

T R A N S Y T

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## T R A f f i c N e t w o r k S t u d y T o o l

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0Implementation for IBM-PC or compatible

0Program TRANSYT 11, Analysis Program Version 1.80 (NOV 2004)

0Run with file:- "BASE + DEVELOPMENT PM.DAT" at 12:45 on 21/10/09

0Base + Development PM

## PARAMETERS CONTROLLING DIMENSIONS OF PROBLEM :

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NUMBER OF NODES = 4

NUMBER OF LINKS = 13

NUMBER OF OPTIMISED NODES = 4

MAXIMUM NUMBER OF GRAPHIC PLOTS = 0

NUMBER OF STEPS IN CYCLE = 60

MAXIMUM NUMBER OF SHARED STOPLINES = 0

MAXIMUM NUMBER OF TIMING POINTS = 2

MAXIMUM LINKS AT ANY NODE = 4

CORE REQUESTED = 5161 WORDS

CORE AVAILABLE = 72000 WORDS

0 DATA INPUT :-

~~~~ ~~~~~

0CARD CARD

NO. TYPE

( 1)= TITLE:- Base + Development PM

0CARD CARD CYCLE NO. OF TIME EFFECTIVE-GREEN EQUISAT 0=UNEQUAL FLOW  
CRUISE-SPEEDS OPTIMISE EXTRA HILL- DELAY STOP

NO. TYPE TIME STEPS PERIOD DISPLACEMENTS SETTINGS CYCLE SCALE  
SCALE CARD32 0=NONE COPIES CLIMB VALUE VALUE

PER 1-1200 START END 0=NO 1=EQUAL 10-200 50-200 0=TIMES  
1=O/SET FINAL OUTPUT P PER P PER

(SEC) CYCLE MINS. (SEC) (SEC) 1=YES CYCLE % % 1=SPEEDS  
2=FULL OUTPUT 1=FULL PCU-H 100

2)= 1 60 60 60 2 3 1 0 0 0 1 2 0 0 1420 260

0CARD CARD

LIST OF NODES TO BE OPTIMISED

NO. TYPE

3)= 2 1 2 3 4 0 0 0 0 0 0 0 0 0 0 0

0 NODE CARDS: STAGE CHANGE TIMES AND MINIMUM STAGE  
TIMES

CARD CARD NODE STAGE 1 STAGE 2 STAGE 3 STAGE 4 STAGE  
5 STAGE 6 STAGE 7

NO. TYPE NO. CHANGE MIN CHANGE MIN CHANGE MIN CHANGE MIN  
CHANGE MIN CHANGE MIN

4)= 12 1 0 7 49 7 0 0 0 0 0 0 0 0 0 0

5)= 12 2 0 7 16 7 0 0 0 0 0 0 0 0 0 0

6)= 12 3 0 7 15 7 0 0 0 0 0 0 0 0 0 0

7)= 12 4 0 7 44 7 0 0 0 0 0 0 0 0 0 0

0 LINK CARDS: FIXED DATA

FIRST GREEN SECOND GREEN

CARD CARD LINK EXIT START END START END LINK  
STOP SAT DELAY DISPSN

| NO.    | TYPE    | NO.  | NODE    | STAGE | LAG | STAGE | LAG | STAGE | LAG | STAGE | LAG | STAGE | LAG |      |   |   |
|--------|---------|------|---------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|------|---|---|
| LENGTH | WT.X100 | FLOW | WT.X100 | X100  |     |       |     |       |     |       |     |       |     |      |   |   |
| 8)=    | 31      | 11   | 1       | 1     | 5   | 2     | 0   | 0     | 0   | 0     | 0   | 425   | 0   | 2295 | 0 | 0 |
| 9)=    | 31      | 12   | 1       | 1     | 5   | 2     | 0   | 0     | 0   | 0     | 0   | 425   | 0   | 2029 | 0 | 0 |
| 10)=   | 31      | 13   | 1       | 2     | 5   | 1     | 0   | 0     | 0   | 0     | 0   | 35    | 0   | 1953 | 0 | 0 |
| 11)=   | 31      | 14   | 1       | 2     | 5   | 1     | 0   | 0     | 0   | 0     | 0   | 35    | 0   | 1795 | 0 | 0 |
| 12)=   | 31      | 21   | 2       | 2     | 5   | 1     | 0   | 0     | 0   | 0     | 0   | 42    | 0   | 4123 | 0 | 0 |
| 13)=   | 31      | 22   | 2       | 2     | 5   | 1     | 0   | 0     | 0   | 0     | 0   | 42    | 0   | 2047 | 0 | 0 |
| 14)=   | 31      | 23   | 2       | 1     | 6   | 2     | 0   | 0     | 0   | 0     | 0   | 200   | 0   | 1946 | 0 | 0 |
| 15)=   | 31      | 31   | 3       | 2     | 0   | 1     | 0   | 0     | 0   | 0     | 0   | 45    | 0   | 4030 | 0 | 0 |
| 16)=   | 31      | 32   | 3       | 2     | 0   | 1     | 0   | 0     | 0   | 0     | 0   | 45    | 0   | 1939 | 0 | 0 |
| 17)=   | 31      | 33   | 3       | 1     | 6   | 2     | 0   | 0     | 0   | 0     | 0   | 200   | 0   | 3892 | 0 | 0 |
| 18)=   | 31      | 41   | 4       | 1     | 5   | 2     | 0   | 0     | 0   | 0     | 0   | 200   | 0   | 2186 | 0 | 0 |
| 19)=   | 31      | 42   | 4       | 1     | 5   | 2     | 0   | 0     | 0   | 0     | 0   | 200   | 0   | 3909 | 0 | 0 |
| 20)=   | 31      | 43   | 4       | 2     | 5   | 1     | 0   | 0     | 0   | 0     | 0   | 39    | 0   | 4253 | 0 | 0 |

0

LINK CARDS: FLOW DATA

ENTRY 1 ..... ENTRY 2 ..... ENTRY 3 ..... ENTRY 4

.....

| CARD   | CARD | LINK   | TOTAL  | UNIFORM | LINK | CRUISE | LINK | CRUISE | LINK |
|--------|------|--------|--------|---------|------|--------|------|--------|------|
| CRUISE | LINK | CRUISE | CRUISE | CRUISE  | NO.  | SPEED  | NO.  | SPEED  | NO.  |

| NO.  | TYPE  | NO. | FLOW | FLOW  | NO. | FLOW | SPEED | NO. | FLOW | SPEED | NO. |
|------|-------|-----|------|-------|-----|------|-------|-----|------|-------|-----|
| FLOW | SPEED | NO. | FLOW | SPEED |     | FLOW |       |     | FLOW |       |     |

|      |    |    |     |   |    |     |    |    |    |    |   |   |   |   |   |
|------|----|----|-----|---|----|-----|----|----|----|----|---|---|---|---|---|
| 21)= | 32 | 11 | 976 | 0 | 0  | 0   | 43 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0 |
| 22)= | 32 | 12 | 177 | 0 | 0  | 0   | 43 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0 |
| 23)= | 32 | 13 | 111 | 0 | 42 | 111 | 43 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0 |
| 24)= | 32 | 14 | 42  | 0 | 41 | 23  | 43 | 43 | 19 | 43 | 0 | 0 | 0 | 0 | 0 |
| 25)= | 32 | 21 | 999 | 0 | 11 | 976 | 43 | 14 | 23 | 43 | 0 | 0 | 0 | 0 | 0 |
| 26)= | 32 | 22 | 123 | 0 | 12 | 123 | 43 | 0  | 0  | 0  | 0 | 0 | 0 | 0 | 0 |

0

27)= 32 23 125 0 0 0 43 0 0 0 0 0 0 0 0 0  
 28)= 32 31 71 0 23 71 43 0 0 0 0 0 0 0 0 0  
 29)= 32 32 1027 0 21 976 43 23 51 43 0 0 0 0 0  
 0  
 30)= 32 33 446 0 0 0 43 0 0 0 0 0 0 0 0 0  
 31)= 32 41 23 0 0 0 43 0 0 0 0 0 0 0 0 0  
 32)= 32 42 1401 0 0 0 43 0 0 0 0 0 0 0 0 0  
 33)= 32 43 463 0 32 100 43 33 363 43 0 0 0 0 0  
 0

LINK DATA: QUEUE CONSTRAINTS

CARD CARD LINK LIMIT QUEUE LINK LIMIT QUEUE LINK LIMIT QUEUE LINK  
 LIMIT QUEUE LINK LIMIT QUEUE

NO. TYPE NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT  
 NO. QUEUE WEIGHT NO. QUEUE WEIGHT

34)= 38 13 3 5000 14 4 5000 32 5 5000 43 5 5000 0  
 0 0

0\*\*\*\*\*END OF SUBROUTINE TINPUT\*\*\*\*\*

.

0 60 SECOND CYCLE 60 STEPS

0INITIAL SETTINGS

- (SECONDS)

0 NODE NUMBER STAGE STAGE STAGE STAGE STAGE STAGE STAGE

NO OF STAGES 1 2 3 4 5 6 7

1 2 0 49  
 2 2 0 16  
 3 2 0 15  
 4 2 0 44

0 LINK FLOW SAT DEGREE MEAN TIMES -----DELAY----- ----STOPS---- ----QUEUE-  
 --- PERFORMANCE EXIT GREEN TIMES

NUMBER INTO FLOW OF PER PCU UNIFORM RANDOM+ COST MEAN COST  
 MEAN INDEX. NODE START START

| LINK         | SAT       | CRUISE  | OVERSAT              | OF      | STOPS     | OF                | MAX.        | AVERAGE    |         |       |      |
|--------------|-----------|---------|----------------------|---------|-----------|-------------------|-------------|------------|---------|-------|------|
| WEIGHTED SUM |           | END     | END                  | OF      | OF        | OF                |             |            |         |       |      |
| ) VALUES     | 1ST       | 2ND     | DELAY (U+R+O=MEAN Q) | DELAY   | /PCU      | STOPS             | EXCESS OF ( |            |         |       |      |
| (PCU/H)      | (PCU/H)   | (%)     | (SEC)                | (SEC)   | (PCU-H/H) | (\$/H)            | (%)         | (\$/H)     | (PCU)   | (PCU) |      |
| (\$/H)       | (SECONDS) |         |                      |         |           |                   |             |            |         |       |      |
| 11           | 976       | 2295    | 57                   | 36      | 6         | 0.9 + 0.7 ( 21.8) | 38 ( 9.6)   | 8          | 31.4    | 1     | 5    |
| 49           |           |         |                      |         |           |                   |             |            |         |       |      |
| 12           | 177       | 2029    | 12                   | 36      | 3         | 0.1 + 0.1 ( 2.4)  | 24 ( 1.1)   | 1          | 3.5     | 1     | 5 49 |
| 13           | 112       | 1953    | 49                   | 3       | 48        | 1.0 + 0.5 ( 21.3) | 125 ( 3.6)  | 2 ( 0.0)*  | 24.9    |       | 1    |
| 54 0         |           |         |                      |         |           |                   |             |            |         |       |      |
| 14           | 42        | 1795    | 20                   | 3       | 30        | 0.2 + 0.1 ( 4.9)  | 83 ( 0.9)   | 1 ( 0.0)*  | 5.8     | 1     | 54   |
| 0            |           |         |                      |         |           |                   |             |            |         |       |      |
| 21           | 999       | 4123    | 36                   | 4       | 6         | 1.3 + 0.3 ( 22.5) | 50 ( 12.9)  | 10         | 35.4    | 2     | 21   |
| 0            |           |         |                      |         |           |                   |             |            |         |       |      |
| 22           | 123       | 2047    | 9                    | 4       | 6         | 0.2 + 0.0 ( 2.8)  | 43 ( 1.4)   | 1          | 4.2     | 2     | 21 0 |
| 23           | 125       | 1946    | 35                   | 17      | 29        | 0.7 + 0.3 ( 14.4) | 94 ( 3.0)   | 2          | 17.4    | 2     | 6    |
| 16           |           |         |                      |         |           |                   |             |            |         |       |      |
| 31           | 71        | 4030    | 2                    | 4       | 4         | 0.1 + 0.0 ( 1.1)  | 60 ( 1.1)   | 1          | 2.2     | 3     | 15 0 |
| 32           | 1026      | 1939    | 69                   | 4       | 7         | 0.9 + 1.1 ( 29.2) | 59 ( 15.6)  | 14 ( 2.1)* | 148.0   |       | 3    |
| 15 0         |           |         |                      |         |           |                   |             |            |         |       |      |
| 33           | 446       | 3892    | 69                   | 17      | 32        | 2.9 + 1.1 ( 56.9) | 102 ( 11.8) | 8          | 68.6    | 3     | 6    |
| 15           |           |         |                      |         |           |                   |             |            |         |       |      |
| 41           | 23        | 2186    | 2                    | 17      | 5         | 0.0 + 0.0 ( 0.4)  | 31 ( 0.2)   | 0          | 0.6     | 4     | 5 44 |
| 42           | 1401      | 3909    | 54                   | 17      | 7         | 2.0 + 0.6 ( 37.0) | 46 ( 16.6)  | 13         | 53.5    | 4     | 5    |
| 44           |           |         |                      |         |           |                   |             |            |         |       |      |
| 43           | 464       | 4253    | 55                   | 3       | 39        | 4.4 + 0.6 ( 71.0) | 105 ( 12.5) | 8 ( 1.6)*  | 161.0   |       | 4    |
| 49 0         |           |         |                      |         |           |                   |             |            |         |       |      |
| 0 TOTAL      | TOTAL     | TOTAL   | MEAN                 | TOTAL   | TOTAL     | TOTAL             | TOTAL       | TOTAL      | PENALTY |       |      |
| TOTAL        |           |         |                      |         |           |                   |             |            |         |       |      |
| DISTANCE     | TIME      | JOURNEY | UNIFORM              | RANDOM+ | COST      | COST              | FOR         |            |         |       |      |
| PERFORMANCE  |           |         |                      |         |           |                   |             |            |         |       |      |
| TRAVELLED    | SPENT     | SPEED   | DELAY                | OVERSAT | OF        | OF                | EXCESS      |            |         |       |      |
| INDEX        |           |         |                      |         |           |                   |             |            |         |       |      |
|              |           |         | DELAY                | DELAY   | STOPS     | QUEUES            |             |            |         |       |      |

|                      |           |        |           |           |                               |        |        |
|----------------------|-----------|--------|-----------|-----------|-------------------------------|--------|--------|
| (PCU-KM/H)<br>(\$/H) | (PCU-H/H) | (KM/H) | (PCU-H/H) | (PCU-H/H) | (\$/H)                        | (\$/H) | (\$/H) |
| 0 1009.0             | 43.6      | 23.1   | 14.8      | 5.3       | ( 285.7) + ( 90.1) + ( 180.8) | =      | 556.6  |
| TOTALS               |           |        |           |           |                               |        |        |

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|   |                              |                 |                 |                |
|---|------------------------------|-----------------|-----------------|----------------|
| 0 | CRUISE                       | DELAY           | STOPS           | TOTALS         |
|   | LITRES PER HOUR              | LITRES PER HOUR | LITRES PER HOUR | LITRES         |
| 0 | FUEL CONSUMPTION PREDICTIONS | 54.1            | + 23.1          | + 41.1 = 118.3 |

0  
NO. OF ENTRIES TO SUBPT = 1  
NO. OF LINKS RECALCULATED= 17  
.

0 60 SECOND CYCLE 60 STEPS  
0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9  
- (SECONDS)

|   |   |    |    |
|---|---|----|----|
| 1 | 2 | 18 | 7  |
| 2 | 2 | 0  | 16 |
| 3 | 2 | 42 | 57 |
| 4 | 2 | 0  | 44 |

|                      |             |        |           |           |                              |        |        |         |
|----------------------|-------------|--------|-----------|-----------|------------------------------|--------|--------|---------|
| 0                    | TOTAL       | TOTAL  | MEAN      | TOTAL     | TOTAL                        | TOTAL  | TOTAL  | PENALTY |
|                      | TOTAL       |        |           |           |                              |        |        |         |
|                      | DISTANCE    | TIME   | JOURNEY   | UNIFORM   | RANDOM+                      | COST   | COST   | FOR     |
|                      | PERFORMANCE |        |           |           |                              |        |        |         |
|                      | TRAVELLED   | SPENT  | SPEED     | DELAY     | OVERSAT                      | OF     | OF     | EXCESS  |
|                      | INDEX       |        |           |           |                              |        |        |         |
|                      |             |        | DELAY     | DELAY     | STOPS                        | QUEUES |        |         |
| (PCU-KM/H)<br>(\$/H) | (PCU-H/H)   | (KM/H) | (PCU-H/H) | (PCU-H/H) | (\$/H)                       | (\$/H) | (\$/H) |         |
| 0 1009.0             | 39.0        | 25.9   | 10.2      | 5.3       | ( 220.6) + ( 68.3) + ( 16.9) | =      | 305.8  |         |
| TOTALS               |             |        |           |           |                              |        |        |         |

0

NO. OF ENTRIES TO SUBPT = 12

NO. OF LINKS RECALCULATED= 83

.

0 60 SECOND CYCLE 60 STEPS

0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9 24

- (SECONDS)

|   |   |    |    |
|---|---|----|----|
| 1 | 2 | 18 | 7  |
| 2 | 2 | 0  | 16 |
| 3 | 2 | 42 | 57 |
| 4 | 2 | 0  | 44 |

| 0 TOTAL TOTAL MEAN TOTAL TOTAL TOTAL TOTAL PENALTY TOTAL         | DISTANCE TIME JOURNEY UNIFORM RANDOM+ COST COST FOR PERFORMANCE | TRAVELLED SPENT SPEED DELAY OVERSAT OF OF EXCESS INDEX | DELAY DELAY STOPS QUEUES | (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H)(PCU-H/H) (\$/H) (\$/H) (\$/H) |
|------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------|--------------------------|---------------------------------------------------------------------|
| 0 1009.0 39.0 25.9 10.2 5.3 ( 220.6) + ( 68.3) + ( 16.9) = 305.8 |                                                                 |                                                        |                          |                                                                     |
| TOTALS                                                           |                                                                 |                                                        |                          |                                                                     |

0

NO. OF ENTRIES TO SUBPT = 9

NO. OF LINKS RECALCULATED= 68

.

0 60 SECOND CYCLE 60 STEPS

0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9 24 -1

- (SECONDS)

|   |   |    |    |
|---|---|----|----|
| 1 | 2 | 18 | 7  |
| 2 | 2 | 1  | 16 |
| 3 | 2 | 43 | 58 |
| 4 | 2 | 0  | 45 |

|        |             |           |         |           |           |                                |        |         |
|--------|-------------|-----------|---------|-----------|-----------|--------------------------------|--------|---------|
| 0      | TOTAL       | TOTAL     | MEAN    | TOTAL     | TOTAL     | TOTAL                          | TOTAL  | PENALTY |
| TOTAL  |             |           |         |           |           |                                |        |         |
|        | DISTANCE    | TIME      | JOURNEY | UNIFORM   | RANDOM+   | COST                           | COST   | FOR     |
|        | PERFORMANCE |           |         |           |           |                                |        |         |
|        | TRAVELLED   | SPENT     | SPEED   | DELAY     | OVERSAT   | OF                             | OF     | EXCESS  |
|        | INDEX       |           |         |           |           |                                |        |         |
|        |             |           | DELAY   | DELAY     | STOPS     | QUEUES                         |        |         |
|        | (PCU-KM/H)  | (PCU-H/H) | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)                         | (\$/H) | (\$/H)  |
|        | (\$/H)      |           |         |           |           |                                |        |         |
| 0      | 1009.0      | 38.8      | 26.0    | 9.9       | 5.5       | ( 217.9) + ( 66.6) + ( 12.5) = |        | 297.1   |
| TOTALS |             |           |         |           |           |                                |        |         |

0

NO. OF ENTRIES TO SUBPT = 21

NO. OF LINKS RECALCULATED= 125

0 60 SECOND CYCLE 60 STEPS

0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9 24 -1 9

- (SECONDS)

|   |   |    |    |
|---|---|----|----|
| 1 | 2 | 18 | 7  |
| 2 | 2 | 52 | 7  |
| 3 | 2 | 43 | 58 |
| 4 | 2 | 0  | 45 |

|       |             |       |         |         |         |       |       |         |
|-------|-------------|-------|---------|---------|---------|-------|-------|---------|
| 0     | TOTAL       | TOTAL | MEAN    | TOTAL   | TOTAL   | TOTAL | TOTAL | PENALTY |
| TOTAL |             |       |         |         |         |       |       |         |
|       | DISTANCE    | TIME  | JOURNEY | UNIFORM | RANDOM+ | COST  | COST  | FOR     |
|       | PERFORMANCE |       |         |         |         |       |       |         |

| TRAVELLED INDEX      | SPENT     | SPEED  | DELAY     | OVERSAT   | OF                          | OF     | EXCESS |
|----------------------|-----------|--------|-----------|-----------|-----------------------------|--------|--------|
|                      |           |        | DELAY     | DELAYS    | STOPS                       | QUEUES |        |
| (PCU-KM/H)<br>(\$/H) | (PCU-H/H) | (KM/H) | (PCU-H/H) | (PCU-H/H) | (\$/H)                      | (\$/H) | (\$/H) |
| 0 1009.0             | 39.0      | 25.8   | 10.1      | 5.5       | ( 221.1) + ( 69.8) + ( 4.4) | =      | 295.3  |
| TOTALS               |           |        |           |           |                             |        |        |

0

NO. OF ENTRIES TO SUBPT = 10

NO. OF LINKS RECALCULATED= 80

.

0 60 SECOND CYCLE 60 STEPS

0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9 24 -1 9 24

- (SECONDS)

|   |   |    |    |
|---|---|----|----|
| 1 | 2 | 18 | 7  |
| 2 | 2 | 52 | 7  |
| 3 | 2 | 43 | 58 |
| 4 | 2 | 0  | 45 |

| 0 TOTAL | TOTAL | MEAN | TOTAL | TOTAL | TOTAL | TOTAL | PENALTY |
|---------|-------|------|-------|-------|-------|-------|---------|
| TOTAL   |       |      |       |       |       |       |         |

| DISTANCE PERFORMANCE | TIME | JOURNEY | UNIFORM | RANDOM+ | COST | COST | FOR |
|----------------------|------|---------|---------|---------|------|------|-----|
|----------------------|------|---------|---------|---------|------|------|-----|

| TRAVELLED INDEX      | SPENT     | SPEED  | DELAY     | OVERSAT   | OF     | OF     | EXCESS |
|----------------------|-----------|--------|-----------|-----------|--------|--------|--------|
|                      |           |        | DELAY     | DELAYS    | STOPS  | QUEUES |        |
| (PCU-KM/H)<br>(\$/H) | (PCU-H/H) | (KM/H) | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) | (\$/H) |

|          |      |      |      |     |                             |   |       |
|----------|------|------|------|-----|-----------------------------|---|-------|
| 0 1009.0 | 39.0 | 25.8 | 10.1 | 5.5 | ( 221.1) + ( 69.8) + ( 4.4) | = | 295.3 |
| TOTALS   |      |      |      |     |                             |   |       |

0

NO. OF ENTRIES TO SUBPT = 9

NO. OF LINKS RECALCULATED= 77

.

0 60 SECOND CYCLE 60 STEPS

0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9 24 -1 9 24 1

- (SECONDS)

1 2 8 57

2 2 52 7

3 2 43 58

4 2 0 45

|         |       |      |       |       |       |       |         |
|---------|-------|------|-------|-------|-------|-------|---------|
| 0 TOTAL | TOTAL | MEAN | TOTAL | TOTAL | TOTAL | TOTAL | PENALTY |
| TOTAL   |       |      |       |       |       |       |         |

|             |      |         |         |         |      |      |     |
|-------------|------|---------|---------|---------|------|------|-----|
| DISTANCE    | TIME | JOURNEY | UNIFORM | RANDOM+ | COST | COST | FOR |
| PERFORMANCE |      |         |         |         |      |      |     |

|           |       |       |       |         |    |    |        |
|-----------|-------|-------|-------|---------|----|----|--------|
| TRAVELLED | SPENT | SPEED | DELAY | OVERSAT | OF | OF | EXCESS |
| INDEX     |       |       |       |         |    |    |        |

|       |       |       |        |
|-------|-------|-------|--------|
| DELAY | DELAY | STOPS | QUEUES |
|-------|-------|-------|--------|

|            |           |        |           |           |        |        |        |
|------------|-----------|--------|-----------|-----------|--------|--------|--------|
| (PCU-KM/H) | (PCU-H/H) | (KM/H) | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) | (\$/H) |
| (\$/H)     |           |        |           |           |        |        |        |

|          |      |      |      |     |              |           |        |       |
|----------|------|------|------|-----|--------------|-----------|--------|-------|
| 0 1009.0 | 39.0 | 25.9 | 10.1 | 5.5 | ( 221.0) + ( | 64.1) + ( | 2.0) = | 287.0 |
| TOTALS   |      |      |      |     |              |           |        |       |

0

NO. OF ENTRIES TO SUBPT = 19

NO. OF LINKS RECALCULATED= 156

.

0 60 SECOND CYCLE 60 STEPS

0 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 9 24 -1 9 24 1 -1

- (SECONDS)

1 2 8 57

2 2 53 7

3 2 43 59

4 2 59 45

0 TOTAL TOTAL MEAN TOTAL TOTAL TOTAL TOTAL PENALTY  
TOTAL

DISTANCE TIME JOURNEY UNIFORM RANDOM+ COST COST FOR  
PERFORMANCE

TRAVELLED SPENT SPEED DELAY OVERSAT OF OF EXCESS  
INDEX

DELAY DELAY STOPS QUEUES

(PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H)(PCU-H/H) (\$/H) (\$/H) (\$/H)  
(\$/H)

0 1009.0 38.9 25.9 10.0 5.5 ( 219.8) + ( 63.2) + ( 3.5) = 286.4  
TOTALS

0

NO. OF ENTRIES TO SUBPT = 19

NO. OF LINKS RECALCULATED= 141

0 60 SECOND CYCLE 60 STEPS

0FINAL SETTINGS OBTAINED WITH INCREMENTS :- 9 24 -1 9 24 1 -1 1

- (SECONDS)

0 NODE NUMBER STAGE STAGE STAGE STAGE STAGE STAGE STAGE STAGE

NO OF STAGES 1 2 3 4 5 6 7

1 2 7 56

2 2 52 6

3 2 43 59

4 2 59 45

0 LINK FLOW SAT DEGREE MEAN TIMES -----DELAY----- ----STOPS---- ----QUEUE-  
--- PERFORMANCE EXIT GREEN TIMES

NUMBER INTO FLOW OF PER PCU UNIFORM RANDOM+ COST MEAN COST  
MEAN INDEX. NODE START START

| LINK                    | SAT       | CRUISE  | OVERSAT              | OF        | STOPS   | OF         | MAX.      | AVERAGE |         |       |
|-------------------------|-----------|---------|----------------------|-----------|---------|------------|-----------|---------|---------|-------|
| WEIGHTED SUM            |           | END     | END                  | OF        | OF      | OF         |           |         |         |       |
| ) VALUES                | 1ST       | 2ND     | DELAY (U+R+O=MEAN Q) | DELAY     | /PCU    | STOPS      | EXCESS    | OF (    |         |       |
| (\$/H)                  | (PCU/H)   | (PCU/H) | (%) (SEC)            | (SEC)     | (\$/H)  | (%)        | (\$/H)    | (PCU)   | (PCU)   |       |
|                         | (SECONDS) |         |                      |           |         |            |           |         |         |       |
| 11<br>56                | 976       | 2295    | 57 36 6              | 0.9 + 0.7 | ( 21.8) | 38 ( 9.6)  | 8         | 31.4    | 1       | 12    |
| 12<br>56                | 177       | 2029    | 12 36 3              | 0.1 + 0.1 | ( 2.4)  | 24 ( 1.1)  | 1         | 3.5     | 1       | 12    |
| 13<br>7                 | 112       | 1953    | 49 3 52              | 1.1 + 0.5 | ( 22.8) | 119 ( 3.4) | 2 ( 0.0)* | 26.2    | 1       | 1     |
| 14<br>7                 | 42        | 1795    | 20 3 27              | 0.2 + 0.1 | ( 4.5)  | 91 ( 1.0)  | 1 ( 0.0)* | 5.5     | 1       | 1     |
| 21<br>52                | 999       | 4123    | 35 4 3               | 0.6 + 0.3 | ( 12.0) | 16 ( 4.2)  | 3         | 16.2    | 2       | 11    |
| 22                      | 123       | 2047    | 9 4 3                | 0.1 + 0.0 | ( 1.6)  | 15 ( 0.5)  | 0         | 2.1     | 2       | 11 52 |
| 23<br>6                 | 125       | 1946    | 43 17 34             | 0.8 + 0.4 | ( 16.7) | 102 ( 3.3) | 2         | 20.0    | 2       | 58    |
| 31                      | 71        | 4030    | 2 4 1                | 0.0 + 0.0 | ( 0.2)  | 1 ( 0.0)   | 0         | 0.2     | 3       | 59 43 |
| 32<br>43                | 1026      | 1939    | 71 4 7               | 0.8 + 1.2 | ( 27.6) | 36 ( 9.5)  | 6 ( 0.1)* | 39.7    | 3       | 59    |
| 33<br>59                | 446       | 3892    | 63 17 29             | 2.8 + 0.8 | ( 51.5) | 97 ( 11.2) | 8         | 62.7    | 3       | 49    |
| 41                      | 23        | 2186    | 2 17 4               | 0.0 + 0.0 | ( 0.4)  | 27 ( 0.2)  | 0         | 0.5     | 4       | 4 45  |
| 42<br>45                | 1401      | 3909    | 51 17 6              | 1.6 + 0.5 | ( 30.7) | 40 ( 14.6) | 11        | 45.3    | 4       | 4     |
| 43<br>59                | 464       | 4253    | 65 3 15              | 1.0 + 0.9 | ( 28.0) | 38 ( 4.6)  | 3 ( 0.0)* | 32.5    | 4       | 50    |
| 0 TOTAL<br>TOTAL        | TOTAL     | TOTAL   | MEAN                 | TOTAL     | TOTAL   | TOTAL      | TOTAL     | TOTAL   | PENALTY |       |
| DISTANCE<br>PERFORMANCE | TIME      | JOURNEY | UNIFORM              | RANDOM+   | COST    | COST       | FOR       |         |         |       |
| TRAVELLED<br>INDEX      | SPENT     | SPEED   | DELAY                | OVERSAT   | OF      | OF         | EXCESS    |         |         |       |

|            | DELAY     | DELAY  | STOPS     | QUEUES    |          |           |                  |
|------------|-----------|--------|-----------|-----------|----------|-----------|------------------|
| (PCU-KM/H) | (PCU-H/H) | (KM/H) | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    | (\$/H)           |
| 0 1009.0   | 39.0      | 25.9   | 10.0      | 5.5       | ( 220.2) | + ( 63.0) | + ( 2.6) = 285.8 |
| TOTALS     |           |        |           |           |          |           |                  |

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| 0 | CRUISE                       | DELAY           | STOPS           | TOTALS |         |
|---|------------------------------|-----------------|-----------------|--------|---------|
|   | LITRES PER HOUR              | LITRES PER HOUR | LITRES PER HOUR | LITRES |         |
| 0 | FUEL CONSUMPTION PREDICTIONS | 54.1            | + 17.8          | + 28.7 | = 100.6 |

0

NO. OF ENTRIES TO SUBPT = 11

NO. OF LINKS RECALCULATED= 92

PROGRAM TRANSYT FINISHED