

Demand Models and Patronage Forecasts for the Los Angeles Downtown People Mover Program

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Demand Model Users' Guide

June 1981

prepared for

Los Angeles Downtown People Mover Authority
Los Angeles, California

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v.2

prepared by



Peat, Marwick, Mitchell & Co.

Preparation of This Report has been Financed
through a Grant from the U.S. Department
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I. OVERVIEW

INTRODUCTION

The purpose of this Users' Guide is to document the data processing elements of the application of the revised Los Angeles Downtown People Mover (LADPM) demand models. The models are implemented using the 1979 version of the Urban Transportation Planning System (UTPS) software package and through the use of custom-coded software. Job control language (JCL) setups are provided for all UTPS programs, with the reader referred to the UTPS program documentation for a more detailed description of the various program features. Copies of the source code are included for each of the custom-coded elements of the application chain.

In the overview, Part I of the Users' Guide, the structure of the demand model application system is first presented. The full description of the models is contained in the report "Demand Models and Patronage Forecasts For the Los Angeles Downtown People Mover Program - Tasks 3,4, and 5 Final Report." ^{1/} Also described in this part is information useful to a computer analyst for installing and executing the software, followed by definitions of commonly used system conventions. Part II contains a description of each step of the process, including its purpose, inputs, outputs, and the programs used. The remaining parts of this manual provide listings of the JCL and program setups (part III), a listing of each program and data set provided on the demand model computer tape (Part IV), and the

^{1/} Description of the original model system can be found in the report "Models and Estimates of DPM" prepared for the DPM Preliminary Engineering program by Cambridge Sysematics, Inc. Documentation on the use of these models is given in the "DPM Travel Prediction System-Users' Manual" also prepared by CSI.

source code for each of the custom-coded programs (Part V).

DEMAND MODEL SYSTEM STRUCTURE

The demand model system has been implemented as a modular set of computer jobs which proceed from the definition of an activity center and its transportation facilities and services through the assignment of DPM ridership to the facility being studied. The overall structure of the system is summarized by Exhibit I-1. The five major blocks are shown along with a specification of their data inputs. Also shown for each block are the job steps which it includes. Exhibits I-2 through I-6 expand on this exhibit, detailing the relationships between job steps and the creation and flow of data within and between blocks. Specific data sets are identified; the conventions for naming data sets are described later in Part I.

Block I (Exhibit I-2) converts the LARTS regional trip tables from daily travel at the 1,325 zone level to a 116 zone study area base for processing distribution trips. The daily regional transit and auto trips are first compressed to 27 LARTS districts and then adjusted at the district level to account for the differences in the LARTS and study area district boundaries. The result of these steps is the daily LARTS trips crossing the study area cordon. These trips, both transit and auto are factored to a CBD study area employment control total and expanded to 107 zones. The transit crossing are further processed to obtain the P.M. peak intra-CBD trips by allocating their non-CBD end to the CBD zone in which they will board or alight from their regional transit vehicle. The expanded auto cordon crossings meanwhile, are converted to daily one-way trips and compressed to reflect the corridor to CBD zone daily one-way cordon crossings.

EXHIBIT I-1

STRUCTURE OF THE DPM TRAVEL PREDICTION SYSTEM

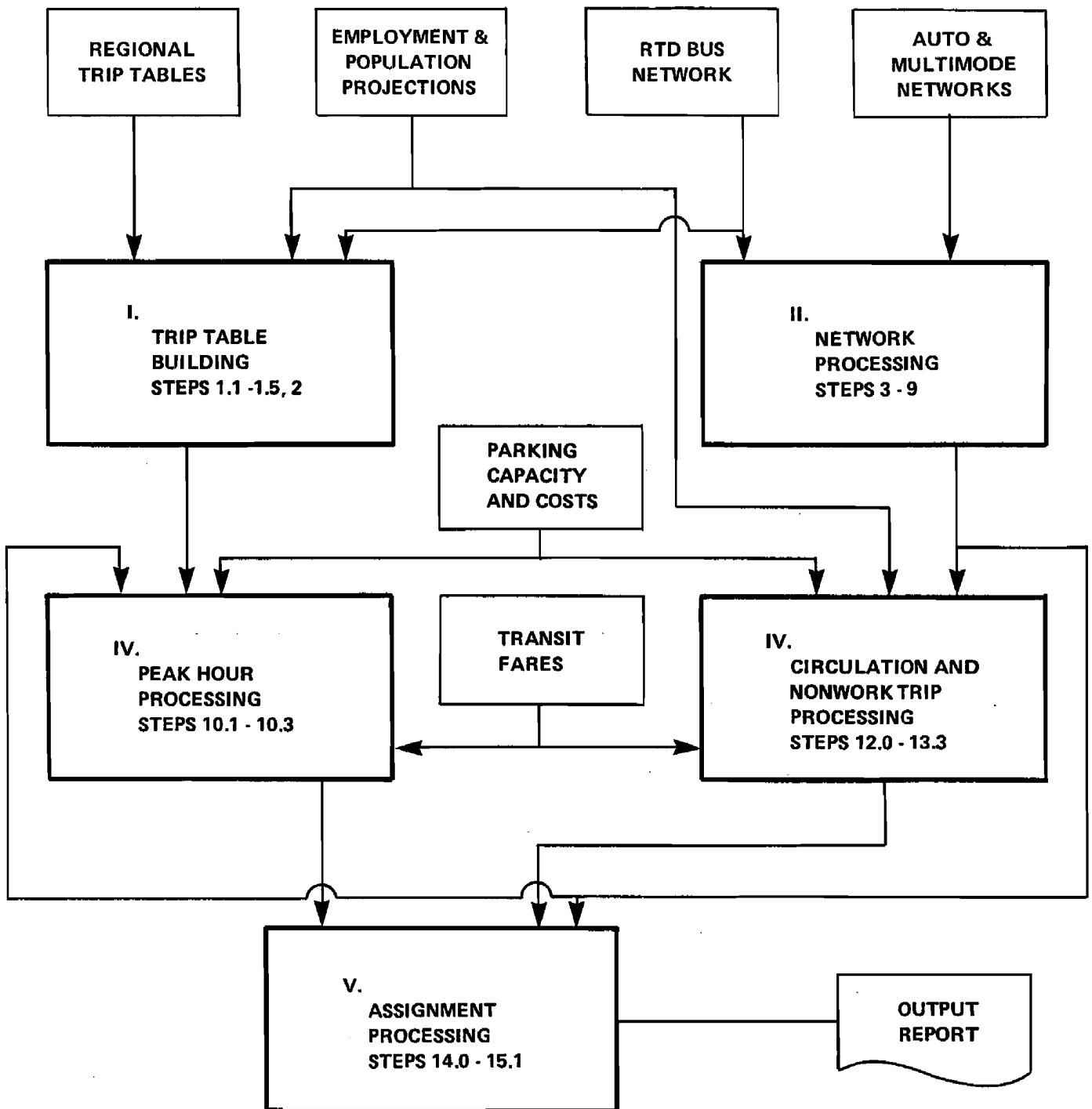
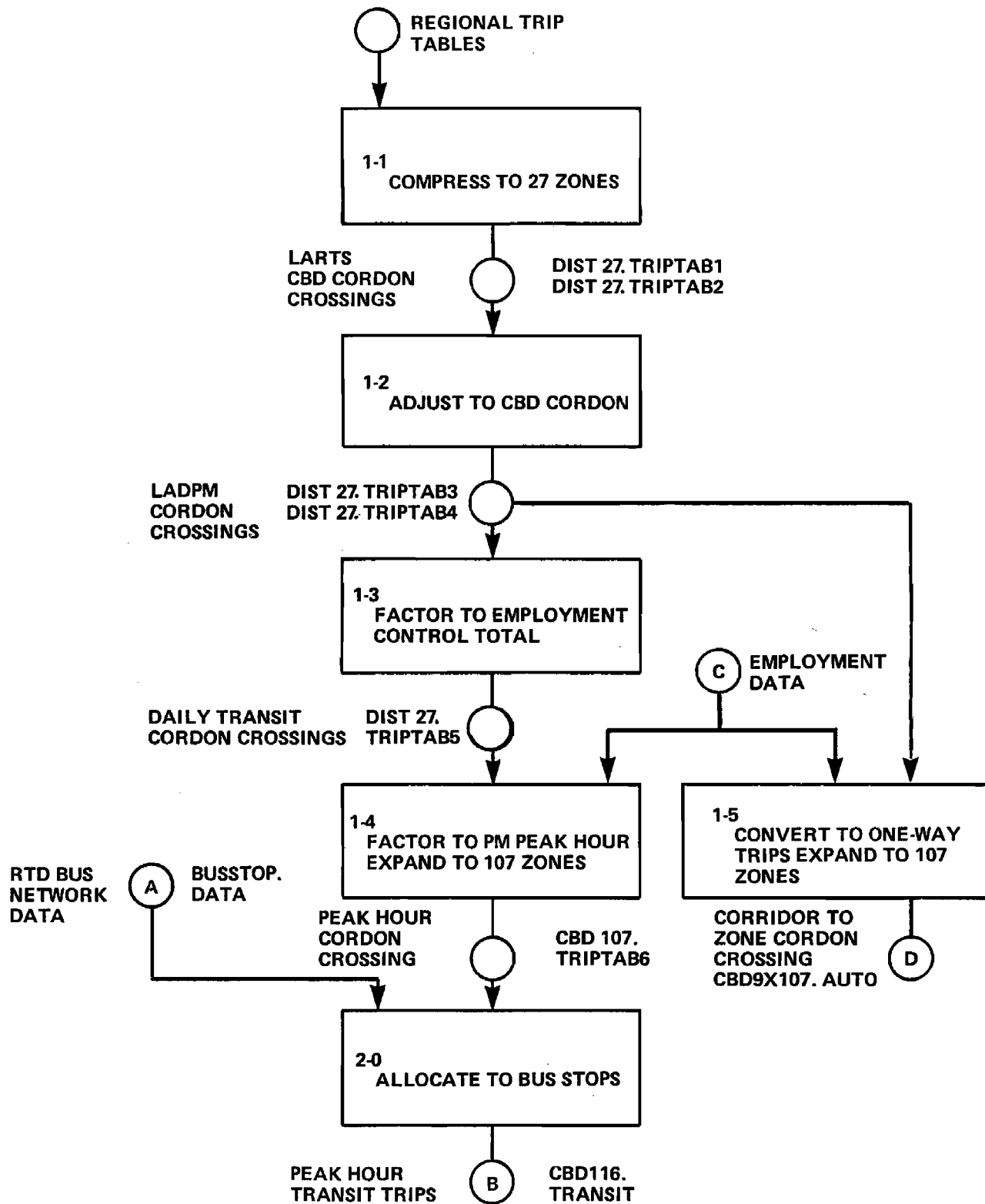


EXHIBIT I-2

BLOCK I-TRIP TABLE BUILDING



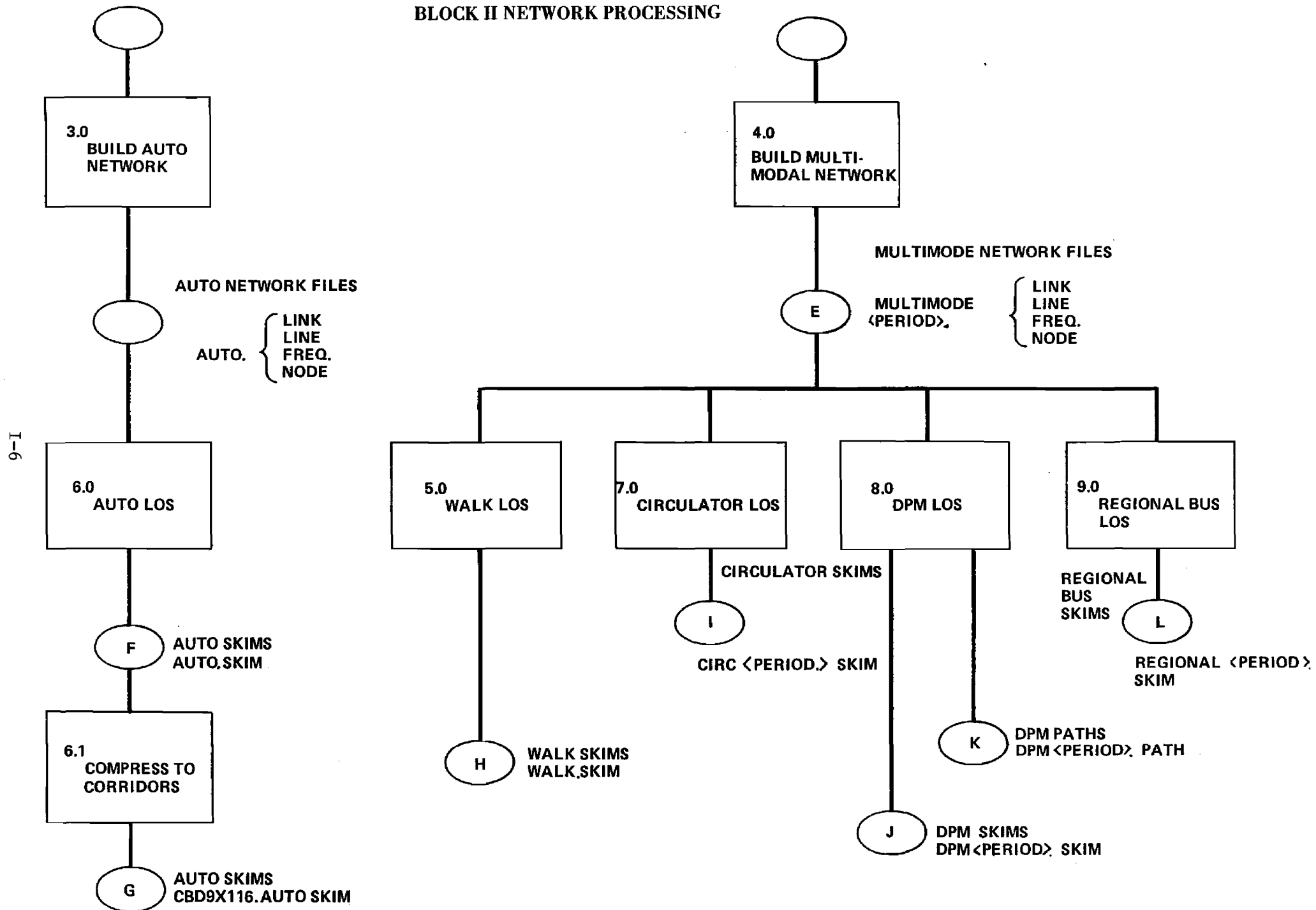
Block II (Exhibit I-3) shows the auto and multi-mode network processing. The basic output of this block is the interchange level of service tables for each of the modes available for intra-CBD travel. UTPS software is used for all network processing, program UNET used to build both of the networks with program UPATH, or UPATH and UPSUM in combination, used to prepare the level of service information. As shown by the exhibit, the multi-mode network is used for preparing the walk and all transit mode level of service data. Multiple runs of UPATH and UPSUM are made, each set-up organized to favor a single mode for CBD travel (see steps 7.0 through 9.0).

The peak hour models are applied in Block III (Exhibit I-4). The mode split for regional transit distribution trips is estimated first, the necessary information for computing the parking choice model LOGSUM variable also output. The parking choice model is then used to convert the auto cordon crossings to internal study area trips for input to the mode split model. Once the trips by mode are estimated for the auto distribution trip market segment, P.M. peak hour DPM assignments and station to station summaries are prepared.

Block IV (Exhibit I-5) shows the processing steps for estimating worker circulation and non-work transit trips. Worker circulation trips are estimated on a daily basis and factored to prepare a noon assignment. Non-work transit trips are estimated using a Fratar scaling approach. By this approach a survey-based non-work transit trip table is factored to represent future year non-work travel, the factors based on the forecast changes in downtown employment and regional transit ridership. Once a forecast year transit non-work trip table is prepared, DPM ridership is determined by assigning the table to multi-modal paths where all modes have been given equal opportunity.

EXHIBIT I-3

BLOCK II NETWORK PROCESSING



BLOCK III - PEAK HOUR PROCESSING

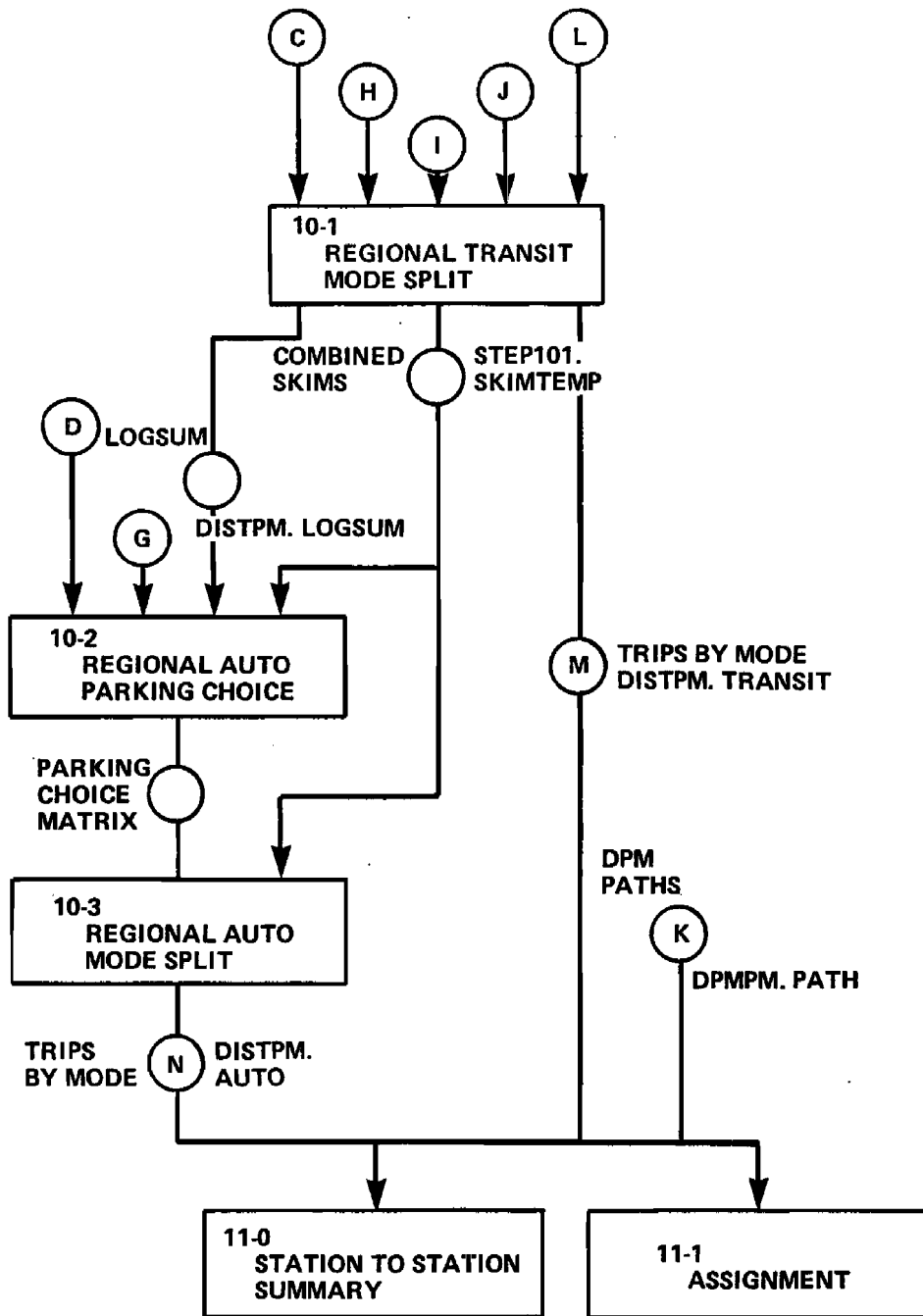
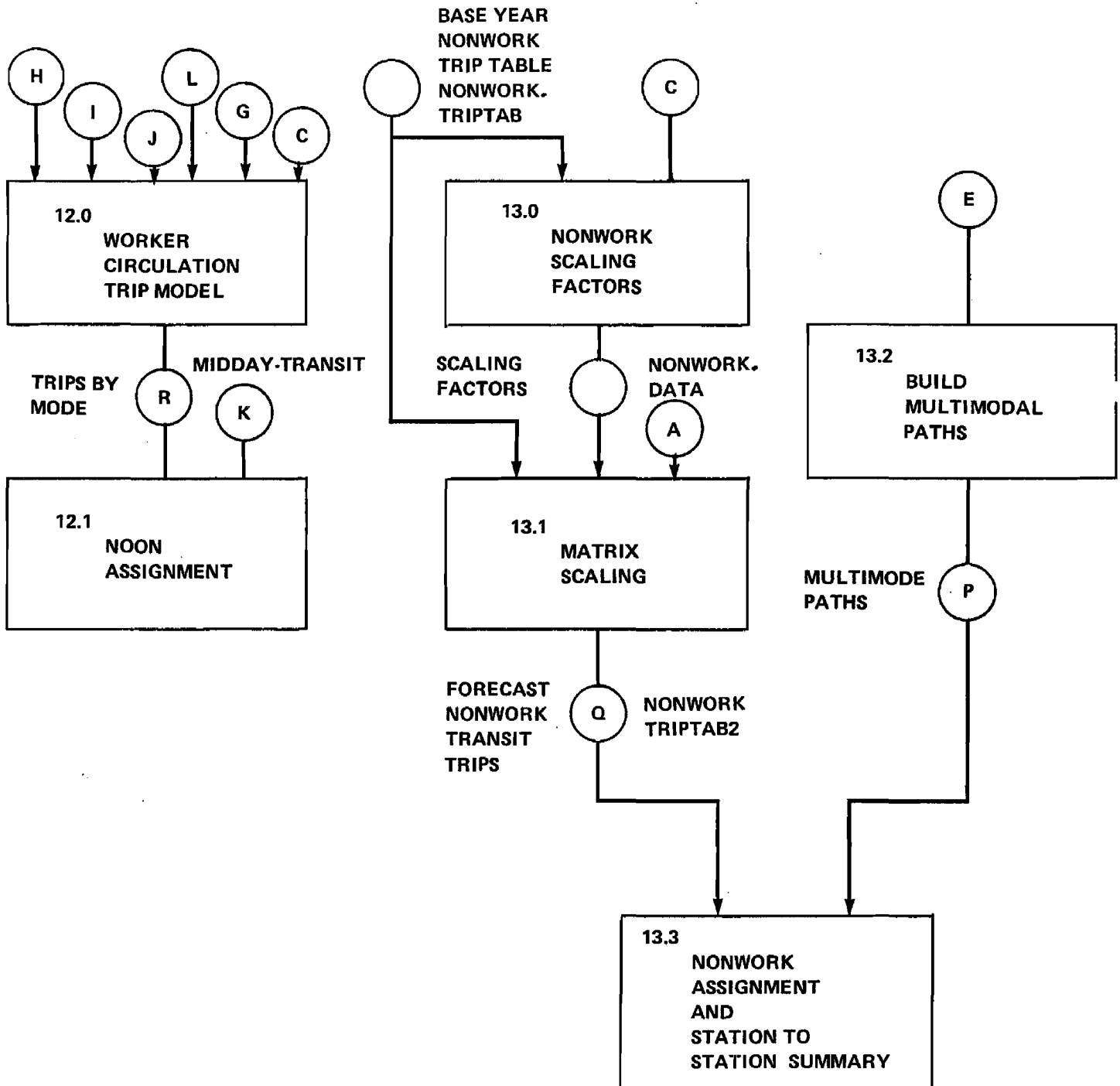


EXHIBIT I-5

BLOCK IV - CIRCULATION AND NONWORK TRIP PROCESSING



DPM ridership therefore reflects the DPM mode being included on the shortest path for an interchange. In Block V (Exhibit I-6) all of the trip tables generated in Blocks III and IV are summed by mode and time period, and the DPM trips are assigned to the appropriate networks, and various load reports and station-to-station summaries are output.

SUPPORT MATERIALS

Back-up Tape

Both the programs and all data sets which were created in the LADPM project have been saved on a computer tape which is a copy of a 3330 disk pack. (This tape is similar to that created for the preliminary engineering project). The files on this tape are generally classified as being of the following types described below.

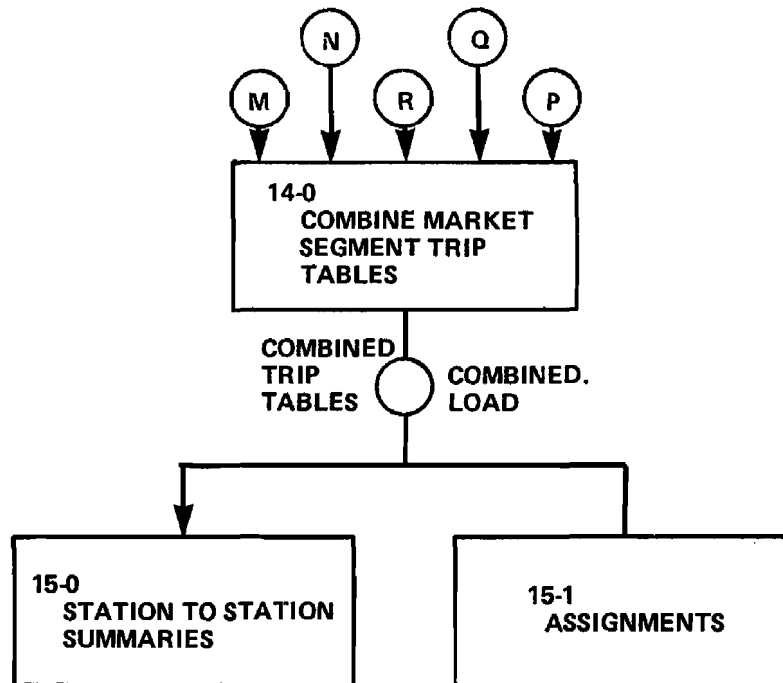
Program libraries - Each program created for the project is included in load module (executable) form. All programs are included in the library D35C.LADPM.MODEL.LOAD. UTPS program libraries are not included on this version of the back-up tape as vendor maintained copies were used for this project. (Previous versions of the UTPS program libraries are contained on the CSI back-up tape).

Program Source Code - The following files contain the FORTRAN source code for programs created during this project:

- D35C.LADPM.MSPLIT.FORT contains the distribution mode split model;
- D35C.LADPM.BUSSTOP.FORT contains the Busstop program code:

EXHIBIT I-6

BLOCK V - ASSIGNMENT PROCESSING



- D35C.LADPM.NONWORK.FORT contains the source code for estimating the transit non-work trip scaling factors.
- D35C.LADPM.PARK.FORT contains the parking lot choice model; and
- D35C.LADPM.MIDDAY.FORT contains the worker circulation trip frequency/destination/mode choice model.

Procedure libraries - All cataloged procedures used for this project are contained in the library D35B.PMMPROC.CNTL. UTPS libraries as distributed by UMTA are available from the computer vendor.

Additional UTPS Files - All UTPS release data sets through the 1979 version of UTPS are available through the computer vendor and are not included on the back-up tape. (The July 77 version is contained on the CSI back-up tape). These data sets include UTPS object programs and subroutines, program libraries, documentation, and test run data sets. The UTPS reference manual should be reviewed for further information on these files.

Job Control Setups - The setups listed in Part III of this manual for each processing step are contained on the back-up tape as sequential data sets. The name of each data set is of the form <prefix>.STEP<number>.Y<year>.CNTL

where

<prefix> is the vendor specified accounting code of D35B or D35C;

<number> is the three digit step number, i.e. step 1.5 would be given as 015;

<year> is the forecast year; and

CNTL is the TSO data set type for JCL files.

The general setup for each step to be executed for 1990 is stored on the back-up tape with specialized versions of some setups for other years included if major differences were required.

Other Data Sets - Most of the data sets contained on the back-up tape are either input data to or output from the various processing steps described in this manual or were used for the model calibration. (Calibration data sets are not described in this manual). Each of these data sets is named to reflect its specific contents and is described in Part II of this manual. In general, data set names are of the form:

<prefix>.LADPM.Y<year>.<suffix>

where:

<prefix> is a vendor specified accounting code field;

<year> is the forecast year, i.e. 80,85,90, or 20 (for year 2000);

<suffix> is a character string of up to 29 characters formed in accordance with IBM JCL conventions of strings of up to eight characters separated by period.

For network data sets, the <suffix> is always of the form:

MMODE<period>.<type> or AUTO.<type>

where:

<period> is PM for the PM peak hour or MD for the noon or midday hour; and

<type> is the UTPS network data set type and is

LINE for the transit line file;

LINK for the link file;

FREQ for the transit line frequency file; and

NODE for the node to link pointer file.

For transit path and skim time level of service files, the <suffix> is always of the form:

<mode><period>.<type>

where:

<mode> is the CBD transit mode and has the values:

DPM for the people mover;

REGN for regional bus service; and

CIRC for the circulator or minibus service.

<period> is PM or MD as described above; and

<type> is SKIM for impedance matrices or PATH for UTPS path files.

The auto and walk level of service files meanwhile, are of the form:

<mode>.<type>

where:

<mode> is WALK or AUTO; and

<type> is SKIM or PATH

Walk and auto level of service is assumed to remain the same for all time periods.

The suffix for all other data sets created by the various processing steps is named according to the contents of the data set and each is described in Part II of this manual. Part II indicates all data sets input to or output by each processing step.

Zonal Data Sets - Zonal data sets are created outside the processing system using one of the available computer system editing programs. (For

this study, the QED version of the TSO editor was used). These data sets contain the different land use, employment, and parking data required by the various models, and contain one logical record for each zone. The data set created for each year contains the fields shown by Exhibit I-7.

In addition to the zonal data shown by the exhibit, various of the UTPS programs require zone (or district) factors or fractions for performing their operations. These data sets are also organized with one record for each zone (or district), the contents of the record defined by the applicable UTPS program. UTPS documentation should be reviewed for a description of the contents of these files.

Processing Conventions

Zone Systems - As presently set-up, the DPM demand estimation procedures assume the following zone systems:

- Regional trip data for 1325 zones;
- Regional trip data compressed to 27 districts, including 9 CBD approach corridors (1-9) and 18 districts which are completely or partially in the CBD (10-27); and
- CBD study area trip data at a 116 zone level, including 98 internal zones (1-98), 9 approach corridors (99-107) and 9 mode transfer zones (108-116).

Travel Modes

- Auto network building, skimming, and level of service table development uses a single mode number, 2, to define the streets and highways in the CBD area and the access links which connect zone centroids to the facilities on which autos can operate.
- The multimodal network includes both the walk and all transit

Exhibit I-7

Format of the Zonal Data File

Columns	Data Type	Contents	Units
1-5	I	Zone number	Employees
6-10	I	Total employment	Employees
11-15	I	Private office land use	1,000 sq. ft.
16-20	I	Government office land use	1,000 sq. ft.
21-25	I	Retail land use	1,000 sq. ft.
26-30	I	Hotel, service land use	1,000 sq. ft.
31-35	I	Manu., wholesale land use	1,000 sq. ft.
36-40	I	Total land use	1,000 sq. ft.
41-45	I	Total parking-non-curb	Vehicle spaces
46-50	I	Hourly parking rate	Cents (1980)
51-55	I	Long-term daily parking rate	Cents (1980)
56-61	R	Area	Acres

Legend:

I = Integer

R = Real

facilities available for intra-CBD travel. The following mode numbers are used to describe the network links and lines:

<u>Number</u>	<u>Name</u>	<u>Description</u>
1	Walk	Sidewalks and pedways
2	DPM Transfers	Walk links connecting DPM station platforms serving opposing directions of travel for split DPM alignments
3	Centroid Connectors	Connectors between zone centroids and "real" network links
4	Minibus	Minibus or other non-grade separated downtown circulation service
5	DPM	Grade separated automated downtown circulation service
6	Regional Bus - Local	Intra-CBD portion of regional bus routes providing local service
7	Regional Bus - Express	Intra-CBD portion of regional bus routes providing express service
8	Regional Rail	Intra-CBD portion of regional rail service

Demand Models

The demand model processing deals with a maximum of 5 intra-CBD travel modes. Since all modes may not be relevant in all demand steps, the number of modes in individual steps varies from 3 to 5. The demand models output tables of trips by mode in the following sequence:

<u>Number</u>	<u>Mode</u>
1	DPM
2	Walk
3	Minibus
4	Regional Bus
5	Auto

If a mode is omitted entirely, for example, DPM is not available in 1980, the tables are output in the same order with the table number reduced accordingly.

PRESENTATION FORMAT

Each processing step in Part II is described using a standard format. This format is presented below:

1.0 Purpose

A brief description of each step is given

2.0 Programs

Each program used in the step is named, and its source is given as one of the following:

- o UTPS: a standard Urban Transportation Planning System program. Unless otherwise noted, the version date is 02APR79; and
- o PM/LADPM: a program developed or revised by Peat Marwick for the Los Angeles Downtown People Mover Authority.

3.0 Input Data Sets

All input data sets are names, the content of each is described, and the step in which it was created is identified.

4.0 Output Data Sets

Each data set created by the step is identified, including its format (UTPS matrix, UTPS network, UTPS path), its size indicated and a description of the contents provided.

5.0 Discussion

Each step within the set-up is briefly described.

II. STEP DESCRIPTIONS

Step 1.1

1.0 PURPOSE: Compress LARTS regional trip tables from 1,325 zones to 27 zones.

2.0 PROGRAMS: USQUEX (UTPS)

3.0 INPUT DATA:

3.1 LARTS.TRIPS

UTPS matrix data set containing LARTS 8 purpose regional trip tables.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y < year >.DIST27.TRIPTAB1

UTPS matrix data sets containing compressed regional trip tables in production/attraction format, 27 districts, 3 tables:

Table 1: Home to work total person trips, labelled 'HWPERSON <year>', from LARTS table 1.

Table 2: Home to work transit person trips, labelled 'HWTRANSIT<year>', from LARTS table 5.

Table 3: Home to work auto driver trips, labelled 'HWAUTODR<year>', from LARTS table 7.

4.2 < prefix >.LADPM.Y <year>.DIST27.TRIPTAB2

UTPS matrix data set containing compressed regional trips in production/attraction format, 27 districts, 3 tables:

Table 1: Home to work three or more occupant vehicle trips, labelled 'HW3PERVEH<year>', from LARTS table 3.

Table 2: Total transit person trips, labelled 'TOTTRAN<year>', from LARTS table 6.

Table 3: Home to work two occupant vehicle trips, labelled 'HW2PERVEH <year>', from LARTS table 8.

5.0 DISCUSSION:

5.1 Two execution of program USQUEX are used to compress the LARTS regional trip tables from 1,325 zones to 27 districts. The first execution compresses LARTS tables 1, 5, and 7 while the second compresses LARTS tables 3, 6, 8. Two passes are used due to the limit of four input tables for the USQUEX program.

Step 1.2

1.0 PURPOSE: Adjust regional cordon crossing tables to correspond to the CBD Analysis Area.

2.0 PROGRAMS: USQUEX (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y < year >.DIST27.TRIPTAB1

UTPS matrix data set containing compressed LARTS tables for home to work total person trips, transit trips, and auto driver trips.

3.2 < prefix >.LADPM.Y < year >.DIST27.TRIPTAB2

UTPS matrix data set containing compressed LARTS tables for home to work 3+ persons per vehicle vehicle trips, total transit person trips for all trip purposes, and home to work two person per vehicle vehicle trips.

3.3 < prefix >.LADPM.Y < year >.STEP012.DATA

USQUEX zone-district at traction cards showing proportion of district assigned to each zone.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y < year >.DIST27.TRIPTAB3

UTPS matrix data set containing 27 zones representing 9 approach corridors (zones 1-9) and the portions of 18 LARTS zones which are within the CBD analysis area (zones 10-27).

Table 1: Daily home to work total person trips, in production of attraction format, labelled 'HWPERSON < year > '.

Table 2: Daily home to work transit perosn trips, in production/ attraction format, labelled 'HWTRANSIT < year > '.

Table 3: Daily home to work auto driver trips, in production/ attraction format, labelled 'HWAUTODR < year > '.

4.2 < prefix >.LADPM.Y < year >.DIST27.TRIPTAB4

UTPS matrix data set containing 27 zones, as above.

Table 1: Daily home to work 3+ person per vehicle vehicle trips in production/attraction format, labelled 'HW3PERVEH < year > '.

Table 2: Daily total transit person trips in production/attraction format, labelled 'TOTTRAN <year> '.

Table 3: Daily home to work 2 person per vehicle vehicle trips in production/attraction format, labelled 'HW2PERVEH <year> '.

5.0 DISCUSSION:

- 5.1 Two USQUEX steps move the trips in those portions of the LARTS zones which straddle the CBD study area boundary from inside districts 10-27 to the appropriate approach corridor (zones 1-9). The first step uses the USQUEX EXPAND option to divide each "straddle" district into a zone inside the boundary and a zone outside the boundary according to the zone-district fraction cards. These fractions also reflect the differences between the LARTS and LADPM employment projections for each year, adjusting the trips to be consistent with LADPM employment estimates. The second step uses the SQUEEZ option to combine the zone pieces outside the CBD study with the appropriate approach corridor.
- 5.2 This two step USQUEX process is performed twice, once for each of the sets of three compressed LARTS tables.

Step 1.3

1.0 PURPOSE: Factor to employment control total, separate auto person trips, and report district level trip end summary.

2.0 PROGRAMS: UMATRIX (UTPS), UFMTR (UTPS)

3.0 INPUT DATA

3.1 < prefix >.LADPM.Y < year > .DIST27.TRIPTAB3

UTPS matrix data set output by step 1.2 containing district level trips.

3.2 < prefix >.LADPM.Y < year > .DIST27.TRIPTAB4

UTPS matrix data set output by step 1.2 containing district level trips.

4.0 OUTPUT DATA

4.1 < prefix >.LADPM.Y < year > .DIST27.TRIPTAB5

UTPS matrix data set containing 27 districts with the trips factored to an employment control total. LARTS trip purposes are revised to reflect daily to work transit and auto person trips and auto vehicle trips.

Table 1: Daily to work transit person trips in production/attraction format, labelled 'HWTRAN <year> '.

Table 2: Daily to work auto person trips in production/attraction format, labelled 'HWAUTOPER <year> '.

Table 3: Daily to work auto vehicle trips in production/attraction format, labelled 'HWAUTOVEH <year> '.

5.0 DISCUSSION:

5.1 UTPS program UMATRIX is used to factor the cordon crossings resulting from step 1.2 to a control total based on downtown employment. The resulting trips reflect daily trips to and from work. For this purpose, the LARTS home to work transit trips are factored directly, auto person trips are determined by subtracting transit person trips from total person trips, and auto vehicle trips are determined by adding the LARTS auto driver, 2 person, and 3 or more occupant vehicle trip categories.

5.2 UFMTR prints out the resulting cordon crossings by district of production and attraction and by district to district interchange. Districts include each corridor (1-9) and the entire CBD combined (10).

Step 1.4

1.0 PURPOSE: Factor transit trips to PM peak hour and expand to 107 CBD analysis zones.

2.0 PROGRAMS: UMATRIX (UTPS), USQUEX (UTPS), UFMTR (USQUEX)

3.0 INPUT DATA

3.1 < prefix >.LADPM.Y< year >.DIST27.TRIPTAB5

UTPS matrix data set containing daily transit cordon crossings.
Output by step 1.3.

3.2 < prefix >.LADPM.Y< year >.STEP014.DATA

USQUEX zone-district fraction cards giving allocation of study area districts to CBD analysis zones.

4.0 OUTPUT DATA

4.1 < prefix >.LADPM.Y< year >.CBD107.TRIPTAB6

UTPS matrix data set containing PM peak hour from and to work transit trips in origin destination format. Table contains 107 zones, including the approach corridors (1-9) and 98 CBD analysis zones (10-107).

Table: PM peak hour work related transit trips in origin/destination format and labelled 'PKTRAN< year> '.

5.0 DISCUSSION

5.1 UMATRIX is run to transpose the production/attraction daily trips for input to the peaking and directionalization step.

5.2 UMATRIX factors the daily transit cordon crossings to convert to PM peak hour trips in origin/destination format. The combined factor used represents:

- . PM peak hour as a fraction of total daily; and
- . directional volumes as a fraction of total two directional volumes.

5.3 UFMTR prints district level trip ends and interchanges for trips crossing the cordon.

- 5.4 USQUEX expands the 10 internal CBD districts to 98 internal CBD analysis zones. This is done in two steps because some CBD zones straddle district boundaries. The fractions input on the zone-district fraction cards represent the proportion of district employment projected to be within each zone or piece of a zone.
- 5.5 USQUEX is used again to combine the pieces of zones which straddled district boundaries with the appropriate zone information. Result is 107 zone output table.
- 5.6 UFMTR prints a zone level trip and summary.

Step 1.5

1.0 PURPOSE: Convert daily auto production/attraction trips to one-way trips and expand to 107 analysis zones.

2.0 PROGRAMS: UMATRIX (UTPS), USQUEX (UTPS), UFMTR (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .DIST27.TRIPTAB3

UTPS district level matrix data set containing total person, transit, and auto driver CBD cordon crossings. Output by step 1.2.

3.2 < prefix > .LADPM.Y < year > .DIST27.TRIPTAB4

UTPS district level matrix data set containing CBD vehicle trip by occupancy category CBD cordon crossings. Output by step 1.2.

3.3 < prefix > .LADPM.Y < year > .STEP014.DATA

USQUEX zone-district fraction cards giving allocation of study area districts to CBD analysis zones.

4.0 OUTPUT DATA

4.1 < prefix > .LADPM.Y < year > .CBD9X107.AUTO

UTPS matrix data set containing daily auto person and vehicle trips entering the CBD from each corridor. Matrix contains 10 rows (corridors 1-9 and the CBD, (10)) and 107 columns (CBD zones 1-9 and corridors 99-107).

Table 1: Corridor to zonedaily auto person trips entering the CBD, labelled 'AUTOPER <year > '.

Table 2: Corridor ot zone daily auto vehicle trips entering the CBD, labelled 'AUTOVEH <year > '.

5.0 DISCUSSION

5.1 UMATRIX is used to compute the daily home-to-work auto person auto vehicle trips from the LARTS trip purposes and to factor to reflect one way daily cordon crossings at the district level.

5.2 USQUEX expands the 18 internal districts to 98 internal CBD analysis zones, outputting separate pieces for each zone which straddles a district boundary.

- 5.3 USQUEX combines the pieces from each district which comprise a zone and outputs a 107 zone table.
- 5.4 UFMTR prints a zone level trip end summary for each table.
- 5.5 USQUEX compresses the zone level table to 10 rows by 107 columns reflecting trips by approach corridor to CBD destination zone. The tables containing these interchanges are printed by the program.

Step 2.0

1.0 PURPOSE: Build regional transit distribution trip table between final CBD trip end and regional bus stop.

2.0 PROGRAM: BUSSTOP (PM/LADPM), UFMTR (UTPS)

3.0 INPUT DATA

3.1 < prefix> .LADPM.Y< year>.CBD107.TRIPTAB6

PM Peak hour transit trip matrix from step 1-4.

3.2 < prefix> .LADPM.Y< year> .BUSSTOP.DATA

Input to BUSSTOP prepared with the following format:

3.2.1 Header Card 1:

Columns 01-08: *COMMENT
Columns 09-16: blank
Columns 17-72: any message

Any number of COMMENT cards can be used. The message contained on the first card will appear at the top of selected pages of program output.

3.3.3 Header Card 2:

Columns 01-06: *TABLE
Columns 07-12: blank
Columns 13-16: UTPS table number for the input trip table
(transit person trips between corridors and CBD zones)

The default table number is 1001

3.2.3 Header Card 3

Columns 01-08: *CORLINE

This header must be followed by data cards with the following format:

Column 02: Corridor number C(1-9)
Columns 04-05: First bus line number L(1-16)
Columns 07-10: 10* percent of corridor C's trips which use bus line
L (integer)
Columns 14-20: Same as 04-10, for second bus line

.
.
.

Columns 74-80: Same as 04-10, for eighth bus line

The last data card before another header card must have 99 in
Columns 1-2

3.2.4 Header Card 4:

Columns 01-08: *INTCEPT

This header must be followed by data cards with the following format:

Column 02: Corridor number, C(1-9)
Columns 04-05: First bus line number, L(1-16)
Columns 08-10: CBD intercept zone, to which all trips from corridor L,
line L, will be assigned
Columns 14-20: Same as 04-10, for second bus line

.
.
.

Columns 74-80: Same as 04-10, for eighth bus line

This last data card before another header card must have 99 in
Columns 01-02.

All bus lines coded on INTCEPT cards should be numbered consecutively
starting with line number 1 in each corridor.

3.2.5 Header Card 5:

Columns 01-08: *ZONLINE

Column 10: Corridor number C(1-9)

Columns 11-12: First bus line number on subsequent data cards, L

The first line number, L, should be greater than the largest line
number used in INTCEPT data for each corridor.

This header must be followed by data cards with the following format:

Columns 02-04: CBD Zone number, Z(1-116)
Columns 06-08: Bus stop zone, B, for passengers travelling between
corridor C, bus line L, and zone Z.
Columns 10-12: Same as 06-08, for bus line L + 1.

.
.
.

Columns 66-68: Same as 06-08, for bus line L + 15.

The last data card before another header card must have 999 in
Columns 02-04.

3.2.6 Header Card 6

Columns 01-04: *END

This card signals the end of data input, and allows trip table processing to begin.

4.0 OUTPUT DATA

4.1 < prefix >.LADPM.Y <year> .CBD116.TRANSIT

UTPS matrix data set containing distribution trip between workplace and regional transit vehicle stop. Matrix is 116 zones reflecting addition of intercept facilities at Convention Center, Union Station, and Wilshire Starter Line.

Table 1: PM peak hour transit distribution trips, labelled 'TRANINTRNL< year >'.

5.0 DISCUSSION

5.1 BUSSTOP changes the non-CBD ends of all transit trips crossing the cordon from a corridor of approach to a CBD zone ~~zone~~. The CBD zone is either an actual zone (1-98) or an intercept facility such as Union Station (108-116) and reflects the location where passengers on a specific line and having a specific CBD origin/destination will board/alight from the transit vehicle used to cross the CBD cordon.

To accomplish this zone change, the program must be provided with:

- . the fraction of trips in each corridor which will use each bus route; and
- . the zone containing the bus stop which will be used for each corridor, bus route, and CBD origin/destination.

5.2 UFMTR prints trip ends for each of the 116 zones.

Step 3.0

1.0 PURPOSE: Build Auto Network.

2.0 PROGRAMS: UNET (UTPS)

3.0 INPUT DATA:

Auto link cards (mode = 2) in standard UNET input format,
inserted as part of UNET &DATA input.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y <year> .AUTO.LINE

UTPS "transit line" file containing header information required
by subsequent UTPS programs. Essentially a dummy file for auto
network purposes.

4.2 < prefix >.LADPM.Y <year> ,AUTO.FREQ

UTPS "transit line frequency" file, essentially a dummy file for
auto network purposes.

4.3 < prefix >.LADPM.Y <year> .AUTO.LINK

UTPS link data file containing link definitions and attributes.

4.4 < prefix >.LADPM.Y <year> .AUTO.NODE

UTPS pointer file for accessing link data.

5.0 DISCUSSION

5.1 The auto network is built using the non-transit mode 2 for
auto links with distance coded to the nearest 1/10 mile and
time to 1/10 minute. The UNET link description report is
printed to describe the network.

Step 4.0

1.0 PURPOSE: Build PM peak and midday multimodal networks.

2.0 PROGRAMS: UNET (UTPS)

3.0 INPUT DATA:

Multimodal link and line cards in standard UNET input format.
Identical inputs are made to the PM peak and midday steps.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y <year> .MMODE <period> .LINE

UTPS transit line file containing description of the alignment
of each line.

4.2 < prefix >.LADPM.Y <year> .MMODE <period> .FREQ

UTPS transit line frequency file containing headway information
for each line.

4.3 < prefix >.LADPM.Y <year> .MMODE <period> .LINK

UTPS link file containing link definitions and attributes.
(This file is identical for both time periods).

4.4 < prefix >.LADPM.Y <year> .MMODE <period> .NODE

UTPS pointer file for accessing link data. (This file is
identical for both time periods).

5.0 DISCUSSION

5.1 Two UNET steps are executed, one for each time period. Identical
inputs are made for each time period, the coding of the headway
for each time period on the line cards varying. The following
mode conventions are used:

- 1 - sidewalks
- 2 - DPM transfer links
- 3 - centroid connectors
- 4 - mini-bus
- 5 - DPM
- 6 - regional bus - local
- 7 - regional bus - express
- 8 - Wilshire rail starter line

Step 5.0

1.0 PURPOSE: Develop walk level of service data

2.0 PROGRAMS: UPATH (UTPS), UMATRIX (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y<year>.MMODE<period>.<type>

(<type> = LINE, FREQ, LINK, NODE)

UTPS multimode network files output by Step 4.0.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y<year>.<mode><period>.SKIM

UTPS matrix data set containing level of service data; 116 zones
and 2 tables:

Table 1: Walk distance in tenths of miles, labelled 'WALKDISTY<year>'

Table 2: Walk time in tenths of minutes, labelled 'WALKTIMEY<year>'

5.0 DISCUSSION:

5.1 UPATH determines the minimum walk time path for each interchange and the distance along the path. Interchanges which cannot be walk connected, such as to approach corridors, are set to 32767.

5.2 UMATRIX is used to insert .1 miles and 2 minutes for the intrazonal time and distance.

Step 6.0

1.0 PURPOSE: Develop Auto Level of service data.

2.0 PROGRAMS: UPATH (UTPS), UMATRIX (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y <year> .AUTO. <type>
(<type> = LINE, FREQ, LINK, NODE)

UTPS auto network files output by Step 3.0.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y <year> .AUTO.SKIM

UTPS matrix data set containing auto level of service data;
116 zones, 2 tables.

Table 1: Auto distance in tenths of miles, labelled 'DISTANCE'.

Table 2: Auto drive time in tenths of minutes, labelled 'TIME'.

5.0 DISCUSSION:

5.1 UPATH determines the minimum drive time path for each interchange
and the distance along the path.

5.2 UMATRIX inserts a .1 mile distance for the intrazonal distance
and for all interchanges which have zero distance and are connected
(i.e., time is less than 32767).

Step 6.1

1.0 PURPOSE: Develop corridor to zone auto distance.

2.0 PROGRAM: USQUEX (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y <year> .AUTO.SKIM

UTPS auto distance and matrices output by Step 6.0.

4.0 OUTPUT DATA:

4.1 < prefix >.LADPM.Y <year> .CBD9X116.AUTOSKIM

UTPS matrix data set, 9 rows, 116 columns, 1 table.

Table 1: Corridor to CBD zone auto distance in tenths of miles, labelled 'AUTODIST'

5.0 DISCUSSION

5.1 USQUEX compresses the rows of the distance table to eliminate all but the 9 approach corridors to the CBD.

Step 7.0

1.0 PURPOSE: Develop minibus level of service data.

2.0 PROGRAMS: UPATH (UTPS), UPSUM (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y <year> .MMODE <period> . <type>
(<type> = LINE, FREQ, LINK, NODE)

UTPS multimode network output by Step 4.0.

4.0 OUTPUT DATA

4.1 < prefix >.LADPM.Y <year> .CIRC <period> .PATH

UTPS path file used for skimming and for minibus assignments;
116 zones.

4.2.1 < prefix >.LADPM.Y <year> .CIRC <period> .NTLINK

4.2.2 < prefix >.LADPM.Y <year> .CIRC <period> .NTALOC

UTPS non-transit link files for minibus assignments.

4.3 < prefix >.LADPM.Y <year> .CIRC <period> .SKIM

UTPS matrix containing minibus level of service data; 116 zones;
4 tables.

Table 1: Minibus in-vehicle time, minutes, labelled
'CIRC <period> RUN1'.

Table 2: Other transit mode in-vehicle time, minutes, labelled
'CIRC <period> RUN2'.

Table 3: Out of vehicle time, minutes, labelled 'CIRC <period> OUTVEH'

Table 4: Transfers, labelled 'CIRC <period> TXFER'

5.0 DISCUSSION

5.1 UPATH uses weights favoring the minibus or circulator mode to determine the minimum time path for each interchange. The step is performed once for each time period.

5.2 UPSUM skims the paths to collect the time in three components: minibus in-vehicle time, other transit in-vehicle time, and out-of-vehicle time. The step is performed once for each time period.

Step 8.0

1.0 PURPOSE: Develop people mover level of service data.

2.0 PROGRAMS: UPATH (UTPS), UPSUM (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y <year> .MMODE <period>.< type >
(<type> = LINE, FREQ, LINK, NODE)

UTPS multimode network output by Step 4.0

4.0 OUTPUT DATA

4.1 < prefix >.LADPM.Y <year> .DPM <period> .PATH

UTPS path file used for skimming and for DPM assignments;
116 zones.

4.2.1 < prefix >.LADPM.Y <year> .DPM <period> .NTLINK

4.2.2 < prefix >.LADPM.Y <year> .DPM <period> .NTALOC

UTPS non-transit link files for people mover assignments.

4.3 < prefix >.LADPM.Y <year> .DPM <period> .SKIM

UTPS matrix containing people mover level of service data;
116 zones; 4 tables.

Table 1: People mover in-vehicle time, minutes, labelled
'DPM <period> RUN1'.

Table 2: Other transit mode in-vehicle time, minutes, labelled
'DPM <period> RUN2'.

Table 3: Out of vehicle time, minutes, labelled 'DPM <period> OUTVEH'.

Table 4: Transfers, labelled 'DPM <period> TXFER'.

5.0 DISCUSSION

5.1 UPATH uses weights favoring the people mover to determine the minimum time path for each interchange. The step is performed once for each time period.

5.2 UPSUM skims the paths to collect the time in three components: people mover in-vehicle time, other transit in-vehicle time, and out-of-vehicle time. The step is performed once for each time period.

Step 9.0

1.0 PURPOSE: Develop regional bus level of service data.

2.0 PROGRAMS: UPATH (UTPS), UPSUM (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y <year> .MMODE <period> .<type>
(<type> = LINE, FREQ, LINK, NODE)

UTPS multimode network output by Step 4.0

4.0 OUTPUT DATA

4.1 < prefix >.LADPM.Y <year> .REGN <period> .PATH

UTPS path file used for skimming and for regional bus assignments;
116 zones.

4.2.1 < prefix >.LADPM.Y <year> .REGN <period> .NTLINK

4.2.2 < prefix >.LADPM.Y <year> .REGN <period> .NTALOC

UTPS non-transit link files for regional bus assignments.

4.3 < prefix >.LADPM.Y <year> .REGN <period> .SKIM

UTPS matrix containing regional bus level of service data;
116 zones; 4 tables.

Table 1: Regional bus in-vehicle time, minutes, labelled
'REGN <period> RUN1'.

Table 2: Other transit mode in-vehicle time, minutes, labelled
'REGN <period> RUN2'.

Table 3: Out of vehicle time, minutes, labelled 'REGN <period> OUTVEH'.

Table 4: Transfers, labelled 'REGN <period> TXFER'.

5.0 DISCUSSION

5.1 UPATH uses weights favoring the regional bus to determine the minimum time path for each interchange. The step is performed once for each interchange.

5.2 UPSUM skims the paths to collect the time in three components: regional bus in-vehicle time, other transit in-vehicle time, and out-of-vehicle time. The step is performed once for each time period.

Step 10.1

1.0 PURPOSE: Run regional transit distribution mode split model

2.0 PROGRAMS: UMATRIX (UTPS), MSPLIT (PM/LADPM).
UFMTR (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .WALKPM.SKIM

UTPS matrix containing walk time and distance, from Step 5.0

3.2 < prefix > .LADPM.Y < year > .CIRCPM.SKIM

Minibus UTPS level of service matrices, from Step 7.0

3.3 < prefix > .LADPM.Y < year > .DPMPM.SKIM

People mover UTPS level of service matrices, from Step 8.0

3.4 < prefix > .LADPM.Y < year > .REGPM.SKIM

Regional bus UTPS level of service matrices, from Step 9.0

3.5 < prefix > .LADPM.Y < year > .CBD116.TRANSIT

PM peak hour regional transit distribution trip matrix

4.0 OUTPUT DATA:

4.1 < prefix > .LADPM.Y < year > .DISTPM.TRANSIT

UTPS matrix data set containing regional transit distribution trips by mode, 116 zones, tables (3 tables if no DPM available)

Table 1: DPM regional transit distribution trips, labelled 'DPM'

Table 2: Walk mode regional transit distribution trips, labelled, 'WALK'

Table 3: Minibus regional transit distribution trips, labelled 'MINIBUS'

Table 4: Regional bus transit distribution trips, labelled 'REGIONAL BUS'

4.2 < prefix > .LADPM.Y < year > .DISTPM.LOGSUM

UTPS matrix data set containing denominator of mode split model, i.e., sum of exponentials for computing LOGSUM variable for parking choice model, 116 zones, 1 table.

4.3 < prefix > .LADPM.Y< year > .DISTPM. LOGSUM

UTPS matrix data set containing collected transit distribution mode level of service information. Temporary data set to eliminate repetition of some computation for other steps, 116 zones, 7 tables.

Table 1: Minibus in-vehicle time

Table 2: Minibus out-of-vehicle time

Table 3: Regional bus in-vehicle time

Table 4: Regional bus out-of-vehicle time

Table 5: DPM in-vehicle time

Table 6: DPM out-of-vehicle time

Table 7: Interchange station integration flag

5.0 DISCUSSION:

- 5.1 UMATRIX step collects transit distribution mode level of service information into a single UTPS matrix data set. Two tables are included for each transit mode, an in-vehicle and an out-of-vehicle timetable. UMATRIX examines the primary runtime table for each mode for a minimum of two minutes on an interchange. If this condition is met the runtime for the interchange is the total of the two runtime tables output by program UPSUM, otherwise it is set to zero to indicate the mode is not available. UMATRIX also added a table containing ones for an interchange which would use an integrated parking facility and zero otherwise.
- 5.2 MSPLIT computes the number of trips made using each of the distribution modes: DPM, walk, minibus, or regional bus.
- 5.3 UFMTR prints trip ends and average trip lengths by mode, for required transit users.

Step 10.2

1.0 PURPOSE: Run regional auto parking lot mode choice model

2.0 PROBLEMS: UMATRIX (UTPS), PARK (PM/LADPM)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .WALKPM.SKIM

UTPS matrix data set containing walk time and distance, from Step 5.0

3.2 < prefix > .LADPM.Y < year > .STEP101.SKIMTEMP

Level of service UTPS matrices for the distribution transit modes, from Step 10.1

3.3 < prefix > .LADPM.Y < year > .CBD9X116.AUTOSKIM

Corridor to CBD zone auto distance matrix, from Step 6.1

3.4 < prefix > .LADPM.Y < year > .CBD9X107.AUTO

Corridor to CBD zone auto person and vehicle trip matrices, from Step 1.5

3.5 < prefix > .LADPM.Y < year > .DISTPM.LOGSUM

UTPS matrix containing sum of exponentials for computing LOGSUM variable from Step 10.1

3.6 < prefix > .LADPM.Y < year > .ZONAL.DATA

Parking lot zonal data file containing number of spaces and daily parking rates.

4.0 OUTPUT DATA:

4.1 < prefix > .LADPM.Y < year > .CBD.AUTO

UTPS matrix data set containing internal CBD daily workplace to parking lot regional auto user person and vehicle trip tables, 116 zones, 2 tables.

Table 1: Workplace to parking lot person trips.

Table 2: Number of vehicle parking in each zone for each workplace zone

4.2 < prefix > .LADPM.Y < year > .WALKPM.SKIM2

UTPS matrix data set containing minimum 6.0 minute walk time and walk distance, 116 zones, 2 tables.

Table 1: Walk distance, in tenths of miles

Table 2: Walk time, in tenths of minutes

5.0 DISCUSSION:

- 5.1 UMATRIX step collects transit distribution mode level of service information, determining existence of each mode for an interchange.
- 5.2 UMATRIX step sets minimum walk time to 6.0 minutes to account for parking lot terminal time.
- 5.3 UMATRIX step finds minimum time for all modes for an interchange.
- 5.4 PARK determines parking lot choice using the iterative procedure to balance parking demand with the supply. The logit equation is used on each iteration to allocate unassigned trips to available parking spaces.

Step 10.3

1.0 PURPOSE: Determine distribution mode choice for regional auto trips.

2.0 PROBLEMS: UMATRIX(UTPS), MSPLIT (PM/LADPM), UFMTR (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .CBD.AUTO

Matrix data set containing workplace to parking lot regional auto user person and vehicle trips, from Step 10.2

3.2 < prefix > .LADPM.Y < year > .STEP101.SKIMTEMP

Level of service UTPS matrices for the distribution transit modes, from Step 10.1

3.3 < prefix > .LADPM.Y < year > .WALKPM.SKIM2

Walk time and distance matrix with minimum 6.0 minutes parking time.

4.0 OUTPUT DATA:

4.1 < prefix > .LADPM.Y < year > .DISTPM.AUTO

UTPS matrix data set containing regional auto user PM distribution trips by mode, 116 zones, 4 tables (3 tables if no DPM available)

Table 1: DPM regional auto user distribution trips, labelled 'DPM'

Table 2: Walk mode regional auto user distribution trips, labelled 'WALK'

Table 3: Minibus regional auto user distribution trips, labelled 'MINIBUS'

Table 4: Regional bus distribution trip for regional auto trips, labelled 'REGIONAL BUS'

5.0 DISCUSSION:

5.1 UMATRIX step factors parking lot choice tables to reflect PM peak hour.

5.2 MSPLIT computes the number of trips between parking lot and workplaces mode using each of the distribution mode: DPM, walk, minibus, and regional transit.

5.3 UFMTR prints trip ends and average trip lengths by mode, for regional auto users.

Step 11.0

1.0 PURPOSE: Prepare PM peak hour distribution trip station to station summaries.

2.0 PROBLEMS: USTOS (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .DISTPM.TRANSIT

UTPS matrix containing regional transit user distribution trips by mode (Table 1 is DPM trips), from Step 10.1

3.2 < prefix > .LADPM.Y < year > .DISTPM.AUTO

UTPS matrix containing regional auto user distribution trips by mode (Table 1 is DPM trips), from Step 10.3

3.3 < prefix > .LADPM.Y < year > .DPMPM.PATH

UTPS path file for the DPM mode, from Step 8.0

4.0 OUTPUT DATA:

None

5.0 DISCUSSION:

5.1 First USTOS step outputs the regional transit user DPM distribution trip station to station summary for the PM peak hour.

5.2 Second USTOS step outputs the regional auto user DPM distribution trip station to station summary for the PM peak hour.

Step 11.1

1.0 PURPOSE: Perform PM peak hour distribution trip assignment

2.0 PROGRAMS: ULOAD (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .DISTPM.TRANSIT

UTPS matrix containing regional transit user distribution trips by mode (Table 1 is DPM trips), from Step 10.1

3.2 < prefix > .LADPM.Y < year > .DISTPM.AUTO

UTPS matrix containing regional auto user distribution trips by mode (Table 1 is DPM trips), from Step 10.3

3.3 < prefix > .LADPM.Y < year > .DPMPM.PATH

DPM path file, from Step 8.0

3.4.1 < prefix > .LADPM.Y < year > .DPMPM.NTLINK

3.4.2 < prefix > .LADPM.Y < year > .DPMPM.NTALOC

DPM non-transit link files, from Step 8.0

4.0 OUTPUT DATA:

None

5.0 DISCUSSION:

5.1 First ULOAD step loads the regional transit user DPM trips and prints the link and line assignment reports.

5.2 Second ULOAD step loads the regional auto user DPM trips and prints the link and line assignment report.

Step 12.0

1.0 PURPOSE: Run the worker circulation trip model

2.0 PROGRAMS: UMATRIX (UTPS), MIDDAY (PM/LADPM)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .WALKMD.SKIM

UTPS matrix data set containing midday walk time and distance from Step 5.0

3.2 < prefix > .LADPM.Y < year > .CIRCMD.SKIM

UTPS matrix data set containing midday minibus level of service data, from Step 7.0

3.3 < prefix > .LADPM.Y < year > .DPMMD.SKIM

UTPS matrix data set containing midday DPM level of service data, from Step 8.0

3.4 < prefix > .LADPM.Y < year > .REGNMD.SKIM

UTPS matrix data set containing midday regional bus level of service data, from Step. 9.0

3.5 < prefix > .LADPM.Y < year > .AUTO.SKIM

UTPS matrix data set containing auto distance and time tables, from Step 6.0

3.6 < prefix > .LADPM.Y < year > .CBD.AUTO

UTPS matrix containing workplace to parking lot person and vehicle trip tables for regional auto distribution trips. Used to compute average walk time between workplace and parking location for each workplace.

3.7 < prefix > .LADPM.Y < year > .ZONAL.DATA

Zonal data file

3.8 < prefix > .LADPM.Y < year > .TRNPCT.DATA

Card data file containing attraction mode split for each zone

3.8.1 Card Format:

Columns 01-05: Zone number

Columns 06-15: Attraction mode split proportion (decimal)

4.0 OUTPUT DATA:

4.1 < prefix > .LADPM.Y < year > .MIDDAY.TRANSIT

UTPS matrix data set containing daily worker circulation round trips.
93 zones, 5 tables.

Table 1: DPM mode daily worker circulation round trips

Table 2: Walk mode daily worker circulation round trips

Table 3: Minibus mode daily worker circulation round trips

Table 4: Regional bus mode daily worker circulation round trips

Table 5: Auto mode daily worker circulation round trips.

5.0 DISCUSSION:

5.1 UMATRIX collects transit circulation mode level of service information into a single UTPS matrix data set. Two tables are included for each transit mode, an in-vehicle and an out-of-vehicle time table. UMATRIX examines the primary mode run time table for a minimum of 2.0 minutes on an interchange. If the condition is met the in-vehicle time is the sum of the two in-vehicle time matrices output by UPSUM, otherwise it is set to zero to indicate the mode is not available for the interchange.

5.2 MIDDAY computes the frequency, destination and mode choice for the daily worker circulation round trips.

Step 12.1

- 1.0 PURPOSE: Create noon hour circulation trip assignment tables and load.
- 2.0 PROGRAMS: UMATRIX (UTPS), ULOAD (UTPS), USTOS (UTPS), UMCON (UTPS)
- 3.0 INPUT DATA:
 - 3.1 < prefix > .LADPM.Y < year > .MIDDAY.TRANSIT

UTPS matrix data set containing daily worker circulation round trips by mode, from Step 12.0
 - 3.2 < prefix > .LADPM.Y < year > .DPMMD.PATH

DPM mode shortest path file, from Step 7.0
 - 3.3.1 < prefix > .LADPM.Y < year > .DPMMD.NTLINK
 - 3.3.2 < prefix > .LADPM.Y < year > .DPMMD.NTALOC

DPM mode non-transit link files, from Step 7.0
- 4.0 OUTPUT DATA:
 - 4.1 < prefix > .LADPM.Y < year > .MIDDAY.LOAD

UTPS matrix data set containing one-way noon hour worker circulation trips, 98 zones, 1 table

Table 1: Noon hour worker circulation one-way trips, labelled
'MID< year >LOAD'
- 5.0 DISCUSSION:
 - 5.1 UMATRIX step peaks and directionalizes the daily round trip table using factors determined from the workplace survey to create one-way noon hour trips.
 - 5.2 UMCON expands the noon hour matrix from 98 to 116 zones.
 - 5.3 ULOAD performs the assignment and reports the link and line loads
 - 5.4 USTOS reports the station to station summary

Step 13.0

1.0 PURPOSE: Create production attraction cards for scaling non-work trip tables.

2.0 PROGRAMS: NONWRK (PM/LADPM)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y80.NONWRK.TRIPTAB

UTPS matrix data set containing transit non-work trip as estimated from the Spring 1980 onboard survey.

3.2 < prefix > .LADPM.Y80.ZONAL.DATA

Base year zonal file, also used for model calibration.

3.3 < prefix > .LADPM.Y < year > .ZONAL.DATA

Forecast year zonal data file.

4.0 OUTPUT DATA:

4.1 < prefix > .LADPM.Y < year > .NONWRK.DATA

Forecast year production - attraction cards for seeking base year transit non-work trip table.

5.0 DISCUSSION:

5.1 NONWRK creates production - attraction cards for input to the UMCON scaling routine. The productions are based on the growth in corridor transit usage while the attractions are based on the growth in employment in each downtown zone.

Step 13.1

1.0 PURPOSE: Scale to forecast year transit non-work trips and combine distribution and circulation trips.

2.0 PROGRAMS: UMCN (UTPS), BUSSTOP(PM/LADPM), UFMTR (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y80.NONWORK.TRIPTAB

UTPS matrix containing base year non-work transit trips.

3.2 < prefix > .LADPM.Y < year > .BUSSTOP.DATA

See Step 2.0 for a description of the busstop input data

4.0 OUTPUT DATA:

4.2 < prefix > .LADPM.Y < year > .NONWORK.TRIPTAB2

UTPS matrix data set containing combined circulation and internalized distribution transit non-work trips, 116 zones, 1 table.

Table 1: Internal zone transit non-work trips, labelled
' NONWORK < year > '

5.0 DISCUSSION:

5.1 UMCN is used to scale the base year transit non-work trips to estimate forecast year transit non-work trips. The production-attraction cards created in Step 13.0 and appended to the UMCN setup for input.

5.2 Program BUSSTOP is used to change the non-CBD ends of all trips crossing the cordon from a corridor of approach to a CBD zone. The output trip table accumulates the non-work distribution and circulation transit trips.

5.3 UFMTR is used to print trip end summary reports.

Step 13.2

1.0 PURPOSE: Create multi-modal shortest paths

2.0 PROGRAMS: UPATH (UTPS)

3.0 INPUT DATA:

3.1 < prefix >.LADPM.Y < year > .MMODEPM.< type >
(type = LINE, FREQ, LINK, NODE)

UTPS multi-mode network files, from Step 4.0

4.0 OUTPUT DATA:

4.1 < prefix > .LADPM.Y < year > .MMODEPM.PATH

UTPS path file created by treating all modes equally. Use of DPM for a path indicates it is on the shortest time path, 116 zones.

4.2.1 < prefix > .LADPM.Y < year > .MMODEPM.NTLINK

4.2.2 < prefix > .LADPM.Y < year > .MMODEPM.NTALOC

UTPS non-transit link files for assignment purpose

5.0 DISCUSSION:

5.1 UPATH is used to find the shortest transit path for each interchange with all transit modes treated equally. Non-work transit DPM trips will be determined by the occurrence of the DPM mode on a shortest path.

Step 13.3

1.0 PURPOSE: Perform non-work transit DPM assignment and create station to station summaries.

2.0 PROBLEMS: ULOAD (UTPS), USTOS (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .NONWORK.TRIPTAB2

UTPS matrix containing forecast year daily non-work transit trips,
from Step 13.2.

3.2 < prefix > .LADPM.Y < year > MMODEPM.PATH

UTPS multi-mode path file, from Step 13.2

3.3.1 < prefix > .LADPM.Y < year > .MMODEPM.NTLINK

3.3.2 < prefix > .LADPM.Y < year > .MMODEPM.NTALOC

UTPS multimode non-transit link file, from Step 13.2

4.0 OUTPUT DATA:

None

5.0 DISCUSSION:

5.1 ULOAD is used to assign the DPM mode only. The resulting boardings indicate the number of daily DPM transit non-work trips.

5.2 USTOS is used to report the DPM station to station trip summary.

Step 14.0

- 1.0 PURPOSE: Create combined market segment load tables for PM peak hour, noon, and daily assignments.
- 2.0 PROGRAMS: USTOS (UTPS), UMATRIX (UTPS)
- 3.0 INPUT DATA:
 - 3.1 < prefix > .LADPM.Y < year > .MMODEPM.PATH
UTPS multi-mode path file, from Step 13.2
 - 3.2 < prefix > .LADPM.Y < year > .NONWORK.TRIPTAB2
UTPS matrix containing forecast year daily non-work transit trips, from Step 13.2
 - 3.3 < prefix > .LADPM.Y < year > .DISTPM.TRANSIT
UTPS matrix containing peak hour regional transit user distribution trips by mode, from Step 10.1
 - 3.4 < prefix > .LADPM.Y < year > .DISTPM.AUTO
UTPS matrix containing one-way daily regional auto user distribution trips by mode, from Step 10.3
 - 3.5 < prefix > .LADPM.Y < year > .MIDDAY.TRANSIT
UTPS matrix containing daily worker circulation round trips by mode, from Step 12.0
- 4.0 OUTPUT DATA:
 - 4.1 < prefix > .LADPM.Y < year > .NONWORK.LOAD
UTPS matrix data set containing daily DPM non-work transit trips, 116 zones, 1 table.

Table 1: Non-work transit trips using the DPM, labelled 'NONWKLD < year > '
 - 4.2 < prefix > .LADPM.Y < year > .NONWORK.USTOS
UTPS program USTOS arrive/depart station matrix data set, 116 zones, 5 tables, with DPM as the only ride mode.

Table 1: DPM arrive station number
Table 2: DPM depart station number

Table 3: Arrive mode

Table 4: Ride mode

Table 5: Depart mode

4.3 < prefix > .LADPM.Y < year > .COMBINED.LOAD

UTPS matrix data set containing combined market segment DPM assignment tables, 116 zones, 3 tables.

Table 1: PM peak hour assignment table, labelled, 'LOAD < year > PM'

Table 2: Noon hour assignment table, labelled 'LOAD < year > NOON'

Table 3: Daily combined market segment assignment table,
labelled, 'DAILY < year > '

5.0 DISCUSSION:

5.1 USTOS is used to determine which combined multi-mode network interchanges use the DPM. USTOS is run with DPM as the only ride mode and all other modes as arrive and depart modes.

5.2 UMATRIX is used to extract the DPM non-work transit trips from the total non-work transit trip matrix. The number of trips for an interchange in the total non-work transit trip matrix is included if the USTOS ride mode table shows the DPM mode.

5.3 UMATRIX is used to transpose the worker distribution and circulation trip tables.

5.4 UMATRIX is used to factor and combine the DPM trips for each market segment to create the PM peak hour, noon, and daily assignment table.

Step 15.0

1.0 PURPOSE: Prepare combined market segment station-to-station trip summaries for the PM peak, noon, and daily time periods.

2.0 PROGRAMS: USTOS (UTPS)

3.0 INPUT DATA:

3.1 < prefix > .LADPM.Y < year > .COMBINED.LOAD

UTPS matrix data set containing combined market segment assignment tables from Step 14.0

3.2 < prefix > .LADPM.Y< year > .DPM< period > .PATH

UTPS DPM path file, from Step 8.0

4.0 OUTPUT DATA:

None

5.0 DISCUSSION:

5.1 USTOS is used three times, once for each time period, to report the combined market segment assignment table.

Step 15.1

- 1.0 PURPOSE: Perform PM peak hour, noon hour, and daily combined market segment assignments.
- 2.0 PROGRAMS: ULOAD (UTPS)
- 3.0 INPUT DATA:
 - 3.1 < prefix > .LADPM.Y < year > .DPM < period > .PATH
UTPS DPM path file, from Step 8.0
 - 3.2.1 < prefix > .LADPM.Y < year > .DPM < period > .NTLINK
 - 3.2.2 < prefix > .LADPM.Y < year > .DPM < period > .NTALOC
UTPS non-transit link file, from Step 8.0
 - 3.3 < prefix > .LADPM.Y < year > .COMBINED.LOAD
UTPS matrix data set containing combined market segment assignment from Step 14.0
- 4.0 OUTPUT DATA:
None
- 5.0 DISCUSSION:
 - 5.1 ULOAD is used three times, to load and report the assignments for the PM peak, noon, and daily time periods, respectively.

III. STEP LISTINGS

STEP 1.1

```

00000010 //D35CS011 JOB (D35C,LADPM,0JA,,.,2),CLASS=9
00000020 /*SETUP          D35DPM
00000030 /*MESSAGE          IN -TAPE-D35C-          D35CRSTR-D35DPM
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP011A EXEC USQUEX,TIME=5,CORE=321K,
00000070 //          J9='DSN=D35C.LADPM.Y95.DIST27.TRIPTABS',
00000080 //          UNITJ9=PUBLIC
00000090 //USQUEX.FT11F001 DD UNIT=TAPE9,VOL=SER=D35DPM,DISP=(OLD,PASS),
00000100 // DCB=(RECFM=VRS,LRECL=1604,BLKSIZE=1608),
00000110 // LABEL=(1,NL),DSN=LARTS.TRIPS
00000120 //USQUEX.SYSIN DD *
00000130          COMPRESS LARTS 1325 ZONES TO 27 DISTRICTS - YEAR 1995
00000140          DISTRICTS 1 - 9 = CORRIDORS
00000150          DISTRICTS 10 - 27 = LARTS CBD ZONES
00000160 &PARAM
00000170          ZONES=1325, DISTS=27,
00000180          TABLES = 101, 105, 107,
00000190          OUTBPT=4
00000200          NAME1 = 'HWPERSO95', NAME2='HWTRANSIT95',
00000210          NAME3 = 'HWAUTODR95'
00000220 &END
00000230 &OPTION
00000240          SQUEEZ=T
00000250 &END
00000260 &SELECT
00000270          PRINT = 1,-27,
00000280          REPORT = 4
00000290 &END
00000300 &EQUIV DIST= 1, Z= 402,-405, 415,-431, 444, 448, 449, 451,-454,
00000310          459,-461, 463,-514, 569, 570, 595, 599, 602,
00000320          603, 609, 617, 618, 623,-626, 630, 634,-641,
00000330          719,-721
00000340          &END
00000350 &EQUIV DIST= 2, Z= 308,-341, 358,-364, 374,-384, 387,-390,
00000360          395,-401, 406,-414, 432,-443, 445,-447,
00000370          450, 455,-458, 462
00000380          &END
00000390 &EQUIV DIST= 3, Z= 365,-370, 372, 373, 385, 386, 391,-394,
00000400          700,-703, 705, 706, 711, 712
00000410          &END

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I-III

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00000420 &EQUIV DIST= 4, Z= 41,-133, 194,-247, 253, 256, 257, 262,-264,
00000430          269,-277, 342,-345, 347,-357, 371, 746,-748,
00000440          750
00000450          &END
00000460 &EQUIV DIST= 5, Z= 134,-150, 190, 248,-252, 254, 255, 258,-261,
00000470          265,-268, 278,-307, 346, 723,-738, 742,-745,
00000480          749, 752, 757
00000490          &END
00000500 &EQUIV DIST= 6, Z= 151,-189, 191,-193, 739,-741, 753,-756,
00000510          758,-763, 767,-789, 806,-808
00000520          &END
00000530 &EQUIV DIST= 7, Z= 554,-557, 562, 564,-567, 764,-766, 790,-805,
00000540          809,-841, 842,-871, 875, 876, 885,-939,
00000550          941,-1026
00000560          &END
00000570 &EQUIV DIST= 8, Z= 515,-552, 561, 563, 571,-584, 589,-594, 598,
00000580          606,-608, 612,-616, 621, 622, 627,-629,
00000590          631,-633, 642,-699, 872,-874, 877,-884, 940,
00000600          1027,-1325
00000610          &END
00000620 &EQUIV DIST= 9, Z= 585,-588, 596, 597, 600, 601, 604, 605, 610,
00000630          611, 619, 620
00000640          &END
00000650 &EQUIV DIST=10, Z= 558
00000660          &END
00000670 &EQUIV DIST=11, Z= 559
00000680          &END
00000690 &EQUIV DIST=12, Z= 560
00000700          &END
00000710 &EQUIV DIST=13, Z= 568
00000720          &END
00000730 &EQUIV DIST=14, Z= 704
00000740          &END
00000750 &EQUIV DIST=15, Z= 751
00000760          &END
00000770 &EQUIV DIST=16, Z= 707
00000780          &END
00000790 &EQUIV DIST=17, Z= 708
00000800          &END
00000810 &EQUIV DIST=18, Z= 709
00000820          &END

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00000830 &EQUIV DIST=19, Z= 710
00000840 &END
00000850 &EQUIV DIST=20, Z= 713
00000860 &END
00000870 &EQUIV DIST=21, Z= 714
00000880 &END
00000890 &EQUIV DIST=22, Z= 715
00000900 &END
00000910 &EQUIV DIST=23, Z= 716
00000920 &END
00000930 &EQUIV DIST=24, Z= 717
00000940 &END
00000950 &EQUIV DIST=25, Z= 718
00000960 &END
00000970 &EQUIV DIST=26, Z= 722
00000980 &END
00000990 &EQUIV DIST=27, Z= 553
00001000 &END
00001010 //STEP011B EXEC USQUEX,TIME=5,CORE=321K,
00001020 // J9='DSN=D35C.LADPM.Y95.DIST27.TRIPTAB2',
00001030 // UNITJ9=PUBLIC
00001040 //USQUEX.FT11F001 DD UNIT=TAPE9,VOL=SER=D35DPM,DISP=(OLD,PASS),
00001050 // DCB=(RECFM=VRS,LRECL=1604,BLKSIZE=1608),
00001060 // LABEL=(1,NL),DSN=LARTS.TRIPS
00001070 //USQUEX.SYSIN DD *
00001080 COMPRESS LARTS 1325 ZONES TO 27 DISTRICTS - YEAR 1979
00001090 DISTRICTS 1 - 9 = CORRIDORS
00001100 DISTRICTS 10 - 27 = LARTS CBD ZONES
00001110 &PARAM
00001120 ZONES=1325, DISTS=27,
00001130 TABLES = 103, 106, 108,
00001140 OUTBPT=4
00001150 NAME1 = 'HW3PERVEH79', NAME2 = 'TOTTRAN79',
00001160 NAME3 = 'HW2PERVFH79'
00001170 &END
00001180 &OPTION
00001190 SQUEEZ=T
00001200 &END
00001210 &SELECT
00001220 PRINT = 1,-27,
00001230 REPORT = 4
00001240 &END

```

```

00001250 &EQUIV DIST= 1, Z= 402,-405, 415,-431, 444, 448, 449, 451,-454,
00001260 459,-461, 463,-514, 569, 570, 595, 599, 602,
00001270 603, 609, 617, 618, 623,-626, 630, 634,-641,
00001280 719,-721
00001290 &END
00001300 &EQUIV DIST= 2, Z= 308,-341, 358,-364, 374,-384, 387,-390,
00001310 395,-401, 406,-414, 432,-443, 445,-447,
00001320 450, 455,-458, 462
00001330 &END
00001340 &EQUIV DIST= 3, Z= 365,-370, 372, 373, 385, 386, 391,-394,
00001350 700,-703, 705, 706, 711, 712
00001360 &END
00001370 &EQUIV DIST= 4, Z= 41,-133, 194,-247, 253, 256, 257, 262,-264,
00001380 269,-277, 342,-345, 347,-357, 371, 746,-748,
00001390 750
00001400 &END
00001410 &EQUIV DIST= 5, Z= 134,-150, 190, 248,-252, 254, 255, 258,-261,
00001420 265,-268, 278,-307, 346, 723,-738, 742,-745,
00001430 749, 752, 757
00001440 &END
00001450 &EQUIV DIST= 6, Z= 151,-189, 191,-193, 739,-741, 753,-756,
00001460 758,-763, 767,-789, 806,-808
00001470 &END
00001480 &EQUIV DIST= 7, Z= 554,-557, 562, 564,-567, 764,-766, 790,-805,
00001490 809,-841, 842,-871, 875, 876, 885,-939,
00001500 941,-1026
00001510 &END
00001520 &EQUIV DIST= 8, Z= 515,-552, 561, 563, 571,-584, 589,-594, 598,
00001530 606,-608, 612,-616, 621, 622, 627,-629,
00001540 631,-633, 642,-699, 872,-874, 877,-884, 940,
00001550 1027,-1325
00001560 &END
00001570 &EQUIV DIST= 9, Z= 585,-588, 596, 597, 600, 601, 604, 605, 610,
00001580 611, 619, 620
00001590 &END
00001600 &EQUIV DIST=10, Z= 558
00001610 &END
00001620 &EQUIV DIST=11, Z= 559
00001630 &END

```

00001640	&FQUIV	DIST=12, Z= 560	
00001650			&END
00001660	&FQUIV	DIST=13, Z= 568	
00001670			&END
00001680	&FQUIV	DIST=14, Z= 704	
00001690			&END
00001700	&FQUIV	DIST=15, Z= 751	
00001710			&END
00001720	&FQUIV	DIST=16, Z= 707	
00001730			&END
00001740	&FQUIV	DIST=17, Z= 708	
00001750			&END
00001760	&FQUIV	DIST=18, Z= 709	
00001770			&END
00001780	&FQUIV	DIST=19, Z= 710	
00001790			&END
00001800	&FQUIV	DIST=20, Z= 713	
00001810			&END
00001820	&FQUIV	DIST=21, Z= 714	
00001830			&END
00001840	&FQUIV	DIST=22, Z= 715	
00001850			&END
00001860	&FQUIV	DIST=23, Z= 716	
00001870			&END
00001880	&FQUIV	DIST=24, Z= 717	
00001890			&END
00001900	&FQUIV	DIST=25, Z= 718	
00001910			&END
00001920	&FQUIV	DIST=26, Z= 722	
00001930			&END
00001940	&FQUIV	DIST=27, Z= 553	
00001950			&END

```

00000010 //D35CS012 JOB (D35C,LADPM,OJA,,,2),CLASS=P
00000011 /*ROUTE PRINT REMOTE64
00000020 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000030 //STEP012A EXEC USQUEX,TIME=1,CORE=180K,
00000040 //      J9='DSN=D35C.LADPM.DIST27.TEMP',
00000050 //      J1='DSN=D35C.LADPM.Y95.DIST27.TRIPTAB1',
00000060 //      UNITJ1='3330-1',
00000070 //      A1='DSN=D35C.LADPM.Y90.STEP012.DATA',
00000080 //      UNITA1='3330-1',
00000090 //      UNITJ9=PUBLIC
00000100 //USQUEX.SYSIN DD *
00000110 RECONFIGURE DISTRICTS TO LADPM STUDY AREA INTERNAL AND EXTERNAL ZONES
00000120 DISTRICTS 1 - 9 = CORRIDORS
00000130 DISTRICTS 10 - 27 = LARTS CBD ZONES
00000140 &PARAM
00000150 ZONES=36, DISTS=27,
00000160 TABLES = 101, 102, 103
00000170 OUTBPT=4
00000180 NAME1 = 'HWPERSO90', NAME2='HWTRANSIT90',
00000190 NAME3 = 'HWAUTODR90'
00000200 &FND
00000210 &OPTION
00000220 EXPAND=T
00000230 &END
00000240 &SELECT
00000250 PRINT = 1,-36,
00000260 REPORT = 3,4
00000270 &END
00000280 &EQUIV SAME = 1,-10, 16,-19, 23,-26 &END
00000290 &FQUIV DIST = 14, Z = 14, 28 &END
00000300 &EQUIV DIST = 15, Z = 15, 29 &END
00000310 &FQUIV DIST = 20, Z = 20, 30 &END
00000320 &EQUIV DIST = 21, Z = 21, 31 &END
00000330 &EQUIV DIST = 22, Z = 22, 32 &END
00000340 &FQUIV DIST = 27, Z = 27, 33 &END
00000350 &FQUIV DIST = 11, Z = 11, 34 &END
00000360 &EQUIV DIST = 12, Z = 12, 35 &END
00000370 &EQUIV DIST = 13, Z = 13, 36 &END
00000380 //STEP012B EXEC USQUEX,TIME=1,CORE=180K,
00000390 //      J9='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB3',
00000400 //      J1='DSN=D35C.LADPM.DIST27.TEMP',
00000410 //      UNITJ9=PUBLIC
00000420 //USQUEX.SYSIN DD *

```

```

00000430      COMPRESS TO 27 DISTRICTS
00000440 &PARAM
00000450      ZONES=36, DISTS=27,
00000460      TABLES = 101, 102, 103
00000470      OUTBPT=4
00000480      NAME1 = 'HWPERSO90', NAME2='HWTRANSIT90',
00000490      NAME3 = 'HWAUTODR90'
00000500 &END
00000510 &OPTION
00000520      SQUEEZ = T
00000530 &END
00000540 &SELECT
00000550      PRINT = 1, -27
00000560      REPORT = 4
00000570 &END
00000580 &EQUIV SAME = 1, 2, 5, 6, 9,-27      &END
00000590 &EQUIV DIST = 3, Z = 3, 28, 30,-32  &END
00000600 &EQUIV DIST = 4, Z = 4, 29            &END
00000610 &EQUIV DIST = 7, Z = 7, 33            &END
00000620 &EQUIV DIST = 8, Z = 8, 34,-36      &END
00000630 //STEP012C EXEC PGM=IEFBR14,COND=(0,LT,STEP012B.USQUEX)
00000640 //DD1 DD DSN=D35C.LADPM.DIST27.TEMP,DISP=(OLD,DELETE)
00000650 //STEP012D EXEC USQUEX,TIME=1,CORE=180K,
00000660 //      J9='DSN=D35C.LADPM.DIST27.TEMP',
00000670 //      J1='DSN=D35C.LADPM.Y95.DIST27.TRIPTAR2',
00000680 //      UNITJ1='3330-1',
00000690 //      A1='DSN=D35C.LADPM.Y90.STEP012.DATA',
00000700 //      UNITA1='3330-1',
00000710 //      UNITJ9=PUBLIC
00000720 //USQUEX.SYSIN DD *
00000730      RECONFIGURE DISTRICTS TO LADPM STUDY AREA INTERNAL AND EXTERNAL ZONES
00000740      DISTRICTS 1 - 9 = CORRIDORS
00000750      DISTRICTS 10 - 27 = LARTS CBD ZONES
00000760 &PARAM
00000770      ZONES=36, DISTS=27,
00000780      TABLES = 101, 102, 103
00000790      OUTBPT=4
00000800      NAME1 = 'HW3PERVEH90', NAME2='TOTTRAN90',
00000810      NAME3 = 'HW2PERVEH90'
00000820 &END
00000830 &OPTION
00000840      EXPAND=T

```

```

00000850 &END
00000860 &SELECT
00000870     PRINT = 1,-36,
00000880     REPORT = 3,4
00000890 &END
00000900 &EQUIV  SAME = 1,-10, 16,-19, 23,-26      &END
00000910 &EQUIV  DIST = 14, Z = 14, 28      &END
00000920 &EQUIV  DIST = 15, Z = 15, 29      &END
00000930 &EQUIV  DIST = 20, Z = 20, 30      &END
00000940 &EQUIV  DIST = 21, Z = 21, 31      &END
00000941 &EQUIV  DIST = 22, Z = 22, 32      &END
00000950 &EQUIV  DIST = 27, Z = 27, 33      &END
00000960 &EQUIV  DIST = 11, Z = 11, 34      &END
00000970 &EQUIV  DIST = 12, Z = 12, 35      &END
00000980 &EQUIV  DIST = 13, Z = 13, 36      &END
00000990 //STEP012E EXEC USQUEX,TIME=1,CORE=180K,
00001000 //          J9='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB4',
00001010 //          J1='DSN=D35C.LADPM.DIST27.TEMP',
00001020 //          UNITJ9=PUBLIC
00001030 //USQUEX.SYSIN DD *
00001040     COMPRESS TO 27 DISTRICTS
00001050 &PARAM
00001060     ZONES=36, DIST=27,
00001070     TABLES = 101, 102, 103
00001080     OUTBPT=4
00001090     NAME1 = 'HW3PERVEH90', NAME2='TOTTRAN90',
00001100     NAME3 = 'HW2PERVEH90'
00001110 &END
00001120 &OPTION
00001130     SQUEEZ = T
00001140 &END
00001150 &SELECT
00001160     PRINT = 1, -27
00001170     REPORT = 4
00001180 &END
00001190 &EQUIV  SAME = 1, 2, 5, 6, 9,-27      &END
00001200 &EQUIV  DIST = 3, Z = 3, 28, 30,-32  &END
00001210 &EQUIV  DIST = 4, Z = 4, 29      &END
00001220 &EQUIV  DIST = 7, Z = 7, 33      &END
00001230 &EQUIV  DIST = 8, Z = 8, 34,-36      &END
00001240 //STEP012F EXEC PGM=IEFBR14,COND=(0,LT,STEP012E.USQUEX)
00001250 //DD1 DD DSN=D35C.LADPM.DIST27.TEMP,DISP=(OLD,DELETE)

```

Y80-STEP012-DATA

01	1.0	1.0	1.0	1.0	1.0	1.0
02	1.0	1.0	1.0	1.0	1.0	1.0
03	1.0	1.0	1.0	1.0	1.0	1.0
04	1.0	1.0	1.0	1.0	1.0	1.0
05	1.0	1.0	1.0	1.0	1.0	1.0
06	1.0	1.0	1.0	1.0	1.0	1.0
07	1.0	1.0	1.0	1.0	1.0	1.0
08	1.0	1.0	1.0	1.0	1.0	1.0
09	1.0	1.0	1.0	1.0	1.0	1.0
10	0.839	0.839	0.839	0.839	0.839	0.839
11	0.552	0.552	0.552	0.552	0.552	0.552
12	0.415	0.415	0.415	0.415	0.415	0.415
13	0.883	0.883	0.883	0.883	0.883	0.883
14	0.204	0.204	0.204	0.204	0.204	0.204
15	0.115	0.115	0.115	0.115	0.115	0.115
16	0.598	0.598	0.598	0.598	0.598	0.598
17	1.089	1.089	1.089	1.089	1.089	1.089
18	4.5	4.5	4.5	4.5	4.5	4.5
19	0.883	0.883	0.883	0.883	0.883	0.883
20	0.242	0.242	0.242	0.242	0.242	0.242
21	0.223	0.223	0.223	0.223	0.223	0.223
22	0.155	0.155	0.155	0.155	0.155	0.155
23	1.019	1.019	1.019	1.019	1.019	1.019
24	1.312	1.312	1.312	1.312	1.312	1.312
25	0.907	0.907	0.907	0.907	0.907	0.907
26	0.849	0.849	0.849	0.849	0.849	0.849
27	0.121	0.121	0.121	0.121	0.121	0.121
28	0.796	0.796	0.796	0.796	0.796	0.796
29	0.885	0.885	0.885	0.885	0.885	0.885
30	0.758	0.758	0.758	0.758	0.758	0.758
31	0.777	0.777	0.777	0.777	0.777	0.777
32	0.845	0.845	0.845	0.845	0.845	0.845
33	0.879	0.879	0.879	0.879	0.879	0.879
34	0.448	0.448	0.448	0.448	0.448	0.448
35	0.585	0.585	0.585	0.585	0.585	0.585
36	0.117	0.117	0.117	0.117	0.117	0.117

Y85-STEP012-DATA

01	1.0	1.0	1.0	1.0	1.0	1.0
02	1.0	1.0	1.0	1.0	1.0	1.0
03	1.0	1.0	1.0	1.0	1.0	1.0
04	1.0	1.0	1.0	1.0	1.0	1.0
05	1.0	1.0	1.0	1.0	1.0	1.0
06	1.0	1.0	1.0	1.0	1.0	1.0
07	1.0	1.0	1.0	1.0	1.0	1.0
08	1.0	1.0	1.0	1.0	1.0	1.0
09	1.0	1.0	1.0	1.0	1.0	1.0
10	0.841	0.841	0.841	0.841	0.841	0.841
11	0.552	0.552	0.552	0.552	0.552	0.552
12	0.415	0.415	0.415	0.415	0.415	0.415
13	0.883	0.883	0.883	0.883	0.883	0.883
14	0.369	0.369	0.369	0.369	0.369	0.369
15	0.115	0.115	0.115	0.115	0.115	0.115
16	0.598	0.598	0.598	0.598	0.598	0.598
17	1.089	1.089	1.089	1.089	1.089	1.089
18	5.775	5.775	5.775	5.775	5.775	5.775
19	1.888	1.888	1.888	1.888	1.888	1.888
20	0.302	0.302	0.302	0.302	0.302	0.302
21	0.223	0.223	0.223	0.223	0.223	0.223
22	0.582	0.582	0.582	0.582	0.582	0.582
23	1.092	1.092	1.092	1.092	1.092	1.092
24	1.252	1.252	1.252	1.252	1.252	1.252
25	0.918	0.918	0.918	0.918	0.918	0.918
26	0.928	0.928	0.928	0.928	0.928	0.928
27	0.122	0.122	0.122	0.122	0.122	0.122
28	0.631	0.631	0.631	0.631	0.631	0.631
29	0.885	0.885	0.885	0.885	0.885	0.885
30	0.698	0.698	0.698	0.698	0.698	0.698
31	0.777	0.777	0.777	0.777	0.777	0.777
32	0.418	0.418	0.418	0.418	0.418	0.418
33	0.878	0.878	0.878	0.878	0.878	0.878
34	0.448	0.448	0.448	0.448	0.448	0.448
35	0.585	0.585	0.585	0.585	0.585	0.585
36	0.117	0.117	0.117	0.117	0.117	0.117

III-10

Y90-STEP012-DATA

01	1.0	1.0	1.0	1.0	1.0	1.0
02	1.0	1.0	1.0	1.0	1.0	1.0
03	1.0	1.0	1.0	1.0	1.0	1.0
04	1.0	1.0	1.0	1.0	1.0	1.0
05	1.0	1.0	1.0	1.0	1.0	1.0
06	1.0	1.0	1.0	1.0	1.0	1.0
07	1.0	1.0	1.0	1.0	1.0	1.0
08	1.0	1.0	1.0	1.0	1.0	1.0
09	1.0	1.0	1.0	1.0	1.0	1.0
10	0.848	0.848	0.848	0.848	0.848	0.848
11	0.511	0.511	0.511	0.511	0.511	0.511
12	0.394	0.394	0.394	0.394	0.394	0.394
13	0.845	0.845	0.845	0.845	0.845	0.845
14	0.348	0.348	0.348	0.348	0.348	0.348
15	0.113	0.113	0.113	0.113	0.113	0.113
16	0.669	0.669	0.669	0.669	0.669	0.669
17	0.993	0.993	0.993	0.993	0.993	0.993
18	0.389	0.389	0.389	0.389	0.389	0.389
19	1.592	1.592	1.592	1.592	1.592	1.592
20	0.253	0.253	0.253	0.253	0.253	0.253
21	0.200	0.200	0.200	0.200	0.200	0.200
22	2.101	2.101	2.101	2.101	2.101	2.101
23	1.289	1.289	1.289	1.289	1.289	1.289
24	1.804	1.804	1.804	1.804	1.804	1.804
25	1.019	1.019	1.019	1.019	1.019	1.019
26	0.934	0.934	0.934	0.934	0.934	0.934
27	0.117	0.117	0.117	0.117	0.117	0.117
28	0.652	0.652	0.652	0.652	0.652	0.652
29	0.887	0.887	0.887	0.887	0.887	0.887
30	0.747	0.747	0.747	0.747	0.747	0.747
31	0.800	0.800	0.800	0.800	0.800	0.800
32	0.837	0.837	0.837	0.837	0.837	0.837
33	0.883	0.883	0.883	0.883	0.883	0.883
34	0.489	0.489	0.489	0.489	0.489	0.489
35	0.606	0.606	0.606	0.606	0.606	0.606
36	0.155	0.155	0.155	0.155	0.155	0.155

II-III

Y20-STEP012-DATA

01	1.0	1.0	1.0	1.0	1.0	1.0
02	1.0	1.0	1.0	1.0	1.0	1.0
03	1.0	1.0	1.0	1.0	1.0	1.0
04	1.0	1.0	1.0	1.0	1.0	1.0
05	1.0	1.0	1.0	1.0	1.0	1.0
06	1.0	1.0	1.0	1.0	1.0	1.0
07	1.0	1.0	1.0	1.0	1.0	1.0
08	1.0	1.0	1.0	1.0	1.0	1.0
09	1.0	1.0	1.0	1.0	1.0	1.0
10	0.933	0.933	0.933	0.933	0.933	0.933
11	0.511	0.511	0.511	0.511	0.511	0.511
12	0.394	0.394	0.394	0.394	0.394	0.394
13	0.845	0.845	0.845	0.845	0.845	0.845
14	0.348	0.348	0.348	0.348	0.348	0.348
15	0.113	0.113	0.113	0.113	0.113	0.113
16	0.669	0.669	0.669	0.669	0.669	0.669
17	0.993	0.993	0.993	0.993	0.993	0.993
18	0.402	0.402	0.402	0.402	0.402	0.402
19	1.682	1.682	1.682	1.682	1.682	1.682
20	0.371	0.371	0.371	0.371	0.371	0.371
21	6.781	6.781	6.781	6.781	6.781	6.781
22	3.591	3.591	3.591	3.591	3.591	3.591
23	1.310	1.310	1.310	1.310	1.310	1.310
24	1.815	1.815	1.815	1.815	1.815	1.815
25	1.019	1.019	1.019	1.019	1.019	1.019
26	0.918	0.918	0.918	0.918	0.918	0.918
27	0.117	0.117	0.117	0.117	0.117	0.117
28	0.652	0.652	0.652	0.652	0.652	0.652
29	0.887	0.887	0.887	0.887	0.887	0.887
30	0.629	0.629	0.629	0.629	0.629	0.629
31	0.800	0.800	0.800	0.800	0.800	0.800
32	0.837	0.837	0.837	0.837	0.837	0.837
33	0.883	0.883	0.883	0.883	0.883	0.883
34	0.489	0.489	0.489	0.489	0.489	0.489
35	0.606	0.606	0.606	0.606	0.606	0.606
36	0.155	0.155	0.155	0.155	0.155	0.155

III-12

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00000010 //D35CS013 JOB (D35C,LADPM,OJA,,2),CLASS=P
00000040 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000050 //STEP013A EXEC UMATRIX,CORE=255K,TIME=(,10),
00000051 /**
00000052 /**          FACTOR FOR 1990 IS 2.134
00000053 /**          FACTOR FOR 2000 IS 2.528
00000054 /**
00000060 //          J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB3',UNITJ1='3330-1',
00000070 //          J2='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB4',UNITJ2='3330-1',
00000080 //          J9='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB5',
00000081 //          SPACES2='(CYL,(1,1))',
00000090 //          UNITJ9=PUBLIC,DISPJ9='(,CATLG,DELETE)',
00000100 //          SPACEJ9='(TRK,(3,1),RLSE)'
00000110 //UMATRIX.SYSIN DD *
00000120          DAILY TRANSIT, AUTO PERSON, AUTO VEHICLE TRIPS - 1990
00000130          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000141 &PARAM
00000160          ZONES=27,
00000170          OUTBPT=4,
00000171          COMBIN1='IF(I<=9 AND J<=9) THEN T102 ELSE 2.134*T102',
00000172          COMBIN2='IF(I<=9 AND J<=9) THEN (T101-T102)
00000173          ELSE 2.134*(T101-T102)',
00000174          COMBIN3='IF(I<=9 AND J<=9) THEN (T103+T201+T203)
00000175          ELSE 2.134*(T103+T201+T203)'
00000186          NAME1='HWTRAN90', NAME2='HWAUTOPER90',
00000187          NAME3='HWAUTOVEH90'
00000188 &END
00000220 &SELECT
00000230          I = 1,-27
00000240 &END
00000250 //STEP013B EXEC USQUEX,CORE=253K,TIME=(,10),
00000260 //          J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB5',
00000270 //          J9='DSN=D35C.LADPM.Y90.DIST10.TEMP',
00000280 //          UNITJ9=PUBLIC,SPACEJ9='(TRK,(3,1),RLSE)'
00000290 //USQUEX.SYSIN DD *
00000300          SQUEEZE TO CORDOR CROSSINGS - 1990
00000310          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000320 &PARAM
00000330          ZONES = 27, DIST5 = 10,
00000340          TABLES = 101, 102, 103,
00000350          OUTBPT = 4,
00000360          NAME1 = 'HWTRAN90', NAME2 = 'HWAUTOPER90',

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00000370      NAME3 = 'HWAUTOVEH90'
00000380      &END
00000390      &OPTION
00000400          SQUEEZ = T
00000410      &END
00000420      &EQUIV SAME = 1,-9      &END
00000430      &EQUIV DIST = 10, Z = 10,-27      &END
00000460 //STEP013D EXEC UFMTR,CORE=253K,TIME=(,15),
00000470 //      J1='DSN=D35C.LADPM.Y90.DIST10.TEMP'
00000480 //UFMTR.SYSIN DD *
00000490          DAILY TRIPS CROSSING THE CBD CORDON - 1990
00000500          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000510      &PARAM
00000520          ZONES=10,
00000530          TABLES = 101, 102, 103,
00000540          TITLE1 = 'HWTRAN90', TITLE2='HWAUTOPER90',
00000550          TITLE3='HWAUTOVEH90'
00000560      &END
00000570      &SELECT
00000580          REPORT = 1,3
00000590      &END
00000600 //STEP013E EXEC PGM=IEFBR14,COND=(0,LT,STEP013D.UFMTR)
00000610 //DD1 DD DSN=D35C.LADPM.Y90.DIST10.TEMP,DISP=(OLD,DELETE)

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STEP 1.4

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00000010 //D35CS014 JOB (D35C,LADPM,OJA,,,,2),CLASS=P
00000020 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000030 //STEP014A EXEC UMATRIX,CORE=255K,TIME=(,10),
00000040 //      J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB5',UNITJ1='3330-1',
00000050 //      J9='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP1',UNITJ9=PUBLIC,
00000060 //      DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)'
00000070 //UMATRIX.SYSIN DD *
00000080          TRANSPOSE DAILY TRIP TABLES
00000090          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000100      &PARAM
00000110          ZONES=27, OUTBPT=4,
00000120          COMBIN1='TR(T101)', NAME1='HWTRAN90',
00000130      &FND
00000140      &SELECT
00000150          I = 1,-27
00000160      &END
00000170 //STEP014B EXEC UMATRIX,CORE=255K,TIME=(,10),
00000180 //      J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB5',UNITJ1='3330-1',
00000190 //      J2='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP1',UNITJ2='3330-1',
00000200 //      J9='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP2',
00000210 //      SPACES2='(CYL,(1,1))',
00000220 //      UNITJ9=PUBLIC,DISPJ9='(,CATLG,DELETE)',
00000230 //      SPACEJ9='(TRK,(3,1),RLSE)'
00000240 //UMATRIX.SYSIN DD *
00000250          FACTOR DAILY TO PEAK HOUR
00000260          TRANSIT PERSON TRIPS - 1990
00000270          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000280      +-----+
00000290      +  ASSUMPTIONS
00000300      +
00000310      +          IN      OUT      PEAK
00000320      +  TRANSIT  8.7%   91.3%   16.7%
00000330      +
00000340      +-----+
00000350      &PARAM
00000360          ZONES=27,
00000370          OUTBPT=4,
00000380          COMBIN1='IF (I<=9 AND J>=10) THEN 0.01386 * (T101+T201)
00000390          ELSE
00000400          IF I>=10 THEN
00000410          (IF J<=9 THEN 0.1525 * (T101+T201)
00000420          ELSE 0.01386 * T101 + 0.1525*T201)

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III-15

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00000430                                     ELSE 0'
00000440             NAME1='HWTRAN90'
00000450      &END
00000460      &SELECT
00000470             I = 1,-27
00000480      &END
00000490 //STEP014C EXEC USQUEX,CORE=253K,TIME=(,10),
00000500 //      COND=(4,LT,STEP014B.UMATRIX),
00000510 //      J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP2',
00000520 //      J9='DSN=D35C.LADPM.Y90.DIST10.TEMP',
00000530 //      UNITJ9=PUBLIC,SPACEJ9='(TRK,(3,1),RLSE)'
00000540 //USQUEX.SYSIN DD *
00000550             SQUEEZE TO CORDON CROSSINGS - 1990
00000560             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000570      &PARAM
00000580             ZONES = 27, DIST5 = 10,
00000590             TABLES = 101,
00000600             OUTBPT = 4,
00000610             NAME1 = 'HWTRAN90'
00000620      &END
00000630      &OPTION
00000640             SQUEEZ = T
00000650      &END
00000660      &EQUIV SAME = 1,-9      &END
00000670      &EQUIV DIST = 10, Z = 10,-27      &END
00000680 //STEP014D EXEC UFMTR,CORE=253K,TIME=(,15),COND=(0,LT,STEP014C.USQUEX),
00000690 //      J1='DSN=D35C.LADPM.Y90.DIST10.TEMP'
00000700 //UFMTR.SYSIN DD *
00000710             PEAK HOUR TRIPS CROSSING THE CRO CORDON - 1990
00000720             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000730      &PARAM
00000740             ZONES=10,
00000750             TABLES = 101,
00000760             TITLE1 = 'HWTRAN90'
00000770      &END
00000780      &SELECT
00000790             REPORT = 1,3
00000800      &END
00000810 //STEP014E EXEC PGM=IEFBR14,COND=(0,LT,STEP014D.UFMTR)
00000820 //DD1 DD DSN=D35C.LADPM.Y90.DIST10.TEMP,DISP=(OLD,DELETE)
00000830 //STEP014F EXEC USQUEX,CORE=253K,TIME=(,20),
00000840 //      COND=(4,LT,STEP014B.UMATRIX),

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00000850 //      JI='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP2',UNITJ1='3330-1',
00000860 //      A1='DSN=D35C.LADPM.Y90.STEP014.DATA',UNITA1='3330-1',
00000870 //      J9='DSN=D35C.LADPM.Y90.CBD122.TRIPTMP',
00000880 //      UNITJ9=PUBLIC,DISPJ9='(,CATLG,DELETE)',
00000890 //      SPACEJ9='(TRK,(5,3),RLSE)'
00000900 //USQUEX,SYSIN DD *
00000910                EXPAND TO CBD ZONES
00000920                LQS ANGELES DOWNTOWN PEOPLE MOVER
00000930      &PARAM
00000940          DISTS=27,
00000950          ZONES=122,
00000960          OUTBPT=4,
00000970          TABLES=101,
00000980          NAME1='WORKTRAN90'
00000990      &END
00001000      &OPTION
00001010          EXPAND=T, ONE=T
00001020      &END
00001030      &SELECT
00001040          REPORT = 3,4
00001050          PRINT = 14,19,106
00001060      &END
00001070      &EQUIV  DIST = 1, Z = 99      &END
00001080      &EQUIV  DIST = 2, Z =100      &END
00001090      &EQUIV  DIST = 3, Z =101      &END
00001100      &EQUIV  DIST = 4, Z =102      &END
00001110      &EQUIV  DIST = 5, Z =103      &END
00001120      &EQUIV  DIST = 6, Z =104      &END
00001130      &EQUIV  DIST = 7, Z =105      &END
00001140      &EQUIV  DIST = 8, Z =106      &END
00001150      &EQUIV  DIST = 9, Z =107      &END
00001160      &EQUIV  DIST = 10, Z = 62, 66, 88, 89, 96, 97      &END
00001170      &EQUIV  DIST = 11, Z = 70,108      &END
00001180      &EQUIV  DIST = 12, Z = 74, 78      &END
00001190      &EQUIV  DIST = 13, Z = 82,109      &END
00001200      &EQUIV  DIST = 14, Z = 24, 30, 36      &END
00001210      &EQUIV  DIST = 16, Z = 90,-92      &END
00001220      &EQUIV  DIST = 15, Z = 83      &END
00001230      &EQUIV  DIST = 17, Z = 84,-87,110      &END
00001240      &EQUIV  DIST = 18, Z = 1,-11      &END
00001250      &EQUIV  DIST = 19, Z = 12,-23      &END
00001260      &EQUIV  DIST = 20, Z = 58      &END
00001270      &EQUIV  DIST = 21, Z = 50, 54      &END
00001280      &EQUIV  DIST = 22, Z = 40, 46,111      &END

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00001290 &EQUIV DIST = 23, Z = 25,-29,31,-35, 37,-39, 41,-45, 47,-49,
00001300          51,-53          &END
00001310 &EQUIV DIST = 24, Z = 63,-65, 67,-69,71,-73, 75,-77      &FND
00001320 &FQUIV DIST = 25, Z = 59,-61, 93,-95,112,113,122      &END
00001330 &FQUIV DIST = 26, Z = 55,-57, 79,-81,114,-121      &END
00001340 &FQUIV DIST = 27, Z = 98          &END
00001350 //STEP0146 EXEC USQUEX,CORE=253K,TIME=(,20),
00001360 //      COND=(4,LT,STEP014F,USQUEX),
00001370 //      J1='DSN=D35C.LADPM.Y90.CBD122.TRIPTEMP',UNITJ1='3330-1',
00001380 //      J9='DSN=D35C.LADPM.Y90.CBD107.TRIPTAB6',UNITJ9=PUBLIC,
00001390 //      SPACEJ9='(TRK,(10,5),RLSE)',DISPJ9='(,CATLG,DELETE)',
00001400 //USQUEX.SYSIN DD *
00001410          REORGANIZE TO STUDY AREA ZONE SYSTEM - 1990
00001420          LOS ANGELES DOWNTOWN PEOPLE MOVER
00001430 &PARAM
00001440          ZONES=122,
00001450          DISTS=107
00001460          OUTRPT=4
00001470          TABLES=101,
00001480          NAME1='PKTRAN90'
00001490 &FND
00001500 &OPTION
00001510          SQUEEZ=T
00001520 &FND
00001530 &SELECT
00001540          REPORT=4, PRINT=14,19,106
00001550 &END
00001560 &EQUIV SAME= 1,-49,54,-62,67,-74,79,-81,83,-88,90,-107 &END
00001570 &EQUIV DIST = 50, Z= 50,111      &END
00001580 &FQUIV DIST = 51, Z= 51,114      &END
00001590 &FQUIV DIST = 52, Z= 52,115      &END
00001600 &EQUIV DIST = 53, Z= 53,116      &END
00001610 &EQUIV DIST = 63, Z= 63,112      &END
00001620 &FQUIV DIST = 64, Z= 64,113      &END
00001630 &EQUIV DIST = 65, Z= 65,122      &END
00001640 &FQUIV DIST = 66, Z= 66,108      &END
00001650 &EQUIV DIST = 75, Z= 75,117      &END
00001660 &EQUIV DIST = 76, Z= 76,118      &END
00001670 &EQUIV DIST = 77, Z= 77,119      &END
00001680 &EQUIV DIST = 78, Z= 78,109,120      &END
00001690 &FQUIV DIST = 82, Z= 82,121      &END
00001700 &EQUIV DIST = 89, Z=89,110      &END

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00001710 //STEP014H EXEC PGM=IEFBR14,COND=(0,LT,STEP014G.USQUEX)
00001720 //DD1 DD DSN=D35C.LADPM.Y90.CBD122.TRIPTMP,DISP=(OLD,DELETE)
00001730 //DD2 DD DSN=D35C.LADPM.Y90.DIST27.TRIPTMP1,DISP=(OLD,DELETE)
00001740 //DD3 DD DSN=D35C.LADPM.Y90.DIST27.TRIPTMP2,DISP=(OLD,DELETE)
00001750 //STEP014I EXEC UFMTR,CORE=253K,TIME=(,10),
00001760 // COND=(0,LT,STEP014G.USQUEX),
00001770 // J1='DSN=D35C.LADPM.Y90.CBD107.TRIPTAB6'
00001780 //UFMTR.SYSIN DD *
00001790          1990 PEAK HOUR STUDY AREA TRIP END SUMMARY
00001800          LOS ANGELES DOWNTOWN PEOPLE MOVER
00001810 &PARAM
00001820     ZONES=107,
00001830     TABLES = 101,
00001840     TITLE1='PKTRAN90'
00001850 &END
00001860 &SELECT
00001870     REPORT = 3
00001880 &END

```

Y80.STEP014.DATA

01	0.000	0.000	0.000	0.000	0.000	0.000
02	0.000	0.000	0.000	0.000	0.000	0.000
03	0.000	0.000	0.000	0.000	0.000	0.000
04	0.000	0.000	0.000	0.000	0.000	0.000
05	0.000	0.000	0.000	0.000	0.000	0.000
06	0.933	0.933	0.933	0.933	0.933	0.933
07	0.000	0.000	0.000	0.000	0.000	0.000
08	0.067	0.067	0.067	0.067	0.067	0.067
09	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000
13	0.085	0.085	0.085	0.085	0.085	0.085
14	0.288	0.288	0.288	0.288	0.288	0.288
15	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000
18	0.162	0.162	0.162	0.162	0.162	0.162
19	0.147	0.147	0.147	0.147	0.147	0.147
20	0.000	0.000	0.000	0.000	0.000	0.000
21	0.073	0.073	0.073	0.073	0.073	0.073
22	0.083	0.083	0.083	0.083	0.083	0.083
23	0.162	0.162	0.162	0.162	0.162	0.162
24	0.144	0.144	0.144	0.144	0.144	0.144
25	0.208	0.208	0.208	0.208	0.208	0.208
26	0.016	0.016	0.016	0.016	0.016	0.016
27	0.074	0.074	0.074	0.074	0.074	0.074
28	0.058	0.058	0.058	0.058	0.058	0.058
29	0.0	0.0	0.0	0.0	0.0	0.0
30	0.317	0.317	0.317	0.317	0.317	0.317
31	0.047	0.047	0.047	0.047	0.047	0.047
32	0.116	0.116	0.116	0.116	0.116	0.116
33	0.027	0.027	0.027	0.027	0.027	0.027
34	0.098	0.098	0.098	0.098	0.098	0.098
35	0.052	0.052	0.052	0.052	0.052	0.052
36	0.539	0.539	0.539	0.539	0.539	0.539
37	0.024	0.024	0.024	0.024	0.024	0.024
38	0.034	0.034	0.034	0.034	0.034	0.034
39	0.027	0.027	0.027	0.027	0.027	0.027
40	0.000	0.000	0.000	0.000	0.000	0.000
41	0.021	0.021	0.021	0.021	0.021	0.021

III-20

1980

Step 1.4

1/3

42	0.079	0.079	0.079	0.079	0.079	0.079
43	0.014	0.014	0.014	0.014	0.014	0.014
44	0.012	0.012	0.012	0.012	0.012	0.012
45	0.027	0.027	0.027	0.027	0.027	0.027
46	0.535	0.535	0.535	0.535	0.535	0.535
47	0.012	0.012	0.012	0.012	0.012	0.012
48	0.019	0.019	0.019	0.019	0.019	0.019
49	0.015	0.015	0.015	0.015	0.015	0.015
50	0.611	0.611	0.611	0.611	0.611	0.611
51	0.001	0.001	0.001	0.001	0.001	0.001
52	0.010	0.010	0.010	0.010	0.010	0.010
53	0.009	0.009	0.009	0.009	0.009	0.009
54	0.389	0.389	0.389	0.389	0.389	0.389
55	0.076	0.076	0.076	0.076	0.076	0.076
56	0.140	0.140	0.140	0.140	0.140	0.140
57	0.226	0.226	0.226	0.226	0.226	0.226
58	1.0	1.0	1.0	1.0	1.0	1.0
59	0.155	0.155	0.155	0.155	0.155	0.155
60	0.188	0.188	0.188	0.188	0.188	0.188
61	0.032	0.032	0.032	0.032	0.032	0.032
62	0.231	0.231	0.231	0.231	0.231	0.231
63	0.027	0.027	0.027	0.027	0.027	0.027
64	0.050	0.050	0.050	0.050	0.050	0.050
65	0.011	0.011	0.011	0.011	0.011	0.011
66	0.142	0.142	0.142	0.142	0.142	0.142
67	0.204	0.204	0.204	0.204	0.204	0.204
68	0.170	0.170	0.170	0.170	0.170	0.170
69	0.043	0.043	0.043	0.043	0.043	0.043
70	0.776	0.776	0.776	0.776	0.776	0.776
71	0.154	0.154	0.154	0.154	0.154	0.154
72	0.106	0.106	0.106	0.106	0.106	0.106
73	0.120	0.120	0.120	0.120	0.120	0.120
74	0.725	0.725	0.725	0.725	0.725	0.725
75	0.012	0.012	0.012	0.012	0.012	0.012
76	0.012	0.012	0.012	0.012	0.012	0.012
77	0.091	0.091	0.091	0.091	0.091	0.091
78	0.275	0.275	0.275	0.275	0.275	0.275
79	0.115	0.115	0.115	0.115	0.115	0.115
80	0.040	0.040	0.040	0.040	0.040	0.040
81	0.072	0.072	0.072	0.072	0.072	0.072
82	0.986	0.986	0.986	0.986	0.986	0.986

83	1.0	1.0	1.0	1.0	1.0	1.0
84	0.243	0.243	0.243	0.243	0.243	0.243
85	0.027	0.027	0.027	0.027	0.027	0.027
86	0.000	0.000	0.000	0.000	0.000	0.000
87	0.713	0.713	0.713	0.713	0.713	0.713
88	0.374	0.374	0.374	0.374	0.374	0.374
89	0.001	0.001	0.001	0.001	0.001	0.001
90	0.088	0.088	0.088	0.088	0.088	0.088
91	0.585	0.585	0.585	0.585	0.585	0.585
92	0.327	0.327	0.327	0.327	0.327	0.327
93	0.049	0.049	0.049	0.049	0.049	0.049
94	0.134	0.134	0.134	0.134	0.134	0.134
95	0.118	0.118	0.118	0.118	0.118	0.118
96	0.079	0.079	0.079	0.079	0.079	0.079
97	0.173	0.173	0.173	0.173	0.173	0.173
98	1.0	1.0	1.0	1.0	1.0	1.0
99	1.0	1.0	1.0	1.0	1.0	1.0
100	1.0	1.0	1.0	1.0	1.0	1.0
101	1.0	1.0	1.0	1.0	1.0	1.0
102	1.0	1.0	1.0	1.0	1.0	1.0
103	1.0	1.0	1.0	1.0	1.0	1.0
104	1.0	1.0	1.0	1.0	1.0	1.0
105	1.0	1.0	1.0	1.0	1.0	1.0
106	1.0	1.0	1.0	1.0	1.0	1.0
107	1.0	1.0	1.0	1.0	1.0	1.0
108	0.224	0.224	0.224	0.224	0.224	0.224
109	0.014	0.014	0.014	0.014	0.014	0.014
110	0.017	0.017	0.017	0.017	0.017	0.017
111	0.465	0.465	0.465	0.465	0.465	0.465
112	0.118	0.118	0.118	0.118	0.118	0.118
113	0.169	0.169	0.169	0.169	0.169	0.169
114	0.005	0.005	0.005	0.005	0.005	0.005
115	0.037	0.037	0.037	0.037	0.037	0.037
116	0.032	0.032	0.032	0.032	0.032	0.032
117	0.028	0.028	0.028	0.028	0.028	0.028
118	0.019	0.019	0.019	0.019	0.019	0.019
119	0.144	0.144	0.144	0.144	0.144	0.144
120	0.008	0.008	0.008	0.008	0.008	0.008
121	0.058	0.058	0.058	0.058	0.058	0.058
122	0.037	0.037	0.037	0.037	0.037	0.037

Y85-STEP014-DATA

01	0.000	0.000	0.000	0.000	0.000	0.000
02	0.000	0.000	0.000	0.000	0.000	0.000
03	0.000	0.000	0.000	0.000	0.000	0.000
04	0.000	0.000	0.000	0.000	0.000	0.000
05	0.000	0.000	0.000	0.000	0.000	0.000
06	0.727	0.727	0.727	0.727	0.727	0.727
07	0.000	0.000	0.000	0.000	0.000	0.000
08	0.052	0.052	0.052	0.052	0.052	0.052
09	0.000	0.000	0.000	0.000	0.000	0.000
10	0.208	0.208	0.208	0.208	0.208	0.208
11	0.013	0.013	0.013	0.013	0.013	0.013
12	0.025	0.025	0.025	0.025	0.025	0.025
13	0.040	0.040	0.040	0.040	0.040	0.040
14	0.135	0.135	0.135	0.135	0.135	0.135
15	0.225	0.225	0.225	0.225	0.225	0.225
16	0.098	0.098	0.098	0.098	0.098	0.098
17	0.000	0.000	0.000	0.000	0.000	0.000
18	0.076	0.076	0.076	0.076	0.076	0.076
19	0.069	0.069	0.069	0.069	0.069	0.069
20	0.108	0.108	0.108	0.108	0.108	0.108
21	0.109	0.109	0.109	0.109	0.109	0.109
22	0.039	0.039	0.039	0.039	0.039	0.039
23	0.076	0.076	0.076	0.076	0.076	0.076
24	0.278	0.278	0.278	0.278	0.278	0.278
25	0.194	0.194	0.194	0.194	0.194	0.194
26	0.015	0.015	0.015	0.015	0.015	0.015
27	0.070	0.070	0.070	0.070	0.070	0.070
28	0.054	0.054	0.054	0.054	0.054	0.054
29	0.0	0.0	0.0	0.0	0.0	0.0
30	0.424	0.424	0.424	0.424	0.424	0.424
31	0.044	0.044	0.044	0.044	0.044	0.044
32	0.109	0.109	0.109	0.109	0.109	0.109
33	0.025	0.025	0.025	0.025	0.025	0.025
34	0.092	0.092	0.092	0.092	0.092	0.092
35	0.049	0.049	0.049	0.049	0.049	0.049
36	0.298	0.298	0.298	0.298	0.298	0.298
37	0.022	0.022	0.022	0.022	0.022	0.022
38	0.032	0.032	0.032	0.032	0.032	0.032
39	0.043	0.043	0.043	0.043	0.043	0.043
40	0.733	0.733	0.733	0.733	0.733	0.733
41	0.026	0.026	0.026	0.026	0.026	0.026

III-23

42	0.074	0.074	0.074	0.074	0.074	0.074
43	0.016	0.016	0.016	0.016	0.016	0.016
44	0.011	0.011	0.011	0.011	0.011	0.011
45	0.025	0.025	0.025	0.025	0.025	0.025
46	0.143	0.143	0.143	0.143	0.143	0.143
47	0.018	0.018	0.018	0.018	0.018	0.018
48	0.031	0.031	0.031	0.031	0.031	0.031
49	0.014	0.014	0.014	0.014	0.014	0.014
50	0.611	0.611	0.611	0.611	0.611	0.611
51	0.019	0.019	0.019	0.019	0.019	0.019
52	0.009	0.009	0.009	0.009	0.009	0.009
53	0.008	0.008	0.008	0.008	0.008	0.008
54	0.389	0.389	0.389	0.389	0.389	0.389
55	0.069	0.069	0.069	0.069	0.069	0.069
56	0.128	0.128	0.128	0.128	0.128	0.128
57	0.205	0.205	0.205	0.205	0.205	0.205
58	1.0	1.0	1.0	1.0	1.0	1.0
59	0.153	0.153	0.153	0.153	0.153	0.153
60	0.186	0.186	0.186	0.186	0.186	0.186
61	0.032	0.032	0.032	0.032	0.032	0.032
62	0.241	0.241	0.241	0.241	0.241	0.241
63	0.029	0.029	0.029	0.029	0.029	0.029
64	0.056	0.056	0.056	0.056	0.056	0.056
65	0.011	0.011	0.011	0.011	0.011	0.011
66	0.134	0.134	0.134	0.134	0.134	0.134
67	0.202	0.202	0.202	0.202	0.202	0.202
68	0.178	0.178	0.178	0.178	0.178	0.178
69	0.048	0.048	0.048	0.048	0.048	0.048
70	0.776	0.776	0.776	0.776	0.776	0.776
71	0.120	0.120	0.120	0.120	0.120	0.120
72	0.111	0.111	0.111	0.111	0.111	0.111
73	0.125	0.125	0.125	0.125	0.125	0.125
74	0.725	0.725	0.725	0.725	0.725	0.725
75	0.012	0.012	0.012	0.012	0.012	0.012
76	0.013	0.013	0.013	0.013	0.013	0.013
77	0.095	0.095	0.095	0.095	0.095	0.095
78	0.275	0.275	0.275	0.275	0.275	0.275
79	0.106	0.106	0.106	0.106	0.106	0.106
80	0.037	0.037	0.037	0.037	0.037	0.037
81	0.066	0.066	0.066	0.066	0.066	0.066
82	0.986	0.986	0.986	0.986	0.986	0.986

83	1.0	1.0	1.0	1.0	1.0	1.0
84	0.243	0.243	0.243	0.243	0.243	0.243
85	0.027	0.027	0.027	0.027	0.027	0.027
86	0.000	0.000	0.000	0.000	0.000	0.000
87	0.713	0.713	0.713	0.713	0.713	0.713
88	0.353	0.353	0.353	0.353	0.353	0.353
89	0.001	0.001	0.001	0.001	0.001	0.001
90	0.088	0.088	0.088	0.088	0.088	0.088
91	0.585	0.585	0.585	0.585	0.585	0.585
92	0.327	0.327	0.327	0.327	0.327	0.327
93	0.048	0.048	0.048	0.048	0.048	0.048
94	0.132	0.132	0.132	0.132	0.132	0.132
95	0.116	0.116	0.116	0.116	0.116	0.116
96	0.075	0.075	0.075	0.075	0.075	0.075
97	0.196	0.196	0.196	0.196	0.196	0.196
98	1.0	1.0	1.0	1.0	1.0	1.0
99	1.0	1.0	1.0	1.0	1.0	1.0
100	1.0	1.0	1.0	1.0	1.0	1.0
101	1.0	1.0	1.0	1.0	1.0	1.0
102	1.0	1.0	1.0	1.0	1.0	1.0
103	1.0	1.0	1.0	1.0	1.0	1.0
104	1.0	1.0	1.0	1.0	1.0	1.0
105	1.0	1.0	1.0	1.0	1.0	1.0
106	1.0	1.0	1.0	1.0	1.0	1.0
107	1.0	1.0	1.0	1.0	1.0	1.0
108	0.224	0.224	0.224	0.224	0.224	0.224
109	0.014	0.014	0.014	0.014	0.014	0.014
110	0.017	0.017	0.017	0.017	0.017	0.017
111	0.124	0.124	0.124	0.124	0.124	0.124
112	0.117	0.117	0.117	0.117	0.117	0.117
113	0.180	0.180	0.180	0.180	0.180	0.180
114	0.092	0.092	0.092	0.092	0.092	0.092
115	0.034	0.034	0.034	0.034	0.034	0.034
116	0.030	0.030	0.030	0.030	0.030	0.030
117	0.025	0.025	0.025	0.025	0.025	0.025
118	0.017	0.017	0.017	0.017	0.017	0.017
119	0.131	0.131	0.131	0.131	0.131	0.131
120	0.007	0.007	0.007	0.007	0.007	0.007
121	0.053	0.053	0.053	0.053	0.053	0.053
122	0.036	0.036	0.036	0.036	0.036	0.036

Y90-STEP014-DATA

01	0.000	0.000	0.000	0.000	0.000	0.000
02	0.000	0.000	0.000	0.000	0.000	0.000
03	0.000	0.000	0.000	0.000	0.000	0.000
04	0.000	0.000	0.000	0.000	0.000	0.000
05	0.505	0.505	0.505	0.505	0.505	0.505
06	0.252	0.252	0.252	0.252	0.252	0.252
07	0.000	0.000	0.000	0.000	0.000	0.000
08	0.018	0.018	0.018	0.018	0.018	0.018
09	0.000	0.000	0.000	0.000	0.000	0.000
10	0.220	0.220	0.220	0.220	0.220	0.220
11	0.005	0.005	0.005	0.005	0.005	0.005
12	0.020	0.020	0.020	0.020	0.020	0.020
13	0.031	0.031	0.031	0.031	0.031	0.031
14	0.105	0.105	0.105	0.105	0.105	0.105
15	0.175	0.175	0.175	0.175	0.175	0.175
16	0.189	0.189	0.189	0.189	0.189	0.189
17	0.081	0.081	0.081	0.081	0.081	0.081
18	0.059	0.059	0.059	0.059	0.059	0.059
19	0.053	0.053	0.053	0.053	0.053	0.053
20	0.084	0.084	0.084	0.084	0.084	0.084
21	0.085	0.085	0.085	0.085	0.085	0.085
22	0.059	0.059	0.059	0.059	0.059	0.059
23	0.059	0.059	0.059	0.059	0.059	0.059
24	0.278	0.278	0.278	0.278	0.278	0.278
25	0.163	0.163	0.163	0.163	0.163	0.163
26	0.013	0.013	0.013	0.013	0.013	0.013
27	0.179	0.179	0.179	0.179	0.179	0.179
28	0.045	0.045	0.045	0.045	0.045	0.045
29	0.0	0.0	0.0	0.0	0.0	0.0
30	0.424	0.424	0.424	0.424	0.424	0.424
31	0.037	0.037	0.037	0.037	0.037	0.037
32	0.091	0.091	0.091	0.091	0.091	0.091
33	0.021	0.021	0.021	0.021	0.021	0.021
34	0.077	0.077	0.077	0.077	0.077	0.077
35	0.042	0.042	0.042	0.042	0.042	0.042
36	0.298	0.298	0.298	0.298	0.298	0.298
37	0.018	0.018	0.018	0.018	0.018	0.018
38	0.026	0.026	0.026	0.026	0.026	0.026
39	0.036	0.036	0.036	0.036	0.036	0.036
40	0.332	0.332	0.332	0.332	0.332	0.332
41	0.064	0.064	0.064	0.064	0.064	0.064

42	0.061	0.061	0.061	0.061	0.061	0.061
43	0.014	0.014	0.014	0.014	0.014	0.014
44	0.009	0.009	0.009	0.009	0.009	0.009
45	0.021	0.021	0.021	0.021	0.021	0.021
46	0.634	0.634	0.634	0.634	0.634	0.634
47	0.015	0.015	0.015	0.015	0.015	0.015
48	0.026	0.026	0.026	0.026	0.026	0.026
49	0.011	0.011	0.011	0.011	0.011	0.011
50	0.611	0.611	0.611	0.611	0.611	0.611
51	0.016	0.016	0.016	0.016	0.016	0.016
52	0.008	0.008	0.008	0.008	0.008	0.008
53	0.007	0.007	0.007	0.007	0.007	0.007
54	0.389	0.389	0.389	0.389	0.389	0.389
55	0.069	0.069	0.069	0.069	0.069	0.069
56	0.128	0.128	0.128	0.128	0.128	0.128
57	0.206	0.206	0.206	0.206	0.206	0.206
58	1.0	1.0	1.0	1.0	1.0	1.0
59	0.152	0.152	0.152	0.152	0.152	0.152
60	0.184	0.184	0.184	0.184	0.184	0.184
61	0.032	0.032	0.032	0.032	0.032	0.032
62	0.239	0.239	0.239	0.239	0.239	0.239
63	0.033	0.033	0.033	0.033	0.033	0.033
64	0.056	0.056	0.056	0.056	0.056	0.056
65	0.011	0.011	0.011	0.011	0.011	0.011
66	0.133	0.133	0.133	0.133	0.133	0.133
67	0.201	0.201	0.201	0.201	0.201	0.201
68	0.178	0.178	0.178	0.178	0.178	0.178
69	0.047	0.047	0.047	0.047	0.047	0.047
70	0.776	0.776	0.776	0.776	0.776	0.776
71	0.120	0.120	0.120	0.120	0.120	0.120
72	0.111	0.111	0.111	0.111	0.111	0.111
73	0.125	0.125	0.125	0.125	0.125	0.125
74	0.725	0.725	0.725	0.725	0.725	0.725
75	0.012	0.012	0.012	0.012	0.012	0.012
76	0.012	0.012	0.012	0.012	0.012	0.012
77	0.094	0.094	0.094	0.094	0.094	0.094
78	0.275	0.275	0.275	0.275	0.275	0.275
79	0.106	0.106	0.106	0.106	0.106	0.106
80	0.037	0.037	0.037	0.037	0.037	0.037
81	0.066	0.066	0.066	0.066	0.066	0.066
82	0.986	0.986	0.986	0.986	0.986	0.986

83	1.0	1.0	1.0	1.0	1.0	1.0
84	0.243	0.243	0.243	0.243	0.243	0.243
85	0.027	0.027	0.027	0.027	0.027	0.027
86	0.000	0.000	0.000	0.000	0.000	0.000
87	0.713	0.713	0.713	0.713	0.713	0.713
88	0.351	0.351	0.351	0.351	0.351	0.351
89	0.001	0.001	0.001	0.001	0.001	0.001
90	0.217	0.217	0.217	0.217	0.217	0.217
91	0.502	0.502	0.502	0.502	0.502	0.502
92	0.281	0.281	0.281	0.281	0.281	0.281
93	0.048	0.048	0.048	0.048	0.048	0.048
94	0.131	0.131	0.131	0.131	0.131	0.131
95	0.115	0.115	0.115	0.115	0.115	0.115
96	0.074	0.074	0.074	0.074	0.074	0.074
97	0.202	0.202	0.202	0.202	0.202	0.202
98	1.0	1.0	1.0	1.0	1.0	1.0
99	1.0	1.0	1.0	1.0	1.0	1.0
100	1.0	1.0	1.0	1.0	1.0	1.0
101	1.0	1.0	1.0	1.0	1.0	1.0
102	1.0	1.0	1.0	1.0	1.0	1.0
103	1.0	1.0	1.0	1.0	1.0	1.0
104	1.0	1.0	1.0	1.0	1.0	1.0
105	1.0	1.0	1.0	1.0	1.0	1.0
106	1.0	1.0	1.0	1.0	1.0	1.0
107	1.0	1.0	1.0	1.0	1.0	1.0
108	0.224	0.224	0.224	0.224	0.224	0.224
109	0.014	0.014	0.014	0.014	0.014	0.014
110	0.017	0.017	0.017	0.017	0.017	0.017
111	0.034	0.034	0.034	0.034	0.034	0.034
112	0.125	0.125	0.125	0.125	0.125	0.125
113	0.177	0.177	0.177	0.177	0.177	0.177
114	0.092	0.092	0.092	0.092	0.092	0.092
115	0.030	0.030	0.030	0.030	0.030	0.030
116	0.032	0.032	0.032	0.032	0.032	0.032
117	0.025	0.025	0.025	0.025	0.025	0.025
118	0.017	0.017	0.017	0.017	0.017	0.017
119	0.131	0.131	0.131	0.131	0.131	0.131
120	0.007	0.007	0.007	0.007	0.007	0.007
121	0.054	0.054	0.054	0.054	0.054	0.054
122	0.036	0.036	0.036	0.036	0.036	0.036

Y20-STEP014-DATA

01	0.000	0.000	0.000	0.000	0.000	0.000
02	0.000	0.000	0.000	0.000	0.000	0.000
03	0.032	0.032	0.032	0.032	0.032	0.032
04	0.000	0.000	0.000	0.000	0.000	0.000
05	0.490	0.490	0.490	0.490	0.490	0.490
06	0.244	0.244	0.244	0.244	0.244	0.244
07	0.000	0.000	0.000	0.000	0.000	0.000
07	0.017	0.017	0.017	0.017	0.017	0.017
09	0.000	0.000	0.000	0.000	0.000	0.000
10	0.213	0.213	0.213	0.213	0.213	0.213
11	0.004	0.004	0.004	0.004	0.004	0.004
12	0.018	0.018	0.018	0.018	0.018	0.018
13	0.029	0.029	0.029	0.029	0.029	0.029
14	0.099	0.099	0.099	0.099	0.099	0.099
15	0.166	0.166	0.166	0.166	0.166	0.166
16	0.180	0.180	0.180	0.180	0.180	0.180
17	0.077	0.077	0.077	0.077	0.077	0.077
18	0.056	0.056	0.056	0.056	0.056	0.056
19	0.050	0.050	0.050	0.050	0.050	0.050
20	0.080	0.080	0.080	0.080	0.080	0.080
21	0.080	0.080	0.080	0.080	0.080	0.080
22	0.056	0.056	0.056	0.056	0.056	0.056
23	0.109	0.109	0.109	0.109	0.109	0.109
24	0.278	0.278	0.278	0.278	0.278	0.278
25	0.161	0.161	0.161	0.161	0.161	0.161
26	0.013	0.013	0.013	0.013	0.013	0.013
27	0.176	0.176	0.176	0.176	0.176	0.176
28	0.044	0.044	0.044	0.044	0.044	0.044
29	0.0	0.0	0.0	0.0	0.0	0.0
30	0.424	0.424	0.424	0.424	0.424	0.424
31	0.036	0.036	0.036	0.036	0.036	0.036
32	0.090	0.090	0.090	0.090	0.090	0.090
33	0.021	0.021	0.021	0.021	0.021	0.021
34	0.076	0.076	0.076	0.076	0.076	0.076
35	0.041	0.041	0.041	0.041	0.041	0.041
36	0.298	0.298	0.298	0.298	0.298	0.298
37	0.029	0.029	0.029	0.029	0.029	0.029
38	0.026	0.026	0.026	0.026	0.026	0.026
39	0.035	0.035	0.035	0.035	0.035	0.035
40	0.194	0.194	0.194	0.194	0.194	0.194
41	0.063	0.063	0.063	0.063	0.063	0.063

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42	0.060	0.060	0.060	0.060	0.060	0.060
43	0.014	0.014	0.014	0.014	0.014	0.014
44	0.009	0.009	0.009	0.009	0.009	0.009
45	0.021	0.021	0.021	0.021	0.021	0.021
46	0.371	0.371	0.371	0.371	0.371	0.371
47	0.014	0.014	0.014	0.014	0.014	0.014
48	0.025	0.025	0.025	0.025	0.025	0.025
49	0.011	0.011	0.011	0.011	0.011	0.011
50	0.393	0.393	0.393	0.393	0.393	0.393
51	0.016	0.016	0.016	0.016	0.016	0.016
52	0.007	0.007	0.007	0.007	0.007	0.007
53	0.012	0.012	0.012	0.012	0.012	0.012
54	0.607	0.607	0.607	0.607	0.607	0.607
55	0.064	0.064	0.064	0.064	0.064	0.064
56	0.088	0.088	0.088	0.088	0.088	0.088
57	0.210	0.210	0.210	0.210	0.210	0.210
58	1.0	1.0	1.0	1.0	1.0	1.0
59	0.152	0.152	0.152	0.152	0.152	0.152
60	0.184	0.184	0.184	0.184	0.184	0.184
61	0.032	0.032	0.032	0.032	0.032	0.032
62	0.217	0.217	0.217	0.217	0.217	0.217
63	0.033	0.033	0.033	0.033	0.033	0.033
64	0.056	0.056	0.056	0.056	0.056	0.056
65	0.011	0.011	0.011	0.011	0.011	0.011
66	0.121	0.121	0.121	0.121	0.121	0.121
67	0.199	0.199	0.199	0.199	0.199	0.199
68	0.176	0.176	0.176	0.176	0.176	0.176
69	0.047	0.047	0.047	0.047	0.047	0.047
70	0.776	0.776	0.776	0.776	0.776	0.776
71	0.119	0.119	0.119	0.119	0.119	0.119
72	0.110	0.110	0.110	0.110	0.110	0.110
73	0.124	0.124	0.124	0.124	0.124	0.124
74	0.725	0.725	0.725	0.725	0.725	0.725
75	0.012	0.012	0.012	0.012	0.012	0.012
76	0.019	0.019	0.019	0.019	0.019	0.019
77	0.094	0.094	0.094	0.094	0.094	0.094
78	0.275	0.275	0.275	0.275	0.275	0.275
79	0.108	0.108	0.108	0.108	0.108	0.108
80	0.037	0.037	0.037	0.037	0.037	0.037
81	0.067	0.067	0.067	0.067	0.067	0.067
82	0.986	0.986	0.986	0.986	0.986	0.986

83	1.0	1.0	1.0	1.0	1.0	1.0
84	0.243	0.243	0.243	0.243	0.243	0.243
85	0.027	0.027	0.027	0.027	0.027	0.027
86	0.000	0.000	0.000	0.000	0.000	0.000
87	0.713	0.713	0.713	0.713	0.713	0.713
88	0.318	0.318	0.318	0.318	0.318	0.318
89	0.001	0.001	0.001	0.001	0.001	0.001
90	0.217	0.217	0.217	0.217	0.217	0.217
91	0.502	0.502	0.502	0.502	0.502	0.502
92	0.281	0.281	0.281	0.281	0.281	0.281
93	0.048	0.048	0.048	0.048	0.048	0.048
94	0.131	0.131	0.131	0.131	0.131	0.131
95	0.115	0.115	0.115	0.115	0.115	0.115
96	0.159	0.159	0.159	0.159	0.159	0.159
97	0.184	0.184	0.184	0.184	0.184	0.184
98	1.0	1.0	1.0	1.0	1.0	1.0
99	1.0	1.0	1.0	1.0	1.0	1.0
100	1.0	1.0	1.0	1.0	1.0	1.0
101	1.0	1.0	1.0	1.0	1.0	1.0
102	1.0	1.0	1.0	1.0	1.0	1.0
103	1.0	1.0	1.0	1.0	1.0	1.0
104	1.0	1.0	1.0	1.0	1.0	1.0
105	1.0	1.0	1.0	1.0	1.0	1.0
106	1.0	1.0	1.0	1.0	1.0	1.0
107	1.0	1.0	1.0	1.0	1.0	1.0
108	0.224	0.224	0.224	0.224	0.224	0.224
109	0.014	0.014	0.014	0.014	0.014	0.014
110	0.017	0.017	0.017	0.017	0.017	0.017
111	0.435	0.435	0.435	0.435	0.435	0.435
112	0.125	0.125	0.125	0.125	0.125	0.125
113	0.177	0.177	0.177	0.177	0.177	0.177
114	0.094	0.094	0.094	0.094	0.094	0.094
115	0.033	0.033	0.033	0.033	0.033	0.033
116	0.052	0.052	0.052	0.052	0.052	0.052
117	0.025	0.025	0.025	0.025	0.025	0.025
118	0.027	0.027	0.027	0.027	0.027	0.027
119	0.133	0.133	0.133	0.133	0.133	0.133
120	0.007	0.007	0.007	0.007	0.007	0.007
121	0.055	0.055	0.055	0.055	0.055	0.055
122	0.036	0.036	0.036	0.036	0.036	0.036

STEP 1.5

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00000010 //D35CS015 JOB (D35C,LADPM,OJA,,,,2),CLASS=P
00000020 /*ROUTE PRINT REMOTE64
00000030 //PROCLIB DD DSN=D358.PMMPROC.CNTL,DISP=SHR
00000040 //STEP015A EXEC UMATRX,
00000050 //      J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB3',UNITJ1='3330-1',
00000060 //      J2='DSN=D35C.LADPM.Y90.DIST27.TRIPTAB4',UNITJ2='3330-1',
00000070 //      DISPJ9='(,CATLG,DELETE)',
00000080 //      J9='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP',UNITJ9=PUBLIC
00000090 //UMATRIX.SYSIN DD *
00000100          FACTOR TO DAILY AUTO TRIPS ENTERING THE CBD
00000110          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000120 &PARAM
00000130          ZONES=27, OUTBPT=4,
00000140          COMBIN1='IF (I<=9 AND J<=9) THEN (T101-T102)
00000150          ELSE 1.149 * (T101-T102)',
00000160          COMBIN2='IF (I<=9 AND J<=9) THEN (T103+T201+T203)
00000170          ELSE 1.149 * (T103+T201+T203)',
00000180          NAME1='AUTOPER90', NAME2='AUTOVEH90'
00000190 &END
00000200 &SELECT
00000210          I=1,-27
00000220 &END
00000230 //STEP015R EXEC USQUEX,CORE=253K,TIME=(,20),
00000240 //      COND=(0,LT,STEP015A.UMATRIX),
00000250 //      J1='DSN=D35C.LADPM.Y90.DIST27.TRIPTMP',UNITJ1='3330-1',
00000260 //      A1='DSN=D35C.LADPM.Y90.STEP014.DATA',UNITA1='3330-1',
00000270 //      J9='DSN=D35C.LADPM.Y90.CBD122.TRIPTMP',
00000280 //      UNITJ9=PUBLIC,DISPJ9='(,CATLG,DELETE)',
00000290 //      SPACEJ9='(TRK,(5,3),RLSE)'
00000300 //USQUEX.SYSIN DD *
00000310          EXPAND DAILY AUTO TRIPS TO CBD ZONES
00000320          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000330 &PARAM
00000340          DISTS=27,
00000350          ZONES=122,
00000360          OUTBPT=4,
00000370          TABLES=101, 102,
00000380          NAME1='AUTOPER90', NAME2='AUTOVEH90'
00000390 &END
00000400 &OPTION
00000410          EXPAND=T, ONE=T
00000420 &END

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00000430 &SELECT
00000440     REPORT = 3,4
00000450     PRINT = 14,19,106
00000460 &END
00000470 &EQUIV DIST = 1, Z = 99      &END
00000480 &EQUIV DIST = 2, Z = 100    &END
00000490 &EQUIV DIST = 3, Z = 101    &END
00000500 &EQUIV DIST = 4, Z = 102    &END
00000510 &EQUIV DIST = 5, Z = 103    &END
00000520 &EQUIV DIST = 6, Z = 104    &END
00000530 &EQUIV DIST = 7, Z = 105    &END
00000540 &EQUIV DIST = 8, Z = 106    &END
00000550 &EQUIV DIST = 9, Z = 107    &END
00000560 &EQUIV DIST = 10, Z = 62, 66, 88, 89, 96, 97      &END
00000570 &EQUIV DIST = 11, Z = 70, 108      &END
00000580 &EQUIV DIST = 12, Z = 74, 78      &END
00000590 &EQUIV DIST = 13, Z = 82, 109      &END
00000600 &EQUIV DIST = 14, Z = 24, 30, 36      &END
00000610 &EQUIV DIST = 16, Z = 90, -92      &END
00000620 &EQUIV DIST = 15, Z = 83      &END
00000630 &EQUIV DIST = 17, Z = 84, -87, 110      &END
00000640 &EQUIV DIST = 18, Z = 1, -11      &END
00000650 &EQUIV DIST = 19, Z = 12, -23      &END
00000660 &EQUIV DIST = 20, Z = 58      &END
00000670 &EQUIV DIST = 21, Z = 50, 54      &END
00000680 &EQUIV DIST = 22, Z = 40, 46, 111      &END
00000690 &EQUIV DIST = 23, Z = 25, -29, 31, -35, 37, -39, 41, -45, 47, -49,
00000700     51, -53      &END
00000710 &EQUIV DIST = 24, Z = 63, -65, 67, -69, 71, -73, 75, -77      &END
00000720 &EQUIV DIST = 25, Z = 59, -61, 93, -95, 112, 113, 122      &END
00000730 &EQUIV DIST = 26, Z = 55, -57, 79, -81, 114, -121      &END
00000740 &EQUIV DIST = 27, Z = 98      &END
00000750 //STEP015C EXEC USQUEX, CORE=253K, TIME=(,20),
00000760 //     COND=(4,LT,STEP015B.USQUEX),
00000770 //     J1='DSN=D35C.LADPM.Y90.CBD122.TRIPTEMP', UNITJ1='3330-1',
00000780 //     J9='DSN=D35C.LADPM.Y90.CBD107.AUTO', UNITJ9=PUBLIC,
00000790 //     SPACEJ9='(TRK,(10,5),RLSE)', DISPJ9='(,CATLG,DELETE)'
00000800 //USQUEX.SYSIN DD #
00000810     RFORGANIZE TO STUDY AREA ZONE SYSTEM - 1990
00000820     LOS ANGELES DOWNTOWN PEOPLE MOVER
00000830 &PARAM
00000840     ZONES=122,

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00000850      DIST=107
00000860      OUTBPT=4
00000870      TABLES=101, 102,
00000880      NAME1='AUTOPER90', NAME2='AUTOVEH90'
00000890 &END
00000900 &OPTION
00000910      SQUEEZ=T
00000920 &FND
00000930 &SELECT
00000940      REPORT=4, PRINT=14,19,106
00000950 &END
00000960 &EQUIV SAME= 1,-49,54,-62,67,-74,79,-81,83,-88,90,-107 &END
00000970 &EQUIV DIST = 50, Z= 50,111 &END
00000980 &EQUIV DIST = 51, Z= 51,114 &END
00000990 &EQUIV DIST = 52, Z= 52,115 &END
00001000 &EQUIV DIST = 53, Z= 53,116 &END
00001010 &EQUIV DIST = 63, Z= 63,112 &END
00001020 &EQUIV DIST = 64, Z= 64,113 &END
00001030 &EQUIV DIST = 65, Z= 65,122 &END
00001040 &EQUIV DIST = 66, Z= 66,108 &END
00001050 &EQUIV DIST = 75, Z= 75,117 &END
00001060 &EQUIV DIST = 76, Z= 76,118 &END
00001070 &EQUIV DIST = 77, Z= 77,119 &END
00001080 &EQUIV DIST = 78, Z= 78,109,120 &END
00001090 &EQUIV DIST = 82, Z= 82,121 &END
00001100 &EQUIV DIST = 89, Z=89,110 &END
00001110 //STEP015D EXEC PGM=IEFBR14,COND=(0,LT,STFP015C,USQUFX)
00001120 //DD1 DD DSN=D35C.LADPM.Y90.CBD122.TRIPTMP,DISP=(OLD,DELETE)
00001130 //DD2 DD DSN=D35C.LADPM.Y90.DIST27.TRIPTMP,DISP=(OLD,DELETE)
00001140 //STEP015E EXEC UFMTR,CORE=253K,TIME=(,10),
00001150 //      COND=(0,LT,STEP015C,USQUFX),
00001160 //      J1='DSN=D35C.LADPM.Y90.CBD107.AUTO'
00001170 //UFMTR.SYSIN DD *
00001180      1990 PEAK HOUR STUDY AREA TRIP END SUMMARY
00001190      LOS ANGELES DOWNTOWN PEOPLE MOVER
00001200 &PARAM
00001210      ZONES=107,
00001220      TABLES = 101, 102
00001230 &END
00001240 &SELECT
00001250      REPORT = 3
00001260 &END

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00001270 //STEP015F EXEC USQUEX,CORE=255K,TIME=(,10),
00001280 //  J1='DSN=D35C.LADPM.Y90.CBD107.AUTO',UNITJ1='3330-1',
00001290 //  J9='DSN=D35C.LADPM.Y90.CBD9X107.AUTO',UNITJ9=PUBLIC,
00001300 //  DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)'
00001310 //USQUEX.SYSIN DD *
00001320                COMPRESS TRIPS FROM 107 ZONES TO 9 CORRIDORS
00001330                LOS ANGELES DOWNTOWN PEOPLE MOVER
00001340      &PARAM
00001350          ZONES=107, DISTS=10,
00001360          TABLES= 101, 102,
00001370          OUTBPT=4,
00001380          NAME1='AUTOPER90', NAME2='AUTOVEH90'
00001390      &END
00001400      &OPTION
00001410          SQUEE7=T, ROW=T
00001420      &END
00001430      &SELECT
00001440          REPORT=4, PRINT=1,-10
00001450      &END
00001460      &EQUIV    DIST=1, Z= 99      &END
00001470      &EQUIV    DIST=2, Z=100      &END
00001480      &EQUIV    DIST=3, Z=101      &END
00001490      &EQUIV    DIST=4, Z=102      &END
00001500      &EQUIV    DIST=5, Z=103      &END
00001510      &EQUIV    DIST=6, Z=104      &END
00001520      &EQUIV    DIST=7, Z=105      &END
00001530      &EQUIV    DIST=8, Z=106      &END
00001540      &EQUIV    DIST=9, Z=107      &END
00001550      &EQUIV    DIST=10, Z=1,-98    &END

```

STEP 2.0

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00000010 //D35CS020 JOB (D35C,LADPM,DJA,,,2),CLASS=P
00000020 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000030 //STEP020A EXEC PGM=BUSSTOP,REGION=256K
00000040 //STEPLIB DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR
00000050 //FT11F001 DD DSN=D35C.LADPM.Y90.CBD107.TRIPTAR6,DISP=OLD
00000060 //FT19F001 DD DSN=D35C.LADPM.Y90.CBD116.TRANSIT,DISP=(,CATLG,DELETE),
00000070 // UNIT=PUBLIC,DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=6447),
00000080 // SPACE=(TRK,(10,3),RLSE)
00000090 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
00000100 // DCB=(RECFM=FB,LRECL=80,BLKSIZE=1680)
00000110 //FT21F001 DD DUMMY
00000120 //FT06F001 DD SYSOUT=A
00000130 //FT05F001 DD DSN=D35C.LADPM.Y90.BUSSTOP.DATA,DISP=SHR
00000140 //STEP020B EXEC UFMTR,CORE=253K,TIME=(,10),
00000150 // COND=(0,LT,STEP020A),
00000160 // J1='DSN=D35C.LADPM.Y90.CBD116.TRANSIT'
00000170 //UFMTR.SYSIN DD *
00000180 1990 PEAK HOUR INTERNAL TRANSIT TRIP END SUMMARY
00000190 LOS ANGELES DOWNTOWN PEOPLE MOVER
00000200 &PARAM
00000210 ZONES=116,
00000220 TABLES = 101,
00000230 TITLE1='PKTRAN90'
00000240 &FND
00000250 &SELECT
00000260 REPORT=3
00000270 &END

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Step 3.0

III-38

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00000010 //D35R040 JOB (D35B,LADPM,0JA,35,,2),CLASS=P
00000020 /*SETUP D35D01
00000030 /*MESSAGE MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP040A EXEC UNET,NET=MMODEPM,YEAR=90
00000070 //UNET.SYSIN DD *
00000080 BUILD PM MULTI-MODE NETWORK FOR YEAR 1990
00000090 LOS ANGELES DOWNTOWN PEOPLE MOVER
00000100 &PARAM
00000110 ZONES=116,NODES=750,LENAM=0,LENPM=1 &END
00000120 &OPTION
00000130 BUILD=T,PM=T,AM=F &END
00000140 &SELECT
00000150 REPORT=1,2,3,4,5,6, RMODES=4,-8 &END
00000160 &DATA
00000170 99999999999999999999999999999999
00000180 (INSERT LINK AND LINE CARDS HERE)
00000190 .
00000200 .
00000210 //STEP040B EXEC UNET,NET=MMODEMD,YEAR=90
00000220 //UNET.SYSIN DD *
00000230 BUILD MIDDAY MULTI-MODE NETWORK FOR YEAR 1990
00000240 LOS ANGELES DOWNTOWN PEOPLE MOVER
00000250 &PARAM
00000260 ZONES=116,NODES=750,LENAM=0,LENMID=1 &END
00000270 &OPTION
00000280 BUILD=T,MIDDAY=T,AM=F &END
00000290 &SELECT
00000300 REPORT=1,2,3,4,5,6, RMODES=4,-8 &END
00000310 &DATA
00000320 99999999999999999999999999999999
00000330 (INSERT LINK AND LINE CARDS HERE)
00000340 .
00000350 .

```

STEP 5.0

```

00000010 //D35CS050 JOB (D35C,LADPM,OJA,15,,,2),CLASS=P,TIME=2
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT  -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000051 //KILL EXEC PGM=IEFBR14
00000052 //DD1 DD DSN=D35B.LADPM.Y90.WALKPM.SKIM,DISP=(OLD,DELETE)
00000053 //DD2 DD DSN=D35B.LADPM.Y90.WALKMD.SKIM,DISP=(OLD,DELETE)
00000060 //STEP050A EXEC UPATH,DISPATH='(,DELETE)',
00000070 //      YEAR=90,NET=MMODEPM,
00000080 //      J1='DSN=D35C.STEP050.TEMP',UNITJ1=PUBLIC
00000090 //UPATH.SYSIN DD *
00000100      WALK NETWORK PATHS FOR YEAR 1990
00000110      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000120 &PARAM
00000130      NAME1='WALKDISTY90',
00000140      NAME2='WALKTIMEY90'
00000150                                &END
00000160 &OPTION
00000170      AM=F, PM=T
00000180      DIST=T,IMPED=T
00000190                                &END
00000200 &SELECT
00000210      RPORT=4,6,7
00000220      DELETE=4,5,6,7,8
00000230      I=1,-116
00000240      PRINT=15,19,41,80,94,111,114                                &END
00000250 //STEP050B EXEC UMATRIX,J1='DSN=D35C.STEP050.TEMP',
00000251 //      UNITJ1='3330-1',
00000270 //      J9='DSN=D35B.LADPM.Y90.WALKPM.SKIM',
00000280 //      SPACEJ9='(TRK,(3,1),RLSE)',
00000290 //      UNITJ9='3330,VOL=SER=D35D01',
00000300 //      DISPJ9='(,CATLG,DELETE)'
00000310 //UMATRIX.SYSIN DD *
00000320      RESET WALK NETWORK ZERO DISTANCE INTERCHANGES
00000330      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000340 &PARAM
00000350      ZONES=116,
00000360      COMBIN1='IF T102=32767 THEN 32767 ELSE
00000370              IF T101=0 THEN 1 ELSE T101'
00000380      COMBIN2='IF ((I<99 OR I>107) AND (J<99 OR J>107))
00000390              THEN

```

```

00000400          (IF T102=0 AND T901>0 THEN 2 ELSE T102)
00000410          ELSE 32767'
00000420          NAME1='WALKDISTY90',
00000430          NAME2='WALKTIMEY90'
00000440          OUTBPT=2
00000450                                &END
00000460      &SELECT
00000470          PRINT=15,19,41,80,94,111,114
00000480                                &END
00000490      //STEP050C EXEC PGM=IEFBR14,COND=(0,LT,STEP050B,UMATRIX)
00000491      //DD1 DD DSN=D35C,STEP050.TEMP,DISP=(OLD,DELETE)
00000500      //STEP050D EXEC UPATH,DISPATH='(,DELETE)',
00000510      //          YEAR=90,NET=MMODEMD,
00000520      //          J1='DSN=D35C,STEP050.TEMP',UNITJ1=PUBLIC
00000530      //UPATH.SYSIN DD *
00000540          WALK NETWORK PATHS FOR YEAR 1990
00000550          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000560      &PARAM
00000570          NAME1='WALKDISTY90',
00000580          NAME2='WALKTIMEY90'
00000590                                &END
00000600      &OPTION
00000610          AM=F, MIDDAY=T
00000620          DIST=T,IMPED=T
00000630                                &END
00000640      &SELECT
00000650          REPORT=4,6,7
00000660          DELFTE=4,5,6,7,8
00000670          I=1,-116
00000680          PRINT=15,19,41,80,94,111,114                                &END
00000690      //STEP050E EXEC UMATRIX,J1='DSN=D35C,STEP050.TEMP',
00000691      //          UNITJ1='3330-1',
00000700      //          J9='DSN=D35B,LADPM.Y90,WALKMD.SKIM',
00000710      //          SPACEJ9='(TRK,(3,1),RLSE)',
00000720      //          UNITJ9='3330,VOL=SER=D35D01',
00000730      //          DISPJ9='(,CATLG,DELETE)'
00000740      //UMATRIX.SYSIN DD *
00000750          RESET WALK NETWORK ZERO DISTANCE INTERCHANGES
00000760          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000770      &PARAM
00000780          ZONES=116,
00000790          COMBIN1='IF T102=32767 THEN 32767 ELSE

```

```

00000800          IF T101=0 THEN 1 ELSE T101
00000810      COMBIN2='IF ((I<99 OR I>107) AND (J<99 OR J>107))
00000820          THEN
00000830              (IF T102=0 AND T901>0 THEN 2 ELSE T102)
00000840              ELSE 32767
00000850      NAME1='WALKDISTY90',
00000860      NAME2='WALKTIMEY90'
00000870      OUTBPT=2
00000880
00000890          &END
00000900      &SELECT
00000910          PRINT=15,19,41,80,94,111,114
00000920          &END
00000930 //STEP050F EXEC PGM=IEFBR14,COND=(0,LT,STEP050R.UMATRIX)
00000940 //DD1 DD DSN=D35C.STEP050.TEMP,DISP=(OLD,DELETE)

```

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STEP 6.0

```

00000010 //D35BS060 JOB (D35B,LADPM),CLASS=9,TIME=10
00000020 /*SETUP          D35D01
00000030 /*MESSAGE          MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP060A EXEC UPATH,DISPATH='(,DELETE)',
00000070 //          J1='DSN=D35B.TEMP',UNITJ1=PUBLIC
00000080 //UPATH.SYSIN DD *
00000090          AUTO NETWORK SKIM TIME AND DISTANCE FOR YEAR 1990
00000095          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000100 &PARAM
00000110          NAME1='DISTANCE', NAME2='TIME'          &END
00000120 &OPTION
00000130          DIST=T, IMPED=T          &END
00000140 &SELECT
00000150          REPORT=4
00000151          I=1,-116
00000160          PRINT=14,19,41,90,94,111,114          &END
00000170 //STEP060B EXEC UMATRIX,J1='DSN=D35B.TEMP',UNITJ1=,
00000180 //          UNITS1='3330,VOL=SER=D35D01',
00000190 //          J9='DSN=D35B.LADPM.Y90.AUTO.SKIM',
00000191 //          UNIT49='3330,VOL=SER=D35D01',
00000200 //          UNITJ9='3330,VOL=SER=D35D01',
00000210 //          DISPJ9='(,CATLG,DELETE)'
00000220 //UMATRIX.SYSIN DD *
00000230          RESET AUTO NETWORK ZERO DISTANCE INTERCHANGES
00000240          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000250 &PARAM
00000260          ZONES=116,
00000270          COMBIN1='IF T102=32767 THEN 32767 ELSE
00000280          IF T101=0 THEN 1 ELSE T101'
00000290          COMBIN2='T102', OUTBPT=2,
00000300          NAME1='DISTANCE', NAME2='TIME'
00000310          &END
00000320 &SELECT
00000330          PRINT=14,19,41,90,94,111,114
00000340          &END

```

STEP 6.1

```

00000010 //D35CS061 JOB (D35C,LADPM,OJA,,,2),CLASS=P
00000020 /*SETUP          D35D01
00000030 /*MESSAGE          MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP061 EXEC USQUEX,
00000070 //      J1='DSN=D35R.LADPM.Y90.AUTO.SKIM',
00000080 //      J9='DSN=D35C.LADPM.Y90.CBD9X116.AUTOSKIM',
00000090 //      UNITJ9=PUBLIC,SPACEJ9='(TRK,(1,1),RLSE)'
00000100 //USQUEX.SYSIN DD *
00000110      CORRIDOR TO ZONE AUTO DISTANCE MATRIX - 1990
00000120      LOS ANGELES DOWNTOWN POPLER MOVER
00000130      &PARAM
00000140      ZONES=116,DISTS=10,
00000150      TABLES=101,OUTBPT=2,
00000160      NAME1='AUTODIST'
00000170      &END
00000180      &OPTION
00000190      SQUEEZ=T, ROW=T
00000200      &END
00000210      &SELECT PRINT=1,-9 &END
00000220      &EQUIV DIST=1, Z= 99      &END
00000230      &EQUIV DIST=2, Z=100      &END
00000240      &EQUIV DIST=3, Z=101      &END
00000250      &EQUIV DIST=4, Z=102      &END
00000260      &EQUIV DIST=5, Z=103      &END
00000270      &EQUIV DIST=6, Z=104      &END
00000280      &EQUIV DIST=7, Z=105      &END
00000290      &EQUIV DIST=8, Z=106      &END
00000300      &EQUIV DIST=9, Z=107      &END
00000310      &EQUIV DIST=10, Z=1,-98,108,-116      &END

```

STEP 7.0

```

00000010 //D35BS070 JOB (D35B,LADPM,OJA,15,,2),CLASS=P,TIME=2
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP070A EXEC UPATH,PATH='DSN=D35B.LADPM.Y90.CIRCPM.PATH',
00000070 // UNITPAT='3330,VOL=SER=D35D01',
00000080 // NTLINK='DSN=D35B.LADPM.Y90.CIRCPM.NTLINK',
00000090 // NTALOC='DSN=D35B.LADPM.Y90.CIRCPM.NTALOC',
00000100 // UNITNTL='3330,VOL=SER=D35D01',
00000110 // DISPNTL='(,CATLG,DELETE)',
00000120 // DISPJ1='(,DELETE)',YEAR=90,NET=MMODEPM
00000130 //UPATH.SYSIN DD *
00000140          CIRCULATOR NETWORK PATHS FOR YEAR 1990
00000150          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000160 &PARAM
00000170          CTTIME(5)=3.0,5.0,5.0,
00000180          CWTIME(4)=0.1
00000190                                     &END
00000200 &OPTION
00000210          AM=F, PM=T
00000220                                     &END
00000230 &SELECT
00000240          REPORT=4
00000250          I=1,-116
00000260          PRINT=14,19,41,90,94,111,114
00000270 //STEP070B EXEC UPSUM,YEAR=90,MODE=CIRCPM
00000280 //UPSUM.SYSIN DD *
00000290          CIRCULATOR TIME SKIMS FOR ALL ZONES
00000300          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000310 &PARAM
00000320          TABOUT=3
00000330          TRUN(1)=3,3,3,1,4*2
00000340          TWAIT=2*3
00000350          TXFERS=0
00000360          TTIME=0
00000370          NAME1='CIRCPMRUN1'
00000380          NAME2='CIRCPMRUN2'
00000390          NAME3='CIRCPMOUTVEH'
00000400                                     &END
00000410 &SELECT
00000420          PRINT=14,19,41,90,94,111,114

```

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```

00000430                                &END
00000440 //STEP070C EXEC UPATH,PATH='DSN=D35B.LADPM.Y90.CIRCMD.PATH',
00000450 //  UNITPAT='3330,VOL=SER=D35D01',
00000460 //  NTLINK='DSN=D35B.LADPM.Y90.CIRCMD.NTLINK',
00000470 //  NTALOC='DSN=D35B.LADPM.Y90.CIRCMD.NTALOC',
00000480 //  UNITNTL='3330,VOL=SER=D35D01',
00000490 //  DISPNTL='(,CATLG,DELETE)',
00000500 //  DISPJ1='(,DELETE)',YEAR=90,NET=MMODEMD
00000510 //UPATH.SYSIN DD *
00000520             CIRCULATOR NETWORK PATHS FOR YEAR 1990
00000530             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000540 &PARAM
00000550             CTTIME(5)=3.0,5.0,5.0,
00000560             CWTIME(4)=0.1
00000570                                &END
00000580 &OPTION
00000590             AM=F, MIDDAY=T
00000600                                &END
00000610 &SELECT
00000620             REPORT=4
00000630             I=1,-116
00000640             PRINT=14,19,41,80,94,111,114                                &END
00000650 //STEP070D EXEC UPSUM,YEAR=90,MODE=CIRCMD
00000660 //UPSUM.SYSIN DD *
00000670             CIRCULATOR TIME SKIMS FOR ALL ZONES
00000680             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000690 &PARAM
00000700             TABOUT=3
00000710             TRUN(1)=3,3,3,1,4*2
00000720             TWAIT=2*3
00000730             TXFERS=0
00000740             TTIME=0
00000750             NAME1='CIRCMDRUN1'
00000760             NAME2='CIRCMDRUN2'
00000770             NAME3='CIRCMDOUTVEH'
00000780                                &END
00000790 &SELECT
00000800             PRINT=14,19,41,80,94,111,114
00000810                                &END

```

STEP 8.0

```

00000010 //D358S080 JOB (D358,LADPM,OJA,15,,2),CLASS=P,TIME=2
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT  -D35D01
00000040 /*ROUTE PRINT  REMOTE64
00000050 //PROCLIB DD DSN=D358.PMMPROC.CNTL,DISP=SHR
00000060 //STEP080A EXEC UPATH,PATH='DSN=D358.LADPM.Y90.DPMPM,PATH',
00000061 // UNITPAT='3330,VOL=SER=D35D01',
00000062 // NTLINK='DSN=D358.LADPM.Y90.DPMPM.NTLINK',
00000063 // NTALOC='DSN=D358.LADPM.Y90.DPMPM.NTALOC',
00000064 // UNITNTL='3330,VOL=SER=D35D01',
00000065 // DISPNTL='(,CATLG,DELETE)',
00000070 // DISPJ1='(,DELETE)',YEAR=90,NET=MMODEPM
00000080 //UPATH.SYSIN DD *
00000090             PEOPLE MOVER NETWORK PATHS FOR YEAR 1990
00000100             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000110 &PARAM
00000120             CTTIME(2)=0.1, 1.0, 5.0, 0.1, 3*5.0,
00000130             CWTIME(4)=2.5, 0.1, 3*2.5
00000140                                     &END
00000150 &OPTION
00000160             AM=F, PM=T
00000170                                     &END
00000180 &SELECT
00000190             REPORT=4
00000200             I=1,-116
00000210             PRINT=14,19,41,80,94,111,114                                     &END
00000220 //STEP080B EXEC UPSUM,YEAR=90,MODE=DPMPM
00000230 //UPSUM.SYSIN DD *
00000240             PEOPLE MOVER TIME SKIMS FOR ALL ZONES
00000250             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000260 &PARAM
00000270             TABOUT=3
00000280             TRUN(1)=3,3,3,2,1,2,2,2
00000290             TWAIT=2*3
00000291             TXFERS=0
00000300             TTIME=0
00000310             NAME1='DPMPMRUN1'
00000320             NAME2='DPMPMRUN2'
00000330             NAME3='DPMPMOUTVEH'
00000340                                     &END
00000350 &SELECT
00000360             PRINT=14,19,41,80,94,111,114

```

```

00000370                                &END
00000380 //STEP080C EXEC UPATH,PATH='DSN=D358.LADPM.Y90.DPMMD.PATH',
00000390 //  UNITPAT='3330,VOL=SER=D35D01',
00000400 //  NTLINK='DSN=D358.LADPM.Y90.DPMMD.NTLINK',
00000410 //  NTALOC='DSN=D358.LADPM.Y90.DPMMD.NTALOC',
00000420 //  UNITNTL='3330,VOL=SER=D35D01',
00000430 //  DISPNTL='(,CATLG,DELETE)',
00000440 //  DISPJ1='(,DELETE)',YEAR=90,NET=MMODEMD
00000450 //UPATH.SYSIN DD *
00000460             PEOPLE MOVER NETWORK PATHS FOR YEAR 1990
00000470             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000480 &PARAM
00000490             CTTIME(2)=0.1, 1.0, 5.0, 0.1, 3*5.0
00000500             CWTIME(4)=2.5, 0.1, 3*2.5
00000510                                &END
00000520 &OPTION
00000530             AM=F, MIDDAY=T
00000540                                &END
00000550 &SELECT
00000560             REPORT=4
00000570             I=1,-116
00000580             PRINT=14,19,41,80,94,111,114                                &END
00000590 //STEP080D EXEC UPSUM,YEAR=90,MODE=DPMMD
00000600 //UPSUM.SYSIN DD *
00000610             PEOPLE MOVER TIME SKIMS FOR ALL ZONES
00000620             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000630 &PARAM
00000640             TABOUT=3
00000650             TRUN(1)=3,3,3,2,1,2,2,2
00000660             TWAIT=2*3
00000661             TXFERS=0
00000680             TTIME=0
00000690             NAME1='DPMMDRUN1'
00000700             NAME2='DPMMDRUN2'
00000710             NAME3='DPMMDOUTVEH'
00000730                                &END
00000740 &SELECT
00000750             PRINT=14,19,41,80,94,111,114
00000760                                &END

```

STEP 9.0

```

00000010 //D35B5090 JOB (D35B,LADPM,OJA,15,,2),CLASS=P,TIME=2
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT   -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP090A EXEC UPATH,PATH='DSN=D35B.LADPM.Y90.REGNPM.PATH',
00000070 //  UNITPAT='3330,VOL=SER=D35D01',
00000080 //  NTLINK='DSN=D35B.LADPM.Y90.REGNPM.NTLINK',
00000090 //  NTALOC='DSN=D35B.LADPM.Y90.REGNPM.NTALOC',
00000100 //  UNITNTL='3330,VOL=SER=D35D01',
00000110 //  DISPNTL='(,CATLG,DELETE)',
00000120 //  DISPJ1='(,DELETE)',YEAR=90,NET=MMODEPM
00000130 //UPATH.SYSIN DD *
00000140             REGIONAL BUS NETWORK PATHS FOR YEAR 1990
00000150             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000160 &PARAM
00000170             CTTIME(4)=2*5.0, XFERS=1
00000180             CWTIME(4)=2*2.5
00000190                                     &END
00000200 &OPTION
00000210             AM=F, PM=T
00000220                                     &END
00000230 &SELECT
00000240             REPORT=4
00000250             I=1,-116
00000260             PRINT=14,19,41,80,94,111,114
00000270 //STEP090B EXEC UPSUM,YEAR=90,MODE=REGNPM
00000280 //UPSUM.SYSIN DD *
00000290             REGIONAL BUS TIME SKIMS FOR ALL ZONES
00000300             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000310 &PARAM
00000320             TABOUT=3
00000330             TRUN(1)=3,3,3,2,2,1,1,2
00000340             TWAIT=2*3
00000350             TXFERS=0
00000360             TTIME=0
00000370             NAME1='REGNPMRUN1'
00000380             NAME2='REGNPMRUN2'
00000390             NAME3='REGNPMOUTVEH'
00000400             NAME4='REGNPMTXFER'
00000410                                     &END
00000420 &SELECT

```

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```

00000430      PRINT=14,19,41,80,94,111,114
00000440                                         &END
00000450 //STEP090C EXEC UPATH,PATH='DSN=D35B.LADPM.Y90.REGNMD.PATH',
00000460 //  UNITPAT='3330,VOL=SER=D35D01',
00000470 //  NTLINK='DSN=D35B.LADPM.Y90.REGNMD.NTLINK',
00000480 //  NTALOC='DSN=D35B.LADPM.Y90.REGNMD.NTALOC',
00000490 //  UNITNTL='3330,VOL=SER=D35D01',
00000500 //  DISPNTL='(.CATLG,DELETE)',
00000510 //  DISPJ1='(.DELETE)',YEAR=90,NET=MMODEMD
00000520 //UPATH.SYSIN DD *
00000530      REGIONAL BUS NETWORK PATHS FOR YEAR 1990
00000540      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000550 &PARAM
00000560      CTTIME(4)=2*5.0, XFERS=1
00000570      CWTIME(4)=2*2.5
00000580                                         &END
00000590 &OPTION
00000600      AM=F, MIDDAY=T
00000610                                         &END
00000620 &SELECT
00000630      REPORT=4
00000640      I=1,-116
00000650      PRINT=14,19,41,80,94,111,114          &END
00000660 //STEP090D EXEC UPSUM,YEAR=90,MODE=REGNMD
00000670 //UPSUM.SYSIN DD *
00000680      REGIONAL BUS TIME SKIMS FOR ALL ZONES
00000690      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000700 &PARAM
00000710      TABOUT=3
00000720      TRUN(1)=3,3,3,2,2,1,1,2
00000730      TWAIT=2*3
00000740      TXFERS=0
00000750      TTIME=0
00000760      NAME1='REGNMDRUN1'
00000770      NAME2='REGNMDRUN2'
00000780      NAME3='REGNMDOUTVEH'
00000790      NAME4='REGNMDTXFER'
00000800                                         &END
00000810 &SELECT
00000820      PRINT=14,19,41,80,94,111,114
00000830                                         &END

```

STEP 10.1

```

00000010 //D35CS101 JOB (D35C,LADPM,OJA,,,2),CLASS=P
00000020 /*SETUP          D35D01
00000030 /*MESSAGE        MOUNT  -D35D01
00000040 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000050 //STEP101A EXEC UMATRIX,CORE=257K,TIME=(,10),
00000060 //      J1='DSN=D35B.LADPM.Y90.CIRCPM.SKIM',
00000070 //      J2='DSN=D35B.LADPM.Y90.REGNPM.SKIM',
00000080 //      UNITJ1='3330,VOL=SER=D35D01',
00000090 //      UNITJ2='3330,VOL=SER=D35D01',
00000100 //      J3='DSN=D35B.LADPM.Y90.DPMPM.SKIM',
00000110 //      UNITJ3='3330,VOL=SER=D35D01',
00000120 //      J9='DSN=D35C.LADPM.Y90.STEP101.SKIMTMP2',UNITJ9=PUBLIC,
00000130 //      DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)'
00000140 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,RLKSIZE=13030)
00000150 //UMATRIX.SYSIN DD *
00000160                COMBINE PM RUN TIME = 1990
00000170                LOS ANGELES DOWNTOWN PEOPLE MOVER
00000180      &PARAM
00000190          ZONES=116,  OUTBPT=2,
00000200          COMBIN1='IF T101<=1 OR T101=32767 THEN 0 ELSE T101+T102',
00000210          COMBIN2='T103',
00000220          COMBIN3='IF T201<=1 OR T201=32767 THEN 0 ELSE T201+T202',
00000230          COMBIN4='T203',
00000240          NAME1='MINIRUN90', NAME2='MINIOUT90',
00000250          NAME3='RBUSRUN90', NAME4='RBUSOUT90',
00000260          COMBIN5='IF T301<=1 OR T301=32767 THEN 0 ELSE T301+T302',
00000270          COMBIN6='T303',
00000280          NAME5='DPMRUN90', NAME6='DPMOUT90',
00000290          COMBIN7='IF I=111 OR I=114 OR J=111 OR J=114 THEN 1 ELSE 0',
00000300          NAME7='DPMXTR90'
00000310      &END
00000320      &SELECT
00000330          I = 1,-116
00000340          PRINT=14,19,106
00000350      &END
00000360 //STEP101B EXEC PGM=MSPLIT,REGION=255K,TIME=(,10),
00000370 //      COND=(0,LT,STEP101A.UMATRIX)
00000380 //STEPLIB DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR
00000390 //FT11F001 DD DSN=D35C.LADPM.Y90.STEP101.SKIMTMP2,DISP=SHR
00000400 //FT12F001 DD DSN=D35B.LADPM.Y90.WALKPM.SKIM,DISP=SHR
00000410 //FT13F001 DD DSN=D35C.LADPM.Y90.CBD116.TRANSIT,DISP=SHR
00000420 //FT18F001 DD DSN=D35C.LADPM.Y90.DISTPM.LOGSUM,UNIT=3330,

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```

00000430 // VOL=SER=D35D01,SPACE=(TRK,(5,1),RLSE),
00000440 // DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030),
00000450 // DISP=(,CATLG,DELETE)
00000460 //FT19F001 DD DSN=D35C.LADPM.Y90.DISTPM.TRANSIT,UNIT=3330,
00000470 // VOL=SER=D35D01,SPACE=(TRK,(5,1),RLSE),
00000480 // DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030),
00000490 // DISP=(,CATLG,DELETE)
00000500 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
00000510 // DCB=(RECFM=FB,LRECL=80,BLKSIZE=1680)
00000520 //FT21F001 DD DUMMY
00000530 //FT06F001 DD SYSOUT=A
00000540 //FT05F001 DD *
00000550 PEAK PERIOD REGIONAL TRANSIT MODE SPLIT - 1990
00000560 LOS ANGELES DOWNTOWN PEOPLE MOVER
00000570 +-----+
00000580 + NOTES +
00000590 + +
00000600 + ORDER OF OUTPUT TABLES (FT19F001) +
00000610 + +
00000620 + 1 = DPM (IF AVAILABLE) +
00000630 + 2 = WALK +
00000640 + 3 = MINI +
00000650 + 4 = REGIONAL BUS +
00000660 + +
00000670 + IF TRANST=T THEN FILE FT18F001 CONTAINS SUM OF EXPONENTIALS +
00000680 + +
00000690 + WALK TIME ASSUMED INPUT AS 1/10 MINUTE BY SCALING +
00000700 + OF THE WALKCF COEFFICIENT VALUE +
00000710 + +
00000720 + FARE SPECIFIED AS WEIGHTED AVERAGE OF TRANSFER FARE +
00000730 + AND BUS PASS FOR MODE SPLIT, REGIONAL BUS FARE FOR THE +
00000740 + LOGSUM CALCULATION +
00000750 + +
00000760 +-----+
00000770 &PARAM
00000780 ZONES=116, MODES=4,
00000790 TRPTAB=301, WLKTAB=202, MNRTAB=101, MNOTAB=102,
00000800 RBRNTB=103, RROUTB=104, DPMRTB=105, DPMOTR=106, DPMXTR=107,
00000810 WALKCF=-0.050874, C(1)= 5.0414,
00000820 TIMECF=-0.45813, OUTCF=-0.57430, C(2)=0.0, C(3)=0.6818,
00000830 BUSDMY= 3.1928, FARECF=-0.02749, C(4)=0.995,
00000840 MINIFR=20., ABUSFR=55., TBUSFR=6.31, DPMFR=25.

```

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```

00000850 &END
00000860 &OPTION
00000870     SELECT=14,19,106,114,116,
00000880     TRANST=T
00000890 &END
00000900 //STEP101C EXEC UFMTR,REGION=257K,TIME=(,10),COND=(0,LT,STEP101B),
00000910 //     J1='DSN=D35C.LADPM.Y90.DISTPM.TRANSIT',
00000920 //     J2='DSN=D35B.LADPM.Y90.WALKPM.SKIM'
00000930 //UFMTR.SYSIN DD *
00000940     TRIP END SUMMARY FOR PEAK PERIOD TRANSIT
00000950     LOS ANGELES DOWNTOWN PEOPLE MOVER
00000960 &PARAM
00000970     ZONES=116,
00000980     TABLES=101,102,103,104
00000990 &END
00001000 &SELECT
00001010     REPORT=3
00001020 &END
00001030 &PLOT
00001040     PAIR=201,101, FREQ=T
00001050 &END
00001060 &PLOT
00001070     PAIR=201,102, FREQ=T
00001080 &END
00001090 &PLOT
00001100     PAIR=201,103, FREQ=T
00001110 &END
00001120 &PLOT
00001130     PAIR=201,104, FREQ=T
00001140 &END

```

STEP 10.2

```

00000010 //D35CS102 JOB (D35C,LADPM,OJA,,,2),CLASS=P
00000020 /*SETUP          D35D01
00000030 /*MESSAGE          MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP102A EXEC UMATRIX,
00000070 //          UNITJ1='3330,VOL=SER=D35D01',
00000080 //          J9='DSN=&&TEMP',UNITJ1=SYSDA,
00000090 //          J1='DSN=D35B.LADPM.Y90.WALKPM.SKIM',
00000100 //          SPACEJ9='(TRK,(3,1),RLSE)',
00000110 //          DISPJ9='(NEW,PASS)'
00000120 //UMATRIX.SYSIN DD *
00000130          RESET WALK NETWORK ZERO DISTANCE INTERCHANGES
00000140          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000150      &PARAM
00000160          ZONES=116,
00000170          COMBIN1='T101',
00000180          COMBIN2='IF T102>60 THEN T102 ELSE 60',
00000190          NAME1='WALKDISTY90',
00000200          NAME2='WALKTIMEY90'
00000210          OUTBPT=2
00000220                                     &END
00000230      &SELECT
00000240          PRINT=15,19
00000250                                     &END
00000260 //STEP102B EXEC UMATRIX,
00000270 //          J1='DSN=&&TEMP',UNITJ1=SYSDA,
00000280 //          J9='DSN=D35B.LADPM.Y90.WALKPM.SKIM2',
00000290 //          DISPJ9='(NEW,CATLG,DELETE)',
00000300 //          SPACEJ9='(TRK,(3,1),RLSE)'
00000310 //UMATRIX.SYSIN DD *
00000320          SET INTERFACE TIME
00000330      &PARAM
00000340          ZONES=116,OUTBPT=2,
00000350          COMBIN1='T101', NAME1='WALKDISTY90',
00000360          COMBIN2='IF (I=58 AND J=111) OR (I=111 AND J=58)
00000370          OR (I=98 AND J=114) OR (I=114 AND J=98) THEN 120
00000380          ELSE T102', NAME2='WALKTIMEY90'
00000390      &END
00000400      &SELECT
00000410          PRINT=111,114

```

```

00000420 &END
00000430 //STEP102C EXEC UMATRIX,CORE=257K,TIME=(,10),
00000440 //      J1='DSN=D35C.LADPM.Y85.STEP101.SKIMTEMP',
00000450 //      UNITJ1='3330-1',
00000460 //      J2='DSN=D35B.LADPM.Y85.WALKPM.SKIM2',
00000470 //      UNITJ2='3330-1',
00000480 //      J9='DSN=D35C.LADPM.Y85.STEP101.SKIMTMP2',UNITJ9=PUBLIC,
00000490 //      DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)',
00000500 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000510 //UMATRIX.SYSIN DD *
00000520                      COMBINE PM RUN TIME - 1985
00000530                      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000540 &PARAM
00000550      ZONES=116, OUTBPT=2,
00000560      COMBIN1='IF T101<=1 THEN
00000570      IF T202=32767 THEN T202 ELSE T202/10.
00000580      ELSE MIN(T202/10.,(T101+T102))'
00000590      COMBIN2='IF T103<=1 THEN T901 ELSE MIN(T901,(T103+T104))'
00000600      COMBIN3='IF T105<=1 THEN T902 ELSE MIN(T902,(T105+T106))'
00000610 &END
00000620 &SELECT
00000630      I = 1,-116
00000640      PRINT=15,19
00000650 &END
00000660 //STEP102D EXEC PGM=PARK,REGION=320K,TIME=(,20)
00000670 //STEPLIB DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR
00000680 //FT01F001 DD DSN=D35C.LADPM.Y90.PARK.DATA,DISP=SHR
00000690 //FT11F001 DD DSN=D35C.LADPM.Y90.CBD9X107.AUTO,DISP=SHR
00000700 //FT12F001 DD DSN=D35C.LADPM.Y90.CBD9X116.AUTOSKIM,DISP=SHR
00000710 //FT13F001 DD DSN=D35C.LADPM.Y90.DISTPM.LOGSUM,DISP=SHR
00000720 //FT14F001 DD DSN=D35C.LADPM.Y90.STEP101.SKIMTMP2,DISP=SHR
00000730 //FT31F001 DD UNIT=SYSDA,SPACE=(TRK,(10,10),RLSE),
00000740 //      DCB=(RECFM=VBS,LRECL=476,BLKSIZE=6447)
00000750 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1),RLSE),
00000760 //      DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
00000770 //FT21F001 DD DUMMY
00000780 //FT06F001 DD SYSOUT=A
00000790 //FT19F001 DD DSN=D35C.LADPM.Y90.CBD.AUTO,UNIT=PUBLIC,
00000800 //      DISP=(,CATLG,DELETE),SPACE=(TRK,(5,3),RLSE),
00000810 //      DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000820 //FT05F001 DD *

```

```
00000830      1990 PARKING LOT CHOICE MODEL
00000840 &PARAM
00000850      MXITR=3,7NMAX=5,ZONES=116,LGTAB=301,WLKTAB=403,TRPTAB=102,
00000860      NCOR=9,DSTAB=201,REPORT=T,,CSTCF=-0.015778,STNINT=3.0,
00000870      AOCC=1.447,1.299,1.635,1.322,1.258,1.266,1.296,1.285,1.744,
00000880      CSTPM=1.28,WLKCF=-0.2953
00000890 &END
00000900 &DATA
```

STEP 10.3

```

00000010 //D35CS103 JOB (D35C,LADPM,OJA,,,2),CLASS=P
00000020 /*SETUP          D35D01
00000030 /*MESSAGE        MOUNT  -D35D01
00000040 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000050 //STEP103A EXEC UMATRIX,CORE=257K,TIME=(,10),
00000060 //          J1='DSN=D35C.LADPM.Y90.CRD.AUTO',UNITJ1='3330-1',
00000070 //          J9='DSN=88AUTO',UNITJ9=SYSDA,
00000080 //          DISPJ9='(NEW,PASS)',SPACEJ9='(TRK,(3,1),RLSE)'
00000090 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000100 //UMATRIX.SYSIN DD *
00000110             CREATE PEAK HOUR AUTO TRIPS
00000120             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000130      &PARAM
00000140          ZONES=116,  OUTRPT=2,
00000150          COMBIN1='.381 * T101', NAME1='PKAUTO90'
00000160      &END
00000170      &SELECT
00000180          I = 1,-116
00000190          PRINT=15,19,106
00000200      &END
00000210 //STEP103B EXEC PGM=MSPLIT,REGION=255K,TIME=(,10),
00000220 //          COND=(0,LT,STEP103A.UMATRIX)
00000230 //STEPLIB DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR
00000240 //FT11F001 DD DSN=D35C.LADPM.Y90.STEP101.SKIMTFMP,DISP=SHR
00000250 //FT12F001 DD DSN=D35B.LADPM.Y90.WALKPM.SKIM2,DISP=SHR
00000260 //FT13F001 DD DSN=88AUTO,DISP=(OLD,PASS)
00000270 //FT19F001 DD DSN=D35C.LADPM.Y90.DISTPM.AUTO,UNIT=3330,
00000280 //          VOL=SER=D35D01,SPACE=(TRK,(3,1),RLSE),
00000290 //          DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030),
00000300 //          DISP=(,CATLG,DELETE)
00000310 //FT90F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
00000320 //          DCB=(RECFM=FB,LRECL=80,BLKSIZE=3190)
00000330 //FT21F001 DD DUMMY
00000340 //FT06F001 DD SYSOUT=A
00000350 //FT05F001 DD *
00000360             PEAK PERIOD REGIONAL AUTO MODE SPLIT - 1990
00000370             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000380      &PARAM
00000390          ZONES=116,  MODES=4,
00000400          TRPTAB=301, WLKTAB=202, MNRTAB=101, MNOTAB=102,
00000410          RBRNTB=103, RROUTB=104, DPMRTB=105, DPMOTB= DPMXTB=107,
00000420          WALKCF=-0.050874, C(1)= 5.0414,

```

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```

00000430      TIMECF=-0.45813, OUTCF=-0.57430, C(2)=0.0, C(3)=0.6818,
00000440      BUSDMY= 3.1928, FARECF=-0.02749,
00000450      MINIFR=20., ABUSFR=55., TBUSFR=6.31
00000460      &END
00000470      &OPTION
00000480          SELECT=15,19,
00000490          TRANST=F
00000500      &END
00000510      //STEP103C EXEC UFMTR,REGION=257K,TIME=(,10),COND=(0,LT,STEP103B),
00000520      //          J1='DSN=D35C.LADPM.Y90.DISTPM.AUTO',
00000530      //          J2='DSN=D35B.LADPM.Y90.WALKPM.SKIM2'
00000540      //UFMTR.SYSIN DD *
00000550          TRIP END SUMMARY FOR PEAK PERIOD AUTO - 1990
00000560          LOS ANGELES DOWNTOWN PEOPLE MOVFR
00000570      &PARAM
00000580          ZONES=116,
00000590          TABLES=101,102,103,104
00000600      &END
00000610      &SELECT
00000620          REPORT=3
00000630      &END
00000640      &PLOT
00000650          PAIR=201,101, FREQ=T
00000660      &END
00000670      &PLOT
00000680          PAIR=201,102, FREQ=T
00000690      &END
00000700      &PLOT
00000710          PAIR=201,103, FREQ=T
00000720      &END
00000730      &PLOT
00000740          PAIR=201,104, FREQ=T
00000750      &END

```

STEP 11.0

```

00000010 //D35CS110 JOB (D35C,LADPM,OJA,,,2),CLASS=P,TIME=(,20)
00000020 /*SETUP          D35D01
00000030 /*MESSAGE        MOUNT  -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D358.PMMPROC.CNTL,DISP=SHR
00000060 //STEP110A FXEC USTOS,YEAR=90,ALT=DPMPM,
00000070 //  J1='DSN=D35C.LADPM.Y90.DISTPM.TRANSIT'
00000080 //USTOS.SYSIN DD *
00000090             STATION TO STATION SUMMARY
00000100             1990 PM TRANSIT DISTRIBUTION TRIPS
00000110             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000120      &PARAM
00000130             ZONES=116, RIDE=5,
00000140             ARRIVE=1,2,3,4,6,7,8,
00000150             DEPART=1,2,3,4,6,7,8,
00000160             TABLE=101,
00000170             STOP=601,659,660,609,662,613,643,663,667,619,
00000180             621,665,615,669,661
00000190             NAME='TRANPM90'
00000200      &END
00000210      &SELECT
00000220             REPORT=1,2
00000230      &END
00000240 //STEP110B FXEC USTOS,YEAR=90,ALT=DPMPM,
00000250 //  J1='DSN=D35C.LADPM.Y90.DISTPM.AUTO'
00000260 //USTOS.SYSIN DD *
00000270             STATION TO STATION SUMMARY
00000280             1990 PM AUTO DISTRIBUTION TRIPS
00000290             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000300      &PARAM
00000310             ZONES=116, RIDE=5,
00000320             ARRIVE=1,2,3,4,6,7,8,
00000330             DEPART=1,2,3,4,6,7,8,
00000340             TABLE=101,
00000350             STOP=601,659,660,609,662,613,643,663,667,619,
00000360             621,665,615,669,661
00000370             NAME='AUTOPM90'
00000380      &END
00000390      &SELECT
00000400             REPORT=1,2
00000410      &END

```

STEP 11.1

```

00000010 //D35CS111 JOB (D35C,LADPM,OJA,,,2),CLASS=P,TIME=(,20)
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT  -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP111A EXEC ULOAD,YEAR=90,ALT=DPMPM,
00000070 //  LEGS='DSN=&&LEGS',UNITLEG=SYSDA,
00000080 //  LIB='SYS2.URD.PROGLIB',
00000090 //  J1='DSN=D35C.LADPM.Y90R.DISTPM.TRANSIT'
00000100 //ULOAD.SYSIN DD *
00000110          1990 PM TRANSIT DISTRIBUTION TRIPS
00000120          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000130  &PARAM
00000140          TABLE=101, LENPM=1
00000150  &END
00000160  &OPTION
00000170          PM=T, WALK=T, RIDE=T,FSPLIT=T
00000180  &END
00000190  &SELECT
00000200          REPORT=1,2,3,4,5
00000210          RLINE5=1,-255
00000220  &END
00000230 //STEP111B EXEC ULOAD,YEAR=90,ALT=DPMPM,
00000240 //  LEGS='DSN=&&LEGS',UNITLEG=SYSDA,
00000250 //  LIB='SYS2.URD.PROGLIB',
00000260 //  J1='DSN=D35C.LADPM.Y90.DISTPM.AUTO'
00000270 //ULOAD.SYSIN DD *
00000280          1990 PM AUTO DISTRIBUTION TRIPS
00000290          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000300  &PARAM
00000310          TABLE=101, LENPM=1
00000320  &END
00000330  &OPTION
00000340          PM=T, WALK=T, RIDE=T,FSPLIT=T
00000350  &END
00000360  &SELECT
00000370          REPORT=1,2,3,4,5
00000380          RLINE5=1,-255
00000390  &END

```

STEP 12.0

```

00000010 //D35CS120 JOB (D35C,LADPM,OJA),CLASS=P
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT -D35D01
00000040 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000050 //STEP120A EXEC UMATRIX,CORE=257K,TIME=(,10),
00000060 //      J1='DSN=D35B.LADPM.Y90.CIRCMD.SKIM',
00000070 //      J2='DSN=D35B.LADPM.Y90.REGNMD.SKIM',
00000080 //      UNITJ1='3330,VOL=SER=D35D01',
00000090 //      UNITJ2='3330,VOL=SER=D35D01',
00000100 //      J3='DSN=D35B.LADPM.Y90.DPMD.SKIM',
00000110 //      UNITJ3='3330,VOL=SER=D35D01',
00000120 //      J9='DSN=D35C.LADPM.Y90.STEP120.SKIMTEMP',UNITJ9=PUBLIC,
00000130 //      DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)'
00000140 //UMATRIX.FT19F001 DD DCR=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000150 //UMATRIX.SYSIN DD *
00000160                COMBINE MD RUN TIME - 1990
00000170                LOS ANGELES DOWNTOWN PEOPLE MOVER
00000180      &PARAM
00000190          ZONES=116,  OUTBPT=2,
00000200          COMBIN1='IF T101<=1 OR T101=32767 THEN 0 ELSE T101+T102',
00000210          COMBIN2='T103',
00000220          COMBIN3='IF T201<=1 OR T201=32767 THEN 0 ELSE T201+T202',
00000230          COMBIN4='T203',
00000240          NAME1='MINIRUN90', NAME2='MINIOUT90',
00000250          NAME3='RBUSRUN90', NAME4='RBUSOUT90',
00000260          COMBIN5='IF T301<=1 OR T301=32767 THEN 0 ELSE T301+T302',
00000270          COMBIN6='T303',
00000280          NAME5='DPMRUN90', NAME6='DPMOUT90'
00000290      &END
00000300      &SELECT
00000310          I = 1,-116
00000320          PRINT=14,19,106
00000330      &END
00000340 //STEP120B EXEC PGM=MIDDAY,REGION=256K,TIME=(,20)
00000350 //STEPLIB DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR
00000360 //FT01F001 DD DSN=D35C.LADPM.Y90.TRNPCD.DATA,DISP=SHR
00000370 //FT02F001 DD DSN=D35C.Y90.7ONAL.DATA,DISP=SHR
00000380 //FT11F001 DD DSN=D35B.LADPM.Y90.AUTO.SKIM,DISP=SHR
00000390 //FT12F001 DD DSN=D35B.LADPM.Y90.WALKMD.SKIM,DISP=SHR
00000400 //FT13F001 DD DSN=D35C.LADPM.Y90.STEP120.SKIMTEMP,DISP=SHR

```

```

00000410 //FT16F001 DD DSN=D35C.LADPM.Y90.CBD.AUTO,DISP=SHR
00000420 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1),RLSE),
00000430 //   DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
00000440 //FT21F001 DD DUMMY
00000450 //FT06F001 DD SYSOUT=A
00000460 //FT19F001 DD DSN=D35C.LADPM.Y90.MIDDAY.TRANSIT,UNIT=PUBLIC,
00000470 //   DISP=(,CATLG,DELETE),SPACE=(TRK,(5,3),RLSE),
00000480 //   DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000490 //FT05F001 DD *
00000500           1990 MIDDAY TRIPS
00000510           LOS ANGELES DOWNTOWN PEOPLE MOVER
00000520 &PARAM
00000530     AUTAB=102,WLKTAB=202,MNRTAB=301,MNOTAB=302,RBPNTB=303,
00000540     RBOUTB=304,PKCTAB=601,DPMRTR=305,DPMOTB=306,
00000550     MODES=4,MINIFR=25.0,RAFCF=-0.085401,RBUSFR=34.705
00000560     RTFCF=-0.033332,RABIAS=3.0669,RACOMB=-2.5924,RTWLKB=1.2433,
00000570     DPMFR=25.0,ACTCF=-0.0002149,RAPKCF=-0.004679,
00000580     ADPMC=1.1133,TDPMC=1.5156,TRPOCF=0.0000933,CTRP0=4.0268,
00000590     RAWKCF=-0.01237,RTWKCF=-0.01684,RTRNCF=-0.1684,RTWTCF=-0.1684,
00000600     RAARCF=-0.01237,RARNCF=-0.1237,RAWTCF=-0.1237,
00000610     RAPWCF=-0.3093,DPMFLG=T,PCTCB=0.4,0.6,TRACE=5,13,28,57
00000620 &END

```

STEP 12.1

```

00000010 //D35CS121 JOB (D35C,LADPM,OJA,,,,2),CLASS=P,TIME=(,20)
00000020 /*ROUTE PRINT REMOTE64
00000030 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000040 //STEP121A EXEC UMATRIX,CORE=321K,
00000050 // J1='DSN=D35C,LADPM,Y90.MIDDAY.TRANSIT',UNITJ1='3330-1',
00000060 // J9='DSN=&&LOAD',UNITJ9=SYSDA,
00000070 // DISPJ9='(,PASS)',SPACEJ9='(TRK,(3,1),RLSE)'
00000080 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,RLKSIZE=13030)
00000090 //UMATRIX.SYSIN DD *
00000100             1990 MIDDAY TRANSIT TRIPS
00000110             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000120             &PARAM
00000130             OUTBPT=2,NAME1='MID90LOAD',ZONES=98,
00000140             COMBIN1=' .3512*T101 + .3704*TR(T101)'
00000150             &END
00000160             &SELECT
00000170             PRINT=6,25,98
00000180             &END
00000190 //STEP121B EXEC PGM=UMCON,REGION=256K,TIME=(,10)
00000200 //STEPLIB DD DSN=SYS1.UTPS.V79.PROGLIB,DISP=SHR
00000210 //FT06F001 DD SYSOUT=A
00000220 //FT90F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
00000230 // DCB=(RECFM=FB,LRECL=80,BLKSIZE=1680)
00000240 //FT21F001 DD DUMMY
00000250 //FT11F001 DD DSN=&&LOAD,DISP=(OLD,PASS)
00000260 //J1 DD DUMMY
00000270 //FT19F001 DD DSN=D35C,LADPM,Y90.MIDDAY.LOAD,UNIT=PUBLIC,
00000280 // DISP=(,CATLG,DELETE),SPACE=(TRK,(3,1),RLSE),
00000290 // DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000300 //FT05F001 DD *
00000310             1990 MIDDAY TRANSIT TRIPS
00000320             EXPAND TO 116 ZONES
00000330             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000340             &PARAM
00000350             OUTPUT=3,INPUT=3,ZONES=98,COUT=116,ROUT=98
00000360             TABLES=101,NAME1='TRANMD90'
00000370             &END
00000380             &SELECT
00000390             I=1,-98
00000400             &END

```

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```

00000410 //STEP121C EXEC ULOAD,
00000420 //  LEGS='DSN= &&LEGS',UNITLEG=SYSDA,
00000430 //  LIB='SYS2.URD.PROGLIB',
00000440 //  NET=MMODEMD,ALT=DPMMD,
00000450 //  J1='DSN=D35C.LADPM.Y90.MIDDAY.LOAD'
00000460 //ULOAD.SYSIN DD *
00000470          1990 MIDDAY WORKER CIRCULATION TRIPS
00000480          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000490      &PARAM
00000500          TABLE=101, LENPM=0, LENMID=1
00000510      &END
00000520      &OPTION
00000530          MIDDAY=T, PM=F, WALK=T, RIDE=T,FSPLIT=T
00000540      &END
00000550      &SELECT
00000560          REPORT=1,2,3,4,5
00000570          RLINE5=1,-255
00000580      &END
00000590 //STEP121D EXEC USTOS,NET=DPMMD,
00000600 //  J1='DSN=D35C.LADPM.Y90.MIDDAY.LOAD'
00000610 //USTOS.SYSIN DD *
00000620          STATION TO STATION SUMMARY
00000630          1990 MIDDAY WORKER CIRCULATION TRIPS
00000640          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000650      &PARAM
00000660          ZONES=116,
00000670          ARRIVE=1,2,3,4,6,7,8,
00000680          DEPART=1,2,3,4,6,7,8,
00000690          RIDE=5,
00000700          TABLE=101,
00000710          STOP=601,659,660,609,662,613,643,663,667,619,
00000720          621,665,615,669,661
00000730          NAME='TRANMD90'
00000740      &END
00000750      &SELECT
00000760          REPORT=1,2
00000770      &END

```

STEP 13.0

```

00000010 //D35CS130 JOB (D35C,LADPM,OJA),CLASS=P
00000020 /*SETUP          D35D01
00000030 /*MESSAGE        MOUNT   -D35D01
00000040 //STEP130A EXEC PGM=NONWRK,REGION=256K,TIME=(,20)
00000050 //STEPLIB DD DSN=D35C.LADPM.MODEL,LOAD,DISP=SHR
00000060 //FT02F001 DD DSN=D35A.Y80.ZONAL.DATA,DISP=SHR
00000070 //FT03F001 DD DSN=D35C.LADPM.Y90.ZONAL.DATA,DISP=SHR
00000080 //FT11F001 DD DSN=D35C.LADPM.Y80.NONWORK,TRIPTR,DISP=SHR
00000090 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1),RLSE),
00000100 //      DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
00000110 //FT21F001 DD DUMMY
00000120 //FT06F001 DD SYSOUT=A
00000130 //FT09F001 DD DSN=D35C.LADPM.Y90.NONWORK.DATA,UNIT=PUBLIC,
00000140 //      DISP=(,CATLG,DELETE),SPACE=(TRK,(5,3),RLSE),
00000150 //      DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
00000160 //FT05F001 DD *
00000170 &PARAM RATIO=1.461,1.542,1.209,1.637,1.841,1.654,1.506,1.544,1.406 &END
00000180 &EQUIV  DIST =  1, Z = 99      &END
00000190 &EQUIV  DIST =  2, Z =100      &END
00000200 &EQUIV  DIST =  3, Z =101      &END
00000210 &EQUIV  DIST =  4, Z =102      &END
00000220 &EQUIV  DIST =  5, Z =103      &END
00000230 &EQUIV  DIST =  6, Z =104      &END
00000240 &EQUIV  DIST =  7, Z =105      &END
00000250 &EQUIV  DIST =  8, Z =106      &END
00000260 &EQUIV  DIST =  9, Z =107      &END
00000270 &EQUIV  DIST = 10, Z = 62, 66, 88, 89, 96, 97      &END
00000280 &EQUIV  DIST = 11, Z = 70      &END
00000290 &EQUIV  DIST = 12, Z = 74, 78      &END
00000300 &EQUIV  DIST = 13, Z = 82      &END
00000310 &EQUIV  DIST = 14, Z = 24, 30, 36      &END
00000320 &EQUIV  DIST = 16, Z = 90,-92      &END
00000330 &EQUIV  DIST = 15, Z = 83      &END
00000340 &EQUIV  DIST = 17, Z = 84,-87      &END
00000350 &EQUIV  DIST = 18, Z =  1,-11      &END
00000360 &EQUIV  DIST = 19, Z = 12,-23      &END
00000370 &EQUIV  DIST = 20, Z = 58      &END
00000380 &EQUIV  DIST = 21, Z = 50, 54      &END
00000390 &EQUIV  DIST = 22, Z = 40, 46      &END
00000400 &EQUIV  DIST = 23, Z = 25,-29,31,-35, 37,-39, 41,-45, 47,-49,
00000410                    51,-53      &END
00000420 &EQUIV  DIST = 24, Z = 63,-65, 67,-69,71,-73, 75,-77      &END
00000430 &EQUIV  DIST = 25, Z = 59,-61, 93,-95      &END
00000440 &EQUIV  DIST = 26, Z = 55,-57, 79,-81      &END
00000450 &EQUIV  DIST = 27, Z = 98      &END

```

STEP 13.1

```

00000010 //D35CS131 JOB (D35C,LADPM,OJA),CLASS=P,TIME=(,20)
00000020 /*ROUTE PRINT REMOTE64
00000030 //STEP131A EXEC PGM=UMCON,REGION=256K,TIME=(,10)
00000040 //STEPLIB DD DSN=SYS1.UTPS.V79.PROGLIB,DISP=SHR
00000050 //FT06F001 DD SYSOUT=A
00000060 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
00000070 //   DCB=(RECFM=FB,LRECL=80,BLKSIZE=1680)
00000080 //FT21F001 DD DUMMY
00000090 //FT11F001 DD DSN=D35C.LADPM.Y80.NONWORK.TRIPTAB,DISP=SHR
00000100 //J1 DD DUMMY
00000110 //FT19F001 DD DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB1,UNIT=PUBLIC,
00000120 //   DISP=(,CATLG,DELETE),SPACE=(TRK,(3,1),RLSE),
00000130 //   DCB=(RECFM=VRS,LRECL=1604,BLKSIZE=13030)
00000140 //FT05F001 DD *
00000150             1990 NON-WORK TRANSIT TRIPS
00000160             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000170      &PARAM
00000180             OUTPUT=3,INPUT=3,ZONES=107,COUT=107,ROUT=107
00000190             TABLES=101,NAME1='NONWORK90'
00000200      &END
00000210      &SELECT
00000220             I=1,-107
00000230      &END
00000240      &DATA
00000250             1           0           0
00000260             2           0           0
00000270             3           0           0
00000280             4           0           0
00000290             5          274          347
00000300             6           21          173
00000310             7           0           0
00000320             8           10           13
00000330             9           0           0
00000340            10          119          152
00000350            11           2           3
00000360            12          123          156
00000370            13           29           26
00000380            14           5           4
00000390            15          1101         1399
00000400            16          1189         1511
00000410            17           508          646
00000420            18           369          469

```

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00000430	19	34	409
00000440	20	528	671
00000450	21	446	677
00000460	22	371	402
00000470	23	342	512
00000480	24	495	420
00000490	25	157	651
00000500	26	290	128
00000510	27	618	3966
00000520	28	5	187
00000530	29	0	0
00000540	30	503	639
00000550	31	44	3
00000560	32	105	287
00000570	33	30	532
00000580	34	488	320
00000590	35	490	676
00000600	36	47	10
00000610	37	33	289
00000620	38	2	70
00000630	39	378	260
00000640	40	645	821
00000650	41	352	1987
00000660	42	337	379
00000670	43	21	112
00000680	44	96	730
00000690	45	1047	1165
00000700	46	1233	1568
00000710	47	155	197
00000720	48	272	850
00000730	49	120	153
00000740	50	233	405
00000750	51	577	654
00000760	52	73	255
00000770	53	20	902
00000780	54	63	80
00000790	55	318	331
00000800	56	25	153
00000810	57	355	396
00000820	58	230	57
00000830	59	2241	2502
00000840	60	1687	352

00000850	61	132	155
00000860	62	115	149
00000870	63	518	690
00000880	64	2203	379
00000890	65	12	251
00000900	66	206	175
00000910	67	1814	2019
00000920	68	759	1049
00000930	69	246	23
00000940	70	1910	718
00000950	71	1296	3897
00000960	72	1542	1582
00000970	73	416	824
00000980	74	606	768
00000990	75	25	315
00001000	76	361	619
00001010	77	982	249
00001020	78	518	346
00001030	79	111	504
00001040	80	138	175
00001050	81	27	316
00001060	82	940	28
00001070	83	149	54
00001080	84	1040	44
00001090	85	28	35
00001100	86	0	24
00001110	87	5	764
00001120	88	257	722
00001130	89	359	376
00001140	90	322	256
00001150	91	238	447
00001160	92	1082	1079
00001170	93	768	38
00001180	94	1022	1297
00001190	95	17	562
00001200	96	156	199
00001210	97	425	68
00001220	98	800	618
00001230	99	21614	10976
00001240	100	27269	28524
00001250	101	25572	28921
00001260	102	22610	25558

```

00001270      103      21982      20314
00001280      104      20255      21396
00001290      105      23680      15597
00001300      106      13851      14462
00001310      107       5181       5196
00001320 //STEP131B EXEC PGM=BUSSTOP,REGION=256K
00001330 //STEPLIB DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR
00001340 //FT11F001 DD DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB1,DISP=SHR
00001350 //FT19F001 DD DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB2,DISP=(,CATLG,DELETE),
00001360 // UNIT=PUBLIC,DCB=(RECFM=VRS,LRECL=1604,BLKSIZE=6447),
00001370 // SPACE=(TRK,(10,3),RLSE)
00001380 //FT20F001 DD UNIT=SYSDA,SPACE=(TRK,(1,1)),
00001390 // DCB=(RECFM=FB,LRECL=80,BLKSIZE=1680)
00001400 //FT21F001 DD DUMMY
00001410 //FT06F001 DD SYSOUT=A
00001420 //FT05F001 DD DSN=D35C.LADPM.Y90.BUSSTOP.DATA,DISP=SHR
00001430 //STEP131C EXEC UFMTR,CORF=253K,TIME=(,10),
00001440 // COND=(0,LT,STEP131B),
00001450 // J1='DSN=D35C.LADPM.Y90.CBD116.TRANSIT'
00001460 //UFMTR.SYSIN DD *
00001470          1990 DAILY NON-WORK TRANSIT TRIP END SUMMARY
00001480          LOS ANGELES DOWNTOWN PEOPLE MOVER
00001490 &PARAM
00001500      ZONES=116,
00001510      TABLES = 101,
00001520      TITLE1='NONWORK90'
00001530 &END
00001540 &SELECT
00001550      REPORT=3
00001560 &END

```

STEP 13.2

```

00000010 //D35CS132 JOB (D35B,LADPM,OJA,15,,2),CLASS=P,TIME=2
00000020 /*SETUP          D35D01
00000030 /*MESSAGE          MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP132 A EXEC UPATH,PATH='DSN=D35B.LADPM.Y90.MMODEPM.PATH',
00000070 // UNITPAT='3330,VOL=SER=D35D01',
00000080 // NTLINK='DSN=D35B.LADPM.Y90.MMODEPM.NTLINK',
00000090 // NTALOC='DSN=D35B.LADPM.Y90.MMODEPM.NTALOC',
00000100 // UNITNTL='3330,VOL=SER=D35D01',
00000110 // DISPNTL='(,CATLG,DELETE)',
00000120 // DISPJ1='(,DELETE)',YFAR=90,NET=MMODEPM
00000130 //UPATH.SYSIN DD *
00000140          COMBINED NETWORK PATHS FOR YEAR 1990
00000150          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000160 &PARAM
00000170          CTTIME(1)=3*2.5,5*1.0, XFERS=2
00000180          CWTIME(4)=5*2.5
00000190          CXTIME(4)=5*2.5
00000200                                     &END
00000210 &OPTION
00000220          AM=F, PM=T
00000230                                     &END
00000240 &SELECT
00000250          REPORT=4
00000260          I=1,-116
00000270          PRINT=14,41,94          &END

```

STEP 13.3

```

00000010 //D35CS133 JOB (D35C,LADPM,OJA,,,2),CLASS=P,TIME=(,20)
00000020 /*SETUP          D35D01
00000030 /*MESSAGE          MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35R.PMMPROC.CNTL,DISP=SHR
00000060 //STEP133A EXEC ULOAD,ALT=MMODEPM,
00000070 //   LEGS='DSN=&&LEGS',UNITLEG=SYSDA,
00000080 //   LIB='SYS2.URD.PROGLIB',
00000090 //   J1='DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB2'
00000100 //ULOAD.SYSIN DD *
00000110           1990 NON-WORK TRANSIT TRIPS
00000120           LOS ANGELES DOWNTOWN PEOPLE MOVER
00000130   &PARAM
00000140           TABLE=101, LENPM=1
00000150   &FND
00000160   &OPTION
00000170           PM=T, WALK=T, RIDE=T,FSPLIT=T
00000180   &END
00000190   &SELECT
00000200           REPORT=1,2,3,4,5
00000210           RLINE5=1,-255
00000220   &END
00000230 //STEP133B EXEC USTOS,NET=MMODEPM,
00000240 //   J1='DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB2'
00000250 //USTOS.SYSIN DD *
00000260           STATION TO STATION SUMMARY
00000270           1990 DAILY NON-WORK TRANSIT TRIPS
00000280           LOS ANGELES DOWNTOWN PEOPLE MOVER
00000290   &PARAM
00000300           ZONFS=116,
00000310           ARRIVE=1,2,3,4,6,7,8,
00000320           DEPART=1,2,3,4,6,7,8,
00000330           RIDE=5,
00000340           TABLE=101,
00000350           STOP=601,659,660,609,662,613,643,663,667,619,
00000360           621,665,615,669,661
00000370           NAME='NONWORK90'
00000380   &END
00000390   &SELECT
00000400           REPORT=1,2
00000410   &END

```

STEP 14.0

```

00000010 //D35CS140 JOB (D35C,LADPM,OJA),CLASS=P,TIME=(,20)
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT  -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35R.PMMPROC.CNTL,DISP=SHR
00000060 //STEP140A EXEC USTOS,NFT=MMODEPM,YEAR=90,
00000070 //   J1='DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB2',UNITJ1='3330',
00000080 //   J8='DSN=D35C.LADPM.Y90.NONWORK.USTOS',UNITJ8=PUBLIC
00000090 //USTOS.SYSIN DD *
00000100          STATION TO STATION SUMMARY
00000110          1990 DAILY NON-WORK TRANSIT TRIPS
00000120          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000130 &PARAM
00000140          ZONES=116,
00000150          ARRIVE=1,2,3,4,6,7,8,
00000160          DEPART=1,2,3,4,6,7,8,
00000170          RIDE=5,
00000180          TABLE=101,
00000190          STOP=601,659,660,609,662,613,643,663,667,619,
00000200          621,665,615,669,661
00000210          NAME='NONWORK85'
00000220 &FND
00000230 &SELECT
00000240          REPORT=1
00000250 &END
00000260 //STEP140B EXEC UMATRIX,CORE=321K,
00000270 //   LIB='SYS1.UTPS.V77.PROGLIB',
00000280 //   J1='DSN=D35C.LADPM.Y90.NONWORK.TRIPTAB2',UNITJ1=3330,
00000290 //   J2='DSN=D35C.LADPM.Y90.NONWORK.USTOS',UNITJ2='3330-1',
00000300 //   J9='DSN=D35C.LADPM.Y90.NONWORK.LOAD',UNITJ9=PUBLIC,
00000310 //   DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),PLSF)'
00000320 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,RLKSIZE=13030)
00000330 //UMATRIX.SYSIN DD *
00000340          CREATE COMBINED MARKET SEGMENT LOAD TABLES
00000350          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000360 &PARAM
00000370          OUTBPT=2,NAME1='NONWKLOAD90',ZONES=116
00000380          COMBIN1='IF T204=5 THEN T101 ELSE 0'
00000390 &END
00000400 //STEP140C EXEC UMATRIX,CORE=321K,
00000410 //   LIB='SYS1.UTPS.V79.PROGLIB',
00000420 //   J1='DSN=D35C.LADPM.Y90.DISTPM.TRANSIT',UNITJ1=3330,

```

```

00000430 //      J2='DSN=D35C.LADPM.Y90.DISTPM.AUTO',UNITJ2=3330,
00000440 //      J3='DSN=D35C.LADPM.Y90.MIDDAY.TRANSIT',UNITJ3=3330,
00000450 //      J9='DSN=D35C.LADPM.Y90.COMBINED.TEMP',UNITJ9=PUBLIC,
00000460 //      DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)'
00000470 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000480 //UMATRIX.SYSIN DD *
00000490          CREATE COMBINED MARKET SEGMENT LOAD TABLES
00000500          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000510      &PARAM
00000520          OUTBPT=2,NAME1='TRNSPS1',NAME2='TRNSPS2',NAME3='TRNSPS3',
00000530          ZONES=116,
00000540          COMBIN1='TR(T101)',
00000550          COMBIN2='TR(T201)',
00000560          COMBIN3='TR(T301)'
00000570      &END
00000580 //STEP140D EXEC UMATRIX,CORE=390K,
00000590 //      LIB='SYS1.UTPS.V79.PROGLIB',
00000600 //      J1='DSN=D35C.LADPM.Y90.DISTPM.TRANSIT',UNITJ1=3330,
00000610 //      J2='DSN=D35C.LADPM.Y90.DISTPM.AUTO',UNITJ2=3330,
00000620 //      J3='DSN=D35C.LADPM.Y90.MIDDAY.TRANSIT',UNITJ3=3330,
00000630 //      J4='DSN=D35C.LADPM.Y90.NONWORK.LOAD',UNITJ4=3330,
00000640 //      J5='DSN=D35C.LADPM.Y90.COMBINED.TEMP',UNITJ5='3330-1',
00000650 //      J9='DSN=D35C.LADPM.Y90.COMBINED.LOAD',UNITJ9=PUBLIC,
00000660 //      DISPJ9='(,CATLG,DELETE)',SPACEJ9='(TRK,(3,1),RLSE)'
00000670 //UMATRIX.FT19F001 DD DCB=(RECFM=VBS,LRECL=1604,BLKSIZE=13030)
00000680 //UMATRIX.SYSIN DD *
00000690          CREATE COMBINED MARKET SEGMENT LOAD TABLES
00000700          LOS ANGELES DOWNTOWN PEOPLE MOVER
00000710      &PARAM
00000720          OUTRPT=2,NAME1='LOAD90PM',NAME2='LOAD90NOON',ZONES=116,
00000730          NAME3='DAILY90B',
00000740          COMBIN1='T101 + .3708*T201 + .0042*T301 + .013*T503
00000750          + .054*T401',
00000760          COMBIN2=' .00343*T501 + .0012*T101 + .00198*T502
00000770          + .0162*T201 + .3516*T301 + .3753*T503 + .1172*T401',
00000780          COMBIN3='2.848*T101 + 3.212*T501 + T201 + T502 +
00000790          T301 + T503 + T401'
00000800      &END
00000810      &SELECT
00000820          PRINT=6,25,98
00000830      &END

```

STEP 15.0

```

00000010 //D35CS150 JOB (D35C,LADPM,OJA,...,2),CLASS=P,TIME=(,20)
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT  -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP150A EXEC USTOS,YEAR=90,NET=DPMPM,
00000070 //    J1='DSN=D35C.LADPM.Y90.COMBINED.LOAD'
00000080 //USTOS.SYSIN DD *
00000090             STATION TO STATION SUMMARY
00000100             1990 PM PEAK HOUR - COMBINED MARKET SEGMENTS
00000110             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000120 &PARAM
00000130             ZONES=116,
00000140             ARRIVE=1,2,3,4,6,7,8,
00000150             DEPART=1,2,3,4,6,7,8,
00000160             RIDE=5,
00000170             TABLE=101,
00000180             STOP=601,659,660,609,662,613,643,663,667,619,
00000190             621,665,615,669,661
00000200             NAME='PMPEAK90'
00000210 &END
00000220 &SELECT
00000230             REPORT=1,2
00000240 &END
00000250 //STEP150B EXEC USTOS,YEAR=90,NET=DPMPM,
00000260 //    J1='DSN=D35C.LADPM.Y90.COMBINED.LOAD'
00000270 //USTOS.SYSIN DD *
00000280             STATION TO STATION SUMMARY
00000290             1990 NOON HOUR - COMBINED MARKET SEGMENTS
00000300             LOS ANGELES DOWNTOWN PEOPLE MOVER
00000310 &PARAM
00000320             ZONES=116,
00000330             ARRIVE=1,2,3,4,6,7,8,
00000340             DEPART=1,2,3,4,6,7,8,
00000350             RIDE=5,
00000360             TABLE=102,
00000370             STOP=601,659,660,609,662,613,643,663,667,619,
00000380             621,665,615,669,661
00000390             NAME='NOON90'
00000400 &END

```

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```

00000410  &SELECT
00000420      REPORT=1,2
00000430  &END
00000440  //STEP150C EXEC USTOS, YEAR=90, NET=DPMPM,
00000450  //      J1='DSN=D35C.LADPM.Y90.COMBINED.LOAD'
00000460  //USTOS.SYSTN DD *
00000470              STATION TO STATION SUMMARY
00000480              1990 DAILY - COMBINED MARKET SEGMENTS
00000490              LOS ANGELES DOWNTOWN PEOPLE MOVER
00000500  &PARAM
00000510      ZONES=116,
00000520      ARRIVE=1,2,3,4,6,7,8,
00000530      DEPART=1,2,3,4,6,7,8,
00000540      RIDE=5,
00000550      TABLE=103,
00000560      STOP=601,659,660,609,662,613,643,663,667,619,
00000570              621,665,615,669,661
00000580      NAME='DAILY90'
00000590  &FND
00000600  &SELECT
00000610      REPORT=1,2
00000620  &END

```

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STEP 15.1

```

00000010 //D35CS151 JOB (D35C,LADPM,OJA,,,2),CLASS=P,TIME=(,20)
00000020 /*SETUP          D35D01
00000030 /*MESSAGE      MOUNT -D35D01
00000040 /*ROUTE PRINT REMOTE64
00000050 //PROCLIB DD DSN=D35B.PMMPROC.CNTL,DISP=SHR
00000060 //STEP151A EXEC ULOAD,YEAR=90,ALT=DPMPM,
00000070 //  LEGS='DSN=&&LFGS',UNITLEG=SYSUA,
00000080 //  LIB='SYS2.URD.PROGLIB',
00000090 //  J1='DSN=D35C.LADPM.Y90.COMBINED.LOAD'
00000100 //ULOAD.SYSIN DD *
00000110      1990 PM PEAK HOUR - COMBINED MARKET SEGMENTS
00000120      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000130  &PARAM
00000140      TABLE=101, LENPM=1, LENMID=0
00000150  &END
00000160  &OPTION
00000170      MIDDAY=F, PM=T, WALK=T, RIDE=T,FSPLIT=T
00000180  &END
00000190  &SELECT
00000200      REPORT=1,2,3,4,5
00000210      RLINE5=1,-255
00000220  &END
00000230 //STEP151B EXEC ULOAD,YEAR=90,ALT=DPMPM,
00000240 //  LEGS='DSN=&&LEGS',UNITLEG=SYSUA,
00000250 //  LIB='SYS2.URD.PROGLIB',
00000260 //  J1='DSN=D35C.LADPM.Y90.COMBINED.LOAD'
00000270 //ULOAD.SYSIN DD *
00000280      1990 NOON HOUR - COMBINED MARKET SEGMENTS
00000290      LOS ANGELES DOWNTOWN PEOPLE MOVER
00000300  &PARAM
00000310      TABLE=102, LENPM=1, LENMID=0
00000320  &END
00000330  &OPTION
00000340      MIDDAY=F, PM=T, WALK=T, RIDE=T,FSPLIT=T
00000350  &END
00000360  &SELECT
00000370      REPORT=1,2,3,4,5
00000380      RLINE5=1,-255
00000390  &END

```

```

00000400 //STEP151C EXEC ULOAD, YEAR=90, ALT=DPMPM,
00000410 //  LEGS='DSN=&&LEGS', UNITLEG=SYSDA,
00000420 //  LIB='SYS2.URD.PROGLIB',
00000430 //  J1='DSN=D35C.LADPM.Y90.COMBINED.LOAD',
00000440 //ULOAD.SYSIN DD *
00000450         1990 DAILY - COMBINED MARKET SEGMENTS
00000460         LOS ANGELES DOWNTOWN PEOPLE MOVER
00000470 &PARAM
00000480         TABLE=103, LENPM=1, LENMID=0
00000490 &END
00000500 &OPTION
00000510         MIDDAY=F, PM=T, WALK=T, RIDE=T, FSPLIT=T
00000520 &END
00000530 &SELECT
00000540         REPORT=1,2,3,4,5
00000550         RLINF5=1,-255
00000560 &END

```

IV. DATA SETS ON THE BACKUP TAPE

All data sets created for the Los Angeles Downtown People Mover Program have been stored on a backup tape. This tape, LADPM1, is a copy of a 3330 disk pack which was created using Innovation Data Processing's Fast Dump Restore (FDR) software package. This section details the procedures necessary for restoring the entire backup tape or for copying selected data sets from the tape.

RESTORING DATA SETS

The entire contents of the tape can be restored to a 3330 disk pack through use of the job set-up given by Exhibit IV-1. Note that the user must specify the volume serial number of the pack to which the tape will be restored by substituting for the string <DNME> in the set-up. Also note that SETUP card formats are usually specific to each computer installation and those shown may need to be modified.

Exhibit IV-2 shows a job set-up for restoring selected data sets from the backup tape. Similar specification of the disk volume serial information must be made. Any data sets being restored must also be preallocated as is shown in the exhibit. The user is referred to the FDR documentation for a further description of the parameters and options available.

DATA SET LISTING

The following listing identifies the names of all data sets contained on the backup tape.

EXHIBIT IV-1

RESTORING THE BACKUP TAPE

```

00000010 //D35CRSTR JOB (D35C,LADPM,OJA),CLASS=P
00000020 /*SETUP          <DNMF>
00000030 /*SETUP          LADPM1
00000040 /*MESSAGE        IN  =TAPE=D35C-          D35CRSTR=LADPM1
00000050 /*MESSAGE        MOUNT  =<DNMF>
00000060 //RESTORE EXEC PGM=FOR,DARM=N
00000070 //SYSPRINT DD SYSOUT=A
00000080 //DISK1 DD UNIT=3330,VOL=SER=<DNMF>,DISP=OLD
00000090 //TAPE1 DD DSN=LADPM.BACKUP,UNIT=TAPE9,VOL=SER=LADPM1,
00000100 //          DISP=(OLD,PASS)

```

EXHIBIT IV-2

RESTORING A SELECTED DATA SET

```

00000010 //D35CRSTR JOB (D35C,LADPM,OJA),CLASS=P
00000020 /*SETUP          <DNMF>
00000030 /*SETUP          LADPM1
00000040 /*MESSAGE        IN  =TAPE=D35C-          D35CRSTR=LADPM1
00000050 /*MESSAGE        MOUNT  =<DNMF>
00000060 //RESTORE EXEC PGM=FOR,DSF
00000070 //SYSPRINT DD SYSOUT=A
00000080 //DISK1 DD UNIT=3330,VOL=SER=<DNMF>,DISP=SHR
00000090 //TAPE1 DD DSN=LADPM.BACKUP,UNIT=TAPE9,VOL=SER=LADPM1,
00000100 //          DISP=(OLD,PASS)
00000110 //DD1 DD DSN=D35C.LADPM.BUSSTOP.FORT,UNIT=3330,VOL=SER=<DNMF>,
00000120 //          DISP=(,CATLG,DELETE),DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
00000130 //          SPACE=(TRK,(3,3),RLSE)
00000140 //SYSIN DD *
00000150 //RESTORE DSN=D35C.LADPM.BUSSTOP.FORT

```

V. PROGRAM LISTINGS

PROGRAM BUSSTOP

PURPOSE

Program BUSSTOP is used to convert transit trips crossing the CBD cordon to internal study area trips for input to the distribution mode choice step. BUSSTOP changes the non-CBD end of the trip from a corridor of approach to a CBD zone based on the program inputs. The inputs reflect the location where the passengers on specific transit lines and having a specific CBD origin/destination would alight/board the transit vehicle used to cross the CBD cordon.

FILE DEFINITIONS

Input

FT11F001 - Peak hour transit trips on the file given by the
TABLE keyword value
thru
FT18F001 - Program control and input data cards

Output

FT19F001 - Peak hour transit distribution trips

KEYWORD VALUES

&PARAM

ZONIN	-	I*4	-	Size of the input table (default = 107)
ZONOUT	-	I*4	-	Size of the putput table (default = 116)
TABLE	-	I*4	-	UTPS table number of the input table (default = 101)
TITLE	-	A(12)	-	Title of the output table

```

00000010 //D35CBUSS JOB (D35C,LADPM,OJA),CLASS=P
00000020 //FORTRAN EXFC FORTGCL,
00000030 //  PARM.FORT='GOSTMT,MAP,XREF,OPT(0),NOLIST,NODECK',
00000040 //  REGION.FORT=192K,PARM.LKED='LIST,XREF,MAP',
00000050 //  REGION.LKED=128K,TIME=1
00000060 //FORT.SYSIN DD *
00000070 C
00000080 C      PROGRAM TO CREATE BUS-STOP TRIP RECORDS
00000090 C
00000100 C
00000110 C      WRITTEN BY EARL RUITER, CAMBRIDGE SYSTEMATICS,
00000120 C      BORROWING PARTS OF AN EARLIER PROGRAM
00000130 C      BY LARRY SEIDERS, COMSIS CORP.
00000140 C
00000150 C      MAY 2, 1978
00000160 C
00000170 C
00000180 C      MODIFIED BY MARK GOLDMAN, PEAT,MARWICK,MITCHELL&CO.
00000190 C
00000200 C      JAN 13, 1981
00000210 C
00000220 C      INPUT FORMATS
00000230 C      -----
00000240 C
00000250 C      &PARAM CARD
00000260 C
00000270 C      USED TO SUPPLY NAMELIST VALUES TO PROGRAM BUSSTOP
00000280 C
00000290 C      ZONIN = SIZE OF THE INPUT TABLES (DEFAULT = 107)
00000300 C      ZONOUT = SIZE OF THE OUTPUT TABLES (DEFAULT = 116)
00000310 C      TABLE = UTPS TABLE NUMBER OF THE INPUT TABLE
00000320 C      (REPLACES THE *TABLE CARD)
00000330 C      TITLE = TITLE OF THE OUTPUT TABLE (12 CHARACTERS)
00000340 C      DEBUG = DEBUG TRACE FLAG (DEFAULT = 0)
00000350 C
00000360 C      &DATA CARD
00000370 C
00000380 C      MUST APPEAR BEFORE THE FIRST DATA CARD
00000390 C
00000400 C      CARD COLUMNS FOR ALL CARDS WHICH FOLLOW:
00000410 C
00000420 C      0          1          2          3          4          5          6
00000430 C      12345678901234567890123456789012345678901234567890
00000440 C

```

```
00000450 C * CARD 1:
00000460 C -----
00000470 C *COMMENT      <ANY MESSAGE>
00000480 C
00000490 C THE MESSAGE CONTAINED ON THE FIRST COMMENT CARD WILL APPEAR
00000500 C AT THE TOP OF SELECTED PAGES OF PROGRAM OUTPUT.
00000510 C
00000520 C * CARD 2:
00000530 C -----
00000540 C *TABLE      FTTT
00000550 C
00000560 C           F = UIPS MATRIX FILE NUMBER
00000570 C           TTT = UIPS MATRIX TABLE NUMBER
00000580 C           FTTT DEFAULT IS 1001
00000590 C
00000600 C * CARD 3:
00000610 C -----
00000620 C *CORLINE
00000630 C
00000640 C FOLLOWED BY DATA CARDS:
00000650 C
00000660 C     CLLL PCTX  LLL PCTX  ETC THRU END OF CARD
00000670 C           C = INCOMING CORRIDOR (1-9)
00000680 C           LLL = LINE NUMBER IN THAT CORRIDOR (INTEGER)
00000690 C           PCTX = PERCENT OF TRIPS FROM CORRIDOR PCTX=1000=100.0 PCT
00000700 C
00000710 C           LAST CARD = 99 IN CC 1-2
00000720 C
00000730 C * CARD 4:
00000740 C -----
00000750 C *INTCEPT
00000760 C
00000770 C FOLLOWED BY DATA CARDS:
00000780 C
00000790 C     CLLL  ZZZ  LLL  ZZZ  ETC THRU END OF CARD
00000800 C           C = INCOMING CORRIDOR (1-9)
00000810 C           LLL = LINE NUMBER IN THAT CORRIDOR (INTEGER)
00000820 C           ZZZ = INTERCEPT ZONE TO WHICH ALL TRIPS ON THE LINE WILL
00000830 C                   BE ASSIGNED
00000840 C
00000850 C           LAST CARD = 99 IN CC 1-2
00000860 C
00000870 C ALL BUS LINES CODED ON *INTCEPT CARDS SHOULD BE NUMBERED
00000880 C CONSECUTIVELY STARTING WITH LINE NUMBER 1 IN EACH CORRIDOR
```

00000890 C
 00000900 C
 00000910 C
 00000920 C
 00000930 C
 00000940 C
 00000950 C
 00000960 C
 00000970 C
 00000980 C
 00000990 C
 00001000 C
 00001010 C
 00001020 C
 00001030 C
 00001040 C
 00001050 C
 00001060 C
 00001070 C
 00001080 C
 00001090 C
 00001100 C
 00001110 C
 00001120 C
 00001130 C
 00001140 C
 00001150 C
 00001160 C
 00001170 C
 00001180 C
 00001190 C
 00001200 C
 00001210 C
 00001220 C
 00001230 C
 00001240 C
 00001250 C
 00001260 C
 00001270 C
 00001280 C
 00001290 C
 00001300 C
 00001310 C
 00001320 C

* CARD 5:

*7ONLINE CLL

C = CORRIDOR NUMBER (1-9)

LL = FIRST BUS LINE NUMBER ON SUBSEQUENT DATA CARDS

FOLLOWED BY DATA CARDS:

777 SSS SSS SSS SSS ETC TO END OF CARD

ZZZ = CBD ORIGIN/DESTINATION ZONE

SSS = BUS STOP ZONE FOR LINES LL, LL+1, LL+2, ETC,
TO/FROM ZZZ

LAST CARD = 999 IN CC 2-4

THE FIRST LINE NUMBER SHOULD BE GREATER THAN THE LARGEST
LINE NUMBER USED IN *INTCEPT DATA FOR EACH CORRIDOR

* CARD 6:

*END

END OF DATA INPUT, PROCESSING CAN BEGIN

CURRENT PROGRAM SIZE LIMITATIONS:

TOTAL ZONES 116

LINES PER CORRIDOR 16

CORRIDORS 9

ZONE NUMBERING ASSUMPTIONS:

INTERNAL CBD ZONES 1- 98

CORRIDORS 1-9 99-107

TRANSFER ZONES 108-116

IMPLICIT INTEGER(A-Z)

COMMON/TITLE/FOOT,NDATE(2),NTIME(2),NPAGE,PHEAD(18),

1 PNAME(2),LINES,LINPPG,CPUTIM(21),UCKOSP,

2 OPNAME,OCDAT

REAL *R CPUTIM

```

00001330 C
00001340 REAL*8 CARD8(10)
00001350 INTEGER*2 ZONLIN(16,9,117)/16848*0/
00001360 INTEGER*2 CORLIN(16,9)/144*0/,DATA(2,8)
00001370 DATA MAXZON,MAXLIN/116,16/
00001380 DATA MAXCOR,CNT/9,0/
00001390 REAL*8 STARCD,LABEL(6)/'*COMMENT', '*TABLE', '*CORLINE',
00001400 X '*INTCEPT', '*ZONLINE', '*END' //
00001410 REAL*8 HEAD(8)/8*' '//
00001420 LOGICAL*1 CONT(6)/6*.FALSE./,LSW(6)/6*.FALSE./
00001430 REAL*4 R/.5/,XTRIP,RTRIP(116,116)/13456*0.0/
00001440 INTEGER*2 INTS(3),ZLDAT(19)
00001450 INTEGER*4 NAME(2)/'BUSS','TOP'//,CDAT(2)/'13JA','N81'//
00001460 INTEGER*4 TRACE/0/,TRIPS(117)/117*0/,NTARS/1/,ZONES,TABLE/1001/
00001470 INTEGER*4 ZONIN/107/,ZONOUT/116/,DEBUG/0/,TITLE(3,1)
00001480 C
00001490 NAMELIST/PARAM/ ZONIN,ZONOUT,DEBUG,TABLE,TITLE
00001500 C
00001510 C INITIALIZE UTPS COMMON
00001520 C
00001530 INFILF=5
00001540 OUTFIL=20
00001550 FOUT=6
00001560 NPAGE=-1
00001570 LINES=1
00001580 LINPPG=55
00001590 CALL SIGNON(INFILE,OUTFIL,NAME,CDAT,CONT)
00001600 C
00001610 C READ PARAM CARD
00001620 C
00001630 IF(CONT(1)) READ(OUTFIL,PARAM)
00001640 C
00001650 C READ NEXT TD CARD
00001660 C
00001670 5 READ(5,9501) STARCD,INTS,(CARD8(I),I=1,8)
00001680 9501 FORMAT(A8,2I2,I4,8A8)
00001690 IF(STARCD.EQ.LABEL(1)) GO TO 10
00001700 IF(STARCD.EQ.LABEL(2)) GO TO 20
00001710 IF(STARCD.EQ.LABEL(3)) GO TO 30
00001720 IF(STARCD.EQ.LABEL(4)) GO TO 40
00001730 IF(STARCD.EQ.LABEL(5)) GO TO 50
00001740 IF(STARCD.EQ.LABEL(6)) GO TO 60
00001750 6 WRITE(6,9502) STARCD,INTS,(CARD8(I),I=1,8)
00001760 9502 FORMAT('ERROR IN LABEL CARD. CARD WAS IGNORED')/

```

```

00001770      X 5X,A8,2I2,I4,8A8/)
00001780      GO TO 5
00001790 C
00001800 C      *COMMENT CARD
00001810 C
00001820 10     IF(LSW(1)) GO TO 12
00001830      WRITE(6,9503)
00001840 9503   FORMAT('1')
00001850      LSW(1)=.TRUE.
00001860      DO 11 I=1,8
00001870      HEAD(I)=CARD8(I)
00001880 11     CONTINUE
00001890 12     WRITE(6,9504) (CARD8(I),I=1,8)
00001900 9504   FORMAT(10X,8A8//)
00001910      GO TO 5
00001920 C
00001930 C      *TABLE CARD
00001940 C
00001950 20     IF(LSW(2)) GO TO 6
00001960      LSW(2)=.TRUE.
00001970      DERUG=INTS(1)
00001980      TABLE=INTS(3)
00001990      WRITE(6,9505) STARCD,INTS,(CARD8(I),I=1,8)
00002000 9505   FORMAT(' ',A8,2I2,I4,8A8/)
00002010      GO TO 5
00002020 C
00002030 C      *CORLINE CARD
00002040 C
00002050 30     IF(LSW(3)) GO TO 6
00002060      LSW(3)=.TRUE.
00002070      WRITE(6,9505) STARCD,INTS,(CARD8(I),I=1,8)
00002080 34     READ(5,8000) C,DATA
00002090 8000   FORMAT(I2,I3,20I5)
00002100      WRITE(6,8500) C,DATA
00002110 8500   FORMAT(' ',I2,I3,20I5)
00002120      IF(C.GT.9) GO TO 5
00002130      DO 35 I=1,8
00002140      K=DATA(1,I)
00002150      IF(K.LE.0 .OR. K .GT. MAXLIN) GO TO 35
00002160      CORLIN(K,C)=DATA(2,I)
00002170 35     CONTINUE
00002180      GO TO 34
00002190 C
00002200 C      *INTCEPT CARD

```

```

00002210 C
00002220 40 IF (LSW(4)) GO TO 6
00002230 LSW(4)=.TRUE.
00002240 WRITE (6,9512)
00002250 9512 FORMAT('0')
00002260 WRITE(6,9505)STARCD,INTS,(CARD8(I),I=1,8)
00002270 41 READ(5,8000) C,DATA
00002280 WRITE(6,8500) C,DATA
00002290 IF(C.GT.9) GO TO 5
00002300 DO 45 I=1,8
00002310 K=DATA(1,I)
00002320 IF(K.LE.0 .OR. K .GT. MAXLIN) GO TO 45
00002330 INTC=DATA(2,I)
00002340 DO 44 IZ=1,MAXZON
00002350 ZONLIN(K,C,IZ)=INTC
00002360 44 CONTINUE
00002370 45 CONTINUE
00002380 GO TO 41
00002390 C
00002400 C *ZONLINE CARD
00002410 C
00002420 C
00002430 50 WRITE(6,9506)HEAD
00002440 9506 FORMAT('1',9X,8A8//)
00002450 WRITE(6,9505)STARCD,INTS,(CARD8(I),I=1,8)
00002460 IF(INTS(1).GT.MAXCOR) GO TO 6
00002470 C=INTS(1)
00002480 IF(INTS(2).GT.MAXLIN) GO TO 6
00002490 L1=INTS(2)-1
00002500 51 READ(5,8002)ZONE,ZLDAT
00002510 8002 FORMAT(20I4)
00002520 WRITE(6,8502)ZONE,ZLDAT
00002530 8502 FORMAT('1',20I4)
00002540 IF(ZONE.GT.MAXZON) GO TO 5
00002550 IF(ZONE .LE. 0) GO TO 51
00002560 L=L1
00002570 LIM=MAXLIN-L1
00002580 DO 55 I=1,LIM
00002590 L=L+1
00002600 IF(ZLDAT(I).EQ.0) GO TO 55
00002610 ZONLIN(L,C,ZONE)=ZLDAT(I)
00002620 55 CONTINUE
00002630 GO TO 51
00002640 C

```

```

00002650 C      *END CARD
00002660 C
00002670 60      WRITE(6,9512)
00002680      WRITE(6,9505) STARCHD,INTS,(CARD8(J),I=1,8)
00002690      IF(LSW(3)) GO TO 110
00002700      WRITE(6,9507)
00002710 9507    FORMAT('0ERROR -- NO *CORLINE INPUT -- RUN ABRUPTLY ABORTED ')
00002720      RETURN
00002730 110     WRITE(6,9506) HEAD
00002740      IF(NEBUG.EQ.0) GO TO 120
00002750 C
00002760 C      WRITE ARRAYS
00002770 C
00002780      WRITE(6,9601) CORLIN
00002790 9601    FORMAT('0CORLIN'/(16I5/))
00002800      WRITE(6,9602)((ZONLIN(I,J,1),I=1,16),J=1,9)
00002810 9602    FORMAT('0ZONLIN, ZONE 1'/(16I5/))
00002820 C
00002830 120     CALL UJREAD(1,TABLE,ZONES,NTABS,&910)
00002840      IF(ZONES.NE.ZONIN) GO TO 910
00002850 C      CBD ZONE TO CORRIDOR
00002860 C
00002870      DO 600 IZ=1,ZONIN
00002880      CALL UJIN(TABLE,ZONIN,EM,4,ORG,TRIPS,1,0,I7,TRACE,KERR,
00002890      X &911,&911,&911)
00002900      IF(ORG.NE.I7) GO TO 911
00002910      IF(IZ.GT.98) GO TO 220
00002920 C
00002930 C      ORIGIN IS IN THE CBD
00002940 C
00002950 C          FIRST RECODE THE TRIPS TO THE CORRIDORS
00002960 C
00002970      DO 200 C=1,MAXCOR
00002980      JZ=C+98
00002990      IF(TRIPS(JZ).LE.0) GO TO 200
00003000      XTRIP=.001*TRIPS(JZ)
00003010      DO 190 L=1,MAXLIN
00003020      IF(CORLIN(L,C).LE.0) GO TO 200
00003030      JD=ZONLIN(L,C,IZ)
00003040      IF(JD.GT.0) GO TO 150
00003050      WRITE(6,9509) C,I7,L
00003060 9509    FORMAT('0ERROR -- NO BUS STOP SPECIFIED. CORRIDOR = ',I3,
00003070      X ' ZONE = ',I4,' LINE = ',I4)
00003080      GO TO 190

```

```

00003090 150   RTRIP(JD,I7)=RTRIP(JD,I7)+XTRIP*CORLIN(L,C)
00003100 8004  FORMAT(214,I12)
00003110 190   CONTINUE
00003120 200   CONTINUE
00003130 C
00003140 C   STORE THE TRIPS INTERNAL TO THE CBD
00003150 C
00003160       DO 210 JZ=1,98
00003170         RTRIP(JZ,I7)=RTRIP(JZ,I7)+TRIPS(JZ)
00003180 210 CONTINUE
00003190       GO TO 600
00003200 C
00003210 C   CORRIDOR TO CBD ZONE
00003220 C
00003230 220 C=17-98
00003240       DO 500 JZ=1,98
00003250 C
00003260 C   RECODE ORIGIN AND FACTOR
00003270 C
00003280       IF (TRIPS(JZ).LE.0) GO TO 500
00003290       XTRIP=.001*TRIPS(JZ)
00003300       DO 400 L=1,MAXLIN
00003310       IF (CORLIN(L,C).LE.0) GO TO 500
00003320       ID=ZONLIN(L,C,JZ)
00003330       IF (ID.GT.0) GO TO 350
00003340       WRITE(6,9509) C,JZ,L
00003350       GO TO 400
00003360 350   RTRIP(JZ,ID)=RTRIP(JZ,ID)+XTRIP*CORLIN(L,C)
00003370 400   CONTINUE
00003380 500   CONTINUE
00003390 600   CONTINUE
00003400 C
00003410 C   NOW LETS ROUND AND WRITE OUT THE MARTRIX
00003420 C
00003430       NTAB=1
00003440       OUTTAB=901
00003450       CALL UJWRT(OUTTAB,ZONOUT,NTAB,TITLE,&912)
00003460       TTRIP=0
00003470 C
00003480       DO 800 IZ=1,ZONOUT
00003490         CALL ROUND(RTRIP(1,IZ),TRIPS,ZONOUT,TOTAL)
00003500         TTRIP=TTRIP+TOTAL
00003510         CALL UJOUT(OUTTAB,ZONOUT,4,4,IZ,TRIPS,-1,0,0,0,0,
00003520 +           DUMMY,KERR,&913)

```

```

00003530      800 CONTINUE
00003540          WRITE(6,9510) TTRIP
00003550      9510 FORMAT('PROGRAM COMPLETED')
00003560          X 5X,'TOTAL TRIPS = ',I10)
00003570          RETURN
00003580      910  WRITE(6,9511) TABLE,ZONES,NTARS
00003590      9511 FORMAT('ERROR IN UJREAD. TABLE = ',I4,
00003600          X ' ZONES = ',I4,' NTARS = ',I4)
00003610          RETURN
00003620      911  WRITE(6,9508) TABLE,ORG,I7,KERR
00003630      9508 FORMAT('ERROR IN UJIO. TABLE = ',I4/17X,'ZONE READ = ',
00003640          X I4/17X,'ZONE REQUESTED = ',I4/17X,'KERR = ',I8)
00003650          RETURN
00003660      912 WRITE(6,9519)
00003670      9519 FORMAT('UJWRT ERROR')
00003680          RETURN
00003690      913 WRITE(6,9513) KERR
00003700      9513 FORMAT('UJOUT ERROR, KERR=',I4)
00003710          RETURN
00003720          END
00003730      //LKED.SYSLMOD DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR.
00003740      //          UNIT=3330,VOL=SER=D35D01
00003750      //LKED.ULIB DD DSN=SYS2.URD.SUBKLIB,DISP=SHR
00003760      //LKED.SYSIN DD *
00003770          ENTRY MAIN
00003780          REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFENTH,IHCEFIOS,IHCFIOS2
00003790          REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003800          INCLUDE ULIB(UJIN)
00003810          REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFENTH,IHCEFIOS,IHCFIOS2
00003820          REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003830          INCLUDE ULIB(UJREAD)
00003840          REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFENTH,IHCEFIOS,IHCFIOS2
00003850          REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003860          INCLUDE ULIB(DCRSECT)
00003870          REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFENTH,IHCEFIOS,IHCFIOS2
00003880          REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003890          INCLUDE ULIB(UPRNT,UJWRT,UJOUT)
00003900          REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFENTH,IHCEFIOS,IHCFIOS2
00003910          REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003920          INCLUDE ULIB(UHEAD,SIGNON,ROUND,ELTIME,UCHECK,DATE)
00003930          NAME BUSSTOP(R)

```

PROGRAM MIDDAY

PURPOSE

Program MIDDAY estimates the frequency/destination/mode choice for CBD worker daily circulation round-trips. The program performs the computations simultaneously for the regional transit and auto user market segments and for the company business trip purpose. All trip estimates are for round trips made entirely within the CBD.

The output of the program is the circulation round trips by mode. The output file can contain up to five tables in the order of DPM, walk, mini-bus, regional bus, and auto.

FILE DEFINITIONS

Input

FT01F001 - File containing proportion of attractions made by regional transit for each CBD zone

FT02F001 - Zonal data file

FT05F001 - Program control cards

FT11F001 - UTPS matrix data files as given by &PARAM keyword values
thru
FT18F001

Output

FT19F001 - Daily circulation round-trips by mode

KEYWORD VALUES

&PARAM

ZONES	-	I*4	-	Number of CBD zones (98)
MODES	-	I*4	-	Number of CBD modes
COLIN	-	I*4	-	Number of columns for UTPS input files (116)
WLKTAB	-	I*4	-	Walk time table number
MNRTAB	-	I*4	-	Mini-bus run time table number

MNOTAB	-	I*4	-	Mini-bus out-of-vehicle time table number
RBRNTB	-	I*4	-	Regional bus run time table number
RBOUTB	-	I*4	-	Regional bus out-of-vehicle time table number
DPMRTB	-	I*4	-	People mover run time table number
DPMOTB	-	I*4	-	People mover out-of-vehicle time table number
AUTAB	-	I*4	-	Auto time table number
PKCTAB	-	I*4	-	Parking location choice table number
MINIFR	-	R*4	-	Mini-bus boarding fare (cents)
RBUSFR	-	R*4	-	Regional bus fare (cents)
DPMFR	-	R*4	-	People mover fare (cents)
TRPØCF	-	R*4	-	Destination model employment coefficient
CTRPØ	-	R*4	-	No trip constant
RAFCF	-	R*4	-	Regional auto market fare coefficient
RTFCF	-	R*4	-	Regional transit fare coefficient
RABIAS	-	R*4	-	Regional auto market auto mode constant
RACOMB	-	R*4	-	Regional auto market company business coefficient
RTWLKB	-	R*4	-	Regional transit market walk mode constant
ADPMC	-	R*4	-	Regional auto market DPM mode constant
TDPMC	-	R*4	-	Regional transit market DPM mode constant
RAPKCF	-	R*4	-	Regional auto market parking cost coefficient
TADCF	-	R*4(5)	-	Activity variable land use coefficients in the order private office, government office, re-retail, service, manufacturing land use
ACTCF	-	R*4	-	Destination model activity variable coefficient
TTERM	-	R*4	-	Auto parking terminal time (minutes)
RTWKCF	-	R*4	-	Regional transit market walk time coefficient

RAWKCF	-	R*4	-	Regional auto market walk time coefficient
RTRNCF	-	R*4	-	Regional transit market run time coefficient
RARNCF	-	R*4	-	Regional auto market run time coefficient
RTWTCF	-	R*4	-	Regional transit market out-of-vehicle time coefficient
RAWTCF	-	R*4	-	Regional auto market out-of-vehicle time coefficient
RAPWCF	-	R*4	-	Regional auto market auto mode walk time coefficient
RAARCF	-	R*4	-	Regional auto market auto time coefficient
PCTCB	-	R*4(2)	-	Proportion of trips which are company business trips and proportion which are not company business trips
DPMFLG	-	L*1	-	= T indicates DPM mode is available

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00000010 //D35CMIDD JOB (D35C,LADPM,OJA),CLASS=P
00000020 //FORTRAN EXEC FORTGCL,
00000030 // PARM.FORT='GOSTMT,NOMAP,XREF,OPT(0),NOLIST,NODECK',
00000040 // REGION.FORT=192K,PARM.LKED='LIST,XREF,MAP',
00000050 // REGION.LKED=128K,TIME=1
00000060 //FORT.SYSIN DD *
00000070 IMPLICIT INTEGER*4 (A-Z)
00000080 C
00000090 INTEGER*2 AUTIME(116),WLKTIM(116),MRUN(116),MOUT(116),
00000100 + RRUN(116),ROUT(116),DPMRUN(116),DPMOUT(116),PKCHOC(116)
00000110 C
00000120 INTEGER*4 KTABL(9),INFILE/5/,OUTFIL/20/,PRGNAM(2)/'MIDD','AY'/,
00000130 + NAME(3,5)/'WALK',' ',' ','MINI','BUS ',' ',' ',
00000140 + 'REGI','ONAL','BUS','DPM ',' ',' ',
00000150 + 'AUTO',' ',' ',' ',
00000160 + INDEX(9)/1,2,3,4,5,6,7,8,9/,ZONE0(9),NTABS(9)/9*0/,TWRYT/2/,
00000170 + TOT(5)/5*0/,GTOT/0/,TRACE(10)/10*150/,QT/1/,CURBUS/0/,NCORUS/0/,
00000180 + ACTIV(116),FEMPL(116),PCOST(116),CDAT(2)/'01MA','R81'/,
00000190 + LU(5),FRRYT/4/,IUTIL(116,5),MATRX(116,5),ZONES/98/,COLIN/116/
00000200 INTEGER*4 ZTRIP(3,116)/348*0/,INTRA/0/,YTRIP(2,116)/232*0/
00000210 INTEGER*4 BTRIP(2,116)/232*0/
00000220 C
00000230 REAL*4 TRNPCT(116),ACMBUS,RAFCF,RAPKCF,ACRRBUS,TCMBUS,RTFCF,
00000240 + TADCF(5),TCRBUS,RARIAS,RACOMB,RTWLKR,TCWALK,PKTIME,DESTUT(116),
00000250 + QTRIP(2),RTRP1,RTRP2,SUMUT,SUMUTP(2),INVSUM,INVSMP(2),
00000260 + TCDPM,RTWTCF,RTNCF,DISUT(116,5),RACTIV(116)/116*0.0/,
00000270 + ACRES,ACDPM,ACAUT1,ACAUT2,TEMP,RAWKCF,ZONE0,CTRP0,TRP0CF,
00000280 + RPCOST(116),MINIFR,RBUSER,DPMFR,RTWKCF,ACTCF,ADPMC,TDPMC,
00000290 + RARNCF,
00000300 + TTERM,RAWTCF,RAPWCF,FEMPL(116),PKTIME,PCT,AUTUT,RAARCF,
00000310 + AUTIL1(116,2),DSTUTP(116,2),AUTUTP(2),TRIPS,RTRIP,PCTCB(2)
00000320 C
00000330 LOGICAL*1 CONT(6)/6*.FALSE./,DPMFLG
00000340 C
00000350 EQUIVALENCE (KTABL(1),AUTAR),(KTABL(2),WLKTAB),(KTABL(3),MNRTAB),
00000360 + (KTABL(4),MNOTAB),(KTABL(5),RRRNTB),(KTABL(6),RRRUTH),
00000370 + (KTABL(7),PKCTAB),(KTABL(8),DPMRTR),(KTABL(9),DPMOTR)
00000380 EQUIVALENCE (PCOST(1),RPCOST(1)),(ACTIV(1),RACTIV(1))
00000390 EQUIVALENCE (DISUT(1,5),AUTIL1(1,1)),(DESTUT(1),DSTUTP(1,1)),
00000400 + (AUTUT,AUTUTP(1)),(IUTIL(1,1),AUTIME(1)),
00000410 + (IUTIL(59,1),WLKTIM(1)),(IUTIL(1,2),MRUN(1)),
00000420 + (IUTIL(59,2),MOUT(1)),(IUTIL(1,3),RRUN(1)),
00000430 + (IUTIL(59,3),ROUT(1)),(IUTIL(1,4),DPMRUN(1)),
00000440 + (IUTIL(59,4),DPMOUT(1)),(IUTIL(1,5),PKCHOC(1))

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00000450 C
00000460 NAMELIST /PARAM/ MODES,PAFCF,MINIFR,RAPKCF,RARTAS,RACOMB,
00000470 + PCTCR,TRPOCF,CTHPO,ZONES,COLIN,WLKTR,MNRTAR,AUTAR,MNOTAR,
00000480 + TTERM,RTFCF,RRRNTH,PROUTH,PKCTAR,DPMRTB,DPMOTH,RRUSER,
00000490 + TADCF,TRACE,DPMFR,ADPMC,TDPMC,RARNCF,RAWTCF,RAPWCF,PAARCF,
00000500 + RTWLKB,RTWKCF,RTRNCF,RTWTCF,DPMFLG,RAWKCF,ACTCF,RAWKCF
00000510 C
00000520 CALL SIGNON(INFILE,OUTFIL,PRGNAM,CDAT,CONT)
00000530 IF (CONT(1)) READ (OUTFIL,PARAM)
00000540 WRITE (6,PARAM)
00000550 C
00000560 NLOOP=9
00000570 IF (.NOT.DPMFLG) NLOOP=7
00000580 C
00000590 C SORT TABLE NUMBERS SO THEY CAN BE READ IN ORDER
00000600 C
00000610 K9=NLOOP-1
00000620 DO 1100 K=1,K9
00000630 K1=K+1
00000640 DO 1100 K2=K1,NLOOP
00000650 IF (KTABL(K2).GT.KTABL(K)) GO TO 1100
00000660 ITEMP=KTABL(K2)
00000670 KTABL(K2)=KTABL(K)
00000680 KTABL(K)=ITEMP
00000690 ITEMP=INDEX(K2)
00000700 INDEX(K2)=INDEX(K)
00000710 INDEX(K)=ITEMP
00000720 1100 CONTINUE
00000730 C
00000740 C DETERMINE NUMBER OF TABLES ON EACH FILE FOR UMTA OPEN
00000750 C
00000760 K1=0
00000770 K9=0
00000780 DO 1150 K=1,NLOOP
00000790 K2=KTABL(K)/100
00000800 IF (K2.EQ.K9) GO TO 1125
00000810 K9=K2
00000820 K1=K1+1
00000830 1125 NTABS(K1)=NTABS(K1)+1
00000840 1150 CONTINUE
00000850 C
00000860 C OPEN INPUT AND OUTPUT TABLES
00000870 C
00000880 CALL UJREAD(NLOOP,KTABL,ZONEU,NTABS,&9300)

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00000890 C
00000900      CALL UJWRT(901,ZONES,NTABS,69200)
00000910 C
00000920 C      READ THE DESTINATION TRANSIT PERCENT
00000930 C
00000940 1300 READ(1,101,FND=1350) IZ,TRNPCT(IZ)
00000950      GO TO 1300
00000960 101 FORMAT(I5,F10.3)
00000970 1350 CONTINUE
00000980 103 FORMAT(2I5)
00000990 C
00001000 C      READ THE ZONAL DATA FILE
00001010 C
00001020 1400 DO 1500 IZ=1,ZONES
00001030      READ(2,102) IEMPL(IZ),LU,PCOST(IZ),ACRES
00001040 102  FORMAT(5X,6I5,10X,I5,5X,F6.1)
00001050      RPCOST(IZ)=RAPKCF * FLOAT(PCOST(IZ))
00001060      IF(IEMPL(IZ) .EQ.0) FMPL(IZ)=0.0
00001070      IF(IEMPL(IZ) .GT.0)
00001080          + FMPL(IZ) = EXP (TRPOCF * FLOAT(IEMPL(IZ)) + CTRPO)
00001090      DO 1450 L=1,5
00001100          RACTIV(IZ)=RACTIV(IZ)+IADCF(L)*FLOAT(LU(L))
00001110 1450  CONTINUE
00001120      IF(RACTIV(IZ).GT.0.0) RACTIV(IZ)=EXP(ACTCF * RACTIV(IZ)/ACRES)
00001130 1500 CONTINUE
00001140 C
00001150 C      SET UP CONSTANTS FOR LOGIT EQUATIONS
00001160 C
00001170      ACRBUS=MINIFR * RAFCF
00001180      ACRBUS=RBUSER * RAFCF
00001190      TCRBUS=MINIFR * RTECF
00001200      TCRBUS=RBUSER * RTECF
00001210      ACAUT1=RARIAS
00001220      ACAUT2=RARIAS + RACOMB
00001230      TCWALK=RTWLKR
00001240      ACDPM=DPMFR * RAFCF + ADPMC
00001250      TCDPM=DPMFR * RTECF + TDPMC
00001260 C
00001270 C      START PROCESSING BY ROW
00001280 C      FIRST WE DO THE REGIONAL TRANSIT MARKET SHARE,
00001290 C      THEN REGIONAL AUTO FOR NON-COMPANY AND COMPANY BUSINESS
00001300 C      TRIP PURPOSES
00001310 C

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00001320      DO 5700 IZ=1,ZONES
00001330 C
00001340 C      READ EACH OF THE MATRIX INPUTS
00001350 C
00001360      TRC=0
00001370 C
00001380      IF (QT.GT.10 .OR. TRACE(01).NE.IZ) GO TO 1525
00001390      TRC=1
00001400      QT=QT+1
00001410      DO 1510 M=1,5
00001420          DO 1510 JZ=1,ZONES
00001430              MATRX(JZ,M)=0
00001440      1510 CONTINUE
00001450      1525 IF (IEMPL(IZ).EQ.0) GO TO 5300
00001460      DO 2400 K=1,NLOOP
00001470          KI=INDEX(K)
00001480          ITAB=KTABL(K)
00001490          GO TO (1550,1600,1700,1800,1900,2000,2050,2100,2200),KI
00001500 C
00001510      1550 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,AUTIME,1,0,IZ,TRC,KERR,
00001520          +      &9000,&9010,&9020)
00001530      GO TO 2300
00001540      1600 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,WLKTIM,1,0,IZ,TRC,KERR,
00001550          +      &9000,&9010,&9020)
00001560      GO TO 2300
00001570      1700 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,MRUN,1,0,IZ,TRC,KERR,
00001580          +      &9000,&9010,&9020)
00001590      GO TO 2300
00001600      1800 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,MOUT,1,0,IZ,TRC,KERR,
00001610          +      &9000,&9010,&9020)
00001620      GO TO 2300
00001630      1900 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,BRUN,1,0,IZ,TRC,KERR,
00001640          +      &9000,&9010,&9020)
00001650      GO TO 2300
00001660      2000 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,ROUT,1,0,IZ,TRC,KERR,
00001670          +      &9000,&9010,&9020)
00001680      GO TO 2300
00001690      2050 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,PKCHOC,1,0,IZ,TRC,KERR,
00001700          +      &9000,&9010,&9020)
00001710      GO TO 2300
00001720      2100 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,DPMRUN,1,0,IZ,TRC,KERR,
00001730          +      &9000,&9010,&9020)
00001740      GO TO 2300
00001750      2200 CALL UJIN(ITAB,COLIN,IL,TWBYT,LI,DPMOUT,1,0,IZ,TRC,KERR,
00001760          +      &9000,&9010,&9020)

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00001770 2300      IF (LINE.IZ) GO TO 9600
00001780 2400      CONTINUE
00001790 C
00001800 C      COMPUTE AVERAGE WALK TIME TO A PARKING FACILITY
00001810 C
00001820
00001830      IF (WLKTIM(IZ).EQ.0) WLKTIM(IZ)=2
00001840      TOTPRK=0
00001850      TOTIME=0
00001860      DO 2500 JZ=1,COLIN
00001870          TOTPRK=TOTPRK+PKCHOC(JZ)
00001880          TOTIME=TOTIME+(WLKTIM(JZ)+TTERM)*PKCHOC(JZ)
00001890 2500      CONTINUE
00001900      IF (TOTPRK.GT.0)
00001910          +      PKTIME=0.1 * RAPWCF * FLOAT(TOTIME) / FLOAT(TOTPRK)
00001920      IF (TOTPRK.EQ.0)
00001930          +      PKTIME=0.1 * RAPWCF * WLKTIM(IZ)
00001940 C
00001950 C      NOW LETS DO THE COMPUTATIONS FOR THE TRANSIT MIDDAY MARKET
00001960 C
00001970      MODES=4
00001980      IF (.NOT.DPMFLG) MODES=3
00001990      AUTUT=0.0
00002000      DO 3400 JZ=1,ZONES
00002010          DO 2700 M=1,5
00002020              DISUT(JZ,M)=0.0
00002030 2700      CONTINUE
00002040          DESTUT(JZ)=0.0
00002050          SUMUT=0.0
00002060          IF (IEMPL(JZ).EQ.0) GO TO 3400
00002070 C
00002080          IF (WLKTIM(JZ).EQ.32767 .OR. WLKTIM(JZ).EQ.0) GO TO 2800
00002090          DISUT(JZ,1)=EXP(TCWALK+RTWKCF*WLKTIM(JZ))
00002100 C
00002110 2800      IF (MRUN(JZ).EQ.0) GO TO 2900
00002120          DISUT(JZ,2)=EXP(TCMBUS+RTRNCF*MRUN(JZ)+RTWTCF*MOUT(JZ))
00002130 C
00002140 2900      IF (RRUN(JZ).EQ.0) GO TO 3000
00002150          DISUT(JZ,3)=EXP(TCRBUS+RTRNCF*RRUN(JZ)+RTWTCF*ROUT(JZ))
00002160 C
00002170 3000      IF (.NOT.DPMFLG .OR. DPMRUN(JZ).EQ.0) GO TO 3100
00002180          DISUT(JZ,4)=EXP(TCOPM+RTRNCF*DPMRUN(JZ)+RTWTCF*DPMOUT(JZ))
00002190 C

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00002200 3100      DO 3200 M=1,MODES
00002210          SUMUT=SUMUT + DISUT(JZ,M)
00002220 3200      CONTINUE
00002230          IF(SUMUT.EQ.0) GO TO 3400
00002240 C
00002250 C      COMPUTE LOGSUM FOR THE DESTINATION MODE CHOICE MODEL
00002260 C
00002270          DESTUT(JZ)= SUMUT * RACTIV(JZ)
00002280          AUTUT = AUTUT + DESTUT(JZ)
00002290 3400      CONTINUE
00002300 C
00002310          TRIPS = TRNPCT(IJ) * FLOAT(IEMPL(IJ))
00002320          ZONE0 = FEMPL(IJ)
00002330          AUTUT = AUTUT + ZONE0
00002340          IF(AUTUT.EQ.0) GO TO 3850
00002350          INVSUM=1.0/AUTUT
00002360          ZTRIP(1,IJ) = TRIPS * ZONE0 * INVSUM
00002370 C
00002380          DO 3700 JZ=1,ZONES
00002390              RTRIP = TRIPS * DESTUT(JZ) * INVSUM
00002400              IF (RTRIP.EQ.0) GO TO 3700
00002410              SUMUT =DESTUT(JZ) / RACTIV(JZ)
00002420              DO 3600 M=1,MODES
00002430                  DISUT(JZ,M) =(DISUT(JZ,M)/SUMUT) * RTRIP
00002440 3600          CONTINUE
00002450 3700      CONTINUE
00002460          DO 3800 M=1,MODES
00002470              CALL ROUND(DISUT(1,M),MATRX(1,M),ZONES,ROWTOT)
00002480              TOT(M) = TOT(M) + ROWTOT
00002490              IF(M.EQ.4) YTRIP(1,IJ)=ROWTOT
00002500              RTRIP(1,IJ)=RTRIP(1,IJ) + ROWTOT
00002510 3800      CONTINUE
00002520 C
00002530 C      NOW LETS DO THE REGIONAL AUTO MARKET
00002540 C
00002550 C      FIRST COMPUTE EVERYTHING BUT THE COMPANY BUSINESS VARIABLE
00002560 C
00002570 3850      MODES=5
00002580          DO 4400 JZ=1,ZONES
00002590              DO 3900 M=1,MODES
00002600                  DISUT(JZ,M)=0.0
00002610 3900      CONTINUE
00002620          AUTIL1(JZ,2)=0.0
00002630          SUMUT=0.0
00002640 C

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00002650      IF (IFEMPL(JZ).EQ.0) GO TO 4400
00002660      IF (WLKTIM(JZ).EQ.32767 .OR. WLKTIM(JZ).EQ.0) GO TO 4000
00002670      DISUT(JZ,1)=EXP(RAWKCF*WLKTIM(JZ))
00002680 C
00002690      4000      IF (MRUN(JZ).EQ.0) GO TO 4100
00002700      DISUT(JZ,2)=EXP(ACMBUS + RARNCF*MRUN(JZ) + RAWTCF*MMOUT(JZ))
00002710 C
00002720      4100      IF (RRUN(JZ).EQ.0) GO TO 4200
00002730      DISUT(JZ,3)=EXP(ACRBUS + RARNCF*RRUN(JZ) + RAWTCF*ROUT(JZ))
00002740 C
00002750      4200      IF (.NOT.DPMFLG .OR. DPMRUN(JZ).EQ.0) GO TO 4300
00002760      DISUT(JZ,4)=EXP(ACDPM+RARNCF*DPMRUN(JZ)+RAWTCF*DPMOUT(JZ))
00002770 C
00002780      4300      IF (AUTIME(JZ).EQ.0) GO TO 4400
00002790      TEMP=RAARCF*AUTIME(JZ) + PKTIME + RPCOST(JZ)
00002800      AUTIL1(JZ,1)=EXP(TEMP+ACAUT1)
00002810      AUTIL1(JZ,2)=EXP(TEMP+ACAUT2)
00002820      4400      CONTINUE
00002830      AUTUTP(1)=ZONE0
00002840      AUTUTP(2)=ZONE0
00002850      DO 4600 JZ=1,ZONES
00002860          SUMUT=0.0
00002870          DO 4500 M=1,4
00002880              SUMUT=SUMUT+DISUT(JZ,M)
00002890      4500      CONTINUE
00002900          DO 4550 L=1,2
00002910              DSTUTP(JZ,L)=(SUMUT+AUTIL1(JZ,L)) * RACTIV(JZ)
00002920              AUTUTP(L) = AUTUTP(L) + DSTUTP(JZ,L)
00002930      4550      CONTINUE
00002940      4600      CONTINUE
00002950      TRIPS= (1.0-TRNPCT(IZ)) * FLOAT(ITEMPL(IZ))
00002960      IF ((AUTUTP(1)+AUTUTP(2)).EQ.0) GO TO 5300
00002970      DO 4650 L=1,2
00002980          INVSMP(L)=0.0
00002990          IF (AUTUTP(L).GT.0.) INVSMP(L)=1.0/AUTUTP(L)
00003000          QTRIP(L)=TRIPS * PCTCB(L)
00003010          ZTRIP(L+1,IZ)=QTRIP(L) * ZONE0 * INVSMP(L)
00003020      4650      CONTINUE
00003030      CORUS = CORUS + (QTRIP(1) - ZTRIP(2,IZ)) + 0.5
00003040      NCORUS = NCORUS + (QTRIP(2) - ZTRIP(3,IZ)) + 0.5
00003050      DO 4800 JZ=1,ZONES
00003060          RTRP1=QTRIP(1) * DSTUTP(JZ,1) * INVSMP(1)
00003070          RTRP2=QTRIP(2) * DSTUTP(JZ,2) * INVSMP(2)
00003080          IF ((RTRP1+RTRP2).EQ.0) GO TO 4800

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00003090      SUMUTP(1) = DSTUTP(J7,1)/RACTIV(J7)
00003100      SUMUTP(2) = DSTHTP(J7,2)/RACTIV(J7)
00003110      DO 4700 M=1,4
00003120          DISUT(JZ,M) = RTRP1 * DISUT(J7,M) / SUMUTP(1) +
00003130      +          RTRP2 * DISUT(J7,M) / SUMUTP(2)
00003140      4700      CONTINUE
00003150      DISUT(JZ,5) = RTRP1 * AUTIL1(JZ,1) / SUMUTP(1) +
00003160      +          RTRP2 * AUTIL1(JZ,2) / SUMUTP(2)
00003170      4800      CONTINUE
00003180      4900      DO 5000 M=1,MODES
00003190          CALL ROUND(DISUT(1,M),IUTIL(1,M),ZONES,ROWTOT)
00003200          TOT(M)=TOT(M)+ROWTOT
00003210          IF(M.EQ.4) YTRIP(2,I7)=ROWTOT
00003220          RTRIP(2,I7)=RTRIP(2,IZ) + ROWTOT
00003230      5000      CONTINUE
00003240      DO 5200 M=1,MODES
00003250          DO 5100 JZ=1,ZONES
00003260              MATRX(JZ,M)=MATRX(JZ,M)+IUTIL(JZ,M)
00003270      5100      CONTINUE
00003280          INTRA=INTRA + MATRX(IZ,M)
00003290      5200      CONTINUE
00003300      C
00003310      5300      TRC=-1
00003320          JTAB=900
00003330          IF(.NOT.DPMFLG) GO TO 5400
00003340          JTAB=JTAB+1
00003350          CALL UJOUT(JTAB,ZONES,TWBYT,FRBYT,I7,MATRX(1,4),TRC,0,0,0,
00003360      +          DUMMY,KERR,&9100)
00003370      5400      DO 5500 M=1,5
00003380          IF(M.EQ.4) GO TO 5500
00003390          JTAB=JTAB+1
00003400          CALL UJOUT(JTAB,ZONES,TWBYT,FRBYT,I7,MATRX(1,M),TRC,0,0,0,
00003410      +          DUMMY,KERR,&9100)
00003420      5500      CONTINUE
00003430      5700      CONTINUE
00003440      DO 5800 M=1,MODES
00003450          GTOT=GTOT+TOT(M)
00003460      5800      CONTINUE
00003470      C
00003480          WRITE(6,107)
00003490      107      FORMAT(///'      MIDDAY MODE SPLIT SUMMARY:/'/)
00003500          WRITE(6,6200)
00003510      6200      FORMAT(///7X,'MODE',11X,'TRIPS',
00003520      +          5X,'PCT',7X,'-----',7X,'-----',4X,'-----')

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00003530      PCT=100.*TOT(4)/GTOT
00003540      WRITE(6,6300) (NAME(I,4),I=1,3),TOT(4),PCT
00003550      DO 6250 K=1,MODES
00003560          IF(K.EQ.4) GO TO 6250
00003570          PCT=100.*TOT(K)/GTOT
00003580          WRITE(6,6300) (NAME(1,K),I=1,3),TOT(K),PCT
00003590      6250 CONTINUE
00003600      6300 FORMAT(7X,3A4,I8,F8.2)
00003610          WRITE(6,6400) GTOT
00003620      6400 FORMAT(21X,'-----'/19X,I8)
00003630          WRITE(6,6800)
00003640      6800 FORMAT(/'      TRIP GENERATION SUMMARY'//'      ZONE  EMPLOYMENT ',
00003650      +      'NO TRIPS PERCENT')
00003660          GTRIP=0
00003670          GEMP=0
00003680          DO 7000 JZ=1,ZONES
00003690              TRIP = 7TRIP(1,JZ) + ZTRIP(2,JZ) + 7TRIP(3,JZ)
00003700              PCT=0.0
00003710              IF(IEMPL(JZ).GT.0)
00003720      +          PCT=100.0 * FLOAT(TRIP)/FLOAT(IEMPL(JZ))
00003730              WRITE(6,6900) JZ,IEMPL(JZ),TRIP,PCT
00003740              GEMP=GEMP+IEMPL(JZ)
00003750              GTRIP= GTRIP+TRIP
00003760      6900 FORMAT(3I10,F8.3,7I8)
00003770      7000 CONTINUE
00003780          PCT = 100.0 * FLOAT(GTRIP) / FLOAT(GEMP)
00003790          WRITE(6,7100) GEMP,GTRIP,PCT
00003800      7100 FORMAT('0',9X,2I10,F8.3,2I8,24X,2I8)
00003810          WRITE(6,7200) INTRA
00003820      7200 FORMAT('0 INTRA7ONAL TRIPS =' ,I10)
00003830          WRITE(6,7400) COBUS,NCORUS
00003840      7400 FORMAT('0COMPANY BUSINESS TRIPS =' ,I12/
00003850      +      'NONCOMPANY BUSINESS =' ,I9)
00003860          STOP
00003870      9000 KERR=KERR+1000
00003880          GO TO 9040
00003890      9010 KERR=KERR+2000
00003900          GO TO 9040
00003910      9020 KERR=KERR+3000
00003920      9040 WRITE(6,9050) I7AR,KERR,I7,LI
00003930      9050 FORMAT('0UJIN ERROR, TABLE',I5,' KERR=',I5,' I7=',I5,' LI=',I5)
00003940          RETURN
00003950      9100 WRITE(6,9150) J7AR,KERR
00003960      9150 FORMAT('0UJOUT ERROR, TABLE',I5,' KERR=',I5)

```

```

00003970      RETURN
00003980  9600 WRITE(6,9650) ITAB,IZ
00003990  9650 FORMAT('0INPUT TABLE OUT OF ORDER, TABLE',IS,' ROW',IS)
00004000      RETURN
00004010  9200 WRITE(6,9250)
00004020  9250 FORMAT('0UJWRT ERROR')
00004030      RETURN
00004040  9300 WRITE(6,9350) NTABS
00004050  9350 FORMAT('0UJREAD ERROR',A4,10I7)
00004060      RETURN
00004070      END
00004080 //LKED.SYSLMOD DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR,
00004090 //      UNIT=3330,VOL=SER=D35001
00004100 //LKED.ULIB DD DSN=SYS1.URD.SUBRLIB,DISP=SHR
00004110 //LKED.SYSIN DD *
00004120      ENTRY MAIN
00004130      REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00004140      REPLACE IHCUOPT,IHCERRM,IHCUATHL,IHCETRCH
00004150      INCLUDE ULIB(UJIN)
00004160      REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00004170      REPLACE IHCUOPT,IHCERRM,IHCUATHL,IHCETRCH
00004180      INCLUDE ULIB(UJREAD)
00004190      REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00004200      REPLACE IHCUOPT,IHCERRM,IHCUATHL,IHCETRCH
00004210      INCLUDE ULIB(DCRCSECT)
00004220      REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00004230      REPLACE IHCUOPT,IHCERRM,IHCUATHL,IHCETRCH
00004240      INCLUDE ULIB(UPRNT,UJWRT,UJOUT)
00004250      REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00004260      REPLACE IHCUOPT,IHCERRM,IHCUATHL,IHCETRCH
00004270      INCLUDE ULIB(UHEAD,SIGNON,ROUND,ELTIME,UCHECK,DATE)
00004280      NAME MIDDAY(R)

```

PROGRAM MSPLIT

PURPOSE

Program MSPLIT performs the distribution trip mode choice. The program is used for both the regional transit user and regional auto user market segments and during a transit user analysis can output the LOGSUM variable required by the parking choice model.

The program outputs up to four tables of distribution trips by CBD mode. The order of the tables is DPM, walk, minibus, and regional bus. If the DPM mode is not available the remaining three tables will be output in the order shown.

FILE DEFINITIONS

Input

FT05F001 - Program control cards

FT11F001 - UTPS matrix files as specified by &PARAM
keyword values

thru

FT17F001

Output

FT18F001 - LOGSUM values for use by parking choice model

FT19F001 - Distribution trips by mode

KEYWORD VALUES

&PARAM

ZONES	-	I*4	-	Number of zones
MODES	-	I*4	-	Number of CBD modes
WLKTAB	-	I*4	-	Table number for the walk time variable
MNRTAB	-	I*4	-	Table number for the mini-bus run time variable
MNOTAB	-	I*4	-	Table number for the mini-bus out-of-vehicle time variable

RBRNTB	-	I*4	-	Table number for the regional bus run time variable
RBOUTB	-	I*4	-	Table number for the regional bus out-of-vehicle time variable
DPMRTB	-	I*4	-	Table number for the people mover run time variable
DPMOTB	-	I*4	-	Table number of the people mover out of vehicle time variable
DPMXTB	-	I*4	-	Table number for the people mover station integration variable
TRPTAB	-	I*4	-	Table number for the PM peak hour distribution trips
WALKCF	-	R*4	-	Walk time coefficient value
TIMECF	-	R*4	-	Run time coefficient value
OUTCF	-	R*4	-	Out-of-vehicle time coefficient value
C	-	R*4(4)	-	Mode specific constant values in the order walk, minibus, regional bus, DPM
DPMFR	-	R*4	-	People mover boarding fare (cents)
TBUSFR	-	R*4	-	Regional bus transfer fare (cents)
ABUSFR	-	R*4	-	Regional bus boarding fare (cents)
MINIFR	-	R*4	-	Minibus boarding fare (cents)
FARECF	-	R*4	-	Fare coefficient
BUSDMY	-	R*4	-	Regional transit user bias constant
<u>&OPTION</u>				
TRANST	-	L*1	-	T if model run for regional transit users

```

00000010 //D35CHUSS JOB (D35C,LADPM,DJA),CLASS=P
00000020 //FORTRAN EXEC FORTGCL,
00000030 // PARM.FORT='GOSTMT,NOMAP,XREF,OPT(0),NOLIST,NODECK',
00000040 // REGION.FORT=192K,PARM.LKED='LIST,XREF,MAP',
00000050 // REGION.LKED=128K,TIME=1
00000060 //FORT.SYSIN DD *
00000070 IMPLICIT INTEGER(A-Z)
00000080 C
00000090 REAL*4 UTILF(4),DISUT(4),CONST(4),C(4),FARFCF,TIMECF,
00000100 + OUTCF,WALKCF,SUMUT,PCI,TBUSFR,ARUSFR,MINIFR,DPMFR,
00000110 + DPMDIS,DPMUT,EXPRDM,
00000120 + BUSDMY,SUMEXP(116),SPLIT(116,4)
00000130 C
00000140 INTEGER*4 NAME(3,4)/'DPM ',' ',' ',
00000150 + 'WALK',' ',' ',
00000160 + 'MINI','BUS ',' ',
00000170 + 'REGI','ONAL','HUS'/'
00000180 INTEGER*4 FRRYT/4/,TOT(4),TOTAL(4)/4*0/,TRC,GTOT/0/,
00000190 + MRUN(116),WALK(116),MOUT(116),RRUN(116),ROUT(116),
00000200 + DPMRUN(116),DPMOUT(116),TRIPS(116),MSPLIT(116,4),
00000210 + KTABL(9),INDEX(9)/1,2,3,4,5,6,7,8,9/,INFILE/5/,
00000220 + OUTFIL/20/,PRGNAM(2)/'DIST','SPLIT',ZONFO(9),
00000230 + CDAT(2)/'16JA','N81'/',TITLES(3,9),
00000240 + NTARS(9)/9*0/,SELECT(15),TWRYT/2/
00000250 INTEGER*4 NAMER(3,1)/'SUME','XP ',' '
00000260 INTEGER*2 DPMTCB(116)
00000270 C
00000280 REAL*8 CPUTIM,ADDTIM,TYPE(2)/'TRANSIT','AUTO'/
00000290 C
00000300 LOGICAL*1 CONT(6)/6*.FALSE./,TRANST
00000310 C
00000320 COMMON/TITLE/FIL,NDATE(2),NTIME(2),NPAGE,PHEAD(18),
00000330 + PNAME(2),LINES,MAXLIN,CPUTIM(21),UCKDSP,OPNAME(2)
00000340 EQUIVALENCE (SUMEXP(1),WALK(1)),
00000350 + (SPLIT(1,1),MSPLIT(1,1),MRUN(1)),
00000360 + (SPLIT(1,2),MSPLIT(1,2),MOUT(1)),
00000370 + (SPLIT(1,3),MSPLIT(1,3),RRUN(1)),
00000380 + (SPLIT(1,4),MSPLIT(1,4),ROUT(1))
00000390 EQUIVALENCE (KTABL(1),TRPTAB),(KTABL(2),WLKTAB),
00000400 + (KTABL(3),MNRTAB),(KTABL(4),MNOTAB),
00000410 + (KTABL(5),RRRNTB),(KTABL(6),RRROUTB),
00000420 + (KTABL(7),DPMRTB),(KTABL(8),DPMOTB),
00000430 + (KTABL(9),DPMXTB)
00000440 C

```

```

00000450      NAMELIST /PARAM/ ZONES,MODES,WALKCF,TIMECF,OUTCF,
00000460      +      C,WLKTAB,TRPTAB,MNRTAB,MNOTAB,RRRNTR,RBOUTH,OPMER,
00000470      +      OPMRTR,OPMOTR,FARECF,MINIFR,TBUSFR,ABUSFR,BUSDMY,OPMXTR
00000480      NAMELIST /OPTION/ SELECT,TRANST
00000490 C
00000500      CALL SIGNON(INFILE,OUTFIL,PRGNAM,CDAT,CONT)
00000510 C
00000520      IF (CONT(1)) READ(OUTFIL,PARAM)
00000530      IF (CONT(2)) READ(OUTFIL,OPTION)
00000540      WRITE(6,PARAM)
00000550      WRITE(6,OPTION)
00000560 C
00000570      NLOOP=9
00000580 C
00000590      IF (MODES.LT.4) NLOOP=6
00000600 C
00000610 C      SORT TABLE NUMBERS SO THEY CAN BE READ IN ORDER
00000620 C
00000630      K9=NLOOP-1
00000640      DO 500 K=1,K9
00000650          K1=K+1
00000660          DO 500 K2=K1,NLOOP
00000670              IF (KTABL(K2).GT.KTABL(K)) GO TO 500
00000680              ITEMP=KTABL(K2)
00000690              KTABL(K2)=KTABL(K)
00000700              KTABL(K)=ITEMP
00000710              ITEMP=INDEX(K2)
00000720              INDEX(K2)=INDEX(K)
00000730              INDEX(K)=ITEMP
00000740      500 CONTINUE
00000750 C
00000760 C      DETERMINE NUMBER OF TABLES ON EACH FILE FOR UMTA OPEN
00000770 C
00000780      K1=0
00000790      K9=0
00000800      DO 700 K=1,NLOOP
00000810          K2=KTABL(K)/100
00000820          IF (K2.EQ.K9) GO TO 600
00000830          K9=K2
00000840          K1=K1+1
00000850      600      NTABS(K1)=NTABS(K1)+1
00000860      700 CONTINUE
00000870 C
00000880 C      OPEN BOTH INPUT AND OUTPUT TABLES

```

```

00000890 C
00000900 CALL UJRFAD(NLOOP,KTARL,ZONEU,NTARS,&9300)
00000910 C
00000920 OUT=MODES
00000930 K=5-MODES
00000940 CALL UJWRT(901,ZONES,OUT.NAME(1,K),&9200)
00000950 K=1
00000960 IF(TRANST) CALL UJWRT(801,ZONES,K,NAME8,&9200)
00000970 C
00000980 C SET UP CONSTANTS OUTSIDE THE LOOP
00000990 C
00001000 C WALK
00001010 C
00001020 CONST(1)=C(1)
00001030 IF(.NOT. TRANST) GO TO 750
00001040 EXPRDM=EXP(BUSDMY)-1.0
00001050 CONST(1) = CONST(1) - BUSDMY
00001060 C
00001070 C MINIBUS
00001080 C
00001090 750 CONST(2)=FARECF*MINIFR + C(2)
00001100 C
00001110 C REGIONAL BUS
00001120 C
00001130 IF(TRANST) CONST(3) = FARECF*TRUSFR + C(3)
00001140 IF(.NOT.TRANST) CONST(3) = FARECF*ARUSFR + C(3)
00001150 C
00001160 C DPM
00001170 C
00001180 CONST(4) = FARECF*DPMFR + C(4)
00001190 C
00001200 C READ EACH ROW OF THE TABLES
00001210 C
00001220 K9=1
00001230 DO 5000 IZ=1,ZONES
00001240 TRC=0
00001250 IF(K9.GT.10) GO TO 1150
00001260 IF(SELECT(K9).NE.IZ) GO TO 1150
00001270 TRC=1
00001280 K9=K9+1
00001290 1150 DO 2000 K=1,NLOOP
00001300 KI=INDEX(K)
00001310 ITAR=KTARL(K)
00001320 GO TO (1100,1200,1300,1400,1500,1600,1700,1800,1850),KT

```

```

00001330 C
00001340 C      TRIP TIME
00001350 C
00001360 1100      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,TRIPS,0,0,I7,TRC,
00001370      +      KERR,&9000,&9010,&9020)
00001380      GO TO 1900
00001390 C
00001400 C      WALK TIME
00001410 C
00001420 1200      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,WALK,0,0,I7,TRC,
00001430      +      KERR,&9000,&9010,&9020)
00001440      GO TO 1900
00001450 C
00001460 C      MINIBUS RUN TIME
00001470 C
00001480 1300      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,MRUN,0,0,I7,TRC,
00001490      +      KERR,&9000,&9010,&9020)
00001500      GO TO 1900
00001510 C
00001520 C      MINIBUS OUT-OF-VEHICLE TIME
00001530 C
00001540 1400      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,MOUT,0,0,I7,TRC,
00001550      +      KERR,&9000,&9010,&9020)
00001560      GO TO 1900
00001570 C
00001580 C      REGIONAL BUS RUN TIME
00001590 C
00001600 1500      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,RRUN,0,0,I7,TRC,
00001610      +      KERR,&9000,&9010,&9020)
00001620      GO TO 1900
00001630 C
00001640 C      REGIONAL BUS OUT-OF-VEHICLE TIME
00001650 C
00001660 1600      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,ROUT,0,0,I7,TRC,
00001670      +      KERR,&9000,&9010,&9020)
00001680      GO TO 1900
00001690 C
00001700 C      DPM RUN TIME
00001710 C
00001720 1700      CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,DPMRUN,0,0,I7,TRC,
00001730      +      KERR,&9000,&9010,&9020)
00001740      GO TO 1900
00001750 C
00001760 C      DPM OUT-OF-VEHICLE TIME

```

```

00001770 C
00001780 1800      CALL UJIN(ITAR,ZONES,IL,FRBYT,LI,DPMOUT,0,0,IZ,TRC,
00001790      +      KERR,&9000,&9010,&9020)
00001800      GO TO 1900
00001810 1850      CALL UJIN(ITAR,ZONES,IL,TWBYT,LI,DPMTCB,0,0,IZ,TRC,
00001820      +      KERR,&9000,&9010,&9020)
00001830 1900      IF(LI.NE.IZ) GO TO 9600
00001840 2000      CONTINUE
00001850 C
00001860 C      DO CALCULATIONS FOR EACH INTERCHANGE
00001870 C      IF TRANSIT IS THE REGIONAL MODE, MUST COMPUTE SUM OF
00001880 C      EXPONENTIAL EVEN IF NO TRIPS
00001890 C
00001900      DO 3000 JZ=1,ZONES
00001910      DO 2200 K=1,MODES
00001920      UTILE(K)=0.0
00001930      DISUT(K)=0.0
00001940 2200      CONTINUE
00001950      SUMUT=0.0
00001960      IF(.NOT. TRANST .AND. TRIPS(JZ).EQ.0) GO TO 2650
00001970 C
00001980 C      WALK DISUTILITY
00001990 C
00002000      IF(WALK(JZ).EQ.32767) GO TO 2250
00002010      UTILE(1)= WALKCF * WALK(JZ) + CONST(1)
00002020      DISUT(1) = EXP(UTILE(1))
00002030 C
00002040 C      MINIBUS
00002050 C
00002060 2250      IF(MRUN(JZ).EQ.0) GO TO 2300
00002070      UTILE(2) = TIMECF * MRUN(JZ) +
00002080      +      OUTCF * MOUT(JZ) + CONST(2)
00002090      DISUT(2) = EXP(UTILE(2))
00002100 C
00002110 C      REGIONAL BUS
00002120 C
00002130 2300      IF(RRUN(JZ).EQ.0) GO TO 2400
00002140      UTILE(3) = TIMECF * RRUN(JZ) +
00002150      +      OUTCF * ROUT(JZ) + CONST(3)
00002160      DISUT(3) = EXP(UTILE(3))
00002170 C
00002180 C      DPM
00002190 C
00002200 2400      IF(MODES.EQ.3) GO TO 2500

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```

00002210      IF(DPMRUN(JZ).EQ.0) GO TO 2500
00002220      UTILE(4) = TIMECF* DPMRUN(JZ) +
00002230      +      DOUTCF * DPMOUT(JZ) + CONST(4)
00002240      DPMUT=UTILE(4)+DPMTCB(JZ)*RUSDMY
00002250      IF(.NOT. TRANST) UTILE(4)=DPMUT
00002260      DISUT(4)=EXP(UTILE(4))
00002270      DPMDIS=DISUT(4)
00002280      IF(TRANST) DPMDIS=EXP(DPMUT)
00002290 C
00002300      2500      DO 2600 K=1,MODES
00002310      SUMUT=SUMUT+DISUT(K)
00002320      2600      CONTINUE
00002330 C
00002340      IF(.NOT.TRANST) GO TO 2650
00002350      SUMEXP(JZ)=SUMUT + EXPBDM*DISUT(1)
00002360      IF(RRUN(JZ).GT.0) SUMEXP(JZ)=SUMUT-DISUT(3) +
00002370      +      EXP(UTILE(3)+FARECF*(ABUSER-TRUSER))
00002380      IF(MODES.EQ.4 .AND. DPMRUN(JZ).GT.0)
00002390      +      SUMEXP(JZ)=SUMEXP(JZ)+DPMDIS-DISUT(4)
00002400 C
00002410      2650      DO 2700 K=1,MODES
00002420      SPLIT(JZ,K)=0.0
00002430      2700      CONTINUE
00002440      IF(TRIPS(JZ).EQ.0) GO TO 3000
00002450 C
00002460 C      COMPUTE MODE SPLIT PERCENTAGES
00002470 C
00002480      DO 2800 K=1,MODES
00002490      IF(DISUT(K).LT.1E-8) GO TO 2800
00002500      PCT=DISUT(K)/SUMUT
00002510      SPLIT(JZ,K)=PCT*TRIPS(JZ)
00002520      2800      CONTINUE
00002530      3000      CONTINUE
00002540 C
00002550 C      ROUND AND OUTPUT THE VARIOUS TABLES
00002560 C      TABLE ORDER IS DPM,WALK,MINI,REGIONAL BUS
00002570 C
00002580      TRC=TRC-1
00002590      JTAR=900
00002600      IF(MODES.LT.4) GO TO 3100
00002610      JTAR=JTAR+1
00002620      CALL ROUND(SPLIT(1,4),MSPLIT(1,4),ZONES,TOT(4))
00002630      TOTAL(4)=TOTAL(4)+TOT(4)
00002640      CALL UJOUT(JTAR,ZONES,FRBYT,FRBYT,I7,MSPLIT(1,4),TRC,

```

```

00002650      +                0.0,0,DUMMY,KERR,&9100)
00002660 C
00002670 3100      DO 3500 K=1,3
00002680          JTAB=JTAB+1
00002690          CALL ROUND(SPLIT(1,K),MSPLIT(1,K),ZONES,TOT(K))
00002700          TOTAL(K)=TOTAL(K)+TOT(K)
00002710          CALL UJOUT(JTAB,ZONES,FRBYT,FRBYT,IZ,MSPLIT(1,K),TRC,
00002720      +                0.0,0,DUMMY,KERR,&9100)
00002730 3500      CONTINUE
00002740 C
00002750 C
00002760 C      IF REGIONAL ACCESS MODE IS TRANSIT WRITE OUT EXPONENTIALS
00002770 C
00002780          IF(.NOT.TRANSIT) GO TO 5000
00002790          JTAB=801
00002800          TRC=-1
00002810          CALL UJOUT(JTAB,ZONES,FRBYT,FRBYT,IZ,WALK,TRC,0.0,0,DUMMY,
00002820      +                KERR,&9100)
00002830 5000      CONTINUE
00002840 C
00002850 C      WRITE MODAL SPLIT SUMMARY REPORT
00002860 C
00002870      DO 5100 K=1,MODES
00002880          GTOT=GTOT+TOTAL(K)
00002890 5100      CONTINUE
00002900          WRITE(6,6100)
00002910 6100      FORMAT(///'      DISTRIBUTION MODE SPLIT SUMMARY:/' )
00002920          K1=1
00002930          IF(.NOT.TRANSIT) K1=2
00002940          WRITE(6,6200) TYPE(K1)
00002950 6200      FORMAT(9X,'REGIONAL',1X,A7,' TRIPS'///7X,'MODE',11X,'TRIPS',
00002960      +          5X,'PCT'//7X,'-----',7X,'-----',4X,'-----'//)
00002970      DO 5200 K=1,MODES
00002980          PCT=100.*TOTAL(K)/GTOT
00002990          K2=K+1
00003000          IF(K.EQ.4) K2=1
00003010          WRITE(6,6300) (NAME(I,K2),I=1,3),TOTAL(K),PCT
00003020 5200      CONTINUE
00003030 6300      FORMAT(7X,3A4,I8,F8.2)
00003040          WRITE(6,6400) GTOT
00003050 6400      FORMAT(21X,'-----'/19X,I8)
00003060          RETURN
00003070 9000      KERR=KERR+1000
00003080          GO TO 9040

```

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00003090 9010 KERR=KERR+2000
00003100 GO TO 9040
00003110 9020 KERR=KERR+3000
00003120 9040 WRITE(6,9050) ITAB,KERR,I2,L1
00003130 9050 FORMAT('0UJIN ERROR, TABLE',I5,' KERR=',I5,' I2=',I5,' L1=',I5)
00003140 RETURN
00003150 9100 WRITE(6,9150) JTAB,KERR
00003160 9150 FORMAT('0UJOUT ERROR, TABLE',I5,' KERR=',I5)
00003170 RETURN
00003180 9600 WRITE(6,9650) ITAB,I2
00003190 9650 FORMAT('0INPUT TABLES OUT OF ORDER, TABLE',I5,' ROW',I5)
00003200 RETURN
00003210 9200 WRITE(6,9250)
00003220 9250 FORMAT('0UJWRT ERROR')
00003230 RETURN
00003240 9300 WRITE(6,9350) NTABS
00003250 9350 FORMAT('0UJREAD ERROR',A4,1017)
00003260 RETURN
00003270 END
00003280 //LKED.SYSMOD DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR,
00003290 // UNIT=3330,VOL=SER=D35001
00003300 //LKED.ULIB DD DSN=SYS1.URD.SURRLIB,DISP=SHR
00003310 //LKED.SYSIN DD *
00003320 ENTRY MAIN
00003330 REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00003340 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003350 INCLUDE ULIB(UJIN)
00003360 REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00003370 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003380 INCLUDE ULIB(UJREAD)
00003390 REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00003400 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003410 INCLUDE ULIB(DCBCSECT)
00003420 REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00003430 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003440 INCLUDE ULIB(UPRNT,UJWRT,UJOUT)
00003450 REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00003460 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00003470 INCLUDE ULIB(UHEAD,SIGNON,ROUND,ELTIME,UCHECK,DATE)
00003480 NAME MSPLIT(R)

```

PROGRAM NONWRK

PURPOSE

Program NONWRK is used to create Fratar type scaling factors for estimating future year non-work transit trips. The factors are output in a format suitable for input to the UTPS program UMCN scaling procedure. The growth in transit non-work distribution trips is estimated from the input of a ratio for each corridor which indicates the relationship between the future year and base year attraction mode split generated by the regional models. Non-work transit circulation trips and the CBD end of distribution trips are determined from factors developed by comparing future and base year employment in each CBD zone. Each CBD zone is also assigned to a district for which the average per employee trip working rate is computed for use when a zone had no employment in the base year.

FILE DEFINITIONS

Input

FT02F001	-	Base year zonal data file
FT03F001	-	Forecast year zonal data file
FT05F001	-	Program control cards
FT11F001	-	Base year non-work transit trip matrix (Table 1)

Output

FT09F001	-	Non-work transit trip scaling factors
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KEYWORD VALUES

&PARAM

RATIO	-	R*4(9)	-	Ratio of corridor future to base year CBD attraction mode choice as given by the LARTS total transit table
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&EQUIV

DIST	-	I*4	-	District number
Z	-	I*4(30)	-	Zone number of each zone assigned to district indicated on the &EQUIV card

&EQUIV cards are repeated as necessary until all zone/district assignments are made.

LG TAB	-	I*4	-	Table number for the LOGSUM variable
WLK TAB	-	I*4	-	Table number for the fastest path time table
TRP TAB	-	I*4	-	Table number for the corridor to zones auto user trip table
DSTAB	-	I*4	-	Table number for the corridor to zone distance table
CSTCF	-	R*4	-	Cost coefficient
WLKCF	-	R*4	-	Shortest path time coefficient
CSTPM	-	R*4	-	Cost per mile for operating an automobile (default = 12.8)
STNIT	-	R*4	-	DPM mode constant
AOCC	-	R*4(9)	-	Average auto occupancy by corridor

```

00000010 //D35CNWRK JOB (D35C,LADPH,OJA),CLASS=P
00000020 //FORTRAN EXEC FORTGCL,
00000030 // PARM.FORT='GOSTMT,NOMAP,XREF,OPT(0),NOLIST,NOUECK',
00000040 // REGION.FORT=192K,PARM.LKED='LIST,XREF,MAP',
00000050 // REGION.LKED=128K,TIME=1
00000060 //FORT.SYSIN DD *
00000070     IMPLICIT INTEGER (A-Z)
00000080     INTEGER*4 FTRIP(109,109),ROWSM(109)/109*0/,
00000090 +     COLSM(109)/109*0/,BASEMP(98),FYEMP(98),
00000100 +     FYP(107),FYA(107),KTABL(2),ZONEO(2),
00000110 +     INFILE/5/,OUTFIL/20/,CDAT(2)/'31MA','R81'/,
00000120 +     PRGNM(2)/'NON-','WORK'/
00000130     INTEGER*4 Z(30),NTARS(2),RELAT(109),TOTP/0/,TOTA/0/
00000140 C
00000150     LOGICAL*1 CONT(6)/6*.FALSE./
00000160 C
00000170     REAL*4 FCTR,RATEP(30)/30*0.0/,RATEA(30)/30*0.0/
00000180     REAL*4 RATIO(9)
00000190 C
00000200     NAMEDLIST /PARAM/RATIO
00000210     NAMEDLIST /EQUIV/DIST,Z
00000220 C
00000230 C
00000240     CALL SIGNON(INFILE,OUTFIL,PRGNM,CDAT,CONT)
00000250     NTARS(1)=1
00000260     KTABL(1)=101
00000270     NLOOP=1
00000280     TRC=0
00000290     CALL UJRFAD(NLOOP,KTABL,ZONEO,NTARS,&9300)
00000300     ITR=101
00000310     DO 100 I=1,107
00000320         CALL UJIN(ITR,107,IL,4,L1,FTRIP(1,I),1,0,I,TRC,
00000330 +         KERR,&9000,&9010,&9020)
00000340 100 CONTINUE
00000350 C
00000360 C     COMPUTE ROW AND COLUMN SUMS
00000370 C
00000380     DO 300 I=1,107
00000390         DO 200 J=1,107
00000400             ROWSM(I)=ROWSM(I)+FTRIP(J,I)
00000410             COLSM(J)=COLSM(J)+FTRIP(J,I)
00000420 200 CONTINUE

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00000430 300 CONTINUE
00000440 C
00000450 READ(20,PARAM)
00000460 C
00000470 C READ EQUIV CARDS
00000480 C
00000490 500 READ(20,EQUIV,END=800)
00000500 DO 600 I=1,30
00000510 IF(Z(I).EQ.0) GO TO 500
00000520 RELAT(Z(I))=DIST
00000530 Z(I)=0
00000540 600 CONTINUE
00000550 GO TO 500
00000560 C
00000570 800 DO 1000 I=1,98
00000580 READ(2,103) BASEMP(I)
00000590 READ(3,103) FYEMP(I)
00000600 1000 CONTINUE
00000610 103 FORMAT(5X,15)
00000620 C
00000630 DO 1200 I=1,98
00000640 IF(BASEMP(I).EQ.0) GO TO 1200
00000650 FCTR=FLOAT(FYEMP(I))/FLOAT(BASEMP(I))
00000660 FYP(I)=FCTR * ROWSM(I) + 0.5
00000670 FYA(I)=FCTR * COLSM(I) + 0.5
00000680 1200 CONTINUE
00000690 C
00000700 C NOW FILL IN FOR ZEROS USING DISTRICT TRIPMAKING RATE
00000710 C
00000720 DO 3000 I=1,98
00000730 IF(FYP(I).GT.0) GO TO 2500
00000740 DISTNO=RELAT(I)
00000750 IF(RATEP(DISTNO).GT.0.0) GO TO 2200
00000760 TRIPS=0
00000770 JOBS=0
00000780 DO 2000 J=1,98
00000790 IF(J.EQ.I) GO TO 2000
00000800 IF(FYP(J).EQ.0) GO TO 2000
00000810 TRIPS=TRIPS+FYP(J)
00000820 JOBS=JOBS+FYEMP(J)
00000830 2000 CONTINUE
00000840 IF(JOBS.GT.0) RATEP(DISTNO)=FLOAT(TRIPS)/FLOAT(JOBS)

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00000850 2200 FYP(I)=RATEP(DISTNO)*FYEMP(I) + 0.5
00000860 C
00000870 2500 IF(FYA(I).GT.0) GO TO 3000
00000880 DISTNO=PFLAT(I)
00000890 IF(RATEA(DISTNO).GT.0.0) GO TO 2700
00000900 TRIPS=0
00000910 JOBS=0
00000920 DO 2600 J=1,98
00000930 IF(J.EQ.1) GO TO 2600
00000940 IF(FYA(J).EQ.0) GO TO 2600
00000950 TRIPS=TRIPS+FYA(J)
00000960 JOBS=JOBS+FYEMP(J)
00000970 2600 CONTINUE
00000980 IF(JOBS.GT.0) RATEA(DISTNO)=FLOAT(TRIPS)/FLOAT(JOBS)
00000990 2700 FYA(I)=RATEA(DISTNO) * FYEMP(I) + 0.5
00001000 3000 CONTINUE
00001010 C
00001020 C COMPLETE FOR TRIPS TO CORRIDORS
00001030 C
00001040 DO 3200 I=99,107
00001050 K=I-98
00001060 FYP(I)=ROWSM(I) * RATIO(K) + 0.5
00001070 FYA(I)=COLSM(I)* RATIO(K) + 0.5
00001080 3200 CONTINUE
00001090 C
00001100 C WRITE OUT UMCON SCALING CARDS
00001110 DO 3900 I=1,107
00001120 TOTP=TOTP+FYP(I)
00001130 TOTA=TOTA+FYA(I)
00001140 3900 CONTINUE
00001150 IF(TOTP.EQ.TOTA) GO TO 3990
00001160 FCTR=FLOAT(TOTP)/FLOAT(TOTA)
00001170 DO 3920 I=1,107
00001180 FYA(I)=FCTR*FYA(I)+0.5
00001190 3920 CONTINUE
00001200 C
00001210 3990 TOTP=0
00001220 TOTA=0
00001230 DO 4000 I=1,107
00001240 WRITE(9,901) I,FYP(I),FYA(I)
00001250 TOTP=TOTP+FYP(I)

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```

00001260          TOTA=TOTA+FYA(I)
00001270  4000 CONTINUE
00001280    901 FORMAT(I8,2I8)
00001290          WRITE(6,4100) TOTP,TOTA
00001300  4100 FORMAT('  TOTAL PRODUCTIONS = ',I12//
00001310        +      '  TOTAL ATTRACTIONS = ',I12)
00001320 C
00001330          STOP
00001340  9000 WRITE(6,9001)
00001350  9001 FORMAT(' UJIN ERROR 1')
00001360          STOP 16
00001370  9010 WRITE(6,9011)
00001380  9011 FORMAT(' UJIN ERROR 2')
00001390          STOP 16
00001400  9020 WRITE(6,9021)
00001410  9021 FORMAT(' UJIN ERROR 3')
00001420          STOP 16
00001430  9300 WRITE(6,9301)
00001440  9301 FORMAT(' UJREAD ERROR')
00001450          STOP 16
00001460          END
00001470 //LKED.SYSLMOD DD DSN=D35C.LADPM.MODEL.LOAD,DISP=SHR,
00001480 //          UNIT=3330,VOL=SER=D35D01
00001490 //LKED.ULIB DD DSN=SYS1.URD.SUBKLIR,DISP=SHR
00001500 //LKED.SYSIN DD *
00001510  ENTRY MAIN
00001520  REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00001530  REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00001540  INCLUDE ULIB(UJIN)
00001550  REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00001560  REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00001570  INCLUDE ULIB(UJREAD)
00001580  REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00001590  REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00001600  INCLUDE ULIB(DCBCSECT)
00001610  REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00001620  REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00001630  INCLUDE ULIB(UPRNT,UJWRT,UJOUT)
00001640  REPLACE IHCECOMH,IHCCOMH2,IHCFVTH,IHCFNTH,IHCFIOS,IHCFIOS2
00001650  REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00001660  INCLUDE ULIB(UHFAD,SIGNON,ROUND,ELTIME,UCHECK,DATE)
00001670  NAME NONWRK(R)

```

PROGRAM PARK

PURPOSE

Program PARK is used to determine the choice of parking location for auto user trips entering the CBD. A logit model is used to determine the preferred location for the trips to each CBD zone from each corridor of approach. Comparison is made between the number of vehicles which would be assigned to a parking location and the actual availability of spaces at that location. Over assignment of demand is treated by applying the model in an iterative fashion, full parking locations being removed from the choice set with each iteration.

FILE DEFINITIONS

Input

FT01F001	-	Zonal data file
FT05F001	-	Program control cards
FT11F001	-	UTPS matrix files as specified by &PARAM
		keyword values
thru		
FT18F001		

Output

FT19F001	-	Internal CBD daily one-way workplace to parking lot auto person and vehicle trips for input to the distribution mode choice step.
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Scratch

FT31F001	-	Temporary scratch file
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KEYWORD VALUES

&PARAM

ZONES	-	I*4	-	Number of zones
NCOR	-	I*4	-	Number of corridors
MXITR	-	I*4	-	Maximum number of iterations
ZNMAX	-	I*4	-	Maximum number of parking zones for which demand car exceed supply. Used to halt process prior to MXITR

```

00000010 //D35CPARK JOB (D35C,LADPM,OJA),CLASS=P
00000020 //FORTRAN EXEC FORTGCL.
00000030 //  PARM.FORT='GOSTMT,MAP,XREF,OPT(0),NOLIST,NODECK',
00000040 //  REGION.FORT=192K,PARM.LKED='LIST,XREF,MAP',
00000050 //  REGION.LKED=128K,TIME=1
00000060 //FORT.SYSIN DD *
00000070      IMPLICIT INTEGER*4 (A-Z)
00000080 C
00000090      INTEGER*4 PARK(116),PARKC(116)
00000100 C
00000110      INTEGER*4 CZTRP(116,9),ISPLIT(116),TABS(4),MATRX(116,116),
00000120 +  DEMND(116),JSPLIT(116),ARRAY(116,116),ZONEI(4),NTAB(4)/4*1/,
00000130 +  FRBYT/4/,TWBYT/2/,ITER/0/,INFILE/5/,OUTFIL/20/,
00000140 +  NAME(3,1)/'PARK','LOT ',' ' /,PGNAM(2)/'PARK','LOT' /,
00000150 +  WLKDST(116),PRIVTE(116)/116*0/,ZNTRP(116)/116*0/,
00000160 +  DMD111/0/,DMD114/0/,
00000170 +  TITLE(3,4),CZDST(116,9),NCOR/9/,CDAT(2)/'31JA','NR1 ' /
00000180 C
00000190      REAL*4 SUMPRB,PROB(116),IMPED(116),SPLIT(116),PRBINV,
00000200 +  LGSUM(116,116),AOCC(9),RCZDST(116,9),WLKCF,CSTPM/12.8/,
00000210 +  PRORTE,CSTCF,RATIO(116),SNINT/0.0/
00000220 C
00000230      LOGICAL*1 REPORT(8),CONT(6)/6*.FALSE./
00000240 C
00000250      NAMELIST/PARAM/ MXITR,ZNMAX,ZONES,LGTAB,WLKTAB,TRPTAB,
00000260 +  SNINT,NCOR,DSTAB,REPORT,AOCC,CSTCF,CSTPM,WLKCF
00000270 C
00000280      EQUIVALENCE (SPLIT(1),ISPLIT(1)),(LGSUM(1,1),ARRAY(1,1)),
00000290 +  (ISPLIT(1),WLKDST(1)),(IMPED(1),SPLIT(1)),
00000300 +  (RCZDST(1),CZDST(1)),(TABS(1),TRPTAB),(TABS(2),DSTAB),
00000310 +  (JSPLIT(1),DEMND(1)),
00000320 +  (TABS(3),LGTAB),(TABS(4),WLKTAB)
00000330 C
00000340      COMMON/TITLE/ FIL,NDATE(2),NIME(2),NPAGE,PHEAD(18),
00000350 +  PNAME(2),LINES,MAXLIN,CPUIM(21),ADDTIM,UCKDSP,
00000360 +  OPNAME,OCDAT
00000370 C
00000380      LINES=1
00000390      TOTSPC=0
00000400      MAXLIN=58

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00000410      FIL=6
00000420 C
00000430      CALL SIGNON(INFILE,OUTFIL,PGNAM,CDAT,CONT)
00000440 C
00000450      IF(CONT(1)) READ(OUTFIL,PARAM)
00000460      WRITE(6,PARAM)
00000470      MTAB=4
00000480      400 READ(INFILF,450,END=500) LZ,PRVAT
00000490      450 FORMAT(2I5)
00000500      PRIVATE(L7)=PRVAT
00000510      GO TO 400
00000520      500 CALL UJREAD(MTAB,TABS,ZONEI,NTAB,TITLE,&9600)
00000530 C
00000540 C      READ PARKING SUPPLY DATA
00000550 C
00000560      DO 1000 IZ=1,ZONES
00000570          READ(1,1100,END=1200) PARK(IZ),PARKC(I7)
00000580      1000 CONTINUE
00000590      1100 FORMAT(40X,I5,5X,I5)
00000600 C
00000610      1200 DO 1300 JZ=1,ZONES
00000620          TOTSPC=TOTSPC+PARK(JZ)
00000630          PARKC(JZ)=PARKC(JZ)*0.5
00000640      1300 CONTINUE
00000650      WRITE(6,1310) TOTSPC
00000660      1310 FORMAT('TOTAL PARKING SPACES IS',I10)
00000670 C
00000680 C      READ CORRIDOR TO ZONE TRIPS AND DISTANCE
00000690 C
00000700      DO 1500 C=1,NCOR
00000710          ITAB=TRPTAB
00000720          TRP7N=ZONEI(1)
00000730          CALL UJIN(ITAB,TRP7N,IL,FRBYT,LI,CZTRP(1,C),1,0,C,TRC,
00000740      +      KERR,&9100,&9200,&9300)
00000750          ITAB=NSTAB
00000760          CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,CZDST(1,C),1,0,C,TRC,
00000770      +      KERR,&9100,&9200,&9300)
00000780 C
00000790 C      COMPUTE CORRIDOR TO ZONE VARIABLES WHICH DON'T CHANGE
00000800 C

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00000810      DO 1400 JZ=1,ZONES
00000820          RCZDST(JZ,C)=(CSTPM*FLUAT(CZDST(JZ,C))+PARKC(JZ))/AOCC(C)
00000830          ZNTRP(JZ)=ZNTRP(JZ)+CZTRP(JZ,C)
00000840      1400      CONTINUE
00000850      1500      CONTINUE
00000860  C
00000870  C      READ LOGSUM
00000880  C
00000890      ITAB=LG TAB
00000900      DO 1600 IZ=1,ZONES
00000910          CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,ARRAY(1,IZ),1,0,IZ,TRC,
00000920      +      KERR,&9100,&9200,&9300)
00000930  C      IF(IZ.EQ.15) WRITE(6,2) IZ,(LGSUM(BM,IZ),BM=1,ZONES)
00000940          IF(PRIVTE(IZ).EQ.0) GO TO 1600
00000950          REMOVE=MIN0(ZNTRP(IZ),PRIVTE(IZ))
00000960          PARK(IZ)=PARK(IZ)-REMOVE
00000970          PRORTE=FLOAT(ZNTRP(IZ)-REMOVE)/FLOAT(ZNTRP(IZ))
00000980          DO 1550 C=1,NCOR
00000990              REMV2=CZTRP(IZ,C) * PRORTE + 0.5
00001000              MATRX(IZ,IZ)=MATRX(IZ,IZ)+(AOCC(C)*(CZTRP(IZ,C)-REMV2))+0.5
00001010              CZTRP(IZ,C)=REMV2
00001020      1550      CONTINUE
00001030      1600      CONTINUE
00001040  C
00001050      ITAB=WLK TAB
00001060      DO 1750 IZ=1,ZONES
00001070          CALL UJIN(ITAB,ZONES,IL,FRBYT,LI,WLKDST,1,0,IZ,TRC,
00001080      +      KERR,&9100,&9200,&9300)
00001090  C
00001100          DO 1700 JZ=1,ZONES
00001110              IF(LGSUM(JZ,IZ).EQ.0.0) GO TO 1700
00001120              LGSUM(JZ,IZ)=ALOG(LGSUM(JZ,IZ))+WLKCF*FLOAT(WLKDST(JZ))
00001130              IF(JZ.EQ.111 .OR. JZ.EQ.114) LGSUM(JZ,IZ)=
00001140      +      LGSUM(JZ,IZ)+SININT
00001150      1700      CONTINUE
00001160      1750      CONTINUE
00001170  C
00001180      1800      DO 1900 JZ=1,ZONES
00001190          DEMND(JZ)=0
00001200      1900      CONTINUE

```

```

00001210      PRKTOT=0
00001220      DO 3000 C=1,NCOR
00001230          CORPRK=0
00001240          FIRST=0
00001250          DO 2500 IZ=1,ZONES
00001260              IF (I7.GE.99 .AND. I7.LE.107) GO TO 2500
00001270              IF (CZTRP (IZ,C).EQ.0) GO TO 2500
00001280 C
00001290 C      COMPUTE FINAL PROBABILITIES
00001300 C
00001310          SUMPRB=0.0
00001320      1990      DO 2000 JZ=1,ZONES
00001330          IMPED(JZ)=0.0
00001340          IF (PARK(JZ).EQ.0) GO TO 2000
00001350          IF (LGSUM(JZ,I7).NE.0.0)
00001360      +          IMPED(JZ)=EXP (LGSUM(JZ,I7)+CSTCF*RCZDST(JZ,C))
00001370          SUMPRB=SUMPRB+IMPED(JZ)
00001380      2000      CONTINUE
00001390 C
00001400 C      ALLOCATE TRIPS TO EACH PARKING ZONE
00001410 C
00001420          PRBINV=1.0/SUMPRB
00001430          DO 2100 JZ=1,ZONES
00001440              IF (IMPED(JZ).LT.1.0E-10) GO TO 2100
00001450              SPLIT(JZ)=IMPED(JZ)*PRBINV*CZTRP (IZ,C)
00001460      2100      CONTINUE
00001470          CALL ROUND(SPLIT,ISPLIT,ZONES,PARKT)
00001480          CORPRK=CORPRK+PARKT
00001490 C
00001500 C      ADD STORAGE MATRIX, DEMAND TOTAL
00001510 C
00001520          DO 2200 JZ=1,ZONES
00001530              DEMND(JZ)=DEMND(JZ)+ISPLIT(JZ)
00001540      2200      CONTINUE
00001550 C
00001560 C      WRITE TO SCRATCH FILE
00001570 C
00001580      2300      WRITE(31)C,IZ,ISPLIT
00001590 C
00001600      2500      CONTINUE

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00001610      WRITE(6,2510) C,CORPRK
00001620 2510 FORMAT('CORRIDOR',I3,' PARKING DEMAND IS',T48,I12)
00001630      PRKTOT=PRKTOT+CORPRK
00001640 C
00001650 3000 CONTINUE
00001660      WRITE(6,3010) PRKTOT
00001670 3010 FORMAT('TOTAL PARKING DEMAND IS',T48,I12)
00001680 C
00001690      ENDFILE 31
00001700      REWIND 31
00001710 C
00001720      ITER=ITER+1
00001730      ICNT=0
00001740 C
00001750 C      COMPUTE ALLOCATION RATIOS
00001760 C
00001770      IF (REPORT(1) .AND. ITER.LE.MXITR) WRITE(6,8000) ITER
00001780 C
00001790      DMNDIT=0
00001800      DO 3200 JZ=1,ZONES
00001810          RATIO(JZ)=1.0
00001820          DMNDIT=DMNDIT+DEMND(JZ)
00001830          IF (DEMND(JZ).LE.PARK(JZ)) GO TO 3100
00001840          ICNT=ICNT+1
00001850          IF (ITER.EQ.MXITR) GO TO 3100
00001860          IF (DEMND(JZ).GT.0)
00001870              +      RATIO(JZ)=FLOAT(PARK(JZ))/FLOAT(DEMND(JZ))
00001880 3100      IF (REPORT(1)) WRITE(6,8100) JZ,PARK(JZ),DEMND(JZ)
00001890          PARK(JZ)=PARK(JZ)-DEMND(JZ)
00001900          IF (PARK(JZ).LT.0) PARK(JZ)=0
00001910          WRITE(6,8110) PARK(JZ)
00001920 8110      FORMAT(' ',T60,I10)
00001930 3200 CONTINUE
00001940 C
00001950      IF (ITER.LT.MXITR) WRITE(6,3210) DMNDIT
00001960 3210 FORMAT(' ',22X,I7)
00001970      IF (REPORT(1)) WRITE(6,8200) ICNT
00001980      IF (ICNT.GT.ZNMAX) GO TO 3400
00001990      DO 3300 JZ=1,ZONES
00002000          RATIO(JZ)=1.0
00002010 3300 CONTINUE

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```

00002020 C
00002030 8000 FORMAT('1 PARKING LOT SUPPLY DEMAND SUMMARY'//
00002040 + 20X,'ITERATION',I3//5X,'ZONE',5X,'SUPPLY',5X,'DEMAND'//)
00002050 8100 FORMAT(5X,I4,5X,I6,3X,I7)
00002060 8200 FORMAT('0 NUMBER OF ZONES WITH OVERALLOCATED PARKING IS',I4)
00002070 C
00002080 3400 READ(31,END=3700) C,I7,JSPLIT
00002090 DO 3500 JZ=1,ZONES
00002100 SPLIT(JZ)=(1.0-RATIO(JZ))*JSPLIT(JZ)
00002110 3500 CONTINUE
00002120 C
00002130 CALL ROUND(SPLIT,ISPLIT,ZONES,PARKT)
00002140 CZTRP(I7,C)=PARKT
00002150 DO 3600 JZ=1,ZONES
00002160 MATRX(JZ,I7)=MATRX(JZ,I7)+AOC(C)*(JSPLIT(JZ)-ISPLIT(I7))+0.5
00002170 3600 CONTINUE
00002180 GO TO 3400
00002190 C
00002200 3700 REWIND 31
00002210 C
00002220 IF(ITER.LE.MXITER .AND. ICNT.GT.ZNMAX) GO TO 1800
00002230 C
00002240 C WRITE OUT TRIP MATRIX
00002250 C
00002260 NTARS=1
00002270 TOTDMD=0
00002280 TABLE=901
00002290 CALL UJWRT(TABLE,ZONES,NTARS,NAME,&9400)
00002300 DO 4000 IZ=1,ZONES
00002310 CALL UJOUT(TABLE,ZONES,4,4,IZ,MATRX(1,I7),-1,0,0,0,DUMMY,
00002320 + KERR,&9500)
00002330 DO 3900 JZ=1,ZONES
00002340 TOTDMD= TOTDMD+MATRX(JZ,IZ)
00002350 3900 CONTINUE
00002360 DMD111=DMD111+MATRX(111,IZ)
00002370 DMD114=DMD114+MATRX(114,IZ)
00002380 4000 CONTINUE
00002390 WRITE(6,4020) TOTDMD
00002400 4020 FORMAT('0TOTAL DEMAND = ',I12)
00002410 RETURN

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```

00002420 9100 WRITE(6,9150) ITAB
00002430 9150 FORMAT('OUJIN ERROR 1, ITAB=',I5)
00002440 RETURN
00002450 9200 WRITE(6,9250) ITAB
00002460 9250 FORMAT('OUJIN ERROR 2, ITAB=',I5)
00002470 RETURN
00002480 9300 WRITE(6,9350) ITAB
00002490 9350 FORMAT('OUJIN ERROR 3, ITAB=',I5)
00002500 RETURN
00002510 9400 WRITE(6,9450)
00002520 9450 FORMAT('OUJWRT ERROR')
00002530 RETURN
00002540 9500 WRITE(6,9550)
00002550 9550 FORMAT('OUJOUT ERROR')
00002560 RETURN
00002570 9600 WRITE(6,9650)
00002580 9650 FORMAT('OUJREAD ERROR')
00002590 RETURN
00002600 END
00002610 //LKED.SYSLMOD DD DSN=035C.LADPM.MODEL.LOAD,
00002620 // DISP=SHR,UNIT=3330,VOL=SER=035D01
00002630 //LKED.ULIB DD DSN=SYS2.URD.SURRLIB,DISP=SHR
00002640 //LKED.SYSIN DD *
00002650 ENTRY MAIN
00002660 REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00002670 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00002680 INCLUDE ULIB(UJIN)
00002690 REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00002700 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00002710 INCLUDE ULIB(UJREAD)
00002720 REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00002730 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00002740 INCLUDE ULIB(DCRSECT)
00002750 REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00002760 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00002770 INCLUDE ULIB(UPRNT,UJWRT,UJOUT)
00002780 REPLACE IHCECOMH,IHCCOMH2,IHCFCVTH,IHCFENTH,IHCFIOS,IHCFIOS2
00002790 REPLACE IHCUOPT,IHCERRM,IHCUATBL,IHCETRCH
00002800 INCLUDE ULIB(HEAD,SIGNON,ROUND,ELTIME,CHECK,DATE)
00002310 NAME PARK(R)

```

