APPENDIX C

FULL USER PROGRAMS

Life Style Trip Generation Program (TG1.EXE) Scripts

LSTGEN.FOR

```
c variable definitions
c       altin   - input file extension
c       altout  - output file extension
c       flag    - variable name read from file fsutms.ctl
c       filz1b  - zdata1b file name
c       filz2   - zdata2  file name
c       filz3   - zdata3  file name
c       filz4   - zdata4  file name

c variable definitions
c       spgen(i,j)  - special generator information for record i
c                   j =  0 zone number
c                   j =  1 total trips
c                   j =  2 hbw %
c                   j =  3 hbsh %
c                   j =  4 hbsr %
c                   j =  5 hbsch %
c                   j =  6 hbo %
c                   j =  7 nhbw %
c                   j =  8 nhbo %
c                   j =  9 airport %
c                   j = 10 trk1 %
c                   j = 11 trk2 %
c                   j = 12 trk3 %
c                   j = 13 total employment
c                   j = 14 commercial employment
c                   j = 15 service employment
c                   j = 16 school enrollment
c                   j = 17 total dwelling units
c       spgenfl(i,j)- special generator flag for record i
c                   j =  1 prod / attr
c                   j =  2 operator (+ - T)


c variable definitions
c       flag       - flag p for production, a for attraction


c       purp       - trip purpose
c       child      - child flag 0 if no children, 1 otherwise
c       car        - auto availability 0 if autos <= persons, else 1
c       wrk0       - households with 0 workers
c       wrk1       - households with 1 worker
c       wrk2       - households with 2 or more workers
```

```
c       index      - temporary variable - j of prate(i,j)
c


      INCLUDE 'CBR.INC'


        CHARACTER*3 ALTIN
        CHARACTER*40 TITLE

        INTEGER*4 POPT,EMPST,EMPTT,PBTRIPS,PBROLL,PRROLL

        REAL HOUSEST,HHW(12,0:1),HHP(16,0:1)

        CALL STP60

        CALL READCTL(ALTIN,TITLE)
        CALL READAT
        CALL READSPGN
        CALL READRATE
        CALL MAKESEED(HHW,HHP)
        CALL REPORT1(ALTIN,TITLE)
        CALL CALCPA(POPT,HOUSEST,EMPST,EMPTT,PRROLL)
        CALL ADJPA
        CALL SCHOOL(PBTRIPS,PBROLL)
        CALL REPORT2(POPT,HOUSEST,EMPST,EMPTT,HHW,HHP,
     *       PBROLL,PRROLL)
        CALL A1DECK

c       STOP
        END

c -- SUMMARY OF MAJOR CHANGES BY TRIP PURPOSE
c
c  1. HBW - Revise attraction rates
c        - 3 types of hotel/motels (H/M) for P's
c
c  2. HB Shop   - revise attraction rates
c             - 3 types of hotel/motels (H/M) for P's
c             - add H/M to attraction HOUSES
c
c  3. HB SocRec - same as HB Shop
c
c  4. School    - no change
c
c  5. HBO       - same as HB Shop and HB SocRec
```

```
c
c  6. NHB Work  - Split from NHB
c            - Control total from LS Gen rates
c            - P's and A's different
c            - Always produced at work end
c
c  7. NHB Other - Split from NHB
c            - Control total from LS Gen rates
c            - Productions = Attractions
c
c  8. Airport   - New purpose, Major International Only (FLL  & PBI)
c            - Produced at airports from enplanements
c            - Attracted to businesses and residences
c
c  9. Trucks    - 3 types=(four tire, single unit, combinations)
c            - Split old into 3 types
c            - Same form as old purpose
c            - Productions = Attractions
```

STP60.FOR

```
      SUBROUTINE STP60

c   program by sridhar v ramasami for STP283 (1990 Census version)
c            the corradino group
c            project - life style trip generation

c-sks Modified by sunil for STP60 (2000 Census version) - MPO l

c   this program converts the stp60 file
c   into percentages needed for the lifestyle trip generation program

c   variables
c     num        - flag to check if zone number read has alphabet
c                  0 if yes, 1 else
c     itaz       - zone number
c     minzon     - minimum zone
c     maxzon     - maximum zone
c     flag       - temperory variable to check zone number
c     fil1       - input file (STP Name) with subdirectory
c     fil2       - output file
c     houses     - total houses in zone
```

```
      LOGICAL EXISTS

      INTEGER*1 NUM,NUMREC(0:4000)
      INTEGER*4 ITAZ,MAXZON,N(176),ZONE

      CHARACTER*1 FLAG
      CHARACTER*19 FIL1,FIL2

      REAL CLASSW0(12),CLASSW1(12),CLASSP0(16),CLASSP1(16)

c define file names and open files


      FIL1 = 'STP60.SYN'
      FIL2 = 'STP60.TEM'

      ZONE = 0

      INQUIRE (FILE=FIL1,EXIST=EXISTS)
      IF(.NOT.EXISTS) THEN
        WRITE(*,*) 'FILE STP60.SYN NOT PRESENT'
        WRITE(*,*) 'ABNORMAL STOP'
        STOP
      ENDIF

c       OPEN(UNIT=1,FILE=FIL1,MODE='READ')
      OPEN(UNIT=1,FILE=FIL1,ACTION='READ')
      OPEN(UNIT=2,FILE=FIL2)

c initialize number of records variable

501     CONTINUE
      DO 600 I=1,4000
        NUMREC(I) = 0
600     CONTINUE

c read record and increment number of rec variable

      DO 670 I=1,99999
        READ(1,119,END=680) FLAG
        BACKSPACE(1)

c  check for presence of alphabet in zone number

        CALL CHKFLAG(FLAG,NUM)
```

```
c  read data

         IF(NUM.EQ.1) THEN
           READ(1,120,END=680) ITAZ
         ELSE
           READ(1,121,END=680) ITAZ
         ENDIF

         IF(ITAZ.GT.9000) GOTO 670
         NUMREC(ITAZ) = NUMREC(ITAZ)+1
         IF(MAXZON.LT.ITAZ) MAXZON=ITAZ
670      CONTINUE

680      CLOSE(1)
c       OPEN(UNIT=1,FILE=FIL1,MODE='READ')
       OPEN(UNIT=1,FILE=FIL1,ACTION='READ',RECL=65535)

1000    CONTINUE

c if numrec = 0 write zone info

       IF(NUMREC(ZONE).EQ.0) THEN
         CALL WRIT(CLASSW0,CLASSW1,CLASSP0,CLASSP1,ZONE)
         IF(ZONE.GT.MAXZON) GOTO 9000
         GOTO 1000
       ENDIF

c  read last character of zone number
c-stp283:119     FORMAT(9X,A1)

1300    READ(1,119,END=680) FLAG

119     FORMAT(29X,A1)
       BACKSPACE(1)

c  check for presence of alphabet in zone number

       CALL CHKFLAG(FLAG,NUM)

c  read data
c-stp283:120       FORMAT(6X,I4,160I7)
c-stp283:121       FORMAT(6X,I3,1X,160I7)

       IF(NUM.EQ.1) THEN
         READ(1,120,END=680) ITAZ,(N(I),I=1,176)
```

```
120       FORMAT(26X,I4,176I10)
c         READ(1,120,END=680) ijunk,ijunk,ITAZ,(N(I),I=1,176)
c120        FORMAT(179I5)
      ELSE
        READ(1,121,END=680) ITAZ,(N(I),I=1,176)
c         READ(1,121,END=680) ijunk,ijunk,ITAZ,(N(I),I=1,176)
121       FORMAT(25X,I4,1X,176I10)
c121        FORMAT(179I20)

      ENDIF


c  filter and check zone numbers

      IF(ITAZ.NE.ZONE) GOTO 1300

c  add households of each category to appropriate zone

      NUMREC(ITAZ) = NUMREC(ITAZ) - 1

      CLASSW0( 1) = CLASSW0( 1)+N( 86)+N( 99)+N(116)+N(137)+N(158) !Wo C, 0
veh, 0 wrkr
      CLASSW0( 2) = CLASSW0( 2)+N( 87)+N(100)+N(117)+N(138)+N(159) !Wo C, 0
veh, 1 wrkr
      CLASSW0( 3) = CLASSW0( 3)+      N(101)+N(118)+N(139)+N(160) !Wo C, 0 veh,
2+wrkr
      CLASSW0( 3) = CLASSW0( 3)+            N(119)+N(140)+N(161)

      CLASSW0( 4) = CLASSW0( 4)+N( 89)+N(103)+N(121)+N(142)+N(163) !Wo C, 1
veh, 0 wrkr
      CLASSW0( 5) = CLASSW0( 5)+N( 90)+N(104)+N(122)+N(143)+N(164) !Wo C, 1
veh, 1 wrkr
      CLASSW0( 6) = CLASSW0( 6)+      N(105)+N(123)+N(144)+N(165) !Wo C, 1 veh,
2+wrkr
      CLASSW0( 6) = CLASSW0( 6)+            N(124)+N(145)+N(166)

      CLASSW0( 7) = CLASSW0( 7)+N( 92)+N(107)+N(126)+N(147)+N(168) !Wo C, 2
veh, 0 wrkr
      CLASSW0( 8) = CLASSW0( 8)+N( 93)+N(108)+N(127)+N(148)+N(169) !Wo C, 2
veh, 1 wrkr
      CLASSW0( 9) = CLASSW0( 9)+      N(109)+N(128)+N(149)+N(170) !Wo C, 2 veh,
2+wrkr
      CLASSW0( 9) = CLASSW0( 9)+            N(129)+N(150)+N(171)

      CLASSW0(10) = CLASSW0(10)+N( 95)+N(111)+N(131)+N(152)+N(173) !Wo C,
3+veh, 0 wrkr
```

```
CLASSW0(11) = CLASSW0(11)+N( 96)+N(112)+N(132)+N(153)+N(174) !Wo C,
3+veh, 1 wrkr
CLASSW0(12) = CLASSW0(12)+      N(113)+N(133)+N(154)+N(175) !Wo C, 3+veh,
2+wrkr
CLASSW0(12) = CLASSW0(12)+            N(134)+N(155)+N(176)

CLASSW1( 1) = CLASSW1( 1)+N(  5)+N( 22)+N( 43)+N( 64)       !W C, 0 veh, 0
wrkr
CLASSW1( 2) = CLASSW1( 2)+N(  6)+N( 23)+N( 44)+N( 65)       !W C, 0 veh, 1
wrkr
CLASSW1( 3) = CLASSW1( 3)+N(  7)+N( 24)+N( 45)+N( 66)       !W C, 0 veh,
2+wrkr
CLASSW1( 3) = CLASSW1( 3)+      N( 25)+N( 46)+N( 67)

CLASSW1( 4) = CLASSW1( 4)+N(  9)+N( 27)+N( 48)+N( 69)       !W C, 1 veh, 0
wrkr
CLASSW1( 5) = CLASSW1( 5)+N( 10)+N( 28)+N( 49)+N( 70)       !W C, 1 veh, 1
wrkr
CLASSW1( 6) = CLASSW1( 6)+N( 11)+N( 29)+N( 50)+N( 71)       !W C, 1 veh,
2+wrkr
CLASSW1( 6) = CLASSW1( 6)+      N( 30)+N( 51)+N( 72)

CLASSW1( 7) = CLASSW1( 7)+N( 13)+N( 32)+N( 53)+N( 74)       !W C, 2 veh, 0
wrkr
CLASSW1( 8) = CLASSW1( 8)+N( 14)+N( 33)+N( 54)+N( 75)       !W C, 2 veh, 1
wrkr
CLASSW1( 9) = CLASSW1( 9)+N( 15)+N( 34)+N( 55)+N( 76)       !W C, 2 veh,
2+wrkr
CLASSW1( 9) = CLASSW1( 9)+      N( 35)+N( 56)+N( 77)

CLASSW1(10) = CLASSW1(10)+N( 17)+N( 37)+N( 58)+N( 79)       !W C, 3+veh, 0
wrkr
CLASSW1(11) = CLASSW1(11)+N( 18)+N( 38)+N( 59)+N( 80)       !W C, 3+veh, 1
wrkr
CLASSW1(12) = CLASSW1(12)+N( 19)+N( 39)+N( 60)+N( 81)       !W C, 3+veh,
2+wrkr
CLASSW1(12) = CLASSW1(12)+      N( 40)+N( 61)+N( 82)


CLASSP0( 1) = CLASSP0( 1)+N( 86)+N( 87)                     !Wo C, 0 veh, 1 prsn
CLASSP0( 2) = CLASSP0( 2)+N( 99)+N(100)+N(101)              !Wo C, 0 veh, 2 prsn
CLASSP0( 3) = CLASSP0( 3)+N(116)+N(117)+N(118)+N(119)       !Wo C, 0 veh, 3
prsn
CLASSP0( 4) = CLASSP0( 4)+N(137)+N(138)+N(139)+N(140)       !Wo C, 0 veh,
4+prsn
CLASSP0( 4) = CLASSP0( 4)+N(158)+N(159)+N(160)+N(161)
```

```
CLASSP0( 5) = CLASSP0( 5)+N( 89)+N( 90)                    !Wo C, 1 veh, 1 prsn
CLASSP0( 6) = CLASSP0( 6)+N(103)+N(104)+N(105)             !Wo C, 1 veh, 2 prsn
CLASSP0( 7) = CLASSP0( 7)+N(121)+N(122)+N(123)+N(124)      !Wo C, 1 veh, 3
prsn
CLASSP0( 8) = CLASSP0( 8)+N(142)+N(143)+N(144)+N(145)      !Wo C, 1 veh,
4+prsn
CLASSP0( 8) = CLASSP0( 8)+N(163)+N(164)+N(165)+N(166)

CLASSP0( 9) = CLASSP0( 9)+N( 92)+N( 93)                    !Wo C, 2 veh, 1 prsn
CLASSP0(10) = CLASSP0(10)+N(107)+N(108)+N(109)             !Wo C, 2 veh, 2 prsn
CLASSP0(11) = CLASSP0(11)+N(126)+N(127)+N(128)+N(129)      !Wo C, 2 veh, 3
prsn
CLASSP0(12) = CLASSP0(12)+N(147)+N(148)+N(149)+N(150)      !Wo C, 2 veh,
4+prsn
CLASSP0(12) = CLASSP0(12)+N(168)+N(169)+N(170)+N(171)

CLASSP0(13) = CLASSP0(13)+N( 95)+N( 96)                    !Wo C, 3+veh, 1 prsn
CLASSP0(14) = CLASSP0(14)+N(111)+N(112)+N(113)             !Wo C, 3+veh, 2
prsn
CLASSP0(15) = CLASSP0(15)+N(131)+N(132)+N(133)+N(134)      !Wo C, 3+veh, 3
prsn
CLASSP0(16) = CLASSP0(16)+N(152)+N(153)+N(154)+N(155)      !Wo C, 3+veh,
4+prsn
CLASSP0(16) = CLASSP0(16)+N(173)+N(174)+N(175)+N(176)


CLASSP1( 1) = CLASSP1( 1)                                  !W C, 0 veh, 1 prsn
CLASSP1( 2) = CLASSP1( 2)+N(  5)+N(  6)+N(  7)             !W C, 0 veh, 2 prsn
CLASSP1( 3) = CLASSP1( 3)+N( 22)+N( 23)+N( 24)+N( 25)      !W C, 0 veh, 3 prsn
CLASSP1( 4) = CLASSP1( 4)+N( 43)+N( 44)+N( 45)+N( 46)      !W C, 0 veh, 4+prsn
CLASSP1( 4) = CLASSP1( 4)+N( 64)+N( 65)+N( 66)+N( 67)

CLASSP1( 5) = CLASSP1( 5)                                  !W C, 1 veh, 1 prsn
CLASSP1( 6) = CLASSP1( 6)+N(  9)+N( 10)+N( 11)             !W C, 1 veh, 2 prsn
CLASSP1( 7) = CLASSP1( 7)+N( 27)+N( 28)+N( 29)+N( 30)      !W C, 1 veh, 3 prsn
CLASSP1( 8) = CLASSP1( 8)+N( 48)+N( 49)+N( 50)+N( 51)      !W C, 1 veh, 4+prsn
CLASSP1( 8) = CLASSP1( 8)+N( 69)+N( 70)+N( 71)+N( 72)

CLASSP1( 9) = CLASSP1( 9)                                  !W C, 2 veh, 1 prsn
CLASSP1(10) = CLASSP1(10)+N( 13)+N( 14)+N( 15)             !W C, 2 veh, 2 prsn
CLASSP1(11) = CLASSP1(11)+N( 32)+N( 33)+N( 34)+N( 35)      !W C, 2 veh, 3 prsn
CLASSP1(12) = CLASSP1(12)+N( 53)+N( 54)+N( 55)+N( 56)      !W C, 2 veh,
4+prsn
CLASSP1(12) = CLASSP1(12)+N( 74)+N( 75)+N( 76)+N( 77)
```

```
      CLASSP1(13) = CLASSP1(13)                          !W C, 3+veh, 1 prsn
      CLASSP1(14) = CLASSP1(14)+N( 17)+N( 18)+N( 19)            !W C, 3+veh, 2 prsn
      CLASSP1(15) = CLASSP1(15)+N( 37)+N( 38)+N( 39)+N( 40)       !W C, 3+veh, 3
prsn
      CLASSP1(16) = CLASSP1(16)+N( 58)+N( 59)+N( 60)+N( 61)       !W C, 3+veh,
4+prsn
      CLASSP1(16) = CLASSP1(16)+N( 79)+N( 80)+N( 81)+N( 82)

      GOTO 1000

9000  CLOSE(1)
      CLOSE(2)


      END

cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

c  subroutine CHKFLAG checks if the zone number read has alphabet
c    characters in it.  Returns num = 0 if yes, = 1 otherwise

      SUBROUTINE CHKFLAG(FLAG,NUM)

      CHARACTER*1 FLAG
      INTEGER*1 NUM

      NUM = 0

      IF(FLAG.EQ.'0') NUM = 1
      IF(FLAG.EQ.'1') NUM = 1
      IF(FLAG.EQ.'2') NUM = 1
      IF(FLAG.EQ.'3') NUM = 1
      IF(FLAG.EQ.'4') NUM = 1
      IF(FLAG.EQ.'5') NUM = 1
      IF(FLAG.EQ.'6') NUM = 1
      IF(FLAG.EQ.'7') NUM = 1
      IF(FLAG.EQ.'8') NUM = 1
      IF(FLAG.EQ.'9') NUM = 1

      RETURN
      END

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      SUBROUTINE WRIT(CLASSW0,CLASSW1,CLASSP0,CLASSP1,ZONE)
```

```
      REAL CLASSW0(12),CLASSW1(12),CLASSP0(16),CLASSP1(16)
      REAL TEM(56),temsum

      INTEGER*4 ZONE

c  calculate total houses

      HOUSE1 = CLASSW0(1)+CLASSW0(2)+CLASSW0(3)+CLASSW0(4)+
     *  CLASSW0(5)+CLASSW0(6)+CLASSW0(7)+CLASSW0(8)+CLASSW0(9)+
     *  CLASSW0(10)+CLASSW0(11)+CLASSW0(12)

      HOUSE2 = CLASSW1(1)+CLASSW1(2)+CLASSW1(3)+CLASSW1(4)+
     *  CLASSW1(5)+CLASSW1(6)+CLASSW1(7)+CLASSW1(8)+CLASSW1(9)+
     *  CLASSW1(10)+CLASSW1(11)+CLASSW1(12)

      HOUSE3 = CLASSP0(1)+CLASSP0(2)+CLASSP0(3)+CLASSP0(4)+
     *  CLASSP0(5)+CLASSP0(6)+CLASSP0(7)+CLASSP0(8)+CLASSP0(9)+
     *  CLASSP0(10)+CLASSP0(11)+CLASSP0(12)+CLASSP0(13)+
     *  CLASSP0(14)+CLASSP0(15)+CLASSP0(16)

      HOUSE4 = CLASSP1(1)+CLASSP1(2)+CLASSP1(3)+CLASSP1(4)+
     *  CLASSP1(5)+CLASSP1(6)+CLASSP1(7)+CLASSP1(8)+CLASSP1(9)+
     *  CLASSP1(10)+CLASSP1(11)+CLASSP1(12)+CLASSP1(13)+
     *  CLASSP1(14)+CLASSP1(15)+CLASSP1(16)

c  if houses = 0, set houses = 1, this does not affect percent calculated
c     but avoids division by 0

      IF(HOUSE1.EQ.0.0) HOUSE1=1.0
      IF(HOUSE2.EQ.0.0) HOUSE2=1.0
      IF(HOUSE3.EQ.0.0) HOUSE3=1.0
      IF(HOUSE4.EQ.0.0) HOUSE4=1.0

      TEM( 1) = 100.0 * CLASSW0( 1) / HOUSE1
      TEM( 2) = 100.0 * CLASSW0( 2) / HOUSE1
      TEM( 3) = 100.0 * CLASSW0( 3) / HOUSE1
      TEM( 4) = 100.0 * CLASSW0( 4) / HOUSE1
      TEM( 5) = 100.0 * CLASSW0( 5) / HOUSE1
      TEM( 6) = 100.0 * CLASSW0( 6) / HOUSE1
      TEM( 7) = 100.0 * CLASSW0( 7) / HOUSE1
      TEM( 8) = 100.0 * CLASSW0( 8) / HOUSE1
      TEM( 9) = 100.0 * CLASSW0( 9) / HOUSE1
      TEM(10) = 100.0 * CLASSW0(10) / HOUSE1
      TEM(11) = 100.0 * CLASSW0(11) / HOUSE1
      TEM(12) = 100.0 * CLASSW0(12) / HOUSE1
      TEM(13) = 100.0 * CLASSW1( 1) / HOUSE2
```

```
TEM(14) = 100.0 * CLASSW1( 2) / HOUSE2
TEM(15) = 100.0 * CLASSW1( 3) / HOUSE2
TEM(16) = 100.0 * CLASSW1( 4) / HOUSE2
TEM(17) = 100.0 * CLASSW1( 5) / HOUSE2
TEM(18) = 100.0 * CLASSW1( 6) / HOUSE2
TEM(19) = 100.0 * CLASSW1( 7) / HOUSE2
TEM(20) = 100.0 * CLASSW1( 8) / HOUSE2
TEM(21) = 100.0 * CLASSW1( 9) / HOUSE2
TEM(22) = 100.0 * CLASSW1(10) / HOUSE2
TEM(23) = 100.0 * CLASSW1(11) / HOUSE2
TEM(24) = 100.0 * CLASSW1(12) / HOUSE2

TEM(25) = 100.0 * CLASSP0( 1) / HOUSE3
TEM(26) = 100.0 * CLASSP0( 2) / HOUSE3
TEM(27) = 100.0 * CLASSP0( 3) / HOUSE3
TEM(28) = 100.0 * CLASSP0( 4) / HOUSE3
TEM(29) = 100.0 * CLASSP0( 5) / HOUSE3
TEM(30) = 100.0 * CLASSP0( 6) / HOUSE3
TEM(31) = 100.0 * CLASSP0( 7) / HOUSE3
TEM(32) = 100.0 * CLASSP0( 8) / HOUSE3
TEM(33) = 100.0 * CLASSP0( 9) / HOUSE3
TEM(34) = 100.0 * CLASSP0(10) / HOUSE3
TEM(35) = 100.0 * CLASSP0(11) / HOUSE3
TEM(36) = 100.0 * CLASSP0(12) / HOUSE3
TEM(37) = 100.0 * CLASSP0(13) / HOUSE3
TEM(38) = 100.0 * CLASSP0(14) / HOUSE3
TEM(39) = 100.0 * CLASSP0(15) / HOUSE3
TEM(40) = 100.0 * CLASSP0(16) / HOUSE3
TEM(41) = 100.0 * CLASSP1( 1) / HOUSE4
TEM(42) = 100.0 * CLASSP1( 2) / HOUSE4
TEM(43) = 100.0 * CLASSP1( 3) / HOUSE4
TEM(44) = 100.0 * CLASSP1( 4) / HOUSE4
TEM(45) = 100.0 * CLASSP1( 5) / HOUSE4
TEM(46) = 100.0 * CLASSP1( 6) / HOUSE4
TEM(47) = 100.0 * CLASSP1( 7) / HOUSE4
TEM(48) = 100.0 * CLASSP1( 8) / HOUSE4
TEM(49) = 100.0 * CLASSP1( 9) / HOUSE4
TEM(50) = 100.0 * CLASSP1(10) / HOUSE4
TEM(51) = 100.0 * CLASSP1(11) / HOUSE4
TEM(52) = 100.0 * CLASSP1(12) / HOUSE4
TEM(53) = 100.0 * CLASSP1(13) / HOUSE4
TEM(54) = 100.0 * CLASSP1(14) / HOUSE4
TEM(55) = 100.0 * CLASSP1(15) / HOUSE4
TEM(56) = 100.0 * CLASSP1(16) / HOUSE4
```

```
c  write calculated percents
      DO 2022 I=1,56
c       SUM(TEM) ! intrinsic function to sum all members of TEM
      temsum=temsum+ TEM(I)
2022    CONTINUE

     if(temsum .gt. 0.0) WRITE(2,1000) ZONE,(TEM(J),J=1,56) ! write only non-empty
records
c       WRITE(2,1000) ZONE,(TEM(J),J=1,56)
      temsum=0
1000    FORMAT(I5,56F6.2)

      ZONE=ZONE+1
      DO 1200 I=1,56
        TEM(I) = 0.0
1200    CONTINUE

      DO 1240 I=1,12
        CLASSW0(I) = 0
        CLASSW1(I) = 0
1240    CONTINUE

      DO 1260 I=1,16
        CLASSP0(I) = 0
        CLASSP1(I) = 0
1260    CONTINUE

      RETURN
      END
```

READCTL.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc


c subroutine READCTL reads the fsutms.ctl file to get year and scenario
c   information - eg 96A or A96
c program stops with error message if information or file is not found
c subroutine defines the file names
c subroutine also get maximum number of zones from profile.mas file




      SUBROUTINE READCTL(ALTIN,TITLE)
```

```
      INCLUDE 'CBR.INC'

        CHARACTER*3 ALTIN, ALTOUT
        CHARACTER*8 FLAG
        CHARACTER*40 TITLE

        OPEN(UNIT=1,FILE='FSUTMS.CTL',STATUS='OLD')

c read variable name and store info if input or output extensions

50      READ(1,99,END=1000) FLAG
99      FORMAT(1X,A8)
        IF(FLAG.EQ.'FILEIN ') READ(1,100) ALTIN
        IF(FLAG.EQ.'FILEOUT') READ(1,100) ALTOUT
        IF(FLAG.EQ.'TITLE  ') READ(1,110) TITLE
100     FORMAT(A3)
110     FORMAT(A40)
        GOTO 50

c stop with error message if info not obtained

1000    IF((ALTIN.EQ.'   ').OR.(ALTOUT.EQ.'   ')) THEN
          WRITE(*,*) 'FILEIN AND FILEOUT INFO NOT FOUND FROM'
          WRITE(*,*) 'FILE FSUTMS.CTL  --  CORRECT AND RERUN'
          WRITE(*,*) 'ABNORMAL STOP'
          STOP
        ENDIF

c read profile.mas to obtain maximum number of zones, scenario (base/
c     future) and stp266 location

2000    OPEN(UNIT=2,FILE='PROFILE.MAS',STATUS='OLD')
        ZONESI = 0
        ZONESA = 0
```

```
      SCENARIO = 'BASE'

2010    READ(2,99,END=3000) FLAG
      IF(FLAG.EQ.'ZONESI  ') READ(2,2100) ZONESI
      IF(FLAG.EQ.'ZONESA  ') READ(2,2100) ZONESA
      IF(FLAG.EQ.'SCENARIO') READ(2,2110) SCENARIO
2100    FORMAT(I6)
2110    FORMAT(A8)
2120    FORMAT(A40)
      GOTO 2010


c stop with error message if info not obtained

3000    IF((ZONESI.EQ.0).OR.(ZONESA.EQ.0).OR.(ZONESI.GT.ZONESA)) THEN
          WRITE(*,*) 'ZONESI AND ZONESA INFO PROBLEM FROM'
          WRITE(*,*) 'FILE PROFILE.MAS  --  CORRECT AND RERUN'
          WRITE(*,*)
          WRITE(*,*) 'POSSIBLE ERRORS --'
          WRITE(*,*) 'PROFILE.MAS FILE NOT PRESENT'
          WRITE(*,*) 'ZONESI AND/OR ZONESA INFO NOT PRESENT'
          WRITE(*,*) 'ZONESI > ZONESA'
          WRITE(*,*)
          WRITE(*,*)
          WRITE(*,*) 'ABNORMAL STOP'
          STOP
      ENDIF


c define file names
      FILZ1  = 'ZDATA1.'//ALTIN
      FILZ1B = 'ZDATA1B.'//ALTIN
      FILZ2  = 'ZDATA2.'//ALTIN
      FILZ3  = 'ZDATA3B.'//ALTIN
      FILZ4  = 'ZDATA4B.'//ALTIN
cASR       FILSCH = 'SCHOOL.ASC'
      FILSCH = 'SCHOOL.'//ALTIN
      FILP   = 'PRODS.ASC'
cASR       FILP   = 'PRODS.'//ALTOUT
      FILA   = 'ATTRS.ASC'
cASR       FILA   = 'ATTRS.'//ALTOUT
      FILLNK = 'LINKS.'//ALTIN
      TAZAT  = 'FTAZAT.ASC'

      RETURN
      END
```

READAT.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

c subroutine to read area types from the LINKS file
c subroutine to read the expanded ZDATA1A (ZDATA1B) file
c subroutine to read the ZDATA2 file
c-Reading of ZDATA1B and ZDATA2 is performed here instead of under
c CALCPA subroutine of earlier version.



      SUBROUTINE READAT

     INCLUDE 'CBR.INC'

      INTEGER*2 REGTAZ,ITEM,ITAZ

      LOGICAL EXISTS

      OPEN(UNIT=2,FILE='AT-temp.txt')
c ** READ TAZs ******************************

      INQUIRE (FILE=TAZAT,EXIST=EXISTS)
      IF(.NOT.EXISTS) THEN
        WRITE(*,*) 'FILE TAZAT.ASC NOT PRESENT'
        WRITE(*,*) 'ABNORMAL STOP'
        STOP
      ENDIF

      OPEN(UNIT=1,FILE=TAZAT,STATUS='OLD',ACTION='READ')

      DO 100 I=1,9999
        READ(1,FMT=*,END=500) REGTAZ,ITEM
cASR      Changed to read area types from TAZ layer
c110      FORMAT(2X,I5,67X,I2)
c110       FORMAT(2X,I5,90X,I2)
        IF(REGTAZ.GT.ZONESI) GOTO 500
          AT(REGTAZ) = ITEM
        WRITE(2,227) REGTAZ,AT(REGTAZ)
227     FORMAT(2I5)
100     CONTINUE

500     CONTINUE
```

```
      CLOSE(1)


c ** READ ZDATA1B ******************************

      INQUIRE (FILE=FILZ1B,EXIST=EXISTS)
      IF(.NOT.EXISTS) THEN
        WRITE(*,*) 'FILE ZDATA1B.altin NOT PRESENT'
        WRITE(*,*) 'ABNORMAL STOP'
        STOP
      ENDIF

      OPEN(UNIT=2,FILE=FILZ1B,ACTION='READ')

      DO 8800 IZONE=1,ZONESI
       READ(2,1300,END=1500) ITAZ,RTAZ(ITAZ),HH0C(ITAZ),HHWC(ITAZ),
cASR          READ(2,FMT=*,END=1500) ITAZ,RTAZ(ITAZ),HH0C(ITAZ),HHWC(ITAZ),
    &        V0C(ITAZ),VWC(ITAZ),W0C(ITAZ),WWC(ITAZ),P0C(ITAZ),
    &        PWC(ITAZ),HMOc(ITAZ),EXURB(ITAZ),DUT(ITAZ),PDUP(ITAZ),
    &        PDUA(ITAZ),PSFDUP(ITAZ),PSFDUA(ITAZ),PMFDUP(ITAZ),
    &        PMFDUA(ITAZ),HMT(ITAZ),PHMP(ITAZ),PHMA(ITAZ),
    &        bhmoc(ITAZ),rhmoc(ITAZ),mhmoc(ITAZ)

1300      FORMAT(11I6,i3,2i6,5f4.1,i6,2f4.1,3i6)


cASR          IF(ITAZ.NE.IZONE) THEN
cASR              WRITE(*,*) 'ERROR IN ZONE NUMBER SEQUENCE IN FILE'
cASR              WRITE(*,*) 'ZDATA1B AT LINE NUMBER ',IZONE
cASR              WRITE(*,*)
cASR              WRITE(*,*) 'ABNORMAL STOP'
cASR              STOP
cASR         ENDIF

         GOTO 2500

1500    CONTINUE
cASR 1500      WRITE(*,*) 'UNEXPECTED END OF ZDATA1B'
cASR          WRITE(*,*) 'FILE AT LINE ',IZONE
cASR          WRITE(*,*) 'PER PROFILE.MAS NUMBER OF INTERNAL ZONES = ',
cASR     *          ZONESI
cASR          WRITE(*,*)
cASR          WRITE(*,*) 'ABNORMAL STOP'
cASR          STOP

2500      CONTINUE
```

```
8800    CONTINUE

      close(2)


c ** READ ZDATA2 ******************************

      INQUIRE (FILE=FILZ2,EXIST=EXISTS)
      IF(.NOT.EXISTS) THEN
        WRITE(*,*) 'FILE ZDATA2.altin NOT PRESENT'
        WRITE(*,*) 'ABNORMAL STOP'
        STOP
      ENDIF

      OPEN(UNIT=3,FILE=FILZ2,ACTION='READ')

      DO 88 IZONE=1,ZONESI
        READ(3,13,END=15) SECTOR(IZONE),ITAZ,
cASR          READ(3,FMT=*,END=25) SECTOR(IZONE),ITAZ,
   &      EIND(ITAZ),ECOM(ITAZ),ESER(ITAZ),ETOT(ITAZ),SROLL(ITAZ),
   &      POPK(ITAZ),PPK(ITAZ)

13       FORMAT(1x,i3,i4,5i6,2i4)

cASR          IF(ITAZ.NE.IZONE) THEN
cASR            WRITE(*,*) 'ERROR IN ZONE NUMBER SEQUENCE IN FILE'
cASR            WRITE(*,*) 'ZDATA2 AT LINE NUMBER ',IZONE
cASR            WRITE(*,*) 'ITAZ =',ITAZ
cASR            WRITE(*,*) 'ABNORMAL STOP'
cASR            STOP
cASR          ENDIF

        GOTO 25

15       WRITE(*,*) 'UNEXPECTED END OF ZDATA2'
cASR          WRITE(*,*) 'FILE AT LINE ',IZONE
cASR          WRITE(*,*) 'PER PROFILE.MAS NUMBER OF INTERNAL ZONES = ',
cASR     *          ZONESI
cASR          WRITE(*,*)
cASR          WRITE(*,*) 'ABNORMAL STOP'
cASR          STOP

25      CONTINUE

88     CONTINUE
```

```
      close(3)


      RETURN
      END
```

READSPGN.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

      SUBROUTINE READSPGN

c READSPGN reads special generator and airport data from file zdata3b.yralt
c

      INCLUDE 'CBR.INC'

      CHARACTER*1 FLAG
      CHARACTER*103 bal
      integer*2 az

      integer*2 ii


      OPEN(UNIT=1,FILE=FILZ3,ACTION='READ')

      do 1010 i = 1, zonesa
        spgen(i,0)=0
        plane(i)=0
1010   continue


      ii=1   ! ii is the zdata3 record number, not the taz number


100    READ(1,500,END=8000) flag, bal

c---      write(*,*) flag

500    FORMAT(A1,A103)

      IF((FLAG .EQ. 'C').OR.(FLAG .EQ. 'c')) GOTO 100
```

```
c+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
c---SPECIAL GENERATORS

      if(flag .eq. '3') then

c-sks2-------- BACKSPACE(1)

        READ(bal,900,END=8000) SPGEN(ii,0),(SPGENFL(ii,J),J=1,2),
   *                    (SPGEN(ii,J),J=1,18),SPGENC(ii)

900       FORMAT(3X,I4,2A1,I6,11I3,6I5,A25)

c-sks2----------write (*,*) 'SPGEN(II,0) = ', SPGEN(II,0)

        if(SPGEN(ii,0) .eq. 0) goto 8000       ! Trap blank card

        ii=ii+1
        goto 100

      endif


c-sks2--------------spgen(ii,0) ! Zdata record Zone number

c+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
c---AIRPORTS

      if (flag .eq. 'A') then

c-sks2----------BACKSPACE(1)

         READ(bal,901,END=8000) az,plane(az)

cdebug---------write(*,*) ' AIRPORT TAZ ',az,plane(az)


901        FORMAT(3X,I4,I8)

         goto 100
      endif


c+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

8000    continue
```

```
      close(1)

      RETURN
      END

c++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
c
c ZDATA3B Format - SPECIAL GENERATORS
c  Start Length Variable          Content (*=new)
c ---------------------------------------------------------------------
c    1     1    FLAG           Flag should be 3 for Specgen, A for airport
c    5     4    SPGEN(ii,0)     Zdata3 Record Number
c    9     1    SPGENFL(ii,1)   Prod or Attr (P or A)
c   10     1    SPGENFL(ii,2)   Operator (+ - T)
c   11     6    SPGEN(ii,1)     Number of trips
c   17     3    SPGEN(ii,2)     1 Percent of trips HBW
c   20     3    SPGEN(ii,3)     2 Percent of trips HBSH
c   23     3    SPGEN(ii,4)     3 Percent of trips HBSR
c   26     3    SPGEN(ii,5)     4 Percent of trips HBSCH
c   29     3    SPGEN(ii,6)     5 Percent of trips HBO
c   32     3    SPGEN(ii,7)     6 Percent of trips NHB-work
c   35     3    SPGEN(ii,8)     7 Percent of trips NHB-other
c   38     3    SPGEN(ii,9)     8 Percent of trips Airport
c   41     3    SPGEN(ii,10)    9 Percent of trips TRK1
c   44     3    SPGEN(ii,11)   10 Percent of trips TRK2
c   47     3    SPGEN(ii,12)   11 Percent of trips TRK3
c   50     5    SPGEN(ii,13)    Specgen total employment already in zdata2
c   55     5    SPGEN(ii,14)    Specgen comm. employment already in zdata2
c   60     5    SPGEN(ii,15)    Specgen serv. employment already in zdata2
c   65     5    SPGEN(ii,16)    Specgen school enroll.   already in zdata2
c   70     5    SPGEN(ii,17)    Specgen total DU's       already in zdata2
c   75     5    SPGEN(ii,18)    Specgen total H/M's      already in zdata2
c   80    25    SPGENC(ii)      Description
c
c ZDATA3 Format - AIRPORTS
c  Start Length Variable          Contents
c ---------------------------------------------------------------------
c    1     1    FLAG             Flag should be 3 for Specgen, A for airport
c    5     4    AZ               Airport Zone number
c    9     8    PLANE(AZ)        Enplanements
```

READRATE.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
```

```
c subroutine READRATE reads the trip generation, attraction
c   rates and disaggregation curves from file gratesb.syn


      SUBROUTINE READRATE

      INCLUDE 'CBR.INC'

      REAL CLASS1,CLASS2,CLASS3,CLASS4,TEM(4)
      INTEGER*4 PURP,CHILD,CAR, fl
      CHARACTER*1 FLAG,CHLD,VEH,WRK,PER
      integer*1 atipe

c  initialize arrays
      do 964 fl =1,3
      do 11 purp = 1,11
        hotrat(fl,purp) = 0.0
        hmbrat(fl,purp) = 0.0
        hmlrat(fl,purp) = 0.0
        hmmrat(fl,purp) = 0.0
        do 12 j = 1,7
          do 18 k = 0,5
            arate(fl,purp,j,k) = 0.0
            orate(fl,purp,j,k) = 0.0
18          continue
12        continue
11      continue
964     continue

      do 965 fl =1,3
      do 131 purp = 1,6
        do 13 i = 1,12
          do 14 j = 0,1
            pratew(fl,purp,i,j) = 0.0
14          continue
13        continue
131     continue
965     continue

      do 966 fl =1,3
      do 17 i = 2,11
        do 15 j = 1,16
          do 16 k = 0,1
            pratep(fl,i,j,k) =0.0
16          continue
```

```
15        continue
17      continue
966     continue

      do 203 fl =1,3
       IF(fl.EQ.1) OPEN(UNIT=3,FILE='IRGRATEST.SYN',STATUS='OLD')
       IF(fl.EQ.2) OPEN(UNIT=3,FILE='SLGRATEST.SYN',STATUS='OLD')
       IF(fl.EQ.3) OPEN(UNIT=3,FILE='MAGRATEST.SYN',STATUS='OLD')
c        OPEN(UNIT=3,FILE='GRATEST.SYN')

10      READ(3,110,END=5000) FLAG
110     FORMAT(A1)

c  if comment then skip

        IF((FLAG.EQ.'c').OR.(FLAG.EQ.'C')) GOTO 10

c  read prod rate if flag = p

        IF((FLAG.EQ.'p').OR.(FLAG.EQ.'P')) THEN
          BACKSPACE(3)
          READ(3,120) FLAG,PURP,CHILD,CAR,CLASS1,CLASS2,CLASS3,
    *                    CLASS4,HOTMOT
120       FORMAT(A1,3I6,1x,5F6.3)
c-sks-format change  120        FORMAT(A1,3I6,5F6.2)

c calculate variable number - index


          IF((PURP.EQ.1) .or. (PURP.EQ.6)) THEN
            INDEX = (3*CAR) + 1
          ELSE
            INDEX = (4*CAR) + 1
          ENDIF

          IF(INDEX.GT.20) THEN          ! HOTEL/MOTEL
            HMBRAT(fl,PURP) = CLASS1       ! Business
            HMLRAT(fl,PURP) = CLASS2       ! Leisure
            HMMRAT(fl,PURP) = CLASS3       ! Mix
            HOTRAT(fl,PURP) = HOTMOT       ! All (unclassified)
          ELSE
            IF((PURP.EQ.1) .or. (PURP.EQ.6)) THEN   ! HBW & NHBW
              PRATEW(fl,PURP,INDEX  ,CHILD) = CLASS1
              PRATEW(fl,PURP,INDEX+1,CHILD) = CLASS2
              PRATEW(fl,PURP,INDEX+2,CHILD) = CLASS3
            ELSE IF(PURP.EQ.8) THEN                ! AIRPORT
```

```
            AIRRATE = CLASS1
          ELSE                          ! OTHER
            PRATEP(fl,PURP,INDEX  ,CHILD) = CLASS1
            PRATEP(fl,PURP,INDEX+1,CHILD) = CLASS2
            PRATEP(fl,PURP,INDEX+2,CHILD) = CLASS3
            PRATEP(fl,PURP,INDEX+3,CHILD) = CLASS4
          ENDIF
        ENDIF
        GOTO 10

      ENDIF

c  read attr rate if flag = a

      IF((FLAG.EQ.'a').OR.(FLAG.EQ.'A')) THEN
        BACKSPACE(3)
        READ(3,220) FLAG,PURP,atipe,(ARATE(fl,PURP,J,atipe),J=1,7)
220       FORMAT(A1,I6,i3,1x,7F6.3)
        GOTO 10
      ENDIF

c  read origin allocation rate if flag = o

      IF((FLAG.EQ.'o').OR.(FLAG.EQ.'O')) THEN
        BACKSPACE(3)
        READ(3,220) FLAG,PURP,atipe,(ORATE(fl,PURP,J,atipe),J=1,7)
        GOTO 10
      ENDIF

c  read ind variable constant to be subtracted for disag curves


      IF((FLAG.EQ.'v').OR.(FLAG.EQ.'V')) THEN
        BACKSPACE(3)
        READ(3,320) ICHLD,AVGV(ICHLD),AVGW(ICHLD),AVGP(ICHLD)
320       FORMAT(1X,I5,3F8.5)
        GOTO 10
      ENDIF

c  read disaggregation curve if flag =d


      IF((FLAG.EQ.'d').OR.(FLAG.EQ.'D')) THEN
        BACKSPACE(3)
        READ(3,420) CHLD,VEH,WRK,PER,(TEM(I),I=1,4)
420       FORMAT(5X,A1,3(3X,A1),4F10.6)
```

```
      READ(CHLD,'(I1)') ICHLD
      READ(VEH ,'(I1)') IVEH
      READ(WRK ,'(I1)') IWRK
      READ(PER ,'(I1)') IPER
      IF((WRK.EQ.' ').AND.(PER.EQ.' ')) THEN
        VEHCV(ICHLD,IVEH,0) = TEM(1)
        VEHCV(ICHLD,IVEH,1) = TEM(2)
        VEHCV(ICHLD,IVEH,2) = TEM(3)
        VEHCV(ICHLD,IVEH,3) = TEM(4)
        GOTO 10
      ELSE
        IF(WRK.NE.' ') THEN
          WRKCV(ICHLD,IWRK,0) = TEM(1)
          WRKCV(ICHLD,IWRK,1) = TEM(2)
          WRKCV(ICHLD,IWRK,2) = TEM(3)
          WRKCV(ICHLD,IWRK,3) = TEM(4)
        ELSE
          PERCV(ICHLD,IPER,0) = TEM(1)
          PERCV(ICHLD,IPER,1) = TEM(2)
          PERCV(ICHLD,IPER,2) = TEM(3)
          PERCV(ICHLD,IPER,3) = TEM(4)
        ENDIF
      ENDIF
    ENDIF
    GOTO 10


5000  CONTINUE
203   CONTINUE
    RETURN
    END
```

MAKESEED.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
c subroutine MAKESEED makes seed matrix and writes out to file STP60.TEM
c modify Sunil Saha following changes in Regional (SERPM5) Model

    SUBROUTINE MAKESEED(HHW,HHP)
```

```
      INCLUDE 'CBR.INC'

        INTEGER*4 IZONE,ZONE1,REFZONE,C0HH,C1HH,C0VEH,C1VEH
        INTEGER*4 C0WRK,C1WRK,C0PER,C1PER
        REAL SEEDW(12,0:1),SEEDP(16,0:1),HHW(12,0:1),HHP(16,0:1)
cKDK        REAL SEEDWS(12,0:1),SEEDPS(16,0:1)
c -- SEED MEMORY ARRAY --
        REAL xW(12,0:1,0:maxzone),xP(16,0:1,0:maxzone)
        logical ref0(0:maxzone)

        REAL AVGPC0,AVGPC1
        REAL AVGVC0,AVGVC1,AVGWC0,AVGWC1
        REAL VEHC0(0:3),VEHC1(0:3),WRKC0(0:3),WRKC1(0:3)
        REAL PERC0(4),PERC1(4)

        OPEN(UNIT=1,FILE='STP60.TEM',ACTION='READ')
        OPEN(UNIT=4,FILE='HH.TEM',form='UNFORMATTED')

cKDK Initialize arrays
      do 10 j=0,1
        do 11 i=1,12
          HHW(i,j) = 0.0
11        continue
        do 12 i=1,16
          HHP(i,j) = 0.0
12        continue
10    continue
      do 13 i=0,maxzone
         ref0(i) = .true.
13    continue

c  read area wide seed values

cKDK        READ(1,110) ZONE1,(SEEDWS(I,0),I=1,12),(SEEDWS(I,1),
cKDK     *     I=1,12),(SEEDPS(I,0),I=1,16),(SEEDPS(I,1),I=1,16)

110     FORMAT(I5,12F6.2,12F6.2,16F6.2,16F6.2)
20      continue
        READ(1,110,end=21) ZONE1,(xW(I,0,ZONE1),I=1,12),(xW(I,1,ZONE1),
    *     I=1,12),(xP(I,0,ZONE1),I=1,16),(xP(I,1,ZONE1),I=1,16)
        ref0(ZONE1) = .false.
        goto 20
21      continue
203     continue
        DO 5000 IZONE=1,ZONESI
```

```
c        write(*,*) 'Im here', IZONE
c       if(IZONE .LT. 1001) goto 5000
c       if(IZONE .GT. 1154 .AND. IZONE .LT. 2001) goto 5000
c       if(IZONE .GT. 2295 .AND. IZONE .LT. 3001) goto 5000

c-sks-  ZDATA1B data are read in READAT subroutine.

c load zdata1b

         ZONE1  = IZONE
         REFZONE= RTAZ(IZONE)
         if(ref0(refzone)) then
           write(*,5678) IZONE,refzone
5678         format(' ** Zone ',I5,' Ref Zone ',I5,
    &            ' not in STP, reset to 0')
           REFZONE=0 ! trap for reference zone not in STP file
         endif
         C0HH   = HH0C(IZONE)
         C1HH   = HHWC(IZONE)
         C0VEH  = V0C(IZONE)
         C1VEH  = VWC(IZONE)
         C0WRK  = W0C(IZONE)
         C1WRK  = WWC(IZONE)
         C0PER  = P0C(IZONE)
         C1PER  = PWC(IZONE)

c  if base scenario set ref zone as itself

       IF(SCENARIO.EQ.'BASE    ') REFZONE = ZONE1

c if num of hh = 0 set to 1.  this does not affect percentage calc.

       IF(C0HH.EQ.0) C0HH=1
       IF(C1HH.EQ.0) C1HH=1

       AVGVC0 = REAL(C0VEH)/REAL(C0HH)
       AVGVC1 = REAL(C1VEH)/REAL(C1HH)
       AVGWC0 = REAL(C0WRK)/REAL(C0HH)
       AVGWC1 = REAL(C1WRK)/REAL(C1HH)
       AVGPC0 = REAL(C0PER)/REAL(C0HH)
       AVGPC1 = REAL(C1PER)/REAL(C1HH)

cKDK       IF(REFZONE.EQ.0) THEN
cKDK         DO 1150 I=1,16
cKDK           DO 1148 J=0,1
cKDK             IF(I.LE.12) THEN
```

```
cKDK                SEEDW(I,J) = xW(I,J,0)
cKDK                SEEDP(I,J) = xP(I,J,0)
cKDK              ELSE
cKDK                SEEDP(I,J) = xP(I,J,0)
cKDK              ENDIF
cKDK1148          CONTINUE
cKDK1150       CONTINUE
cKDK          GOTO 1350
cKDK        ENDIF

c--  read seed file

cKDK1300    READ(1,110,END=5000) ZONE2,(SEEDW(I,0),I=1,12),(SEEDW(I,1),
cKDK     *     I=1,12),(SEEDP(I,0),I=1,16),(SEEDP(I,1),I=1,16)
cKDK
cKDK        IF(ZONE2.LT.REFZONE) GOTO 1300
cKDK        IF(ZONE2.GT.REFZONE) THEN
cKDK          BACKSPACE(1)
cKDK          BACKSPACE(1)
cKDK          GOTO 1300
cKDK        ENDIF

cKDK    ASSIGN VALUES FROM ARRAY TO LOCAL VARS
       do 31 i=1,12
         SEEDW(I,0)=xW(I,0,REFZONE)
         SEEDW(I,1)=xW(I,1,REFZONE)
31       continue

       do 32 i=1,16
         SEEDP(I,0)=xP(I,0,REFZONE)
         SEEDP(I,1)=xP(I,1,REFZONE)
32       continue

cKDK1350    CONTINUE
c1400    FORMAT(I5,56F5.1)

c--  calculate row and column totals for matrices.


       CALL GETSUM(SEEDW,SEEDP,AVGVC0,AVGVC1,AVGWC0,AVGWC1,AVGPC0,
    *            AVGPC1,VEHC0,VEHC1,WRKC0,WRKC1,PERC0,PERC1)

c--  run fratar

       CALL PREFRAT(SEEDW,SEEDP,VEHC0,VEHC1,WRKC0,WRKC1,PERC0,PERC1)
```

```
c       WRITE(4,1400) ZONE1,(SEEDW(I,0),I=1,12),(SEEDW(I,1),
c     *     I=1,12),(SEEDP(I,0),I=1,16),(SEEDP(I,1),I=1,16)
      WRITE(4) ZONE1,(SEEDW(I,0),I=1,12),(SEEDW(I,1),
    *     I=1,12),(SEEDP(I,0),I=1,16),(SEEDP(I,1),I=1,16)

c  accumulate system wide cross tab
         DO 4150 I=1,16
           IF(I.LE.12) THEN
             HHW(I,0) = HHW(I,0) + SEEDW(I,0)*C0HH/100.0
             HHW(I,1) = HHW(I,1) + SEEDW(I,1)*C1HH/100.0
             HHP(I,0) = HHP(I,0) + SEEDP(I,0)*C0HH/100.0
             HHP(I,1) = HHP(I,1) + SEEDP(I,1)*C1HH/100.0
           ELSE
             HHP(I,0) = HHP(I,0) + SEEDP(I,0)*C0HH/100.0
             HHP(I,1) = HHP(I,1) + SEEDP(I,1)*C1HH/100.0
           ENDIF
4150      CONTINUE

5000    CONTINUE

      CLOSE(1)
      CLOSE(4)


      RETURN
      END

cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

      SUBROUTINE GETSUM(SEEDW,SEEDP,AVGVC0,AVGVC1,AVGWC0,AVGWC1,
    *        AVGPC0,AVGPC1,VEHC0,VEHC1,WRKC0,WRKC1,PERC0,PERC1)

     INCLUDE 'CBR.INC'

      REAL A1(0:4),A2(0:4),A3(0:4),A4(0:4),A5(0:4),A6(0:4)
      REAL K1(0:4),K2(0:4),K3(0:4),K4(0:4),K5(0:4),K6(0:4)
      REAL AX1,AX2,AX3,AX4,AX5,AX6
      REAL B1(0:4),B2(0:4),B3(0:4),B4(0:4),B5(0:4),B6(0:4)
      REAL C1(0:4),C2(0:4),C3(0:4),C4(0:4),C5(0:4),C6(0:4)
      REAL AVGPC0,AVGPC1
      REAL AVGVC0,AVGVC1,AVGWC0,AVGWC1
      REAL SEEDW(12,0:1),SEEDP(16,0:1)
      REAL VEHC0(0:3),VEHC1(0:3),WRKC0(0:3),WRKC1(0:3)
      REAL PERC0(4),PERC1(4)

      A1(0) = SEEDW(1,0)  + SEEDW(2,0)  + SEEDW(3,0)
```

```
A1(1) = SEEDW(4,0)  + SEEDW(5,0)  + SEEDW(6,0)
A1(2) = SEEDW(7,0)  + SEEDW(8,0)  + SEEDW(9,0)
A1(3) = SEEDW(10,0) + SEEDW(11,0) + SEEDW(12,0)
A2(0) = SEEDW(1,1)  + SEEDW(2,1)  + SEEDW(3,1)
A2(1) = SEEDW(4,1)  + SEEDW(5,1)  + SEEDW(6,1)
A2(2) = SEEDW(7,1)  + SEEDW(8,1)  + SEEDW(9,1)
A2(3) = SEEDW(10,1) + SEEDW(11,1) + SEEDW(12,1)

A3(0) = SEEDW(1,0)  + SEEDW(4,0)  + SEEDW(7,0) + SEEDW(10,0)
A3(1) = SEEDW(2,0)  + SEEDW(5,0)  + SEEDW(8,0) + SEEDW(11,0)
A3(2) = SEEDW(3,0)  + SEEDW(6,0)  + SEEDW(9,0) + SEEDW(12,0)
A4(0) = SEEDW(1,1)  + SEEDW(4,1)  + SEEDW(7,1) + SEEDW(10,1)
A4(1) = SEEDW(2,1)  + SEEDW(5,1)  + SEEDW(8,1) + SEEDW(11,1)
A4(2) = SEEDW(3,1)  + SEEDW(6,1)  + SEEDW(9,1) + SEEDW(12,1)

A5(1) = SEEDP(1,0)  + SEEDP(5,0)  + SEEDP( 9,0) + SEEDP(13,0)
A5(2) = SEEDP(2,0)  + SEEDP(6,0)  + SEEDP(10,0) + SEEDP(14,0)
A5(3) = SEEDP(3,0)  + SEEDP(7,0)  + SEEDP(11,0) + SEEDP(15,0)
A5(4) = SEEDP(4,0)  + SEEDP(8,0)  + SEEDP(12,0) + SEEDP(16,0)

A6(1) = SEEDP(1,1)  + SEEDP(5,1)  + SEEDP( 9,1) + SEEDP(13,1)
A6(2) = SEEDP(2,1)  + SEEDP(6,1)  + SEEDP(10,1) + SEEDP(14,1)
A6(3) = SEEDP(3,1)  + SEEDP(7,1)  + SEEDP(11,1) + SEEDP(15,1)
A6(4) = SEEDP(4,1)  + SEEDP(8,1)  + SEEDP(12,1) + SEEDP(16,1)

CALL GETCURV(AVGVC0,AVGVC1,VEHCV,K1,K2,1,AVGV)
CALL GETCURV(AVGWC0,AVGWC1,WRKCV,K3,K4,2,AVGW)
CALL GETCURV(AVGPC0,AVGPC1,PERCV,K5,K6,3,AVGP)

DO 900 J=1,5
  AX1 = ( A1(1) + 2*A1(2) + 3.2*A1(3) ) / 100.0
  AX2 = ( A2(1) + 2*A2(2) + 3.2*A2(3) ) / 100.0
  AX3 = ( A3(1) + 2.2*A3(2) ) / 100.0
  AX4 = ( A4(1) + 2.2*A4(2) ) / 100.0
  AX5 = ( A5(1) + 2*A5(2) + 3*A5(3) + 4.2*A5(4) ) / 100.0
  AX6 = ( A6(1) + 2*A6(2) + 3*A6(3) + 4.2*A6(4) ) / 100.0

  CALL GETCURV(AX1,AX2,VEHCV,B1,B2,1,AVGV)
  CALL GETCURV(AX3,AX4,WRKCV,B3,B4,2,AVGW)
  CALL GETCURV(AX5,AX6,PERCV,B5,B6,3,AVGP)

  DO 700 I=1,4
    IF(B1(I-1).GT.0.00001) C1(I-1) = A1(I-1)*K1(I-1)/B1(I-1)
    IF(B2(I-1).GT.0.00001) C2(I-1) = A2(I-1)*K2(I-1)/B2(I-1)
    IF(I.LE.3) THEN
      IF(B3(I-1).GT.0.00001) C3(I-1) = A3(I-1)*K3(I-1)/B3(I-1)
```

```
          IF(B4(I-1).GT.0.00001) C4(I-1) = A4(I-1)*K4(I-1)/B4(I-1)
        ENDIF
        IF(B5(I).GT.0.00001) C5(I) = A5(I)*K5(I)/B5(I)
        IF(B6(I).GT.0.00001) C6(I) = A6(I)*K6(I)/B6(I)
700     CONTINUE

      CT1 = C1(0) + C1(1) + C1(2) + C1(3)
      CT2 = C2(0) + C2(1) + C2(2) + C2(3)
      CT3 = C3(0) + C3(1) + C3(2)
      CT4 = C4(0) + C4(1) + C4(2)
      CT5 = C5(1) + C5(2) + C5(3) + C5(4)
      CT6 = C6(1) + C6(2) + C6(3) + C6(4)

      DO 800 I=1,4
        IF(CT1.GT.0.00001) C1(I-1) = C1(I-1)*100.0/CT1
        IF(CT2.GT.0.00001) C2(I-1) = C2(I-1)*100.0/CT2
        IF(I.LE.3) THEN
          IF(CT3.GT.0.00001) C3(I-1) = C3(I-1)*100.0/CT3
          IF(CT4.GT.0.00001) C4(I-1) = C4(I-1)*100.0/CT4
        ENDIF
        IF(CT5.GT.0.00001) C5(I) = C5(I)*100.0/CT5
        IF(CT6.GT.0.00001) C6(I) = C6(I)*100.0/CT6
800     CONTINUE

900   CONTINUE

    DO 1200 I=1,4
      VEHC0(I-1) = C1(I-1)
      VEHC1(I-1) = C2(I-1)
      IF(I.LE.3) THEN
        WRKC0(I-1) = C3(I-1)
        WRKC1(I-1) = C4(I-1)
      ENDIF
      PERC0(I) = C5(I)
      PERC1(I) = C6(I)
1200   CONTINUE

    RETURN
    END

cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

    SUBROUTINE GETCURV(AVG0,AVG1,COEFF,CURV0,CURV1,FLAG,AVGVWP)

    REAL AVG0,AVG1,CURV0(0:4),CURV1(0:4),COEFF(0:1,0:4,0:3)
    REAL AVGVWP(0:1)
```

```
      INTEGER FLAG

      AVG0 = AVG0 - AVGVWP(0)
      AVG1 = AVG1 - AVGVWP(1)

      IF(FLAG.LE.2) THEN
        CURV0(0) = COEFF(0,0,0) + (COEFF(0,0,1)*AVG0) +
     *   (COEFF(0,0,2)*AVG0**2) + (COEFF(0,0,3)*AVG0**3)
        CURV1(0) = COEFF(1,0,0) + (COEFF(1,0,1)*AVG1) +
     *   (COEFF(1,0,2)*AVG1**2) + (COEFF(1,0,3)*AVG1**3)
      ENDIF
      CURV0(1) = COEFF(0,1,0) + (COEFF(0,1,1)*AVG0) +
     * (COEFF(0,1,2)*AVG0**2) + (COEFF(0,1,3)*AVG0**3)
      CURV1(1) = COEFF(1,1,0) + (COEFF(1,1,1)*AVG1) +
     * (COEFF(1,1,2)*AVG1**2) + (COEFF(1,1,3)*AVG1**3)

      CURV0(2) = COEFF(0,2,0) + (COEFF(0,2,1)*AVG0) +
     * (COEFF(0,2,2)*AVG0**2) + (COEFF(0,2,3)*AVG0**3)
      CURV1(2) = COEFF(1,2,0) + (COEFF(1,2,1)*AVG1) +
     * (COEFF(1,2,2)*AVG1**2) + (COEFF(1,2,3)*AVG1**3)

      CURV0(3) = COEFF(0,3,0) + (COEFF(0,3,1)*AVG0) +
     * (COEFF(0,3,2)*AVG0**2) + (COEFF(0,3,3)*AVG0**3)
      CURV1(3) = COEFF(1,3,0) + (COEFF(1,3,1)*AVG1) +
     * (COEFF(1,3,2)*AVG1**2) + (COEFF(1,3,3)*AVG1**3)

      IF(FLAG.EQ.2) THEN
        CURV0(2) = CURV0(2) + CURV0(3)
        CURV1(2) = CURV1(2) + CURV1(3)
      ENDIF

      CURV0(4) = COEFF(0,4,0) + (COEFF(0,4,1)*AVG0) +
     * (COEFF(0,4,2)*AVG0**2) + (COEFF(0,4,3)*AVG0**3)
      CURV1(4) = COEFF(1,4,0) + (COEFF(1,4,1)*AVG1) +
     * (COEFF(1,4,2)*AVG1**2) + (COEFF(1,4,3)*AVG1**3)

      DO 100 I=0,4
        IF(CURV0(I).LT.0) CURV0(I) = 0.0
        IF(CURV1(I).LT.0) CURV1(I) = 0.0
100     CONTINUE

      TEM1 = CURV0(0) + CURV0(1) + CURV0(2) + CURV0(3) + CURV0(4)
      TEM2 = CURV1(0) + CURV1(1) + CURV1(2) + CURV1(3) + CURV1(4)

      DO 200 I=0,4
        IF(TEM1.GT.0.000001) CURV0(I) = CURV0(I)*100.0/TEM1
```

```
      IF(TEM2.GT.0.000001) CURV1(I) = CURV1(I)*100.0/TEM2
200   CONTINUE

      RETURN
      END
```

REPORT1.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

c subroutine REPORT1 writes out the initial summaries to file
c   tripgen.out



      SUBROUTINE REPORT1(ALTIN,TITLE)

     INCLUDE 'CBR.INC'

      CHARACTER*1 ENDPAGE
      CHARACTER*3 ALTIN
      CHARACTER*40 TITLE

      INTEGER*2 HOUR,MIN,SEC,I100,MON,DAY,YEAR


1100  FORMAT(A1)
1120  FORMAT(8X,I2,A1,I2,A1,I2,4X,I2,A1,I2,A1,I4)
1130  FORMAT(A25,1X,A2)

c-sks-change format 1140   FORMAT(A25,F6.2)
c-sks-change format 1145   FORMAT(A10,3F7.2,11X,3F7.2)
c-sks-change format 1150   FORMAT(A10,4F7.2,4X,4F7.2)

1140  FORMAT(A25,F6.3)
1145  FORMAT(A10,3F7.3,11X,3F7.3)
1150  FORMAT(A10,4F7.3,4X,4F7.3)

1160  FORMAT(A11,I4,7F8.3)
1180  FORMAT(I4,1X,14I6)
1190  FORMAT(A4,I7,5I12)
1200  FORMAT(A4,1X,7I12)


      OPEN(UNIT=9,FILE='TRIPGEN.OUT')
```

```
      CALL GETTIM(HOUR,MIN,SEC,I100)
      CALL GETDAT(YEAR,MON,DAY)


      ENDPAGE = CHAR(12)

c-sks       WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '   SSSSSSSS  RRRRR    IIIIII  DDDDD     HHHHH
     *AAAAAA  RR    RR'
      WRITE(9,*) '   SSSSSSSS  RRRRRRR  IIIIII  DDDDDDD  HHHHHHHH
     *AAAAAA  RRR   RR'
      WRITE(9,*) '      SS     RR   RR    II    DD   DD  HH
     *AA      RRRR  RR'
      WRITE(9,*) '      SS     RR   RR    II    DD   DD  HH
     *AA      RRRR  RR'
      WRITE(9,*) '      SS     RRRRRR     II    DDDDDDD  HH HHHH
     *AAAA    RR RR RR'
      WRITE(9,*) '      SS     RRRRR      II    DDDDD    HH   HH
     *AAAA    RR RRRRR'
      WRITE(9,*) '      SS     RR RR      II    DD       HH   HH
     *AA      RR   RRR'
      WRITE(9,*) '      SS     RR  RR   IIIIII  DD       HHHHHHH
     *AAAAAA  RR   RRR'
      WRITE(9,*) '      SS     RR   RR  IIIIII  DD       HHHHH
     *AAAAAA  RR    RR'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1120) HOUR,':',MIN,':',SEC,MON,'/',DAY,'/',YEAR
      WRITE(9,*)
      WRITE(9,1130) '       RUN - SCENARIO = ', ALTIN(3:3)
      WRITE(9,1130) '             YEAR     = ', ALTIN(1:3)
      WRITE(9,*)
      WRITE(9,*) '      ',TITLE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
```

```
      WRITE(9,*) '                LIFE STYLE TRIP GENERATION MODEL'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                        DEVELOPED FOR '
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '    FLORIDA STANDARD URBAN TRANSPORTATION MODEL STRU
     *CTURE (FSUTMS)'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              FLORIDA DEPARTMENT OF TRANSPORTATIO
     *N'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                           BY'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                     CARR SMITH CORRADINO'
      WRITE(9,*)
      WRITE(9,*) '                         UPDATED'
      WRITE(9,*) '                        FEBRUARY 2003'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              HOME BASED WORK'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '  HOTELS / MOTELS - Indian River',HOTRAT(1,1)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              WITHOUT CHILDREN              WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                  WORKERS
     *  WORKERS'
      WRITE(9,*) '            0     1     2+             0
```

```
* 1      2+       '
  WRITE(9,*)
  WRITE(9,1145) ' 0  AUTOS',(PRATEW(1,1,J,0),J=1,3),
*                     (PRATEW(1,1,J,1),J=1,3)
  WRITE(9,*)
  WRITE(9,1145) ' 1  AUTOS',(PRATEW(1,1,J,0),J=4,6),
*                     (PRATEW(1,1,J,1),J=4,6)
  WRITE(9,*)
  WRITE(9,1145) ' 2  AUTOS',(PRATEW(1,1,J,0),J=7,9),
*                     (PRATEW(1,1,J,1),J=7,9)
  WRITE(9,*)
  WRITE(9,1145) ' 3+ AUTOS',(PRATEW(1,1,J,0),J=10,12),
*                     (PRATEW(1,1,J,1),J=10,12)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                HOME BASED SHOPPING'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,1140) '        HOTELS / MOTELS - ',HOTRAT(1,2)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                WITHOUT CHILDREN                WI
*TH CHILDREN'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                    PERSONS
*  PERSONS'
  WRITE(9,*) '            1      2      3      4+         1
* 2      3      4+'
  WRITE(9,*)
  WRITE(9,1150) ' 0  AUTOS',(PRATEP(1,2,J,0),J=1,4),
*                     (PRATEP(1,2,J,1),J=1,4)
  WRITE(9,*)
  WRITE(9,1150) ' 1  AUTOS',(PRATEP(1,2,J,0),J=5,8),
*                     (PRATEP(1,2,J,1),J=5,8)
  WRITE(9,*)
  WRITE(9,1150) ' 2  AUTOS',(PRATEP(1,2,J,0),J=9,12),
*                     (PRATEP(1,2,J,1),J=9,12)
  WRITE(9,*)
  WRITE(9,1150) ' 3+ AUTOS',(PRATEP(1,2,J,0),J=13,16),
*                     (PRATEP(1,2,J,1),J=13,16)
```

```
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               HOME BASED SOCIAL-RECREATIONAL'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(1,3)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               WITHOUT CHILDREN               WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+        1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(1,3,J,0),J=1,4),
     *                    (PRATEP(1,3,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(1,3,J,0),J=5,8),
     *                    (PRATEP(1,3,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(1,3,J,0),J=9,12),
     *                    (PRATEP(1,3,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(1,3,J,0),J=13,16),
     *                    (PRATEP(1,3,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               HOME BASED SCHOOL'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
```

```
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+        1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(1,4,J,0),J=1,4),
     *                     (PRATEP(1,4,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(1,4,J,0),J=5,8),
     *                     (PRATEP(1,4,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(1,4,J,0),J=9,12),
     *                     (PRATEP(1,4,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(1,4,J,0),J=13,16),
     *                     (PRATEP(1,4,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                HOME BASED OTHER'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(1,5)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+        1
     * 2      3      4+'
      WRITE(9,*)
```

```
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(1,5,J,0),J=1,4),
     *                      (PRATEP(1,5,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(1,5,J,0),J=5,8),
     *                      (PRATEP(1,5,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(1,5,J,0),J=9,12),
     *                      (PRATEP(1,5,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(1,5,J,0),J=13,16),
     *                      (PRATEP(1,5,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              NON HOME BASED WORK'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(1,6)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    WORKERS
     *  WORKERS'
      WRITE(9,*) '            0      1      2+              0
     * 1      2+       '
      WRITE(9,*)
      WRITE(9,1145) ' 0  AUTOS',(PRATEW(1,6,J,0),J=1,3),
     *                      (PRATEW(1,6,J,1),J=1,3)
      WRITE(9,*)
      WRITE(9,1145) ' 1  AUTOS',(PRATEW(1,6,J,0),J=4,6),
     *                      (PRATEW(1,6,J,1),J=4,6)
      WRITE(9,*)
      WRITE(9,1145) ' 2  AUTOS',(PRATEW(1,6,J,0),J=7,9),
     *                      (PRATEW(1,6,J,1),J=7,9)
      WRITE(9,*)
      WRITE(9,1145) ' 3+ AUTOS',(PRATEW(1,6,J,0),J=10,12),
     *                      (PRATEW(1,6,J,1),J=10,12)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
```

```
      WRITE(9,*) '              NON HOME BASED OTHER'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(1,7)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+         1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(1,7,J,0),J=1,4),
     *                     (PRATEP(1,7,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(1,7,J,0),J=5,8),
     *                     (PRATEP(1,7,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(1,7,J,0),J=9,12),
     *                     (PRATEP(1,7,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(1,7,J,0),J=13,16),
     *                     (PRATEP(1,7,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*) '  NOTE: ABOVE NHBW & NHBO PRODUCTION RATES USED ONLY TO
     * CALCULATE CONTROL TOTALS'
c
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                   AIRPORTS'
      WRITE(9,*)
      WRITE(9,1151) 'TRIPS PER ENPLANEMENT = ',airrate
1151    format(1x,a25,f10.3)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
c
      WRITE(9,*)
      WRITE(9,*) 'TRUCK PRODUCTION RATES EQUAL ATTRACTION RATES'
      WRITE(9,*) 'LOOK BELOW FOR THESE VALUES.'
      WRITE(9,*)
```

```
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP ATTRACTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '   TRIP         <------- EMPLOYMENT -------->',
     *           '           Occ'
      WRITE(9,*) '   PURPOSE AT    INDUS   COMME   SERVI   TOTAL  SCHO
     *OL   DWELL Occ H/M'
      WRITE(9,*) '                 TRIAL   RCIAL   CE
     *    UNITS   UNITS'
      WRITE(9,*)
      do 11 k = 1,5
        WRITE(9,1160) '   HBW     ',k, (ARATE(1,1,J,k),J=1,7)
        WRITE(9,1160) '   HBSHOP  ',k, (ARATE(1,2,J,k),J=1,7)
        WRITE(9,1160) '   HBSR    ',k, (ARATE(1,3,J,k),J=1,7)
        WRITE(9,1160) '   HBSCH   ',k, (ARATE(1,4,J,k),J=1,7)
        WRITE(9,1160) '   HBO     ',k, (ARATE(1,5,J,k),J=1,7)
        WRITE(9,1160) '   NHBW    ',k, (ARATE(1,6,J,k),J=1,7)
        WRITE(9,1160) '   NHBO    ',k, (ARATE(1,7,J,k),J=1,7)
        WRITE(9,1160) '   AIRPORT ',k, (ARATE(1,8,J,k),J=1,7)
        WRITE(9,1160) '   4Tire   ',k, (ARATE(1,9,J,k),J=1,7)
        WRITE(9,1160) '   (SU)    ',k, (ARATE(1,10,J,k),J=1,7)
        WRITE(9,1160) '   COMB    ',k, (ARATE(1,11,J,k),J=1,7)
11      continue
c
      WRITE(9,*)
      WRITE(9,*) ' ----------- NHB ORIGIN ALLOCATIONS --------------'
      WRITE(9,*)
      do 12 k = 1,5
        WRITE(9,1160) '   NHBW    ',k, (ORATE(1,6,J,k),J=1,6)
        WRITE(9,1160) '   NHBO    ',k, (ORATE(1,7,J,k),J=1,6)
12      continue
c
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE

      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                 HOME BASED WORK'
      WRITE(9,*)
```

```
      WRITE(9,*)
      WRITE(9,1140) '  HOTELS / MOTELS - St.Lucie',HOTRAT(2,1)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    WORKERS
     *  WORKERS'
      WRITE(9,*) '             0      1      2+              0
     * 1      2+       '
      WRITE(9,*)
      WRITE(9,1145) ' 0  AUTOS',(PRATEW(2,1,J,0),J=1,3),
     *                     (PRATEW(2,1,J,1),J=1,3)
      WRITE(9,*)
      WRITE(9,1145) ' 1  AUTOS',(PRATEW(2,1,J,0),J=4,6),
     *                     (PRATEW(2,1,J,1),J=4,6)
      WRITE(9,*)
      WRITE(9,1145) ' 2  AUTOS',(PRATEW(2,1,J,0),J=7,9),
     *                     (PRATEW(2,1,J,1),J=7,9)
      WRITE(9,*)
      WRITE(9,1145) ' 3+ AUTOS',(PRATEW(2,1,J,0),J=10,12),
     *                     (PRATEW(2,1,J,1),J=10,12)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                HOME BASED SHOPPING'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(2,2)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+         1
     * 2      3      4+'
```

```
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(2,2,J,0),J=1,4),
     *                      (PRATEP(2,2,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(2,2,J,0),J=5,8),
     *                      (PRATEP(2,2,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(2,2,J,0),J=9,12),
     *                      (PRATEP(2,2,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(2,2,J,0),J=13,16),
     *                      (PRATEP(2,2,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               HOME BASED SOCIAL-RECREATIONAL'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(2,3)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               WITHOUT CHILDREN               WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+         1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(2,3,J,0),J=1,4),
     *                      (PRATEP(2,3,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(2,3,J,0),J=5,8),
     *                      (PRATEP(2,3,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(2,3,J,0),J=9,12),
     *                      (PRATEP(2,3,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(2,3,J,0),J=13,16),
```

```
*                    (PRATEP(2,3,J,1),J=13,16)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '              HOME BASED SCHOOL'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '              WITHOUT CHILDREN              WI
*TH CHILDREN'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                  PERSONS
*  PERSONS'
  WRITE(9,*) '            1     2     3     4+        1
* 2     3     4+'
  WRITE(9,*)
  WRITE(9,1150) ' 0  AUTOS',(PRATEP(2,4,J,0),J=1,4),
*                    (PRATEP(2,4,J,1),J=1,4)
  WRITE(9,*)
  WRITE(9,1150) ' 1  AUTOS',(PRATEP(2,4,J,0),J=5,8),
*                    (PRATEP(2,4,J,1),J=5,8)
  WRITE(9,*)
  WRITE(9,1150) ' 2  AUTOS',(PRATEP(2,4,J,0),J=9,12),
*                    (PRATEP(2,4,J,1),J=9,12)
  WRITE(9,*)
  WRITE(9,1150) ' 3+ AUTOS',(PRATEP(2,4,J,0),J=13,16),
*                    (PRATEP(2,4,J,1),J=13,16)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,1100) ENDPAGE
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '      TRIP PRODUCTION RATES'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '              HOME BASED OTHER'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,1140) '      HOTELS / MOTELS - ',HOTRAT(2,5)
```

```
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+         1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(2,5,J,0),J=1,4),
     *                      (PRATEP(2,5,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(2,5,J,0),J=5,8),
     *                      (PRATEP(2,5,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(2,5,J,0),J=9,12),
     *                      (PRATEP(2,5,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(2,5,J,0),J=13,16),
     *                      (PRATEP(2,5,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              NON HOME BASED WORK'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(2,6)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    WORKERS
     *  WORKERS'
      WRITE(9,*) '             0      1      2+               0
     * 1      2+       '
      WRITE(9,*)
      WRITE(9,1145) ' 0  AUTOS',(PRATEW(2,6,J,0),J=1,3),
     *                      (PRATEW(2,6,J,1),J=1,3)
      WRITE(9,*)
```

```
      WRITE(9,1145) ' 1  AUTOS',(PRATEW(2,6,J,0),J=4,6),
     *                    (PRATEW(2,6,J,1),J=4,6)
      WRITE(9,*)
      WRITE(9,1145) ' 2  AUTOS',(PRATEW(2,6,J,0),J=7,9),
     *                    (PRATEW(2,6,J,1),J=7,9)
      WRITE(9,*)
      WRITE(9,1145) ' 3+ AUTOS',(PRATEW(2,6,J,0),J=10,12),
     *                    (PRATEW(2,6,J,1),J=10,12)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              NON HOME BASED OTHER'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(2,7)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '             1      2      3      4+         1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(2,7,J,0),J=1,4),
     *                    (PRATEP(2,7,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(2,7,J,0),J=5,8),
     *                    (PRATEP(2,7,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(2,7,J,0),J=9,12),
     *                    (PRATEP(2,7,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(2,7,J,0),J=13,16),
     *                    (PRATEP(2,7,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*) '  NOTE: ABOVE NHBW & NHBO PRODUCTION RATES USED ONLY TO
     * CALCULATE CONTROL TOTALS'
c
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
```

```
      WRITE(9,*) '                    AIRPORTS'
      WRITE(9,*)
      WRITE(9,1151) 'TRIPS PER ENPLANEMENT = ',airrate

      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
c
      WRITE(9,*)
      WRITE(9,*) 'TRUCK PRODUCTION RATES EQUAL ATTRACTION RATES'
      WRITE(9,*) 'LOOK BELOW FOR THESE VALUES.'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP ATTRACTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '   TRIP         <------- EMPLOYMENT -------->',
     *           '           Occ'
      WRITE(9,*) '   PURPOSE AT    INDUS   COMME   SERVI   TOTAL  SCHO
     *OL   DWELL Occ H/M'
      WRITE(9,*) '                TRIAL   RCIAL   CE
     *    UNITS   UNITS'
      WRITE(9,*)
      do 119 k = 1,5
        WRITE(9,1160) '   HBW     ',k, (ARATE(2,1,J,k),J=1,7)
        WRITE(9,1160) '   HBSHOP  ',k, (ARATE(2,2,J,k),J=1,7)
        WRITE(9,1160) '   HBSR    ',k, (ARATE(2,3,J,k),J=1,7)
        WRITE(9,1160) '   HBSCH   ',k, (ARATE(2,4,J,k),J=1,7)
        WRITE(9,1160) '   HBO     ',k, (ARATE(2,5,J,k),J=1,7)
        WRITE(9,1160) '   NHBW    ',k, (ARATE(2,6,J,k),J=1,7)
        WRITE(9,1160) '   NHBO    ',k, (ARATE(2,7,J,k),J=1,7)
        WRITE(9,1160) '   AIRPORT ',k, (ARATE(2,8,J,k),J=1,7)
        WRITE(9,1160) '   4Tire   ',k, (ARATE(2,9,J,k),J=1,7)
        WRITE(9,1160) '   (SU)    ',k, (ARATE(2,10,J,k),J=1,7)
        WRITE(9,1160) '   COMB    ',k, (ARATE(2,11,J,k),J=1,7)
119     continue
c
      WRITE(9,*)
      WRITE(9,*) ' ----------- NHB ORIGIN ALLOCATIONS --------------'
      WRITE(9,*)
      do 127 k = 1,5
        WRITE(9,1160) '   NHBW    ',k, (ORATE(2,6,J,k),J=1,6)
```

```
        WRITE(9,1160) '   NHBO    ',k, (ORATE(2,7,J,k),J=1,6)
127     continue
c
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE

      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                HOME BASED WORK'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '  HOTELS / MOTELS - Martin',HOTRAT(3,1)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                WITHOUT CHILDREN                WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    WORKERS
     *  WORKERS'
      WRITE(9,*) '            0      1      2+              0
     * 1      2+       '
      WRITE(9,*)
      WRITE(9,1145) ' 0  AUTOS',(PRATEW(3,1,J,0),J=1,3),
     *                    (PRATEW(3,1,J,1),J=1,3)
      WRITE(9,*)
      WRITE(9,1145) ' 1  AUTOS',(PRATEW(3,1,J,0),J=4,6),
     *                    (PRATEW(3,1,J,1),J=4,6)
      WRITE(9,*)
      WRITE(9,1145) ' 2  AUTOS',(PRATEW(3,1,J,0),J=7,9),
     *                    (PRATEW(3,1,J,1),J=7,9)
      WRITE(9,*)
      WRITE(9,1145) ' 3+ AUTOS',(PRATEW(3,1,J,0),J=10,12),
     *                    (PRATEW(3,1,J,1),J=10,12)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                HOME BASED SHOPPING'
      WRITE(9,*)
      WRITE(9,*)
```

```
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(3,2)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              WITHOUT CHILDREN              WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '            1     2     3     4+        1
     * 2     3     4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(3,2,J,0),J=1,4),
     *                    (PRATEP(3,2,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(3,2,J,0),J=5,8),
     *                    (PRATEP(3,2,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(3,2,J,0),J=9,12),
     *                    (PRATEP(3,2,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(3,2,J,0),J=13,16),
     *                    (PRATEP(3,2,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              HOME BASED SOCIAL-RECREATIONAL'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(3,3)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              WITHOUT CHILDREN              WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    PERSONS
     *  PERSONS'
      WRITE(9,*) '            1     2     3     4+        1
```

```
* 2      3      4+'
  WRITE(9,*)
  WRITE(9,1150) ' 0  AUTOS',(PRATEP(3,3,J,0),J=1,4),
*                     (PRATEP(3,3,J,1),J=1,4)
  WRITE(9,*)
  WRITE(9,1150) ' 1  AUTOS',(PRATEP(3,3,J,0),J=5,8),
*                     (PRATEP(3,3,J,1),J=5,8)
  WRITE(9,*)
  WRITE(9,1150) ' 2  AUTOS',(PRATEP(3,3,J,0),J=9,12),
*                     (PRATEP(3,3,J,1),J=9,12)
  WRITE(9,*)
  WRITE(9,1150) ' 3+ AUTOS',(PRATEP(3,3,J,0),J=13,16),
*                     (PRATEP(3,3,J,1),J=13,16)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '               HOME BASED SCHOOL'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '               WITHOUT CHILDREN                WI
*TH CHILDREN'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                   PERSONS
*  PERSONS'
  WRITE(9,*) '            1      2      3      4+         1
* 2      3      4+'
  WRITE(9,*)
  WRITE(9,1150) ' 0  AUTOS',(PRATEP(3,4,J,0),J=1,4),
*                     (PRATEP(3,4,J,1),J=1,4)
  WRITE(9,*)
  WRITE(9,1150) ' 1  AUTOS',(PRATEP(3,4,J,0),J=5,8),
*                     (PRATEP(3,4,J,1),J=5,8)
  WRITE(9,*)
  WRITE(9,1150) ' 2  AUTOS',(PRATEP(3,4,J,0),J=9,12),
*                     (PRATEP(3,4,J,1),J=9,12)
  WRITE(9,*)
  WRITE(9,1150) ' 3+ AUTOS',(PRATEP(3,4,J,0),J=13,16),
*                     (PRATEP(3,4,J,1),J=13,16)
```

```
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP PRODUCTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               HOME BASED OTHER'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(3,5)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               WITHOUT CHILDREN               WI
     *TH CHILDREN'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                   PERSONS
     *  PERSONS'
      WRITE(9,*) '            1      2      3      4+        1
     * 2      3      4+'
      WRITE(9,*)
      WRITE(9,1150) ' 0  AUTOS',(PRATEP(3,5,J,0),J=1,4),
     *                    (PRATEP(3,5,J,1),J=1,4)
      WRITE(9,*)
      WRITE(9,1150) ' 1  AUTOS',(PRATEP(3,5,J,0),J=5,8),
     *                    (PRATEP(3,5,J,1),J=5,8)
      WRITE(9,*)
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(3,5,J,0),J=9,12),
     *                    (PRATEP(3,5,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(3,5,J,0),J=13,16),
     *                    (PRATEP(3,5,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '              NON HOME BASED WORK'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(3,6)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '               WITHOUT CHILDREN               WI
```

```
*TH CHILDREN'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                    WORKERS
*  WORKERS'
  WRITE(9,*) '            0      1      2+              0
* 1      2+       '
  WRITE(9,*)
  WRITE(9,1145) ' 0  AUTOS',(PRATEW(3,6,J,0),J=1,3),
*                    (PRATEW(3,6,J,1),J=1,3)
  WRITE(9,*)
  WRITE(9,1145) ' 1  AUTOS',(PRATEW(3,6,J,0),J=4,6),
*                    (PRATEW(3,6,J,1),J=4,6)
  WRITE(9,*)
  WRITE(9,1145) ' 2  AUTOS',(PRATEW(3,6,J,0),J=7,9),
*                    (PRATEW(3,6,J,1),J=7,9)
  WRITE(9,*)
  WRITE(9,1145) ' 3+ AUTOS',(PRATEW(3,6,J,0),J=10,12),
*                    (PRATEW(3,6,J,1),J=10,12)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '              NON HOME BASED OTHER'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,1140) '       HOTELS / MOTELS - ',HOTRAT(3,7)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                WITHOUT CHILDREN                WI
*TH CHILDREN'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '                    PERSONS
*  PERSONS'
  WRITE(9,*) '            1      2      3      4+         1
* 2      3      4+'
  WRITE(9,*)
  WRITE(9,1150) ' 0  AUTOS',(PRATEP(3,7,J,0),J=1,4),
*                    (PRATEP(3,7,J,1),J=1,4)
  WRITE(9,*)
  WRITE(9,1150) ' 1  AUTOS',(PRATEP(3,7,J,0),J=5,8),
*                    (PRATEP(3,7,J,1),J=5,8)
  WRITE(9,*)
```

```
      WRITE(9,1150) ' 2  AUTOS',(PRATEP(3,7,J,0),J=9,12),
     *                    (PRATEP(3,7,J,1),J=9,12)
      WRITE(9,*)
      WRITE(9,1150) ' 3+ AUTOS',(PRATEP(3,7,J,0),J=13,16),
     *                    (PRATEP(3,7,J,1),J=13,16)
      WRITE(9,*)
      WRITE(9,*) '  NOTE: ABOVE NHBW & NHBO PRODUCTION RATES USED ONLY TO
     * CALCULATE CONTROL TOTALS'
c
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '                    AIRPORTS'
      WRITE(9,*)
      WRITE(9,1151) 'TRIPS PER ENPLANEMENT = ',airrate

      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
c
      WRITE(9,*)
      WRITE(9,*) 'TRUCK PRODUCTION RATES EQUAL ATTRACTION RATES'
      WRITE(9,*) 'LOOK BELOW FOR THESE VALUES.'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '       TRIP ATTRACTION RATES'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '   TRIP         <------- EMPLOYMENT -------->',
     *           '          Occ'
      WRITE(9,*) '   PURPOSE AT    INDUS   COMME   SERVI   TOTAL  SCHO
     *OL   DWELL Occ H/M'
      WRITE(9,*) '               TRIAL   RCIAL   CE
     *    UNITS   UNITS'
      WRITE(9,*)
      do 141 k = 1,5
        WRITE(9,1160) '   HBW     ',k, (ARATE(3,1,J,k),J=1,7)
        WRITE(9,1160) '   HBSHOP  ',k, (ARATE(3,2,J,k),J=1,7)
        WRITE(9,1160) '   HBSR    ',k, (ARATE(3,3,J,k),J=1,7)
        WRITE(9,1160) '   HBSCH   ',k, (ARATE(3,4,J,k),J=1,7)
        WRITE(9,1160) '   HBO     ',k, (ARATE(3,5,J,k),J=1,7)
        WRITE(9,1160) '   NHBW    ',k, (ARATE(3,6,J,k),J=1,7)
```

```
        WRITE(9,1160) '   NHBO    ',k, (ARATE(3,7,J,k),J=1,7)
        WRITE(9,1160) '   AIRPORT ',k, (ARATE(3,8,J,k),J=1,7)
        WRITE(9,1160) '   4Tire   ',k, (ARATE(3,9,J,k),J=1,7)
        WRITE(9,1160) '   (SU)    ',k, (ARATE(3,10,J,k),J=1,7)
        WRITE(9,1160) '   COMB    ',k, (ARATE(3,11,J,k),J=1,7)
141     continue
c
      WRITE(9,*)
      WRITE(9,*) ' ----------- NHB ORIGIN ALLOCATIONS --------------'
      WRITE(9,*)
      do 142 k = 1,5
        WRITE(9,1160) '   NHBW    ',k, (ORATE(3,6,J,k),J=1,6)
        WRITE(9,1160) '   NHBO    ',k, (ORATE(3,7,J,k),J=1,6)
142     continue
c
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1100) ENDPAGE

      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) 'VEHICLE DISAGGREGATION CURVES'
      WRITE(9,*)
      WRITE(9,*) 'WITHOUT CHILDREN        '

5555    FORMAT(5X,A8,F6.4,A5,F6.4,A7,F6.4,A10,F6.4,A6)
5556    FORMAT(A42,F7.5)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,5556) '    A = AVG. NO. OF VEH IN NON CHILD HH - ',
     *      AVGV(0)
      WRITE(9,*)


      WRITE(9,5555) 'VEH0 = (',VEHCV(0,0,0),') + (',VEHCV(0,0,1),
     *    ')xA + (',VEHCV(0,0,2),')xA**2 + (',VEHCV(0,0,3),')xA**3'
      WRITE(9,5555) 'VEH1 = (',VEHCV(0,1,0),') + (',VEHCV(0,1,1),
     *    ')xA + (',VEHCV(0,1,2),')xA**2 + (',VEHCV(0,1,3),')xA**3'
      WRITE(9,5555) 'VEH2 = (',VEHCV(0,2,0),') + (',VEHCV(0,2,1),
     *    ')xA + (',VEHCV(0,2,2),')xA**2 + (',VEHCV(0,2,3),')xA**3'
      WRITE(9,5555) 'VEH3 = (',VEHCV(0,3,0),') + (',VEHCV(0,3,1),
     *    ')xA + (',VEHCV(0,3,2),')xA**2 + (',VEHCV(0,3,3),')xA**3'
      WRITE(9,*)

      WRITE(9,*)
      WRITE(9,*) 'WITH CHILDREN        '
```

```
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,5556) '    A = AVG. NO. OF VEH IN W/ CHILD HH - ',
     *      AVGV(1)
      WRITE(9,*)

      WRITE(9,5555) 'VEH0 = (',VEHCV(1,0,0),') + (',VEHCV(1,0,1),
     *   ')xA + (',VEHCV(1,0,2),')xA**2 + (',VEHCV(1,0,3),')xA**3'
      WRITE(9,5555) 'VEH1 = (',VEHCV(1,1,0),') + (',VEHCV(1,1,1),
     *   ')xA + (',VEHCV(1,1,2),')xA**2 + (',VEHCV(1,1,3),')xA**3'
      WRITE(9,5555) 'VEH2 = (',VEHCV(1,2,0),') + (',VEHCV(1,2,1),
     *   ')xA + (',VEHCV(1,2,2),')xA**2 + (',VEHCV(1,2,3),')xA**3'
      WRITE(9,5555) 'VEH3 = (',VEHCV(1,3,0),') + (',VEHCV(1,3,1),
     *   ')xA + (',VEHCV(1,3,2),')xA**2 + (',VEHCV(1,3,3),')xA**3'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)


      WRITE(9,*) 'PERSON DISAGGREGATION CURVES'
      WRITE(9,*)
      WRITE(9,*) 'WITHOUT CHILDREN        '
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,5556) '   A = AVG NO OF PERSON IN NON CHILD HH - ',
     *      AVGP(0)
      WRITE(9,*)

      WRITE(9,5555) 'PER1 = (',PERCV(0,1,0),') + (',PERCV(0,1,1),
     *   ')xA + (',PERCV(0,1,2),')xA**2 + (',PERCV(0,1,3),')xA**3'
      WRITE(9,5555) 'PER2 = (',PERCV(0,2,0),') + (',PERCV(0,2,1),
     *   ')xA + (',PERCV(0,2,2),')xA**2 + (',PERCV(0,2,3),')xA**3'
      WRITE(9,5555) 'PER3 = (',PERCV(0,3,0),') + (',PERCV(0,3,1),
     *   ')xA + (',PERCV(0,3,2),')xA**2 + (',PERCV(0,3,3),')xA**3'
      WRITE(9,5555) 'PER4 = (',PERCV(0,4,0),') + (',PERCV(0,4,1),
     *   ')xA + (',PERCV(0,4,2),')xA**2 + (',PERCV(0,4,3),')xA**3'
      WRITE(9,*)

      WRITE(9,*)
      WRITE(9,*) 'WITH CHILDREN        '
      WRITE(9,*)
      WRITE(9,5556) '   A = AVG NO OF PERSON IN W/ CHILD HH - ',
     *      AVGP(1)
      WRITE(9,*)
```

```
      WRITE(9,5555) 'PER1 = (',PERCV(1,1,0),') + (',PERCV(1,1,1),
     *    ')xA + (',PERCV(1,1,2),')xA**2 + (',PERCV(1,1,3),')xA**3'
      WRITE(9,5555) 'PER2 = (',PERCV(1,2,0),') + (',PERCV(1,2,1),
     *    ')xA + (',PERCV(1,2,2),')xA**2 + (',PERCV(1,2,3),')xA**3'
      WRITE(9,5555) 'PER3 = (',PERCV(1,3,0),') + (',PERCV(1,3,1),
     *    ')xA + (',PERCV(1,3,2),')xA**2 + (',PERCV(1,3,3),')xA**3'
      WRITE(9,5555) 'PER4 = (',PERCV(1,4,0),') + (',PERCV(1,4,1),
     *    ')xA + (',PERCV(1,4,2),')xA**2 + (',PERCV(1,4,3),')xA**3'
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)


      WRITE(9,*) 'WORKERS DISAGGREGATION CURVES'
      WRITE(9,*)
      WRITE(9,*) 'WITHOUT CHILDREN        '
      WRITE(9,*)
      WRITE(9,5556) '   A = AVG NO OF WRKRS  IN NON CHILD HH - ',
     *      AVGW(0)
      WRITE(9,*)

      WRITE(9,5555) 'WRK0 = (',WRKCV(0,0,0),') + (',WRKCV(0,0,1),
     *    ')xA + (',WRKCV(0,0,2),')xA**2 + (',WRKCV(0,0,3),')xA**3'
      WRITE(9,5555) 'WRK1 = (',WRKCV(0,1,0),') + (',WRKCV(0,1,1),
     *    ')xA + (',WRKCV(0,1,2),')xA**2 + (',WRKCV(0,1,3),')xA**3'
      WRITE(9,5555) 'WRK2 = (',WRKCV(0,2,0),') + (',WRKCV(0,2,1),
     *    ')xA + (',WRKCV(0,2,2),')xA**2 + (',WRKCV(0,2,3),')xA**3'
      WRITE(9,5555) 'WRK3 = (',WRKCV(0,3,0),') + (',WRKCV(0,3,1),
     *    ')xA + (',WRKCV(0,3,2),')xA**2 + (',WRKCV(0,3,3),')xA**3'
      WRITE(9,*)

      WRITE(9,*)
      WRITE(9,*) 'WITH CHILDREN        '
      WRITE(9,*)
      WRITE(9,5556) '   A = AVG NO OF WRKRS  IN W/ CHILD HH - ',
     *      AVGW(1)
      WRITE(9,*)

      WRITE(9,5555) 'WRK0 = (',WRKCV(1,0,0),') + (',WRKCV(1,0,1),
     *    ')xA + (',WRKCV(1,0,2),')xA**2 + (',WRKCV(1,0,3),')xA**3'
      WRITE(9,5555) 'WRK1 = (',WRKCV(1,1,0),') + (',WRKCV(1,1,1),
     *    ')xA + (',WRKCV(1,1,2),')xA**2 + (',WRKCV(1,1,3),')xA**3'
      WRITE(9,5555) 'WRK2 = (',WRKCV(1,2,0),') + (',WRKCV(1,2,1),
     *    ')xA + (',WRKCV(1,2,2),')xA**2 + (',WRKCV(1,2,3),')xA**3'
      WRITE(9,5555) 'WRK3 = (',WRKCV(1,3,0),') + (',WRKCV(1,3,1),
```

```
     *    ')xA + (',WRKCV(1,3,2),')xA**2 + (',WRKCV(1,3,3),')xA**3'
       WRITE(9,1100) ENDPAGE

       iii=0
       DO 2000 I=1,maxzone
         IF(SPGEN(I,0).EQ.0) GOTO 2000
         iii=iii+1
         IF(MOD(iii,50).EQ.1) THEN
           WRITE(9,*)
           WRITE(9,*)
           WRITE(9,*)
           WRITE(9,*) '------- ZDATA3B (SPECIAL GENERATORS) -------'
           WRITE(9,*)
           WRITE(9,*)
           WRITE(9,1110)
1110         FORMAT('                              <------------
     *PERCENTAGE------------------------------->',
     *'<---EMPLOYMENT--->  SCHOOL     HH    H/M')
           WRITE(9,1111)
1111         FORMAT('ZONE    COMMENT        P/A  TRIPS  HBW HBSH HBSR',
     *' HBSH  HBO NHBW NHBO AIRP 4TIR   SU COMB   TOT',
     *'  COMM  SERV  ENROLL')
           WRITE(9,*)
         ENDIF

         WRITE(9,1170) SPGEN(I,0),SPGENC(I),(SPGENFL(I,J),J=1,2),
     *           (SPGEN(I,J),J=1,18)
1170       FORMAT(I4,2X,A16,1X,A1,1X,A1,I7,11I5,3I6,I8,2I7)
2000    CONTINUE


2100    WRITE(9,*)


       RETURN
       END
```

CALCPA.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

       SUBROUTINE CALCPA(POPT,HOUSEST,EMPST,EMPTT,PRROLL)
       INCLUDE 'CBR.INC'
```

```
      INTEGER*4 ITAZ,INDEMP,COMEMP,SEREMP,TOTEMP,SCHOOL,IZONE
      INTEGER*4 POPT,EMPST,EMPTT,EQTAZ,HOTELS,HM,PRSCH,PRROLL, fl
      INTEGER*4 C0HH,C1HH,C0VEH,C1VEH,C0WRK,C1WRK,C0PR,C1PR,PERSONS
      INTEGER*4 A,P,PER(11),AER(11)
      REAL HOUSEST,TRIPS,TEM(16),T1,T2,T3,T4,T5,T6,T456,T123
      REAL TP1,TP2,TP3,TP4,TP5,TP6
      INTEGER*1 ATIPE
      integer*2 nes
      character*132 ba1,zd4(200)
      character*1 endpage

      REAL*8 PROD(11),ATTR(11)

      OPEN(UNIT=1,FILE='HH.TEM',ACTION='READ',FORM='UNFORMATTED')
      OPEN(UNIT=6,FILE=FILZ4 ,ACTION='READ')
      OPEN(UNIT=8,FILE=FILSCH,ACTION='READ')
      OPEN(UNIT=11,FILE='AUTO.TEM')

c inititalize variables

      ENDPAGE = CHAR(12)

      PRROLL = 0
      POPT   = 0
      popt0  = 0
      popt1  = 0
      hh0    = 0
      hh1    = 0
      veh0   = 0
      veh1   = 0
      work0  = 0
      work1  = 0
      iempt  = 0
      cempt  = 0
      sempt  = 0
      hott   = 0
c-sks (next 2 lines)
      EMPST = 0
      EMPTT = 0
      HOUSEST = 0.0

      DO 200 I=1,11
        ATTRT(I)  = 0.0
        ATTRTU(I) = 0.0
        PRODT(I) = 0.0
        do 201 j=1,zonesi
```

```
          gena(j,i) = 0.0
          genp(j,i) = 0.0
201       continue
200     CONTINUE
      orit(6) = 0.0
      orit(7) = 0.0

      DO 8800 IZONE=1,ZONESI
c-- read hh.tem file (unformatted)
c       if(IZONE .LT. 1001) goto 8800
      if(IZONE .GT. 0 .AND. IZONE .LT. 201) fl = 1
c       if(IZONE .GT. 1154 .AND. IZONE .LT. 2001) goto 8800
      if(IZONE .GT. 200 .AND. IZONE .LT. 551) fl = 2
c       if(IZONE .GT. 2295 .AND. IZONE .LT. 3001) goto 8800
      if(IZONE .GT. 550 .AND. IZONE .LT. 701) fl = 3
c       if(IZONE .GT. 3106 .AND. IZONE .LT. 4101) goto 8800
      if(IZONE .GT. 700 .AND. IZONE .LT. 711) fl = 1
c       if(IZONE .GT. 4106 .AND. IZONE .LT. 4201) goto 8800
      if(IZONE .GT. 710 .AND. IZONE .LT. 721) fl = 2
c       if(IZONE .GT. 4203 .AND. IZONE .LT. 4301) goto 8800
      if(IZONE .GT. 720 .AND. IZONE .LT. 732) fl = 3

        READ(1,END=1500) ITAZ,(CLASSW(I,0),I=1,12),
   *      (CLASSW(I,1),I=1,12),(CLASSP(I,0),I=1,16),
   *      (CLASSP(I,1),I=1,16)
1100      FORMAT(I5,56F5.1)
        write(*,*) 'ITAZ =>', ITAZ ,'Izone =>', IZONE

        GOTO 2500

1500      WRITE(*,*) 'UNEXPECTED END OF hh.tem'
        WRITE(*,*) 'FILE AT LINE ',IZONE
        WRITE(*,*) 'PER PROFILE.MAS NUMBER OF INTERNAL ZONES = ',
   *          ZONESI
        WRITE(*,*)
        WRITE(*,*) 'ABNORMAL STOP'
        STOP

2500      CONTINUE

c area type
        atipe = AT(IZONE)/10   ! integer division
        if(atipe .gt. 10) then
          write(*,*) atipe,' is illegal area type  * fatal'
          stop
        endif
```

```
c--Load ZDATA1B and ZDATA2 datafrom memory that read in READAT subroutine.
c
c--load zdata1b data
        ITAZ   = IZONE
        EQTAZ  = RTAZ(IZONE)
        C0HH   = HH0C(IZONE)
        C1HH   = HHWC(IZONE)
        C0VEH  = V0C(IZONE)
        C1VEH  = VWC(IZONE)
        C0WRK  = W0C(IZONE)
        C1WRK  = WWC(IZONE)
        C0PR   = P0C(IZONE)
        C1PR   = PWC(IZONE)
        HOTELS = HMOC(IZONE)
        HOTB   = bhmoc(IZONE)
        HOTR   = rhmoc(IZONE)
        HOTM   = mhmoc(IZONE)

c--load zdata2
        INDEMP = EIND(IZONE)
        COMEMP = ECOM(IZONE)
        SEREMP = ESER(IZONE)
        TOTEMP = ETOT(IZONE)
        SCHOOL = SROLL(IZONE)

c read school file
c (TAZ, Private School Enrollment of TAZ, Private School trip rate for TAZ)
        WRITE(*,*) 'Reading School'
cASR          READ(8,FMT=*) ITAZ,jnk1,jnk2,jnk3,jnk4,jnk5,jnk6,PRSCH,jnk7,jnk8,jnk9,tpstud
        READ(8,1410) ITAZ,PRSCH,tpstud
        PRROLL = PRROLL+PRSCH
1410      FORMAT(I4,36X,I6,18x,f6.0)


        EMPST = EMPST + SEREMP
        EMPTT = EMPTT + TOTEMP


        IF(ITAZ.NE.IZONE) THEN
          WRITE(*,*) 'ERROR IN ZONE NUMBER SEQUENCE IN FILE'
          WRITE(*,*) 'SCHOOL AT LINE NUMBER ',IZONE
           WRITE(*,*)
           WRITE(*,*) 'ABNORMAL STOP'
          STOP
        ENDIF
```

```
      POPT = POPT + C0PR + C1PR
      popt0 = popt0 + c0pr
      popt1 = popt1 + c1pr
      veh0  = veh0 + C0VEH
      veh1  = veh1 + C1VEH
      work0 = work0 + C0WRK
      work1 = work1 + C1WRK
      iempt = iempt + indemp
      cempt = cempt + comemp
      sempt = sempt + seremp

      PERSONS = C0PR + C1PR
      HOUSES  = C0HH + C1HH

c If hotels are disaggregated by type, use them.
      if( (HOTB+HOTR+HOTM) .gt. 0) then
        HM  = HOTB + HOTR + HOTM
      else
        HM  = HOTELS
      endif

      hott = hott + hm

      HOUSEST = HOUSEST + C0HH + C1HH
      hh0 = hh0 + c0hh
      hh1 = hh1 + c1hh

      CALL SESPGEN(IZONE,COMEMP,SEREMP,TOTEMP,SCHOOL,HOUSES,HM)

c calculate productions

      do 11 i = 1,11
        PROD(i) = 0.0
11      continue
      TP1 = 0.0
      TP2 = 0.0
      TP3 = 0.0
      TP4 = 0.0
      TP5 = 0.0
      TP6 = 0.0


c--HBW (1) & NHBW (6) Productions - uses WORKERS, autos, children
```

```
      do 4001 i = 1,6,5  ! do only 1 & 6

c--If hotels are disaggregated by type, use them. Otherwise use aggregate rate.
        if( (HOTB+HOTR+HOTM) .gt. 0) then
          TRIPS = HOTB*HMBRAT(fl,i)+
  &             HOTR*HMLRAT(fl,i)+HOTM*HMMRAT(fl,i)
        else
          TRIPS = HOTELS*HOTRAT(fl,i)
        endif

      DO 3500 J=1,12
      TEM(J) = 0.01*((REAL(C0HH)*PRATEW(fl,i,J,0)*CLASSW(J,0))+
  &               (REAL(C1HH)*PRATEW(fl,i,J,1)*CLASSW(J,1)))
          TRIPS = TRIPS + TEM(J)
3500       CONTINUE

        PROD(i) = TRIPS
        T1 = TEM(1) + TEM(2) + TEM(3)                    ! 0 autos
        T2 = TEM(4) + TEM(5) + TEM(6)                    ! 1 auto
        T3 = TEM(7) + TEM(8) + TEM(9) + TEM(10)
  &        + TEM(11) + TEM(12)                          ! 2+autos

        T123 = T1 + T2 + T3
        IF(T123 .GT. 0.00001) THEN
          TP1 = T1*100.0/T123
          TP2 = T2*100.0/T123
          TP3 = T3*100.0/T123
        ENDIF
        unp(izone,i) = prod(i)
4001     continue

c Non-Work Productions - uses PERSONS, autos, children

      DO 4000 I=2,7
        if(I .eq. 6) goto 4000    ! skip non-home-based-work (workers, autos, children)

c--If hotels are disaggregated by type, use them. Otherwise use aggregate rate.
        if( (HOTB+HOTR+HOTM) .gt. 0) then
          TRIPS = HOTB*HMBRAT(fl,i)+HOTR*HMLRAT(fl,i)+
  *         HOTM*HMMRAT(fl,i)
        else
          TRIPS = HOTELS*HOTRAT(fl,i)
        endif

        DO 3900 J=1,16
          TEM(J) =
```

```
     &          0.01*((REAL(C0HH)*PRATEP(fl,I,J,0)*CLASSP(J,0))+
     &             (REAL(C1HH)*PRATEP(fl,I,J,1)*CLASSP(J,1)))
            TRIPS = TRIPS + TEM(J)
3900         CONTINUE

          PROD(I) = TRIPS
          T4 = TEM( 1) + TEM( 2) + TEM( 3) + TEM(4)   ! 0 autos
          T5 = TEM( 5) + TEM( 6) + TEM( 7) + TEM(8)   ! 1 auto
          T6 = TEM( 9) + TEM(10) + TEM(11) + TEM(12)  ! 2+autos
     &          + TEM(13) + TEM(14) + TEM(15) + TEM(16)

          T456 = T4 + T5 + T6
          IF(T456 .GT. 0.00001) THEN
            TP4 = T4*100.0/T456
            TP5 = T5*100.0/T456
            TP6 = T6*100.0/T456
          ENDIF
          unp(izone,i) =  prod(i)
4000       CONTINUE

        WRITE(11,4010) IZONE,TP1,TP2,TP3,TP4,TP5,TP6
4010       FORMAT(I7,6F8.2)

c--airport productions

        prod(8) = airrate * plane(izone)
        unp(izone,8) = prod(8)


c calculate origins for the 2 NHB purposes (NHBW & NHBO)

        do 4500 i = 6,7
          ori(izone,i) = orate(fl,i,1,atipe) * INDEMP
     &                 + orate(fl,i,2,atipe) * COMEMP
     &                 + orate(fl,i,3,atipe) * SEREMP
     &                 + orate(fl,i,4,atipe) * TOTEMP
     &                 + orate(fl,i,6,atipe) * HOUSES
     &                 + orate(fl,i,7,atipe) * HM
4500       continue

c calculate attractions

        DO 7000 I=1,11
          if((i.eq.4) .and. (tpstud .gt. 0.001)) then ! use school file if non-zero
            srx=tpstud              ! otherwise use grates value
          else
```

```
            srx=arate(fl,i,5,atipe)
          endif
          if((plane(izone) .ne. 0) .and. (i .eq. 8)) then
            ATTR(I) = 0.0
          else
            ATTR(I) = ARATE(fl,I,1,atipe)*INDEMP
    &               +ARATE(fl,I,2,atipe)*COMEMP
    &               +ARATE(fl,I,3,atipe)*SEREMP
    &               +ARATE(fl,I,4,atipe)*TOTEMP
    &               +srx            *PRSCH
    &               +ARATE(fl,I,6,atipe)*HOUSES
    &               +ARATE(fl,I,7,atipe)*HM
          endif
7000       CONTINUE


c debug
c      if(izone .le. 1) then
c        write(*,6002) ' atipe',atipe
c        write(*,6001) ' prod ',prod
c        write(*,6001) ' attr ',attr
c6002    format(a8,i5)
c6001    format(a8,11f8.1)
c      endif


c Purposes 9, 10 & 11 are trucks

         unp(izone, 9) = attr( 9)
         unp(izone,10) = attr(10)
         unp(izone,11) = attr(11)

         CALL PASPGEN(IZONE,PROD,ATTR)

         PROD( 9) = ATTR( 9)
         PROD(10) = ATTR(10)
         PROD(11) = ATTR(11)

c          WRITE(*,*) 'Before MOD, IZONE -> ',IZONE
        IF(MOD(IZONE,100).EQ.0) WRITE(*,*) 'PROCESSING ZONE ',IZONE

         do 7001 j = 1,11
             PRODT(j) = PRODT(j) + PROD(j)
             una(izone,j) = attr(j)
             px(izone,j) = prod(j)
             ax(izone,j) = attr(j)
```

```
            ATTRTU(j) = ATTRTU(j) + ATTR(j) + gena(izone,j)
7001       continue
         orit(6) = orit(6) + ori(izone,6)
         orit(7) = orit(7) + ori(izone,7)


8800    CONTINUE

       nes = 0   ! number of external stations

10000   CONTINUE

c  ...    read ZDATA4B (also read in A1DECK.FOR)
         READ(6,10101,END=12000) ba1
10101      format(a132)
c  ...    skip all but '4' cards
         if(ba1(1:1) .ne. '4') goto 10000

         nes = nes + 1

         zd4(nes) = ba1(5:132)

         READ(ba1,10100) IZONE,P,(PER(J),J=1,11),A,(AER(J),
    &                                  J=1,11)
10100      FORMAT(4X,I4,2(I6,11I3))

         I = IZONE

         DO 10050 J=1,11
           PROD(J) = 0.01*REAL(P)*PER(J)
           ATTR(J) = 0.01*REAL(A)*AER(J)

           px(i,j) = prod(j)
           ax(i,j) = attr(j)

10050      CONTINUE

       goto 10000

12000   continue

       if(i .ne. zonesa) then
         WRITE(*,*) 'UNEXPECTED END OF ZDATA4B FILE AT ZONE ',I
         WRITE(*,*) 'ABNORMAL STOP'
         STOP
       endif
```

```
      write(9,110) endpage
110     format(a1)
      write(9,1101)
1101    format(' -------- ZDATA4B (E-I/I-E) ---------')

      write(9,1109)
1109    format('                                        ',
    &   '                            %HBW trips %Other trips')
      write(9,1105)
1105    format('                                        ',
    &       '                          from HH with   HH with')
      write(9,1106)
1106    format('            <----Production Percentages---->        ',
    &       '<----Attraction Percentages---->  EX<-autos-><-autos->')
      write(9,1107)
1107    format(' ZONE  Prods  1  2  3  4  5  6  7  8  9 10 11  ',
    &       'Attrs  1  2  3  4  5  6  7  8  9 10 11 URB',
    &       '  0  1 2+  0  1 2+    Roadway Name         ')
      write(9,1108)
1108    format('----+------+--+--+--+--+--+--+--+--+--+--+--+--+------+-',
    &       '-+--+--+--+--+--+--+--+--+--+--+---+--+--+--+--+--+--',
    &       '+-----------------------+')

      do 25 i =1, nes
        ba1=zd4(i)
c         write(9,1103) ba1
c1103     format(a132)
        write(9,1102) ba1(1:4),ba1(5:43),ba1(44:82),ba1(83:128)
1102      format(1x,a4,1x,a39,1x,a39,1x,a46)
25      continue



      CLOSE(1)
      CLOSE(6)
      CLOSE(8)
      CLOSE(11)

      RETURN
      END
```

ADJPA.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
```

```
c subroutine ADJPA reads the temporary production and attraction file
c   and balances the attractions to the productions.  Total production
c   and attraction at the external stations are held constant.
c
c-sks-start
c
c  For School: Adjustment for school purposes will always be made
c            with respect to its attraction control total that is
c            determined from school enrollments.
c
c  For NHBW/NHBO: Attraction/Aloocation rates are used for allocation
c              purpose and attractions will always be adjusted to the
c              production contols totals that is determined from the
c              household survey based trip rate matices.
c
c  For AIRPORT: Each MPO's production occurs at airport which is based
c            on enplanements. Airport attractions occur at business
c            and residences. The balancing of airport attractions
c            with respect to productions follows the HBX (X=1-3,5 purposes)
c            attraction balancing logic.
c
c-sks-end


      SUBROUTINE ADJPA
      INCLUDE 'CBR.INC'

      CHARACTER*1 ENDPAGE
      INTEGER*4 IATTR(11),IPROD(11),IATTRT(11),IPRODT(11)
      REAL*8 ATTR(11),PROD(11),PRODTU(11)
      real*8 sunp(11),suna(11)
      integer*4 kaa(maxzone,11)

      real PER(11)
      real*8 temp

      ENDPAGE = CHAR(12)

      OPEN(UNIT=4,FILE=FILA)
      OPEN(UNIT=6,FILE=FILP)

      DO 1200 I=1,11
        sunp(i) = 0.0
        suna(i) = 0.0
        genx(i) = 0.0
        geny(i) = 0.0
```

```
      do 1207 j = 1,zonesi
c       if(j .LT. 1001) goto 1207
c       if(j .GT. 1154 .AND. j .LT. 2001) goto 1207
c       if(j .GT. 2295 .AND. j .LT. 3001) goto 1207
c       if(j .GT. 3106 .AND. j .LT. 4101) goto 1207
c       if(j .GT. 4106 .AND. j .LT. 4201) goto 1207
c       if(j .GT. 4203 .AND. j .LT. 4301) goto 1207

        sunp(i) = sunp(i) +  unp(j,i)
        suna(i) = suna(i) +  una(j,i)
        genx(i) = genx(i) + gena(j,i)
        geny(i) = geny(i) + genp(j,i)
1207      continue

      PRODTU(I) = PRODT(I)
      IPRODT(I) = 0
      IATTRT(I) = 0
      ATTRT(I) = 0.0

      if((i .ge. 6) .and. (i .le. 7)) then ! NHBW & NHBO
        if(orit(i) .le. 0.001) then
          FACTO(i) = 1.0
        else
          FACTO(I) = (PRODT(I) - genx(i))/orit(i)
        endif
     endif

      if(suna(i) .le. 0.001) then
        FACTOR(i) = 1.0
      else
        FACTOR(I) = (PRODT(I) - genx(i))/suna(i)
      endif

1200    CONTINUE

     if(prodt(4) .le. 0.001) then
       factor(4) = 1.0
       write(*,*) '** ERROR -- SCHOOL FACTOR=1 *******'
     else
       FACTOR(4) = ATTRTU(4)/PRODT(4)
     endif


     do 9000 izone=1,zonesa
c      if(IZONE .LT. 1001) goto 9000
c      if(IZONE .GT. 1154 .AND. IZONE .LT. 2001) goto 9000
```

```
c       if(IZONE .GT. 2295 .AND. IZONE .LT. 3001) goto 9000
c       if(IZONE .GT. 3106 .AND. IZONE .LT. 4101) goto 9000
c       if(IZONE .GT. 4106 .AND. IZONE .LT. 4201) goto 9000
c       if(IZONE .GT. 4203 .AND. IZONE .LT. 4301) goto 9000

      DO 1950 J=1,11

        prod(j) = px(izone,j)
        attr(j) = ax(izone,j)

        IPROD(J) = PROD(J)+ 0.5
        IATTR(J) = ATTR(J)+ 0.5
1950    CONTINUE

      IF(IZONE.LE.ZONESI) THEN

        ATTR(1)   = (ATTR(1) * FACTOR(1)) + gena(izone,1)
        IATTR(1)  = ATTR(1) + 0.5

        ATTR(2)   = (ATTR(2) * FACTOR(2)) + gena(izone,2)
        IATTR(2)  = ATTR(2) + 0.5

        ATTR(3)   = (ATTR(3) * FACTOR(3)) + gena(izone,3)
        IATTR(3)  = ATTR(3) + 0.5

        IPROD(4)  = PROD(4)*FACTOR(4) + 0.5
        IATTR(4)  = ATTR(4) + gena(izone,4) + 0.5

        ATTR(5)   = (ATTR(5) * FACTOR(5)) + gena(izone,5)
        IATTR(5)  = ATTR(5) + 0.5

        IPROD(6)  = ori(izone,6)*FACTO(6) + 0.5 + genp(izone,6)
        IATTR(6)  = ATTR(6)*FACTOR(6) + 0.5 + gena(izone,6)

        IPROD(7)  = ori(izone,7)*FACTO(7) + 0.5 + genp(izone,7)
        IATTR(7)  = ATTR(7)*FACTOR(7) + 0.5 + gena(izone,7)

        ATTR(8)   = (ATTR(8) * FACTOR(8)) + gena(izone,8)
        IATTR(8)  = ATTR(8) + 0.5

        IPROD(9)  = ATTR(9) + 0.5 + gena(izone,9)
        IATTR(9)  = IPROD(9)

        IPROD(10) = ATTR(10) + 0.5 + gena(izone,10)
        IATTR(10) = IPROD(10)
```

```
        IPROD(11) = ATTR(11) + 0.5 + gena(izone,11)
        IATTR(11) = IPROD(11)


c-sks2-New KDK's Trap codes start

        do 954 ik=1,11
          if(IPROD(ik) .lt. 0) then
            write(*,9541) IZONE,ik
9541          format(' *** FATAL ERROR, ZONE ',i4,' PURP ',i2,
    &         ' Negative productions, check subtraction ',
    &         'special generators')
            stop
          endif
          if(IATTR(ik) .lt. 0) then
            write(*,9542) IZONE,ik
9542          format(' *** FATAL ERROR, ZONE ',i4,' PURP ',i2,
    &         ' Negative attractions, check subtraction ',
    &         'special generators')
            stop
          endif
954       continue

c-sks2-New KDK's Trap codes end


      ELSE

        DO 2100 J=1,11
          ATTRTU(J) = ATTRTU(J) + ATTR(J)
          PRODTU(J) = PRODTU(J) + PROD(J)
          IPROD(J) = PROD(J)
          IATTR(J) = ATTR(J)
2100      CONTINUE

      ENDIF

      DO 2101 J=1,11
          kaa(izone,j) = IATTR(J)
2101    continue


      WRITE(4,2200) 'GA',IZONE,' 1 ',(IATTR(J),J=1,10),'GA',
    &   IZONE, ' 2 ',(IATTR(J),J=11,11)
      WRITE(6,2200) 'GP',IZONE,' 1 ',(IPROD(J),J=1,10),'GP',
    &   IZONE, ' 2 ',(IPROD(J),J=11,11)
```

```
cASR        WRITE(4,2200) 'GA',IZONE,' 2 ',(IATTR(J),J=11,11)
cASR        WRITE(6,2200) 'GP',IZONE,' 2 ',(IPROD(J),J=11,11)

2200    FORMAT(A2,I5,A3,10I7,A2,I5,A3,I7)

        DO 3100 J=1,11
          IPRODT(J) = IPRODT(J) + IPROD(J)
          IATTRT(J) = IATTRT(J) + IATTR(J)
3100    CONTINUE

8100    FORMAT(A1)
8110    FORMAT(A38,A33)
8111    FORMAT(A41,A30)

        IF(MOD(IZONE,50).EQ.1) THEN
          WRITE(9,8100) ENDPAGE
          WRITE(9,*)
          WRITE(9,*) '                PRODUCTIONS BY ZONE'
          WRITE(9,*)
          WRITE(9,8110) 'ZONE <--------------------------- PRODU',
     *'CTIONS ------------------------->'
          WRITE(9,8111) '       HBW  HBSH  HBSR HBSCH   HBO  NHBW',
     *'  NHBO  AIRP 4Tire    SU  COMB'
          WRITE(9,*)
        ENDIF

        WRITE(9,8120) IZONE,(IPROD(J),J=1,11)
8120    FORMAT(I4,1X,11I6)


9000    CONTINUE


cc from report2
         temp = 0.0

        TEMP=IPRODT(1)+IPRODT(2)+IPRODT(3)+IPRODT(4)+
     *      IPRODT(5)+IPRODT(6)+
     *      IPRODT(7)+IPRODT(8)+IPRODT(9)+IPRODT(10)+IPRODT(11)
        TEMP= 100.0/TEMP

        do 21 j = 1,11
          PER(j) = (IPRODT(j) * TEMP) + 0.5
21      continue
```

```
1210    FORMAT(A5,11I12)
1220    FORMAT(I11,6I12)
1221    FORMAT(A3,I8,6I12)
1260    FORMAT(A10,7X,2I12,4I12)
1270    FORMAT(A10,7X,18x,4I12)
1280    FORMAT(A3)
1290    FORMAT(A4,11(I5,A1))
1292    FORMAT(A14,20x,7f6.3)

c-- Write Production Summary Heading and then Summaries

      WRITE(9,*)
      WRITE(9,1210) 'TOTAL',INT(IPRODT(2)),INT(IPRODT(4)),
     *      INT(IPRODT(6)),INT(IPRODT(8)),INT(IPRODT(10))
      WRITE(9,1220) INT(IPRODT(1)),INT(IPRODT(3)),INT(IPRODT(5)),
     *      INT(IPRODT(7)),INT(IPRODT(9)),INT(IPRODT(11))
      WRITE(9,*)
      WRITE(9,1260) 'UNADJUSTED',INT(PRODTU(4)),INT(orit(6))
      WRITE(9,1270) 'TOTALS    ',INT(orit(7))
      WRITE(9,*)
      WRITE(9,1290) 'PCNT',INT(PER(1)),'%',INT(PER(2)),'%',
     *     INT(PER(3)),'%',INT(PER(4)),'%',INT(PER(5)),'%',INT(PER(6)),
     *     '%',INT(PER(7)),'%',INT(PER(8)),'%',INT(PER(9)),'%'
     *     ,INT(PER(10)),'%',INT(PER(11)),'%'
      WRITE(9,1292) 'BALANCE FACTOR',(facto(j),j=6,7)
      WRITE(9,*)
      WRITE(9,1210) 'SPEC ',INT(geny(2)),INT(geny(4)),INT(geny(6)),
     *      INT(geny(8)),INT(geny(10))
      WRITE(9,1221) 'GEN',INT(geny(1)),INT(geny(3)),INT(geny(5)),
     *      INT(geny(7)),INT(geny(9)),INT(geny(11))
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) 'Balance factors include neither special generators n
     *or external stations'


      WRITE(9,8100) ENDPAGE


cc end from report2

      do 9005 izone=1,zonesa
c       if(IZONE .LT. 1001) goto 9005
c       if(IZONE .GT. 1154 .AND. IZONE .LT. 2001) goto 9005
c       if(IZONE .GT. 2295 .AND. IZONE .LT. 3001) goto 9005
c       if(IZONE .GT. 3106 .AND. IZONE .LT. 4101) goto 9005
```

```
c       if(IZONE .GT. 4106 .AND. IZONE .LT. 4201) goto 9005
c       if(IZONE .GT. 4203 .AND. IZONE .LT. 4301) goto 9005

      IF(MOD(IZONE,50).EQ.1) THEN
        WRITE(9,*)
        WRITE(9,*) '                ATTRACTIONS BY ZONE'
        WRITE(9,*)
        WRITE(9,8110) 'ZONE <-------------------------- ATTRA',
    *'CTIONS ------------------------->'
        WRITE(9,8111) '       HBW  HBSH  HBSR HBSCH   HBO  NHBW',
    *'  NHBO  AIRP 4Tire    SU  COMB'
        WRITE(9,*)
      ENDIF

      WRITE(9,8120) IZONE,(kaa(izone,j),J=1,11)


9005    continue


      DO 9010 I=1,11
        PRODT(I) = IPRODT(I)
        ATTRT(I) = IATTRT(I)
9010    CONTINUE


1810    FORMAT(A5,11I12)
1820    FORMAT(I11,6I12)
1821    FORMAT(A3,I8,6I12)
1860    FORMAT(A10,i7,12x,4I12)
1870    FORMAT(A3,i8,10I12)
1880    FORMAT(A3)
1890    FORMAT(A4,11(I5,A1))
1892    FORMAT(A14,/,5x,3f6.3,6x,7f6.3)


c-- Write Attraction Summary Heading and then Summaries

      WRITE(9,*)
      WRITE(9,1810) 'TOTAL',INT(ATTRT(2)),INT(ATTRT(4)),INT(ATTRT(6)),
    *       INT(ATTRT(8)),INT(ATTRT(10))
      WRITE(9,1820) INT(ATTRT(1)),INT(ATTRT(3)),INT(ATTRT(5)),
    *       INT(ATTRT(7)),INT(ATTRT(9)),INT(ATTRT(11))
      WRITE(9,*)
      WRITE(9,1860) 'UNADJUSTED',INT(ATTRTU(2)),INT(ATTRTU(6))
    *                       ,INT(ATTRTU(8))
```

```
      WRITE(9,1870) 'TOT',INT(ATTRTU(1)),INT(ATTRTU(3)),
     *                    INT(ATTRTU(5)),INT(ATTRTU(7))
      WRITE(9,*)
      WRITE(9,1892) 'BALANCE FACTOR',(FACTOR(i),i=1,3),
     *                      (FACTOR(i),i=5,11)
      WRITE(9,*)
      WRITE(9,1810) 'SPEC ',INT(genx(2)),INT(genx(4)),INT(genx(6)),
     *      INT(genx(8)),INT(genx(10))
      WRITE(9,1821) 'GEN',INT(genx(1)),INT(genx(3)),INT(genx(5)),
     *      INT(genx(7)),INT(genx(9)),INT(genx(11))
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) 'NOTES:'
      WRITE(9,*) '1. HBW, HBSHP, HBSR, HBO ATTRACTIONS ARE ADJUSTED',
     *          ' TO PRODUCTIONS'
      WRITE(9,*) '2. PRODS AND ATTRS FILE CONTAINS ONLY PRIVATE ',
     *          'HBSCH TRIPS'
      WRITE(9,*) '3. PRIVATE HBSCH PRODUCTIONS ADJUSTED TO',
     *          ' ATTRACTIONS'
      WRITE(9,*) '   PRIVATE HBSCH ATTRACTIONS = ENROLLMENT x ',
     *          '(Rate in GRATESB.SYN)'
      WRITE(9,*) '   UNLESS OVERRIDEN BY A ZONAL RATE IN THE',
     *          ' SCHOOL FILE'
      WRITE(9,*) '4. DISTRICT-ASSIGNED PUBLIC SCHOOL TRIPS BALANCED'
      WRITE(9,*) '   TO ATTRACTIONS AND WRITTEN TO THE SCHOOL',
     *          ' TRIP TABLE'
      WRITE(9,*) '   PUBLIC HBSCH ATTRACTIONS = ENROLLMENT x',
     *          ' (Rate in GRATESB.SYN)'
      WRITE(9,*) '   UNLESS OVERRIDEN BY A ZONAL RATE IN THE',
     *          ' SCHOOL FILE'
      WRITE(9,*) '5. Balance factors include neither special',
     *          ' generators nor external stations'
      WRITE(9,*) '6. NO ADJUSTMENT NECESSARY FOR TRUCKS AS',
     *          'PRODUCTION = ATTRACTION'


      WRITE(9,8100) ENDPAGE


      CLOSE(4)
      CLOSE(6)

      RETURN
      END
```

SCHOOL.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

      SUBROUTINE SCHOOL(PBTRIPS,PBROLL)
c$DEBUG
     INCLUDE 'CBR.INC'


      INTEGER*1 GUDRUN
      INTEGER*2 ITAZ,DESG(3),SCHTAZ(3,200),D(3)
      INTEGER*2 SCHROLL(3,200),ROLL(3),SCHALLOC(3,200,300)
      INTEGER*4 SCHTOT(3,200),PBROLL
      INTEGER*4 PROD,PBTRIPS
      real tpstud(3)
      REAL P(3)
      integer*2 atipe,irn



      OPEN(UNIT=1,FILE=FILSCH,ACTION='READ')
      OPEN(UNIT=2,FILE=FILP,ACTION='READ')
      OPEN(UNIT=4,FILE='PBSCH.TEM')        !Public School Trip Table File
      OPEN(UNIT=5,FILE='LSTGEN.ERR')       !Error File


      GUDRUN = 1
      PBTRIPS = 0
      PBROLL = 0
      PRROLL = 0
      roll1  = 0
      roll2  = 0
      roll3  = 0

c-sks initialize arrays:
      do 33 i=1,3
        DESG(i)=0
        D(i)=0
        ROLL(i)=0
          do 34 j=1,200
            SCHTAZ(i,j)=0
            SCHROLL(i,j)=0
            SCHTOT(i,j)=0
              do 35 k=1,300
                SCHALLOC(i,j,k)=0
35            continue
34          continue
```

```
33      continue


40      READ(1,110,END=1700) ITAZ,(DESG(I),I=1,3),
    &      (ROLL(I),I=1,3),(tpstud(i),i=1,3)
C       if(ITAZ .GT. 155 .AND. ITAZ .LT. 551) goto 40
c
c  if school rates on school file are blank,
c  set to grates value -- ARATE(4,5,atipe)
c
c
c  area type
c
        atipe = AT(ITAZ)/10
        if(tpstud(1) .le. 0.01) tpstud(1) = arate(1,4,5,atipe)
        if(tpstud(2) .le. 0.01) tpstud(2) = arate(1,4,5,atipe)
        if(tpstud(3) .le. 0.01) tpstud(3) = arate(1,4,5,atipe)
c
c  multiply enrollment by 2 to obtain trip ends
        PBROLL = PBROLL+ROLL(1)+ROLL(2)+ROLL(3)
        roll1 = roll1 + roll(1)
        roll2 = roll2 + roll(2)
        roll3 = roll3 + roll(3)
        ROLL(1) = tpstud(1)*ROLL(1)
        ROLL(2) = tpstud(2)*ROLL(2)
        ROLL(3) = tpstud(3)*ROLL(3)

199     READ(2,120,END=1700) ITAZ,irn,PROD ! irn handles 2nd record
        if(irn .ne. 1) goto 199
110     FORMAT(I4,3I6,3I6,6x,3f6.0)
120     FORMAT(2X,I5,i2,22X,I7)

        DO 800 I=1,3
          IF(ROLL(I).NE.0) THEN
            DO 650 J=1,200
              IF(SCHTAZ(I,J).EQ.0) THEN
                SCHTAZ(I,J) = ITAZ
                SCHROLL(I,J) = ROLL(I)
                GOTO 777
              ENDIF

              IF(SCHTAZ(I,J).EQ.ITAZ) THEN
                SCHROLL(I,J) = ROLL(I)
                GOTO 777
              ENDIF
```

```
650         CONTINUE
        ENDIF

777       CONTINUE



        DO 250 J=1,200
          IF(SCHTAZ(I,J).EQ.0) THEN
            SCHTAZ(I,J) = DESG(I)
            SCHALLOC(I,J,1) = ITAZ
            SCHTOT(I,J) = PROD
            GOTO 800
          ENDIF

          IF(SCHTAZ(I,J).EQ.DESG(I)) THEN

          DO 325 K=1,300
            IF(SCHALLOC(I,J,K).NE.0) GOTO 325
            SCHALLOC(I,J,K) = ITAZ
            SCHTOT(I,J) = SCHTOT(I,J) + PROD
            GOTO 800
325         CONTINUE
          ENDIF

250       CONTINUE


800     CONTINUE

      GOTO 40


1700    CONTINUE


      CLOSE(1)
      CLOSE(2)


      OPEN(UNIT=2,FILE=FILP,ACTION='READ')

2040    READ(2,120,END=9000) ITAZ,irn,PROD
      if(irn .ne. 1) goto 2040
      IF(ITAZ.GT.ZONESI) GOTO 9000
      IF(ITAZ.GT.154 .AND. ITAZ.LT.551) GOTO 2040
```

```
C

      DO 2500 I=1,3
        DO 2400 J=1,200

          DO 2300 K=1,300
            IF(SCHTAZ(I,J).EQ.0) THEN
c               WRITE(*,*) 'ALLOC NOT FOUND FOR ',ITAZ,i,j,k
c               WRITE(5,*) 'ALLOC NOT FOUND FOR ',ITAZ,i,j,k
              SCHTAZ(I,J) = SCHTAZ(I,J-1)
              GUDRUN = -1
              GOTO 2500
            ENDIF

            IF(SCHALLOC(I,J,K).EQ.0) GOTO 2400
            IF(SCHALLOC(I,J,K).NE.ITAZ) GOTO 2300

            IF(SCHROLL(I,J).EQ.0) THEN
c               WRITE(*,*) 'ENROLL 0 FOR SCHTAZ = ',SCHTAZ(I,J)
c               WRITE(5,*) 'ENROLL 0 FOR SCHTAZ = ',SCHTAZ(I,J)
              SCHROLL(I,J) = 100
              GUDRUN = -1
              GOTO 2500
            ENDIF

            IF(SCHTOT(I,J).EQ.0) THEN
              WRITE(*,*) 'TOTAL PRODUCTIONS FOR SCHOOL TAZ ',
     *          SCHTAZ(I,J), ' = 0'
              WRITE(5,*) 'TOTAL PRODUCTIONS FOR SCHOOL TAZ ',
     *          SCHTAZ(I,J), ' = 0'
              SCHTOT(I,J) = 100
c
              write(*,241) SCHTAZ(I,J),I
              write(5,241) SCHTAZ(I,J),I
c
              GUDRUN = -1
              GOTO 2500
            ENDIF

            P(I)=REAL(PROD)*REAL(SCHROLL(I,J))/REAL(SCHTOT(I,J))
            D(I) = SCHTAZ(I,J)
            GOTO 2500
2300         CONTINUE
2400       CONTINUE
2500     CONTINUE
```

```
241   format(' TAZ ',i4,' HAS A PUBLIC SCHOOL of TYPE ',i2,
    &       ' BUT IS ASSIGNED TO ANOTHER ZONE')

      IF(INT(P(1)).NE.0) WRITE(4,2622) ITAZ,D(1),1,INT(P(1)+0.5)
      IF(INT(P(2)).NE.0) WRITE(4,2622) ITAZ,D(2),1,INT(P(2)+0.5)
      IF(INT(P(3)).NE.0) WRITE(4,2622) ITAZ,D(3),1,INT(P(3)+0.5)
      PBTRIPS=PBTRIPS+INT(P(1)+0.5)+INT(P(2)+0.5)+INT(P(3)+0.5)
2622    FORMAT(2I5,I3,I7)


      GOTO 2040

9000    CONTINUE

C       IF(GUDRUN.EQ.-1) THEN
C         WRITE(*,*) 'ABNORMAL STOP'
C         WRITE(*,*) 'ERRORS LISTED IN LSTGEN.ERR - CORRECT AND RERUN'
C       ENDIF


      CLOSE(1)
      CLOSE(2)
      CLOSE(4)
      CLOSE(5)


      RETURN
      END
```

REPORT2.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

c subroutine REPORT2 calculates and writes out summaries to file
c   tripgen.out
```

```
      SUBROUTINE REPORT2(POPT,HOUSEST,EMPST,EMPTT,
     *          HHW,HHP,PBROLL,PRROLL)

      INCLUDE 'CBR.INC'

      CHARACTER*1 ENDPAGE
      INTEGER*4 POPT,EMPST,EMPTT,P0(4),P1(4),AP0(0:3),AP1(0:3)
      INTEGER*4 W0(0:2),W1(0:2),AW0(0:3),AW1(0:3),PBROLL,PRROLL
      REAL HOUSEST,HHW(12,0:1),HHP(16,0:1)


      ENDPAGE = CHAR(12)

1100  FORMAT(A1)
1110  FORMAT(A91)
1200  FORMAT(A4,1X,7I12)
1230  FORMAT(A4,1X,7(I5,A1))
1240  FORMAT(A60,I9)
1250  FORMAT(A60,F9.2)

      AW0(0) = INT(HHW(1 ,0)) + INT(HHW(2 ,0)) + INT(HHW( 3,0))
      AW0(1) = INT(HHW(4 ,0)) + INT(HHW(5 ,0)) + INT(HHW( 6,0))
      AW0(2) = INT(HHW(7 ,0)) + INT(HHW(8 ,0)) + INT(HHW( 9,0))
      AW0(3) = INT(HHW(10,0)) + INT(HHW(11,0)) + INT(HHW(12,0))
      AW1(0) = INT(HHW(1 ,1)) + INT(HHW(2 ,1)) + INT(HHW( 3,1))
      AW1(1) = INT(HHW(4 ,1)) + INT(HHW(5 ,1)) + INT(HHW( 6,1))
      AW1(2) = INT(HHW(7 ,1)) + INT(HHW(8 ,1)) + INT(HHW( 9,1))
      AW1(3) = INT(HHW(10,1)) + INT(HHW(11,1)) + INT(HHW(12,1))

      AP0(0)=INT(HHP(1 ,0))+INT(HHP(2 ,0))+INT(HHP( 3,0))+
     *      INT(HHP( 4,0))
      AP0(1)=INT(HHP(5 ,0))+INT(HHP(6 ,0))+INT(HHP( 7,0))+
     *      INT(HHP( 8,0))
      AP0(2)=INT(HHP(9 ,0))+INT(HHP(10,0))+INT(HHP(11,0))+
     *      INT(HHP(12,0))
      AP0(3)=INT(HHP(13,0))+INT(HHP(14,0))+INT(HHP(15,0))+
     *      INT(HHP(16,0))
      AP1(0)=INT(HHP(1 ,1))+INT(HHP(2 ,1))+INT(HHP( 3,1))+
     *      INT(HHP( 4,1))
      AP1(1)=INT(HHP(5 ,1))+INT(HHP(6 ,1))+INT(HHP( 7,1))+
     *      INT(HHP( 8,1))
      AP1(2)=INT(HHP(9 ,1))+INT(HHP(10,1))+INT(HHP(11,1))+
     *      INT(HHP(12,1))
      AP1(3)=INT(HHP(13,1))+INT(HHP(14,1))+INT(HHP(15,1))+
```

```
*        INT(HHP(16,1))

  P0(1) = INT(HHP(1 ,0)) + INT(HHP(5 ,0)) + INT(HHP(9 ,0)) +
*        INT(HHP(13,0))
  P0(2) = INT(HHP(2 ,0)) + INT(HHP(6 ,0)) + INT(HHP(10,0)) +
*        INT(HHP(14,0))
  P0(3) = INT(HHP(3 ,0)) + INT(HHP(7 ,0)) + INT(HHP(11,0)) +
*        INT(HHP(15,0))
  P0(4) = INT(HHP(4 ,0)) + INT(HHP(8 ,0)) + INT(HHP(12,0)) +
*        INT(HHP(16,0))
  P1(1) = INT(HHP(1 ,1)) + INT(HHP(5 ,1)) + INT(HHP(9 ,1)) +
*        INT(HHP(13,1))
  P1(2) = INT(HHP(2 ,1)) + INT(HHP(6 ,1)) + INT(HHP(10,1)) +
*        INT(HHP(14,1))
  P1(3) = INT(HHP(3 ,1)) + INT(HHP(7 ,1)) + INT(HHP(11,1)) +
*        INT(HHP(15,1))
  P1(4) = INT(HHP(4 ,1)) + INT(HHP(8 ,1)) + INT(HHP(12,1)) +
*        INT(HHP(16,1))

  W0(0) = INT(HHW(1 ,0)) + INT(HHW(4 ,0)) + INT(HHW(7 ,0)) +
*        INT(HHW(10,0))
  W0(1) = INT(HHW(2 ,0)) + INT(HHW(5 ,0)) + INT(HHW(8 ,0)) +
*        INT(HHW(11,0))
  W0(2) = INT(HHW(3 ,0)) + INT(HHW(6 ,0)) + INT(HHW(9 ,0)) +
*        INT(HHW(12,0))
  W1(0) = INT(HHW(1 ,1)) + INT(HHW(4 ,1)) + INT(HHW(7 ,1)) +
*        INT(HHW(10,1))
  W1(1) = INT(HHW(2 ,1)) + INT(HHW(5 ,1)) + INT(HHW(8 ,1)) +
*        INT(HHW(11,1))
  W1(2) = INT(HHW(3 ,1)) + INT(HHW(6 ,1)) + INT(HHW(9 ,1)) +
*        INT(HHW(12,1))


  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)  '       TRIP GENERATION STATISTICS'
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*)
  WRITE(9,*) '            DUS WITHOUT CHILDREN
* DUS WITH CHILDREN'
  WRITE(9,*) '                    WORKERS
*  WORKERS'
  WRITE(9,*) '            0      1      2+   TOT
* 0      1      2+   TOT '
```

```
      WRITE(9,*)
      WRITE(9,2145) ' 0  AUTOS',(INT(HHW(J,0)),J=1,3),AW0(0),
     *                    (INT(HHW(J,1)),J=1,3),AW1(0)
      WRITE(9,*)

      WRITE(9,2145) ' 1  AUTOS',(INT(HHW(J,0)),J=4,6),AW0(1),
     *                    (INT(HHW(J,1)),J=4,6),AW1(1)
      WRITE(9,*)

      WRITE(9,2145) ' 2  AUTOS',(INT(HHW(J,0)),J=7,9),AW0(2),
     *                    (INT(HHW(J,1)),J=7,9),AW1(2)
      WRITE(9,*)

      WRITE(9,2145) ' 3+ AUTOS',(INT(HHW(J,0)),J=10,12),AW0(3),
     *                    (INT(HHW(J,1)),J=10,12),AW1(3)
      WRITE(9,*)
     WRITE(9,2145) ' TOTAL   ',(W0(J),J=0,2),(W0(0)+W0(1)+W0(2)),
     *                   (W1(J),J=0,2),(W1(0)+W1(1)+W1(2))
2145  FORMAT(A10,4I7,11X,4I7)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) '            DUS WITHOUT CHILDREN
     * DUS WITH CHILDREN'
      WRITE(9,*) '                    PERSONS
     *        PERSONS'
      WRITE(9,2146) '             1      2      3      4+   TOT
     *   1      2      3      4+   TOT'
2146  FORMAT(A82)
      WRITE(9,*)
      WRITE(9,2150) ' 0  AUTOS',(INT(HHP(J,0)),J=1,4),AP0(0),
     *                    (INT(HHP(J,1)),J=1,4),AP1(0)
      WRITE(9,*)
      WRITE(9,2150) ' 1  AUTOS',(INT(HHP(J,0)),J=5,8),AP0(1),
     *                    (INT(HHP(J,1)),J=5,8),AP1(1)
      WRITE(9,*)
      WRITE(9,2150) ' 2  AUTOS',(INT(HHP(J,0)),J=9,12),AP0(2),
     *                    (INT(HHP(J,1)),J=9,12),AP1(2)
      WRITE(9,*)
      WRITE(9,2150) ' 3+ AUTOS',(INT(HHP(J,0)),J=13,16),AP0(3),
     *                    (INT(HHP(J,1)),J=13,16),AP1(3)
      WRITE(9,*)
     WRITE(9,2150) ' TOTAL   ',(P0(J),J=1,4),(P0(1)+P0(2)+P0(3)+P0(4)),
     *                   (P1(J),J=1,4),(P1(1)+P1(2)+P1(3)+P1(4))
2150  FORMAT(A10,5I7,4X,5I7)
```

```
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,1240) '   TOTAL POPULATION
     *        ',POPT
      WRITE(9,1240) '     TOTAL POPULATION in HH w/o  Children
     *        ',popt0
      WRITE(9,1240) '     TOTAL POPULATION in HH with Children
     *        ',popt1
      WRITE(9,1250) '   TOTAL POPULATION PER DWELLING UNIT
     *        ',REAL(POPT)/HOUSEST
      WRITE(9,*)
      WRITE(9,1240) '   TOTAL OCCUPIED DWELLING UNITS
     *        ',INT(HOUSEST)
      WRITE(9,1240) '     TOTAL OCCUPIED DUS w/o  Children
     *        ',hh0
      WRITE(9,1240) '     TOTAL OCCUPIED DUS with Children
     *        ',hh1
      WRITE(9,*)
      WRITE(9,1240) '   TOTAL VEHICLES
     *        ',VEH0 + VEH1
      WRITE(9,1240) '     TOTAL VEHICLES in HH w/o  Children
     *        ',veh0
      WRITE(9,1240) '     TOTAL VEHICLES in HH with Children
     *        ',veh1
      WRITE(9,*)
      WRITE(9,1240) '   TOTAL WORKERS
     *        ',work0 + work1
      WRITE(9,1240) '     TOTAL WORKERS in HH w/o  Children
     *        ',work0
      WRITE(9,1240) '     TOTAL WORKERS in HH with Children
     *        ',work1
      WRITE(9,*)
      WRITE(9,1240) '   TOTAL EMPLOYMENT
     *        ',EMPTT
      WRITE(9,1240) '     TOTAL INDUSTRIAL EMPLOYMENT
     *        ',iempt
      WRITE(9,1240) '     TOTAL COMMERCIAL EMPLOYMENT
     *        ',cempt
      WRITE(9,1240) '     TOTAL SERVICE EMPLOYMENT
     *        ',sempt
      WRITE(9,1250) '   TOTAL EMPLOYMENT PER POPULATION
     *        ',REAL(EMPTT)/REAL(POPT)
      WRITE(9,1250) '   SERVICE TO TOTAL EMPLOYMENT
     *        ',REAL(EMPST)/REAL(EMPTT)
      WRITE(9,*)
```

```
      WRITE(9,1240) '   TOTAL PUBLIC SCHOOL ENROLLMENT
     *         ',PBROLL
      WRITE(9,1240) '      Public Grade School  ENROLLMENT
     *         ',roll1
      WRITE(9,1240) '      Public Middle School ENROLLMENT
     *         ',roll2
      WRITE(9,1240) '      Public High  School  ENROLLMENT
     *         ',roll3
      WRITE(9,1240) '   TOTAL NON-PUBLIC SCHOOL ENROLLMENT
     *         ',PRROLL
      WRITE(9,1240) '   TOTAL SCHOOL ENROLLMENT
     *         ',PBROLL+PRROLL
      WRITE(9,*)
      WRITE(9,1240) '   TOTAL OCCUPIED Hotel/Motel UNITS
     *         ',hott
      WRITE(9,*)

      ITEM1 = PRODT(1)+PRODT(2)+PRODT(3)+PRODT(4)+PRODT(5)
      ITEM2 = ATTRT(1)+ATTRT(2)+ATTRT(3)+ATTRT(4)+ATTRT(5)


      WRITE(9,1240) '   TOTAL HOME-BASED PRODS (PERSON TRIP ENDS)
     *         ',ITEM1
      WRITE(9,1240) '   TOTAL HOME-BASED ATTRS (PERSON TRIP ENDS)
     *         ',ITEM2
      WRITE(9,*)

      ITEM1 = ITEM1+PRODT(6)+PRODT(7)+PRODT(8)+PRODT(9)+PRODT(10)
     *            +PRODT(11)
      ITEM2 = ITEM2+ATTRT(6)+ATTRT(7)+ATTRT(8)+ATTRT(9)+ATTRT(10)
     *            +ATTRT(11)

      WRITE(9,1240) '   TOTAL PRODUCTIONS
     *         ',ITEM1
      WRITE(9,1240) '   TOTAL ATTRACTIONS
     *         ',ITEM2
      WRITE(9,*)
      WRITE(9,1250) '   INTERNAL PERSON TRIPS PER DWELLING UNIT
     *         ',REAL(ITEM1)/HOUSEST
      WRITE(9,*)
      WRITE(9,1250) '   INTERNAL PERSON TRIPS PER EMPLOYEE
     *         ',REAL(ITEM1)/REAL(EMPTT)
      WRITE(9,*)
      WRITE(9,*)
      WRITE(9,*) 'NOTE: SMALL DIFFERENCES BETWEEN THE SUMS OF'
      WRITE(9,*) '      PRODS AND ATTRS ARE DUE TO ROUNDING'
```

```
      CLOSE(9)


      RETURN
      END
```

A1DECK.FOR

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc

c subroutine to write out a1deck.tem - used mode choice model


      SUBROUTINE A1DECK

     INCLUDE 'CBR.INC'

      INTEGER*2 ZONE, TTIM, PKPARK, OPPARK, CBDFLAG, TERM(100)
      INTEGER*2 ITEM
      INTEGER*2 ITEM1,ITEM2,ITEM3,ITEM4,ITEM5,ITEM6
      REAL WA0,WA1,WA2,NA0,NA1,NA2
      character*132 ba1

      CHARACTER*8 FLAG


      OPEN(UNIT=1,FILE='PROFILE.MAS',ACTION='READ')


      DO 800 I=1,9999
        READ(1,810,END=1000) FLAG
810       FORMAT(1X,A8)
820       FORMAT(I5)
        IF(FLAG.EQ.'TERM11  ') READ(1,820) TERM(11)
        IF(FLAG.EQ.'TERM12  ') READ(1,820) TERM(12)
        IF(FLAG.EQ.'TERM13  ') READ(1,820) TERM(13)
        IF(FLAG.EQ.'TERM14  ') READ(1,820) TERM(14)
        IF(FLAG.EQ.'TERM21  ') READ(1,820) TERM(21)
        IF(FLAG.EQ.'TERM22  ') READ(1,820) TERM(22)
        IF(FLAG.EQ.'TERM23  ') READ(1,820) TERM(23)
        IF(FLAG.EQ.'TERM31  ') READ(1,820) TERM(31)
        IF(FLAG.EQ.'TERM32  ') READ(1,820) TERM(32)
        IF(FLAG.EQ.'TERM33  ') READ(1,820) TERM(33)
```

```
      IF(FLAG.EQ.'TERM34  ') READ(1,820) TERM(34)
      IF(FLAG.EQ.'TERM35  ') READ(1,820) TERM(35)
      IF(FLAG.EQ.'TERM36  ') READ(1,820) TERM(36)
      IF(FLAG.EQ.'TERM37  ') READ(1,820) TERM(37)
      IF(FLAG.EQ.'TERM41  ') READ(1,820) TERM(41)
      IF(FLAG.EQ.'TERM42  ') READ(1,820) TERM(42)
      IF(FLAG.EQ.'TERM43  ') READ(1,820) TERM(43)
      IF(FLAG.EQ.'TERM44  ') READ(1,820) TERM(44)
      IF(FLAG.EQ.'TERM45  ') READ(1,820) TERM(45)
      IF(FLAG.EQ.'TERM46  ') READ(1,820) TERM(46)
      IF(FLAG.EQ.'TERM51  ') READ(1,820) TERM(51)
      IF(FLAG.EQ.'TERM52  ') READ(1,820) TERM(52)
      IF(FLAG.EQ.'TERM53  ') READ(1,820) TERM(53)
      IF(FLAG.EQ.'TERM54  ') READ(1,820) TERM(54)
      IF(FLAG.EQ.'TERM55  ') READ(1,820) TERM(55)
      IF(FLAG.EQ.'TERM56  ') READ(1,820) TERM(56)
800   CONTINUE



1000  CONTINUE
      CLOSE(1)

      OPEN(UNIT=3,FILE='AUTO.TEM',ACTION='READ')
      OPEN(UNIT=4,FILE='A1DECK.TEM')
      OPEN(UNIT=5,FILE=FILZ4,ACTION='READ')


      DO 2000 I=1,ZONESI


        ZONE=I

c--load EXURB info from ZDATA1B file

        CBDFLAG=EXURB(I)

c--load zdata2 data

        oppark = popk(i)
        pkpark = ppk(i)

        READ(3,1130,END=7000) ZONE,WA0,WA1,WA2,NA0,NA1,NA2
1130      FORMAT(I7,6F8.2)

        ITEM=AT(ZONE)
```

```
        TTIM=TERM(ITEM)


        ITEM1 = INT(WA0+0.5)
        ITEM2 = INT(WA1+0.5)
        IF(WA2.LT.0.001) THEN
          ITEM3 = 0
        ELSE
          ITEM3 = 100 - ITEM1 - ITEM2
        ENDIF
        ITEM4 = INT(NA0+0.5)
        ITEM5 = INT(NA1+0.5)
        IF(NA2.LT.0.001) THEN
          ITEM6 = 0
        ELSE
          ITEM6 = 100 - ITEM4 - ITEM5
        ENDIF

        WRITE(4,1140) ZONE,TTIM,PKPARK,OPPARK,ITEM1,ITEM2,ITEM3,
   *      ITEM4,ITEM5,ITEM6,CBDFLAG
1140      FORMAT(I6,3I5,3X,3I4,3X,3I4,I4)

2000    CONTINUE
      GOTO 7000


5000    CONTINUE
      WRITE(*,*) 'ABNORMAL STOP'
      WRITE(*,*) 'PREMATURE END OF FILE ZDATA1B OR ZDATA2'
      WRITE(*,*) 'CORRECT AND RERUN'
      STOP

7000    CONTINUE


7200    continue

c-kdk- read ZDATA4B (also read in CALCPA.FOR)

        READ(5,7010,END=9000) ba1
7010      format(a132)

c-kdk-  skip all but '4' cards

        if(ba1(1:1) .ne. '4') goto 7200
        READ(ba1,7011) ZONE,TTIM,ITEM1,ITEM2,ITEM3,
```

```
     *                ITEM4,ITEM5,ITEM6
7011       FORMAT(3X,I5,78X,7I3)
         WRITE(4,1140) zone,0,0,0,ITEM1,ITEM2,ITEM3,ITEM4,
     *                ITEM5,ITEM6,0

       goto 7200

       if(zone .ne. zonesa) ! last card should be last ext. zone
     &     write(*,*) '** Possible sequence error in ZDATA4B'



9000    CONTINUE

       CLOSE(3)
       CLOSE(4)
       CLOSE(5)


       RETURN
       END
```