set forth.

CONTINUATION OF RIDESHARE PROGRAM

Due to the substantial benefits accruing from the rideshare program, as compared to the modest cost of the program, it is recommended that the program be continued. The direct user cost savings attendant to the carpools formed as a result of the program should substantially exceed the direct costs of the program. In addition, the increase in ridesharing which may be expected to be achieved by a continuing program offers significant additional indirect benefits to the greater Milwaukee area, including reduced air pollutant and noise emissions from automobiles, and reduced demands for peak travel period arterial street and highway system capacity and for automobile parking space.

The results of the 1982 household survey indicated that a continuing rideshare program could be expected to further increase carpooling in the greater Milwaukee area. It was estimated that a total of 103,000 employed persons may be considered to constitute a pool of latent demand for ridesharing which could be converted to actual ridesharing with the continuation of the program. Of

¹Annual cost per capita ranged from \$0.07 to \$0.19 for six ridesharing agencies providing similar service, as noted in Table 6 of National Cooperative Highway Research Report No. 241, December 1981, entitled, Guidelines for Using Vanpools and Carpools as a TSM Technique. The four-county Milwaukee area rideshare program averaged \$0.05 annually per capita.

these 103,000 employed nonridesharers, 37 percent, or 38,000, stated that they do intend to rideshare in the near future, and the remaining 63 percent, or 65,000 persons, stated that they do not intend to rideshare, but would if they found an appropriate rideshare partner. If present ridesharers in the Milwaukee area would continue ridesharing, and the 103,000 persons constituting the latent demand were to join carpools, then the percentage of employed persons in the four-county area participating in ridesharing would increase to over 35 percent, or about double that of the existing level of ridesharing. Termination of the program, or a substantial reduction in its scope, may be expected to not only result in a failure to serve this latent demand, but may be expected to result in a reduction in the current participation in ridesharing in the Milwaukee area. Such a reduction occurred from 1976 through 1979. Accordingly, it is recommended that the current program be continued.

RECOMMENDATIONS FOR FUTURE ACTIVITIES OF A CONTINUED MILWAUKEE AREA RIDESHARE PROGRAM

The following set of recommendations for a continued Milwaukee Area Rideshare Program are provided based on an analysis of the results of the 1982 household survey, review of the activities of the Milwaukee Area Rideshare Program from 1979 through 1982, and a review of the original rideshare program from 1975 through 1976.

- The geographic area served should include all of southeastern Wisconsin. There are, for example, substantial numbers of relatively long work trips made between the Milwaukee urbanized area and the Kenosha and Racine urbanized areas. These trips are good candidates for conversion to ridesharing.
- Representatives of agencies of government responsible for transportation system management and improvement throughout southeastern Wisconsin should be encouraged to become actively involved in rideshare promotion. The credibility and influence of persons conducting employer contacts may be enhanced if local transportation officials are involved and if the rideshare promotion can be viewed as a comprehensive effort of traffic management for southeastern Wisconsin.
- The rideshare program should consider the expansion of matching services to include: a telephone follow-up to recipients of match lists three to seven days after mailing the match list; where feasible, conference call matching to establish contacts between potential ridesharers; and either the procurement of equipment and personnel to conduct interactive matching--that is, necessary computer hardware and software to enable instant matching by way of telephone; or, as an alternative to interactive matching, one-day turn-around of requests for matching services. In addition, the file of applicants should be systematically updated on a regular basis to assure that persons requesting match lists are provided the names of persons still seeking to share a ride. Every effort should be made to increase the size of the match list, thereby increasing the probability of obtaining successful matches.

- Increase the development and promotion of the use of public park-ride and park-pool lots as meeting places for ridesharers.
- Continue to promote the use of vanpools, buspools, and taxipools. Reductions in the number of vehicles in certain areas of heavy traffic congestion, especially during peak travel periods, could be attained by the use of high-occupancy vehicles--buspools and vanpools--especially where clusters of home and work locations can be identified. All of the various forms of vanpooling should be considered--employer-sponsored, where the employer owns the van and recovers expenses by charging fees to the riders; owner-operator, where private parties own the van and charge fees to fellow riders; and third party, where a leasing company provides a vehicle for rideshare purposes. Under certain circumstances taxipools should be considered; for example, as a link between transit lines and employment sites; during hours when transit lines do not operate; and as a form of ridesharing where none of the participants has an auto available. Taxi operators should consider discounting the usual metered fare for such taxipools.
- Develop a diversified marketing campaign with a variety of themes and appeals to reach the entire spectrum of employed persons. The promotion of ridesharing need not rely solely on civic appeal but should emphasize the benefits of ridesharing--especially the attendant cost savings. Promotions should show ridesharing as an enjoyable, as well as cost saving, experience. Marketing efforts while continuing the use of radio advertising should concentrate more heavily on television advertising. Importantly, the benefits of ridesharing should continue to be emphasized and promoted among persons traveling on major highways. For example, the rideshare information signs which were installed in May 1981, were noted by many applicants for rideshare matching as their source of knowledge of the program. Efforts need to be continued to emphasize that the rideshare program does not charge for its services.

(This page intentionally left blank)

Chapter V

SUMMARY

Milwaukee County first became actively involved in carpool promotion and matching in April 1975. With the aid of a Federal Highway Administration grant, Milwaukee County operated a one-year carpool promotion and matching program from April 1975 to April 1976. The elements of this program and its estimated impacts were described in SEWRPC Technical Report No. 20, Carpooling in the Metropolitan Milwaukee Area, March 1977. It was specifically recommended in that report that the carpool promotion and matching activities be continued. Pursuant to that recommendation, Milwaukee County prepared and submitted on February 6, 1978, a formal application for a federal grant in partial support of the continuation of the program for an additional three-year period. This application was approved by the Federal Highway Administration on September 17, 1979, and was funded at an annual level of \$75,000, using 75 percent federal aid urban funds and 25 percent Milwaukee County funds. The program design consisted of two elements: 1) a rideshare promotion and matching program, and 2) an evaluation of the program and recommendations for future actions.

THE RIDESHARE PROMOTION AND MATCHING PROGRAM

The rideshare promotion and matching activities of the Milwaukee Area Rideshare Program (MARP) were operational from October 1979 through September 1982. During the first year of the program--October 1979 through September 1980--the following activities were conducted: a program of rideshare promotion through individual contacts with major employers and business and government leaders, a program of rideshare promotion through advertising and newspaper articles, and the provision of matching services for potential rideshare members.

Promotional materials and rideshare matching applications were sent to approximately 450 employers. Rideshare program staff met with 33 employers who expressed an interest in rideshare promotion. The promotional campaign of individual contacts also included staff presentations at two Metropolitan Milwaukee Association of Commerce meetings, resulting in the provision of information to an additional 40 major employers. Other contact activities included information displays at the 1980 Wisconsin State Fair, the Energy Conservation Fair, Alverno College, and the Brookfield Square Shopping Center. In addition, displays and rideshare information were provided to the American Lung Association for use at their information displays.

The program obtained the donation of \$57,000 worth of public service advertising from local radio and television stations. This was in addition to several newspaper articles published in the two major daily newspapers serving the Milwaukee area and numerous articles published in various community newspapers as a public service.

During the first year of operation, more than 1,300 requests for rideshare matching were received. The Southeastern Wisconsin Regional Planning Commission provided the computer services required to facilitate the matching of the rideshare requests.

During the second year of the program, from October 1980 through September 1982, the three program elements of the first year, specifically promotion through individual contact of employers, promotion through advertising and special events, and provision of matching services, were continued. The promotion of carpooling through employer contacts, however, was focused on geographical concentrations of large employers in order to increase the probability of successfully matching rideshare applicants; to permit the transportation problems unique to each area of employment concentration to be recognized; and to permit program staff time to be used more efficiently. Nine concentrations, with a total of 262 major employers, were identified and contacts were made with 184 employers in five of the areas. A computerized information system was developed to maintain information about each employer contacted.

Also during the second year of the project, a comprehensive inventory, evaluation, and improvement of program promotional materials was made in addition to shortening the program's name to RIDESHARE and changing the telephone number to 272-RIDE. A new means of promotion was added to the program in the second year, when a total of 44 highway signs reading "RIDESHARE INFO: CALL 272-RIDE" were installed along heavily traveled arterial streets and highways.

During the third year of the program, the promotional and matching services were maintained and an evaluation of the program was carried out. As stated, the findings and recommendations of that evaluation are presented in this report.

Other Rideshare Programs in Southeastern Wisconsin

From April 1978 through December 1980, the University of Wisconsin-Extension, Division of Urban Outreach, Office of Statewide Transportation Programs (OSTP), also carried out a rideshare promotion project in the Milwaukee area. A total of 500 large traffic generators within a radius of 150 miles of the City of Milwaukee was identified. Of these, 84 were contacted by project staff, and of the 84 contacted, seven requested that the project staff conduct a rideshare study. Five of these seven were located in the four-county greater Milwaukee area. Recommendations were developed and presented to each of the seven large traffic generators; however, continuing assistance by the OSTP was not requested by any of these large traffic generators.

The Wisconsin Department of Transportation (WisDOT) has available \$200,000 to fund vanpools of employers with 15 or more employees. These funds cover 75 percent of the loan required to obtain a van, and up to \$500 per vehicle of the reasonable promotional, matching, and administrative expenses during the first year of the employer's vanpool operation. In addition, the Wisconsin Department of Administration (DOA) operates about 70 vanpools within the State primarily for State employees. The vanpools serve over 900 employees in total. In the Southeastern Wisconsin Region, there were five DOA vanpools operating in 1982.

FINDINGS OF THE EVALUATION OF THE PROGRAM

An evaluation of the program was initiated in March 1982, during the third year of the program, with the conduct of a survey of Milwaukee area households. The survey was designed to establish the change in ridesharing over the duration of the program. It was also designed to: determine pertinent characteristics of existing carpools; determine socioeconomic characteristics of rideshare participants; identify factors influencing a person's decision to rideshare; determine the extent to which ridesharing promotes energy conservation; estimate the latent demand for ridesharing; and determine the extent to which workers know of and understand the services provided by the Milwaukee Area Rideshare Program. The 1982 household survey consisted of a random sample of occupied housing units in Milwaukee, Ozaukee, Washington, and Waukesha Counties. Of the 2,409 survey instruments delivered, 1,727 completed questionnaires, or 72 percent, were returned, resulting in an overall sample rate of 0.35 percent of the households in the four-county area. The survey was carefully controlled so that it could be used to estimate the extent and effects of ridesharing in the four-county area served by the MARP.

To establish the representativeness of the survey, distributions of households by household income range by county and employed persons by county obtained from the survey were compared with the 1980 Census. In addition, vehicle availability figures as obtained from the household survey were compared to vehicle availability estimates based on vehicle registrations for fiscal year 1982. Examination of these data revealed an acceptable degree of correspondence between the comparisons, indicative of a high level of representativeness in the survey.

From information obtained in the survey, it was determined that a total of 583,000 persons 18 years of age or older living in the four-county area traveled to work on a regular basis in 1982. Of these persons, 107,300, or about 18 percent, traveled by carpool. The percentage of ridesharers as a percent of employed persons residing in each county was determined to be about 27 percent in Washington County; 23 percent in Ozaukee County; 19 percent in Milwaukee County; and 13 percent in Waukesha County.

Survey estimates indicate that the number of ridesharers in the Milwaukee area decreased from 92,000 in 1976 to 85,000 at the initiation of a continued program in 1979, and then increased to 107,000 in March 1982. The benefits which may be attributed to this estimated increase of 22,000 carpools from October 1979 to September 1982 are \$10.8 million in total user cost savings and \$3.8 million fuel cost savings. Not all of the estimated 22,000 additional ridesharers can be attributed as the direct result of the program; however, if as little as 2 percent, or 450 of the 22,000 new carpools, decided to rideshare as a direct result of the program, its benefits would outweigh its cost. In this respect, it should be noted that over 5,600 people requested a match list with a potential carpooler and over 3,600 were provided a match list with at least one potential carpool member.

In 1982 about 70 percent of the ridesharers belonged to carpools that transported two persons, while 61 percent were in two-person carpools in 1976. As a result, average carpool occupancy decreased from 2.37 in 1976 to 2.27 persons in 1982.

There were more persons ridesharing in 1982--107,300--compared to 92,000 in 1976; however, they did not rideshare as frequently as did their counterparts in 1976. In 1982, 70 percent of the ridesharers carpooled to work four or more days per week, compared to 82 percent in 1976.

The 1982 finding that approximately 24 percent of the ridesharers drove only, 29 percent were passengers only, and 46 percent shared driving is similar to findings in the 1976 survey. Also, arrival and departure times did not differ significantly from those found in the 1976 survey--ridesharing continued to be oriented toward peak periods of travel.

Ridesharing appeals to the long distance commuter because, in addition to substantial savings, the increased travel time and/or distance associated with the ridesharing accounts for a relatively small percentage increase in total trip lengths. In 1982, the median trip length was nine miles and in 1976 it was eight miles.

In both 1982 and 1976, the most frequently listed reason for ridesharing was to save money--with 28 percent and 27 percent, respectively, of the respondents giving this reason.

The survey indicated that the effectiveness of the MARP promotional campaign to inform the public of its services has declined from its 1976 level of 68 percent, with at least one member of the household being aware of its services, to 61 percent. This decline indicates that advertising and promotional activities may need to be made more effective. The most effective information dissemination channel used by the MARP was found to be the highway signs placed in May 1981 which read, "RIDESHARE INFO--CALL 272-RIDE," reported by 41 percent of the ridesharers as a source of information on the program.

According to survey findings, approximately one-third of the nonridesharers in 1982 did not carpool because their work times and/or locations change too frequently, and an additional 18 percent did not because there was no rideshare partner available.

In both 1982 and 1976, about 9 percent of nonrideshare respondents stated that they intend to rideshare in the future.

In 1982, respondents who said they did not intend to rideshare cited the following as circumstances that would cause a decision to rideshare: finding a rideshare partner, 17 percent; change in job or school hours, 19 percent; and a change in work or school location, 18 percent. In 1976, approximately 16 percent of the respondents said they would rideshare if a rideshare partner could be found and 22 percent would consider ridesharing if there was a change in work or school hours.

Recommendations

Due to the benefits accruing from the rideshare program, as compared to the modest cost of the program, it is recommended that the program be continued. It was estimated that a total of 103,000 employed persons may be considered to constitute a pool of latent demand for ridesharing, a significant proportion of which may be converted to actual ridesharing with the continuation of the program.

In order that the continued rideshare program might be made more effective, certain specific recommendations for improvement of the program were developed. It is recommended that the geographic area served include all of southeastern Wisconsin. There are, for example, substantial numbers of relatively long work trips made between the Milwaukee urbanized area and the Kenosha and Racine urbanized areas. These trips are good candidates for conversion to ridesharing.

So that ridesharing is not viewed as an isolated transportation program for Milwaukee County only, it is recommended that representatives of governmental agencies responsible for transportation system management and improvement throughout southeastern Wisconsin be encouraged to become actively involved in rideshare promotion. The credibility and influence of persons conducting employer contacts may be enhanced if local transportation officials are involved and if rideshare promotion can be viewed as a comprehensive effort of traffic management for southeastern Wisconsin.

In order to improve the timeliness of the program response to applicants for rideshare matching, it is recommended that the rideshare program consider the expansion of matching services to include: a telephone follow-up to recipients of match lists three to seven days after mailing the match list; where feasible, conference call matching to establish contacts between potential ridesharers; and either the procurement of equipment and personnel to conduct interactive matching--that is, necessary computer hardware and software to enable instant matching by way of telephone; or, as an alternative to interactive matching, one-day turn-around of requests for matching services. In addition, the file of applicants should be systematically updated on a regular basis to assure that persons requesting match lists are provided the names of persons still seeking to share a ride. Every effort should be made to increase the size of the match list, thereby increasing the probability of obtaining successful matches.

It is recommended that the program increase the development and promotion of use of public park-ride and park-pool lots as meeting places for ridesharers.

It is also recommended that the rideshare program continue to promote the use of vanpools, buspools, and taxipools. Reductions in the number of vehicles in certain areas of heavy traffic congestion, especially during peak travel periods, could be attained by the use of high-occupancy vehicles--buspools and vanpools--especially where clusters of home and work locations can be identified. All of the various forms of vanpooling should be considered--employer-sponsored, where the employer owns the van and recovers expenses by charging fees to the riders; owner-operator, where private parties own the van and charge fees to fellow riders; and third party, where a leasing company provides a vehicle for rideshare purposes. Under certain circumstances taxipools should be considered; for example, as a link between transit lines and employment sites; during hours when transit lines do not operate; and as a form of ridesharing where none of the participants has an auto available. Taxi operators should consider discounting the usual metered fare for such taxipools.

In order to encourage a wider participation in ridesharing, it is recommended that the program develop a diversified marketing campaign with a variety of themes and appeals to reach the entire spectrum of employed persons. The promo-

tion of ridesharing need not rely solely on civic appeal but should emphasize the benefits of ridesharing--especially the attendant cost savings. Promotions should show ridesharing as an enjoyable, as well as cost saving, experience. Marketing efforts, while continuing the use of radio advertising, should concentrate more heavily on television advertising. Importantly, the benefits of ridesharing should continue to be emphasized and promoted among persons traveling on major highways. For example, the rideshare information signs which were installed in May 1981, were noted by many applicants for rideshare matching as their source of knowledge of the program. Efforts need to be continued to emphasize that the rideshare program does not charge for its services.

APPENDICES

(This page intentionally left blank)

Appendix A

RIDESHARE QUESTIONNAIRES

SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

916 NO EAST AVENUE • P O BOX 769 • WAUKESHA, WISCONSIN 53187 • TELEPHONE (414) 547-6721

Serving the Counties of:

MENOSHA
MILWAUKEE
OZAUKEE
RACINE
WALWORTH
WASHINGTON
WAUKESHA



March 1, 1982

Dear Householder:

Officials responsible for planning and developing transportation facilities in the greater Milwaukee area are concerned about the effect of ride-sharing--that is, carpooling and vanpooling--on the travel habits and patterns of the public. Therefore, at the request of the Wisconsin Department of Transportation, Milwaukee County, and the University of Wisconsin Extension-Office of Statewide Transportation Programs, the Southeastern Wisconsin Regional Planning Commission is conducting a ridesharing survey of selected households. The results of this survey will aid the rideshare program sponsored by Milwaukee County in evaluating ridesharing activities in the four-county area of Milwaukee, Ozaukee, Washington, and Waukesha Counties. By carefully completing the enclosed questionnaire, you will be making an important contribution to the planning of transportation facilities for this area, thereby performing a valuable public service.

The questionnaire should be completed by the head of the household or spouse. Please answer the questions to the best of your ability.

A high rate of response from both ridesharers and from those who don't currently rideshare is essential in order to properly evaluate ridesharing programs. Therefore, a follow-up telephone call will likely be made to all households that have not returned the questionnaire after approximately one week. If your household finds it difficult to answer any of the questions, please call Mr. John L. Zastrow of the Regional Planning Commission staff at 547-6721 for assistance. After answering all applicable questions, you may place the questionnaire in the self-addressed return envelope provided and drop it in any U. S. mailbox.

Your answers will be kept entirely confidential and will be compiled with others for planning purposes only.

Thank you for your cooperation in this matter.

Sincerely,

Kurt W. Bauer
Executive Director

KWB/kk
Enclosure

RIDESHARE SURVEY

SECTION I

1. Have you or anyone in your household heard about the Milwaukee Area Rideshare Program (MARP) before receiving this questionnaire?

Yes No

If yes, how did your household hear about the MARP? (check any that apply).

- 1. Brochures.
- 2. TV advertisements.
- 3. Radio advertisements.
- 4. Billboards.
- 5. Ads in newspapers.
- 6. Employer contact.
- 7. Public speakers at interested groups.
- 8. Highway rideshare information signs.
- 9. Our household was unaware of any of the above.
- 10. Relative or friend.
- 11. Other (specify) _____

Do you know that the Milwaukee Area Rideshare Program (MARP):

- Yes No
- ___ 1. Can be used by anyone living or working in the four counties of Milwaukee, Ozaukee, Washington, or Waukesha?
 - ___ 2. Can match potential ridesharers?
 - ___ 3. Can be signed up for by simply asking for and submitting an application?
 - ___ 4. Furnishes information on ridesharing to the press, TV, radio, and for company newsletters?
 - ___ 5. Assists firms/agencies in initiating and maintaining programs for their employees?
 - ___ 6. Does not charge for any of these services?

EXPLANATORY NOTE

YOU ARE A RIDESHARER IF TWO OR MORE PERSONS SHARE THE RIDE TO WORK OR SCHOOL IN THE SAME AUTO, TRUCK, OR VAN. THIS INCLUDES MEMBERS OF THE SAME HOUSEHOLD.

2. How many household members over the age of eighteen rideshare--carpool or vanpool--on a regular basis to work or school? _____

(IF RESPONSE IS ZERO, GO DIRECTLY TO SECTION II)

3. What is the relationship of each ridesharer to the head of the household?

Ridesharer #1 Ridesharer #2

- 1. Head of household
- 2. Spouse
- 3. Son
- 4. Daughter
- 5. Other relative
- 6. Roommate or Partner
- 7. Boarder

4. What is the age, sex, and driver license status of each ridesharer?

| | Age | Sex | | Licensed Driver | |
|---------------|-----|------|--------|-----------------|-----|
| | | Male | Female | Yes | No |
| Ridesharer #1 | ___ | ___ | ___ | ___ | ___ |
| Ridesharer #2 | ___ | ___ | ___ | ___ | ___ |

5. What is the highest educational level completed by each ridesharer?

Ridesharer #1 Ridesharer #2

- 1. Some grade school
- 2. Grade school graduate
- 3. Some high school
- 4. High school graduate
- 5. Some college
- 6. College graduate
- 7. Post-graduate studies

6. What is the occupation and employer's/school's name of each ridesharer?

| | Occupation | Employer/School |
|---------------|------------|-----------------|
| Ridesharer #1 | _____ | _____ |
| Ridesharer #2 | _____ | _____ |

7. Has your employer or school provided information on ridesharing?

Ridesharer #1 _____yes _____no Ridesharer #2 _____yes _____no

8. During an average week, how often is ridesharing used?

_____ Times for travel to work/school

Ridesharer #1 _____ Times for travel from work/school

_____ Times for travel to work/school

Ridesharer #2 _____ Times for travel from work/school

9. At what times do the ridesharers usually arrive at and depart from work or school?

| | Time of Arrival | Time of Departure |
|---------------|------------------------------|------------------------------|
| Ridesharer #1 | _____ A.M. (Circle P.M. one) | _____ A.M. (Circle P.M. one) |
| Ridesharer #2 | _____ A.M. (Circle P.M. one) | _____ A.M. (Circle P.M. one) |

10. What is the one-way distance and how long does it usually take to get to work or school?

| | Miles | Minutes |
|---------------|-------|---------|
| Ridesharer #1 | _____ | _____ |
| Ridesharer #2 | _____ | _____ |

11. Including the ridesharer, how many persons are usually in each carpool/vanpool?

| | Carpool | Vanpool |
|---------------|---------|---------|
| Ridesharer #1 | _____ | _____ |
| Ridesharer #2 | _____ | _____ |

12. What are the driving arrangements for each ridesharer in the household?

Ridesharer #1 Ridesharer #2

- 1. Driver only
- 2. Passenger only
- 3. Shares driving with one or more persons

If you answered 1 or 3 above, what type of vehicle does the ridesharer usually drive?

| | Type of Vehicle (auto, van, or truck) | Make/Model | Year |
|---------------|---------------------------------------|------------|-------|
| Example: | Auto | Olds Omega | 1980 |
| Ridesharer #1 | _____ | _____ | _____ |
| Ridesharer #2 | _____ | _____ | _____ |

13. Could a bus be used for that work or school trip?

Ridesharer #1 ___Yes___No Ridesharer #2 ___Yes___No

14. What mode of travel was used prior to ridesharing?

Ridesharer #1 Ridesharer #2

1. Drive alone
2. Passenger in family car
3. Auto part-way; bus part-way
4. Bus
5. Motorcycle
6. Walk or bicycle
7. Other (specify)
Ridesharer #1 _____
Ridesharer #2 _____
8. Always carpooled/vanpooled
9. Did not make trip

(IF RESPONSE IS OTHER THAN 1 OR 3, GO TO QUESTION 17)

15. Is the auto, not needed because of ridesharing, being used during the work or school day by other household members?

Ridesharer #1 ___Yes___No Ridesharer #2 ___Yes___No

If yes, how often is it being used by other household members?

| | |
|---------------------------|---------------------------|
| Ridesharer #1 | Ridesharer #2 |
| ___ days per week | ___ days per week |
| ___ average miles per day | ___ average miles per day |

16. Since joining a carpool/vanpool, do you estimate that the total miles driven on all vehicles available to your household have:

1. Increased approximately _____ miles per year
2. Decreased approximately _____ miles per year
3. Remained substantially unchanged _____

If changed, has this been due to ridesharing? ___yes___no

17. What were the main reasons that each ridesharer joined a carpool/vanpool?

Enter three choices

Ridesharer #1 Ridesharer #2

| | | |
|--------|--------------------------|--------------------------|
| First | <input type="checkbox"/> | <input type="checkbox"/> |
| Second | <input type="checkbox"/> | <input type="checkbox"/> |
| Third | <input type="checkbox"/> | <input type="checkbox"/> |

- | | |
|--|---|
| 1. Incentives offered by employer | 8. No other practical mode of travel |
| 2. Energy conservation | 9. Help a friend |
| 3. Concern for environment | 10. Companionship to and from work or school |
| 4. Save money | 11. More convenient than bus |
| 5. Avoid the stress of driving every day | 12. More convenient than passenger in family auto |
| 6. Make auto available to other family members | 13. Reduces air pollution |
| 7. Eliminate need for second auto | |

14. Other (Specify) Ridesharer #1 _____
Ridesharer #2 _____

18. Did the ridesharer apply to the Milwaukee County Ride-share match program?

Ridesharer #1 ___Yes___No Ridesharer #2 ___Yes___No

SECTION II

All persons who were regularly employed at any time since January 1, 1970, are asked to complete this section. Regular employment means working 20 or more hours per week for periods of one or more months. All persons who are over 18 years of age and have been regularly employed at any time since January 1, 1970, are asked to list their age and sex as person #1, person #2, etc. Account for all months in each year. SEE EXAMPLE. By recalling your place of employment and place of residence, fill in the mode of travel you usually used to travel to and from work or school for each month. If you were not employed, write NOT in the months and years you were not working.

MODES

AUTO - Driver of auto/truck or as a passenger in family car where the driver returned home.

PUBLIC TRANSPORTATION - Passenger in a bus or train.

RIDESHARE - Carpool/vanpool driver or passenger. Includes family carpools where family members share vehicle to travel to and from work.

OTHER - Walk, bike, work-at-home, etc.

NOT EMPLOYED - Under 18, retired, unemployed, layed-off, military service, medical leave, etc.

| Person # | Age | Sex | |
|-----------|-------|--------------------------|--------------------------|
| | | Male | Female |
| Person #1 | _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| Person #2 | _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| Person #3 | _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| Person #4 | _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| Person #5 | _____ | <input type="checkbox"/> | <input type="checkbox"/> |

EXAMPLE

| PERSON NUMBER | PERSON NUMBER | | | PERSON NUMBER | | |
|---------------|---------------|-----|-----|---------------|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| J | AUTO | OTH | NOT | AUTO | OTH | PUB |
| 1970 | | | | | | |
| 1971 | | | | | | |
| 1972 | | | | | | |
| 1973 | | | | | | |
| 1974 | | | | | | |
| 1975 | | | | | | |
| 1976 | | | | | | |
| 1977 | | | | | | |
| 1978 | | | | | | |
| 1979 | | | | | | |
| 1980 | | | | | | |
| 1981 | | | | | | |

PERSON NUMBER

1 2 3 4 5

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1970

PERSON NUMBER

1 2 3 4 5

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1974

PERSON NUMBER

1 2 3 4 5

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1978

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1971

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1975

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1979

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1972

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1976

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1980

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1973

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1977

| | | | | |
|---|--|--|--|--|
| J | | | | |
| F | | | | |
| M | | | | |
| A | | | | |
| M | | | | |
| J | | | | |
| J | | | | |
| A | | | | |
| S | | | | |
| O | | | | |
| N | | | | |
| D | | | | |

1981

SECTION III

1. How many household members are there over the age of eighteen who travel to work or school on a regular basis but do not rideshare? _____

(IF RESPONSE IS ZERO, GO TO SECTION IV)

2. What is the one way distance and how long does it usually take each of these household members to get to work or school?

| | Miles | Minutes |
|---------------------|-------|---------|
| Household Member #1 | _____ | _____ |
| Household Member #2 | _____ | _____ |
| Household Member #3 | _____ | _____ |

3. By what mode of travel do these household members usually go to work or school?

Household Member #1 Household Member #2 Household Member #3

1. Drive alone
2. Passenger in family car
3. Auto part-way; bus part-way
4. Bus
5. Motorcycle
6. Walk or bicycle
7. Other (Specify)

Household Member #1 _____
 Household Member #2 _____
 Household Member #3 _____

4. What primary factor has prevented these household members from joining a carpool/vanpool?

Household Member #1 Household Member #2 Household Member #3

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Not willing to give up - convenience of private auto 2. No one to rideshare with 3. Need free use of auto before or after work or school 4. Satisfied with present mode of travel. | <ol style="list-style-type: none"> 5. Ridesharing would increase travel time 6. Work times and/or locations change too frequently 7. Like to ride alone 8. Other (specify) Please answer below: |
|--|---|

Household Member #1 _____
 Household Member #2 _____
 Household Member #3 _____

SECTION V

Please offer any additional comments, criticisms, or suggestions you may have on this important transportation related issue.

5. Do these household members intend to rideshare in the near future? (Check one)

Household Member #1 Household Member #2 Household Member #3

___Yes ___No ___Yes ___No ___Yes ___No

If no, under what circumstances would they decide to rideshare? (one primary reason)

Household Member #1 Household Member #2 Household Member #3

1. Finding rideshare partner(s)
2. Only if no other practical mode available.
3. Change in work or school location.
4. Change in job or school hours.
5. When free use of auto is not needed.
6. Only if gasoline is rationed.
7. Only if price of gasoline becomes too costly.
8. Under no circumstances would I rideshare in the future.
9. Other (Specify):

Household Member #1 _____
 Household Member #2 _____
 Household Member #3 _____

SECTION IV

SOCIOECONOMIC SECTION

In order to determine that the response we receive is representative of the population, it is desirable that we obtain the following information. As previously stated, this information will be used for statistical analysis only and will remain confidential.

1. What is the age of the head of the household? _____
2. The total number of persons residing in the household is? _____
3. The total number of licensed drivers residing in the household is? _____
4. How many vehicles (autos, trucks, and vans) are available for use in your household? _____
5. Please enter the number for the approximate gross family income (before taxes) in your household. (enter one)

- | | |
|------------------------|------------------------|
| 1. Under \$5,000 | 6. \$25,000 - \$29,999 |
| 2. \$ 5,000 - \$ 9,999 | 7. \$30,000 - \$39,999 |
| 3. \$10,000 - \$14,999 | 8. \$40,000 - \$49,999 |
| 4. \$15,000 - \$19,999 | 9. Over \$50,000 |
| 5. \$20,000 - \$24,999 | |

6. What is the educational level completed by the head of the household? (enter one)

- | | |
|--------------------------|--------------------------|
| 1. Some grade school | 5. Some college |
| 2. Grade school graduate | 6. College graduate |
| 3. Some high school | 7. Post-graduate studies |
| 4. High school graduate | |

(This page intentionally left blank)

Appendix B

AD HOC REVIEW COMMITTEE

David J. Cyra
Director
Office of Statewide
Transportation Programs
Division of Urban Outreach
University of Wisconsin-Extension
P. O. Box 413
Milwaukee, Wisconsin 53201

Paul Lang
Assistant Planning
and Research Engineer
Federal Highway Administration
U. S. Department
of Transportation
P. O. Box 5428
Madison, Wisconsin 53705

Robert E. Meiling
Director of Transit and
Traffic Engineer
Milwaukee County Department
of Public Works
Professional Services Division
907 N. 10th Street
Milwaukee, Wisconsin 53233

Robert N. Patrick
Civil Engineer
Paratransit Activities
Milwaukee County Department
of Public Works
Professional Services Division
907 N. 10th Street
Milwaukee, Wisconsin 53233

Neil R. Wienser
Planning Supervisor
Wisconsin Department
of Transportation
District 2
310 S. West Avenue
P. O. Box 649
Waukesha, Wisconsin 53187

Rhonda Wiley-Jones
Rideshare Program Manager
Bureau of Transit
Wisconsin Department
of Transportation
P. O. Box 7914
Madison, Wisconsin

Thomas A. Winkel, P.E.
District Chief
Planning Engineer
Wisconsin Department
of Transportation
District 2
310 S. West Avenue
P. O. Box 649
Waukesha, Wisconsin 53187

(This page intentionally left blank)

LOCAL NEWSPAPER CLIPPINGS

Go to the car pool

The cutoff of Iranian oil imports by President Carter places added emphasis on the need of Americans to conserve gasoline. Even though supplies are sufficient now, the absence of Iranian oil on the American market could produce shortages later on if gasoline isn't used sparingly.

Toward that end, it might be well to recall Carter's recent call for renewed attention to the possibility of car-pooling.

In the Milwaukee area, the impact of conservation promotion has been evidenced by sig-

nificant increases in bus ridership. And, as a result, the number of autos on freeways also has dropped.

But a windshield inspection would suggest that a lot of cars are still being used to carry a single passenger to and from work. That's something of a waste, especially when the vehicle has ample space for four or more passengers.

The logical course of action would seem to be for some of the drivers to leave their cars at home and ride to work with their neighbors.

A study done for the Brookings Institution a few years ago, in fact, indicated that a small car with four passengers is more fuel-efficient than a bus under any circumstances.

So make it a car pool foursome on the freeways. It's a means of enjoying the convenience of an auto ride to work and making a maximum contribution to the energy effort at the same time.

THE MILWAUKEE SENTINEL
JUNE 8, 1979

County panel urges revival of car pooling

By LUISA GINETTI

Noting soaring gasoline prices, a County Board committee recommended Thursday that the county's program to coordinate car pools at metropolitan area companies be revived.

A federally subsidized demonstration program ran for 11 months from the spring of 1975 through early 1976 while gas supplies tightened and lines grew at gas stations. During that time, the county worked with companies to match riders with cars and promote car pooling to save fuel.

The program saved about 15,000 gallons of gas weekly on a basis of 13 miles per gallon, according to George McNamara of the County Public Works Department.

More than 35,000 employees in the four county area (7% of the work force) began car pooling as a result of the program, McNamara said, adding that 11,094 vehicles were taken off the road and more than \$2 million in fuel was

saved (based on 55 cents a gallon).

Federal funds paid 90% of the \$230,000 program. The county paid the remainder.

McNamara told the Transportation and Public Works Committee that companies including Briggs & Stratton Corp., Falk Corp. and Allstate Insurance Co. are interested in reviving the program.

In 1977, the County Board adopted a resolution authorizing continuation of the program for three years with the same funding arrangement, but the plan died in the past two years, McNamara said.

"Originally, we had one of the best programs in the country in Milwaukee County," he said. "We have not been active in the program in the last two years, but we have gotten calls recently from many companies about it."

Federal funding for the program has been reduced to 75%, McNamara said, and if the program were now bud-

geted for three years, the cost would be \$75,000 per year. But costs would be lower than the initial 11 month program, he said, because materials required initially (such as maps and questionnaires) are already available.

The county's bill for a three year reinstatement would be \$56,250.

The committee's recommendation will be sent to the County Board.

County Panel Acts to Revive Carpools

With the threat of additional fuel shortages and the price of gasoline going up, Milwaukee County officials want to reactivate a carpool program for the Milwaukee area.

The County Board's Transportation and Public Works Committee voted Thursday to reactivate a carpool program using federal and county money.

Gerald Schwerm, director of Milwaukee County's Transportation Department, has asked the County Board to approve a \$225,000 program to help promote carpooling in Milwaukee, Waukesha, Ozaukee and Washington counties.

"With the ongoing drive on energy conservation and the cost of gasoline approaching \$1 per gallon, it is recommended that the metropolitan Milwaukee carpool program be reactivated for an additional three year period," Schwerm said.

Industries Key

Federal money would pay three-fourths of the cost, and county money the rest.

George McNamara, a county planning engineer, said that a demonstration program from April, 1975, to March, 1976, showed that persons were interested in carpooling to work. McNamara said a major emphasis would be placed on getting people at large industries involved.

However, he said there had been less success in organizing carpool arrangements from outlying shopping districts.

Milwaukee County has nearly \$80,000 left over from a federally sponsored carpooling program in 1975, and would use that money to begin a new carpooling program.

Many Drive Alone

McNamara said a survey of 25 businesses and industries in the Milwaukee County area showed that of 20,280

persons interviewed, 10,808, or 53%, drive to work alone. He said 6,054, or 30%, carpool and 2,204, 11%, ride buses. The remaining 1,214 persons, 6%, use other modes of transportation, such as bicycles, motorcycles or walking.

McNamara said 75% of the carpoolers lived in Milwaukee County, 13% in Waukesha County, 7% in Washington County and 5% in Ozaukee County. He added that in Washington County, 28% of the employed persons are carpoolers. Ozaukee County ranked next with 24%, Milwaukee County with 18% and Waukesha County with 14%.

Mass transit officials in Milwaukee have attributed a recent increase in bus ridership to increasing gasoline prices.

The Transportation Committee's recommendation to reactivate the carpooling program must be approved by the County Board at its next meeting, June 19.

THE MILWAUKEE JOURNAL
JUNE 8, 1979

Car pools revived

Milwaukee County has dusted off its car pooling services, now that gasoline prices have jumped to an average of \$1 a gallon.

County Executive O'Donnell said that help in forming car pools is available from the County's Department of Transportation.

The county will serve as a matching center for persons interested in forming car pools within the four-county metropolitan area. Applicants will be matched with other commuters who live and work near them.

Donald Tarachow, the program's administrator, said that about 35,000 persons began car pooling when the service was offered for the first time in 1975.

Tarachow said companies or individuals seeking information should call 271-7111 anytime from 8 a.m. to 4:30 p.m. Monday through Friday, except the lunch hour.

THE MILWAUKEE JOURNAL
OCTOBER 14, 1979

Car pools, bus users vie for parking space

By Sam Martino
of The Journal Staff

THE MILWAUKEE JOURNAL
DECEMBER 9, 1979

It used to take William Heidinger six minutes to walk to his job at the American Motors Corp. plant on Milwaukee's Northeast Side.

Then the plant closed about two years ago, forcing Heidinger, who had more than 20 years of factory seniority, to drive more than 40 miles to the AM plant in Kenosha.

While Heidinger saves fuel through car pooling, he has become a problem to mass transit officials in the county. He and other car poolers who meet at the W. College Ave. park-ride lot are crowding out the bus users.

Frances Lipiec, a United Auto Workers spokeswoman at the AM plant in Kenosha, said about 500 AM workers used the W. College Ave. park-ride lot at the North-South Freeway to commute to their jobs. The lot, like some other park-ride lots, has become crowded.

Transit officials would like the park-ride lots preserved for the growing number of people using the Milwaukee County Transit System's Freeway Flyers.

The car poolers also present an additional problem in the winter because some car poolers work on the second or third shifts. Their cars become obstacles to snowplows during winter storms, transit officials say.

Clearing snow from these lots represents a difficult task unless there are certain designated areas when all vehicles must be removed from the lots, said Gerald Schwerm, director of transportation for Milwaukee County.

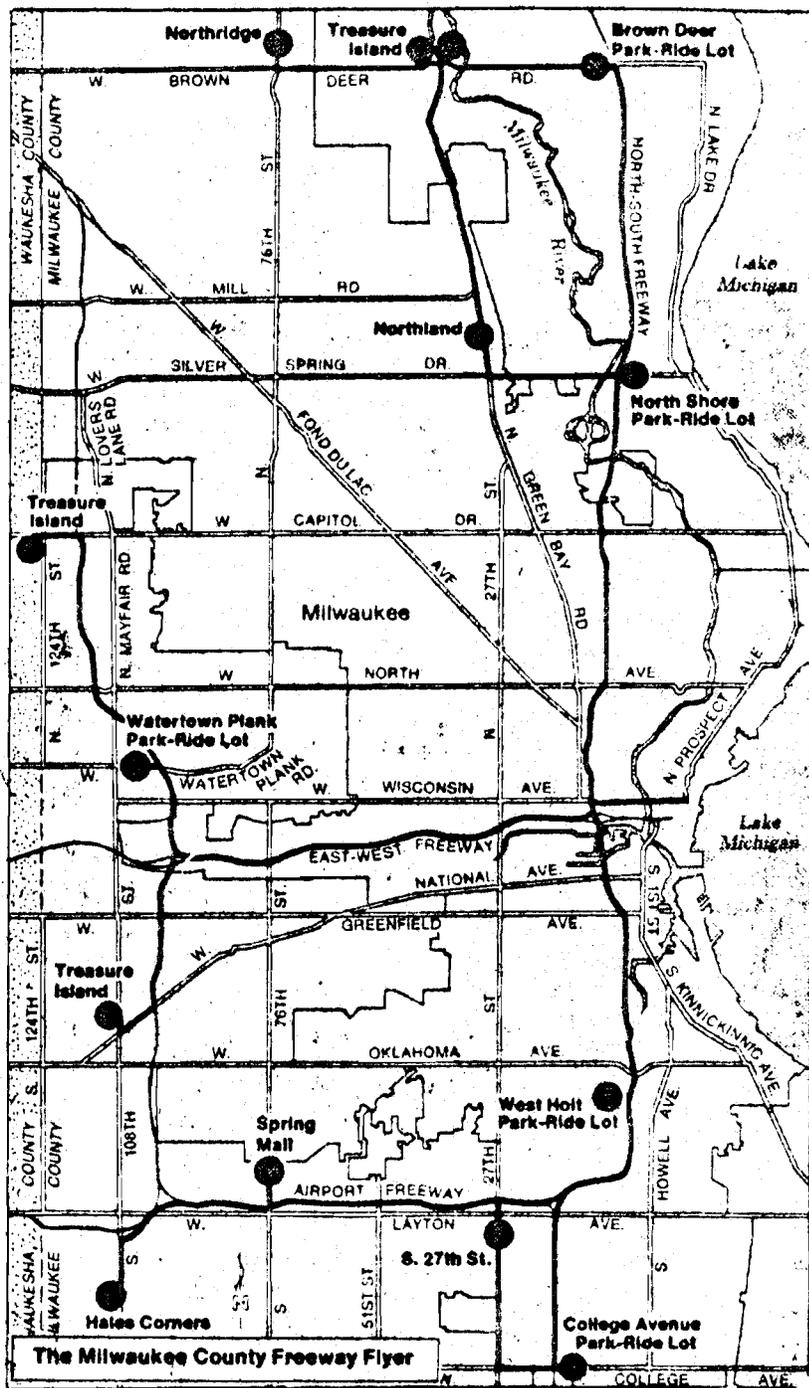
The Milwaukee County Board will vote on a proposal Tuesday to close the park-ride lots between midnight and 5 a.m. during the winter months so snow can be cleared.

"I don't mind being plowed in," said Heidinger. "I have a shovel. But if they close the lot, I don't know what we will do."

Saves \$35 a week

Heidinger estimates he saves about \$35 a week in fuel costs by driving his 1974 AM Matador one day a week as part of a five-man car pool.

Henry Mayer, managing director of the Milwaukee County Transit System, said he was also concerned about the growing number of semi-trailer trucks parked overnight in some of the lots, particularly at the Watertown Plank Rd., North Shore, Brown Deer Rd. and College Ave. lots. He said the trucks were taking up auto parking space. Other problems include abandoned cars.



"The main question is who should park at the park-ride lots," he said. "Obviously, they are built to complement the Freeway Flyer bus system.

"They (the park-ride lots) have proven to be attractive, of course, for car poolers. Although we applaud people doing what they are doing to preserve fuel, we would prefer they use other facilities. The transit rider has no other choice but to use the park-ride lot."

12 in use now

The county now operates 12 park-ride lots, several of them at shopping centers. The newest lot opened in September at Holt Ave. and I-94. It has 239 spaces.

"Admittedly, car pooling is not the entire problem," Mayer said. "We are going to need bigger lots and more of them. The demand exceeds the facilities in some locations."

Mayer said current Freeway Flyer ridership averaged about 8,600 rides per day and this included U-bus riders to the University of Wisconsin — Milwaukee. A year ago the average ridership was 5,200.

Transit officials boast of the fuel savings that a person using the flyers can achieve.

"Fuel savings begin when as few as five people ride the bus," officials said in a recent Bus Lines passenger newsletter.

"An auto traveling our streets or highways carries an average of only 1.25 passengers," the newsletter said. "Based on that average, a bus with 50 passengers removes as many as 40 cars from already congested streets and highways."

"A fast trip"

Mayer said the Freeway Flyer system offered patrons good service. "They get a fast trip Downtown. Obviously, the cost of operating and parking an automobile has made this a very good alternative to driving."

He said the transit system was looking for new locations for park-ride lots to expand the Freeway Flyer system.

A public hearing will be held at Vincent High School, 7501 N. Granville Rd., between 3 and 8 p.m. Monday to gather information on a proposed park-ride lot at Highway 100 and W. Good Hope Rd.

Other sites under consideration include a second lot at the College Ave. and North-South interchange, at Timmerman Field and near S. 27th St. and I-894.

County Supervisors Daniel Cupertino, a member of the Park Commission, and Thomas Kujawa, chairman of the Mass Transit Committee, have suggested that some county parks be used to accommodate car poolers. Cupertino also has suggested that space be found near Mitchell Field to accommodate car poolers driving to the Racine-Kenosha area.

Express service possible

To relieve the crowding at the W. College Ave. lot, transit officials also proposed that the parking lot for the Milwaukee Area Technical College's South Campus in Oak Creek be used for car pool parking. Also under consideration is possible express bus service from the vacant Arlan's parking lot at S. Packard Ave. and E. Ramsey St. in Cudahy to the W. College Ave. lot and then Downtown.

Officials said that consideration also was being given to using part of the parking lot at the Bavarian Inn in Glendale to ease crowding at the Bayshore park-ride lot.

Also under consideration is the operation of an express bus from a parking lot in Lincoln Park on Hampton Ave. to Downtown.

On the Northwest Side, transit officials are exploring the development of a temporary lot on county-owned land in the area of W. Silver Spring Dr. and the Zoo Freeway.

44U route will change

Because of the success of the Freeway Flyer from West Allis to the University of Wisconsin — Milwaukee campus, the 44U bus route will be changed starting Dec. 21.

The university bus now operates out of the West Allis Treasure Island parking lot at S. 108th St. and W. Cleveland Ave. Another Freeway Flyer route to Downtown also operates from the parking lot.

However, during the past year the number of automobiles parked at the Treasure Island store by Freeway Flyer passengers increased from 280 cars to 480 cars per day.

Transit officials have proposed maintaining the university service but rerouting the bus between Hales Corners and the campus via S. 108th St. with a limited number of stops. The new route would be Route 16 and would begin on the first day of second semester classes Jan. 14.

Car pooling increases along with gas price

By KENT KRAUSS

The rising price of gasoline has accelerated interest in corporate car-pooling programs, according to Donald Tarachow, administrator for the Rideshare program.

With the aid of the computer at the Southeastern Wisconsin Regional Planning Commission, the federally funded program brings together individuals throughout the metropolitan area who are interested in ride sharing.

The service also stands ready to help businesses establish ride-sharing programs. Tarachow said many area employers are active participants, including McQuay-Perfex Inc., Briggs & Stratton Corp., Trinity Memorial Hospital and the US Postal Service.

Information currently is being sent regularly to more than 100 firms he said.

Besides the computer service, businesses are provided with posters, applications, brochures and maps, Tarachow said.

The free service is funded by a grant from the US Department of Transportation and is administered by Milwaukee County. In the last year, it has processed more than 2,400 names.

Tarachow currently is working to establish a program with the Ladish Malting Co., where he is hoping for a 10% initial response.

Individuals can arrange to participate by phoning 271-7111.

Some area businesses have established their own car pooling programs. The Allen-Bradley Co., for example, has had a ride-sharing program since 1973, matching participants by zip codes. A spot check conducted last August revealed that nearly 19% of the firm's 5,000 plus

employees reporting for work arrived in car pools.

Participants register their names at the plant security office and receive names of other employees living in their area and working similar hours. It is up to the individual to make contacts.

The program is promoted with bulletin boards, posters on each floor of the company parking structure and by the company's newsletter.

To give car pooling a boost, the state has designated Thursday as Ride-sharing Day. "Conserve Wisconsin — Share the Ride...Share the Pride" is the theme of the campaign.

Barbara Samuel of the State Division of Energy pointed out that if every automobile in Wisconsin was driven one mile a week less, 120 million gallons of gasoline could be saved each year.

THE MILWAUKEE JOURNAL
MARCH 5, 1981

Van pooling may be helped by transit cuts

By Margaret Hoyos

The joy ride could become a bit lumpy for people who must commute to work on the Milwaukee County Transit System. But if the Reagan administration's plans to phase out federal subsidies for mass transit systems clear Congress, increased fares and reduced service on bus lines could serve as a boost to the growing van pooling trend in the Milwaukee area. Van pooling has become an increasingly popular transportation alternative nationwide and is being actively encouraged by Milwaukee county's Ridesharing program. The program, which boasts 2,600 participants in car and van pools, began in October 1979 and was aided through October 1982 with \$225,000. Federal funds pay 75% of that figure and the county pays the rest. The Ridesharing concept, a catch-all phrase for commuters who share the expenses of bus, car, or rail travel, was promoted here recently as part of the two-month "Conserve Wisconsin" gasoline campaign.

Local efforts promoted

Roy Coughlin, vice president of the National Task Force on Ridesharing, stopped in Milwaukee on a tour of the state to promote local ride-sharing efforts. Citing a 20% increase in gasoline prices last year, Coughlin said that increasing costs associated

with automobiles were leading many people to join in car pools. And the recent decontrol of domestic crude oil prices promises to boost the cost of fueling an auto even more, "probably to \$.50 per gallon by 1985," Coughlin said. In the meantime, van pooling is doing well here. The state has the 10th largest number of employer-sponsored van pools in the United States, according to the National Association of Van Pool Operators.

Threats of federal budget cuts to mass transit, coupled with rising gasoline and automobile maintenance and insurance costs, are expected to add to the ranks of Wisconsin's 14 employer-sponsored van pools.

Attracts workers

Van pooling is becoming more attractive to employers. Proponents say van pooling allows firms to attract skilled employees, avoid expensive relocations to outlying areas where the population is growing fastest and avoid having to turn valuable space into parking areas.

To further encourage employer-sponsored van pools, reduced-interest loans with which to purchase vans for pooling are being offered to companies that agree to set up van pools for their employees.

Janlyn Plastics in Mount Horeb near Madison is the firm that has taken advantage of a Wisconsin department of Transportation program that offers companies an interest-free loan to buy a van for

pooling purposes. The loan covered 75 of the purchase cost, and Janlyn Plastics has four years to pay it back.

About 15 of Janlyn's 120 employees, some who live as far as 40 miles west of the company, participate in the year-old van pool, said James Miller, company personnel director.

And employees who have four in a car pool get their gas costs picked up by the company, Miller said.

"Right now we're putting out \$200 to \$300 a month on carpool gas expenses only. That doesn't count the upkeep costs for the van," Miller said.

Another Wisconsin firm, Lamplight Farms in Brookfield, has had success with van pooling.

Don Tendick, president of Lamplight Farms, said his firm did not use the government loan to buy the company's van, but that the one-year-old van pool was paying off in other ways.

Twenty-four of the company's 140 employees use the company van pool, Tendick said. Asked if he had plans to continue the pooling program, Tendick said, "It's more a matter of how soon we will expand on it."

Tendick said that van pooling allows Lamplight to hire more "capable and skilled employees not living near mass transit."

The National Association of Van Pool Operators estimates the national number of van pools at 20,000.

Up to \$1,000 saved

The association estimates that each van saves about 3,000 gallons of gasoline per year. It also estimates that the national average savings for each van pool participant is between \$700 and \$1,000 per year.

According to Don Tarachow, the county's Ridesharing program coordinator, some of the Milwaukee area employers that participate in the county's ridesharing program include the Ladish Co. in Cudahy, Veteran's Administration Hospital, Milwaukee County, the Federal Building at 517 E. Wisconsin Ave., Trinity Memorial Hospital in Cudahy, and the Harnischfeger Corp. at 4400 W. National Ave.

In 1975 the county instigated an 11-month pilot ridesharing program, which saved about 15,000 gallons of gas.

About 15 of Janlyn's 120 employees, some who live as far as 40 miles west of the company, participate in the year-old van pool, said James Miller, company personnel director.

And employees who have four in a car pool get their gas costs picked up by the company, Miller said.

"Right now we're putting out \$200 to \$300 a month on carpool gas expenses only. That doesn't count the upkeep costs for the van," Miller said.

Another Wisconsin firm, Lamplight Farms in Brookfield, has had success with van pooling.

Don Tendick, president of Lamplight Farms, said his firm did not use the government loan to

buy the company's van, but that the one-year-old van pool was paying off in other ways.

Twenty-four of the company's 140 employees use the company van pool, Tendick said. Asked if he had plans to continue the pooling program, Tendick said, "It's more a matter of how soon we will expand on it."

Tendick said that van pooling allows Lamplight to hire more "capable and skilled employees not living near mass transit."

The National Association of Van Pool Operators estimates the national number of van pools at 20,000.

Up to \$1,000 saved

The association estimates that each van saves about 3,000 gallons of gasoline per year. It also estimates that the national average savings for each van pool participant is between \$700 and \$1,000 per year.

According to Don Tarachow, the county's Ridesharing program coordinator, some of the Milwaukee area employers that participate in the county's ridesharing program include the Ladish Co. in Cudahy, Veteran's Administration Hospital, Milwaukee County, the Federal Building at 517 E. Wisconsin Ave., Trinity Memorial Hospital in Cudahy, and the Harnischfeger Corp. at 4400 W. National Ave.

In 1975 the county instigated an 11-month pilot ridesharing program, which saved about 15,000 gallons of gas weekly on a basis of 13 miles per gallon, according to a spokesman at the County

Public Works Department.

Although successful, the ridesharing concept has not been without its problems. In the past, car pool ventures have been dogged by commuter apathy and irregular funding.

"I think that apathy is being lost, though, as the gas price climbs closer to \$2 a gallon," Coughlin said.

Interest on the rise

In Milwaukee's 1975 ridesharing venture, a cut in the project's federal funding caused the program to fizzle out.

But some social, political and economic realities seem to indicate that interest in ridesharing is on the rise.

"A whole new sense is developing as people stop and ask, 'What portion of my budget goes to my automobile?'" Coughlin said.

To tap that growing awareness, county ridesharing officials are stepping up plans to advertise their free services.

Currently, there are 400 agencies throughout the county operating ridesharing programs. And although individuals are encouraged to use the service, companies are special targets.

Although the gas savings make van and car pooling an attractive transportation alternative, some people remain concerned about the state's resulting loss of gas tax revenues.

Ridesharing spokesmen such as Coughlin claim that the state's revenue loss in gasoline taxes will not be serious because car and van pooling will lessen road maintenance requirements.

THE MILWAUKEE JOURNAL

MARCH 22, 1981

Let's sweeten the car pool

It's a simple idea: Let some Milwaukee County employees commute between home and work in county-owned cars, provided that each auto carries several riders. Such employer-sponsored ridesharing programs are increasingly popular nationwide, and for good reason.

However, county supervisors considering the car-pooling concept are concerned over potential cost and insurance liability. We hope they will not be too hard-nosed about that. It is in the interest of the county, and all other employers, to invest something in the promotion of ride-sharing as energy price increases bite more deeply into the region's economy.

Actually, subsidized car-pooling is nothing new. A federally aided ride-sharing program underway here since 1979 has 2,600 participants. Overall, Wisconsin has at least 14 employer-sponsored van pool programs, making this state 10th highest in

the nation on that score. Nationwide, an estimated 20,000 van pools are in operation.

There will be more, if Gov. Dreyfus has his way. His 1981-'83 budget proposal includes funds to expand a van-pool program coordinated by the State Transportation Department. It would provide loans for employer purchase of vans, a computerized rider-matching service, and public relations and marketing help.

We think the effort is worth the seed money. A recent study by Congress' General Accounting Office found great potential in the concept. According to the GAO, a doubling of the current level of ride-sharing nationwide could save three times as much energy as a 50% increase in mass transit commuting — surely at less cost.

So, Milwaukee County supervisors are hardly innovating with their employe car-pool idea. But they commendably are on the right route.

Study urges curbs on car use

By Lawrence Sussman
Journal Automotive Reporter

The attitude that it's my car, and I'll do what I want to — as long as I can afford the gasoline — will have to change, according to the Transportation Committee of Mayor Maier's energy conservation task force.

In urging greater use of car and van pools and public transit, the committee recommends that driving to work alone be made economically and socially unacceptable.

The goal is to reduce energy consumption for transportation by 40% during the next 10 years as part of an energy conservation program for Milwaukee County.

The entire Milwaukee Energy Management Plan was released last week and deals with conservation measures in five sectors: residential, commercial, industrial, transportation and government.

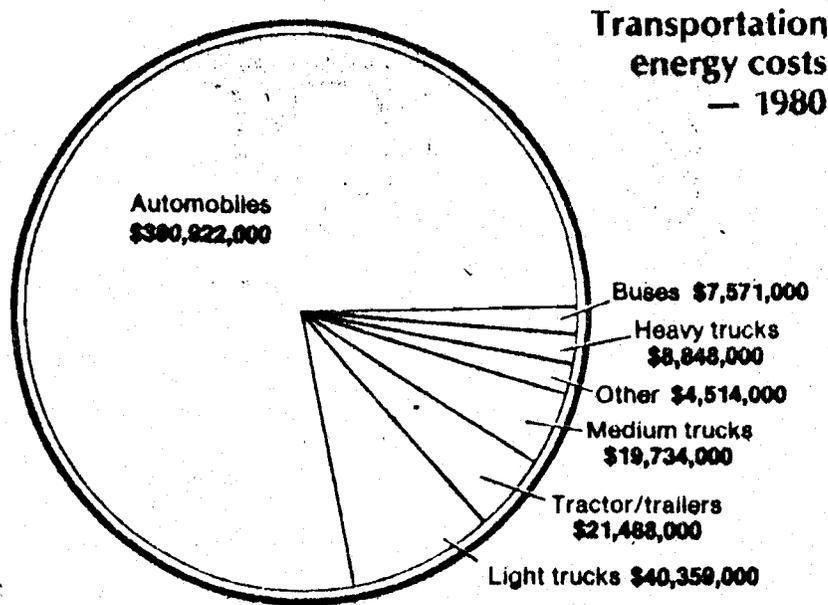
The committee on transportation, led by Super-

visor Thomas Kujawa, argues that Milwaukee can no longer afford to take a cavalier attitude toward energy costs. The report stresses that as energy prices rise and are not met by significant cuts in consumption, increasing amounts of money are not available to be spent on other things, and the local economy suffers as a result.

How would the Transportation Committee accomplish the 40% reduction?

Because automobiles consumed more than three-fourths of all energy used in the county for transportation in 1980, the committee's recommendations concentrate on reducing auto travel. The committee recommends "a concerted effort be made to get people to shift from the private automobile to car pools, van pools and public mass transit."

Almost 90% of the people employed in Milwaukee
Turn to Energy



Graphic

Source: Milwaukee Energy Management Plan

WHERE THE ENERGY GOES — The chart shows the proportion of energy used in 1980 by each segment of transportation in Milwaukee County. The total transportation energy bill was estimated at \$483.4 million, 37.5% of the county's total energy cost.

Energy

Transportation panel urges alternatives to use of cars

kee County commute by car. About 70% of them drive alone.

The committee contends that energy savings of 10% to 15% could be gained from increased ride-sharing and improved vehicle and driving efficiency during the next 10 years. In addition, 29% in energy reduction should come by 1990 from cars that are more energy-efficient because of

Report's authors

Supervisor Thomas Kujawa was chairman of the Transportation Committee for the Milwaukee Energy Management Plan.

Kujawa also led the County Board's Mass Transit Committee for more than a year and currently is chairman of the board's Finance Committee.

Industry was represented on the committee by Joseph Erwin, director of traffic for the Jos. Schlitz Brewing Co.; Nicholas Hirsch, vice president of engineering for Teledyne Wisconsin Motor; and Ronald Berlind, manager in Milwaukee for Standard Oil Division of Amoco Oil Co.

The committee also included Edwin Laszewski, the Milwaukee city engineer; David Cyra, director of transportation programs for the University of Wisconsin Extension; Edward A. Beimborn, an engineering professor at UW — Milwaukee; and Kenneth Yunker, a special projects engineer for the Southeastern Wisconsin Regional Planning Commission.

federal standards, the committee said.

However, Transportation Secretary Drew Lewis recently said he saw no need for further federal efficiency requirements on the automobile industry after the current timetable ends in 1985. Lewis argued that the free market would take care of this need.

Here are some of the Transportation Committee's recommendations,

which would require voluntary compliance by private enterprise or government action:

Give car and van pools and buses preferential entry to freeways during peak driving hours. Install entry ramp controls at all freeway entrances in the metropolitan area.

Get firms throughout the metropolitan area to eliminate or substantially reduce the inexpensive and easily available parking they provide for those driving to work alone. Instead, have firms encourage their workers to use transportation alternatives by providing free or discounted bus passes or company car and van pool programs. Also, have them consider granting these alternatives before building additional parking lots.

Consider inverted rate structures for parking in Downtown Milwaukee. That is, make parking charges increase with each hour of parking. For example, charge 75 cents for the first hour, \$1.25 the second hour and

Eliminate the large tracts of parking along the lakefront.

Make sure parking at meters is so expensive that it will not be cheaper to park all day on the street than in a parking lot.

Develop a parking management plan for the central business district to encourage employees to commute to work in ways other than by themselves in their cars, while making sure this encouragement would not lead to loss of Downtown business activity.

Give car and van pools preferential treatment — cheaper rates and more desirable spaces — in facilities owned by the City of Milwaukee and Milwaukee County.

Prohibit or restrict parking by students in school parking lots.

Encourage employers to allow more flexibility in working hours. Extend work hours beyond 5 p.m. to help relieve the Transit System's peak loads.

Expand and improve the Milwaukee County Transit System by making available more Freeway Flyer bus routes and supplying special buses for large industrial employers. Such a service has been proposed for some Oak Creek firms.

Add express bus routes — routes that stop only every quarter or half mile at major intersections.

Increase special bus services, with the U-bus system for the University of Wisconsin — Milwaukee as a model.

Establish bus routes and schedules for reverse commuters. For example, people in the City of Milwaukee who work in Menomonee Falls, New Berlin and Brookfield should find it easier to get to work via bus.

Don't restrict the Transit System to Milwaukee County. But, the committee said, "appropriate reimbursement must be obtained from those areas to which service is extended." (The Transit System recently agreed to provide service to some cities in Waukesha County.)

Have local governments lobby for a "small state sales or gasoline tax, (additional) vehicle registration fees or a tobacco/alcohol tax" to help pay for the increased service, which about 5% of commuters now use to go to and from work.

Form a comprehensive ride-sharing agency for the area whose job it would be to convince employers that they should help organize company car and van pools.

Strongly encourage the state to implement its proposed vehicle inspection program for southeastern Wisconsin, with additional facilities to test for energy efficiency. Include energy lessons in private and public driver training programs.

Encourage bicycle and moped use "by the development of a network of safe, direct bicycle routes, provision of secure bicycle-storage facilities and educational and promotional efforts."

Appendix D

HOUSEHOLD SURVEY DESIGN, CONDUCT, AND ACCURACY CHECKS

INTRODUCTION

The household survey collected data pertaining to the socioeconomic characteristics of the household, the time and distance of work and school trips, the spatial distribution of home and of work and school locations, the mode of travel of nonridesharers and of ridesharers prior to becoming ridesharers, the size of the existing carpools and vanpools,¹ the type of carpool or vanpool, the frequency of carpool or vanpool use by participants, the vehicle type used in the carpool or vanpool, cost and energy savings, factors influencing decisions to rideshare or not to rideshare, and future intent and historical participation in ridesharing. A copy of the survey form is provided in Appendix A of this report. First drafts of the survey form were reviewed by an ad hoc review committee consisting of representatives of the Federal Highway Administration, the Wisconsin Department of Transportation, Milwaukee County, and the University of Wisconsin-Extension, Office of Statewide Transportation Programs, and, based upon this review, a final version of the form was prepared. A list of the ad hoc review committee members is provided in Appendix B of this report.

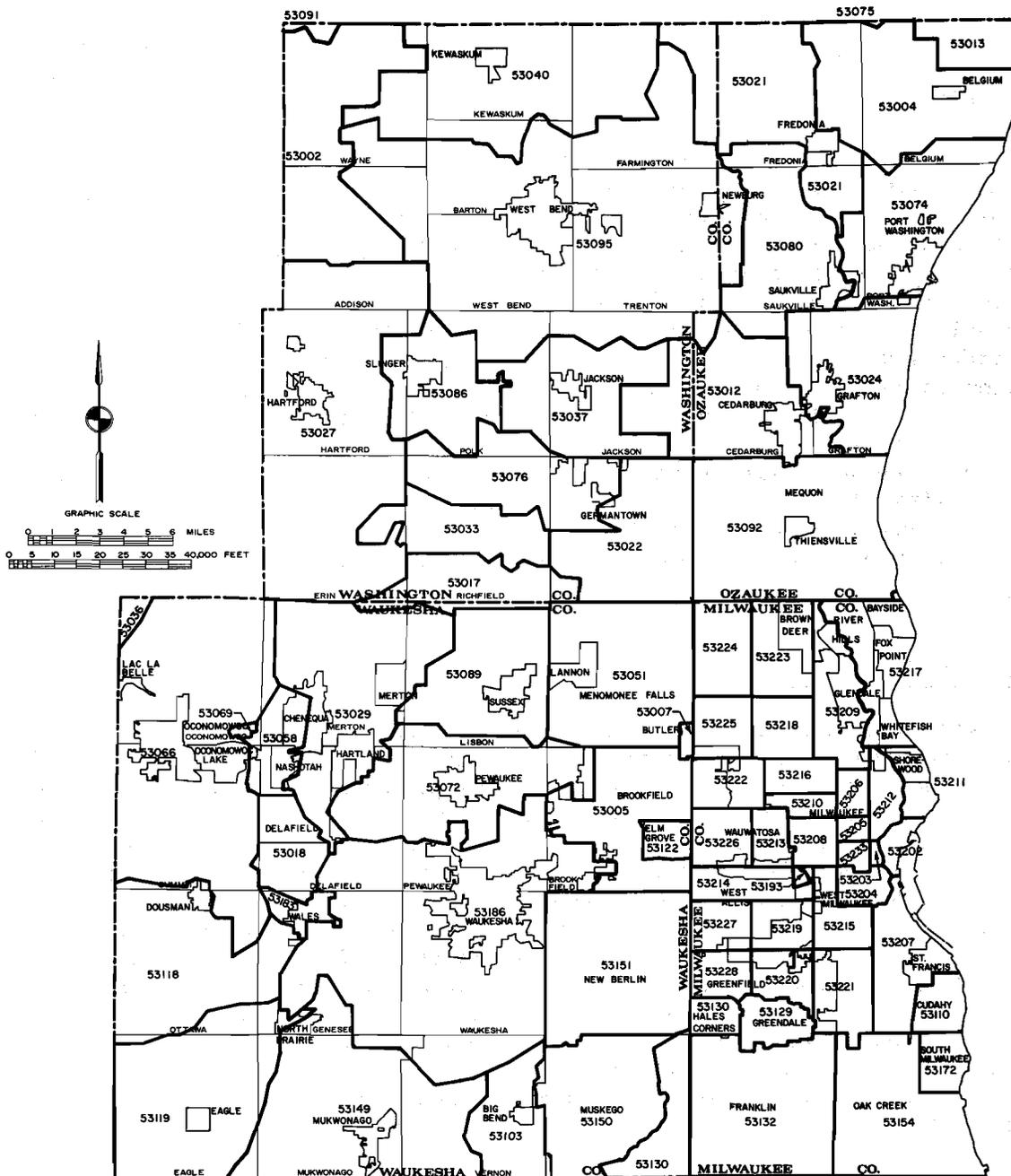
Determination of Sample Size

The sample size was established at 2,500 households, which was the same as for the 1976 carpool survey of households. This sample size was determined to permit the survey based upon an expected 65 percent survey response rate to establish the percentage of households in the four-county metropolitan area with at least one carpooler within 2 percent at a 95 percent level of confidence. A random sample of occupied housing units in the Counties of Milwaukee, Ozaukee, Washington, and Waukesha was drawn from the Wisconsin Telephone Company reverse directory for the urban section of the study area, and from telephone directories published by the Wisconsin Telephone Company, the Northwest Telephone Company, and the General Telephone Company for the rural sections of the study area. A geographic code was assigned to each sample, and summaries prepared both by U. S. Postal Service zip code area and civil division to assure a reasonable geographic distribution of samples (see Map D-1). The number of samples and sample rates for each county are set forth in Table D-1.

¹An attempt was made to collect data on vanpools. However, due to the small number of vanpools actually operating in spring 1982, only one vanpooler was identified by the survey. Therefore, the information on ridesharing presented in this report is principally based on carpoolers included in the survey. Also, data and information presented in this report on carpools do include the data from the survey on the one vanpool.

Map D-1

ZIP CODE AREAS AND CIVIL DIVISION BOUNDARIES IN THE MILWAUKEE AREA



Source: U. S. Postal Service and SEWRPC.

Table D-1

DISTRIBUTION OF OCCUPIED HOUSING UNITS IN THE MILWAUKEE AREA AS SHOWN IN THE 1980 CENSUS AND THE 1982 SAMPLE SIZE AND SAMPLE RATES FOR THE HOUSEHOLD SURVEY

| County | 1980 Number of Occupied Housing Units | 1982 Sample Size | 1982 Sample Rate |
|-----------------|---------------------------------------|------------------|------------------|
| Milwaukee..... | 363,563 | 1,561 | 0.429 |
| Ozaukee..... | 21,763 | 199 | 0.914 |
| Washington..... | 26,716 | 201 | 0.752 |
| Waukesha..... | 88,552 | 503 | 0.568 |
| Total | 500,594 | 2,464 | 0.492 |

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

Data Collection

As in the 1976 study, the data collection process incorporated both mail-back and telephone interview survey techniques. Each sampled household was mailed a survey questionnaire to be reviewed by the household members so that the information required would be made readily available when a telephone interviewer called. In addition, if the household preferred, the questionnaire could be filled out and returned in an attached envelope, in which case no contact would be made by telephone. It was found that this procedure minimized objections of households in responding to a telephone survey, helped to organize and collect the requested data from the various family members, provided the households with an opportunity to answer the questionnaire by mail if the household so preferred or could not be reached by telephone, and decreased the amount of time and the number of callbacks required of the telephone interviewers, thereby increasing the rate of return and the quality of the data.

On March 5, 1982, 887 household questionnaires were mailed; on March 11, 1982, 797 household questionnaires were mailed; and on March 18, 1982, the remaining 780 questionnaires were mailed. The telephone interviews began on March 12 and continued through April 10, 1982, with appropriate quality control procedures employed to assure the accuracy of the results. Of the 2,464 household sampling units, 55 were returned as undeliverable, reducing the household survey universe to 2,409. A total of 1,727 usable household surveys was returned--about 32 percent were received by mail, and 68 percent were obtained by telephone interview. These 1,727 samples represent a 72 percent rate of return of the household survey forms, resulting in an overall sample rate of 0.35 percent. In the 1976 survey, a 79 percent rate of return of the household survey forms was obtained, resulting in an overall sample rate of 0.43 percent.

Data Reduction, Conversion, and Retrieval

The completed survey forms were edited to correct any inadequacies, coded to numeric digits, keypunched, and the data converted to an electronic data processing format. The data file was then subjected to extensive legitimate entry and logic contingency checks in order to purge the file of erroneous information.

The samples were then expanded using occupied housing unit counts from the 1980 Census of Population. Expansion factors were obtained by dividing the estimated occupied housing unit count by household size for each county by the number of samples within the same household size category for each county.

Accuracy Checks

The sampling plan for the 1982 survey, as in 1976, was designed to ensure that a representative sample would be obtained for each of the four counties. Verification of the appropriateness of the sample was accomplished by comparing the distribution of selected variables from the expanded survey data with similar data on households within the four counties. In 1982, comparisons were made between the expanded survey data and the 1980 Census. The variables used for comparisons between the 1982 survey and the 1980 Census were income range by county, employed persons by county, and vehicle availability by county. It should be noted that the expansion of the 1982 survey data was based on the census-determined number of households by household size in each county and, therefore, the percentage distribution of households by household size obtained in the survey was identical to that obtained in the census.

Shown in Table D-2 is the distribution by county of households by income range in the 1982 survey and in the 1980 Census. A high correspondence was found between the household income reported in the 1982 survey and the household income reported by the 1980 Census. The slightly higher household income reported under the 1982 household survey may be attributed to income growth since 1980, and a slight under-representation of low income households in the 1982 survey. In the 1982 survey, only households with telephones were surveyed. A comparison of employed persons by county, as shown in Table D-3, also indicates a relatively high correspondence between the survey and census results, especially when it is recognized that the 1982 survey considered only full-time employment and the 1980 Census considered both full- and part-time employment.

In addition, a vehicle availability estimate, as obtained from the 1982 survey, was compared to state vehicle registrations for fiscal year 1982. This comparison, as shown in Table D-4, indicated that the survey data adequately represented vehicle availability within the survey area.

Table D-2

**DISTRIBUTION OF HOUSEHOLDS BY HOUSEHOLD INCOME BY COUNTY
IN THE MILWAUKEE AREA: 1982 SURVEY AND 1980 CENSUS**

| Income | Milwaukee County | | | | Ozaukee County | | | |
|-----------------------|------------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|
| | 1982 | | 1980 Census | | 1982 | | 1980 Census | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Under \$5,000..... | 21,956 | 7.4 | 40,721 | 11.2 | 119 | 0.7 | 973 | 4.5 |
| \$5,000-\$9,999..... | 33,268 | 11.1 | 55,285 | 15.2 | 907 | 5.4 | 1,913 | 8.8 |
| \$10,000-\$14,999... | 37,478 | 12.6 | 53,004 | 14.5 | 1,862 | 11.2 | 1,977 | 9.0 |
| \$15,000-\$19,999... | 38,058 | 12.7 | 52,218 | 14.3 | 1,039 | 6.2 | 2,611 | 11.9 |
| \$20,000-\$24,999... | 44,062 | 14.8 | 48,946 | 13.4 | 3,060 | 18.3 | 3,115 | 14.2 |
| \$25,000-\$29,999... | 36,292 | 12.2 | 38,380 | 10.5 | 2,461 | 14.8 | 2,846 | 13.0 |
| \$30,000-\$39,999... | 44,786 | 15.0 | 43,582 | 12.0 | 3,217 | 19.3 | 4,318 | 19.7 |
| \$40,000-\$49,999... | 27,188 | 9.1 | 17,393 | 4.8 | 2,338 | 14.0 | 1,852 | 8.5 |
| Over \$50,000..... | 15,226 | 5.1 | 14,931 | 4.1 | 1,691 | 10.1 | 2,274 | 10.4 |
| Total Reported | 298,314 | 100.0 | 364,460 | 100.0 | 16,694 | 100.0 | 21,879 | 100.0 |
| Not Reported | 65,514 | -- | -- | -- | 5,044 | -- | -- | -- |
| Total | 363,828 | 100.0 | 364,460 | 100.0 | 21,738 | 100.0 | 21,879 | 100.0 |
| Median Income | \$22,088 | -- | \$18,151 | -- | \$27,763 | -- | \$25,554 | -- |

| Income | Washington County | | | | Waukesha County | | | |
|-----------------------|-------------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|
| | 1982 | | 1980 Census | | 1982 | | 1980 Census | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Under \$5,000..... | 322 | 1.7 | 1,760 | 6.6 | 2,172 | 3.2 | 3,784 | 4.3 |
| \$5,000-\$9,999..... | 1,399 | 7.6 | 2,651 | 9.9 | 2,813 | 4.1 | 6,879 | 7.8 |
| \$10,000-\$14,999... | 1,210 | 6.5 | 2,920 | 10.9 | 5,788 | 8.5 | 8,089 | 9.1 |
| \$15,000-\$19,999... | 1,638 | 8.9 | 3,920 | 14.7 | 5,580 | 8.2 | 10,277 | 11.6 |
| \$20,000-\$24,999... | 3,296 | 17.8 | 4,520 | 16.9 | 11,886 | 17.5 | 12,807 | 14.5 |
| \$25,000-\$29,999... | 3,797 | 20.6 | 3,715 | 13.9 | 7,609 | 11.2 | 13,319 | 15.0 |
| \$30,000-\$39,999... | 4,364 | 23.6 | 4,310 | 16.1 | 17,812 | 26.1 | 17,230 | 19.5 |
| \$40,000-\$49,999... | 882 | 4.8 | 1,534 | 5.7 | 8,247 | 12.1 | 8,003 | 9.0 |
| Over \$50,000..... | 1,564 | 8.5 | 1,407 | 5.3 | 6,229 | 9.1 | 8,153 | 9.2 |
| Total Reported | 18,472 | 100.0 | 26,737 | 100.0 | 68,136 | 100.0 | 88,541 | 100.0 |
| Not Reported | 8,263 | -- | -- | -- | 20,362 | -- | -- | -- |
| Total | 26,735 | 100.0 | 26,737 | 100.0 | 88,498 | 100.0 | 88,541 | 100.0 |
| Median Income | \$26,805 | -- | \$22,010 | -- | \$28,830 | -- | \$25,827 | -- |

| Income | Total | | | |
|-----------------------|-----------------|--------------|-----------------|--------------|
| | 1982 | | 1980 Census | |
| | Number | Percent | Number | Percent |
| Under \$5,000..... | 24,569 | 6.1 | 47,238 | 9.4 |
| \$5,000-\$9,999..... | 38,387 | 9.6 | 66,728 | 13.3 |
| \$10,000-\$14,999... | 46,338 | 11.5 | 65,990 | 13.2 |
| \$15,000-\$19,999... | 46,315 | 11.5 | 69,026 | 13.8 |
| \$20,000-\$24,999... | 62,304 | 15.5 | 69,388 | 13.8 |
| \$25,000-\$29,999... | 50,159 | 12.5 | 58,260 | 11.6 |
| \$30,000-\$39,999... | 70,179 | 17.5 | 69,440 | 13.9 |
| \$40,000-\$49,999... | 38,655 | 9.6 | 28,782 | 5.7 |
| Over \$50,000..... | 24,710 | 6.2 | 26,765 | 5.3 |
| Total Reported | 401,616 | 100.0 | 501,617 | 100.0 |
| Not Reported | 99,183 | -- | -- | -- |
| Total | 500,799 | 100.0 | 501,617 | 100.0 |
| Median Income | \$23,627 | -- | \$20,131 | -- |

Table D-3

**DISTRIBUTION OF EMPLOYED PERSONS IN THE
MILWAUKEE AREA: 1982 SURVEY AND 1980 CENSUS**

| County | 1982 Survey ^a | | 1980 Census | |
|-----------------|--------------------------|--------------|----------------|--------------|
| | Number | Percent | Number | Percent |
| Milwaukee..... | 406,546 | 69.8 | 450,851 | 68.4 |
| Ozaukee..... | 29,229 | 5.0 | 32,751 | 4.9 |
| Washington..... | 35,418 | 6.1 | 39,594 | 6.0 |
| Waukesha..... | 111,534 | 19.1 | 136,327 | 20.7 |
| Total | 582,727 | 100.0 | 659,523 | 100.0 |

^aEmployment on the 1982 survey is defined as persons 18 years of age and older who were regularly employed 20 or more hours per week. Employment by the U. S. Census Bureau is defined as persons 16 years of age or older who were employed on April 1, 1980, or were absent from work on a temporary basis.

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

Table D-4

**VEHICLE AVAILABILITY BY COUNTY FOR
FISCAL YEAR 1982 AND 1982 SURVEY**

| County | Vehicles Available ^a | | | |
|-----------------|---------------------------------|----------------|----------------------------|--------------------|
| | Estimate for Fiscal 1982 | 1982 Survey | Estimate-Survey Difference | Percent Difference |
| Milwaukee..... | 493,776 | 535,086 | 41,310 | 8.4 |
| Ozaukee..... | 42,458 | 42,320 | - 138 | - 0.3 |
| Washington..... | 51,815 | 50,265 | - 1,550 | - 3.0 |
| Waukesha..... | 180,800 | 177,756 | - 3,044 | - 1.7 |
| Total | 768,849 | 805,427 | 36,578 | 4.8 |

^aEstimated number of vehicles includes light trucks.

Source: Wisconsin Department of Transportation and SEWRPC.