U.S. Department of Transportation

μtps Microcomputers in transportation

SOFTWARE AND SOURCE BOOK

MARCH 1984

UMTA/FHWA Technical Assistance Program

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16. Abstract

The Urban Mass Transportation Administration (UMTA) and the Federal Highway Administration (FHWA) of the U.S. Department of Transportation provide training and technical assistance in the new and rapidly changing area of transportation application of microcomputers. These two agencies maintain up-to-date microcomputer references for transit and paratransit operators, transportation planners, and traffic engineers.

This document contains information pertaining to: 1) Microcomputer references and training and; 2) descriptions of software in the areas of transit operations, transportation planning, traffic engineering, and paratransit planning and operations.

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PREFACE

This publication contains microcomputer software descriptions and sources of information of interest to transit and paratransit operators, transportation planners, and traffic engineers. Previous editions of this document have been published for the months of June, August, and November of 1982, and January, March and September of 1983. This edition contains new material as well as updates to the information in those previous editions.

The first part of this document contains general information on microcomputer courses, publications, references, and user groups. The next five sections contain descriptions of software in five major functional areas. Software developed by both private contractors and public agencies is listed. Software which is under development is identified by the label "In Development" to the right-hand side of the heading information. At the end is a list of books and periodicals on microcomputers, as well as a list of companies which provide microcomputer services and software.

The information provided here is the best available to UMTA and FHWA at the time of publication. Should you have updates, corrections, or additions to what is contained here, please contact Ron Jensen-Fisher, the editor, at the following address:

Urban Mass Transportation Administration
Methods Division (URT-41)
Washington, DC 20590
(202) 426-9271

Descriptions of new transportation software are particularly welcome.

Additional copies of this report can be obtained by sending a self-addressed gummed label to:

Microcomputer Reports
Price, Williams & Associates, Inc.
962 Wayne Ave, Suite 500
Silver Spring, MD 20910

We want to thank all those who contributed software descriptions and other entries for this publication. We are particularly grateful to Price, Williams & Associates for the word processing and final organization of this document.

CONTENTS

MICROCOMPUTER INFORMATION AND TRAINING

FHWA and UMTA receive many questions on the use of microcomputers for transportation. The following provide answers to some of the most commonly asked questions.

Q. **What can I read to learn the basics about microcomputers, and how to select a system?**

A. UMTA and FHWA have published two introductory documents called "Getting Started in Microcomputers" and "Selecting a Single User System." The first document is composed of two papers covering the implementation of microcomputers in small public agencies and the process used to select a system which includes equipment features. "Selecting a Single User System" is a comprehensive information reference on microcomputers, operating systems, and commercial software from a "how-to-select" point of view.

If you want a copy of either or both of these publications, write to:

Microcomputer Reports
c/o Price, Williams & Associates
962 Wayne Ave., Suite 500
Silver Spring, MD 20910

There are several good introductory texts available. Some are listed in the bibliography at the end of this publication.

An excellent introduction to microcomputers and BASIC programming (nine audio cassettes and two workbooks) can be obtained (cost approximately $95) from:

McGraw-Hill Continuing Education Center
3939 Wisconsin Avenue N.W.
Washington D.C. 20016
(800) 323-1717

Q. **How can I keep up-to-date on the latest software and hardware developments?**

A. Subscribe to a periodical. A good beginner monthly magazine ($11.97 per year) with feature articles that require little or no technical knowledge is:

Personal Computing
P.O. Box 2941
Boulder, CO 80321

A good weekly newspaper ($25 per year) is:

INFO WORLD
Circulation Department
375 Cochituate Road
P.O. Box 880
Framingham, Massachusetts 01701-9987
(800) 343-6474

A good magazine (free to businesses, $35 per year for others) for the beginner is:

Business Computer Systems
270 St. Paul St.
Denver, CO 80206

A good monthly magazine ($19.00 per year) with both beginner feature articles and "hobbyist" articles is:

BYTE, Subscription Dept.
P.O. Box 590
Martinsville, NJ 08836
(800) 258-5485

Another monthly magazine you might consider (at $11.97 per year) is:

Popular Computing
Subscription Dept.
P.O. Box 307
Martinsville, NJ 08836

Q. How can I learn about the capabilities of general purpose software such as electronic spreadsheets, file managers, and statistical packages?

A. Assuming you do not have access to someone who has used the software, the next best thing you can do is to visit a retail microcomputer store and see a demonstration of the software and review the documentation. Also, courses varying in length from one day to one week are offered by universities, community colleges, and other adult education centers around the country on the more sophisticated packages. The courses are frequently advertised in microcomputer publications.

Q. What courses are available on the application of microcomputers for transportation?

A. FHWA and UMTA offer a two-day introductory course which contains two parallel sessions oriented to transportation planning and transit operations. There is no charge for this course. Contact your regional FHWA or UMTA office for more information.

FHWA offers a 1 1/2-day demonstration/workshop which introduces microcomputer concepts and provides an overview of traffic engineering applications. A key part of this effort is the "hands-on" demonstration of various traffic engineering applications on a variety of microcomputer sytems. Contact the FHWA division office in your state for more information and ask about Demonstration Project No. 62.

A one-week course called "Microcomputers in Transportation Engineering" is being offered at Northwestern University June 11-15 ($400 per person). Contact:

The Traffic Institute (Registrar)
Northwestern University
555 Clark Street, P.O. Box 1409
Evanston, IL 60204
(312) 492-5040

A one-week course called "Microcomputer Applications in Transportation" is being offered at MIT on August 13-17 ($1050 per person). Contact:

Summer Session Office
Room E19-356
Massachusetts Institute of Technology
Cambridge, MA 02139
(617) 253-2101

A one-week course called "The Essentials of Traffic Engineering for Transit Managers" is being offered May 7-11 by the University of Michigan. The course fee of $2,000 covers tuition, course materials (including microcomputer equipment), housing, meals, and transportation on field trips. Contact:

Center for Transit Research
and Management Development-UMTRI
2901 Baxter Rd at Huron Parkway
The University of Michigan
Ann Arbor, MI 48109

or call James O'Day at (313) 764-0248.

Several hands-on courses, with students working chiefly at microcomputer stations, are being offered in the areas of transit management, paratransit services, and urban transportation planning. The courses are offered by Management Support Services, Inc., at a cost of $675. The course locations and dates are:

Transit Management	Rensselaer Polytechnic Institute, Troy, NY June 4-8, July 16-20
	George Washington University, Washington, DC October 8-12
Paratransit	Rensselaer Polytechnic Institute, Troy, NY June 11-15, June 25-29
	Northwestern University, Chicago, IL September 17-21
Urban Transportation Planning	Rensselaer Polytechnic Institute, Troy, NY June 18-22, July 9-13
	Northwestern University, Chicago, IL September 10-14
	George Washington University, Washington, DC October 15-19

For additional information, please address inquiries to Microcomputers in Transportation, P.O. Box 1421, Troy, NY 12180, or call Ms. Pat Henry at (518) 266-6120. This course is not associated with the Microcomputers in Transportation user group mentioned later in this publication.

Q. I need software to do a specific task. How do I find out if such software already exists?

A. Before trying to locate software to do a particular function, you should understand that finding a package that does everything you want it to do may be difficult. This is particulary true of software developed by staff in other public agencies. It is frequently developed for a particular application within the agency, may have little or no user documentation, and may be awkward to operate for anyone other than its creator who is intimately familiar with the program. However, while the program may not work directly for your function, viewing a demonstration of the software, knowing its report formats, and discussing the design considerations with the program developer can be valuable if you plan to have similar software developed for your own needs. Don't be fooled into thinking that the volumes of software developed by other agencies are going to solve all of your software problems. With these admonitions in mind, you should review this publication.

In the Summer of 1984 an inventory of software and hardware (for both microcomputers and larger computers) at transit agencies will be available. This information will be collected in the Winter of 1984 for NCTRP. For information concerning the availability of this document, contact:

Mr. Harry Smith
Projects Engineer
Transportation Research Board
2101 Constitution Ave., N.W.
Washington, DC 20418

In addition, you may wish to join a local user group. There are groups for users of the same machine (e.g. Apple users group, IBM PC group), the same language (e.g. PASCAL users group), or the same software (e.g. dBASE II user group), as well as for those who have some other common interest.

Join one of the Federally sponsored transportation user groups in the area of interest to you. The technical support centers for each user group have directories which list hundreds of commercial packages on the market. This information is available over the phone to members of the user group. The support centers also distribute public sector software developed by local and state agencies, universities, and the Federal government. The purpose of the user group is to provide an opportunity for transportation professionals to share microcomputer software and experiences. A newsletter is published quarterly for members.

There are four federally-sponsored user groups: Microcomputers in Transportation (MTP) is composed of those interested in transportation planning; Safety and Traffic Engineering Applications for Microcomputers (STEAM) is oriented to highway safety and traffic engineering; Microcomputer Applications in Highway Projects (MAHP) serves those in small towns, rural county and statewide highway agencies; and the Transit Industry Microcomputer Exchange serves those interested in transit

operations. If you want to become a member of one of the first three user groups listed above, contact:

(User group name from above)
DOT/Transportation Systems Center
DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

If you are interested in joining the user group for transit operations, contact:

TIME Support Center
Rensselaer Polytechnic Institute
Civil Engineering Department
Troy, NY 12181
(518) 266-6227

Q. **Are there periodical articles which describe or evaluate software packages?**

A. Yes, there are a number of articles in microcomputer periodicals. The easiest way for you to locate an article if you are a member of the above user groups is to contact one of the support centers listed above. They subscribe to microcomputer periodical indices which list when and in what publication a review was printed.

Q. **How can I get a summary of all the commercial programs that perform a certain function on a certain machine?**

There are "software directories" for commercial microcomputer programs. The support centers subscribe to these, and if you are a member of one of the two user groups you can call the support center for a summary of what's available.

Q. **Is it possible for me to see demonstrations of public sector transportation programs?**

A. Demonstrations of public sector software can be seen at the support centers for the user groups (see addresses above) by appointment only; or at UMTA ((202) 426-9271) or FHWA ((202) 426-0182) in Washington, D.C., also by appointment only.

National Conference on Microcomputers in Urban Transportation
San Diego, June 19-21, 1985
Call for Papers and Exhibits

The National Conference on Microcomputers in Urban Transportation is the result of the collective efforts of ASCE, UMTA, APTA, FHWA, ITE, AASHTO, TRB and ARTBA. The conference will feature paper presentations, case studies and panel discussions on microcomputer activities which are presently in use or being considered in the urban transportation environment. The focus is on applications which will provide insights to others addressing similar problems in urban transportation.

Authors are invited to submit technical papers in the following general subject areas: accounting, budgeting, personnel management, project management, needs assessment, procurement, maintenance, inventory management, institutional issues, system security, education and training. Specific applications related to operations or management in traffic engineering, public transit, transportation planning and transportation design and construction are especially welcome. Papers approved for presentation will be published in a conference proceedings.

The conference will also include an exhibit area where individuals and organizations may demonstrate their products and services to conference attendees.

All correspondence should be directed to: Dr. Mark Abkowitz, Chairman, National Conference on Microcomputers in Urban Transportation, Department of Civil Engineering, Rensselaer Polytechnic Institute, Troy, NY 12181. Exhibitors may request an exhibit registration form at any time. Authors submitting a paper for review should send three copies of a 400-word abstract by July 23, 1984. Notification of paper acceptance will be given by September 14, 1984. In order to allow for distribution of the proceedings at the conference, final camera-ready papers must be received by February 1, 1985.

TRANSIT OPERATIONS

APPLICATIONS

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Transit Operations Applications

Scheduling And Run Cutting

APPLICATION — Bus Schedule Timing

DEVELOPER — Berkshire County Regional Planning Commission
Pittsfield, Massachusetts

SUMMARY — For individual routes of a simple fixed-route transit system, headways, running time between stops, and layover times can be input. These are used to develop an initial schedule for each vehicle needed to provide service at the specified headways. Alternative arrival/departure times at a particular stop can be entered interactively to ascertain the effect on other stops. Various adjustments can then be made to develop the best overall schedule for the particular route.

ENVIRONMENT — The procedure is implemented in VisiCalc™ under the DOS 3.3 operating system on an Apple II+ microcomputer with 64K memory and a disk drive.

STATUS — The procedure has been used in work done with the local transit agency to study alternative revised bus routes and schedules.

AVAILABILITY — The procedure has not been generalized or documented for general distribution.

CONTACT — Charles W. Cook
Berkshire County Regional
Planning Commission
10 Fenn Street
Pittsfield, MA 01201
(413) 442-1521

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Transit Operations Applications

Scheduling And Run Cutting

APPLICATION	RUCUS Scheduling and Run-Cutting Capabilities on a Microcomputer
DEVELOPER	VISTA Systems Inc.
SPONSOR	San Diego Transit Corporation
SUMMARY	The project involves acquisition of a microcomputer system and development of software which replicates the functions of San Diego's previous RUCUS system. The capabilities include run-cutting, timetable building and printing of driver schedules, headway sheets, and operating statistics.
ENVIRONMENT	Computhink Hawk 32, 512K, Motorola 68000, 40 MB hard disk, UNIX, 3 terminals
STATUS	The system is installed and fully operational.
AVAILABILITY	For sale from VISTA Systems
CONTACT	Mr. Ken Mead Scheduling Supervisor San Diego Transit Corporation P.O. Box 2511 San Diego, CA 92112 (619) 238-0100

microcomputers in transportation

Transit Operations Applications

Scheduling And Run Cutting

APPLICATION — Interactive Bus Scheduler ("Chapel Hill Scheduler")

DEVELOPER — Chapel Hill Transit

SPONSOR — UMTA, Office of Methods and Support

SUMMARY — This microcomputer program operates on user-specified, uniform running times between timepoints within each of several periods of the day. For route variations, such as branch lines or short turns, "patterns" define a subset of timepoints. With standard layovers also specified, the computer takes over much of the "number crunching" aspect of scheduling, allowing the schedule writer to try alternative schedules quickly and accurately. With the final schedule in computer-printable form, the production of timetables, driver "paddles", day cards, supervisor sheets, etc., is accurate and easy.

The "Chapel Hill Scheduler" (CHS), developed under an UMTA grant by Chapel Hill Transit in North Carolina, is an easy-to-learn, well-documented scheduling aid for the small, fixed-route operator. It is most efficient in scheduling long blocks of repetitive trips at headways that are uniform within major segments of the day. Odd headways and "trippers" are also accommodated, but must be treated individually.

The program facilitates manual blocking but no runcutting is included.

ENVIRONMENT — The program is written in UCSD Pascal and is operational under the UCSD p-System on the Apple II computer, the IBM PC and similar computers that run the UCSD p-System. Documentation is complete and clear.

STATUS — Operational in Chapel Hill and Durham.

AVAILABILITY — Public domain. Available from TIME Support Center.

CONTACTS

Tom Hillegass (UMTA Contact)
UMTA (URT-41)
400 7th Street, S.W.
Washington, DC 20590
(202) 426-9271

TIME Support Center
Department of Civil Engineering
Rensselaer Polytechnic Institute
Troy, NY 12181
(518) 266-6227, between 1:00 and 4:00 PM (EST)

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Transit Operations Applications

Scheduling And Run Cutting

APPLICATION DKSPAK

DEVELOPERS DKS Associates

SUMMARY DKS is developing a package of programs, DKSPAK, for scheduling and dispatching applications. The following elements are operational:

Run Cutting: DKSRUNS, a comprehensive, interactive runcutting system, has simple, easy-to-learn commands. Basic default values (which can be reset or overridden) are initialized for each runcutting step. The command structure permits the creation, modification or "undoing" of individual runs or a set of runs. Runs can be cut with one set of parameters and then the parameters relaxed to reflect hard/soft work rules.

After all runs are cut, the software utilizes exhaustive switching and shifting techniques which are more efficient than RUCUS-related software. Straights can be maximized and key runs not altered during the process.

Rostering: Weekday, Saturday and Sunday run cut data are input to this module for the generation of weekly rosters to be posted and bid by operators. The program will maximize the number of bids for regular operators and usually reduces extra-board staff and the time for daily extraboard bid preparation. The program is customized to local union requirements and checks that each bid does not violate any state or local rules.

Reporting: Programs are available to generate selected scheduling, runcutting and operations reports.

ENVIRONMENT MC 68000 UNIX and IBM PC-DOS microcomputers.

AVAILABILITY License sale or demonstration packet available from contact below. Source code available.

STATUS A list of users is available from the contact below.

CONTACT James Fennessy--Manager, Systems Division
DKS Associates
1419 Broadway, Suite 700
Oakland, CA 94612-2069
(415) 763-2061

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Transit Operations Applications

Scheduling And Run Cutting

PROJECT	Desk Top Scheduler (DTS)
DEVELOPER	ATE Management and Service Co. and Wilson-Hill Associates
SUMMARY	DTS allows a scheduler to interactively build and edit trips (automated blocking and runcutting is not performed). Schedules can be built by inputting a headway, a single start time per trip, or by having DTS generate headways based upon load check counts and load standards. Capability to add, change, or delete trips is supported via a full-screen editing and windowing capability.
ENVIRONMENT	The software is written in UCSD Pascal and runs under the UCSD operating system (Version IV) on the IBM PC with 128K (RAM), and a hard disk or two floppy disk drives.
AVAILABILITY	Not available until project is completed. The software is in the public domain.
STATUS	The system is operational in Dallas. Modifications to the software are being made by Wilson-Hill Associates prior to nation distribution.
SCHEDULE	Finalizing the code will occur in Spring of 1984. Distribution is scheduled for Spring 1984.
CONTACTS	Mr. Ron Jensen-Fisher (UMTA Contact) UMTA/URT-41 400 7th Street, S.W. Washington, DC 20590 (202) 426-9271 Roger Mitchell (Contractor) ATE, Suite 705 1911 N. Ft. Meyer Drive Arlington, VA 22209 (703) 528-6302 Ron Hirshhorn Wilson-Hill Associates 1025 Vermont Ave, N.W. Washington, DC 20005 (202) 842-7799

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Transit Operations Applications

Scheduling And Run Cutting

APPLICATION — Headway Sheet Development/Vehicle Blocking/Driver Run-Cutting System

DEVELOPER — Kenneth R. Roberts & Associates, Inc. (KRA)

SPONSOR — CNY CENTRO, Inc., Syracuse, New York

SUMMARY — HEADWAY SHEET MANIPULATIVE: The program interfaces with the existing RUCUS package. Two-sided through-downtown lines can be handled. The program works a four-panel "in-and-out on one side, and in-and-out on the other side" solution. A complete set of trip manipulative commands are available - Blowup, Delete, Change Pattern, Change Routine - all by time range. The creation and modification of trips is completely under the control of the Scheduler. Three blocking modes are included: 1) Consecutive - first in - first out - similar to the manual technique used at many properties; 2) Optional - this uses the Ford-Fulkerson Technique included with the RUCUS I package; and 3) Manual - this permits the user to create blocks by connecting specific trips to each other. RUN-CUTTING: Optional two-piece split construction techniques using the Hungarian Assignment Algorithms are available. Two-piece straight (small paid break) runs are constructed by a two-pass process that guarantees that early and late pieces will be paired. The program is completely parameterized. It has been used to construct runs under the most extreme circumstances. REPORTING: There are six to eight standard reports that are produced by the Schedule Department. These are customized to meet local requirements: Paddles/Manifests, Supervisor Guides, Master Schedules, Corner Books, Public Timetables, Run Guides, Pull-Out Sheets, Signup Sheets. Standard documents are available for smaller properties that do not need customized output.

ENVIRONMENT — Altos 68000, 1 MB memory, 40 MB hard disk; UNIX System III and FORTRAN

STATUS — Operational

CONTACT — Mr. J. Todd Plesko--Director of Service Development
CNY CENTRO, Inc.
One Centro Center
200 Cortland Ave, Drawer 820
Syracuse, NY 13205-0820
(315) 470-0206

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Transit Operations Applications

Ridership/Revenue Estimation

APPLICATION Transit Ridership Forecasting Model

SUMMARY The Transit Ridership Forecasting Model (TRFM) estimates ridership on a single route. It is based upon state-of-the-art methods of demand forecasting, employing many of the same steps as mainframe programs. TRFM was designed specifically for ease of operation. Every feature of the Apple II+ was exploited to make the job of the planner straightforward and enjoyable. TRFM is a sophisticated forecasting tool which is suitable for both quick response and detailed analysis.

FEATURES:

1) Fully interactive. Extensive use of animated color graphics for data input makes working with TRFM a pleasure.

2) State-of-the-art. TRFM is built around the "four step" model: trip generation, trip distribution, mode split and trip assignment.

3) Thorough documentation. A forty-page reference manual will allow a novice to become proficient in only a few hours.

4) Can be easily customized. All parameters for the model are located on "Parameter Pages" which can be quickly accessed.

5) Fast calculation. By microcomputer standards, TRFM performs its calculations rapidly. Every optimization trick has been employed to reduce the time of execution to less than that of a typical coffee break.

ENVIRONMENT Apple II+ with 48K RAM and one disk drive. High quality game paddles and a color monitor will facilitate entering data.

AVAILABILITY Available from contact below for $125.00.

CONTACT Center for Urban Transportation Studies
University of Wisconsin--Milwaukee
PO Box 784
Milwaukee, WI 53201
(414) 963-5787

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Transit Operations Applications

Ridership/Revenue Estimation

APPLICATION — Fare Revenue Projections

DEVELOPER — Bureau of Finance, San Francisco Municipal Railway (MUNI), San Francisco, California

SUMMARY — Historical revenue data has been used to develop a regression model which relates monthly fare revenues by type of payment (adult and senior monthly passes, and cash fares) to the following types of variables; season of the year, pass price/cash fare ratio, local employment and unemployment levels, and parking costs in the Central Business District. The model is used to project fare revenues into the future.

ENVIRONMENT — The program is set up as a VisiCalc/VisiTrend™ procedure which runs on an Apple II or II+ microcomputer with 64K of memory and two disk drives.

STATUS — The procedure is used by the MUNI Bureau of Finance to project fare revenues and to study pricing policies.

AVAILABILITY — The procedure could readily be transferred to another operator, but operators must identify, obtain data and test which variables are significant determinants of their revenues. Use of the procedures is fully documented, but procedures to identify variables is not. Documentation is available at the address shown below. Templates will be copied onto your disks at your request, but MUNI will not provide support of this application.

CONTACT —
Bruce Bernhard
Bureau of Finance
San Francisco Municipal Railway
425 Mason St., 7th Floor
San Francisco, CA 94102
(415) 558-5346

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Transit Operations Applications

Ridership/Revenue Estimation

APPLICATION — Impact of Transit Fare Changes

DEVELOPER — Berkshire County Regional Planning Commission
Pittsfield, Massachusetts

SUMMARY — The existing distribution of transit passengers by fare level (based on zones travelled and base fare versus elderly and handicapped fare) and the existing fare structure is input. The procedure will then operate in one of two modes: (1) for a specified change in fare structure, the new passengers and revenue can be calculated; and (2) for a specified total revenue, a new fare structure which maximizes passengers will be calculated. The corresponding fare levels and predicted passengers are also determined.

In both cases, estimates of revised passengers by fare level are normally based on an assumed fare elasticity of -0.33. Other elasticity factors may be specified by the user.

ENVIRONMENT — The procedure is implemented in VisiCalc™ under the DOS 3.3 operating system on an Apple II Plus microcomputer with 64K memory and a disk drive.

STATUS — The procedure has been used in work done with the local transit agency to study alternative fare levels and fare structures.

AVAILABILITY — The procedure has not been generalized or documented for general distribution.

CONTACT — Charles W. Cook
Berkshire County Regional
Planning Commission
10 Fenn Street
Pittsfield, MA 01201
(413) 442-1521

™VisiCalc is a trademark of VisiCorp.

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Transit Operations Applications

Ridership/Revenue Estimation — In Development

APPLICATION: Fare Policy Evaluation (FPE)

DEVELOPER: Technology Research and Analysis Corp. (TRAAC), Arlington, VA

SPONSOR: UMTA, Office of Service and Management Demonstrations

SUMMARY: The FPE program analyzes a proposed fare policy by determining its effects on individual riders and summarizing these results by ridership categories. The user must supply group elasticities as well as ridership survey data. The program models the following fare policies: flat, pure distance-based, step distance-based, and zone-based. Different policies may be used for different ridership groups. The program is especially useful in determining the effects on various ridership groups of a major fare policy change. A typical application would be in analyzing a change from flat to distance-based fares. The original modeling approach was developed by Professors Ballou and Mohan of the State University of New York (SUNY) at Albany.

ENVIRONMENT: Written in UCSD Pascal. Can be used on microcomputers which run the p-System and have two diskette drives and at least 64K RAM.

STATUS: The modeling approach used in FPE has been applied (using an earlier mainframe program developed at SUNY) to the Greater Albany, NY area.

AVAILABILITY: A pre-release version is available from TRAAC. FPE will be released through the TIME Support Center in Summer 1984. See contacts below.

CONTACTS:

Robert Johnson
TRAAC
2020 N. 14th Street
Suite 400
Arlington, VA 22201
(703) 522-2440

TIME Support Center
Rensselaer Polytechnic Institute
Department of Civil Engineering
Troy, NY 12181
(518) 270-6227, between 1:00 and 4:00 PM (EST)

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Transit Operations Applications

Ridership/Revenue Estimation

APPLICATION — Transit Fare Revenue Subsidy

DEVELOPERS — Dr. F. Navin, University of British Columbia; Dr. K. Button, Loughborough University (U.K.)

SPONSOR — Greater Vancouver Transit Commission, Dept of Civil Engineering, Transportation Group

SUMMARY — A Gaudry-type ridership model is used with fare being one of the variables. Various regional fare policies (flat fare, time of day, travel distance, and time of day and distance) may be used. A simplified method of proportioning fare elasticities is also included. The subsidy-sharing formula for British Columbia is embedded in the program.

A second program is included, that uses the Apple II+'s High Resolution Graphics (HRG) to plot the annual ridership and fare revenue.

ENVIRONMENT — Apple II+, 48K memory, one disk drive, Epson MX82 printer.

AVAILABILITY — Source code on a 16-sector diskette; some modifications are needed to fare elasticities, basic ridership operation, and subsidy formulas. Cost $10 to cover price of diskette and mailing.

CONTACT — Dr. Francis Navin
Department of Civil Engineering
2324 Main Mall
University of British Columbia
Vancouver, B.C. V6T 1W5
(604) 228-3158

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Transit Operations Applications

Ridership/Revenue Estimation

APPLICATION	Transit Operations Planning and Analysis (TOP)
DEVELOPER	Dr. Mark Turnquist, Cornell University
SPONSOR	U.S. Department of Transportation, Office of University Research
SUMMARY	The TOP model predicts short-range route level changes in cost and ridership as a function of service changes. The model is sensitive to changes in fare, number of stops, frequency of service, and running time.
ENVIRONMENT	Operates on an Apple III microcomputer under the UCSD-p operating system. Three disk drives and 256K RAM are required. An IBM PC version is under development.
AVAILABILITY	See contact below
CONTACT	TIME Support Center Rensselaer Polytechnic Institute Dept. of Civil Engineering Troy, NY 12181 (518) 266-6227 between 1:00 and 4:00 PM (EST)

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Transit Operations Applications

Ridership/Revenue Estimation

APPLICATION — Transit Operations Planning and Analysis (FRACAS)

DEVELOPER — Dr. George Kocur, Center for Transportation Studies, MIT, Cambridge, MA

SPONSOR — U.S. Department of Transportation, Office of University Research

SUMMARY — The Fare and Route Analysis Computer Aided System (FRACAS) is a strategic planning model for transit systems. It both generates and evaluates service and fare options. It accepts inputs describing a fixed-route transit system's operating objectives, service parameters and existing service and market sensitivities, and produces guidelines for the route structures, fares and headways that will best meet the objectives. FRACAS is a flexible approach to the problems of adjusting service and fares to meet budget constraints, and is also useful in addressing service design issues such as peak/offpeak service mixes, the most appropriate vehicle size and the tradeoffs of express versus local service.

ENVIRONMENT — Operates on the Apple II microcomputer under Apple Pascal. Two disk drives, 64K RAM and an 80-column display board are required. A printer is highly recommended.

STATUS — The software is being modified by Dr. Kocur to operate on an IBM PC.

AVAILABILITY — Available from the contact below.

CONTACT — TIME Support Center
Rensselaer Polytechnic Institute
Civil Engineering Department
Troy, NY 12181
(518) 266-6227

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Transit Operations Applications

Route Performance

APPLICATION Statistical Sampling of Trip Data (Stat Sampling)

DEVELOPER Transit Industry Microcomputer Exchange

SUMMARY The program determines which vehicle trips should be sampled to obtain statistically valid values for route ridership, fare levels, etc. The initial program identifies alternate sampling plans, each consisting of the number of days and number of trips per day to sample. Subsequent programs randomly select the actual days and trips to sample. The program follows the procedures and uses the values in the tables of the Bus Transit Monitoring Manual (Report No. UMTA-IT-09-9008-81-1). The user must supply the following inputs: the between day and within day coeffecient of variation of the trip measure being studied, the desired tolerance level of significance, length of the sampling period, and total number of trips operated per day.

ENVIRONMENT Apple II+, 48K RAM, or IBM PC, a disk drive, and a printer. Program is written in BASIC.

AVAILABILITY See contact below.

CONTACT TIME Support Center
Rensselaer Polytechnic Institute
Civil Engineering Dept.
Troy, NY 12181
(518) 266-6227 between 1:00 and 4:00 PM (EST)

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Transit Operations Applications

Route Performance

APPLICATION Passenger Counting System

DEVELOPER Kenneth R. Roberts & Associates, Inc. (KRA)

SPONSOR CNY CENTRO, Inc., Syracuse, New York

SUMMARY The Passenger Counting software will handle both wayside and onboard checks. The Collectors themselves are general-purpose hand-held computers. They have a full system of "prompts" to lead the user through the collection process. Keys allow the user to skip forward, back up, change entries, etc. Built-in logic permits end-of-line and key-point reconciliation. At these locations, counts can be modified to reconcile with actual loads. The collectors weigh less than 2 lbs, are easily held in one hand, and have sufficient storage and battery capacity for two full days of intensive use. A full set of Counts Reports is available, including: a) Passenger activity for a single trip; b) Passenger activity for all trips from time A to time B; c) Passenger activity for all daily trips; d) Difference between scheduled and actual arrival time at selected time points; e) Scheduled and actual running time; f) Total individual bus stop activity for all trips; g) Passenger activity for multiple trips showing loads at each bus stop; h) Passenger activity for multiple trips, ons and offs only; i) UMTA Section 15 nonfinancial reporting; and j) Point Check - Wayside counts to include passengers on board and on-time performance at selected nodes.

ENVIRONMENT Altos 68000, 1 MB memory, 40 MB hard disk; UNIX System III and FORTRAN

SCHEDULE Operational

AVAILABILITY See contact below.

CONTACT Mr. J. Todd Plesko
Director of Service Development
CNY CENTRO, Inc.
One Centro Center
200 Cortland Ave, Drawer 820
Syracuse, NY 13205-0820
(315) 470-0206

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Transit Operations Applications

Route Performance

PROJECT — CHECK-MATE*, a Transit Data Collection System

DEVELOPER — Multiplications, Inc., Cambridge, MA

SUMMARY — CHECK-MATE* is a software package which runs on a hand-held computer which is used for collecting passenger boarding and alighting data by stop (ride checks), as well as times at selected stops. The program is menu-driven with prompts for all inputs; all time measurements are done automatically.

Two modes of operation are possible: with or without a list of stops. When the stoplist option is selected, the checker is prompted with a stop name and indicates whether the bus passes the stop or stops there. The checker records passenger activity by pressing an "on" or "of" key for each boarding and alighting passenger. If the stoplist option is not selected, the checker must enter a stop code each time the bus stops. (A module for generating stoplists is provided).

CHECK-MATE* was developed for use with the EPSON HX-20, a notebook-size computer with an integral microcassette drive. The cassette drive permits a checker to carry prerecorded stoplists on tape for a number of routes and virtually unlimited data storage. The stored data can be uploaded to a host system for analysis and reporting through the RS-232C port, eliminating the need for coding and keypunching.

A point (load) check module, which will be available as an integrated part of the system, is being developed.

ENVIRONMENT — EPSON HX-20, with integral microcassette drive; data can be uploaded for analysis to any environment through the RS-232C port.

STATUS — Undergoing testing by MTA in Baltimore.

AVAILABILITY — Hardware, software and documentation available from Multiplications, Inc.

CONTACT — John Attanucci, Senior Director
Gary Ruprecht, Senior Transp Analyst
Multisystems, the Consulting Division
Multiplications, Inc.
1050 Massachusetts Avenue
Cambridge, MA 02138
(617) 864-5810

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Transit Operations Applications

Route Performance

APPLICATION — Ridership Reporting

DEVELOPER — Old Colony Planning Council, Brockton, Massachusetts

SUMMARY — Programs have been developed to facilitate the entry and use of driver-recorded passenger count data. Revenue and ridership are entered by date, run start time and route. Outputs are available in the form of ridership summaries by day and operating division, by route, and by time of day, in the form of total riders, passengers per bus-mile, and passengers per bus round trip. Total revenues and ridership by operating division are also provided by day, by month, and as a monthly average in monthly summaries.

ENVIRONMENT — The programs are implemented in BASIC enhanced by the Command-O software package under the 3.0 DOS operating system on a Commodore 8032 microcomputer with 32K of memory and two disk drives.

STATUS — The programs have been used to study service and fare changes for the Brockton Area Transit System, and have been fully documented.

AVAILABILTY — The procedures are available in source listing form or on a Commodore 8050 diskette. They would require modifications to incorporate another operator's relevant operating divisions and routes, as well as changes to accommodate any differences in forms used by drivers to report passenger and revenue counts.

CONTACT — William Steffens
Old Colony Planning Council
Nine Belmont Street
Brockton, MA 02401
(617) 583-1833

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Transit Operations Applications

Route Performance

APPLICATION — Processing of Data from Bus Passenger Surveys

DEVELOPER — Golden Gate Bridge, Highway and Transportation District, Department of Planning and Policy Analysis

SUMMARY — Data from an ongoing bus passenger survey are entered in VisiCalc™ files. Each file represents a bus schedule surveyed; each row within the file represents data for a single passenger. These are read into DIF (Data Interchange Format) files which are used in a series of report programs that provide the following:

a. A check of survey data for inconsistencies or omissions of key data.

b. Estimates of average passenger fare, average passenger distance traveled, and the proportion of passengers living in each county. These estimates are calculated for each service route by direction and time period (AM peak, midday, etc.), and by type of passenger trip (local, intercounty). The 95% confidence intervals are also calculated for each of these estimates. Estimates are also made of the proportion of passengers using transfers, commute tickets, and passes.

c. Estimates of the proportion of passengers boarding and alighting at various bus stops and estimates of maximum load as a proportion of total passengers boarding.

ENVIRONMENT — Programmed in Apple III Business Basic to operate on an Apple III with 256K of memory. Requires only one disk drive, but three disk drives make operation more convenient.

AVAILABILITY — Available from contact below.

CONTACT — Ms. Joy Dahlgren, Associate Planner
Golden Gate Bridge, Highway & Transportation District
PO Box 3474
San Rafael, CA 94912-3474
(415) 457-3110, extension 415

™VisiCalc is a trademark of VisiCorp.

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Transit Operations Applications

Route Performance — In Development

PROJECT	Transit Information Manager (TIM)
DEVELOPER	Multisystems, Inc., Cambridge, MA
SPONSOR	UMTA, Office of Methods and Support, Grant No. DOT-UT-9005
SUMMARY	This project has developed microcomputer software which reports transit route performance indicators. Data obtained from load checks, ride checks, and driver counts can be stored in the data base historically, and retrieved at a variety of levels of detail, e.g. by route, date, time of day, or day of week. Flexibility of reporting is enhanced because a commercial data base manager ("MDBS") is being used in the software development.
ENVIRONMENT	IBM Personal Computer, 256K, 5MB disk storage, CP/M-86.
AVAILABILITY	Public sector software will be available when testing is complete.
STATUS	The software is completed and being tested.
CONTACTS	Mr. John Attanucci (Contractor) Multisystems, Inc. 1050 Massachusetts Ave. Cambridge, MA 02138 (617) 864-5810 Mr. Ron Jensen-Fisher (UMTA Contact) UMTA/URT-41 400 7th Street, S.W. Washington, DC 20590 (202) 426-9271

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Transit Operations Applications

Route Performance

APPLICATION — Route Performance and Cost Analysis ("Service Monitoring Package")

DEVELOPER — Capital District Transportation Authority, Albany, New York

SUMMARY — Two programs are included. The first is a passenger count program which is used to enter counts taken by bus drivers eight days per month, and to provide averages for a selected time period (typically a month) by route for weekday, Saturday, and Sunday service. These averages are available for output and also maintained as a data file for use in the second program.

The second program performs route analyses. Inputs include the passenger count file, a bus route data file which contains information on route distance, travel times, peak vehicle requirements, and average fare. Also, the analyst is asked to provide cost factors: dollars per bus-mile, per bus-hour, and per peak vehicle required. Based on these inputs, costs, revenues, and margins (revenue minus costs) are computed and used to determine a number of performance indicators: passengers and passenger-miles per mile, per hour, per trip, and per gallon of fuel; and costs, revenues, and margins, each per mile, hour, passenger, and passenger-mile. Each of these indicators are available for the average weekday, Saturday, and Sunday of the time period, as well as for the time period as a whole.

ENVIRONMENT — The programs are written in Pascal under the UCSD II.1 operating system on an APPLE II microcomputer with 64K RAM and two disks.

STATUS — The programs have been in use for nearly two years by CDTA. An IBM PC version is under development.

AVAILABLITY — The passenger count program is tailored to the format and procedures of CDTA's driver count sampling program, and thus may require modifications for use by other operators. The route analysis program is more general. Both programs are now available from the TIME Support Center.

CONTACT — TIME Support Center
Dept. of Civil Engineering
Rensselaer Polytechnic Institute
Troy, NY 12181
(518) 266-6227 between 1:00 and 4:00 PM (EST)

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Transit Operations Applications

Route Performance

APPLICATION — Section 15 Ridership Survey Processing

DEVELOPER — Old Colony Planning Council, Brockton, Massachusetts

SUMMARY — Programs have been developed to facilitate the entry and processing of ridership data required for transmittal to UMTA on Form F2710.69 (7-78) as part of the Section 15 annual submittal. The first program in the series provides a user-friendly environment for the entry of data recorded on the Survey Trip Sheet (UMTA Form F2710.4 (12-77))--day, date, time, route number, bus number, direction and the following information for each stop: arrival time, odometer reading, boarding passengers, and deboarding passengers.

The second program uses the data for all bus lines surveyed to date in a given year to provide Items 20-27 and 29 required on UMTA Form F2710-69 (7-78), for the weekdays, Saturdays and Sundays surveyed, and also for all surveys. These items include passengers boarded and on-board, bus trip distance and time, passenger-miles and minutes, capacity-miles and seat miles, and the total number of bus trips in the sample. Also provided are the following sample averages: passengers per trip, passenger-miles per trip, and passenger trip time per trip.

The third program uses the survey data file to provide printer plots of the load profiles (passengers on board versus route distance) for selected bus routes, directions, dates, days and times of the day.

ENVIRONMENT — Commodore 8032, 32K (RAM), two disk drives.

STATUS — The programs have been used to study service and fare changes for the Brockton Area Transit System, and have been fully documented.

AVAILABILITY — The programs are available in source listing form or on a Commodore 8050 diskette.

CONTACT — William Steffens
Old Colony Planning Council
Nine Belmont Street
Brockton, MA 02401
(617) 583-1833

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Transit Operations Applications

Route Performance

APPLICATION Section 15 Ridership Survey Processing

DEVELOPER Pierce Transit, Tacoma, WA

SUMMARY This Lotus 1-2-3 template is intended to be used by the Section 15 survey taker. This individual inputs on and off information and various stop information from the Passenger Check Form while the program computes the remainder of the survey trip sheet and updates the Daily Record Sheet. The program is designed to be used by individuals who have had little experience with computers.

ENVIRONMENT IBM PC with two drives and 258K RAM (plus Lotus 1-2-3)

STATUS Being utilized by Pierce Transit.

CONTACT
Rich Olson
Pierce Transit
1235 South Sprague
Tacoma, WA 98405
(206) 593-6276

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Transit Operations Applications

Route Performance — In Development

APPLICATION Section 15 Management Information System

DEVELOPER Washington Consulting Group

SPONSOR UMTA, Office of Information Services

SUMMARY This management information system consists of two separate but related parts. The first part, a database management system, contains a series of files designed to match the required level forms used to meet UMTA Section 15 reporting requirements. Information can be entered into these files and accessed for internal management analysis and development of performance indicators. The system also interfaces with a graphics package that allows users to make graphical presentation of any information contained in the data base.

The second part of this system consists of a microcomputerized database containing information from all transit agencies reporting Section 15 data from 1980 through 1982 (Years II, III, and IV). This information, which has been downloaded from a mainframe computer at the Transportation Systems Center, permits managers and analysts to 1) extend their analysis of transit performance to include other transit agencies; 2) create their own peer groups; and 3) explore transit industry trends.

ENVIRONMENT The program is written in dBase II™ and Lotus 1-2-3™ to operate on the IBM PC. It can work on both floppy and hard-disk drives, depending on the size of the database desired.

AVAILABILITY Part I of the information system is currently available for general use. Part II is still under development, and should be available by the summer of 1984.

CONTACTS David Budin or Tom Hardcastle
Washington Consulting Group
1625 Eye Street, N.W., Suite 206-A
Washington, DC 20006
(202) 457-6717

Ron Fisher (UMTA Contact)
UMTA (URT-7)
400 7th Street, S.W.
Washington, DC 20590
(202) 426-9157

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Transit Operations Applications

Maintenance

APPLICATION — Fleet Maintenance System - A preventive maintenance system for transit properties of any size.

DEVELOPER — DDS, Incorporated, San Diego, CA - in conjunction with San Diego Transit Corporation.

SUMMARY — FMS utilizes a vehicle inventory and status file to maintain and automatically update the history of each revenue and non-revenue vehicle and their components. A "dictionary" of all maintenance activities performed in the facility is developed by the user. These two files are then merged in a file called Preventive Maintenance Recommendations. A time and/or mileage recommendation is developed for each maintenance activity according to the needs of the individual series of vehicles. Daily consumables information and vehicle mileage are used to generate repair orders for those vehicles that are in need of PM inspections. The foreman can also request repair orders for buses requiring specific action. Road calls, accident, component rebuild (on or off property) and non-maintenance service are the other types of repair orders generated by the system. All activities and their related information is maintained by the system and management reports are printed on demand.

ENVIRONMENT — The program is written in BASIC using a data base manager and runs under UNIX Version 7, on 16-bit microcomputers with a Winchester style hard disk. This configuration provides the capability of operating on a single user desktop system or in a multi-user/multi-tasking environment with remote work stations and printers. These stations can be direct connections or utilize tele-communications.

AVAILABILITY — The FMS program (with or without hardware) is available as a proprietary system from the below listed company.

CONTACT — Jeff West
Product Manager/FMS
DDS, Incorporated
5155 Mercury Point
San Diego, CA 92111
(619) 565-9166

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Transit Operations Applications

Maintenance

APPLICATION Fleet Maintenance System

DEVELOPER Modeling Systems, Inc.

SUMMARY VEMM (Vehicle Maintenance Monitor) is one of the most comprehensive vehicle maintenance computer packages available to vehicle fleet owners today. The program maintains information on vehicles, work orders, parts inventory, purchase orders, fuel pumps, and related items. It provides multiple cross-checks for accurate data entry, a quick method of retrieving data and a large variety of analytical reports. These reports include: vehicle status reports, exception reports, inventory catalogues, stock usage analyses, preventive maintenance and repair schedules by miles and days, labor reports, fuel usage analyses, repair cause and type reports, maintenance histories, cost distributions and many management summary reports.

VEMM is a cost-effective tool for administrative record-keeping as well as for maintenance scheduling, fuel management, inventory planning, and management cost analysis. This module is also fully compatible with MSI's Vehicle Routing System--SCOOTER and its database management system.

STATUS VEMM is installed at a number of organizations having from 24 to 1200 vehicles.

AVAILABILITY Software is designed for both micro and mini Digital computers running either RSX or VMS. Both software and DEC turnkey systems are available immediately.

CONTACT Anne-Marie Lambert
Modeling Systems, Inc.
Ten Emerson Place
Boston, MA 02114
(617) 227-6778

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Transit Operations Applications

Maintenance

APPLICATION	"The Fleet Controller" - A Maintenance Management System for Microcomputers
DEVELOPER	Mr. Paul Setne
SUMMARY	An existing data base management package (MDBS III) provides the basis for an interactive system to record and accumulate vehicle-specific histories, work assignments and reports. The repair history procedure is geared to the American Trucking Association's coding system for vehicle repairs. The package tracks detailed history by systems, schedules preventive maintenance, tracks fluid usage (diesel fuel, engine oil, automatic transmission fluid), provides vehicle inventories, provides mechanic seniority lists, etc.
ENVIRONMENT	Package is available for the IBM personal computer with floppy or hard disk storage.
STATUS	Complete. Available for immediate installation.
AVAILABILITY	The software is distributed as a proprietary package by the below firm.
CONTACT	Fleet Computing International, Inc. P.O. Box 1070 Minnetonka, MN 55345 (612) 938-8861

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Transit Operations Applications

Maintenance

APPLICATION Vehicle Maintenance Information System

DEVELOPER LTK Management Services, Inc./AGS International, Ltd.

SUMMARY The Vehicle Maintenance Information System is one of three modules of a turnkey package which includes hardware, software, user training, documentation, supplies, customization and maintenance. The other system modules (parts inventory, driver records) are described elsewhere in this document.

The Vehicle Maintenance Information System enables a fleet operator to track the maintenance of each vehicle in its fleet. Maintenance costs can be aggregated by vehicle, vehicle subsystem, vehicle type, or fleet. In addition to repair work, preventive maintenance, scheduled inspections and fuel and oil consumption are also recorded by the system. Vehicle histories are maintained for on-line reporting or for printed batch reports.

The system offers fleet operators comprehensive records of the characteristics of each vehicle in a fleet, and provides the flexibility to answer questions such as:

1) How does 8-cylinder engine reliability and fuel consumption compare with 6-cyclinder vehicles?
2) How do 1981 vehicles compare with 1979 vehicles from a maintenance cost standpoint?
3) Which vehicles are costing the most to maintain and operate?

Among the types of reports provided by the system are: Individual Bus History, Vehicle Component History, Fuel and Oil Consumption, Inspection Schedule, Component Maintenance Summary, Employee Performance, Vehicle Cost Summary, Daily Shop Log, and Fuel Reconciliation.

ENVIRONMENT Burroughs B-20 series business microcomputer system, 512K RAM, 10MB Winchester disk, COBOL.

STATUS System installed and operating with several bus fleet operators.

CONTACT Mr. George Dorshimer
LTK Management Services, Inc.
Pennsylvania Building, Suite 1300
1500 Chestnut Street
Philadelphia, PA 19102
(215) 563-2569

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Transit Operations Applications

Maintenance

APPLICATION — EZFLEET--Fleet Maintenance Information System

DEVELOPER — ATE Data, Inc.

SUMMARY — EZFLEET is designed to supply daily information on vehicle performance statistics, servicing information, preventive maintenance schedules, early detection of problems, defects reporting, a vehicle history file, and more. EZFLEET focuses on the key issues of cost reduction, service dependability and productivity improvement.

The basis of EZFLEET is the mating of hand-held, portable data collectors with a microcomputer and a specially-developed software package. Each collector can record information on vehicle number, mileage, fluid consumption (fuel, oil, coolant, transmission fluid and other data) for up to 350 vehicles per shift per unit. The data is then relayed into a computer. Daily reports are produced in just minutes, for use by management to find and avoid problems.

ENVIRONMENT
- o Apple IIe, II+, 64K, 80-column card, two disk drives (for up to 100 vehicles) or three disk drives (for up to 250 vehicles), CP/M card, 7710 Asynchronous, Serial Interface, 80-column printer.
- o Morrow Micro Decision, MD3, 80-column printer
- o IBM PC or XT, 80-column printer.

STATUS — Available for immediate installation.

CONTACT — Lawrence D. Duckworth
ATE Data, Inc.
617 Vine Street, Suite 800
Cincinnati, OH 45202
1-800-543-1944
(513) 381-7424

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Transit Operations Applications

Maintenance

APPLICATION — Equipment Management Information System (EMIS)

DEVELOPER — Public Technology, Inc.

SUMMARY — The rapidly escalating costs of energy, labor and equipment are forcing governments to re-examine the manner in which their fleets are being managed. MICRO EMIS provides a turnkey, on-line system which can trace these crucial costs and provide management summaries and exception reports in the areas of equipment inventory, fuel, repairs, preventive maintenance and departmental billing.

ENVIRONMENT — Apple II, II+, and IIe, 48K RAM, 132 character printer, one 8-inch double-density, double-side disk drive, monitors.

STATUS — The system has been installed in Rock Hill, South Carolina, and Delaware, Ohio.

AVAILABILITY — The approximate cost of the hardware, software, and on-site support to install the system and train users is $15,000 for members of PTI and $22,000 to non-members.

CONTACT — Cindy Kahan
Public Technology, Inc.
1301 Pennsylvania Avenue, N.W.
Washington, DC 20004
(202) 626-2455

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Transit Operations Applications

Maintenance

APPLICATION VehicleCTRL - Vehicle Maintenance Reporting System

DEVELOPER Computer Task Group, Inc.

SUMMARY VehicleCTRL allows the fleet manager to control expenses by tracking fleet operation and maintenance costs. VehicleCTRL can schedule vehicles for maintenance up to a year in advance, and produce a report which lists not only the units due for PM, but also the exact operations which need to be done. VehicleCTRL will also track individual fuel and oil ticket purchases, as well as all repair orders. This menu-driven system includes 42 different analysis reports, divided among four categories: Repair Order Analysis, Component Repair Cost Analysis, Fuel/Oil Analysis, and a Total Cost Analysis. These reports allow the manager to detect troublesome vehicles and take the proper corrective action.

VehicleCTRL will benefit the fleet manager by increasing the lifespan of equipment while reducing unexpected downtime through effective maintenance. The system will also keep more accurate maintenance histories on vehicles, thereby increasing the value of the vehicle at resale time.

The computer capacity is 130 vehicles for the Apple, 600 vehicles for the IBM PC, and up to 3500 vehicles for the IBM PC/XT.

ENVIRONMENT IBM PC, 128K, 2 disk drives
IBM PC/XT, 128K, 10 MB

AVAILABILITY Available for purchase: $599 for software for the Apple IIe, II+, and IBM PC; $799 for software for the IBM PC/XT.

CONTACT Personal Computer Software Division
Computer Task Group, Inc.
800 Delaware Avenue
Buffalo, NY 14209
(716) 882-8000

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Transit Operations Applications

Maintenance — In Development

APPLICATION: Transit Inventory Control System

DEVELOPER: Washington Consulting Group, in association with Chase, Rosen, and Wallace

SPONSOR: UMTA, Office of Methods and Support

SUMMARY: This program consists of a FIFO (First In, First Out) inventory control system designed expecially for small and medium-size transit agencies. The system tracks inventory parts usage, calculates and specifies reorder points, and identifies economic order quantities. It keeps a perpetual inventory, thereby reducing the time required to conduct a yearly inventory count. Interface with other maintenance functions (work assignments, bus histories, etc.) is possible.

ENVIRONMENT: This program is being written in dBase II for the IBM PC. A hard-disk drive of 10 MB or larger is desirable.

STATUS: Source code is currently being written, and will be tested at LANTA (Allentown, PA).

AVAILABILITY: Expected to be available by mid to late Summer 1984. UMTA will distribute source code and documentation when completed.

CONTACTS:

Tom Hardcastle
Washington Consulting Group
1625 Eye Street, N.W., Suite 206-A
Washington, DC 20006
(202) 457-6717

Stan Rosen
Chase, Rosen, & Wallace
901 N. Washington St
Alexandria, VA 22314
(703) 836-7120

Tom Hillegass (UMTA Contact)
UMTA (URT-41)
400 7th Street, S.W.
Washington, DC 20590
(202) 426-9271

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Transit Operations Applications

Maintenance

APPLICATION — Parts Inventory Control

DEVELOPER — LTK Management Services, Inc./AGS International, Ltd.

SUMMARY — The Parts Inventory System is one of three modules of an integrated fleet mangement system. The other two modules (vehicle maintenance, driver records) are described elsewhere in this publication.

The Parts Inventory System is available for single or multiple parts distribution locations within a single company. Reorder levels are user-definable, and are used to trigger reorder notices during system operation. The system can accommodate up to 10,000 vendors and 100,000 part numbers, each with a 25-character text description. Parts costs are interfaced with the vehicle maintenance system using the average cost method of pricing. Users requiring use of FIFO and LIFO inventory costing systems can also be accommodated.

The system records all parts issue transactions, including the vehicle and mechanic to which the part was issued. Parts receipts are recorded, and include the cost and the vendor from which the part was purchased.

Reports provided by the inventory system include:

- Inventory Status of a Selected Part
- Parts Usage by Vehicle
- Vehicle Maintenance Costs
- Vendor Analysis
- Inventory Valuation
- Reorder

ENVIRONMENT — Burroughs B-20 series business microcomputer system, 512K RAM, 10MB Winchester disk, COBOL.

STATUS — The Parts Inventory System is installed and operational with several bus fleet operators.

CONTACT — Mr. George Dorshimer
LTK Management Services, Inc.
Pennsylvania Building, Suite 1300
1500 Chestnut Street
Philadelphia, PA 19102
(215) 563-2569

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Transit Operations Applications

Maintenance — In Development

APPLICATION: Equipment Maintenance/Parts Inventory

DEVELOPER: Kenneth R. Roberts & Associates, Inc. (KRA)

SUMMARY: EQUIPMENT MAINTENANCE: P. M. can be "triggered" by either time or miles, or both. Multiple schedules are maintained. The particular schedule assigned to a vehicle can be changed any time. Job Standards can be used to estimate Mechanic hours. These can be modified by actual experience under control of the user. Projections of maintenance requirements for the next 45 days (1 month advance) are based on recent history. Actual schedules are finalized by Management. Status of the Fleet, Mechanics, and Work Orders is immediately available through CRT query. Unscheduled and scheduled maintenance can be combined, e.g., if a piece of equipment breaks down, a "look ahead" feature can be triggered to catch up scheduled maintenance at the same time reducing "in garage" frequency. Complete Vehicle and Mechanic history files are maintained. Data can be summarized and tabulated by any combination of category and time frame, e.g., How many valve jobs has Mechanic X performed on Vehicle Type Y within the past 3 months? A full set of analytical reports, by Fleet, Location, Mechanic, and Vehicle are available. The query function facilitates the generation of reports at the request of the user. PARTS INVENTORY: Multilocation inventory system with master and locational reorder levels. Critical levels are preset and automatically adjusted with usage. Three alternate vendors and/or manufacturers for each part - system keeps track of preferred vendor or manufacturer. Pricing under control of user; FIFO, LIFO, or average are usual schemes. Preprinted sheets and automatic data entry through hand-held computers facilitate "4-wall" physical inventory.

ENVIRONMENT: Altos 68000, 1 MB RAM, 40 MB hard disk: UNIX System III and FORTRAN

STATUS: Part Inventory installed and operational. Equipment Maintenance package is expected to be operational in May 1984.

CONTACT:
Mr. Charles Richard
Michigan Department of Transportation
P.O. Box 30050
Lansing, MI 48909
(517) 322-1090

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Transit Operations Applications

Maintenance

APPLICATION — Analysis of Vehicle Rehabilitation and Replacement Plans

DEVELOPER — Bureau of Finance, San Francisco Municipal Railway (MUNI), San Francisco, California

SUMMARY — Inputs to the program are vehicle acquisition and rehabilitation costs, assumed economic lives of the vehicles, and projected service and float requirements by mode. Outputs are annual acquisition/rehabilitation requirements and associated capital costs.

ENVIRONMENT — The program is set up as a VisiCalc™ procedure which runs on an Apple II or II+ microcomputer with 64K of memory and two disk drives.

STATUS — The procedure is being used by the MUNI Bureau of Finance to study alternative fleet acquisition and rehabilitation strategies.

AVAILABILITY — The procedure could readily be transferred to another operator, although some customization could be necessary. Full documentation is available from the address shown below. Templates will be copied onto your disks at your request, but MUNI will not support this application.

CONTACT — Bruce Bernhard
Bureau of Finance
San Francisco Municipal Railway
425 Mason St., 7th Floor
San Francisco, CA 94102
(415) 558-5346

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Transit Operations Applications

Maintenance

APPLICATION — Deadheading Computations for Analysis of Alternative Maintenance Facility Locations

DEVELOPER — Keyes Associates, Wethersfield, CT

SUMMARY — Following the determination of route terminus locations and associated distances to proposed maintenance facility sites, the program expedites the computation of annual deadheading miles, hours and operating expenses, considering weekday, Saturday and Sunday schedules. Further, the procedure permits a comprehensive, multi-route analysis responsive to summer and non-summer schedule variations.

ENVIRONMENT — The procedure is implemented utilizing VisiCalc™ on the Radio Shack TRS-80 Model III microcomputer with 48K of memory and two disk drives.

CONTACT — James F. Low, P.E.
Associate
Keyes Associates
55 Town Line Road
Wethersfield, CT 06109
(203) 563-2341

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Transit Operations Applications

Cost Estimation

APPLICATION Budget Calculator

DEVELOPER Transportation Systems Center, Cambridge, MA

SUMMARY The BUDGET CALCULATOR is a tool to estimate future revenues and expenses. Its first function helps the user allocate current expenses, as reported on the Section 15 form 301, for each of four functional categories to three level of service variables: weekday vehicles, revenue vehicle miles, and revenue vehicle hours. After calculating system level unit costs for the current year (using service supplied data from form 406), the program estimates future year unit and total costs based on the user's estimate of price changes for labor, services, and materials and the expected level of service parameters. The second function is used to estimate future revenues and bring expenses and revenues into balance. The user enters current revenue data from Section 15 forms 201 and 203 and an estimate of future year changes. Changes in service levels and average fares are used together with system wide service and fare elasticities to estimate future year passenger fare revenue.

ENVIRONMENT Apple II, II+ and III with 64K (RAM), one disk drive, program uses VisiCalc™.

AVAILABILITY Available from contact below.

CONTACT TIME Support Center
Department of Civil Engineering
Rensselaer Polytechnic Institute
Troy, NY 12181
(518) 266-6227 (1-4 pm EST)

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Transit Operations Applications

Cost Estimation

PROJECT	VisiCalc™ Applications
DEVELOPER	Capital District Transportation Authority (CDTA)
SUMMARY	This program consists of templates used in the development of CDTA's annual operating budget. Other templates include cash forecasting, analyzing data collected as part of Section 15 ride checks, and performing simple, one variable linear regression.
ENVIRONMENT	VisiCalc™ is required to run this program. At present, a diskette is available for the Apple II+ microcomputer (64K) and the IBM PC. Templates are compatible with Lotus 1-2-3 on the IBM.
STATUS	Operational.
CONTACT	TIME Support Center Department of Civil Engineering Rensselaer Polytechnic Institute Troy, NY 12181 (518) 266-6227, between 1:00 and 4:00 PM (EST)

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™Lotus 1-2-3 is a trademark of Lotus Development Corp.

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Transit Operations Applications

Cost Estimation

APPLICATION — Five-year Cost Projections

DEVELOPER — Bureau of Finance, San Francisco Muncipal Railway (MUNI), San Francisco, California

SUMMARY — Future-year costs for the entire agency are projected. The procedure incorporates three unit cost components by division within MUNI, obtained from historical experience. These cost components are fixed costs, costs varying by number of vehicles operated, and costs varying by number of vehicle-hours of service provided. The major policy inputs are future-year numbers of vehicles operated and vehicle-hours of service provided.

ENVIRONMENT — The program is set up as a VisiCalc™ procedure which runs on an Apple II or II+ microcomputer with 64K of memory and two disk drives (5 1/4" or 8" diskettes).

STATUS — The program has been used by the MUNI Bureau of Finance for over two years to assist in financial planning.

AVAILABILITY — Some templates would require modification for use by other organizations. Full documentation of the templates and procedures for their use is available from MUNI at the address shown below. Templates will be copied onto your disks at your request, but MUNI will not provide support of this application.

CONTACT — Bruce Bernhard
Bureau of Finance
San Francisco Municipal Railway
425 Mason St., 7th Floor
San Francisco, CA 94102
(415) 558-5346

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Transit Operations Applications

Cost Estimation

APPLICATIONS Financial Forecasting for Transit Operations, Driver Extraboard Cost Model (DEB).

DEVELOPER Tri-Met (Portland, OR), Booz-Allen and Wilson Hill Associates.

SPONSOR UMTA, Office of Methods and Support, Grant No. OR-06-0006

SUMMARY UBUCKS/DEB estimates monthly driver wage and benefits expense over a five-year time horizon. Expenses are determined by comparing driver requirements to driver availability. The model has four distinguishing features:

- o Derives driver requirements from a daily profile of service hours supplied by the user; up to 30 service changes can be identified by date.
- o Adjusts manpower levels, through hiring and layoffs, relative to service levels, attrition and absenteeism.
- o Estimates unscheduled pay hours from a simulation of extraboard activity.
- o Derives monthly top wage rates from user-supplied inflation rates and COLA clause parameters.

ENVIRONMENT Software is operational on an IBM PC, with two disk drives and at least 128K memory, running under the NCI p-System.

STATUS Has been used at Tri-Met.

AVAILABILITY Public domain. Available from the TIME Support Center.

CONTACTS

TIME Support Center
Department of Civil Engineering
Rensselaer Polytechnic Institute
Troy, NY 12181
(518) 266-6227

Mr. Ron Hirshhorn
Wilson Hill Associates
1025 Vermont Ave N.W.
Washington, DC 20005
(202) 842-7799

Mr. Ron Jensen-Fisher (UMTA Contact)
UMTA/URT-41
400 7th Street, S.W.
Washington, DC 20590
(202) 426-9271

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Transit Operations Applications

APPLICATION Fleet Management Information

DEVELOPER LTK Management Services, Inc. and AGS International, Ltd.

SUMMARY The Fleet Management Information System (BASIC 5) contains five separate systems (modules): Maintenance Information, Inventory, Personnel Records/Driver Compliance, Payroll, and Accounting/ General Ledger. Each of the five modules can also function as a stand-alone system.

Maintenance Information: records vehicle maintenance histories and costs, as well as fuel and parts usage data by vehicle, maintenance location, and vehicle class. Reports showing maintenance activity, mechanic performance, and costs are available.

Inventory Control: allows complete control over parts purchasing and usage, while providing reports such as inventory valuation, vendor comparisons and parts cost.

Personnel Records/Driver Compliance: keeps individual personnel files for each employee, including license status, compliance with safety regulations, disciplinary actions, and commendations. Screen and hard copy reports are available in menu formats.

Payroll: single entry data provides the input to update journals, employee records, and general ledger. Prints paychecks and provides easy-to-read reports. Form 941-A and W-2 information is printed.

Accounting/General Ledger: provides cash management by supplying historical and up-to-the-minute status of receivables, and historical and current data on vendor purchases, discounts, and outstanding invoices. Automatically updates your general ledger.

ENVIRONMENT The system and moduels are avilable for the Burroughs B20-series business microcomputer.

AVAILABILITY Available immediately as a turn-key system, with customization for individual purchasers.

CONTACT

Mr. Albert N. Ferrari
LTK Management Services, Inc.
1500 Chestnut Street
Philadelphia, PA 19107
(215) 563-2579

Mr. Andrew G. Schiavone
AGS International, Ltd.
1500 Chestnut Street
Philadelphia, PA 19107
(215) 563-2569

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Transit Operations Applications

In Development

APPLICATION — Transit Personnel/Payroll Reporting System

DEVELOPER — Washington Consulting Group, in association with Chase, Rosen, and Wallace

SPONSOR — UMTA, Office of Methods and Support

SUMMARY — This program tracks and calculates personnel and payroll information for all categories of transit employees. Work hours and absenteeism information are entered on a daily basis and are transferred to permanent leave and payroll files. The permanent files supply up-to-date summary or individual absenteeism and payroll records, and can print a variety of customized reports on short notice. Although the system currently does not print payroll checks, it can be modified to do so. The database, moreoever, is sufficiently detailed to permit analysis of bus runs, maintenance work schedules, platform hours, and absenteeism patterns

ENVIRONMENT — Written for dBase II™, using the IBM PC. Hard-disk drive preferable, but can be implemented using floppy-disk drives. Can be customized to fit labor contracts or work rules of many transit agencies.

STATUS — The system is currently being test at SunTran of Albuquerque.

AVAILABILITY — Final development is nearing completion, and documentation is being prepared. Documentation and source code available from UMTA when completed.

CONTACTS

Tom Hardcastle
Washington Consulting Group
1625 Eye Street, N.W., Suite 206-A
Washington, DC 20006
(202) 457-6717

Stan Rosen
Chase, Rosen, & Wallace
901 N. Washington St
Alexandria, VA 22314
(703) 836-7120

Ron Fisher (UMTA Contact)
UMTA (URT-7)
400 7th Street, S.W.
Washington, DC 20590
(202) 426-9157

APPLICATION Driver Recordkeeping System

DEVELOPER LTK Management Services, Inc./AGS International, Ltd.

SUMMARY The Driver Recordkeeping System is one of three integrated modules of a turn-key fleet management system. The other two modules (vehicle maintenance, parts inventory control) are described elsewhere in this publication.

The Driver Record System is an electronic personnel file that maintains up-to-date records for each employee of a fleet operation. Although designed primarily for bus fleet operators to track driver fulfillment of requirements, the system has wide applicability to virtually any type of transportation fleet. The system:

1) Maintains a complete personnel file for each driver;
2) Tracks compliance with pre-employment and periodic requirements like physical exams, refresher courses, and license renewals;
3) Records disciplinary actions and commendations for each driver, and ensures that each case is carried to conclusion;
4) Produces a wide range of reports for both internal management and external reporting to government agencies, school districts and others.

The system was designed for maximum flexibility and can be customized by the user to fit the precise requirements of each fleet. All incoming data are validated against file records, and self-explanatory messages are provided to the user for immediate correction.

ENVIRONMENT Burroughs B-20 series business microcomputer system, 512K RAM, 10MB Winchester disk, COBOL

STATUS The Driver Record System is installed and operational with several bus fleet operators.

CONTACT Mr. George Dorshimer
LTK Management Services, Inc.
Pennsylvania Building, Suite 1300
1500 Chestnut Street
Philadelphia, PA 19102
(215) 563-2569

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Transit Operations Applications

APPLICATION Transportation Management System

DEVELOPER VISTA Systems, Inc.

SUMMARY VISTA's Transportation Management System includes six modules which provide a comprehensive set of tools to assist transit planning, scheduling, and operating departments. The six modules are Data Maintenance, Scheduling, Run Cutting, Traffic, Dispatch Control, and Operator Bidding.

Data Maintenance facilitates creation and maintenance of the scheduling database. Scheduling includes computer-assisted trip building, timetable maintenance, and hooking trips into vehicle assignments (blocks). Run Cutting performs computer-assisted run cutting. Traffic includes preparation, maintenance, and reporting of traffic check data. Dispatch Control provides computer-assisted dispatch and extra board assignment functions, operator's exception timekeeping, bus assignment tracking, and road call/incident tracking. Operator Bidding provides an on-line tool to prepare for, monitor and control, and record operator bidding.

The first four modules are typically grouped together into the Transit Scheduling system. However, Traffic can be easily separated from the group, as a stand-alone module. Dispatch Control and Operator bidding are each stand-alone modules. All modules interact directly with each other and utilize a central database.

ENVIRONMENT Operates on a 16-bit, UNIX-based microcomputer.

AVAILABILITY For sale from VISTA Systems.

CONTACT VISTA Systems, Inc.
900 State Road
Princeton, NJ 08540

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Transit Operations Applications

PROJECT	DB Master™ Parts Inventory
DEVELOPER	Transportation Systems Center, U.S. Department of Transportation, Cambridge MA
SPONSOR	UMTA, Office of Methods and Support
SUMMARY	In order to demonstrate a typical use of a representative data base file manager for a microcomputer, TSC used DB Master™ to create a very simple parts inventory system. Although it was not directly intended for inventory application, this system can be used to manage a small parts inventory or to become familiar with some features of parts inventory systems, with data base file managers, or with DB Master itself. The system does not have sophisticated features such as the ability to track part usage over time or maintain vendor information, but it can be used to track stock quantities and store parts order information.
ENVIRONMENT	Apple II or Apple III computer (DOS 3.3 operating system), two disk drives, printer, DB Master™ software required
AVAILABILITY	See contact below.
STATUS	Operational
CONTACTS	TIME Support Center Rensselaer Polytechnic Institute Department of Civil Engineering Troy NY 12181 (518) 266-6227 between 1:00 and 4:00 PM (EST)

™DB Master is a trademark of Stoneware Microcomputer Products

Transit Operations Applications

APPLICATION Financial Management/Maintenance and Materials Management

DEVELOPER VISTA Systems, Inc.

SUMMARY VISTA's Financial Management System consists of four modules: 1) Accounts Payable, 2) Accounts Receivable, 3) General Ledger, and 4) Fixed Assets. A set of financial reports, based on posted general ledger transactions, is also available at the system-level.

The system is menu driven, with a main menu from which one of the modules or the financial reports is selected. Each module also has a menu which allows the selection of specific functions. The individual modules are fully integrated. The General Ledger module provides a facility for entering other miscellaneous journal entries and for gathering and posting data captured by each of the other modules. The General Ledger Master File may only be updated through the General Ledger module. The General Ledger module is equippped to translate an internal chart of accounts to an external chart of accounts. It is capable of producing reports according to an external chart of accounts as required to meet Section 15 reporting.

VISTA's Maintenance and Materials Management System is a comprehensive battery of programs which automates information processing for equipment maintenance, parts inventory, and procurement functions. Although focused on vehicle maintenance, it can be used to automate information management for any type of equipment, facility, building, or grounds maintenance. The inventory and purchasing modules can be used to track and manage all materials, whether inventoried or direct charged items. The system satisfies requirements for standard financial, historical, and trend reporting.

ENVIRONMENT Operates on a 16-bit, UNIX-based microcomputer.

AVAILABILITY For sale from VISTA systems.

CONTACT VISTA Systems, Inc.
900 State Road
Princeton, NJ 08540

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Transit Operations Applications

In Development

APPLICATION — General Ledger/Payroll/Payables and Grant Management System

DEVELOPER — Kenneth R. Roberts & Associates, Inc. (KRA)

SPONSOR — Michigan Department of Transportation (Lansing) and Isabella County Transportation Commission (Mount Pleasant)

SUMMARY — PAYROLL: The master Employee Information file maintains current, month-to-month, quarter-to-date, and year-to-date data for earnings and deductions. The system supports weekly, biweekly, monthly, and semimonthly pay cycles; provides hourly and salaried pay types. It tabulates vacation days accrued and used, sick days used, and weeks worked. Twelve deduction categories are provided, and the withholding algorithms allow for allocation of taxes among multiple entities and accommodate nonresident employees. The system is designed as an "exceptional payroll", i.e., calculations are performed on a standard work period so only the exceptions need to be entered. GENERAL LEDGER: In the Master File, the user can enter, change, delete, or query the Chart of Accounts and print out this information. Several master accounts can be set up to total a user-defined number of subaccounts. The Transactions Register provides flexibility of printouts - by batch, by source documents, by department - in various sequences. GRANT MANAGEMENT: A printed list of all or selected Grantors with detailed account information can be obtained. Transactions, when entered, update the Grantor File, the Grantor Activity Report, and the Transactions Register, which can be selected to print a Transactions Register for all transactions entered, debit transactions only, or credit transactions only.

ENVIRONMENT — Altos 68000, 1 MB memory, 40 MB hard disk; UNIX System III and FORTRAN

STATUS — Under development

CONTACT — Mr. Charles Richard
Michigan Department of Transportation
P.O. Box 30050
Lansing, MI 48909
(517) 373-1837

Transit Operations Applications

APPLICATION — Passenger Revenue Recovery Calculation and Projection

DEVELOPER — Bi-State Development Agency

SUMMARY — The model calculates the passenger revenue recovery percentage for the base year and forecasts this percentage for four additional years. The model computes the cost of transit service based on the following inputs: fixed cost, variable cost per mile, and the number of miles of service. Revenue is calculated based on the following inputs: passengers per mile, average fare, number of miles of service, service productivity, and charter service.

The model can also be solved to determine the miles of service, service productivity, fixed or variable cost or growth rates needed to achieve a desired recovery percentage.

ENVIRONMENT — The model is coded as a SuperCalc template used on a CP/M-based computer.

STATUS — The model has been used by the Bi-State Development Agency for strategic planning exercises.

AVAILABILITY — The logic of the model is available at no charge in listing form or at cost on an eight-inch SSSD diskette (IBM format). Documentation is included. Conversion to other spreadsheet programs (VisiCalc, Multiplan, etc.) would be simple. Little or no modificiation would be required for use at other transit systems.

CONTACT — Michael L. Jones.
Deputy General Manager of the Controller Division
Bi-State Development Agency
707 N. First Street
St. Louis, MO 63102
(314) 982-1424

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Transit Operations Applications

APPLICATION — Space Requirements for a Bus Garage (BBARN)

DEVELOPER — Rick Kuner, New Alternatives Software, a Division of New Alternatives, Inc., Chicago, Illinois

SUMMARY — The BBARN program generates an architectural space program for any bus fleet from 5 to 350 buses. The space program includes an itemized breakdown for General Offices, Operations Area, Repair Area, Vehicle Storage (indoors or outdoors), and Outside Area. BBARN is useful for:

1) analyzing the surplus (or deficiency) of space in an existing bus garage,

2) determining the site size required for a new garage,

3) estimating the staging required to meet future needs,

4) preparing a space program.

ENVIRONMENT — Apple II Plus or IIe with 48K memory and one 5 1/4-inch disk drive.The program is written in Applesoft BASIC. The program is also available for the Commodore 64 with one disk drive.

STATUS — The program is fully operational. The mainframe version of BBARN (in FORTRAN) has been used by New Alternatives, Inc. for the Rockford (Illinois) Mass Transit District, Loves Park (Illinois) Transit System, and nine other transit garages.

AVAILABILITY — The software on a 5 1/4-inch floppy disk and User's Manual is distributed as a proprietary package for $295.

CONTACT — Rick Kuner
President
New Alternatives, Inc.
8 South Michigan Avenue, Suite 610
Chicago, IL 60603
(312) 263-2808

TRANSPORTATION PLANNING

SOFTWARE

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Transportation Planning Software

Census Data

APPLICATION Trip Generation

DEVELOPER New York State Department of Transportation

SUMMARY Program calculates number of trips generated in a census tract according to the number of households in each of four family life cycle stages. Census data used as input. Other geographical units may also be analyzed.

ENVIRONMENT Apple II or Apple II Plus, 48K RAM, 1 disk, Apple BASIC

STATUS Operational, being upgraded to be more user-friendly

AVAILABILITY Free from contact.

CONTACT
David T. Hartgen, Ph.D.
Director, Transportation Statistics
and Analysis Section
New York State Department of Transportation
1220 Washington Avenue
State Campus, Building 4
Albany, NY 12232

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Transportation Planning Software

Census Data

APPLICATION DemoScan: Access and Reporting of Census Data

DEVELOPER Claritas Corporation

SUMMARY DemoScan consists of report generation and data manipulation utilities to produce demographic summaries for any Census, ZIP, or user-defined geographic areas, such as transportation zones. Input data include any Census data as well as user input data. Output includes a choice of six standard report formats or flexible custom formatting. Summary measures available are counts, percentages, indices, and cumulative values. A single report can contain up to 500 geo-units and 10 columns of data.

DemoScan was designed for ease of use by non-programmers and non-data processors. It is completely menu-driven allowing for step-by-step report generation, yet allows the advanced user complete flexibility in custom designing a report. Data utilities include selecting geo-units for processing, aggregating data across geo-units, and inputting new data.

ENVIRONMENT DemoScan operates under the UCSD p-System for the Apple II with 64K RAM, and IBM PC with 128K RAM, printer, and 2 disk drives.

AVAILABILITY For sale from contact below.

CONTACT Claritas Corporation
1911 North Fort Myer Drive
Arlington, VA 22209
(713) 841-9200

Transportation Planning Software

Census Data

APPLICATION — Processing of Census Data

DEVELOPER — Vistar Enterprises

SUMMARY — OCTAGON and OCTAGON II allow access to data from census tapes and have flexible report writing capabilities. OCTAGON is a modification of a hierarchical system called CENSPAK developed by the Bureau of the Census. OCTAGON II has relational data base capabilities and allows more flexibility in data comparison than OCTAGON.

ENVIRONMENT — The programs operate on CP/M and many other operating systems. OCTAGON II requires a hard disk drive (min. 5 MB)

AVAILABILITY — OCTAGON is for sale from the contact below. OCTAGON II will be available in the winter of 1983.

CONTACT — Nancy Herbert
Vistar Enterprises
659 West 61st Terrace
Kansas City, MO 64113
(816) 361-0169

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Transportation Planning Software

Census Data

APPLICATION — Census Data Processing

DEVELOPERS — Sammamish Data Systems

SUMMARY — The Census Data System is capable of interactively retrieving and displaying all of the data on the Census Bureau's STF1 and STF3 files. The heart of the system is the dBASE II™ relational data base management system. The user can display the desired data in one of 79 "preprogrammed" displays or write the data out to a separate disk file for further processing or to a special text file. Individual data items or structured sets of related data items can be retrieved with equal ease. The data can be grouped by either subject matter or for user-defined geographic areas.

The user is able to find the data through the use of English language commands. Data can be located for specific areas by the use of simple "FIND" commands. Also, data can be retrieved for specific relationships such as "locate all cases where variable A is greater than 3 times variables B or C." All the data searches for geo-specific areas are done with names of the areas rather than census codes.

ENVIRONMENT — The system is available on any machine supporting CP/M, and on the IBM PC (128K) with CP/M-86 or MS-DOS.

AVAILABILITY — For sale from contact below.

CONTACT — Mr. Richard Schweitzer
Sammamish Data Systems
1413 177th Avenue, NE
Bellevue, WA 98008
(206) 644-2442

™dBASE II is a trademark of Ashton-Tate.

Transportation Planning Software

Site And Subarea Planning

APPLICATION Subregional Traffic Assignment

DEVELOPERS Capital District Transportation Committee Central Staff

SUMMARY User defines a sub-regional zonal system of up to 20 zones with a highway network of up to 500 two-way links. User supplies base-year one-way origin-destinatin trip matrix and future-year zonal productions and attractions. User assigns O-D paths entered as a series of nodes and turns. Program "GRO" balances productions and attractions and applies a modified Detroit growth factor method to produce future one-way O-D matrix. Program "SUM" produces link and intersection volumes for each movement and volume/capacity summaries. Output is written to disk for futher analysis.

Process facilitates a largely manual assignment process consistent with Quick Response Techniques by allowing rapid testing of alternative networks, multiple paths, and alternative land use arrangements.

ENVIRONMENT Kaypro II, CP/M Operating System, 64K (RAM), one disk, PASCAL/M

STATUS Operational.

AVAILABILITY PASCAL/M source code and P-code on Kaypro disk for $5.00 from contact below. Source code listing free on request.

CONTACT John P. Poorman
Staff Director
Capital District Transportation Committee
5 Computer Drive West
Albany, NY 12205

Transportation Planning Software

Site And Subarea Planning

APPLICATION — IMPAX - Traffic Impact Analysis

DEVELOPER — PRC Engineering

SUMMARY — IMPAX is an integrated package of computer programs for use in local area traffic impact analysis. The package is designed specifically for interactive use on a microcomputer, and addresses the analysis of incremental traffic loads on street networks, related to specified land uses or developments. Traffic generation is assigned to a street network through interactive control of trip distribution patterns.

The package offers extensive and powerful methods of retrieval, analysis, and output presentation of the data, including:

- o street volumes
- o intersection turn volumes
- o level of service

The software allows selective inclusion of traffic generators, and geographic selectivity of output. Up to three different analytical scenarios may be quantitatively compared. Traffic on any link, intersection, or turning movement may be disaggregated to contributing land uses.

The interactive nature of the software allows rapid evaluation of alternative scenarios at a considerable level of detail. The package is ideally suited for project impact analysis, development planning, and traffic engineering needs, including PUD's, mixed use developments, neighborhood planning, and CBD redevelopment.

ENVIRONMENT — IBM-PC, or CP/M operating system; 64K, two disk drives, and a dot matrix printer.

STATUS — Operational. In use in over twenty locations throughout the US by public and private agencies.

AVAILABILITY — Available from contact below.

CONTACT — Mike Bates
PRC Engineering
972 Town & County Road
Orange, CA 92667
(714) 835-4447

microcomputers in transportation

Transportation Planning Software

Site And Subarea Planning

APPLICATION Quick-Response Travel Estimation

DEVELOPER The Comsis Corporation, Wheaton, MD

SPONSORS UMTA, Office of Methods & Support
FHWA, Office of Highway Planning

SUMMARY In 1978 the Comsis Corporation produced an NCHRP report* which described techniques for quickly estimating urban travel volumes. Most of the methods were presented as tables or nomographs which are tedious to use. The Quick Response System (QRS) software has been developed to relieve this tedium by implementing these techniques on a microcomputer.

Only those techniques involved with the traditional four-step planning process (trip generation, distribution, mode split and assignment) have been implemented. Other techniques (traffic smoothing, corridor diversion, intersection capacity analysis, incremental mode split, etc.) will be added later.

ENVIRONMENT Operates on the Apple II and IBM PC microcomputers under the UCSD p-System Version IV. Two disk drives and 64K of RAM are required. Note: this software will NOT run under Apple Pascal.

AVAILABILITY Available free from the contact below.

CONTACT MTP Support Center
Transportation Systems Center/DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

*Comsis Corporation, "Quick-Response Urban Travel Estimation Techniques and Transferable Parameters," NCHRP Report 187, 1978.

Transportation Planning Software

Site And Subarea Planning

APPLICATION — Trip Generation, Trip Distribution

DEVELOPER — Little Rock Metroplan, Little Rock, Arkansas

SUMMARY — Two programs have been written, "TRIPGEN" and "TRIPDIST", that perform the repetitive calculations of trip generation and trip distribution contained in the NCHRP Report 187, "Quick Response Urban Travel Estimation Techniques and Transferable Parameters". Necessary input data for TRIPGEN are: dwelling units, trips per household, total employment and retail employment for each analysis area. The TRIPGEN productions and attractions must be manually typed in upon request during the execution of TRIPDIST. The results of TRIPDIST are in the form of printed trip tables.

ENVIRONMENT — The programs are implemented in BASIC on the TI99/4A micro.

STATUS — In use at Metroplan

AVAILABILITY — The programs are available in source form on a TI99-compatible diskette or cassette.

CONTACT — John C. Barr
Senior Planner
Little Rock Metroplan
Wallace Bldg. 8th Floor
105 Main St.
Little Rock, AR 72201
(501) 372-3300

microcomputers in transportation

Transportation Planning Software

Site And Subarea Planning

APPLICATION — Local Area Traffic Assignments -Interactive Routing Assignment Process (IRAP)

DEVELOPERS — Roger CREIGHTON ASSOCIATES Incorporated

SUMMARY — IRAP is intended for application in micro-areas, such as central business districts, regional shopping malls and their environs, industrial parks, and university campuses. It was designed to:

- o Allow multiple paths between zones to be used.
- o Allow loading from more than one exit from a parking lot.
- o Estimate all turning movements within the micro-area.
- o Permit network and trip table changes to be made so as to test the consequences of alternatives more easily.

The user can obtain the following outputs:

- o Listing of all inputs.
- o Routing listings showing the proportion of trips, the impedance, and the links on each route.
- o The principal product of IRAP is an intersection report giving turning movement volumes resulting from the multi-path assignment.

ENVIRONMENT — Apple II and Apple II Plus, or IBM Personal Computer; 64K (RAM); 2 disk drives; Apple Pascal or UCSD p-System. "Turnkey" versions are available for the preceding machines. Also available on other microcomputers.

STATUS — Operational and fully tested.

AVAILABILITY — For sale at $750.00.

CONTACT — Charles Manning
Roger CREIGHTON ASSOCIATES Incorporated
274 Delaware Avenue
Delmar, NY 12054
(518) 439-4991

microcomputers in transportation

Transportation Planning Software

Site And Subarea Planning

APPLICATION	Traffic Assignment Predictor for New Developments, etc.
DEVELOPER	John R. Caswell, Consultant, in cooperation with the Town of Lincoln, Massachusetts.
SUMMARY	The CASWELL MODEL (APPREHEND) is a tool which local Planning and Zoning Boards can use to predict the impact of a development on the roads in their community. The development need not be in the community but may be in a nearby town. The CASWELL MODEL allows the playing of "what-if" games and includes the capability to add or close roads in order to model various traffic control ideas.
ENVIRONMENT	Currently operating in BASIC PLUS on a PDP-11. The CASWELL MODEL is being adapted to the IBM Personal Computer.
AVAILABILITY	Available from contact below
CONTACT	John R. Caswell, Consultant Box 98 Lincoln Center, MA 01773 (617) 259-0830

microcomputers in transportation

Transportation Planning Software

Energy And Air Quality

APPLICATION	Transit Ridership, Energy Analysis
DEVELOPERS	New York State Department of Transportation
SUMMARY	TRANSTSM program calculates ridership changes and energy savings associated with eleven transit-related TSM actions. Microcomputer version of manual worksheets in UMTA report, "Energy Impacts of Transportation Systems Management Actions."
ENVIRONMENT	Apple II or II Plus, 48K RAM, 1 disk, Applesoft
STATUS	Operational.
AVAILABILITY	Free from contact.
CONTACT	David T. Hartgen, Ph.D. Director, Transportation Statistics and Analysis Section New York State Department of Transportation 1220 Washington Avenue State Campus, Building 4, Room 108 Albany, NY 12232

Transportation Planning Software

Energy And Air Quality

APPLICATION — Pivot Point Mode Choice Model

DEVELOPER — Association of Central Oklahoma Governments, Oklahoma City, Oklahoma

SUMMARY — The manual worksheet version of a pivot point mode choice model included in "Sketch Planning Methods for Short-Range Transportation and Air Quality Planning," published by EPA, has been implemented as a microcomputer program. Given base period work trip mode shares and changes in travel times and costs by traveller market segment, the program predicts revised mode shares. The results for the various market segments are summed to obtain an estimate of the total ridership and VMT impact of the transportation system change.

ENVIRONMENT — The program is implemented in BASIC on an Ohio Scientific microcomputer with as little as 4K of memory. No disk files are required. The program is thus compatible, after very minor or no changes, with any computer on which BASIC is available. The program has all of the generality in application of the worksheets on which it is based.

STATUS — The program has been used over a period of two years in a number of cities to conduct air quality sketch planning.

AVAILABILITY — The program is available in source listing form, or on an Ohio Scientific-compatible diskette or cassette.

CONTACT — Michael Waller
Little Rock Metroplan
Wallace Building--8th Floor
105 Main Street
Little Rock, AR 72201
(501) 372-3300

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Transportation Planning Software

Energy And Air Quality

APPLICATION — Roadway Design Air Quality Impact Analysis

DEVELOPER — Charles Cook, Berkshire County (MA) Regional Planning Commission, with modifications by Cambridge Systematics, Inc., Cambridge, MA.

SUMMARY — ROADWAY AQ is a VisiCalc™ template which can be used to estimate the air quality impacts of a roadway's design. Predictions for three kinds of emissions--carbon monoxide, hydrocarbons and nitrogen oxide--are provided for both a base year and user-selected future years. Design parameters include the number and width of travel lanes, projected travel volumes, design capacities, roadside characteristics and roadway type. Current emission rate tables are provided, but may be updated by the user.

ENVIRONMENT — Operates on the Apple II, Apple III and IBM PC microcomputers. One disk drive, 64K RAM and the VisiCalc™ spreadsheet software are required.

AVAILABILITY — Available free from the contact below.

CONTACT —
MTP Support Center
Transportation Systems Center/DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

™VisiCalc is a trademark of VisiCorp.

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Transportation Planning Software

Energy And Air Quality

APPLICATION Project Level Energy Analysis

DEVELOPERS New York State Department of Transportation

SUMMARY Program PROLEV calculates the direct energy due to vehicle flow and indirect energy associated with construction actions on the specific project segment being analysed. Methodology based upon program and procedures developed by CALTRANS and noted in "Energy Requirements for Transportation Systems" (NCHRP Project 20-7, Task 8 or as FHWA workshop notes with the same title).

ENVIRONMENT Apple II or Apple II Plus, 48K (RAM), 1 disk, Apple BASIC

STATUS Operational.

AVAILABILITY Free from contact.

CONTACT
David T. Hartgen, Ph.D.
Director, Transportation Statistics and
Analysis Section
New York State Department of Transportation
1220 Washington Avenue
State Campus
Albany, NY 12232

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Transportation Planning Software

Energy And Air Quality

APPLICATION — Air Quality Impact Analysis for Perfect Calc Users

DEVELOPER — Charles Cook, Berkshire County (MA) Regional Planning Commission, with modifications by Cambridge Systematics, Inc., Cambridge, MA, and David L. Phipps, Transportation Systems Planning.

SUMMARY — This version of Roadway AQ is a PerfectCalc™ template which is an analogue of the Cambridge Systematics VisiCalc™ version. The output is identical to the VisiCalc™ output. Predictions for three kinds of emissions--carbon monoxide, hydrocarbons and nitrogen oxide--are provided for both a base-year and two future years to include improvements. Default values are those of Mobile2 and can be modified for updated EPA standards and local conditions. The PerfectCalc™ version is currently being used for studies in Florida.

ENVIRONMENT — Operates on the IBM PC and Columbia computers. Will also operate on any other IBM look-a-like which uses "bundled" Perfect Software.

AVAILABILITY — Available from the contact below. Hard copy of the Perfect Calc template data file can also be obtained for possible modification to other spreadsheet programs.

CONTACT — David L. Phipps
Transportation Systems Planning
4139 Piper Dr.
Jacksonville, FL 32207

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Transportation Planning Software

Energy And Air Quality

APPLICATION — Fuel Management and Allocation Progam (FMAP)

DEVELOPER — Public Technology, Inc.

SUMMARY — The times for unlimited fuel supplies for municipal use are gone: higher prices, the uncertainty of adequate global supplies and the possibility of reduced regional stocks of fuel all mandate a capability of implementing an allocation and monitoring system which could assist officials in the difficult task of establishing and managing a fuel allocation program in each local agency. FMAP provides the tools to identify fuel usage by vehicle and department, establish alternate fuel allocation scenarios, and track the implementation of a fuel cutback strategy against actual use.

ENVIRONMENT — Apple II Plus, 48K (RAM), 132 character printer, one 5 1/4-inch disk drive.

STATUS — Pilot testing is underway.

AVAILABILITY — See contact below.

CONTACT — Decision Support Systems Staff
Public Technology, Inc.
1301 Pennsylvania Ave., N.W.
Washington, DC 20004
(202) 626-2426

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Transportation Planning Software

Energy And Air Quality

APPLICATION — Land Use Emissions Calculations--AQAT

DEVELOPERS — California Air Resources Board (ARB)

SUMMARY — AQAT (Air Quality Analysis Tools) estimates the emissions resulting from landuse projects such as new shopping centers, condominium developments, and single-family housing subdivisions. It allows comparisons of CO, HC, and NOx emissions as a function of the type of land use being considered, the type and number of vehicle trips associated with it, and the total vehicle miles of travel produced. The URBEMIS #1 program will also serve as the main body to other sub-programs being developed. Among them are those to quantify emission reductions due to various mitigation measures, including appropriate transportation control measures, that may be applied to such projects.

Also available are the CALINE 3 and PIVOT POINT programs. CALINE 3 will calculate the local concentration of CO near a roadway or intersection. The PIVOT POINT model is a sketch planning tool developed by Cambridge Systematics, Inc.

ENVIRONMENT — Apple IIe and II+, Osborne with MBASIC CP/M.

STATUS — Operational

AVAILABILITY — The three-program package is available for $13.00 from contact.

CONTACT — Administrative Services Division
Attn: Accounting Office
P.O. Box 2815
Sacramento, CA 95812

Patrick Randall
(916) 445-0962

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Transportation Planning Software

Network Encoding And Plotting

APPLICATION — Highway Network Definition & Plotting Package

DEVELOPER — The Transportation Connection, Lansing, Michigan

SUMMARY — This is a two-part package. The first part allows the user to create an A-node/B-node network file that can be used as the base for a street inventory system or as input into a planned transportation planning battery of programs for a Radio Shack Model 16. The second part of this package is a network plotting program designed to operate on a Radio Shack Model FP-215 Plotter. It has the ability to annotate link or node data along each link or to plot links in bandwidth mode based on link data. It also has the ability to plot different links with different line types or colors. Excellent package for county, city, or township applications with a full range of plotting features.

ENVIRONMENT — All software is written in Fortran for a Radio Shack Model II or 16 using the TRSDOS 4.2 operating system and Radio Shack's Model FP-215 Plotter.

STATUS — Operational.

AVAILABILITY — Programs available on a Radio Shack Model II or 16. $950.00 for a complete package with documentation and color plotting options.

CONTACT — Richard Esch
The Transportation Connection
1010 Pickton Dr.
Lansing, MI 48917
(517) 323-7436 (Home)

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Transportation Planning Software

Network Encoding And Plotting

APPLICATION — SLAMM: Spatial Location-Allocation Modeling & Mapping

DEVELOPER — Vincent B. Robinson, New York, NY

SUMMARY — SLAMM is a set of programs that solve location-allocation problems on a plane or network. Shortest-paths through a network can be calculated and printed as a separate analysis or as a prelude to solving a network location-allocation problem.

The relative locations of the networks and/or points can be mapped. A simple line-printer map can be output to either the console screen, line-printer, or a disk file. The map image ported to disk can then be edited using a standard word processing package.

ENVIRONMENT — The hardware environment consists of a Z80 microcomputer with 64K RAM. Dual disk drives with a minimum of 250K bytes of formatted storage space on each drive are recommended. A standard line-printer is assumed to be the sole output device. The CP/M operating system is required.

STATUS — This is a new release, therefore no agencies have used it.

AVAILABILITY — Any CP/M-based system will run the software. However, SLAMM is currently available only on DS/DD diskette formats common to Northstar Horizon/Advantage, and Morrow Designs Decision I (not available for Micro-Decision). It is also available for TRS-80 Model II microcomputers.

CONTACT — Vincent B. Robinson
333 East 90th Street
New York, NY 10128

Transportation Planning Software

Network Encoding And Plotting

APPLICATION — Address Matching, Geographic Retrieval and DIME Maintenance (2-D)

DEVELOPERS — Center for Urban Analysis, in collaboration with Census Bureau staff.

SUMMARY — The 2-D system provides capabilities to display, query, and maintain a DIME-type computer representation of a map. The system provides capabilities to match street addresses and street intersections to the map, retrieving geographic data such as coordinates, Census tract, city and Zip code.

The 2-D system organizes GBF/DIME records in a structure based on the mathematical representation of a map. The system incorporates "geometric" and "descriptive" files for nodes, segments and blocks, and "name" files for segments and nodes. Additions, changes and deletions can be made without system degradation or file re-building. Data for the 2-D system may be initialized directly from Census Bureau GBF/DIME records.

The system provides interactive graphic display, retrieval and manipulation of portions of the map. Complete non-graphic editing is provided, including addition and deletion of segments, their relationships with nodes and blocks, as well as entry and change of descriptive data, such as address ranges and Zip codes.

Address matching is based on a Soundex coding scheme that enables imperfectly spelled names to be retrieved easily.

ENVIRONMENT — UNIX System III or Xenix operating system; programs written in Pascal. Implemented on Forward FT-3000 "Gateway Workstation", 16/32 bit MC68000, multi-user system, with 80MB disk and 512K RAM; and Onyx C8002, 16-bit Z8000, multi-user system, with 40MB disk and 512K RAM.

STATUS — Version 3 is being used by Santa Clara County; Version 4 is under development.

AVAILABILITY — Available on a fee-for-service basis for installation and training. Emergency Vehicle Dispatch support extensions available.

CONTACT — Frank Lockfeld
Director-Center for Urban Analysis
County of Santa Clara
70 West Hedding Street
San Jose, CA 95110
(408) 299-3285

microcomputers in transportation

Transportation Planning Software

Network Encoding And Plotting

APPLICATION ETMODEL: Enhancements to TMODEL (for use with TMODEL)

DEVELOPER Wilsey & Ham, Inc.,

SUMMARY ETMODEL provides for coordinate input (either manual or by digitizer) of the transportation network, and will plot the network on a plotter. It will plot selected attributes for network debugging as well as resulting volumes and statistics as output products.

ETMODEL creates the TMODEL link file through the input of more basic data, i.e. capacities are selected from a user-input table differentiating between CBD-non, FWY-non, 1/2 way, and number of lanes. Distances are calculated from the coordinate data. Screen or cordon line summaries as well as other system statistics are calculated and output.

ENVIRONMENT Compiled BASIC on the IBM PC. Currently set up for CALCOMP 9000 digitizer and HP 7580A or 7475A plotters, but easily modified for others. ETMODEL will be upgraded to enhance the larger 8087 math coprocessor version of TMODEL when it is released.

STATUS The program is currently being used for production planning activities in two offices of Wilsey & Ham.

AVAILABILITY ETMODEL is for sale from contact below.

CONTACT
Dave Larrabee
Wilsey & Ham
PO Box C97304
Bellevue, WA 98009

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Transportation Planning Software

Network Encoding And Plotting

APPLICATION PCMAP

DEVELOPER Criterion Incorporated

SUMMARY PCMAP is a choroplethic mapping program which can map a variety of geographically coded data. PCMAP displays quantitative information using polygonal geographic boundaries and range-graded symbolization. Areal data collection units such as census tracts are shaded on the map according to their respective data values. PCMAP maps serve to augment tabular statistics by displaying the spatial patterning of information.

PCMAP accepts as input statistical data, such as census data, and geographical data describing the boundaries of the areas to be mapped. Using a variety of program commands, the user controls various aspects of map design and symbolism, such as shading categorization and title placement.

For transportation planners, PCMAP provides an excellent tool for data summary and reporting. Some applications include: 1) evaluation of characteristics at the residence-end and work-end for population, housing, and employment, and 2) analysis of conditions for journey-to-work trip lengths, mode, vehicle use, carpooling, and travel times.

In addition, PCMAP can be used to produce successive overlay maps for transit planning. Selected transit-related variables such as car ownership, income, and percentages of elderly and young population can be plotted on individual transparent map sheets to be overlayed with each other and with the street network as a base. In this way, potential areas of high transit patronage can be identified for use in evaluating alternative transit routing strategies.

ENVIRONMENT IBM PC with 256K and color graphics card. Outputs to HP7470 or HP 7475 plotters. Other plotters available upon request.

AVAILABILITY For sale at $800.00

CONTACT Bob Evatt
Project Manager
Criterion Incorporated
13140 Coit Road, Suite 318
Dallas, TX 75240
(214) 783-1818

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Transportation Planning Software

Network Encoding And Plotting

APPLICATION Digitizer Interface Program

DEVELOPER Little Rock Metroplan, Little Rock, Arkansas

SUMMARY A program has been developed to provide the interface between a digitizer and microcomputer and to use the resulting geo-coded data in a number of planning applications. Major capabilities include:

- o using digitizer input to create a land use file on disk
- o computing areas by land use type and by zone
- o computing run-offs into bodies of water
- o printing and plotting geo-coded data

ENVIRONMENT The program is implemented in BASIC on the TI99/4A microcomputer, coupled with a Houston Instruments Hi-Pas Digitizer via an RS-232 Interface. The program is readily transferable to other users with equivalent hardware, and the bulk of the computer code is transferable to other BASIC systems, but the program is relatively interface-dependent.

STATUS The program is being used extensively for "production" planning activities, while at the same time its capabilities are being expanded. Plans presently exist to add highway and transit network development features to the program.

AVAILABILITY The program is available in source form on a TI99-compatible diskette or cassette.

CONTACT
Michael Waller
Little Rock Metroplan
Wallace Building--8th Floor
105 Main Street
Little Rock, AR 72201
(501) 372-3300

Transportation Planning Software

Network Encoding And Plotting

APPLICATION Interactive Computer Mapping - DIDS

DEVELOPER Sammamish Data Systems

SUMMARY The Desktop Information Display System (DIDS) is a totally integrated computer mapping system for microcomputers. It is capable of displaying any type of data for counties, census tracts, and five-digit Zip codes in up to eight colors on the computer's CRT.

Output can be produced on a color dot matrix or inkjet printer, a plotter, or a film recorder. The software allows the user to zoom in on the display to enlarge portions of the map area with a two- and four-power enlargement. The image can be panned in any direction, colors can be changed from a color palette, several statistical tests can be invoked to display the data in various distributions, and the title, legends, and credit notes are totally user-definable. Data can be easily input using standard database management or spreadsheet software packages. By using specially-processed geographic boundary files, individual maps are prepared in seconds from user-defined menus. Digitized polygon boundary files are available for use with DIDS for all census tracts, counties and five-digit metropolitan Zip codes.

ENVIRONMENT IBM PC with IBM color card or Plantronics ColorPlus card, and 128K RAM. Zenith Z100 or TI Professional Micro. Any IBM compatible with appropriate color graphics card.

AVAILABILITY For sale from contact below.

CONTACT Mr. Richard Schweitzer
Sammamish Data Systems
1413 177th Avenue, NE
Bellevue, WA 98008
(206) 644-2442

microcomputers in transportation

Transportation Planning Software

Network Encoding And Plotting

APPLICATION Microcomputer Mapping - MapScan

DEVELOPER Claritas Corporation

SUMMARY MapScan consists of data preparation and mapping utilities to group areas by data classes and produce maps which display the classes using shades, symbols, or class numbers. Data classes may be n-tiles (e.g., quartiles) or defined by user-input ranges. Areas may be annotated with data values and geographic names and codes. Area boundaries may be displayed in different widths and colors based on levels of geography and/or data values. Maps also include a legend, title, footer, and other user-input text.

Maps may be produced at the ADI, DMA, State, County, ZIP, and Tract level or for custom geography such as transportation zones. Selection and scaling options provide the ability to automatically plot the entire map or a selected portion at a user-defined scale or fitted to any pre-printed base map which includes major roads, rivers, and other geographical features.

Input data for MapScan includes the cartographic database and a data file which may contain cross-reference geographic codes, Census data, and user data. MapScan is compatible with DemoScan which provides utilities for reporting and processing Census and user data.

ENVIRONMENT MapScan is implemented in UCSD Pascal and operational on the Apple II (64K RAM), and the IBM PC (128K RAM), with a printer and a Hewlett-Packard plotter. Three disk drives are required for the Apple configuration, and two are needed for the IBM. Additional disk storage may be required depending on the geographic areas and amount of data for mapping.

AVAILABILITY For sale from contact below.

CONTACT Claritas Corporation
1911 North Fort Myer Drive
Arlington, VA 22209
(713) 841-9200

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Transportation Planning Software

Highway Rehabilitation

APPLICATION	Project Level Highway Condition Energy Analysis
DEVELOPERS	New York State Department of Transportation
SUMMARY	Program PROLEV.HICOND calculates energy impact associated with pavement rehabilitation improvements. Program works in conjunction with PROLEV data.
ENVIRONMENT	Apple II or Apple II Plus, 48K (RAM), 1 disk, Apple BASIC
STATUS	Operational.
AVAILABILITY	Free from contact.
CONTACT	David T. Hartgen, Ph.D. Director, Transportation Statistics and Analysis Section New York State Department of Transportation 1220 Washington Avenue State Campus Albany, NY 12232

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Transportation Planning Software

Highway Rehabilitation

APPLICATION — Low-Volume Road Maintenance/Rehabilitation Decision-Making

DEVELOPER — West Virginia University, Department of Civil Engineering

SPONSOR — U.S. Forest Service, Northeastern Forest Experiment Station

SUMMARY — Program has been developed to assist in making a preliminary determination of the feasibility of upgrading/rehabilitating unpaved low-volume road links. Program is self-guiding in that user is asked various questions which need to be considered when reviewing a road for potential upgrading. User simply makes "YES/NO" responses to questions about road usage, road surfacing, drainage, geometric design, soils, bridges and other factors of this nature. Output is a list of those road links in a jurisdiction which are candidates for upgrading or rehabilitation.

ENVIRONMENT — Program written in Applesoft BASIC. Operates on 48K Apple II microcomputer under the DOS operating system. One disk drive required.

STATUS — Program has been in use for approximately one year by Monongahela National Forest, Elkins, WV.

AVAILABILITY — Program has been developed for roads in the Appalachian region. Transferability to other geographic areas may be affected by differences in physical environment. Available at cost in source listing form or on diskette.

CONTACT — Ronald W. Eck, P.E.
Department of Civil Engineering
West Virginia University
PO Box 6101
Morgantown, WV 26506-6101
(304) 293-5580

microcomputers in transportation

Transportation Planning Software

Network-Based Highway Planning

APPLICATION TS MicroTrans

DEVELOPERS TRANSWARE Systems

SUMMARY TS MicroTrans is an integrated package of computer programs designed for area or subarea analysis of highway networks. It performs transportation planning functions which parallel UTPS or PLANPAC. The package may be used independently for modeling a city or region, or as part of a windowing procedure within a large urban area.

TS MicroTrans currently accommodates 250 zones, 1500 nodes and 3000 links.

TS Microtrans programs include the following features:

Network Building	Trip Generation
Tree Building	Trip Distribution
Minimum Path Skimming	Matrix Manipulation
Traffic Assignment	Reporting

ENVIRONMENT System : PC-DOS
RAM: 128K
Disks: Two, 320K

STATUS Currently being tested in Southern California. Additional test sites welcome.

AVAILABILITY For sale from contact below.

CONTACT John M. Kain, AICP
TRANSWARE Systems
42 Sequoia Tree Lane
Irvine, CA 92715
(714) 786-9266

microcomputers in transportation

Transportation Planning Software

Network-Based Highway Planning

APPLICATION — TMODEL: Transportation Modeling System

DEVELOPER — Professional Solutions, Beaverton, Oregon

SUMMARY — TMODEL is screen menu driven for easy step-by-step operation. Easy entry/edit routines allow for quick corrections or changes of data. Set-up takes less than 8 hours, revisions less than 15 minutes.

TMODEL is unique in that both intersection and link capacities and delays are used to find trees and calculate the gravity model for each increment or iteration. Options include stop sign/signal modeling, time/distance weighting, link pre-loading, and keeping turn movements for up to six approaches per intersection. Trip distribution and assignment are performed completely in memory for maximum speed.

Model outputs are provided for a standard link report (two format options), trip table, and turn movement report and may be modified as desired. Outputs show links and nodes with capacity problems (V/C ratios over 0.9). Select zone analysis provides details on link volumes and percentages of total link volume attributable to selected zones. [Ed.'s note: also see ETMODEL description under "Network Plotting".]

ENVIRONMENT — Versions are available for Apple II, II+, IIe, and III, CP/M-80, IBM PC (PC-DOS) and MS-DOS (Wang PC, etc.). Disks are available to support many popular formats.

STATUS — The TMODEL system has been successfully used in over 20 states and provinces, including such areas as California, Colorado, Florida, Maryland, Massachusetts, Missouri, New Jersey, Oregon, Pennsylvania, Tennessee, Texas, Utah, Washington, and Greece.

AVAILABILITY — For sale from contact below for $1200. Sample version (complete but with reduced dimensions) available for $60.

CONTACT — Robert M. Shull
Professional Solutions
3765 NW 173rd Place
Beaverton, OR 97006
(503) 645-4422

microcomputers in transportation

Transportation Planning Software

Network-Based Highway Planning

PROJECT MINUTP

DEVELOPER COMSIS Corporation

SUMMARY Complete highway transportation planning system similar in operation to UTPS, PLANPAC, etc. System contains 9 programs that interconnect to operate in either batch mode or console (with Help Screen) processing. Easy setup capability allows rapid analysis of various scenarios. Programs include:

Network Build (Macro Speeds/Capacities)
Path Selection (Cost, Time, Dist, Turn Pen/Prohib)
Trip Generation (User Rates/Equations)
Trip Distribution (Gravity Model)
Matrix Manipulations (Add, Sub, Div, Mpy, Repl, Factor, Sum Print, Modal Choice, Row/Col Selection)
Matrix Conversion (Transpose, Expand, Compress, Renum)
Traffic Assignment (All-or-Nothing, Stochastic, Select Link, Capacity Restraint, Turn Volumes)
Network Analysis Report Generator

ENVIRONMENT

RAM	Disks	Zones	Nodes	Links	
128K	2-320K	100	300	500	(PC-DOS only)
192K	2-320K	100	900	2500	
256K	2.5M	500	3000	11000	
320K	5M	1000	4095	16400	

AVAILABILITY MINUTP (w/training, manual, demo system).....$5000
Demonstration Package (20 zones, 50 nodes).....$ 100

CONTACT
Mr. Larry Seiders
COMSIS Corporation
The 1200 Building
2685 Marine Way #1208
Mountain View, CA 94043
(415) 964-5911

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Transportation Planning Software

Network-Based Highway Planning

APPLICATION — Traffic Assignments - Microcomputer Transportation Planning System (MTPS)

DEVELOPERS — SAN DIEGO SYSTEMS, INC.

SUMMARY — MTPS is similar to standard traffic simulation models run on mainframe computers. The system consists of seven coordinated programs which are stored on one diskette. A second diskette is used to store data and both intermediate and final computation results.

- o NETWORK is an interactive program used to enter information defining the highway network.
- o SHORTPATH is the routine which finds the shortest path between all zonal pairs in the system.
- o TRIPPUR sets up the purpose categories of trips that will be used in the assignment
- o TRIPGEN is an interactive program for inputting trip productions and attractions for each zone by trip purpose.
- o ASSIGN uses a standard gravity model formulation to develop a trip table. The user can change the overall expected trip length and the exponential within the gravity formula.
- o ADDER combines all the data from different trip purposes to produce total volumes.
- o LINKVOL prints out traffic volumes on individual links.
- o TRIPTAB prints out the zone to zone trip table by trip purpose and for all trip purposes combined.

ENVIRONMENT — Apple II+ and IIe, and IBM PC; a minimum of 64K is required and two disk drives. Program comes as "turnkey", thus it is independent of the resident operating system on the machine.

STATUS — Operational. Presently being used by NYSDOT, universities and consultants, including one in Australia.

AVAILABILITY — For sale at $500.00

CONTACT — Charles Manning
Roger CREIGHTON ASSOCIATES Incorporated
274 Delaware Avenue
Delmar, NY 12054
(518) 439-4991

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Transportation Planning Software

Network-Based Highway Planning

APPLICATION Traffic Generation, Distribution & Assignment

DEVELOPER CH2M Hill

SUMMARY Program ASSIGN performs traffic generation, distribution, and assignment. The assignment process is accomplished through a modified application of Moore's minimum time path algorithm. Both single-path and multipath assignment options are accomplished through a cascading analysis of nodes, also referred to as Dial's multipath assignment algorithm. Traffic can be distributed between all zones through use of a Gravity/Fratar model or, alternatively, a vehicle trip table developed offline can also be employed. The program allows for either an unrestrained or a capacity-restrained assignment to be performed. In a single-path assignment, turn penalties can also be specified for any intersection movement in the network. Output capabilities include both video and hardcopy review of minimum time paths, link volumes, initial and final travel speeds, turning movements at preselected intersections, select link analyses (for a single-path assignment), vehicle miles traveled, and vehicle hours traveled.

ENVIRONMENT The program is operational on an Apple II+ or an Apple IIe computer with 64K (RAM) and two disk drives.

STATUS The program has been used for studies in Eugene, OR; Sacramento and Orange County, CA; Richland, WA; Seattle, WA; and Hail, Saudi Arabia.

AVAILABILITY For sale from contact below.

CONTACT
Wayne K. Kittleson
CH2M Hill
2020 SW Fourth Avenue
2nd Floor
Portland, OR 97201
(503) 224-9190

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION 'UMOT' DAILY TRAVEL MODEL

DEVELOPERS Mobility Systems, Inc.

SUMMARY A multi-loop feedback travel model based on accessibility maximization under explicit constraints of travel time and money budgets. Medium to long term model especially suitable for travel policy evaluation and alternative plans analysis. It is an operational and expanded version of the UMOT model sponsored by the U.S. DOT.

The outputs include: (i) car ownership levels, (ii) daily travel distance by mode, and modal splits, (iii) network and door-to-door speeds, by mode, (iv) minimum and maximum road network sizes for which the travel budgets are fully utilized, (v) daily travel time and money expenditures per traveler/household, by mode, and hence also the expected revenues from taxes, or for public transport operators, and (vi) fuel consumption and emissions, by mode.

No calibrations to observed travel choices are required. Transparency and user interaction are provided by self-contained instructions, graphic displays of the iterations, and alpha-numeric readouts and hardcopies. Fully interactive with the UMOT Hourly, Distribution/Assignment and Urban Structure models.

Comprehensive manuals, periodic program updating and extensions, and a quarterly Users' Newsletter, are all part of the package.

ENVIRONMENT The program operates on an Apple II+ with a 16K card, or IIe. Program written in Applesoft and Machine Language with DOS 3.3 operating system. One or two disk drives and a printer are required.

AVAILABILITY Under a yearly leasing license.

CONTACT Mobility Systems, Inc.
7304 Broxburn Court
Bethesda, MD 20817
(301) 229-7762

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION UMOT HOURLY TRAVEL MODEL

DEVELOPERS Mobility Systems, Inc.

SUMMARY The second program in the UMOT travel models family. The UMOT Hourly model distributes the daily travel, by mode and purpose, over 24 hours, subject to the travel time and money budgets. The Hourly model can be run either separately or interactively with the UMOT Daily model (see preceding description of the Daily model), the Distribution/Assignment model, and the Urban Structure model.

The outputs include: (i) daily trip rates, distances and times, by mode, purpose and direction (i.e., outbound, inbound, and total), (ii) daily and hourly passenger and vehicle travel distance, hours of travel and trips by mode, purpose, and direction and (iii) daily and hourly network speeds, by mode, purpose and direction.

No calibration to observed travel choices is required. The assignment of travel over 24 hours is based uniquely on the daily travel time and money budgets of travelers. When travel congestion during peak hours develops, the algorithm spreads the activities, by purpose, over the hours, until equilibrium under the travel time budget is reached, or approached. Thus, the possible spread of peak hour into peak period travel is an output of the model.

Display and hardcopies of the outputs, by graphs and tables, are provided for report preparation and slide show. Comprehensive manuals, periodic program updating and extensions, and a quarterly Users' Newsletter, are all part of the package.

ENVIRONMENT The program operates on an Apple II+ with a 16K card, or IIe. Program written in Applesoft and Machine Language with DOS 3.3 operating system. One or two disk drives and a printer are required.

AVAILABILITY Under a yearly leasing license.

CONTACT Mobility Systems, Inc.
7304 Broxburn Court
Bethesda, MD 20817
(301) 229-7762

microcomputers in transportation

Transportation Planning Software

In Development

Network-Based Transit And Highway Planning

APPLICATION "UMOT" Distribution/Assignment and Urban Structure Models

DEVELOPER Mobility Systems, Inc.

SUMMARY "UMOT" DISTRIBUTION/ASSIGNMENT MODEL: The third program in the UMOT travel models family. The program's algorithm maximizes the daily access to the spatial distribution of opportunities along the transport networks, by feedback with travel distance and speed under the constraints of the households' travel time and money budgets.

The outputs, by mode and link, are: (i) passenger and vehicle travel distance, (ii) passenger and vehicle hours of travel, (iii) travel speeds, (iv) unit costs and total costs, and (v) fuel consumption and emissions.

"UMOT" URBAN STRUCTURE MODEL: The fourth program in the UMOT travel models family. The Urban Structure model is based on accessibility maximization under explicit constraints of travel time and money budgets, where all principal travel components and urban structure interact simultaneously.

The outputs include the expected shifts in land uses in response to changes in endogenous and exogenous factors. Furthermore, the effects of alternative inputs of reaction/relaxation times on urban structure can be assessed.

ENVIRONMENT Programs to operate on an Apple II+ with a 16K card, or IIe. One or two disk drives and a printer are required.

STATUS Development of the two programs is continuing.

CONTACT Mobility Systems, Inc.
7304 Broxburn Ct.
Bethesda, MD 20817
(301) 229-7762

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION: Transportation Planning - System

DEVELOPERS: Kenneth R. Roberts & Associates, Inc. (KRA)

SUMMARY: SMALL METRO AREAS: Solver for regression equations to quickly generate P's and A's as well as adjust for special generators (including balancing). All print-out can be suppressed with CRT used for complete projection including verification of results and adjustments keyed on-line. Gravity model or Fratar available. Network changes and updates made on-line with CRT. All output on CRT for posting and analysis. Screen line crossing program available for model validation. Matrix adjustment, add or delete (External-External modifications).

LARGE METRO AREAS: Up to 1,000 zones and 8,000 nodes. Modal split and gravity model concurrent application. Car ownership probability vs. income spread. Vehicle miles and hours by ten jurisdictions automatically. Cross-class solver. Select area trip tables (for "micro" corridor analysis). Diversion assignment (toll/cost ratio or other). Calculated accessibiltiy indices. Tree skim/time or cost or both. List links by V/C ratio. Turns. Capacity restraint. Select link. Peak-hour model. All necessary utility manipulation and conversion programs.

ENVIRONMENT: Altos 68000, 1 MB RAM, 40 MB hard disk; UNIX System III and FORTRAN

STATUS: Operational

CONTACT:
Kenneth R. Roberts
Kenneth R. Roberts & Associates, Inc.
10560 Main Street, Suite 515
Fairfax, VA 22030
(703) 591-6008

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION TRANPLAN

DEVELOPERS R. James W. Fennessy and Raif I. Kulunk for DeLeuw, Cather & Company.

SUMMARY TRANPLAN, the most popular proprietary transportation modeling software, is a comprehensive, fully integrated, user-oriented system, with highway and transit programs fully compatible, thus simplifying the procedures of multi-modal systems planning. Unlike other transportation software, TRANPLAN uses English-like syntax and uniform specifications in all programs.

TRANPLAN is designed for 3,000 zones and 16,000 links. For highway network analysis, TRANPLAN accepts turn prohibitors, turn penalties, and up to 31 links at each node. The path building algorithm is a vine builder which guarantees the minimum path with turn prohibitors and penalties. Transit network analysis utilizes the UTPS link/line concept but with up to 30 modes. TRANPLAN's suite of programs encompass the following categories:

- o Trip Distribution/Mode Choice
- o Matrix Utilities
- o Reporting
- o Plotting
- o Sub Area Analysis
- o Highway Networks
- o Transit Networks
- o Network Loading
- o Trip Generation
- o Selected Link Analysis

ENVIRONMENT Operates within MC 68000 UNIX environment and IBM PC-DOS: 256K of memory is required, with 512K recommended.

AVAILABILITY Several license sale options and demonstration packet available. Source code available.

STATUS A list of users is available from the contact below.

CONTACT James Fennessy
Manager, Systems Division
DKS Associates
1419 Broadway, Suite 700
Oakland, CA 94612
(415) 763-2061

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION MicroTRIPS

DEVELOPER PRC Voorhees

SUMMARY MicroTRIPS is a comprehensive software system for transportation planning paralleling UTPS in functional capability. MicroTRIPS includes programs for:

- o Highway and Transit Network Simulation
- o Travel Demand Forecasting: Generation, Distribution, Mode Split
- o Matrix Manipulation and Adjustment
- o Capacity Restraint Assignment: Iterative, Incremental, Volume-Averaging, or Multi-Route
- o Subarea Windowing
- o Selected Link Analysis
- o Network Plots: With Automatic or User-Defined Windows, Node & Link Annotation, Automatic Scaling of Bandwidths, up to ten colors

MicroTRIPS programs are menu-driven, can be operated interactively or through pre-stored command files, and can be interfaced with UTPS and Database Management programs

ENVIRONMENT CP/M, IBM-PCDOS, MSDOS Operating System versions available, minimum of two disk drives recommended, hard disk recommended for systems over 300 zones.

STATUS Over 50 installations worldwide including King County, WA; Orlando, FL; Edmonton, Alberta; Tampa, FL; Washington, DC; Toronto, Ontario; Denver, CO; Berkeley, CA; Orange County, CA; Phoenix, AZ.

AVAILABILITY For sale from contact below.

CONTACT Pat Costinett or Bob Stribling
PRC Engineering
1500 Planning Research Drive
McLean, VA 22102
(703) 556-2486/2487/2489
TLX 248372 PRC

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION STOPS

DEVELOPER Criterion Incorporated

SUMMARY STOPS is an interactive computer graphic program designed for transit system route planning and analysis. It uses computerized street network files and data from the 1980 census to retrieve information on the number and type of potential transit users within a specified distance of transit facilities.

STOPS has two primary applications which are of major concern to the transportation planner. First, it can be used to evaluate the accessibility of various sub-groups of the population to transit facilities. Second, it can be used to measure the propensity for transit usage for alternative route configurations based on the number and type of potential transit riders with access to each route.

To use STOPS, a user first identifies transit stops and routes using interactive computer graphics and specifies a maximum walking distance from each stop. The STOPS program is activated to delineate all possible paths from each stop that terminate within the specified distance. The census information related to the street links along those paths is then allocated to the appropriate transit stops. Socio-economic profile reports can be produced for either individual stops or for entire routes. The process can be continued iteratively to evaluate alternative route designs.

ENVIRONMENT IBM PC or XT with two disk drives or a minimum of 256K and a color graphics card are required.

STATUS Operational.

AVAILABILITY STOPS program $800.00. Data files prepared at cost based on size of study area.

CONTACT Bob Evatt
Project Manager
Criterion Incorporated
13140 Coit Road, Suite 318
Dallas, TX 75240
(214) 783-1818

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION EMME/2

DEVELOPER Center De Recherche sur les Transports, Universite de Montreal

SUMMARY EMME/2 is a comprehensive multi-mode urban transportation planning system designed for interactive graphic use, as described in **Transportation Research Record** 866, pp. 1-8.

The system contains about 50 modules that are grouped as follows:
- Utilities
- Network Editor
- Matrix Editor
- Function Editor
- Assignment Procedures
- Results

The assignment procedures include the following features:
- Equilibrium Road Assignment
- Transit Assignment
- Multimodal Equilibrium Assignment
- Variable or Fixed Demand

The system handles problems of up to 400 zones, 2500 nodes, 8000 links, 200 transit lines, and 15000 transit line segments.

All the modules are written in FORTRAN.

ENVIRONMENT Operates on a Pixel 100/AP computer with minimum 512K RAM and 40 MB Winchester hard disk. Graphic terminals supported are Tektronix 4010 series and Chromatics CGC7900.

STATUS Implemented in Portland, OR, for use by the Metropolitan Service District; also in Vancouver, B.C., by the Greater Vancouver Regional District, and in Winnipeg, Manitoba.

AVAILABILITY For sale as object code for installation on Pixel 100/AP under Unix.

CONTACT INRO Systems Inc.
279 E.44th St., Suite 14J
New York, N.Y. 10017

Or call Dr. M. Florian at (514) 343-7575

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION "MOTORS" - Microcomputer Software for Transportation Planning

SUMMARY MOTORS is an integrated package of thirty modules designed to cover the whole range of multi-modal transportation planning functions. The package contains programs for:

1) Trip Generation - category analysis or multiple regression

2) Trip Distribution - gravity model (power or exponential) or Fratar growth factor

3) Modal Split - trip interchange using ratios or differences

4) Highway Networks - network checking, building, tree-building, minimum path skimming, all-or-nothing and capacity restrained assignment

5) Transit Networks - network building, tree-building, minimum path skimming, route and link assignment

6) Matrix Programs - building, converting, manipulating, formatting, compressing and splitting

The programs have been designed throughout to be user-friendly and forgiving. Systems of up to 200 zones, 800 nodes and 2500 links can be modeled on CP/M micros, and up to 400 zones, 2000 nodes, and 6000 links on MS DOS micros.

ENVIRONMENT Either a CP/M operating system with 64K RAM and two disk drives, or an IBM PC with 256K RAM and two disk drives or a hard disk drive.

AVAILABILITY For sale from contact below.

CONTACT Bob Lewis
M.M. Dillon Ltd.
47 Sheppard Avenue East
Toronto, Ontario
Canada M2N 6H5
(416) 229-4646

microcomputers in transportation

Transportation Planning Software

Network-Based Transit And Highway Planning

APPLICATION Editing of Route Cards for INET

DEVELOPER Wilson-Hill Associates, Washington, DC

SPONSOR UMTA, Office of Methods and Support

SUMMARY A major portion of the runs of UTPS program INET are to detect errors in the route cards. This software allows for the input and editing of the route cards using virtually all of the editing features available in INET. Optional transit links can also be input. Route card data are validated against a highway network created by HNET and downloaded from the mainframe. The corrected route card data can be uploaded to the mainframe for processing by INET.

ENVIRONMENT Operates on the Apple II microcomputer under Apple Pascal. Two disk drives and 64K RAM are required.

AVAILABILITY Available from contact below.

CONTACT MTP Support Center
Transportation Systems Center/DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

microcomputers in transportation

Transportation Planning Software

APPLICATION Car Cost Analysis

DEVELOPER Campus Bus Service - Kent, Ohio

SUMMARY A variety of methods have been used in the past to present the costs of driving and operating a private automobile in an attempt to promote the use of alternative transportation methods. The use of brochures which outline the various methods for calculating these expenses tends to be time-consuming and confusing. The use of average driving statistics frequently makes the results impersonal. However, the use of a microcomputer will enable a cost analysis to be quickly performed and to be based on a specific automobile driven by a specific individual. This allows the results to be very personalized and easy to obtain. This type of program is ideal for public displays where the mystique of a computer can still be effectively used as a marketing tool.

ENVIRONMENT Apple II+, Radio Shack Model III or IV, or IBM PC. 48K RAM, one 5 1/4" disk drive, and a 132 character printer with form-feed.

STATUS The program is currently being used by many transit properties in the U.S. and Canada.

AVAILABILITY The cost of the software, which will be configured for a particular system, is $30.00 U.S.

CONTACT
Greg Seibert
Manager, Electronic Systems
Campus Bus Service
100 Moulton Hall
Kent, OH 44242
(216) 672-RIDE

microcomputers in transportation

Transportation Planning Software

APPLICATION	(EXTRA)
DEVELOPER	William G. Barker & Associates
SUMMARY	"EXTRA" calculates modal split, operating ratios, emissions and other impacts associated with a planned park-and-ride lot with an express bus route. A single destination for the route is assumed with impedances for auto and transit input manually.
ENVIRONMENT	IBM PC, 64K (RAM), DOS Operating System, 1-2 disks
AVAILABILITY	For sale from contact below
CONTACT	William G. Barker William G. Barker & Associates 1009 W. Randol Mill Rd. Arlington, TX 76012 817-265-0794

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Transportation Planning Software

APPLICATION	Urban/Regional Planning
DEVELOPERS	M.M. Dillon Limited
SUMMARY	"The Opportunity Model" builds interzonal network, computes zone, sector or study area opportunity accessibilities for each locational or landuse strategy.
ENVIRONMENT	CP/M Operating System, 64K (RAM), 1 disk, Microsoft BASIC
STATUS	Operational
AVAILABILITY	Available from contact below.
CONTACT	Bob Lewis M.M Dillon Limited 47 Sheppard Avenue East Toronto, Ontario Canada M2N 6H5 (416) 229-4646

microcomputers in transportation

Transportation Planning Software

APPLICATION "FLEETPLAN"

SUMMARY FLEETPLAN is a package of programs designed for companies operating vehicle fleets. FLEETPLAN encompasses the following:

ABCAS - a comprehensive vehicle maintenance cost and analysis system which provides a constantly updated information service on the cost of servicing, repairing and operating a fleet.

H-ROUTER - a series of programs designed to simulate any urban or regional highway network; produces highway routing and minimum time/distance data.

TRUCKSTOPS - a package of programs designed to produce efficient vehicle delivery/collection schedules. Savings can be achieved in costs pertaining to vehicles, time and mileage.

ENVIRONMENT MS DOS, 128K RAM, two disk drives.

AVAILABILITY For sale from contact below.

CONTACT

Bob Lewis
M.M. Dillon Limited
47 Sheppard Avenue East
Toronto, Ontario
Canada M2N 6H5
(416) 229-4646

TRAFFIC ENGINEERING

SOFTWARE

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Turning Movement Count Analysis Program

DEVELOPER — Timelapse Inc.

SUMMARY — The TMC Program enables you to analyze data from the TMC/48, a microprocessor-based turning movement counter. The TMC Program totals volumes by five or 15-minute intervals for 16 distinct movements. Each direction--North, South, East, West--includes four movements: through traffic, right turn, left turn, and a special category, such as pedestrians, which may be specified by the user.

The TMC Program enables you to examine and edit data from the TMC/48, merge data records, save and retrieve data to disk files and print turning movement reports. For data recorded by 15-minute intervals, a peak period analysis can be performed which includes calculating peak hour factors and the percentage of turning vehicles.

ENVIRONMENT — The TMC Program reads the TMC/48 through an RS232 interface manufactured by Timelapse. Computer requirements are a MS-DOS or CP/M-based system with 64K RAM, one disk drive (90K minimum) and a 132 column printer. Apple and Radio Shack systems require a CP/M add-on card.

STATUS — The TMC Program has been operational since July 1982. It is used in over 100 city and county traffic engineering departments.

AVAILABILITY — The TMC Program is available commercially through Timelapse or one of our regional representatives. Call the number below for the representative in your area.

CONTACT — Don Gettner
Timelapse Inc.
2168 Old Millfield Way
Mountain View, CA 94043
(415) 968-2240

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Reduction and Analysis of Punched Tape Mechanical Traffic Counts

DEVELOPER — Traffic Division, Public Works Department--County of Tulare, CA

SUMMARY — Raw traffic counts, read directly from punched tape or entered manually, are summarized as an average daily traffic count. Hourly volumes are listed both numerically and graphically by the date and day of week. The 24 hourly volumes are automatically adjusted by previously determined factors for day of week and month of year variations before being totaled. The final sum is adjusted to accepted rounding standards. Other program provisions include comments on location, counter number, road width and condition, etc.

ENVIRONMENT — Technical Systems Consultants (TSC)
Flex DOS
Written in TSC EXTENDED BASIC language.

STATUS — Operational

AVAILABILITY — Software within public domain. Program and documentation available from contact.

CONTACT — Richard Webb
Assistant Traffic Engineer
Tulare County Public Works Department
Room 10, County Civic Center
Visalia, CA 93291
(209) 733-6654

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Reduction and Analysis of Spot Speed Survey Field Data

DEVELOPER — Traffic Division, Public Works Department--County of Tulare, CA

SUMMARY — Vehicle speed samples, along with other pertinent field data, are summarized onto a print-out which provides both a numerical and graphical representation. Significant characteristics of the study, such as 85th percentile, 10 MPH pace, cumulative number and percentage, average speed, etc., are summarized for passenger vehicles, trucks and buses, and all vehicles. Other information, including existing speed limits, ADT, road conditions, etc., may also be listed onto the form.

ENVIRONMENT — Technical Systems Consultants (TSC)
Flex DOS
Written in TSC EXTENDED BASIC language.

STATUS — Operational

AVAILABILITY — Software within public domain. Program and documentation available from contact.

CONTACT — Richard Webb
Assistant Traffic Engineer
Tulare County Public Works Department
Room 10, County Civic Center
Visalia, CA 93291
(209) 733-6654

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Reduction of Truck Counts, Classified by the Number of Axles, Into a Standard Traffic Index

DEVELOPER — Traffic Division, Public Works Department--County of Tulare, CA

SUMMARY — Present one-way classified truck counts, A.D.T., peak-hour, annual expansion rate and other factors are used by this program to produce a 10- and 20-year Traffic Index based on previously determined equivalent axle load constants. A worksheet showing all calculations and results is provided, along with a selectable number of memorandums which list only the pertinent data.

ENVIRONMENT — Technical Systems Consultants (TSC)
Flex DOS
Written in TSC EXTENDED BASIC language.

STATUS — Operational

AVAILABILITY — Software within public domain. Program and documentation available from contact.

CONTACT — Richard Webb
Assistant Traffic Engineer
Tulare County Public Works Department
Room 10, County Civic Center
Visalia, CA 93291
(209) 733-6654

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Turning Movement Counts and Signal Warrant Studies

DEVELOPER — James D. Schroll, Anne Arundel County (Maryland) Department of Public Works

SUMMARY — The program uses VisiCalc™ templates to collate and analyze turning movement volumes and approach volumes for signal warrant studies. TMC15 is a template which collates and analyzes (row and column totals, maximum and average volumes) turning movement volumes gathered in 15-minute increments. WARRANTS is a template which analyzes hourly approach volumes to determine if signal warrants are met (including accident, pedestrian, and reduced warrants). TMC>WARRANTS(N/S) and TMC>WARRANTS(E/W) perform the same functions as TMC15 and prepare hourly totals for direct imprinting on WARRANTS template (N/S for major road running north/south, E/W for east/west).

ENVIRONMENT — Templates in use on Apple II+ with one 5 1/4 inch disk drive, 64K memory, and VisiCalc™.

AVAILABILITY — Available free, with instructions from the contact below.

CONTACT — Safety and Traffic Engineering Applications
for Microcomputers
Transportation Systems Center
DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

™VisiCalc is a trademark of VisiCorp

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Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Spot Speed Zone Analysis, Signal System Evaluation, and Traffic Device Inventory

DEVELOPER — CIVILSOFT, Inc.

SUMMARY

SPOT SPEED ZONE ANALYSIS $195.00

A powerful program that can be used to evaluate raw data acquired from the field for speed zone studies. It is very easy to use and reduces the time required to analyze the data statistically. Typical output includes the computed 50th percentile speed, 85th percentile speed, 10 m.p.h. pace speed, the percent of vehicles within the pace speed, the range of speeds, the total number of vehicles observed and the skewness index.

PASSER II-80 $675.00

PASSER II-80, the Progression Analysis and Signal System Evaluation Routine, is a unique general purpose computer program developed to assist the traffic engineer in determining optimal traffic signal timings for an arterial street where progression is desired through signals having more than one arterial signal phase.

TRAFFIC DEVICE INVENTORY

Curb Markings	$100.00
Pavement Markings	100.00
Pavement Striping	100.00
Traffic Accident Inventory	150.00
Sign Inventory	100.00
All Five Programs	$500.00

ENVIRONMENT — Available for IBM PC only.

CONTACT

Molly Scott
CIVILSOFT
290 South Anaheim Blvd, Suite 100
Anaheim, CA 92805
(714) 999-5001

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Data Entry, Editing, Search/Display and Tabulation of Traffic County Data - COMPCOUNT

DEVELOPER — ADA Computer Services, Inc.

SUMMARY — This program package processes traffic count data from electronic manual count boards, portable microcomputers, machine count tape readers and keyboard entry.

It will handle 5-minute, 15-minute or 60-minute data. Printed reports include summarized data, peak hours, 12-hour and 24-hour totals, and turning movement diagrams.

The program will also process data from automatic speed and vehicle classification counts.

Programs are all menu-driven with full edit and search/screen display capability. All data permanently stored on disk.

ENVIRONMENT — Programs are now operational on Radio Shack Model I & III. IBM PC conversion is underway. Need minimum 64K CPU plus two disk drives.

STATUS — Operational since 1981. Used by consultants. Software has been used by ADA for data processing service for other consultants.

AVAILABILITY — Program package for sale by contact. Data processing service also available.

CONTACT — Arthur B. Pratt
ADA Computer Services, Inc.
PO Box 4383
Stamford, CT 06907
(203) 348-1232

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Manual Turning Movement Traffic Counts - QUIKCOUNT

DEVELOPER — ADA Computer Services, Inc.

SUMMARY — The QUIKCOUNT program enables you to conduct manual turning movement counts in the field, display this data on the eight-line display, and/or transfer the data to an office microcomputer via the RS232 port or telephone lines for tabulation and printing.

It is compatible to the edit, search and tabulation functions of the COMPCOUNT program.

It can count up to 40 intervals of data in 5-minute, 15-minute, or 60-minute increments. Up to 36 movements can be counted so that a full auto-truck/bus manual classification count can be accomplished. More than one count can be begun and completed before the data has to be dumped into the office computer.

ENVIRONMENT — QUIKCOUNT is currently operational on the Radio Shack Model 100 microcomputer. It can be adapted to other portable micros. A minimum of 24K RAM and a BASIC interpreter are required.

STATUS — Program is operational and is being used in Illinois.

AVAILABILITY — For sale by contact.

CONTACT — Arthur B. Pratt
ADA Computer Services, Inc.
PO Box 4383
Stamford, CT 06907
(203) 348-1232

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Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Conduct Parking Turnover and Accumulation Analysis in the Field - QUIKPARK

DEVELOPER — ADA Computer Services, Inc.

SUMMARY — The QUIKPARK program enables you to collect license plate parking surveys in the field using a battery-powered portable computer, calculate turnover and accumulation information (including occupancy), and print out reports and graphic representations.

Data can be dumped into office microcomputer for permanent storage on disk.

Software package contains COMPARK programs built-in.

ENVIRONMENT — Radio Shack Model 100 portable computer with 32K RAM and a parallel line printer.

STATUS — Should be available in January 1984.

AVAILABILITY — For sale by contact.

CONTACT — Arthur B. Pratt
ADA Computer Services, Inc.
PO Box 4383
Stamford, CT 06907
(203) 348-1232

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Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Traffic Speed Evaluator (TSE)

DEVELOPER — Richard W. Wilberg, New Alternatives Software - a division of New Alternatives, Inc., Chicago, Illinois.

SUMMARY — TSE is a VisiCalc™ template for evaluating the traffic speed characteristics of up to 100 sample vehicles. Input is through keyboard or datafile (DIF format) entry of field-collected, individually sampled vehicle speeds. The program sorts, computes, and creates new datafiles to permit graphing of the distribution of vehicles around the mean speed.

Output includes Minimum Speed, Maximum Speed, Mean Speed, Median Speed, Modal Speed, Maximum Ten MPH Pace, 85th Percentile, Prevailing Speed, Violation Rate, and Count of Vehicles at each speed interval.

ENVIRONMENT — Apple II+ or IIe, 64K memory, one 5 1/4" disk drive, VisiCalc™ 3.3.

STATUS — Operational. Principal user: Village of Glendale Heights, Illinois.

AVAILABILITY — $45.00 for 5 1/4-inch floppy disk, template listing, and user's manual. $10.00 for the user's manual only, applicable towards subsequent purchase of program package.

CONTACT — Rich Kuner
President
New Alternatives, Inc.
8 South Michigan Ave., Suite 610
Chicago, IL 60603
(312) 263-2808

™VisiCalc is a trademark of VisiCorp.

microcomputers in transportation

Traffic Engineering Software

Field Data Collection And Analysis

APPLICATION — Vehicle Counter Analysis--VOLPRO

DEVELOPER — Timelapse Inc.

SUMMARY — VOLPRO enables you to analyze data gathered with your volume counter. Data is transferred from the volume counter into the microcomputer either automatically or manually. One to six channel counts can be entered with the allowable counting interval ranging from one minute to 60 minutes. The data can be examined on the computer screen, stored on a diskette, or printed.

With 60-minute intervals, the weekly reports include hourly and daily averages, and peak hour volumes. With 15-minute intervals, the weekly reports feature hourly totals and several peak hour calculations. When more than one channel is used, the reports include directional and combined volumes.

Additional features include a signal warrant analysis and graphical plotting.

ENVIRONMENT — VOLPRO reads the volume recorder through a separate interface unit, which varies depending upon the volume counter used. Computer requirements are a MS-DOS or CP/M-based system with 64K RAM, one disk drive (90K minimum), and a 132 column printer. Apple and Radio Shack systems require a CP/M add-on card.

AVAILABILITY — VOLPRO is available commercially through Timelapse or one of our regional representatives. Call the number below for the representative in your area.

CONTACT — Don Gettner
Timelapse Inc.
2168 Old Millfield Way
Mountain View, CA 94043
(415) 968-2240

microcomputers in transportation

Traffic Engineering Software

Signal Timing Simulation And Optimization

APPLICATION FORCAST Signal Timing Plan Generator

DEVELOPER COMPUTRAN SYSTEMS CORPORATION

SUMMARY FORCAST is a system of computer programs for the generation of signal timing plans. FORCAST is designed to determine that combination of cycle, split and off-set which best accommodates projected demand in a prescribed street network. FORCAST can deal with simple arterials and complex street networks with 2 - 8 phase single or dual ring configurations. FORCAST can properly progress movement through simple or overlapped phase using excess intersection capacity to improve progression. FORCAST also permits the user to specify the priority with which various movements are to be serviced without violating minimum pedestrian crossings or vehicle service time requirements. In addition, FORCAST keeps separate accounts of the delay experienced by the progressed and cross-street traffic. FORCAST also provides both quantitative and qualitative data (e.g., time space diagrams) regarding how well the candidate timing plans will work when implemented.

ENVIRONMENT FORCAST is available in two modes. In one mode, FORCAST is available for any standard Fortran UTCS system developed from the FHWA-supplied extended version of the Charlotte UTCS as well as on COMPUTRAN's ATCS-II and CTCS traffic control systems. In the second mode, FORCAST is available on TRS-80 microcomputers.

STATUS FORCAST is fully operational in many cities across the United States and Canada.

AVAILABILITY For sale by contact.

CONTACT H. Nathan Yagoda, President
COMPUTRAN SYSTEMS CORPORATION
210 State Street
Hackensack, NJ 07601

microcomputers in transportation

Traffic Engineering Software

Signal Timing Simulation And Optimization

APPLICATION	Program for Optimization of Signalized Intersection Timing (POSIT)
DEVELOPER	Hobih Chen
SUMMARY	POSIT produces an optimal signal setting, including cycle time and phasing pattern, that can minimize fuel consumption for an isolated intersection.
ENVIRONMENT	Currently runs under UCSD p-System on Apple II+ with one disk drive. New version (Version III.1) for IBM PC will be available this June.
AVAILABILITY	For sale for $75.00.
CONTACT	Hobih Chen Transportation Center 2011E, Learned Hall University of Kansas Lawrence, KS 66045 (913) 864-5658

microcomputers in transportation

Traffic Engineering Software

Signal Timing Simulation And Optimization

APPLICATION — Traffic Signal Cycle-Length and Split Division Calculation Program

DEVELOPER — Traconex, Inc.

SUMMARY — Traconex, Inc. introduces its new "Cycle-Length and Split Division Calculation Program", which calculates minimum cycle lengths and their associated Split Divisions based on volumes per hour, number of lanes approaching the controlled phase, minimum (non-forceable) intervals, and time allowance per vehicle. Also taken into consideration are timing restrictions for Nema phasing such as: Split division Phase 1 and Phase 2 equal Phase 5 and 6. Ring 1 equals Ring 2, etc.

By altering the calculated minimum cycle to common larger cycle length, associated Split Divisions are recalculated based on their vehicular volumes.

A single dial, single split calculation option or multidial (4 ea.) and Multisplit (3 ea. per dial) option is menu selectable.

A one-directional time/space diagram can be printed based on the single dial calculation.

ENVIRONMENT — Program will operate on a Kaypro 4 with CP/M-80 software.

AVAILABILITY — Available from contact for $3,000.00

CONTACT — Fred W. Apitz
Traconex, Inc.
336 Martin Avenue
Santa Clara, CA 95050
(408) 727-0260

microcomputers in transportation

Traffic Engineering Software

Signal Timing Simulation And Optimization

APPLICATION — Traffic Signal Coordination (TRANSYT 7F, PASSER II 80, PASSER III, TIMDIS 2, CARDED)

DEVELOPER — DKS Associates

SUMMARY — These five programs together make a comprehensive package for designing and documenting traffic signal coordination plans. TRANSYT7F is Release 3 from the FHWA which includes a cycle length search, queue capacity check, and other enhancements. Run time on the IBM PC is 5 minutes per intersection for full optimization. PASSER II 80 and PASSER III (for diamond interchanges) are identical to the mainframe versions, the major feature being automatic phase sequence selection. TIMDIS 2 is a menu-driven program which allows the user to quickly and easily perform manual coordination designs by interactively varying offsets, splits, phase sequences, speed, cycle length, etc., and observing the effects on both a time location diagram displayed on the computer screen and a detailed time-space diagram printed on any ordinary printer. CARDED is a menu-driven special screen editor which effectively puts the data coding form on the computer screen, complete with column markers, headings, and explanatory information, thereby greatly simplifying the task of creating and editing data input files for TRANSYT and PASSER, or any other program requiring 80-column card image input files.

ENVIRONMENT — All programs operate on the IBM PC and compatibles with 256K, DOS 2.0 or 2.1, 8087 math coprocessor (for TRANSYT), and 132-column printer. Also available for MS DOS and UNIX systems.

AVAILABILITY — License sale or demonstration packet available from contact below.

STATUS — List of current users available on request.

CONTACTS — Warren Tighe
Senior Transportation Engineer
DKS Associates
1419 Broadway, Suite 700
Oakland, CA 94612
(415)763-2061

microcomputers in transportation

Traffic Engineering Software

Signal Timing Simulation And Optimization — In Development

PROJECT — Traffic Signal Timing Optimization: TRANSYT-7F

DEVELOPER — University of Florida Transportation Research Center

SUMMARY — TRANSYT-7F was developed by FHWA and is an "Americanized" version of the British TRANSYT-7 traffic signal timing optimization program. The program can be used to time isolated signals as well as coordinated arterial and network systems. The current version of the program requires a 32-bit mainframe computer. This study will reprogram TRANSYT-7F to run on 16-bit mini and microcomputers.

ENVIRONMENT — Initial development is being done on an IBM PC.

STATUS — Program acceptance testing is underway.

AVAILABILITY — The program will be available through the STEAM Support Center by late Spring 1984.

CONTACT —

Toni Wilbur
FHWA/HTO-23
400 7th Street, SW
Washington, DC 20590
(202) 426-0411

STEAM Support Center, DTS-62
Transportation Systems Center
Kendall Square
Cambridge, MA 02142
(617) 494-2247

microcomputers in transportation

Traffic Engineering Software

Signal Timing Simulation And Optimization

APPLICATION TRAFFICQ - Traffic System Performance Evaluation

SUPPLIER PRC Engineering

SUMMARY TRAFFICQ is distributed by PRC Engineering, and was developed by the UK Department of Transport. TRAFFICQ is a program allowing the simulation of vehicle and pedestrian activity in complex road networks. TRAFFICQ is suitable for analyzing the following types of design options in small to medium size road networks:

- o changes in signal offsets, staging or timing
- o changes in form of junction control, layout, or approach widening.
- o change in location or type of pedestrian facility
- o introduction of banned-turns, one-way systems, bus lanes, etc.
- o the effect of changed traffic demand or behavior; e.g, from a new car park.

TRAFFICQ considers both time-varying and random aspects of traffic flow, and allows all common traffic management controls to be modeled, including fixed-time and vehicle-actuated, and linked signals, priority intersections, pedestrian crossings, bus lanes, and parking/loading restrictions. Other aspects of TRAFFICQ address the modeling of:

- o vehicle platooning behavior, including effect of temporary blockages at junctions caused by turning vehicles or queues tailing back from downstream junctions
- o large number of pedestrians forcing traffic to halt at pedestrian crossings.

Output from TRAFFICQ provides information on vehicle queues, link and network travel times, and pedestrian delays at crossing sites.

ENVIRONMENT CP/M Operating System, 64K RAM, two disk drives.

STATUS Fully operational. In use in USA and Europe.

AVAILABILITY License sale from contact below.

CONTACT Mike Bates
PRC Engineering
972 Town & Country Road-PO Box 5367
Orange, CA 92667
(714) 835-4447

microcomputers in transportation

Traffic Engineering Software

General Traffic Operations — In Development

APPLICATION: Integrated Traffic Data System

DEVELOPER: Oak Ridge National Laboratory (ORNL)

SUMMARY: ORNL is developing a microcomputer-based distributed processing system which will allow the following: (1) storage of network-wide traffic data on a Winchester disk, (2) maintenance of the traffic data base via a data base management system (DBMS) operating on a microcomputer, (3) automatic structuring of input data sets for various traffic simulation and signal timing optimization programs, (4) submission of jobs and retrieval of outputs via communication lines for jobs run on a remote mainframe computer, and (5) allowance of use of optimization program output as input to simulation models. The system will be menu-driven, making it easy to learn and use, and design provisions will be made for future expansion of the system to include other traffic engineering applications, interactive graphics, etc.

ENVIRONMENT: The system will be written using Pascal MT+ running under CP/M. This provides transportability to a wide range of machines including the Apple II and IBM-PC. Current plans are to use the MDBS data base management software which will be distributed under an OEM royalty agreement with ISE-USA.

STATUS: Initial field testing is planned for Summer 1984. This system will run on an IBM-XT personal computer and will interface to TRANSYT-7F (version 3) and the NETSIM portion of TRAF.

CONTACTS:

Dr. Glenn Roberts
Oak Ridge National Laboratory
Transportation Energy Group
Oak Ridge, TN 37830
(615) 576-2718

Mr. Alberto Santiago
FHWA/HSR-40
6300 Georgetown Pike
McLean, VA 22104
(703) 285-2024

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Traffic Engineering Software

General Traffic Operations

APPLICATION — TEAPAC - Traffic Engineering Application Package

DEVELOPER — Barton-Aschman Associates, Inc.

SUMMARY — TEAPAC, a comprehensive, fully-integrated system of 20 traffic engineering programs as follows:

Traffic Operations
SIGNAL: Signalized Intersection
NOSTOP: Bandwidth Progression
PRETRANSYT: Easy Input and Time Space Plot for TRANSYT
ATGRADE: Approach Capacity
TULC: Turn Lane Capacity
RAMP: Ramp Capacity
WEAVE: Weaving Capacity
SURVEY: Real Time Data Collection and Analysis

Survey Analysis
TED: TEAPAC Editor
TABS: Tabulation
DTABS: Dynamic Tabulation
FACTOR: Survey Adjustment
PLOT: Curve/Histograms

Site Traffic
TUBES: Machine Counts
TURNS: Manual Counts
SITE: Generation, Distribution and Assignment

Transit
SCHEDULE: Bus Schedule Preparation

Air Quality
COERP: CO Emission Rates
HIWAYI/II: Dispersion Model
CALINE 3: California Dispersion Model

ENVIRONMENT — 64K CP/M-80, including IBM PC with CP/M-80.

STATUS — Used by cities, planning agencies and consultants nationwide.

AVAILABILITY — License arrangements made by contact below.

CONTACT — Dennis W. Strong, P.E.
BARTON-ASCHMAN ASSOCIATES, INC.
820 Davis Street
Evanston, IL 60201
(312) 491-1000

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Traffic Engineering Software

General Traffic Operations

APPLICATION — Traffic Engineering--ATEMS

DEVELOPERS — Mohle, Grover & Associates (MGA)

SUMMARY — The ATEMS (Automated Traffic Engineering Management System) programs are designed to increase the productivity of the traffic engineering function by providing powerful traffic engineering related analysis capabilities in a simplified form and at a low price. Software is furnished under license agreement. The ATEMS programs include:

CAPSSI (Comprehensive Analysis Program for Single Signalized Intersections)
PASSER (Progression Analysis and Signal System Evaluation Routine)
TRANSYT 7 PLUS (Traffic Network Study Tool)
SPEED (Speed Data Reduction Program)
TARP (Traffic Accident Analysis Program)
TAAP (Traffic Accident Analysis Program)
TARPLOT (Subprogram of TARP that provides Collision Diagrams)
COUNT (Traffice Count Reduction Program)
TCD Inventory Program (Available for SIGNs, CURB Markings, Street STRiPing and Pavement MARKings)

ENVIRONMENT — CP/M or MS-DOS operating system, dual floppy disk drives and 64K of RAM.

STATUS — Operational in the following cities: Beverly Hills, Claremont, Compton, Cupertino, Downey, Emeryville, Excondido, Gardena, Huntington Beach, Irvine, Oakland, Orange, San Bernardino, Santa Monica, West Covina and Whittier, California; Fort Collins, Colorado; Dallas, Texas; and Wickliffe, Ohio.

AVAILABILITY — For sale by contact.

CONTACT — Albert L. Grover
Executive Vice-President
MGA
901 East Imperial Highway, Suite A
La Habra, CA 90631
(714) 738-3471

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Traffic Engineering Software

General Traffic Operations

APPLICATION — Traffic Engineering Programs

DEVELOPER — Bather Belrose Boje, Inc.

SUMMARY — VOLTATE/VOLPLOT - an interactive traffic-volume count data analysis program.
SIGART/TIMESPACE II - An arterial signal timing program.
PASSER/PASSER DATA LOADER - An interactive multiphase arterial signal timing program.
SIGRID - A grid signal timing program.
TRANSYT/7 and TRANSYT/7F - General purpose arterial and grid signal timing plan development and analysis program.
TIMESPACE III - A general purpose timing space diagram plotting program.
CMA - an interactive, TRB 212-based, signalized intersection evaluation program.
INTERCALC - An interactive Webster-based multiphase signalized intersection development and analysis program.
ICAPACITY - An interactive HCM-based signalized intersection approach capacity analysis programn.
SPEEDPLOT - An interactive speed data analysis program.
SIGN INVENTORY - An interactive traffic sign inventory and record-keeping system. A streetlight module is available.
PAVEMENT MARKING INVENTORY - An interactive traffic pavement marking inventory and record-keeping system. A guardrail module is available.
TRAFFIC SIGNAL & TIMING INVENTORY - An interactive traffic signal and controller timing inventory and record-keeping system.

ENVIRONMENT — All programs operate on CP/M-80, MS-DOS or PC-DOS-based microcomputer systems. CP/M systems require 50K of RAM, MS-DOS and PC-DOS systems require 128K of RAM. At least one 180K disk and a 132-column printer are required.

STATUS — All programs are fully operational.

AVAILABILITY — Available on a license agreement basis from contact.

CONTACT — William M. Belrose
Bather Belrose Boje, Inc.
7101 York Avenue South
Minneapolis, MN 55435
(612) 921-3303

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Traffic Engineering Software

General Traffic Operations

APPLICATION — McTRANS Package for Traffic Engineering

DEVELOPERS — University of Florida
Transportation Research Center

SUMMARY — A three volume package of programs for traffic engineering:

Vol I - Traffic Signal Optimization

Vol II - Traffic Data Analysis

Vol III - No longer available

Vol IV - Traffic Counting

ENVIRONMENT — 48K Apple II, program written in Applesoft BASIC. Note: Programs which do not require external communication will work on the IBM PC with Quadlink card. No MS-DOS versions are available.

STATUS — Over 500 total volumes distributed.

AVAILABILITY — From contact; $35 per volume to cover expenses.

CONTACT — Ken Courage
Department of Civil Engineering
University of Florida
Gainesville, FL 32611
(904) 392-0378

microcomputers in transportation

Traffic Engineering Software

General Traffic Operations

APPLICATION — Traffic Engineering: Intersection Capacity Analysis - CAPCALC (Version 2)

DEVELOPERS — Roger CREIGHTON ASSOCIATES Incorporated

SUMMARY — Manual procedures for calculating intersection capacities consume excessive amounts of staff time. The slow pace and high cost of manual methods tends to prevent consideration and evaluation of alternative intersection designs. With manual methods, errors of calculation may go undetected. Finally, manual outputs generally lack professional appearance.

CAPCALC responds to the preceding problems by fully automating, for microcomputer, the "Planning" and "Operations and Design" routines of Transportation Research Board Circular 212 "Interim Materials on Highway Capacity" (second printing, June 1980) for calculating capacities and levels of service for signalized intersections. For unsignalized intersections, all routines except one table look-up also are automated. Selected portions of Circular 212 have been included, with permission, as an appendix to the CAPCALC Manual. Revisions to CAPCALC will be made available periodically to keep it consistent with the latest procedures.

ENVIRONMENT — Apple II+ and Apple IIe, IBM PC, Radio Shack TRS Models II, 12 & 16; a minimum of 64K is required and 2 disk drives. Program comes as "turnkey", thus it is independent of the resident operating system on the machine.

STATUS — Operational and fully tested. Presently being used by NYSDOT; King County, Washington; Augusta-Richmond Counties, Georgia; many local governments and private consultants.

AVAILABILITY — For sale at $485.00

CONTACT — Charles Manning
Roger CREIGHTON ASSOCIATES Incorporated
274 Delaware Avenue
Delmar, NY 12054
(518) 439-4991

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Traffic Engineering Software

General Traffic Operations

APPLICATION — Intersection Level-of-Service Analysis - Planning

DEVELOPER — Old Colony Planning Council

SUMMARY — The Old Colony Planning Council has developed a program which will compute the capacity of an intersection using the Critical Movement Analysis method for "Planning" described in TRB Circular 212. The program calculates the LOS for at-grade, two phase signalized intersections. Required as inputs are peak hour turning movement volumes; number of lanes; and the G/C ratio. All other inputs can be calculated on the basis of these. The program can be applied to existing conditions to determine whether or not problems might exist with the geometry or signalization. Alternative improvements can be tested to achieve a design LOS through adjustment to lane geometry and signal timing.

ENVIRONMENT — Apple II+, 48K, Applesoft BASIC

STATUS — Operational

AVAILABILITY — Available for free from the contact. Please supply a 5 1/4" dual density, soft sectored diskette.

CONTACT — William Steffens or Vahid Karimi
Old Colony Planning Council
9 Belmont St.
Brockton, MA 02401
(617) 583-1833

MICROCOMPUTER SOFTWARE FOR

PARATRANSIT PLANNING AND OPERATIONS

microcomputers in transportation

Microcomputer Software For Paratransit Planning And Operations

In Development

PROJECT	Microcomputer Software for Paratransit Planning
DEVELOPER	Thayer School of Engineering, Dartmouth College, Hanover, NH
SPONSOR	UMTA, Office of Methods and Support, Grant No. NH-06-0002
SUMMARY	This project will produce a system of computerized paratransit planning modules that will allow transit planners to assess the effectiveness of alternative transit and paratransit services. Each module will estimate the ridership to be expected and the costs to be incurred in providing a specific type of service (e.g., dial-a-ride, subscription, charter, fixed-route, taxi or checkpoint) to a specific market (e.g., work, nonwork, elderly, handicapped, social agency or rural).
ENVIRONMENT	All software will be written in UCSD Pascal and will be implemented on an Apple III microcomputer.
AVAILABILITY	Not available until project is completed. Will be public domain software
STATUS	Work is underway.
SCHEDULE	Software availability will depend on testing.
CONTACTS	Dr. Thomas Adler (Grant Manager) Thayer School of Engineering Dartmouth College Hanover, NH 03755 (603) 646-3551 Mr. Thomas Hillegass (UMTA Contact) UMTA/URT-41 400 7th Street, SW Washington, DC 20590 (202) 426-9271

microcomputers in transportation

Microcomputer Software For Paratransit Planning And Operations

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APPLICATION — Instruction System for RTP Information Management System

DEVELOPER — Micro/Trans Division of Call-A-Ride, Inc.

SPONSOR — Regional Transportation Program, Inc., (RTP), Portland, ME

SUMMARY — A "hands-on" system of programmed instruction for staff using the RTP Information Management System. Components include: an Introduction, System Overview, Getting Started, a System Tutorial, a Text Supplement, a Client File Tutorial, a Ticket File Tutorial, a Vehicle Schedule File Tutorial, and a Vehicle Maintenance and Repair File Tutorial.

ENVIRONMENT — A six-user system of Apple II and III workstations connected in an Omninet local area network (LAN) sharing a 20MB Corvus hard disk. The information management system and file tutorials are based on the DB Master Special Edition file management program.

STATUS — Initial chapters have been written, tutorial files are being tested and transferred to the hard disk.

AVAILABILITY — The focus of the Instruction System is for RTP employees. The approach may be of interest to operations using retail software. All software used in the system is commercially available. The developer and sponsor consider all products to be in the public domain.

CONTACT —

Ms. Loretta Sharpe
Executive Director
Regional Transportation Program, Inc.
237 Oxford Street
Portland, ME 04101
(207) 774-2666

Lawrence J. Harman
Micro/Trans Division
Call-A-Ride, Inc.
PO Box 7
Hyannis, MA 02601
(617) 775-2734

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Microcomputer Software For Paratransit Planning And Operations

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APPLICATION — Paratransit Automated Support System (PASS)

DEVELOPER — Multiplications, Inc., Cambridge, MA

SPONSOR — Wheels, Inc., Philadelphia, PA

SUMMARY — PASS is a complete multi-user package for management of paratransit services. Modules in PASS include trip request processing, service scheduling, and management reporting for paratransit services, as well as a module for processing direct client reimbursements for transportation expense. The package maintains a client file (including travel history) for on-line verification of client eligibility. Trip request processing has extensive edit checking procedures to ensure swift and accurate date entry. Permanent or standing order trips can be prescheduled into skeleton tours. Service scheduling is a computer-assisted procedure to create vehicle tours (multiple carriers can be accommodated); unscheduled trips are listed by time and location to facilitate the scheduling process. The package produces driver manifests, operations reports for the system and by carrier, and client travel history reports. The reimbursement module accepts reimbursement vouchers, generates checks and a check register, maintains client reimbursement histories, and produces management reports.

ENVIRONMENT — Up to 16 users can be supported simultaneously using a TeleVideo 816/40 microcomputer. The TeleVideo has a 40MB hard disk and built-in tape backup capability. The hardware fully supports CP/M and CP/M-86 application programs. PASS is written in DataFlex, a relational database management system developed by Data Access Corp.

STATUS — PASS is currently in production use by Wheels, Inc., a contract manager for paratransit services in Philadelphia. PASS service management modules are used by Wheels to manage paratransit service for the disabled, sponsored by Southeastern Pennsylvania Transportation Authority (SEPTA).

AVAILABILITY — Hardware, software, and documentation available through Multiplications, Inc.

CONTACT — Mr. Keith Forstall
Multiplications, Inc.
1050 Massachusetts Ave.
Cambridge, MA 02138

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In Development

APPLICATION — Management Information System (MIS)

DEVELOPER — University of Massachusetts, Department of Civil Engineering

SPONSOR — Office of University Research, U.S. Department of Transportation. Contract No. DTRS5681-C-00019.

SUMMARY — This project involves the testing of a comprehensive management information system for use by small and medium sized, fixed-route, fixed-schedule transit operations. This MIS employs a relational data-base manager (RDBM) package to share information among administrative, operational, materials and equipment management, performance analysis, and financial management functions. Total software costs are in the range of $2,000 including the RDBM, text editor, spreadsheet, report generator, mailing list, inventory, and complete financial package. All applications software interfaces with the RDBM. Products of the research include standardized input formats (templates) for all major transit functions, sample standardized reporting formats, macros for queries and routine reports, and a user's guide for transit managers. The package which is being tested is distributed by Software Products International, Inc., of San Diego utilizing the "Logiquest III" RDBM. "Logiquest III" and graphics, word processing, and telecommunications software are now available under the name "Open Access."

ENVIRONMENT — Logiquest III is being tested in its international version at the University of Massachusetts on an IBM PC with 128K RAM and a 10 MB Corvus hard disk. The UCSD Pascal code is supported by a UCSD p-System.

AVAILABILITY — Software/hardware components available commercially. The transit user's guide and software will be available in the Spring of 1984.

STATUS — This package is now being developed and implemented at the University of Massachusetts's transit system (30 peak vehicles).

SCHEDULE — The project should be completed during Spring 1984.

CONTACT — Dr. John Collura (Principal Investigator)
Department of Civil Engineering
Marston Hall, Room 214
University of Massachusetts
Amherst, MA 01003
(413) 545-0635

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PROJECT — Information Management System

DEVELOPER — Micro/Trans - CAR, Inc.

SPONSOR — Regional Transportation Program Inc., Portland, Maine

SUMMARY — A microcomputer record keeping system is being installed for a fleet of 16 special service, door-to-door vehicles of varying size. Records include a vehicle file and a client file. The vehicle file includes information on vehicle usage and maintenance. The client file includes identification and eligibility information on each client carried by the system.

ENVIRONMENT — A 6-user system is built around a Corvus 20 MB hard disk with Omninet local area network. Five user "work stations" are equipped with an Apple II microcomputer, single floppy disk drive and video monitor. The sixth station has an Apple III with two disk drives. Both dot matrix and letter quality printers are available centrally as part of the network. Each Apple II has the DBMASTER file manager installed and the entire record keeping system is being built upon DBMASTER.

STATUS — Hardware is installed. New files are being created for vehicle maintenance and performance measures.

AVAILABILITY — DBMASTER is a file manager available commercially. The templates particular to this application will be public domain. Date unknown.

CONTACT — Ms Loretta Sharp, Director
Regional Transportation Program Inc.
237 Oxford St.
Portland, ME 04101
(207) 774-2666

Lawrence J. Harman
Micro/Trans Division
Call-A-Ride, Inc.
PO Box 7
Hyannis, MA 02601
(617) 775-2734

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PROJECT — New Hampshire Rural Public Transportation Microcomputer Technical Assistance Program

DEVELOPER — Micro/Trans Division, CAR, Inc.

SPONSOR — New Hampshire Department of Public Works and Highways, Public Transportation Division.

SUMMARY — The NH Microcomputer TA Program provided a catalyst for the application of microcomputer systems to local Section 18 (UMTA Act) programs by providing assistance in the following areas: 1) review of local operations; 2) development of system specifications; 3) development of prototype database, spreadsheet, and graphics application from available retail software; 4) development of a prototype Section 18 project management system, data communications network, and microcomputer workshop for local transit operators. Microcomputer specifications for state management functions were developed in a working paper entitled, "Microcomputer Data Base Management for Small Transit Systems - the New Hampshire Prototype".

ENVIRONMENT — Prototype applications for local transit operations are developed on a Apple II+ with 64K RAM, two disk drives, a 132-column printer, and a DC Hayes Micromodem II. Software packages used to date are "DB Master" (with Utility Packs I and II), "VisiCalc"™, "VisiTrend/VisiPlot"™, "Apple Plot", "VisiSchedule"™, "Screen Writer II", and "Micro-Courier".

AVAILABILITY — All applications software are available through retail outlets. Prototype applications developed for this project will be in the public domain.

STATUS — First phase completed and report written. Now in process of procuring hardware.

CONTACT

Richard P. Shine, Administrator
Public Transportation Division
NH Dept of Public Works & Highways
John O. Morton Building
Concord, NH 03301
(603) 271-2564

Lawrence J. Harman
Micro/Trans Division
Call-A-Ride, Inc.
PO Box 7
Hyannis, MA 02601
(617) 775-2734

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APPLICATION Paratransit Management Information System (PARMIS)

DEVELOPER KETRON, INC.

SUMMARY PARMIS is constructed from four primary service modules: client database, scheduling, reconciliation and performance evaluation. The client database module automates all of the client-specific information necessary to appropriately authorize a client for system use and to post desired trips. Two versions for scheduling are available. One supports systems which assign vehicles to specific spatial areas along a typical corridor and allow route deviations to the pick-up locations of clients. The second supports systems which allow various vehicles to serve the same spatial areas. In both versions Scheduled Driver Trip Sheets (SDTS) are generated. The reconciliation module facilitates adjustment of SDTS to reflect such actual service delivery events as additional trips and no-shows, provides for assignment of cost values and accomplishes a variety of data summations. The performance evaluation module generates statistical information and can calculate agency-specific performance measures.

PARMIS is constructed in an extremely user-friendly format using nested menus, a flashing cursor, English language questions which consistently ask what the user wants to do along with allowable answers (actions), "help" files to assist users when they are confused or encounter an uncommon situation, and error messages when the user makes any of a variety of mistakes associated with client files and trip data.

ENVIRONMENT Requires dBase II™ as the database management system. Apple II+ and IBM PC versions. Hard disk useful on multi-user and larger systems.

AVAILABILITY For sale from contact below

CONTACT
John N. Balog
Associate Manager, Transportation Planning
KETRON, INC.
Hickory Hill Plaza
151 S. Warner Road
Wayne, PA 19087
(215) 964-3300

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APPLICATION — Vehicle Route Allocation and Scheduling

DEVELOPER — AEE, Inc. - Transportation Software Systems Division

SUMMARY — VAM3 is the most comprehensive vehicle scheduling package available for evaluating and designing route allocations and schedules using 64K or larger microcomputers. With user-friendly menu formats, VAM3 enables users to simplify and expedite the 1) collection and storage of network system and vehicle data, 2) generation of OPTIMUM or HEURISTIC (user-defined option) least-cost route schedules, and 3) generation of route and cost reports for management.

VAM3's Data Base Management function allows entry, retrieval, and editing of data for transport units, number of vehicles, route-lost times, route distances, route speeds, and costs per unit time. VAM3 provides two route allocation scheduling options. For an existing system, it provides for database construction, absolute optimization or heuristic (user-defined options) for the determination of least cost schedules. For new system design, it provides for database construction of alternative (new) route origin and destination points, absolute optimization or heuristic (user-defined options) for the determination of each alternative, and the least cost ranking of all alternatives.

VAM3 provides the user with up to 600 (64K versions) or 2400 (128K versions) combinations of origin/destination sites.

ENVIRONMENT — VAM3 is operational for all 64K or larger microcomputers using CP/M (including Apple conversions), IBM PC-DOS, Radio Shack TRSDOS, or Commodore DOS operating systems. VAM3 can be used in a single disk environment, though multiple disk environments are recommended.

STATUS — Operational since mid-1983. Systems utilizing multi-transport units are under development and planned for release by Fall 1984. These will be offered as updates to the VAM3 system.

CONTACT — Dr. Jiwan Gupta
Dr. Donald Angelbeck
AEE, Inc.: Transportation Software Systems Div.
2516 Drummond Rd.
Toledo, OH 43606
(419) 531-8345

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APPLICATION — Rural Transportation User and Vehicle Utilization Record-Keeping System

DEVELOPER — Tennessee Department of Transportation and the University of Tennessee

SUMMARY — The rural transportation recordkeeping program uses dBase II™ to maintain and update a chart file. Besides documenting the characteristics of the client--age, sex, address, funding sources, eligibility for travel on specific contracts, etc.--the client file maintains a running total of the trips to date by the client and date of last trip. Monthly reports are prepared summarizing number of trips and unduplicated persons by funding source and/or special contracts. Monthly reports are prepared for individuals over and under 60 years of age both for travel this month and the year to date. A daily trip file which records client, van number and trip purpose is used to update each client's travel records. Files can be maintained for up to twenty counties and reports can be generated for a single county or combination of counties.

A vehicle utilization file maintains and updates the operating history of each revenue vehicle including: fuel/oil consumption, trips carried, miles driven, revenue collected, hours of operation, etc. Monthly summaries are reported by county of vehicle operation or by vehicle.

ENVIRONMENT — The program runs on an Apple III with 256K and dBase II™. A CP/M operating system and 5MB hard disk are required.

STATUS — The program is being tested by the Mid-Cumberland Human Resources Agency, Nashville, TN, and Hamilton County Rural Transportation Program, Chattanooga, TN.

CONTACT — Dr. Frederick J. Wegmann
Department of Civil Engineering
Perkins Hall
The University of Tennessee
Knoxville, TN 37916

™dBase II is a trademark of Ashton-Tate

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PROJECT — Washington County Transportation Program (PARIS)

DEVELOPER — COMSIS Corporation

SUMMARY — PARIS is a comprehensive, user-oriented, menu-driven PARatransit Information System. It is written in dBase II™, a high-level microcomputer language developed for non-programmers. No programming knowledge is needed to run the system. The user simply selects a system function from the terminal's displayed menu, and the computer programs run automatically.

PARIS processes trip requests in both a call-in and batch mode, in both a single and multi-user operating environment. Existing client records are immediately displayed. A data input screen is immediately displayed for new clients. The client master file is always current. Trip service information is entered on-line. A trip record is produced and printed at run time, and a master list sorted by carrier and time of day is produced at the end of each day.

Numerous reports are available including client, trip, carrier, cost, etc., for any time period, e.g. 3/1/84-3/15/84. File maintenance is fully menu-driven and includes commands to enter, change, delete, recall and print. Multi-parameter search capabilities are provided, e.g. list all trips from City A to City B. The use of PARIS has been instrumental in reducing the cost per trip in Washington County by 68% over a five-month period.

ENVIRONMENT — CP/M, CP/M-86, MS-DOS (IBM PC, Apple, Molecular, etc.)

STATUS — Washington County, Pennsylvania.

CONTACT — Martin J. Fertal, Vice President
COMSIS Corporation
1225 Washington Pike
Bridgeville, PA 15017
(412) 257-0466

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APPLICATION Handicapped & Elderly Mobility & Registration System

DEVELOPER Kenneth R. Roberts & Associates, Inc. (KRA)

SPONSOR CNY CENTRO, Inc., Syracuse, New York

SUMMARY Subscription trips "drive" the system - each day's service begins with previously-booked subscriptions and then fills unused time slots with 24-hour advance and emergency trips. Registration of all eligible persons who regularly use the system, showing address, fare type, handicap code, and any special instructions for pickup. Groups can be specified for any purpose, e.g., shopping, nutrition, etc. Membership in a group can be permanent or temporary for up to 99 people. A group of riders can be scheduled en masse for either a subscription or a 24-hour trip. Printed manifests describe each run in terms of pick-ups and drop-offs, by time of day. Scheduler can decide which trips are assigned to which runs, within certain limits. Scheduling conflicts are shown on the CRT and a user-response is required before the trip can be scheduled. On-line inquiry routines can display contents of any given run, or display existing trips for any given passenger. Vehicle capacities are checked at the time of reservation for 24-hour advance trips, and cannot be exceeded for either regular seats or wheelchair slots. Ridership reports show numbers of one-way trips by zone, type of trip, and run number.

ENVIRONMENT Altos 68000, 1 MB memory, 40 MB hard disk; UNIX System III and FORTRAN

STATUS Operational.

AVAILABILITY See contact below.

CONTACT Mr. J. Todd Plesko
Director of Service Development
CNY CENTRO, Inc.
One Centro Center
200 Cortland Ave, Drawer 820
Syracuse, NY 13205-0820
(315) 470-0206

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APPLICATION — Vehicle Routing and Scheduling for Special Service Providers

DEVELOPER — Modeling Systems, Incorporated

SUMMARY — SCOOTER is one of the most comprehensive vehicle scheduling computer packages available for preplanned routing and scheduling. SCOOTER enables users to simplify and expedite the collection and storage of client and vehicle data, the generation of route schedules, and the preparation of route analysis reports and invoices.

A. Data Base Management - provides for the entry, retrieval and modification of data on clients, vehicles, and routes.

B. Route Scheduling - provision for route construction, optimization and manual modification.

C. Management Reporting - produces client origin/destination reports, vehicle route reports and billing invoices.

SCOOTER provides the transportation planner or dispatcher with a menu format to edit client, route and location site data files and to perform the vehicle routing function.

SCOOTER is a cost-effective tool for administrative record-keeping as well as for vehicle scheduling, fleet planning and management cost analysis. This module is also fully compatible with MSI's Vehicle Maintenance Monitoring System--VEMM and its data base management system.

STATUS — SCOOTER is installed at a number of organizations having from 24 to 600 vehicles serving from 1500 to 5000 clients.

AVAILABILITY — Software is designed for both micro and mini Digital computers running either RSX or VMS. Both software and DEC turnkey systems are available immediately.

CONTACT — Geoffrey N. Berlin
Modeling Systems, Inc.
Ten Emerson Place
Boston, MA 02114
(617) 227-6778

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APPLICATION Paratransit Scheduling Package

DEVELOPER Transportation Computer Group

SUMMARY PSP is a scheduling and reporting system for small paratransit operations. It maintains a client file, creates and edits vehicle schedules, prints vehicle schedules, maintains a log of all trips, and processes monthly summaries for clients and vehicles. Permanent schedules can be maintained for a full seven-day week. PSP can support demand-responsive, fixed-schedule, and combined operations. It can accommodate 38 trips per vehicle per day, 4000 trips per month, and a client file of 990.

ENVIRONMENT Northstar Advantage and Horizon, 64K (RAM), 2 double-sided double-density disks. Program is currently being modified to run on IBM PC and compatibles and under a multi-user environment.

AVAILABILITY For sale from contact below.

CONTACT William G. Barker
Transportation Computer Group
1009 W. Randol Mill Road
Arlington, TX 76012
(817) 265-0794

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APPLICATION Rideshare Matching Program

DEVELOPER R. Lee Stockman Microcomputing Software and Services

SUMMARY This program uses a grid orientation for geographically locating home and work places--up to 99 grids in either direction. You can enter information, edit it, add to it and also purge it according to a cutoff data. Searches are provided in adjoining grids and you can vary the search detail by choosing match times which have from zero to 45-minutes variance. Matches found are shown on the screen and printed out. You can process on-line (as someone calls in) or batch process at a later data. It is written in BASIC and can be easily modified. Among the usual data items stored are names, the address and grid coordinates, telephone numbers, work times, date-of-entry, public transit availability and willingness to drive. The program can be used for carpooling or vanpooling.

ENVIRONMENT Radio Shack Models II, II, IV and 12

AVAILABILITY Available from contact for $145.

CONTACT R. Lee Stockman
10748 100th Street SE
Alto, MI 49302
(616) 891-8932

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APPLICATION Rideshare System

DEVELOPER VISTA Systems, Inc.

SUMMARY VISTA's Ride Sharing System is a self-contained set of programs and data files which give ridesharing coordinators immediate access to carpooler data, as well as transit and vanpool services. The system allows for on-line operation as well as batch functions for bulk data processing.

The system will check matches for carpool subscribers using a database of people who have indicated they would like to carpool; for transit service using a database of transit service and its relationship to the ridesharing zone network, identifying route and service information; and for vanpools, using a database of vanpool service, and its relationship to the ridesharing zone network, identifying the vanpool driver and contact information.

The system reports primary and secondary levels of matches. Primary matching has exact matches on both the origin (home) and destination (work) zones, within a user-definable "window" around the desired start and stop times. Secondary matching has the same time-window characteristics, but is more relaxed geographically. The system includes an optional automatic geocoding facility.

ENVIRONMENT Operates on a 16-bit, UNIX-based microcomputer.

AVAILABILITY For sale from VISTA Systems.

CONTACT VISTA Systems, Inc.
900 State Road
Princeton, NJ 08540

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PROJECT — COMSIS Rideshare Information System (MicroCRIS)

DEVELOPER — COMSIS Corporation

SUMMARY — MicroCRIS is a comprehensive, user-oriented, menu-driven rideshare information system. It is written in dBase II™, a high-level microcomputer language developed for non-programmers. No programming knowledge is needed to run the system. The user simply selects a system function from the terminal's displayed menu, and the computer programs run automatically.

MicroCRIS performs carpool, vanpool, public transit and park-and-ride matching in both a call-in and batch mode, in both a single and multi-user operating environment. It provides the capability of performing on-line geocoding using street address, major intersection and place name dictionaries. The system enables the user to enter public transit and vanpool route and schedule information quickly and easily, and searches actual routes in the matching process. File maintenance is fully menu-driven and includes commands to enter, change, delete, recall and print records, files, labels, etc.

MicroCRIS includes its own mini word-processing system, performs multi-parameter searches, and includes the capability to perform many other routine functions. It is completely documented in three volumes: Administrator, User and Programmer.

ENVIRONMENT — CP/M, CP/M-86, MS-DOS (IBM PC, Apple, Molecular, etc.)

STATUS — City of Orlando, East-West Gateway Coordinating Council, New Hampshire Department of Public Works & Highways, Brooke-Hancock-Jefferson Regional Planning Commission, Island-Rides.

CONTACT — Martin J. Fertal, Vice President
COMSIS Corporation
1225 Washington Pike
Bridgeville, PA 15017
(412) 257-0466

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APPLICATION Rideshare Matching Program

DEVELOPER The Rideshare Company

SUMMARY Programs allow sorting and printing of ridesharing data to publish a monthly tabloid of "classified ads". Readers scan by destination and origin codes to pinpoint potential matches. Also, data is transmitted to typesetter, via a Hayes Smartcom Modem. Monthly activities are summarized and graphed using Lotus 1-2-3.

ENVIRONMENT Hardware: IBM PC 196K RAM with 12.5 MB hard disk
Hayes Smartcom II Modem

Software: Alpha Database Manager II
Multi-mate Word Processing
Lotus 1-2-3
DOS 2.0

STATUS As of March 1, 1984, the program had been operational for one month with documentation still being written for outside use.

AVAILABILITY Documentation available for cost of reproduction.

CONTACT Linda J. Costello
Vice President-Administration
The Rideshare Company
Two Congress Street
Hartford, CT 06114
(203) 527-4472

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APPLICATION — Carpool Matching System

DEVELOPER — Paul E. Holtzheimer M.A., Assoc. Planner, City of Oklahoma City

SPONSOR — Office of Research & Economic Development and Transportation Planning Division of the City of Oklahoma City

SUMMARY — The purpose of this software is to allow a metropolitan organization responsible for carpooling activities to have immediate access to a computer program that will add to and/or match carpool applicants. This user-friendly system allows for the easy production of a list of matched carpool applicants as well as a printed output to be sent to each applicant for his/her reference. The program produces a match-list based upon an X-Y coordinate grid system. It has provisions for flex-time and can be easily modified for other local needs.

ENVIRONMENT — Written in MBASIC for microcomputers utilizing a CP/M operating system, it was developed with the intent that it be run on floppy diskette systems with one or more drives and minimal RAM. It is designed to function with a list of applicants of 2000 or less, each record having 125 bites on a random access file. This program contains only two special characters that are unique to each microcomputer system: Clear screen & Bell.

STATUS — Operational.

AVAILABILITY — This program is available upon request in hard copy form.

CONTACT — Paul E. Holtzheimer or John Hickman
City of Oklahoma City
200 N. Walker
Oklahoma City, OK 73102
(405) 231-2011 or (405) 231-2003

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APPLICATION	Rideshare File Updating/Maintenance and Matching Program
DEVELOPER	Genesee Transportation Council
SUMMARY	The program is user-interactive and menu-driven. Rideshare files are indexed by Zip Code. In addition to entering and updating records, the program creates lists of rideshare candidates meeting arriving and departing time tolerances, sorted by Zip Code (and/or census tract).
ENVIRONMENT	Program operates on an Apple III with 64K RAM, and is written in Apple Business BASIC. Two drives and a printer are required. Program is interactive with an IBM Displaywriter for letter-generating capabilities.
STATUS	Operational since December 1982.
AVAILABILITY	Available from contact below.
CONTACT	Matthew Crider Genesee Transportation Council 65 West Broad Street Rochester, NY 14614 (716) 232-6240

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PROJECT — Ridesharing Data Processing - "POOLMATCH"

DEVELOPER — Jesse Glazer, Steve Kanya and staff of Crain & Associates Systems Development Company

SUMMARY — POOLMATCH is an online data processing system that performs all of the data processing functions normally required by areawide and private-employer ridesharing organizations. These include:

- Online maintenance of a file of commuters (applicants) up to 100,000 persons
- Online or batch matching for carpools, vanpools, and buspools
- Online or batch matching for transit information
- Online (immediate) automatic geocoding of addresses
- Online maintenance of file of up to 10,000 employers
- Vanpool driver/rider rosters and vanpool planning aids
- Evaluation statistics for performance reporting
- Other advanced features now being developed.

POOLMATCH is upward-compatible with data files from CIS, and replicates all CIS functions. It also has a number of dramatic new capabilities, such as true automatic address geocoding. The geocoding system can use many address-translation files; it is not dependent upon the DIME file.

POOLMATCH is normally installed as a turnkey package, including hardware, software, installation, training and maintenance. The software can also be purchased separately. POOLMATCH is the most comprehensive, sophisticated, and wideley-used online ridesharing system available today. It represents the state-of-the-art.

ENVIRONMENT — UNIX or MS-DOS, 128K of user RAM.

STATUS — Fully operational at eight ridesharing agencies and one private employer. Others in negotiation. First installed in 1981.

CONTACT — Jesse Glazer
Crain & Associates Systems Development Co.
2007 Sawtelle Blvd - Suite 4
Los Angeles, CA 90025
(213) 473-6508 or 822-2235

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APPLICATION — Carpool Matching Program

DEVELOPER — Little Rock Metroplan, Little Rock, Arkansas

SUMMARY — The carpool matching program maintains a file of commuters wishing to carpool, performs carpool matching, and outputs a one-page form containing the following for each selected commuter: the matches found by the program, a request for updated information, and other instructions.

ENVIRONMENT — The program is implemented in BASIC on the TI99/4A microcomputer. The program is readily transferable to other users with equivalent hardware, and the bulk of the computer code is transferable to other BASIC systems.

STATUS — The program is being used daily to add new potential carpoolers, to update old entries and to prepare mailing forms with matches for selected entries.

AVAILABILITY — The program is available in source form on a TI99-compatible diskette or cassette.

CONTACT —
John Barr
Little Rock Metroplan
Wallace Building--8th Floor
105 Main Street
Little Rock, AR 72201
(501) 372-3300

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APPLICATION — Carpool, Vanpool and Bus Matching

SUMMARY — The Ridesharing System (RSS) matches commuters with similar residence and work locations and working hours for carpools, vanpools or buspools. RSS produces match letters, mailing labels, and statistical analyses for individual companies.

ENVIRONMENT — The program operates on a TRS-80, Model II with a Corvus hard disk (5 MB).

STATUS — Knoxville has used the system continually since Fall 1981.

AVAILABILITY — The software is in the public domain. However, hardware, system installation, and training are available from Knoxville Commuter Pool for approximately $20,000.

CONTACT — John Beeson
Knoxville Commuter Pool
Transportation Center
University of Tennessee
Knoxville, TN 37996
(615) 637-7433

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PROJECT	PUTNAM (Pupil Transportation Network Analysis Method)
DEVELOPER	KETRON, INC.
SUMMARY	For over three years, KETRON has offered school districts a CP/M-based system for optimizing their yellow-bus routes. PUTNAM comprises 40 BASIC-language programs which accept and validate student data (name, address, destination school(s), nearest bus stop) and the local road network, then help the Transportation Director interactively plan better routes. KETRON furnishes all necessary data-preparation and training assistance for first-year clients, consulting thereafter on an as-needed basis.
ENVIRONMENT	Apple II Plus, IIe, III; IBM PC, TRS 80 microcomputers which have 64K with CP/M, plus a hard disk of at least 5 MB.
STATUS	PUTNAM techniques have been used by more than 10 school districts to successfully evaluate/reduce transportation expenditures. Client references available upon request.
AVAILABILITY	Software can be purchased by individual school districts or consortia. KETRON will consider franchising reputable firms/agencies outside the Middle Atlantic states.
CONTACTS	Mr. Peter Vetere or Dr. David N. Freeman KETRON, INC. Hickory Hill Plaza 151 S. Warner Road Wayne, PA 19087 (215) 964-3300

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APPLICATION — Computer-Assisted Long-Range Forecasting of Ridership

DEVELOPER — KETRON, INC.

SUMMARY — KETRON's proprietary CAFES packages will forecast enrollments of school children and yellow-bus riders up to 15 years ahead. Based on cohort survival factors and actual counts in each region of a school district, KETRON forecasts school openings and closings.

ENVIRONMENT — Microcomputers such as the Apple II Plus, IIe, III. Minicomputers such as HP-3000 and DEC VAX. Mainframes such as IBM 43XX and Honeywell DPS/8.

STATUS — Microcomputer version already in use. Minicomputer version in BASIC and mainframe version also available.

AVAILABILITY — Services can be purchased.

CONTACT

Mr. Peter L. Vetere
KETRON, INC.
Hickory Hill Plaza
151 S. Warner Road
Wayne, PA 19087
(215) 964-3300
(Micro and mini-computer versions of CAFES)

Dr. Richard H. Mann
KETRON, INC.
One Broadway
Cambridge, MA 02142
(617) 491-4963
(Mainframe version of CAFES)

UTILITIES AND MISCELLANEOUS

MICROCOMPUTER SOFTWARE

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Utilities And Miscellaneous Microcomputer Software

APPLICATION Programming Aids; Data Screen Setup and Use (Screen Editor)

DEVELOPER Wilson-Hill Associates, Washington, DC

SPONSOR UMTA, Office of Methods and Support

SUMMARY The UMTA Screen Editor is an interface program which facilitates the processing of interactive input from a keyboard-CRT device into an application program. This is accomplished by the user defining screens (templates or forms) on the CRT device for the data items to be entered and passed along to the applications program. Its major features include (1) Standard interactive screen protocol, commands, and cursor movements, (2) Data decoding routines for string, boolean (Y or N), integer (16 bits), and floating point numbers, (3) Automatic range checking within user defined ranges, (4) Specification of mandatory or optional responses, (5) Run time display of text help information keyed to the item/field within a screen, (6) Data dictionary styled definition of screen input fields, and (7) Retention of data input values between program executions.

The software consists of two programs for creating data screens and a Pascal UNIT for using the screens from within a user-written program.

ENVIRONMENT Operates on the Apple II microcomputer under Apple Pascal and on the IBM PC under the UCSD p-System. Two disk drives and 64K RAM are required.

AVAILABILITY Available from contact below.

CONTACT MTP Support Center
Transportation Systems Center/DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

or

TIME Support Center
Rensselaer Polytechnic Institute
Civil Engineering Department
Troy, NY 12181
(518) 266-6227 between 1:00 and 4:00 PM (EST)

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Utilities And Miscellaneous Microcomputer Software

APPLICATION Programming Aids; Data File Editing

DEVELOPER Wilson-Hill Associates, Washington, D.C.

SPONSOR UMTA, Office of Methods and Support

SUMMARY The UMTA File Editor is a Pascal UNIT which can be used to add interactive data file editing capabilities to a user-written program. Among its features are:

- o horizontal and vertical scrolling;
- o record editing, insertion and deletion;
- o support for string, boolean (Y/N), integer (16 bit), floating point, and time (transit APX) data types; and
- o automatic range checking within user-defined limits.

The scope of the File Editor function is limited to retrieval and presentation of data to/from the interactive user and the application program. The File Editor does not interact directly with data files. Instead, the File Editor maintains the status of the records displayed on the screen and exits to the application program at crucial points to allow for the disposition of modified, inserted, or deleted records, and retrieval of old records for display.

ENVIRONMENT Operates on the Apple II microcomputer under Apple Pascal. Two disk drives and 64K RAM are required.

AVAILABILITY Available free from contact below.

CONTACTS MTP Support Center
Transportation Systems Center/DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2086

Utilities And Miscellaneous Microcomputer Software

APPLICATION General Statistical Analysis

DEVELOPER Cambridge Information International

SUMMARY The Micro Data Analyzer (MDA) is an interactive user-friendly package of software tools providing capabilities in general statistical analysis. MDA Release 1.1 offers the following statistical capabilities:

- o stratified statistical breakdowns
- o generation of new variables as algebraic functions of existing ones
- o data editing and subsampling from large data bases
- o printer and console printing
- o report generation
- o histograms and univariate summary statistics
- o two and three-way cross tabulation with chi-square summary
- o correlation and covariance analysis (up to 30 variables at a time)
- o multiple regression analysis (up to 20 variables)
- o multinomial logit analysis (up to 20 variables, 11 alternatives)

The MDA package can be used without knowing any programming language.

ENVIRONMENT MDA currently operates on TRS Models II and 16, CP/M and IBM MS-DOS.

AVAILABILITY MDA is currently available. Cost: $349.00

STATUS MDA is fully operational and has been fully tested.

CONTACT Mark Hammar
Marketing
Cambridge Information International
238 Main Street, Suite 310
Cambridge, MA 02142
(617) 354-0199

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Utilities And Miscellaneous Microcomputer Software

APPLICATION The Prime Plotter

DEVELOPER PrimeSoft Corp.

SUMMARY A comprehensive data analysis and statistics/graphics package especially suitable for traffic and transportation research and planning applications. Designed as a modular system with powerful capabilities for customization and add-on applications.

The basic package includes X-Y and Pie plotting, Curvefit regressions, Distribution and Trend analysis. User-defined functions and subroutines can be plotted. The package has built-in capabilities for producing slide-show/replay files for demonstrations. The program accepts DIF files created with VisiCalc™ or compatible programs.

Output of data, statistics and graphics can be done directly to a printer or to a plotter. Additional plotting modules are being developed, including 3-D, Mapping, and Organizational Charts. Statistical modules can be customized for user needs.

ENVIRONMENT The program has been written in Applesoft and Machine Language with DOS 3.3 operating system. It operates on the Apple II+ with a 16K card in slot 0, and the Apple IIe. Interface required for SweetPea, Strobe, and Hewlett-Packard 7470A, 7475A, 7220C plotters.

AVAILABILITY For sale ($240.00) from contact below. Demo disk with an hour-long show of program capabilities ($15.00, refundable with purchase) is available.

CONTACT Ron Zahavi
PrimeSoft Corp.
P.O. Box 30
Cabin John, MD 20818
(301) 229-4229

™VisiCalc is a trademark of VisiCorp.

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Utilities And Miscellaneous Microcomputer Software

APPLICATION Multiple Linear Regression

DEVELOPER Pierce Transit, Tacoma, WA

SUMMARY This program, written in IBM BASIC, allows the user to perform simple multiple linear regression analysis using up to ten independent variables. The data input file read by this program is created by using Lotus 1-2-3™. This input feature was added in order to facilitate data entry and to allow the user an easy method of updating data files.

Program outputs include:

1) Equation Coefficients
2) The Coefficient of Determination (R^2)
3) The Coefficient of Multiple Correlation (R)
4) The Standard Error of the Estimate, and
5) An F-Test

An additional feature of the program allows the user to interpolate for the dependent variable based on independent variables input by the user.

ENVIRONMENT IBM PC with two drives and 256K RAM.

STATUS Being utilized by Pierce Transit.

CONTACT
Rich Olson
Pierce Transit
1235 South Sprague Ave
Tacoma, WA 98405
(206) 593-6276

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Utilities And Miscellaneous Microcomputer Software

APPLICATION — Transportation System Analysis

DEVELOPER — Center for Transportation Studies, MIT, Cambridge, MA

SPONSOR — UMTA, Office of Methods and Support, Grant No. MA-06-0092

SUMMARY — DODOTRANS II is a software system for a microcomputer in which managers, engineers, and planners, can conduct analyses using models and other procedures appropriate to their own areas of interest. Major features of DODOTRANS II are:

- o It provides a library environment containing
  - data files;
  - utility capabilities provided in the system for inputting and editing data, for defining data structures, for moving data around between files, and for input and output (in both report and graphic forms);
  - "application modules," or functional procedures such as models or submodels, provided either by the user or by some application developer.
- o The environment allows the user to define a very large number of "analysis sequences," which:
  - string together models and utilities in any desired way to do analysis, including producing graphic and tabular outputs and entering data as needed; and which
  - are executed (the analysis sequences) by user-defined commands.

ENVIRONMENT — Operates on the Apple II microcomputer under Apple Pascal. Two disk drives and 64K RAM are required.

AVAILABILITY — Available free from the contact below.

STATUS — DODOTRANS II is being field tested at the Florida DOT.

CONTACT — MTP Support Center
Transportation Systems Center/DTS-62
Kendall Square
Cambridge, MA 02142
(617) 494-2247

microcomputers in transportation

Utilities And Miscellaneous Microcomputer Software

APPLICATION — County Engineer's Office Management System

DEVELOPERS — Stephen W. Miller and Edward N. Stone

SUMMARY — This package is the perfect tool for setting up a microprocessing system in your County Engineer's office. It allows you to logically enter your data into prebuilt menus and programs that will give you advantageous and informative reports and printouts. Even if you are already in operation, this package will give you an efficient system to help with your administrative and highway safety needs. The package is totally menu-driven, so you can start up within minutes.

Some of the functions available to the user include:

- Bridge Priority Replacement Programs
- Traffic Safety Device Inventory
- Culvert Inventory
- Bridge Data Inventory (and stats)
- Full Utility "Search and Inform"
- Log Point Merging Techniques

A range of inventory programs are also available, including: 1) Rolling Stock, 2) Tractor, 3) Miscellaneous Shop Equipment, 4) Construction Machinery, and 5) Snow & Ice Removal.

Any novice can run the package immediately. What you will gain is the confidence of your record system's accuracy, and many helpful advantages in the field of highway safety.

STATUS — In operation at Fairfield County Engineers in Lancaster, Ohio

CONTACT — Software Applications
117 Lake Street
Lancaster, OH 43130
(614) 654-3024

microcomputers in transportation

Utilities And Miscellaneous Microcomputer Software

APPLICATION Parking Meter Control System (PMCS)

DEVELOPER Public Technology, Inc.

SUMMARY Parking meters have two major functions: effective traffic control, and revenue generation (many times upwards of $1,000 a year for each meter!). The Parking Meter Control System (PMCS) enables the user to fully utilize these valuable resources with easy-to-use inventory, revenue monitoring, and maintenance management programs.

The inventory program includes information such as identification number and location of every meter, its manufacturer, the maximum time limit and hourly rate, the collection route and day, and any special conditions that might exist. The inventory program will also indicate the maximum revenue and a target revenue figure for the entire system or any subset thereof.

The revenue monitoring program tracks revenue by route over time, includes goals for revenue collection by route, and indicates for each route whether collections are exceeding or lagging behind expectations. If collections are below expectations, problems such as mechanical failure or collector fraud can be identified and corrective action initiated so that revenue can be maximized.

The maintenance management program provides information about the various problems that may be experienced with a meter, including repair needs and whether the meter has been stolen or vandalized. The report also includes information on the number of times each of these conditions has been experienced with a particular meter, and the name of the meter manufacturer.

ENVIRONMENT Apple IIe (64K RAM) or Apple II+ (48K RAM), 132 character printer, two 5 1/4-inch disk drives or 8-inch drive (technical specifications available). Conversion to IBM PC now underway.

AVAILABILITY For sale from contact below.

CONTACT Transportation Program
Public Technology, Inc.
1301 Pennsylvania Avenue N.W.
Washington, DC 20004
(202) 626-2465 or 2473

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pages 101, 102, 103

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page 126

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page 40

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page 5

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pages 92, 131

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page 113

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page 115

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page 80

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page 31, 41

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pages 50, 73

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pages 6, 15, 129

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page 30

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page 78, 128, 134

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page 68

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pages 57, 79, 117

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pages 70, 87

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page 119

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pages 89, 93, 94

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pages 4, 85

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page 26

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page 137

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page 88

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pages 125, 141, 142

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page 35

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pages 56, 60, 71, 139

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pages 27, 32, 40, 42

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pages 33, 46

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pages 81, 82, 83

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pages 25, 130

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page 114

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pages 55, 61, 90, 143, 144, 148

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pages 48, 104

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pages 49, 59, 62, 74

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page 124

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page 112

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page 136

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pages 17, 21, 118

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pages 22, 147

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pages 54, 86, 111

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page 146

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page 77

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pages 29, 64, 150

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pages 120, 123

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page 135

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page 84

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page 67

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pages 52, 72

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page 2

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pages 8, 34, 38

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page 149

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page 132

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page 10

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page 108

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page 66

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page 63

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page 76

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pages 96, 97, 98

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page 107

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page 140

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page 127

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page 7

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page 51

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pages 23, 31, 41

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page 75

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page 69

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pages 5, 39

INDEX

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