CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)



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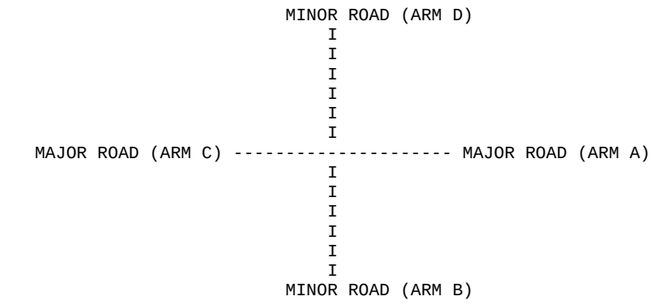
Run with file:-
"T:\T12\Jobs\T12.172_Herbert Road, Newport\Analysis\PICADY\AM\Turner Street junction AM.vpi"
(drive-on-the-left ) at 16:11:01 on Wednesday, 27 November 2013

## RUN INFORMATION

RUN TITLE: Turner Street priority junction
LOCATION: Newport
DATE: 22/03/13
CLIENT: Greenhill Construction
ENUMERATOR: Transport Planner
JOB NUMBER: T12.172
STATUS: Draft 1
DESCRIPTION: Cross road junction of Turnstreet/Caerleon Road/Tesco

## .MAJOR/MINOR JUNCTION CAPACITY AND DELAY

### INPUT DATA




ARM A IS Caerleon Road (north)
ARM B IS Tesco store
ARM C IS Caerleon Road (south)
ARM D IS Turner Street

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

| DATA ITEM | MINOR ROAD B | MINOR ROAD D |
|---|---|---|
| TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | ( W ) 9.07 M. | ( W ) 9.07 M. |
| CENTRAL RESERVE WIDTH | (WCR ) 0.00 M. | (WCR ) 0.00 M. |
| MAJOR ROAD RIGHT TURN - WIDTH | (WC-B) 2.20 M. | (WA-D) 2.20 M. |
| - VISIBILITY | (VC-B) 176.0 M. | (VA-D) 117.0 M. |
| - BLOCKS TRAFFIC | YES | YES |
| MINOR ROAD - VISIBILITY TO LEFT | (VB-C) 47.0 M. | (VD-A) 28.0 M. |
| - VISIBILITY TO RIGHT | (VB-A) 32.0 M. | (VD-C) 28.0 M. |
| - LANE 1 WIDTH | (WB-C) 4.00 M. | (WD-A) 4.39 M. |
| - LANE 2 WIDTH | (WB-A) 0.00 M. | (WD-C) 0.00 M. |

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|
| 0.14 | 0.14 |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|
| 0.14 | 0.14 |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|
| 0.14 | 0.14 |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|
| 0.14 | 0.14 |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2013 Am no dev

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 5.22 | 7.84 | 5.22 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.70 | 1.05 | 0.70 |
| ARM C | 15.00 | 45.00 | 75.00 | 5.51 | 8.27 | 5.51 |
| ARM D | 15.00 | 45.00 | 75.00 | 2.30 | 3.45 | 2.30 |

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 08.15 - 09.45 | ARM A | 0.000 | 0.065 | 0.813 | 0.122 |
| | | 0.0 | 27.0 | 340.0 | 51.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.286 | 0.000 | 0.482 | 0.232 |
| | | 16.0 | 0.0 | 27.0 | 13.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.757 | 0.032 | 0.000 | 0.211 |
| | | 334.0 | 14.0 | 0.0 | 93.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.397 | 0.033 | 0.571 | 0.000 |
| | | 73.0 | 6.0 | 105.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2013 Am no dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.15-08.30 | | | | | | | | | |
| B-ACD | 0.70 | 8.62 | 0.081 | | 0.00 | 0.09 | 1.3 | | 0.13 |
| A-BCD | 1.00 | 12.63 | 0.079 | | 0.00 | 0.14 | 2.1 | | 0.09 |
| A-B | 0.31 | | | | | | | | |
| A-C | 3.93 | | | | | | | | |
| D-ABC | 2.31 | 8.56 | 0.270 | | 0.00 | 0.36 | 5.2 | | 0.16 |
| C-ABD | 0.28 | 13.49 | 0.021 | | 0.00 | 0.02 | 0.4 | | 0.08 |
| C-D | 1.14 | | | | | | | | |
| C-A | 4.11 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.30-08.45 | | | | | | | | | |
| B-ACD | 0.84 | 8.26 | 0.102 | | 0.09 | 0.11 | 1.6 | | 0.13 |
| A-BCD | 1.31 | 13.04 | 0.101 | | 0.14 | 0.20 | 3.0 | | 0.09 |
| A-B | 0.36 | | | | | | | | |
| A-C | 4.58 | | | | | | | | |
| D-ABC | 2.76 | 8.18 | 0.337 | | 0.36 | 0.50 | 7.2 | | 0.18 |
| C-ABD | 0.36 | 13.93 | 0.026 | | 0.02 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.36 | | | | | | | | |
| C-A | 4.88 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.45-09.00 | | | | | | | | | |
| B-ACD | 1.03 | 7.76 | 0.132 | | 0.11 | 0.15 | 2.2 | | 0.15 |
| A-BCD | 1.83 | 13.62 | 0.134 | | 0.20 | 0.29 | 4.4 | | 0.08 |
| A-B | 0.43 | | | | | | | | |
| A-C | 5.41 | | | | | | | | |
| D-ABC | 3.38 | 7.66 | 0.441 | | 0.50 | 0.77 | 11.0 | | 0.23 |
| C-ABD | 0.50 | 14.53 | 0.034 | | 0.03 | 0.05 | 0.7 | | 0.07 |
| C-D | 1.65 | | | | | | | | |
| C-A | 5.94 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.00-09.15 | | | | | | | | | |
| B-ACD | 1.03 | 7.76 | 0.132 | | 0.15 | 0.15 | 2.3 | | 0.15 |
| A-BCD | 1.83 | 13.62 | 0.134 | | 0.29 | 0.29 | 4.4 | | 0.08 |
| A-B | 0.43 | | | | | | | | |
| A-C | 5.41 | | | | | | | | |
| D-ABC | 3.38 | 7.66 | 0.441 | | 0.77 | 0.78 | 11.6 | | 0.23 |
| C-ABD | 0.50 | 14.53 | 0.034 | | 0.05 | 0.05 | 0.7 | | 0.07 |
| C-D | 1.65 | | | | | | | | |
| C-A | 5.94 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.15-09.30 | | | | | | | | | |
| B-ACD | 0.84 | 8.26 | 0.102 | | 0.15 | 0.11 | 1.8 | | 0.13 |
| A-BCD | 1.32 | 13.04 | 0.101 | | 0.29 | 0.20 | 3.0 | | 0.09 |
| A-B | 0.36 | | | | | | | | |
| A-C | 4.58 | | | | | | | | |
| D-ABC | 2.76 | 8.18 | 0.337 | | 0.78 | 0.52 | 8.1 | | 0.19 |
| C-ABD | 0.36 | 13.92 | 0.026 | | 0.05 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.36 | | | | | | | | |
| C-A | 4.88 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.30-09.45 | | | | | | | | | |
| B-ACD | 0.70 | 8.62 | 0.082 | | 0.11 | 0.09 | 1.4 | | 0.13 |
| A-BCD | 1.01 | 12.63 | 0.080 | | 0.20 | 0.15 | 2.2 | | 0.09 |
| A-B | 0.31 | | | | | | | | |
| A-C | 3.93 | | | | | | | | |
| D-ABC | 2.31 | 8.55 | 0.270 | | 0.52 | 0.38 | 5.8 | | 0.16 |
| C-ABD | 0.28 | 13.49 | 0.021 | | 0.03 | 0.03 | 0.4 | | 0.08 |
| C-D | 1.14 | | | | | | | | |
| C-A | 4.11 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.1 | |
| 08.45 | 0.1 | |
| 09.00 | 0.2 | |
| 09.15 | 0.2 | |
| 09.30 | 0.1 | |
| 09.45 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.1 | |
| 08.45 | 0.2 | |
| 09.00 | 0.3 | |
| 09.15 | 0.3 | |
| 09.30 | 0.2 | |
| 09.45 | 0.1 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.4 | |
| 08.45 | 0.5 | |
| 09.00 | 0.8 | * |
| 09.15 | 0.8 | * |
| 09.30 | 0.5 | * |
| 09.45 | 0.4 | |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 08.30 | 0.0 |
| 08.45 | 0.0 |
| 09.00 | 0.0 |
| 09.15 | 0.0 |
| 09.30 | 0.0 |
| 09.45 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 77.1 | 51.4 | 10.5 | 0.14 | 10.5 | 0.14 |
| A-BCD | 124.5 | 83.0 | 19.1 | 0.15 | 19.1 | 0.15 |
| A-B | 33.2 | 22.1 | | | | |
| A-C | 417.7 | 278.5 | | | | |
| D-ABC | 253.3 | 168.8 | 48.9 | 0.19 | 48.9 | 0.19 |
| C-ABD | 34.3 | 22.9 | 3.1 | 0.09 | 3.1 | 0.09 |
| C-D | 124.7 | 83.2 | | | | |
| C-A | 448.0 | 298.6 | | | | |
| ALL | 1512.7 | 1008.5 | 81.7 | 0.05 | 81.7 | 0.05 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2017 Am no dev

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 5.51 | 8.27 | 5.51 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.73 | 1.09 | 0.73 |
| ARM C | 15.00 | 45.00 | 75.00 | 5.81 | 8.72 | 5.81 |
| ARM D | 15.00 | 45.00 | 75.00 | 2.42 | 3.64 | 2.42 |

TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 08.15 - 09.45 | ARM A | 0.000 | 0.066 | 0.812 | 0.122 |
| | | 0.0 | 29.0 | 358.0 | 54.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.293 | 0.000 | 0.483 | 0.224 |
| | | 17.0 | 0.0 | 28.0 | 13.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.757 | 0.032 | 0.000 | 0.211 |
| | | 352.0 | 15.0 | 0.0 | 98.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.397 | 0.031 | 0.572 | 0.000 |
| | | 77.0 | 6.0 | 111.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2017 Am no dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.15-08.30 | | | | | | | | | |
| B-ACD | 0.73 | 8.52 | 0.085 | | 0.00 | 0.09 | 1.3 | | 0.13 |
| A-BCD | 1.09 | 12.74 | 0.085 | | 0.00 | 0.16 | 2.3 | | 0.09 |
| A-B | 0.33 | | | | | | | | |
| A-C | 4.11 | | | | | | | | |
| D-ABC | 2.43 | 8.45 | 0.288 | | 0.00 | 0.40 | 5.7 | | 0.16 |
| C-ABD | 0.31 | 13.61 | 0.022 | | 0.00 | 0.03 | 0.4 | | 0.08 |
| C-D | 1.20 | | | | | | | | |
| C-A | 4.32 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.30-08.45 | | | | | | | | | |
| B-ACD | 0.87 | 8.14 | 0.107 | | 0.09 | 0.12 | 1.7 | | 0.14 |
| A-BCD | 1.44 | 13.18 | 0.109 | | 0.16 | 0.22 | 3.3 | | 0.09 |
| A-B | 0.39 | | | | | | | | |
| A-C | 4.78 | | | | | | | | |
| D-ABC | 2.91 | 8.06 | 0.361 | | 0.40 | 0.55 | 8.0 | | 0.19 |
| C-ABD | 0.40 | 14.07 | 0.028 | | 0.03 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.43 | | | | | | | | |
| C-A | 5.14 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.45-09.00 | | | | | | | | | |
| B-ACD | 1.06 | 7.61 | 0.140 | | 0.12 | 0.16 | 2.3 | | 0.15 |
| A-BCD | 2.01 | 13.80 | 0.146 | | 0.22 | 0.32 | 4.9 | | 0.08 |
| A-B | 0.46 | | | | | | | | |
| A-C | 5.63 | | | | | | | | |
| D-ABC | 3.56 | 7.51 | 0.474 | | 0.55 | 0.88 | 12.4 | | 0.25 |
| C-ABD | 0.55 | 14.70 | 0.038 | | 0.04 | 0.05 | 0.8 | | 0.07 |
| C-D | 1.74 | | | | | | | | |
| C-A | 6.24 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.00-09.15 | | | | | | | | | |
| B-ACD | 1.06 | 7.61 | 0.140 | | 0.16 | 0.16 | 2.4 | | 0.15 |
| A-BCD | 2.01 | 13.80 | 0.146 | | 0.32 | 0.33 | 4.9 | | 0.08 |
| A-B | 0.46 | | | | | | | | |
| A-C | 5.63 | | | | | | | | |
| D-ABC | 3.56 | 7.50 | 0.474 | | 0.88 | 0.89 | 13.2 | | 0.25 |
| C-ABD | 0.55 | 14.70 | 0.038 | | 0.05 | 0.05 | 0.8 | | 0.07 |
| C-D | 1.74 | | | | | | | | |
| C-A | 6.24 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.15-09.30 | | | | | | | | | |
| B-ACD | 0.87 | 8.14 | 0.107 | | 0.16 | 0.12 | 1.9 | | 0.14 |
| A-BCD | 1.44 | 13.18 | 0.109 | | 0.33 | 0.22 | 3.4 | | 0.09 |
| A-B | 0.39 | | | | | | | | |
| A-C | 4.78 | | | | | | | | |
| D-ABC | 2.91 | 8.06 | 0.361 | | 0.89 | 0.58 | 9.0 | | 0.20 |
| C-ABD | 0.40 | 14.07 | 0.029 | | 0.05 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.43 | | | | | | | | |
| C-A | 5.14 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.30-09.45 | | | | | | | | | |
| B-ACD | 0.73 | 8.52 | 0.085 | | 0.12 | 0.09 | 1.4 | | 0.13 |
| A-BCD | 1.09 | 12.74 | 0.086 | | 0.22 | 0.16 | 2.4 | | 0.09 |
| A-B | 0.33 | | | | | | | | |
| A-C | 4.11 | | | | | | | | |
| D-ABC | 2.43 | 8.45 | 0.288 | | 0.58 | 0.41 | 6.4 | | 0.17 |
| C-ABD | 0.31 | 13.61 | 0.023 | | 0.04 | 0.03 | 0.4 | | 0.08 |
| C-D | 1.20 | | | | | | | | |
| C-A | 4.32 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.1 | |
| 08.45 | 0.1 | |
| 09.00 | 0.2 | |
| 09.15 | 0.2 | |
| 09.30 | 0.1 | |
| 09.45 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.2 | |
| 08.45 | 0.2 | |
| 09.00 | 0.3 | |
| 09.15 | 0.3 | |
| 09.30 | 0.2 | |
| 09.45 | 0.2 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.4 | |
| 08.45 | 0.6 | * |
| 09.00 | 0.9 | * |
| 09.15 | 0.9 | * |
| 09.30 | 0.6 | * |
| 09.45 | 0.4 | |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 08.30 | 0.0 |
| 08.45 | 0.0 |
| 09.00 | 0.1 |
| 09.15 | 0.1 |
| 09.30 | 0.0 |
| 09.45 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 79.8 | 53.2 | 11.1 | 0.14 | 11.1 | 0.14 |
| A-BCD | 136.2 | 90.8 | 21.2 | 0.16 | 21.2 | 0.16 |
| A-B | 35.3 | 23.5 | | | | |
| A-C | 435.6 | 290.4 | | | | |
| D-ABC | 267.0 | 178.0 | 54.8 | 0.21 | 54.8 | 0.21 |
| C-ABD | 37.9 | 25.2 | 3.5 | 0.09 | 3.5 | 0.09 |
| C-D | 131.1 | 87.4 | | | | |
| C-A | 471.0 | 314.0 | | | | |
| ALL | 1593.9 | 1062.6 | 90.7 | 0.06 | 90.7 | 0.06 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2022 Am no dev

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 6.00 | 9.00 | 6.00 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.79 | 1.18 | 0.79 |
| ARM C | 15.00 | 45.00 | 75.00 | 6.32 | 9.49 | 6.32 |
| ARM D | 15.00 | 45.00 | 75.00 | 2.65 | 3.98 | 2.65 |

TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 08.15 - 09.45 | ARM A | 0.000 | 0.065 | 0.813 | 0.123 |
| | | 0.0 | 31.0 | 390.0 | 59.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.286 | 0.000 | 0.492 | 0.222 |
| | | 18.0 | 0.0 | 31.0 | 14.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.759 | 0.032 | 0.000 | 0.209 |
| | | 384.0 | 16.0 | 0.0 | 106.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.396 | 0.033 | 0.571 | 0.000 |
| | | 84.0 | 7.0 | 121.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2022 Am no dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.15-08.30 | | | | | | | | | |
| B-ACD | 0.79 | 8.39 | 0.094 | | 0.00 | 0.10 | 1.5 | | 0.13 |
| A-BCD | 1.24 | 12.94 | 0.096 | | 0.00 | 0.18 | 2.7 | | 0.09 |
| A-B | 0.35 | | | | | | | | |
| A-C | 4.43 | | | | | | | | |
| D-ABC | 2.66 | 8.27 | 0.322 | | 0.00 | 0.47 | 6.6 | | 0.18 |
| C-ABD | 0.34 | 13.82 | 0.025 | | 0.00 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.30 | | | | | | | | |
| C-A | 4.71 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.30-08.45 | | | | | | | | | |
| B-ACD | 0.94 | 7.97 | 0.118 | | 0.10 | 0.13 | 1.9 | | 0.14 |
| A-BCD | 1.65 | 13.42 | 0.123 | | 0.18 | 0.26 | 3.9 | | 0.09 |
| A-B | 0.41 | | | | | | | | |
| A-C | 5.13 | | | | | | | | |
| D-ABC | 3.18 | 7.84 | 0.405 | | 0.47 | 0.67 | 9.6 | | 0.21 |
| C-ABD | 0.45 | 14.32 | 0.031 | | 0.03 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.54 | | | | | | | | |
| C-A | 5.59 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.45-09.00 | | | | | | | | | |
| B-ACD | 1.16 | 7.38 | 0.157 | | 0.13 | 0.18 | 2.7 | | 0.16 |
| A-BCD | 2.34 | 14.10 | 0.166 | | 0.26 | 0.39 | 5.8 | | 0.09 |
| A-B | 0.48 | | | | | | | | |
| A-C | 5.99 | | | | | | | | |
| D-ABC | 3.89 | 7.23 | 0.538 | | 0.67 | 1.12 | 15.7 | | 0.29 |
| C-ABD | 0.63 | 15.00 | 0.042 | | 0.04 | 0.06 | 0.9 | | 0.07 |
| C-D | 1.87 | | | | | | | | |
| C-A | 6.79 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.00-09.15 | | | | | | | | | |
| B-ACD | 1.16 | 7.38 | 0.157 | | 0.18 | 0.18 | 2.8 | | 0.16 |
| A-BCD | 2.34 | 14.10 | 0.166 | | 0.39 | 0.39 | 5.9 | | 0.09 |
| A-B | 0.48 | | | | | | | | |
| A-C | 5.99 | | | | | | | | |
| D-ABC | 3.89 | 7.23 | 0.538 | | 1.12 | 1.14 | 17.0 | | 0.30 |
| C-ABD | 0.63 | 15.00 | 0.042 | | 0.06 | 0.06 | 0.9 | | 0.07 |
| C-D | 1.87 | | | | | | | | |
| C-A | 6.78 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.15-09.30 | | | | | | | | | |
| B-ACD | 0.94 | 7.96 | 0.119 | | 0.18 | 0.14 | 2.1 | | 0.14 |
| A-BCD | 1.66 | 13.42 | 0.123 | | 0.39 | 0.26 | 4.0 | | 0.09 |
| A-B | 0.41 | | | | | | | | |
| A-C | 5.13 | | | | | | | | |
| D-ABC | 3.18 | 7.83 | 0.405 | | 1.14 | 0.70 | 11.0 | | 0.22 |
| C-ABD | 0.45 | 14.32 | 0.031 | | 0.06 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.54 | | | | | | | | |
| C-A | 5.59 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.30-09.45 | | | | | | | | | |
| B-ACD | 0.79 | 8.38 | 0.094 | | 0.14 | 0.11 | 1.6 | | 0.13 |
| A-BCD | 1.25 | 12.94 | 0.096 | | 0.26 | 0.19 | 2.8 | | 0.09 |
| A-B | 0.35 | | | | | | | | |
| A-C | 4.42 | | | | | | | | |
| D-ABC | 2.66 | 8.27 | 0.322 | | 0.70 | 0.48 | 7.5 | | 0.18 |
| C-ABD | 0.34 | 13.82 | 0.025 | | 0.04 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.30 | | | | | | | | |
| C-A | 4.71 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.1 | |
| 08.45 | 0.1 | |
| 09.00 | 0.2 | |
| 09.15 | 0.2 | |
| 09.30 | 0.1 | |
| 09.45 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.2 | |
| 08.45 | 0.3 | |
| 09.00 | 0.4 | |
| 09.15 | 0.4 | |
| 09.30 | 0.3 | |
| 09.45 | 0.2 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.5 | |
| 08.45 | 0.7 | * |
| 09.00 | 1.1 | * |
| 09.15 | 1.1 | * |
| 09.30 | 0.7 | * |
| 09.45 | 0.5 | |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 08.30 | 0.0 |
| 08.45 | 0.0 |
| 09.00 | 0.1 |
| 09.15 | 0.1 |
| 09.30 | 0.0 |
| 09.45 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 86.7 | 57.8 | 12.6 | 0.15 | 12.6 | 0.15 |
| A-BCD | 157.3 | 104.8 | 25.2 | 0.16 | 25.2 | 0.16 |
| A-B | 37.1 | 24.7 | | | | |
| A-C | 466.4 | 310.9 | | | | |
| D-ABC | 291.8 | 194.5 | 67.5 | 0.23 | 67.5 | 0.23 |
| C-ABD | 42.5 | 28.3 | 4.0 | 0.09 | 4.0 | 0.09 |
| C-D | 141.5 | 94.3 | | | | |
| C-A | 512.5 | 341.7 | | | | |
| ALL | 1735.7 | 1157.1 | 109.2 | 0.06 | 109.2 | 0.06 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

## TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2017 Am with dev

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 5.69 | 8.53 | 5.69 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.77 | 1.16 | 0.77 |
| ARM C | 15.00 | 45.00 | 75.00 | 6.13 | 9.19 | 6.13 |
| ARM D | 15.00 | 45.00 | 75.00 | 3.60 | 5.40 | 3.60 |

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 08.15 - 09.45 | ARM A | 0.000 | 0.064 | 0.787 | 0.149 |
| | | 0.0 | 29.0 | 358.0 | 68.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |
| | ARM B | 0.274 | 0.000 | 0.452 | 0.274 |
| | | 17.0 | 0.0 | 28.0 | 17.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |
| | ARM C | 0.718 | 0.031 | 0.000 | 0.251 |
| | | 352.0 | 15.0 | 0.0 | 123.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |
| | ARM D | 0.392 | 0.045 | 0.563 | 0.000 |
| | | 113.0 | 13.0 | 162.0 | 0.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

## QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2017 Am with dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.15-08.30 | | | | | | | | | |
| B-ACD | 0.78 | 8.31 | 0.094 | | 0.00 | 0.10 | 1.5 | | 0.13 |
| A-BCD | 1.37 | 12.68 | 0.108 | | 0.00 | 0.20 | 2.9 | | 0.09 |
| A-B | 0.32 | | | | | | | | |
| A-C | 4.01 | | | | | | | | |
| D-ABC | 3.61 | 8.36 | 0.432 | | 0.00 | 0.74 | 10.4 | | 0.21 |
| C-ABD | 0.31 | 13.75 | 0.023 | | 0.00 | 0.03 | 0.4 | | 0.07 |
| C-D | 1.51 | | | | | | | | |
| C-A | 4.32 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.30-08.45 | | | | | | | | | |
| B-ACD | 0.93 | 7.89 | 0.118 | | 0.10 | 0.13 | 1.9 | | 0.14 |
| A-BCD | 1.81 | 13.11 | 0.138 | | 0.20 | 0.27 | 4.2 | | 0.09 |
| A-B | 0.37 | | | | | | | | |
| A-C | 4.63 | | | | | | | | |
| D-ABC | 4.32 | 7.94 | 0.543 | | 0.74 | 1.15 | 16.2 | | 0.27 |
| C-ABD | 0.41 | 14.24 | 0.029 | | 0.03 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.79 | | | | | | | | |
| C-A | 5.13 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.45-09.00 | | | | | | | | | |
| B-ACD | 1.14 | 7.31 | 0.156 | | 0.13 | 0.18 | 2.7 | | 0.16 |
| A-BCD | 2.54 | 13.72 | 0.185 | | 0.27 | 0.41 | 6.2 | | 0.09 |
| A-B | 0.43 | | | | | | | | |
| A-C | 5.37 | | | | | | | | |
| D-ABC | 5.28 | 7.36 | 0.718 | | 1.15 | 2.31 | 30.8 | | 0.45 |
| C-ABD | 0.57 | 14.90 | 0.039 | | 0.04 | 0.05 | 0.8 | | 0.07 |
| C-D | 2.18 | | | | | | | | |
| C-A | 6.24 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.00-09.15 | | | | | | | | | |
| B-ACD | 1.14 | 7.30 | 0.156 | | 0.18 | 0.18 | 2.7 | | 0.16 |
| A-BCD | 2.55 | 13.72 | 0.186 | | 0.41 | 0.42 | 6.3 | | 0.09 |
| A-B | 0.43 | | | | | | | | |
| A-C | 5.37 | | | | | | | | |
| D-ABC | 5.28 | 7.36 | 0.718 | | 2.31 | 2.42 | 35.6 | | 0.48 |
| C-ABD | 0.57 | 14.90 | 0.039 | | 0.05 | 0.05 | 0.8 | | 0.07 |
| C-D | 2.18 | | | | | | | | |
| C-A | 6.24 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.15-09.30 | | | | | | | | | |
| B-ACD | 0.93 | 7.88 | 0.118 | | 0.18 | 0.14 | 2.1 | | 0.14 |
| A-BCD | 1.82 | 13.12 | 0.139 | | 0.42 | 0.28 | 4.3 | | 0.09 |
| A-B | 0.37 | | | | | | | | |
| A-C | 4.62 | | | | | | | | |
| D-ABC | 4.32 | 7.94 | 0.544 | | 2.42 | 1.24 | 20.1 | | 0.29 |
| C-ABD | 0.41 | 14.24 | 0.029 | | 0.05 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.79 | | | | | | | | |
| C-A | 5.13 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.30-09.45 | | | | | | | | | |
| B-ACD | 0.78 | 8.30 | 0.094 | | 0.14 | 0.10 | 1.6 | | 0.13 |
| A-BCD | 1.38 | 12.69 | 0.109 | | 0.28 | 0.20 | 3.1 | | 0.09 |
| A-B | 0.32 | | | | | | | | |
| A-C | 4.00 | | | | | | | | |
| D-ABC | 3.61 | 8.35 | 0.433 | | 1.24 | 0.78 | 12.3 | | 0.21 |
| C-ABD | 0.31 | 13.75 | 0.023 | | 0.04 | 0.03 | 0.4 | | 0.07 |
| C-D | 1.51 | | | | | | | | |
| C-A | 4.32 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.1 | |
| 08.45 | 0.1 | |
| 09.00 | 0.2 | |
| 09.15 | 0.2 | |
| 09.30 | 0.1 | |
| 09.45 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.2 | |
| 08.45 | 0.3 | |
| 09.00 | 0.4 | |
| 09.15 | 0.4 | |
| 09.30 | 0.3 | |
| 09.45 | 0.2 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.7 | * |
| 08.45 | 1.1 | * |
| 09.00 | 2.3 | ** |
| 09.15 | 2.4 | ** |
| 09.30 | 1.2 | * |
| 09.45 | 0.8 | * |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 08.30 | 0.0 |
| 08.45 | 0.0 |
| 09.00 | 0.1 |
| 09.15 | 0.1 |
| 09.30 | 0.0 |
| 09.45 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 85.3 | 56.9 | 12.5 | 0.15 | 12.5 | 0.15 |
| A-BCD | 172.2 | 114.8 | 27.0 | 0.16 | 27.0 | 0.16 |
| A-B | 34.0 | 22.7 | | | | |
| A-C | 420.0 | 280.0 | | | | |
| D-ABC | 396.4 | 264.3 | 125.5 | 0.32 | 125.5 | 0.32 |
| C-ABD | 39.1 | 26.0 | 3.6 | 0.09 | 3.6 | 0.09 |
| C-D | 164.5 | 109.7 | | | | |
| C-A | 470.9 | 313.9 | | | | |
| ALL | 1782.5 | 1188.3 | 168.5 | 0.09 | 168.6 | 0.09 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

## TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2022 Am with dev

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 6.18 | 9.26 | 6.18 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.84 | 1.26 | 0.84 |
| ARM C | 15.00 | 45.00 | 75.00 | 6.65 | 9.98 | 6.65 |
| ARM D | 15.00 | 45.00 | 75.00 | 3.83 | 5.74 | 3.83 |

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 08.15 - 09.45 | | | | | |
| | ARM A | 0.000 | 0.063 | 0.789 | 0.148 |
| | | 0.0 | 31.0 | 390.0 | 73.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.269 | 0.000 | 0.463 | 0.269 |
| | | 18.0 | 0.0 | 31.0 | 18.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.722 | 0.030 | 0.000 | 0.248 |
| | | 384.0 | 16.0 | 0.0 | 132.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.392 | 0.046 | 0.562 | 0.000 |
| | | 120.0 | 14.0 | 172.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS (PERCENTAGE OF H.V.S)
TURNING COUNTS (VEH/HR)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

## QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2022 Am with dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.15-08.30 | | | | | | | | | |
| B-ACD | 0.84 | 8.17 | 0.103 | | 0.00 | 0.11 | 1.6 | | 0.14 |
| A-BCD | 1.54 | 12.88 | 0.120 | | 0.00 | 0.23 | 3.4 | | 0.09 |
| A-B | 0.34 | | | | | | | | |
| A-C | 4.31 | | | | | | | | |
| D-ABC | 3.84 | 8.17 | 0.470 | | 0.00 | 0.86 | 12.0 | | 0.23 |
| C-ABD | 0.35 | 13.97 | 0.025 | | 0.00 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.62 | | | | | | | | |
| C-A | 4.71 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.30-08.45 | | | | | | | | | |
| B-ACD | 1.00 | 7.72 | 0.130 | | 0.11 | 0.15 | 2.2 | | 0.15 |
| A-BCD | 2.05 | 13.35 | 0.154 | | 0.23 | 0.32 | 4.8 | | 0.09 |
| A-B | 0.39 | | | | | | | | |
| A-C | 4.95 | | | | | | | | |
| D-ABC | 4.58 | 7.72 | 0.594 | | 0.86 | 1.40 | 19.5 | | 0.31 |
| C-ABD | 0.46 | 14.50 | 0.032 | | 0.03 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.92 | | | | | | | | |
| C-A | 5.59 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 08.45-09.00 | | | | | | | | | |
| B-ACD | 1.23 | 7.08 | 0.174 | | 0.15 | 0.21 | 3.0 | | 0.17 |
| A-BCD | 2.96 | 14.07 | 0.211 | | 0.32 | 0.50 | 7.5 | | 0.09 |
| A-B | 0.45 | | | | | | | | |
| A-C | 5.65 | | | | | | | | |
| D-ABC | 5.62 | 7.09 | 0.792 | | 1.40 | 3.23 | 41.4 | | 0.59 |
| C-ABD | 0.71 | 15.53 | 0.046 | | 0.04 | 0.07 | 1.0 | | 0.07 |
| C-D | 2.31 | | | | | | | | |
| C-A | 6.73 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.00-09.15 | | | | | | | | | |
| B-ACD | 1.23 | 7.07 | 0.174 | | 0.21 | 0.21 | 3.1 | | 0.17 |
| A-BCD | 2.97 | 14.08 | 0.211 | | 0.50 | 0.50 | 7.6 | | 0.09 |
| A-B | 0.45 | | | | | | | | |
| A-C | 5.65 | | | | | | | | |
| D-ABC | 5.62 | 7.08 | 0.793 | | 3.23 | 3.48 | 50.7 | | 0.66 |
| C-ABD | 0.71 | 15.53 | 0.046 | | 0.07 | 0.07 | 1.0 | | 0.07 |
| C-D | 2.31 | | | | | | | | |
| C-A | 6.73 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.15-09.30 | | | | | | | | | |
| B-ACD | 1.00 | 7.70 | 0.130 | | 0.21 | 0.15 | 2.3 | | 0.15 |
| A-BCD | 2.06 | 13.36 | 0.154 | | 0.50 | 0.33 | 5.0 | | 0.09 |
| A-B | 0.39 | | | | | | | | |
| A-C | 4.95 | | | | | | | | |
| D-ABC | 4.58 | 7.71 | 0.594 | | 3.48 | 1.54 | 25.8 | | 0.35 |
| C-ABD | 0.46 | 14.50 | 0.032 | | 0.07 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.92 | | | | | | | | |
| C-A | 5.59 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 09.30-09.45 | | | | | | | | | |
| B-ACD | 0.84 | 8.16 | 0.103 | | 0.15 | 0.12 | 1.8 | | 0.14 |
| A-BCD | 1.55 | 12.88 | 0.120 | | 0.33 | 0.23 | 3.5 | | 0.09 |
| A-B | 0.34 | | | | | | | | |
| A-C | 4.31 | | | | | | | | |
| D-ABC | 3.84 | 8.17 | 0.470 | | 1.54 | 0.91 | 14.5 | | 0.24 |
| C-ABD | 0.35 | 13.97 | 0.025 | | 0.04 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.62 | | | | | | | | |
| C-A | 4.71 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.1 | |
| 08.45 | 0.1 | |
| 09.00 | 0.2 | |
| 09.15 | 0.2 | |
| 09.30 | 0.2 | |
| 09.45 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.2 | |
| 08.45 | 0.3 | |
| 09.00 | 0.5 | |
| 09.15 | 0.5 | * |
| 09.30 | 0.3 | |
| 09.45 | 0.2 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 08.30 | 0.9 | * |
| 08.45 | 1.4 | * |
| 09.00 | 3.2 | *** |
| 09.15 | 3.5 | *** |
| 09.30 | 1.5 | ** |
| 09.45 | 0.9 | * |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 08.30 | 0.0 |
| 08.45 | 0.0 |
| 09.00 | 0.1 |
| 09.15 | 0.1 |
| 09.30 | 0.0 |
| 09.45 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 92.2 | 61.5 | 14.1 | 0.15 | 14.1 | 0.15 |
| A-BCD | 197.0 | 131.4 | 31.8 | 0.16 | 31.8 | 0.16 |
| A-B | 35.6 | 23.7 | | | | |
| A-C | 447.3 | 298.2 | | | | |
| D-ABC | 421.2 | 280.8 | 163.9 | 0.39 | 163.9 | 0.39 |
| C-ABD | 45.8 | 30.5 | 4.3 | 0.09 | 4.3 | 0.09 |
| C-D | 175.6 | 117.1 | | | | |
| C-A | 510.9 | 340.6 | | | | |
| ALL | 1925.6 | 1283.7 | 214.0 | 0.11 | 214.1 | 0.11 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 16:11:31 on 27/11/2013]

TRL LIMITED



CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)



FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk



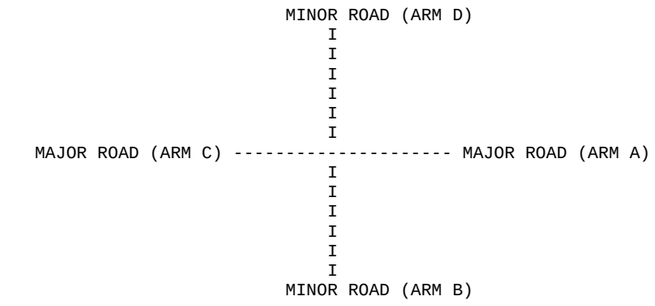
Run with file:-
"T:\T12\Jobs\T12.172_Herbert Road, Newport\Analysis\PICADY\PM\Turner Street junction PM.vpi"
(drive-on-the-left ) at 16:17:44 on Wednesday, 27 November 2013

## RUN INFORMATION

RUN TITLE: Turner Street priority junction
LOCATION: Newport
DATE: 22/03/13
CLIENT: Greenhill Construction
ENUMERATOR: Transport Planner
JOB NUMBER: T12.172
STATUS: Draft 1
DESCRIPTION: Cross road junction of Turnstreet/Caerleon Road/Tesco

## .MAJOR/MINOR JUNCTION CAPACITY AND DELAY

### INPUT DATA




ARM A IS Caerleon Road (north)
ARM B IS Tesco store
ARM C IS Caerleon Road (south)
ARM D IS Turner Street

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

| DATA ITEM | MINOR ROAD B | MINOR ROAD D |
|---|---|---|
| TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | ( W ) 9.07 M. | ( W ) 9.07 M. |
| CENTRAL RESERVE WIDTH | (WCR ) 0.00 M. | (WCR ) 0.00 M. |
| MAJOR ROAD RIGHT TURN - WIDTH | (WC-B) 2.20 M. | (WA-D) 2.20 M. |
| - VISIBILITY | (VC-B) 176.0 M. | (VA-D) 117.0 M. |
| - BLOCKS TRAFFIC | YES | YES |
| MINOR ROAD - VISIBILITY TO LEFT | (VB-C) 47.0 M. | (VD-A) 28.0 M. |
| - VISIBILITY TO RIGHT | (VB-A) 32.0 M. | (VD-C) 28.0 M. |
| - LANE 1 WIDTH | (WB-C) 4.00 M. | (WD-A) 4.39 M. |
| - LANE 2 WIDTH | (WB-A) 0.00 M. | (WD-C) 0.00 M. |

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2013 PM no dev

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 4.46 | 6.69 | 4.46 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.41 | 0.62 | 0.41 |
| ARM C | 15.00 | 45.00 | 75.00 | 5.51 | 8.27 | 5.51 |
| ARM D | 15.00 | 45.00 | 75.00 | 2.30 | 3.45 | 2.30 |

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 17.00 - 18.30 | ARM A | 0.000 | 0.087 | 0.770 | 0.143 |
| | | 0.0 | 31.0 | 275.0 | 51.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.091 | 0.000 | 0.727 | 0.182 |
| | | 3.0 | 0.0 | 24.0 | 6.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.757 | 0.032 | 0.000 | 0.211 |
| | | 334.0 | 14.0 | 0.0 | 93.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.397 | 0.033 | 0.571 | 0.000 |
| | | 73.0 | 6.0 | 105.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2013 PM no dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.00-17.15 | | | | | | | | | |
| B-ACD | 0.41 | 9.73 | 0.043 | | 0.00 | 0.04 | 0.6 | | 0.11 |
| A-BCD | 0.92 | 12.07 | 0.076 | | 0.00 | 0.13 | 1.9 | | 0.09 |
| A-B | 0.36 | | | | | | | | |
| A-C | 3.20 | | | | | | | | |
| D-ABC | 2.31 | 8.68 | 0.266 | | 0.00 | 0.36 | 5.1 | | 0.16 |
| C-ABD | 0.28 | 13.63 | 0.020 | | 0.00 | 0.02 | 0.4 | | 0.07 |
| C-D | 1.14 | | | | | | | | |
| C-A | 4.11 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.15-17.30 | | | | | | | | | |
| B-ACD | 0.49 | 9.47 | 0.052 | | 0.04 | 0.05 | 0.8 | | 0.11 |
| A-BCD | 1.21 | 12.42 | 0.097 | | 0.13 | 0.18 | 2.7 | | 0.09 |
| A-B | 0.42 | | | | | | | | |
| A-C | 3.72 | | | | | | | | |
| D-ABC | 2.76 | 8.34 | 0.331 | | 0.36 | 0.49 | 7.0 | | 0.18 |
| C-ABD | 0.36 | 14.09 | 0.026 | | 0.02 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.36 | | | | | | | | |
| C-A | 4.89 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.30-17.45 | | | | | | | | | |
| B-ACD | 0.61 | 9.10 | 0.067 | | 0.05 | 0.07 | 1.0 | | 0.12 |
| A-BCD | 1.65 | 12.85 | 0.129 | | 0.18 | 0.25 | 3.8 | | 0.09 |
| A-B | 0.50 | | | | | | | | |
| A-C | 4.40 | | | | | | | | |
| D-ABC | 3.38 | 7.86 | 0.430 | | 0.49 | 0.74 | 10.5 | | 0.22 |
| C-ABD | 0.49 | 14.72 | 0.034 | | 0.03 | 0.04 | 0.7 | | 0.07 |
| C-D | 1.66 | | | | | | | | |
| C-A | 5.94 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.45-18.00 | | | | | | | | | |
| B-ACD | 0.61 | 9.10 | 0.067 | | 0.07 | 0.07 | 1.1 | | 0.12 |
| A-BCD | 1.65 | 12.86 | 0.129 | | 0.25 | 0.26 | 3.9 | | 0.09 |
| A-B | 0.50 | | | | | | | | |
| A-C | 4.40 | | | | | | | | |
| D-ABC | 3.38 | 7.85 | 0.430 | | 0.74 | 0.74 | 11.1 | | 0.22 |
| C-ABD | 0.49 | 14.72 | 0.034 | | 0.04 | 0.05 | 0.7 | | 0.07 |
| C-D | 1.65 | | | | | | | | |
| C-A | 5.94 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.00-18.15 | | | | | | | | | |
| B-ACD | 0.49 | 9.46 | 0.052 | | 0.07 | 0.06 | 0.9 | | 0.11 |
| A-BCD | 1.21 | 12.42 | 0.098 | | 0.26 | 0.18 | 2.7 | | 0.09 |
| A-B | 0.42 | | | | | | | | |
| A-C | 3.72 | | | | | | | | |
| D-ABC | 2.76 | 8.33 | 0.331 | | 0.74 | 0.50 | 7.9 | | 0.18 |
| C-ABD | 0.36 | 14.09 | 0.026 | | 0.05 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.36 | | | | | | | | |
| C-A | 4.89 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.15-18.30 | | | | | | | | | |
| B-ACD | 0.41 | 9.73 | 0.043 | | 0.06 | 0.04 | 0.7 | | 0.11 |
| A-BCD | 0.92 | 12.08 | 0.076 | | 0.18 | 0.13 | 2.0 | | 0.09 |
| A-B | 0.36 | | | | | | | | |
| A-C | 3.20 | | | | | | | | |
| D-ABC | 2.31 | 8.68 | 0.266 | | 0.50 | 0.37 | 5.7 | | 0.16 |
| C-ABD | 0.28 | 13.63 | 0.020 | | 0.03 | 0.02 | 0.4 | | 0.07 |
| C-D | 1.14 | | | | | | | | |
| C-A | 4.11 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.0 | |
| 17.30 | 0.1 | |
| 17.45 | 0.1 | |
| 18.00 | 0.1 | |
| 18.15 | 0.1 | |
| 18.30 | 0.0 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.1 | |
| 17.30 | 0.2 | |
| 17.45 | 0.3 | |
| 18.00 | 0.3 | |
| 18.15 | 0.2 | |
| 18.30 | 0.1 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.4 | |
| 17.30 | 0.5 | |
| 17.45 | 0.7 | * |
| 18.00 | 0.7 | * |
| 18.15 | 0.5 | * |
| 18.30 | 0.4 | |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 17.15 | 0.0 |
| 17.30 | 0.0 |
| 17.45 | 0.0 |
| 18.00 | 0.0 |
| 18.15 | 0.0 |
| 18.30 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 45.4 | 30.3 | 5.1 | 0.11 | 5.1 | 0.11 |
| A-BCD | 113.5 | 75.7 | 17.0 | 0.15 | 17.0 | 0.15 |
| A-B | 38.3 | 25.5 | | | | |
| A-C | 339.6 | 226.4 | | | | |
| D-ABC | 253.3 | 168.8 | 47.3 | 0.19 | 47.4 | 0.19 |
| C-ABD | 33.9 | 22.6 | 3.1 | 0.09 | 3.1 | 0.09 |
| C-D | 124.8 | 83.2 | | | | |
| C-A | 448.2 | 298.8 | | | | |
| ALL | 1397.1 | 931.4 | 72.4 | 0.05 | 72.5 | 0.05 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2017 PM no dev

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 4.69 | 7.03 | 4.69 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.43 | 0.64 | 0.43 |
| ARM C | 15.00 | 45.00 | 75.00 | 8.38 | 12.56 | 8.38 |
| ARM D | 15.00 | 45.00 | 75.00 | 3.04 | 4.56 | 3.04 |

TURNING PROPORTIONS (TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S))

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 17.00 - 18.30 | ARM A | 0.000 | 0.085 | 0.771 | 0.144 |
| | | 0.0 | 32.0 | 289.0 | 54.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.088 | 0.000 | 0.735 | 0.176 |
| | | 3.0 | 0.0 | 25.0 | 6.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.834 | 0.025 | 0.000 | 0.140 |
| | | 559.0 | 17.0 | 0.0 | 94.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.514 | 0.029 | 0.457 | 0.000 |
| | | 125.0 | 7.0 | 111.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2017 PM no dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.00-17.15 | | | | | | | | | |
| B-ACD | 0.43 | 9.50 | 0.045 | | 0.00 | 0.05 | 0.7 | | 0.11 |
| A-BCD | 1.03 | 11.70 | 0.088 | | 0.00 | 0.15 | 2.3 | | 0.09 |
| A-B | 0.37 | | | | | | | | |
| A-C | 3.31 | | | | | | | | |
| D-ABC | 3.05 | 8.34 | 0.366 | | 0.00 | 0.56 | 8.0 | | 0.19 |
| C-ABD | 0.41 | 15.26 | 0.027 | | 0.00 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.15 | | | | | | | | |
| C-A | 6.85 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.15-17.30 | | | | | | | | | |
| B-ACD | 0.51 | 9.17 | 0.056 | | 0.05 | 0.06 | 0.9 | | 0.12 |
| A-BCD | 1.35 | 11.94 | 0.113 | | 0.15 | 0.21 | 3.2 | | 0.09 |
| A-B | 0.43 | | | | | | | | |
| A-C | 3.84 | | | | | | | | |
| D-ABC | 3.64 | 7.86 | 0.463 | | 0.56 | 0.84 | 12.0 | | 0.23 |
| C-ABD | 0.55 | 15.97 | 0.034 | | 0.03 | 0.05 | 0.7 | | 0.06 |
| C-D | 1.37 | | | | | | | | |
| C-A | 8.13 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.30-17.45 | | | | | | | | | |
| B-ACD | 0.62 | 8.69 | 0.072 | | 0.06 | 0.08 | 1.1 | | 0.12 |
| A-BCD | 1.89 | 12.31 | 0.153 | | 0.21 | 0.33 | 4.9 | | 0.10 |
| A-B | 0.50 | | | | | | | | |
| A-C | 4.50 | | | | | | | | |
| D-ABC | 4.46 | 7.19 | 0.620 | | 0.84 | 1.54 | 21.2 | | 0.35 |
| C-ABD | 0.89 | 17.43 | 0.051 | | 0.05 | 0.08 | 1.2 | | 0.06 |
| C-D | 1.64 | | | | | | | | |
| C-A | 9.77 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.45-18.00 | | | | | | | | | |
| B-ACD | 0.62 | 8.69 | 0.072 | | 0.08 | 0.08 | 1.2 | | 0.12 |
| A-BCD | 1.89 | 12.31 | 0.153 | | 0.33 | 0.33 | 5.0 | | 0.10 |
| A-B | 0.50 | | | | | | | | |
| A-C | 4.49 | | | | | | | | |
| D-ABC | 4.46 | 7.19 | 0.620 | | 1.54 | 1.58 | 23.5 | | 0.36 |
| C-ABD | 0.89 | 17.43 | 0.051 | | 0.08 | 0.08 | 1.2 | | 0.06 |
| C-D | 1.64 | | | | | | | | |
| C-A | 9.77 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.00-18.15 | | | | | | | | | |
| B-ACD | 0.51 | 9.16 | 0.056 | | 0.08 | 0.06 | 0.9 | | 0.12 |
| A-BCD | 1.35 | 11.95 | 0.113 | | 0.33 | 0.22 | 3.3 | | 0.09 |
| A-B | 0.43 | | | | | | | | |
| A-C | 3.84 | | | | | | | | |
| D-ABC | 3.64 | 7.86 | 0.463 | | 1.58 | 0.89 | 14.2 | | 0.24 |
| C-ABD | 0.55 | 15.97 | 0.034 | | 0.08 | 0.05 | 0.7 | | 0.06 |
| C-D | 1.37 | | | | | | | | |
| C-A | 8.13 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.15-18.30 | | | | | | | | | |
| B-ACD | 0.43 | 9.49 | 0.045 | | 0.06 | 0.05 | 0.7 | | 0.11 |
| A-BCD | 1.03 | 11.70 | 0.088 | | 0.22 | 0.16 | 2.4 | | 0.09 |
| A-B | 0.37 | | | | | | | | |
| A-C | 3.30 | | | | | | | | |
| D-ABC | 3.05 | 8.34 | 0.366 | | 0.89 | 0.59 | 9.2 | | 0.19 |
| C-ABD | 0.41 | 15.26 | 0.027 | | 0.05 | 0.03 | 0.5 | | 0.07 |
| C-D | 1.15 | | | | | | | | |
| C-A | 6.85 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.0 | |
| 17.30 | 0.1 | |
| 17.45 | 0.1 | |
| 18.00 | 0.1 | |
| 18.15 | 0.1 | |
| 18.30 | 0.0 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.2 | |
| 17.30 | 0.2 | |
| 17.45 | 0.3 | |
| 18.00 | 0.3 | |
| 18.15 | 0.2 | |
| 18.30 | 0.2 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.6 | * |
| 17.30 | 0.8 | * |
| 17.45 | 1.5 | ** |
| 18.00 | 1.6 | ** |
| 18.15 | 0.9 | * |
| 18.30 | 0.6 | * |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 17.15 | 0.0 |
| 17.30 | 0.0 |
| 17.45 | 0.1 |
| 18.00 | 0.1 |
| 18.15 | 0.0 |
| 18.30 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 46.8 | 31.2 | 5.5 | 0.12 | 5.5 | 0.12 |
| A-BCD | 128.2 | 85.5 | 21.1 | 0.16 | 21.1 | 0.16 |
| A-B | 38.7 | 25.8 | | | | |
| A-C | 349.3 | 232.9 | | | | |
| D-ABC | 334.5 | 223.0 | 88.0 | 0.26 | 88.0 | 0.26 |
| C-ABD | 55.3 | 36.8 | 4.7 | 0.09 | 4.7 | 0.09 |
| C-D | 124.8 | 83.2 | | | | |
| C-A | 742.2 | 494.8 | | | | |
| ALL | 1819.6 | 1213.1 | 119.4 | 0.07 | 119.4 | 0.07 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2022 PM no dev

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 5.09 | 7.63 | 5.09 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.46 | 0.69 | 0.46 |
| ARM C | 15.00 | 45.00 | 75.00 | 9.07 | 13.61 | 9.07 |
| ARM D | 15.00 | 45.00 | 75.00 | 3.31 | 4.97 | 3.31 |

TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 17.00 - 18.30 | ARM A | 0.000 | 0.086 | 0.771 | 0.143 |
| | | 0.0 | 35.0 | 314.0 | 58.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |
| | ARM B | 0.081 | 0.000 | 0.730 | 0.189 |
| | | 3.0 | 0.0 | 27.0 | 7.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |
| | ARM C | 0.835 | 0.025 | 0.000 | 0.140 |
| | | 606.0 | 18.0 | 0.0 | 102.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |
| | ARM D | 0.513 | 0.030 | 0.457 | 0.000 |
| | | 136.0 | 8.0 | 121.0 | 0.0 |
| | | ( 0.0)% | ( 0.0)% | ( 0.0)% | ( 0.0)% |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2022 PM no dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.00-17.15 | | | | | | | | | |
| B-ACD | 0.46 | 9.34 | 0.050 | | 0.00 | 0.05 | 0.8 | | 0.11 |
| A-BCD | 1.15 | 11.81 | 0.098 | | 0.00 | 0.18 | 2.6 | | 0.09 |
| A-B | 0.40 | | | | | | | | |
| A-C | 3.56 | | | | | | | | |
| D-ABC | 3.33 | 8.13 | 0.409 | | 0.00 | 0.68 | 9.5 | | 0.20 |
| C-ABD | 0.45 | 15.57 | 0.029 | | 0.00 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.25 | | | | | | | | |
| C-A | 7.41 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.15-17.30 | | | | | | | | | |
| B-ACD | 0.55 | 8.97 | 0.062 | | 0.05 | 0.07 | 1.0 | | 0.12 |
| A-BCD | 1.53 | 12.09 | 0.126 | | 0.18 | 0.25 | 3.8 | | 0.09 |
| A-B | 0.46 | | | | | | | | |
| A-C | 4.11 | | | | | | | | |
| D-ABC | 3.97 | 7.61 | 0.522 | | 0.68 | 1.05 | 14.9 | | 0.27 |
| C-ABD | 0.61 | 16.33 | 0.037 | | 0.04 | 0.05 | 0.8 | | 0.06 |
| C-D | 1.48 | | | | | | | | |
| C-A | 8.79 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.30-17.45 | | | | | | | | | |
| B-ACD | 0.68 | 8.45 | 0.080 | | 0.07 | 0.09 | 1.3 | | 0.13 |
| A-BCD | 2.16 | 12.50 | 0.173 | | 0.25 | 0.39 | 5.9 | | 0.10 |
| A-B | 0.53 | | | | | | | | |
| A-C | 4.78 | | | | | | | | |
| D-ABC | 4.86 | 6.88 | 0.707 | | 1.05 | 2.19 | 29.2 | | 0.46 |
| C-ABD | 1.02 | 17.93 | 0.057 | | 0.05 | 0.09 | 1.4 | | 0.06 |
| C-D | 1.77 | | | | | | | | |
| C-A | 10.53 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.45-18.00 | | | | | | | | | |
| B-ACD | 0.68 | 8.44 | 0.080 | | 0.09 | 0.09 | 1.3 | | 0.13 |
| A-BCD | 2.16 | 12.51 | 0.173 | | 0.39 | 0.39 | 5.9 | | 0.10 |
| A-B | 0.53 | | | | | | | | |
| A-C | 4.77 | | | | | | | | |
| D-ABC | 4.86 | 6.88 | 0.707 | | 2.19 | 2.29 | 33.8 | | 0.49 |
| C-ABD | 1.02 | 17.93 | 0.057 | | 0.09 | 0.09 | 1.4 | | 0.06 |
| C-D | 1.77 | | | | | | | | |
| C-A | 10.53 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.00-18.15 | | | | | | | | | |
| B-ACD | 0.55 | 8.97 | 0.062 | | 0.09 | 0.07 | 1.0 | | 0.12 |
| A-BCD | 1.53 | 12.10 | 0.126 | | 0.39 | 0.26 | 3.9 | | 0.09 |
| A-B | 0.46 | | | | | | | | |
| A-C | 4.11 | | | | | | | | |
| D-ABC | 3.97 | 7.61 | 0.522 | | 2.29 | 1.13 | 18.4 | | 0.29 |
| C-ABD | 0.61 | 16.33 | 0.037 | | 0.09 | 0.05 | 0.8 | | 0.06 |
| C-D | 1.48 | | | | | | | | |
| C-A | 8.79 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.15-18.30 | | | | | | | | | |
| B-ACD | 0.46 | 9.33 | 0.050 | | 0.07 | 0.05 | 0.8 | | 0.11 |
| A-BCD | 1.16 | 11.82 | 0.098 | | 0.26 | 0.18 | 2.7 | | 0.09 |
| A-B | 0.40 | | | | | | | | |
| A-C | 3.55 | | | | | | | | |
| D-ABC | 3.33 | 8.13 | 0.409 | | 1.13 | 0.71 | 11.2 | | 0.21 |
| C-ABD | 0.46 | 15.57 | 0.029 | | 0.05 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.25 | | | | | | | | |
| C-A | 7.41 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.1 | |
| 17.30 | 0.1 | |
| 17.45 | 0.1 | |
| 18.00 | 0.1 | |
| 18.15 | 0.1 | |
| 18.30 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.2 | |
| 17.30 | 0.3 | |
| 17.45 | 0.4 | |
| 18.00 | 0.4 | |
| 18.15 | 0.3 | |
| 18.30 | 0.2 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.7 | * |
| 17.30 | 1.1 | * |
| 17.45 | 2.2 | ** |
| 18.00 | 2.3 | ** |
| 18.15 | 1.1 | * |
| 18.30 | 0.7 | * |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.1 |
| 18.15 | 0.1 |
| 18.30 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 50.9 | 34.0 | 6.1 | 0.12 | 6.1 | 0.12 |
| A-BCD | 145.3 | 96.9 | 24.8 | 0.17 | 24.8 | 0.17 |
| A-B | 41.6 | 27.7 | | | | |
| A-C | 373.3 | 248.9 | | | | |
| D-ABC | 364.8 | 243.2 | 116.9 | 0.32 | 117.0 | 0.32 |
| C-ABD | 62.5 | 41.7 | 5.4 | 0.09 | 5.4 | 0.09 |
| C-D | 135.0 | 90.0 | | | | |
| C-A | 801.8 | 534.5 | | | | |
| ALL | 1975.2 | 1316.8 | 153.3 | 0.08 | 153.3 | 0.08 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2017 PM with dev

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 5.06 | 7.59 | 5.06 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.47 | 0.71 | 0.47 |
| ARM C | 15.00 | 45.00 | 75.00 | 9.04 | 13.56 | 9.04 |
| ARM D | 15.00 | 45.00 | 75.00 | 3.76 | 5.64 | 3.76 |

TURNING PROPORTIONS (TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S))

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 17.00 - 18.30 | ARM A | 0.000 | 0.079 | 0.714 | 0.207 |
| | | 0.0 | 32.0 | 289.0 | 84.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.079 | 0.000 | 0.658 | 0.263 |
| | | 3.0 | 0.0 | 25.0 | 10.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.773 | 0.024 | 0.000 | 0.203 |
| | | 559.0 | 17.0 | 0.0 | 147.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.515 | 0.030 | 0.455 | 0.000 |
| | | 155.0 | 9.0 | 137.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2017 PM with dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.00-17.15 | | | | | | | | | |
| B-ACD | 0.48 | 9.06 | 0.053 | | 0.00 | 0.06 | 0.8 | | 0.12 |
| A-BCD | 1.61 | 11.57 | 0.139 | | 0.00 | 0.24 | 3.6 | | 0.10 |
| A-B | 0.35 | | | | | | | | |
| A-C | 3.12 | | | | | | | | |
| D-ABC | 3.78 | 8.19 | 0.461 | | 0.00 | 0.83 | 11.6 | | 0.22 |
| C-ABD | 0.43 | 15.54 | 0.028 | | 0.00 | 0.04 | 0.5 | | 0.07 |
| C-D | 1.80 | | | | | | | | |
| C-A | 6.84 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.15-17.30 | | | | | | | | | |
| B-ACD | 0.57 | 8.68 | 0.066 | | 0.06 | 0.07 | 1.0 | | 0.12 |
| A-BCD | 2.12 | 11.80 | 0.180 | | 0.24 | 0.34 | 5.2 | | 0.10 |
| A-B | 0.39 | | | | | | | | |
| A-C | 3.55 | | | | | | | | |
| D-ABC | 4.51 | 7.67 | 0.588 | | 0.83 | 1.36 | 19.0 | | 0.31 |
| C-ABD | 0.58 | 16.30 | 0.035 | | 0.04 | 0.05 | 0.7 | | 0.06 |
| C-D | 2.14 | | | | | | | | |
| C-A | 8.12 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.30-17.45 | | | | | | | | | |
| B-ACD | 0.70 | 8.13 | 0.086 | | 0.07 | 0.09 | 1.4 | | 0.13 |
| A-BCD | 2.97 | 12.15 | 0.245 | | 0.34 | 0.54 | 8.2 | | 0.11 |
| A-B | 0.44 | | | | | | | | |
| A-C | 4.01 | | | | | | | | |
| D-ABC | 5.52 | 6.95 | 0.795 | | 1.36 | 3.26 | 41.6 | | 0.60 |
| C-ABD | 0.96 | 17.89 | 0.054 | | 0.05 | 0.08 | 1.3 | | 0.06 |
| C-D | 2.56 | | | | | | | | |
| C-A | 9.74 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.45-18.00 | | | | | | | | | |
| B-ACD | 0.70 | 8.12 | 0.086 | | 0.09 | 0.09 | 1.4 | | 0.13 |
| A-BCD | 2.98 | 12.15 | 0.245 | | 0.54 | 0.55 | 8.3 | | 0.11 |
| A-B | 0.44 | | | | | | | | |
| A-C | 4.01 | | | | | | | | |
| D-ABC | 5.52 | 6.94 | 0.796 | | 3.26 | 3.52 | 51.3 | | 0.68 |
| C-ABD | 0.96 | 17.89 | 0.054 | | 0.08 | 0.08 | 1.3 | | 0.06 |
| C-D | 2.56 | | | | | | | | |
| C-A | 9.74 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.00-18.15 | | | | | | | | | |
| B-ACD | 0.57 | 8.67 | 0.066 | | 0.09 | 0.07 | 1.1 | | 0.12 |
| A-BCD | 2.13 | 11.81 | 0.180 | | 0.55 | 0.36 | 5.4 | | 0.10 |
| A-B | 0.39 | | | | | | | | |
| A-C | 3.55 | | | | | | | | |
| D-ABC | 4.51 | 7.66 | 0.588 | | 3.52 | 1.50 | 25.2 | | 0.34 |
| C-ABD | 0.58 | 16.29 | 0.035 | | 0.08 | 0.05 | 0.7 | | 0.06 |
| C-D | 2.14 | | | | | | | | |
| C-A | 8.12 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.15-18.30 | | | | | | | | | |
| B-ACD | 0.48 | 9.06 | 0.053 | | 0.07 | 0.06 | 0.9 | | 0.12 |
| A-BCD | 1.62 | 11.58 | 0.140 | | 0.36 | 0.25 | 3.8 | | 0.10 |
| A-B | 0.35 | | | | | | | | |
| A-C | 3.12 | | | | | | | | |
| D-ABC | 3.78 | 8.18 | 0.462 | | 1.50 | 0.88 | 14.0 | | 0.23 |
| C-ABD | 0.43 | 15.54 | 0.028 | | 0.05 | 0.04 | 0.5 | | 0.07 |
| C-D | 1.80 | | | | | | | | |
| C-A | 6.84 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.1 | |
| 17.30 | 0.1 | |
| 17.45 | 0.1 | |
| 18.00 | 0.1 | |
| 18.15 | 0.1 | |
| 18.30 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.2 | |
| 17.30 | 0.3 | |
| 17.45 | 0.5 | * |
| 18.00 | 0.5 | * |
| 18.15 | 0.4 | |
| 18.30 | 0.3 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.8 | * |
| 17.30 | 1.4 | * |
| 17.45 | 3.3 | *** |
| 18.00 | 3.5 | **** |
| 18.15 | 1.5 | * |
| 18.30 | 0.9 | * |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 17.15 | 0.0 |
| 17.30 | 0.0 |
| 17.45 | 0.1 |
| 18.00 | 0.1 |
| 18.15 | 0.0 |
| 18.30 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 52.3 | 34.9 | 6.5 | 0.12 | 6.5 | 0.12 |
| A-BCD | 201.4 | 134.3 | 34.4 | 0.17 | 34.4 | 0.17 |
| A-B | 35.5 | 23.7 | | | | |
| A-C | 320.6 | 213.7 | | | | |
| D-ABC | 414.3 | 276.2 | 162.8 | 0.39 | 162.8 | 0.39 |
| C-ABD | 59.1 | 39.4 | 5.0 | 0.09 | 5.0 | 0.09 |
| C-D | 194.9 | 129.9 | | | | |
| C-A | 741.2 | 494.1 | | | | |
| ALL | 2019.2 | 1346.1 | 208.8 | 0.10 | 208.8 | 0.10 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCPET

(NB:Streams may be combined, in which case capacity

will be adjusted )

B-C Stream

| Intercept For Stream B-C | Slope For Opposing Stream A-C | Slope For Opposing Stream A-B |
|---|---|---|
| 708.57 | 0.24 | 0.09 |

D-A Stream

| Intercept For Stream D-A | Slope For Opposing Stream C-A | Slope For Opposing Stream C-D |
|---|---|---|
| 730.85 | 0.25 | 0.10 |

B-A Stream

| Intercept For Stream B-A | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream D-A | Slope For Opposing Stream D-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.22 | 0.22 |

| Slope For Opposing Stream A-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

D-C Stream

| Intercept For Stream D-C | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream B-C | Slope For Opposing Stream B-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.23 | 0.23 |

| Slope For Opposing Stream C-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream B-A |
|---|---|---|---|
| 0.09 | 0.14 | 0.32 | 0.11 |

C-B Stream

| Intercept For Stream C-B | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D |
|---|---|---|
| 675.89 | 0.23 | 0.32 |

A-D Stream

| Intercept For Stream A-D | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B |
|---|---|---|
| 641.72 | 0.23 | 0.31 |

B-D Stream From Left Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

B-D Stream From Right Hand Lane

| Intercept For Stream B-D | Slope For Opposing Stream A-C | Slope For Opposing Stream A-D | Slope For Opposing Stream A-B | Slope For Opposing Stream C-B |
|---|---|---|---|---|
| 559.48 | 0.22 | 0.22 | 0.09 | 0.32 |

| Slope For Opposing Stream C-A | Slope For Opposing Stream C-D | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Left Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream D-C | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

D-B Stream From Right Hand Lane

| Intercept For Stream D-B | Slope For Opposing Stream C-A | Slope For Opposing Stream C-B | Slope For Opposing Stream C-D | Slope For Opposing Stream A-D |
|---|---|---|---|---|
| 570.06 | 0.23 | 0.23 | 0.09 | 0.32 |

| Slope For Opposing Stream A-C | Slope For Opposing Stream A-B | Slope For Opposing | Slope For Opposing |
|---|---|---|---|
| 0.14 | 0.14 | | |

TRAFFIC DEMAND DATA

| ARM | FLOW SCALE(%) |
|---|---|
| A | 100 |
| B | 100 |
| C | 100 |
| D | 100 |

Demand set: Turner Street priority junction 2022 PM with dev

TIME PERIOD BEGINS 17.00 AND ENDS 18.30

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

| ARM | NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE | NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED | NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING | RATE OF FLOW (VEH/MIN) BEFORE PEAK | RATE OF FLOW (VEH/MIN) AT TOP OF PEAK | RATE OF FLOW (VEH/MIN) AFTER PEAK |
|---|---|---|---|---|---|---|
| ARM A | 15.00 | 45.00 | 75.00 | 5.47 | 8.21 | 5.47 |
| ARM B | 15.00 | 45.00 | 75.00 | 0.50 | 0.75 | 0.50 |
| ARM C | 15.00 | 45.00 | 75.00 | 9.74 | 14.61 | 9.74 |
| ARM D | 15.00 | 45.00 | 75.00 | 4.04 | 6.06 | 4.04 |

TURNING PROPORTIONS (VEH/HR) (PERCENTAGE OF H.V.S)

| TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |
|---|---|---|---|---|---|
| 17.00 - 18.30 | ARM A | 0.000 | 0.080 | 0.717 | 0.203 |
| | | 0.0 | 35.0 | 314.0 | 89.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM B | 0.075 | 0.000 | 0.675 | 0.250 |
| | | 3.0 | 0.0 | 27.0 | 10.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM C | 0.778 | 0.023 | 0.000 | 0.199 |
| | | 606.0 | 18.0 | 0.0 | 155.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |
| | ARM D | 0.514 | 0.031 | 0.455 | 0.000 |
| | | 166.0 | 10.0 | 147.0 | 0.0 |
| | | ( 0.0) | ( 0.0) | ( 0.0) | ( 0.0) |

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Turner Street priority junction 2022 PM with dev
AND FOR TIME PERIOD 1

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.00-17.15 | | | | | | | | | |
| B-ACD | 0.50 | 8.99 | 0.056 | | 0.00 | 0.06 | 0.9 | | 0.12 |
| A-BCD | 1.78 | 11.69 | 0.152 | | 0.00 | 0.28 | 4.1 | | 0.10 |
| A-B | 0.37 | | | | | | | | |
| A-C | 3.34 | | | | | | | | |
| D-ABC | 4.05 | 7.98 | 0.508 | | 0.00 | 1.00 | 13.8 | | 0.25 |
| C-ABD | 0.48 | 15.85 | 0.030 | | 0.00 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.89 | | | | | | | | |
| C-A | 7.40 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.15-17.30 | | | | | | | | | |
| B-ACD | 0.60 | 8.57 | 0.070 | | 0.06 | 0.07 | 1.1 | | 0.13 |
| A-BCD | 2.36 | 11.95 | 0.198 | | 0.28 | 0.40 | 6.0 | | 0.10 |
| A-B | 0.42 | | | | | | | | |
| A-C | 3.78 | | | | | | | | |
| D-ABC | 4.84 | 7.41 | 0.653 | | 1.00 | 1.76 | 24.1 | | 0.37 |
| C-ABD | 0.73 | 17.11 | 0.043 | | 0.04 | 0.06 | 0.9 | | 0.06 |
| C-D | 2.23 | | | | | | | | |
| C-A | 8.71 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.30-17.45 | | | | | | | | | |
| B-ACD | 0.73 | 7.97 | 0.092 | | 0.07 | 0.10 | 1.5 | | 0.14 |
| A-BCD | 3.36 | 12.34 | 0.272 | | 0.40 | 0.65 | 9.7 | | 0.11 |
| A-B | 0.47 | | | | | | | | |
| A-C | 4.21 | | | | | | | | |
| D-ABC | 5.93 | 6.63 | 0.895 | | 1.76 | 5.40 | 63.1 | | 0.89 |
| C-ABD | 1.10 | 18.38 | 0.060 | | 0.06 | 0.10 | 1.5 | | 0.06 |
| C-D | 2.69 | | | | | | | | |
| C-A | 10.50 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 17.45-18.00 | | | | | | | | | |
| B-ACD | 0.73 | 7.96 | 0.092 | | 0.10 | 0.10 | 1.5 | | 0.14 |
| A-BCD | 3.40 | 12.38 | 0.275 | | 0.65 | 0.66 | 10.0 | | 0.11 |
| A-B | 0.46 | | | | | | | | |
| A-C | 4.17 | | | | | | | | |
| D-ABC | 5.93 | 6.62 | 0.895 | | 5.40 | 6.36 | 89.1 | | 1.16 |
| C-ABD | 1.11 | 18.38 | 0.060 | | 0.10 | 0.10 | 1.5 | | 0.06 |
| C-D | 2.69 | | | | | | | | |
| C-A | 10.50 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.00-18.15 | | | | | | | | | |
| B-ACD | 0.60 | 8.56 | 0.070 | | 0.10 | 0.08 | 1.2 | | 0.13 |
| A-BCD | 2.37 | 11.96 | 0.198 | | 0.66 | 0.41 | 6.2 | | 0.10 |
| A-B | 0.42 | | | | | | | | |
| A-C | 3.77 | | | | | | | | |
| D-ABC | 4.84 | 7.41 | 0.653 | | 6.36 | 2.03 | 38.4 | | 0.48 |
| C-ABD | 0.73 | 17.11 | 0.043 | | 0.10 | 0.06 | 0.9 | | 0.06 |
| C-D | 2.23 | | | | | | | | |
| C-A | 8.71 | | | | | | | | |

| TIME | DEMAND (VEH/MIN) | CAPACITY (VEH/MIN) | DEMAND/ CAPACITY (RFC) | PEDESTRIAN FLOW (PEDS/MIN) | START QUEUE (VEHS) | END QUEUE (VEHS) | DELAY (VEH.MIN/ TIME SEGMENT) | GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT) | AVERAGE DELAY PER ARRIVING VEHICLE (MIN) |
|---|---|---|---|---|---|---|---|---|---|
| 18.15-18.30 | | | | | | | | | |
| B-ACD | 0.50 | 8.98 | 0.056 | | 0.08 | 0.06 | 0.9 | | 0.12 |
| A-BCD | 1.79 | 11.70 | 0.153 | | 0.41 | 0.29 | 4.3 | | 0.10 |
| A-B | 0.37 | | | | | | | | |
| A-C | 3.34 | | | | | | | | |
| D-ABC | 4.05 | 7.97 | 0.509 | | 2.03 | 1.07 | 17.2 | | 0.26 |
| C-ABD | 0.48 | 15.84 | 0.030 | | 0.06 | 0.04 | 0.6 | | 0.07 |
| C-D | 1.89 | | | | | | | | |
| C-A | 7.40 | | | | | | | | |

*WARNING* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.1 | |
| 17.30 | 0.1 | |
| 17.45 | 0.1 | |
| 18.00 | 0.1 | |
| 18.15 | 0.1 | |
| 18.30 | 0.1 | |

QUEUE FOR STREAM A-BCD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 0.3 | |
| 17.30 | 0.4 | |
| 17.45 | 0.6 | * |
| 18.00 | 0.7 | * |
| 18.15 | 0.4 | |
| 18.30 | 0.3 | |

QUEUE FOR STREAM D-ABC

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE | |
|---|---|---|
| 17.15 | 1.0 | * |
| 17.30 | 1.8 | ** |
| 17.45 | 5.4 | ***** |
| 18.00 | 6.4 | ****** |
| 18.15 | 2.0 | ** |
| 18.30 | 1.1 | * |

QUEUE FOR STREAM C-ABD

| TIME SEGMENT ENDING | NO. OF VEHICLES IN QUEUE |
|---|---|
| 17.15 | 0.0 |
| 17.30 | 0.1 |
| 17.45 | 0.1 |
| 18.00 | 0.1 |
| 18.15 | 0.1 |
| 18.30 | 0.0 |

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

| STREAM | TOTAL DEMAND (VEH) | TOTAL DEMAND (VEH/H) | * QUEUEING * DELAY * (MIN) | * QUEUEING * DELAY * (MIN/VEH) | * INCLUSIVE QUEUEING * DELAY * (MIN) | * INCLUSIVE QUEUEING * DELAY * (MIN/VEH) |
|---|---|---|---|---|---|---|
| B-ACD | 55.1 | 36.7 | 7.0 | 0.13 | 7.0 | 0.13 |
| A-BCD | 225.9 | 150.6 | 40.4 | 0.18 | 40.4 | 0.18 |
| A-B | 37.8 | 25.2 | | | | |
| A-C | 339.2 | 226.1 | | | | |
| D-ABC | 444.6 | 296.4 | 245.7 | 0.55 | 245.8 | 0.55 |
| C-ABD | 69.4 | 46.3 | 6.0 | 0.09 | 6.0 | 0.09 |
| C-D | 204.2 | 136.2 | | | | |
| C-A | 798.5 | 532.4 | | | | |
| ALL | 2174.8 | 1449.8 | 299.1 | 0.14 | 299.2 | 0.14 |

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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[Printed at 16:18:18 on 27/11/2013]