



# Chipstead Valley Road / Lion Green Road /

Preliminary Option Assessment

July 2011  
London Borough of Croydon



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# Executive Summary

The London Borough of Croydon commissioned Mott MacDonald to investigate the feasibility of introducing signalised pedestrian facilities at the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction in Coulsdon.

This report provides a description of two options to introduce pedestrian facilities at the junction and provides details of the associated impact assessment.

Option 1 incorporates the introduction of signal controlled pedestrian facilities on all approaches. However, this would require the introduction, within the signal sequence, of an all round pedestrian stage at the expense of junction capacity, causing some arms to operate well above saturation. Sensitivity testing suggests that, under Option 1, junction approaches would operate at lower degrees of saturation than current if the demand dependent pedestrian stage is called in less than 50% of the cycles during the peak hours. However, a higher frequency of appearance would result in severe oversaturation. As the all round pedestrian stage could be called by pedestrian waiting at any junction arm, it is likely that its frequency of appearance would exceed 50%, thus resulting in unacceptable levels of congestion. This option is therefore not recommended for this location.

Option 2 proposes the introduction of signalised pedestrian facilities on all arms apart from Woodman Road and Chipstead Valley Road eastbound. Also, it is proposed to control the ahead and right turn lanes from Woodcote Grove Road with separate traffic phases, in order to enable pedestrians to cross Lion Green Road in parallel with traffic movements. These measures would remove the need for an all round pedestrian stage, thus increasing capacity significantly.

Under this option, the following turning movements would require banning:

- Left from Woodcote Grove Road S/B into Chipstead Valley Road east E/B (approx. 30-35 veh/h). This measure would be required to run the pedestrian phase across Chipstead Valley Road east in parallel with traffic;
- Right from Chipstead Valley Road east W/B into Woodcote Grove Road N/B (approx. 35-40 veh/h). This measure would be required to extend the proposed island on Woodcote Grove Road southward with a view to accommodate the proposed staggered crossing;
- Right turn from Lion Green Road N/B into Chipstead Valley Road east (approx. 10-15 veh/h). This measure would be required for safety reasons, with a view to provide a separate phase for traffic turning right from Woodcote Grove Road S/B into Chipstead Valley Road west W/B.

This report recommends Option 2 be taken forward, as it provides signalised pedestrian facilities on the majority of the junction arms, whilst also reducing congestion. The two arms that would not be provided with signalised pedestrian crossings are Woodman Road, which has very light traffic flows and can easily be crossed by pedestrians, and Chipstead Valley Road east. Other benefits of Option 2 are the proposed footway widening at the corners of Chipstead Valley Road west / Woodman Road and Chipstead Valley Road east / Woodcote Grove Road respectively. In particular, the latter would provide extra footway directly outside the nursery on the corner of Woodcote Grove Road and Chipstead Valley westbound.



# 1. Introduction

## 1.1 Background

The London Borough of Croydon has commissioned Mott MacDonald to investigate the feasibility of introducing signalised pedestrian facilities at the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction.

At present, the site does not have any signal controlled pedestrian facilities: while uncontrolled crossings are marked on all approaches and a number of refuge islands are present, pedestrians have to cross the road through gaps in the oncoming traffic.

The difficulties experienced by pedestrians are exacerbated by complex turning movements and high levels of traffic travelling through the site, especially at peak hours.

The junction is regularly used by local residents from nearby residential estates (situated to the west of the study junction) wishing to access local shops and amenities along the section of Chipstead Valley Road between the junctions with Lion Green Road and Brighton Road, which is the core area of Coulsdon town centre.

The provision of signal controlled pedestrian facilities would improve connectivity between the town centre and the nearby residential estates, thus providing a better experience for local residents wishing to use the town centre amenities.

## 1.2 Report Structure

This report provides a preliminary impact assessment of the provision of signalised pedestrian facilities at the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction on local traffic movements.

The report structure is as follows:

- **Chapter 2** provides a description of the study area;
- **Chapter 3** describes option development and summarises the results of the operational assessment;
- The preliminary conclusions of the study are presented in **Chapter 4**.



## 2. Study Area

### 2.1 Area Description

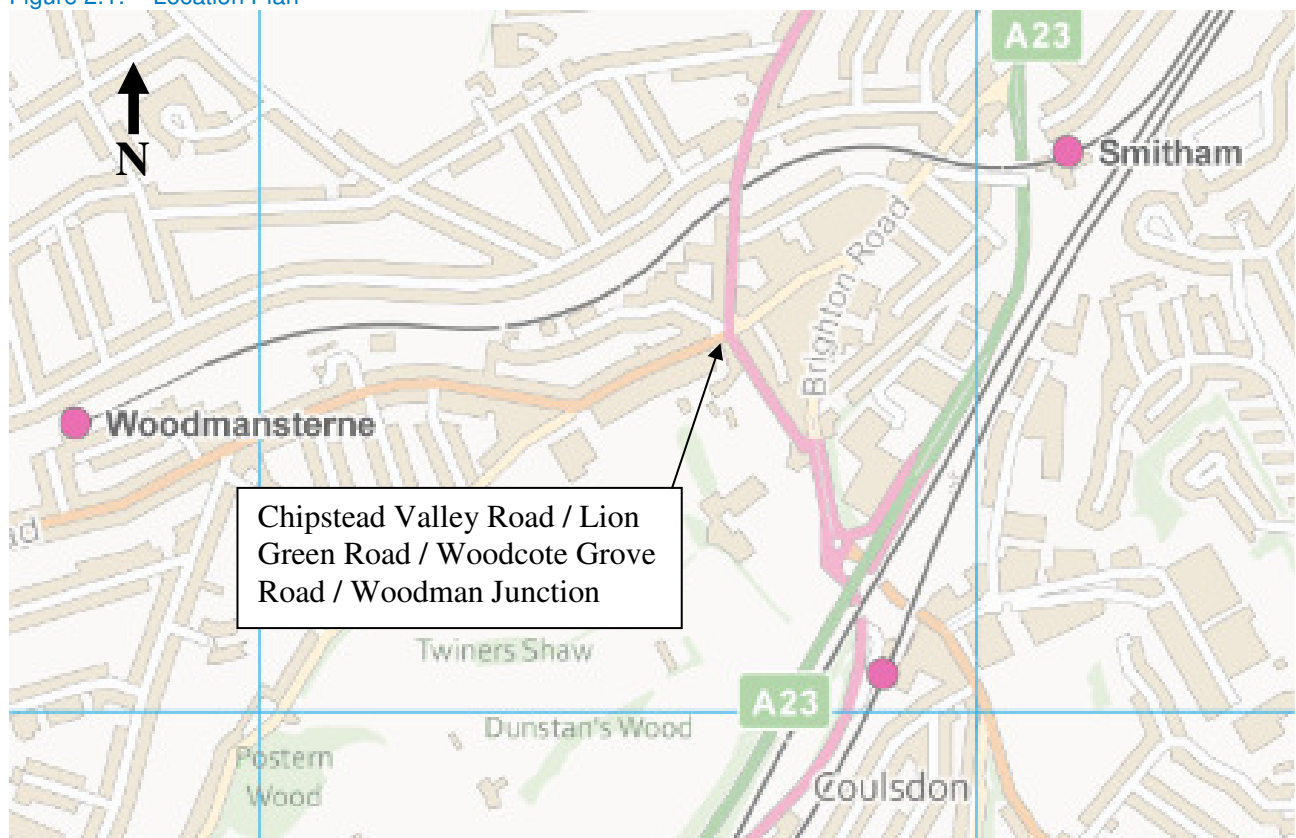
#### 2.1.1 General

The Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction is located in the London Borough of Croydon, in close proximity to Coulsdon town centre. A location plan is provided in Figure 2.1.

The Lion Green Road and Woodcote Grove Road junction approaches form part of the A237, which originates to the south from the A23 and continues north towards Mitcham. This is a busy arterial road that carries large volumes of traffic.

Chipstead Valley Road lies on the B2032 and provides direct access to Coulsdon town centre from residential estates located to the west of the junction. Woodman Road is a cul-de-sac that provides access to residential properties.

Figure 2.1: Location Plan



Source: Contains Ordnance Survey data © Crown copyright and database right (2011)

The Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction is located on a borough road, outside both the TLRN and SRN. As a result, the London Borough of Croydon has full responsibility for the management of the junction.

During the development of highway proposals at the site, liaison with TfL would be required only in relation to compliance of the proposed layout with current TfL design standards and regulation. The Traffic Management Act 2004 does not place the London Borough of Croydon under any obligation to obtain formal approval from TfL, as long as it can be proved that any proposal would not have any impact on nearby sections of the TLRN or SRN.

### **2.1.2 Nature of Frontages**

The following amenities are located at the junction:

- A post office at the corner between Chipstead Valley Road west and Lion Green Road;
- A builders merchant at the corner between Woodcote Grove and Woodman Road;
- A nursery at the corner between Woodcote Grove Road and Chipstead Valley Road east.
- At the corner between Chipstead Valley Road east and Lion Green Road starts a shopping parade that continues along both sides of Chipstead Valley Road.

Frontages on the junction approaches are as follows:

- Chipstead Valley Road west: residential on both sides;
- Lion Green Road: residential properties are located on the eastern side. On the western side, there is a pay and display car park owned by the London Borough of Croydon, with approximately 200 parking spaces.
- Chipstead Valley Road east: shops and other local amenities are located on both sides of the highway;
- Woodcote Grove Road and Woodman Road: residential on both sides.

### **2.1.3 Public Transport Provisions**

There are no railway stations in the immediate vicinities of the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction. The closest stations are:

- Coulsdon South, approximately 550 metres to the south;
- Smitham (Coulsdon Town), approximately 550 metres to the east.

Both stations provide direct train links to London Bridge and London Victoria mainline stations.

Bus routes travelling through the study area are shown Figure 2.2, with the scheduled frequencies presented in Table 2.1.

Figure 2.2: Bus Routes through Coulsdon Town Centre  
Buses from Coulsdon

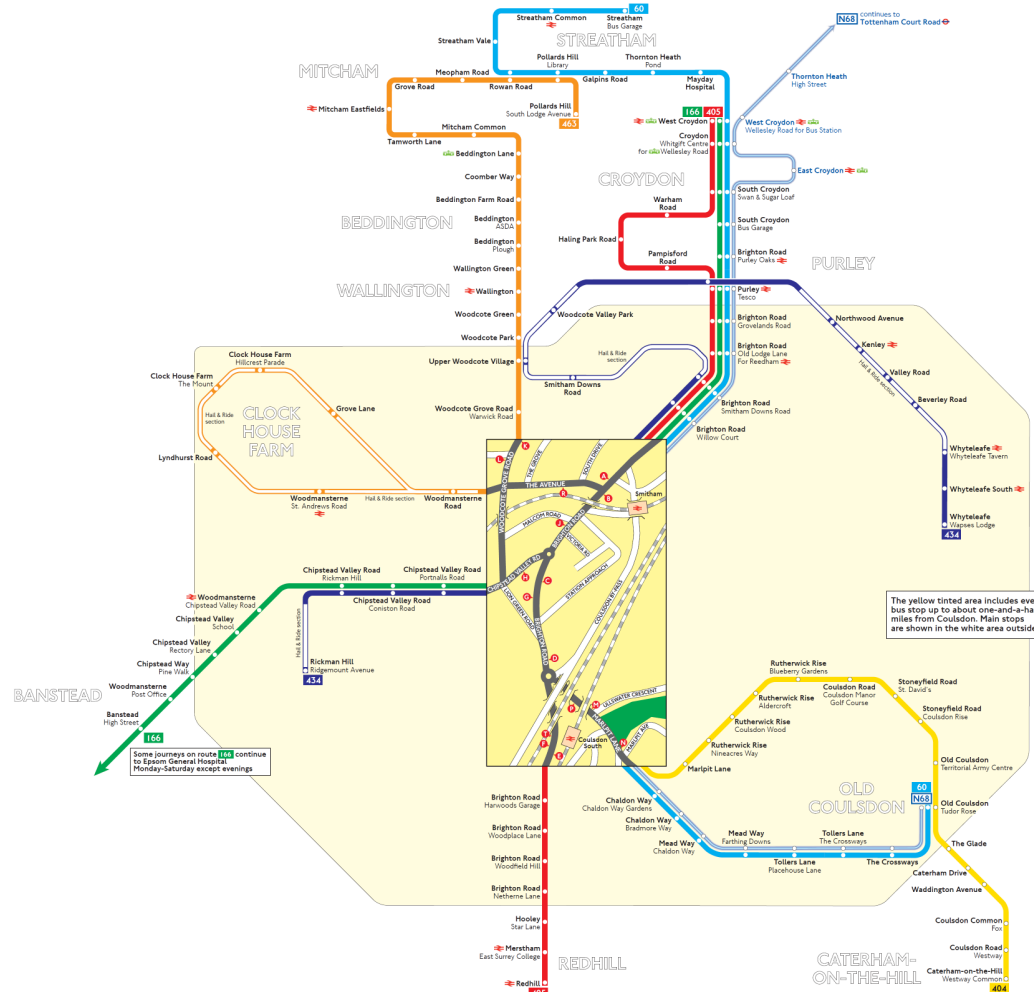
Route finder

Day buses

| Bus route | Towards                | Bus stops |
|-----------|------------------------|-----------|
| 60        | Old Coulsdon           | B C D M N |
|           | Streatham              | A G J P   |
| 166       | Banstead               | B H       |
|           | Epsom +                | B H       |
|           | West Croydon           | A J       |
| 404       | Caterham-on-the-Hill + | C D H M N |
| 405       | Redhill                | B C D E   |
|           | West Croydon           | A G J F   |
| 434       | Rickman Hill +         | B H       |
|           | Whyteleafe South +     | A J       |
| 463       | Pollards Hill          | G L R T   |

Night buses

| Bus route | Towards              | Bus stops |
|-----------|----------------------|-----------|
| N68       | Old Coulsdon         | B C D M N |
|           | Tottenham Court Road | A G J P   |



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Information correct from 19 December 2009

Source: TfL website: <http://www.tfl.gov.uk/tfl/gettingaround/maps/buses/pdf/coulsdon-2412.pdf>

Of the bus routes highlighted in Figure 2.2 above, only routes 166 and 434 pass through the Chipstead Valley Road / Lion Green Road junction itself. The frequencies of these two bus routes during the modelled period are displayed in Table 2.1 below.

Table 2.1: Bus frequencies through Chipstead Valley Road / Lion Green Road Junction

| Route | Direction                             | AM Frequency (07:30-08:30) | PM Frequency (17:15-18:15) |
|-------|---------------------------------------|----------------------------|----------------------------|
| 166   | Epsom to Croydon (EB)                 | 3                          | 3                          |
|       | Croydon to Epsom (WB)                 | 3                          | 3                          |
| 434   | Rickman Hill to Whyteleafe South (EB) | 1                          | 1                          |

Source: Transport for London

## 2.2 Accident Analysis

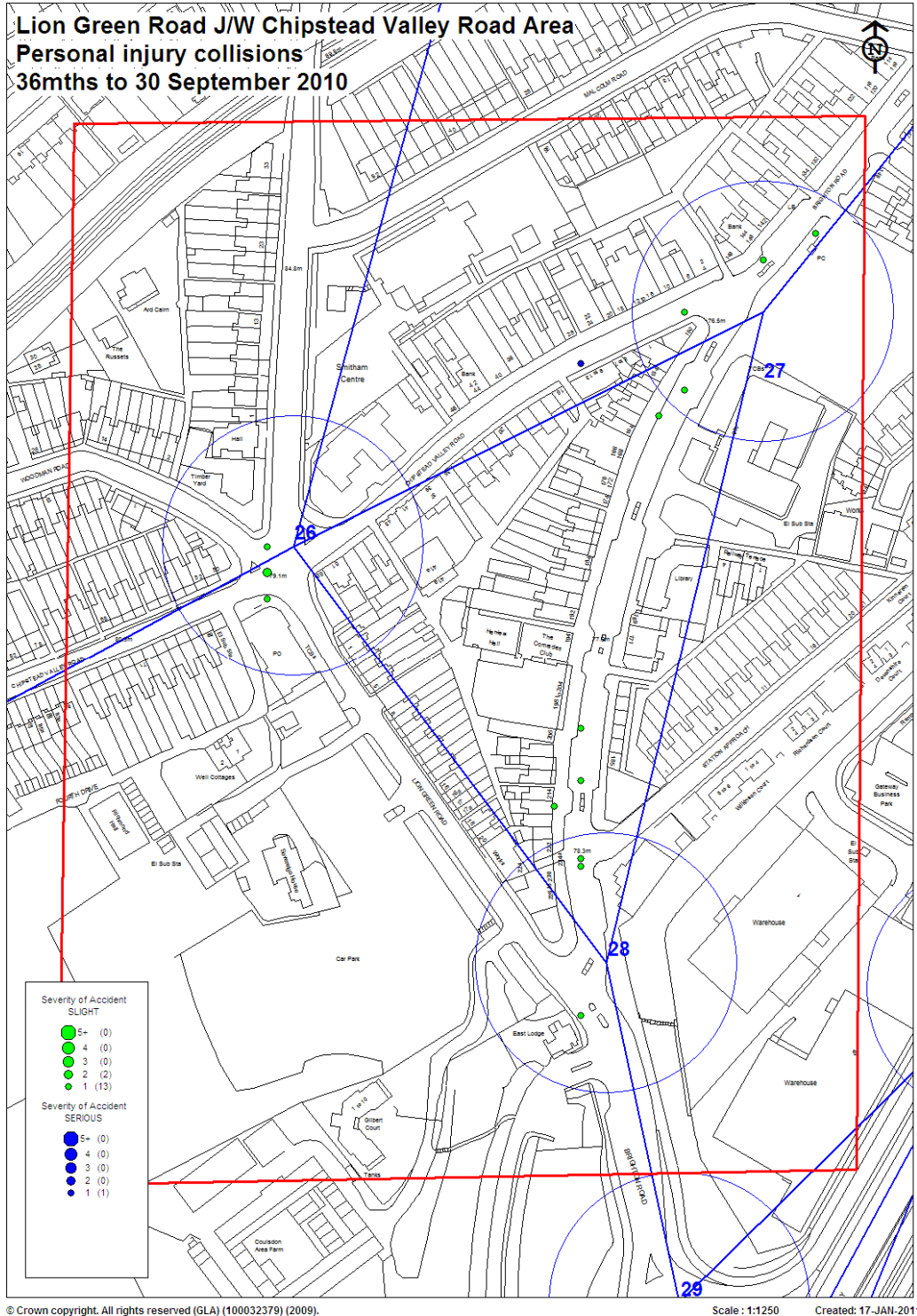
Accident data for the 3 years to the 30th September 2010 has been obtained from Croydon Council. The locations and severity of these accidents can be seen below in Table 2.2 and Figure 2.3.

Table 2.2: Accident Locations and Severity

| Location   | Severity |         |       | Total | Total Involving Pedestrians |
|--|----------|---------|-------|-------|-----------------------------|
|  | Slight   | Serious | Fatal |       |                             |
| Chipstead Valley Road - Not within 50m of a junction |          | 1       |       | 1     | 1                           |
| Brighton Road / Victoria Road                        | 1        |         |       | 1     | 1                           |
| Brighton Road - Not within 50m of a junction         | 2        |         |       | 2     | 1                           |
| Chipstead Valley Road / Brighton Road                | 4        |         |       | 4     | 1                           |
| Brighton Road / Station Approach                     | 4        |         |       | 4     |                             |
| Chipstead Valley Road / Lion Green Road              | 4        |         |       | 4     | 2                           |
|  |          |         |       | 16    | 6                           |

Source: Croydon Council

Figure 2.3: Lion Green Road / Chipstead Valley Road Area Personal Injury Collisions (3 years to 30<sup>th</sup> September 2010)



Source: Croydon Council

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During the study period there were a total of 16 accidents, only one of which was classified as serious and 15 as slight. Six (38%) of the accidents involved a pedestrian.

On the Lion Green Road / Chipstead Valley Road junction there were four accidents giving a yearly accident rate of 1.33 compared to the borough average of 1.46 for signal controlled junctions (Levels of Collision Risk in Greater London – Issue 12, 2009). Of these four accidents two (50%) involved pedestrians. This is compared to 22% of accidents involving pedestrians at signal controlled junctions throughout the whole borough (Levels of Collision Risk in Greater London – Issue 12, 2009). However looking at the accident causes in Table 2.3 below, one of the pedestrian accidents listed was caused by a pedestrian kicking the car and so can be reasonably excluded from the analysis. This analysis appears to suggest that accident rates at this site are within the Croydon average.

Table 2.3: Lion Green Road / Chipstead Valley Road Accident Cause

| Cause   | Total | Involved Pedestrians |
|---|-------|----------------------|
| V1 WAS GOING STRAIGHT AHEAD AT ATS WHEN V2 TURNED LEFT INTO THEM. | 1     | No                   |
| PED KICKED SIDE OF V1 AND CAUSED INJURY - [KICKED CAR (C001)]     | 1     | Yes                  |
| V1 PULLED ACROSS PATH OF V2 AND COLLIDED                          | 1     | No                   |
| V1 UNDERTOOK STATIONARY TRAFFIC QUEUE AND RUN RED ATS HITTING PED | 1     | Yes                  |

Source: Croydon Council

## 2.3 Junction Operations

### 2.3.1 Current Junction Operation

The Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction is currently signalised and controlled under UTC – SCOOT. It operates in a coordinated fashion and under a common cycle time with the nearby Brighton Road / Lion Green Road junction.

The SCOOT control implies that signal settings at the site are continually optimised against current traffic demand measured through carriageway loops. An analysis of SCOOT data supplied by TfL has shown that, during peak periods, the junction operates with a cycle time of 120 seconds, which is the maximum allowed under current signal design standards.

Two site visits carried out by members of the Mott MacDonald project team have indicated that the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction is congested during both AM and PM peak periods.

Long queues have been observed on the Chipstead Valley Road eastbound approach, which do not clear at the end of the green period, indicating that the approach operates above saturation. Similarly, long queues have been observed on the Lion Green Road northbound approach, which occasionally block back to the Brighton Road / Lion Green Road junction.

At times during the peak periods, long queues were also observed on both lanes of the Woodcote Grove Road southbound approach. Right turning traffic from this arm is normally unable to complete the

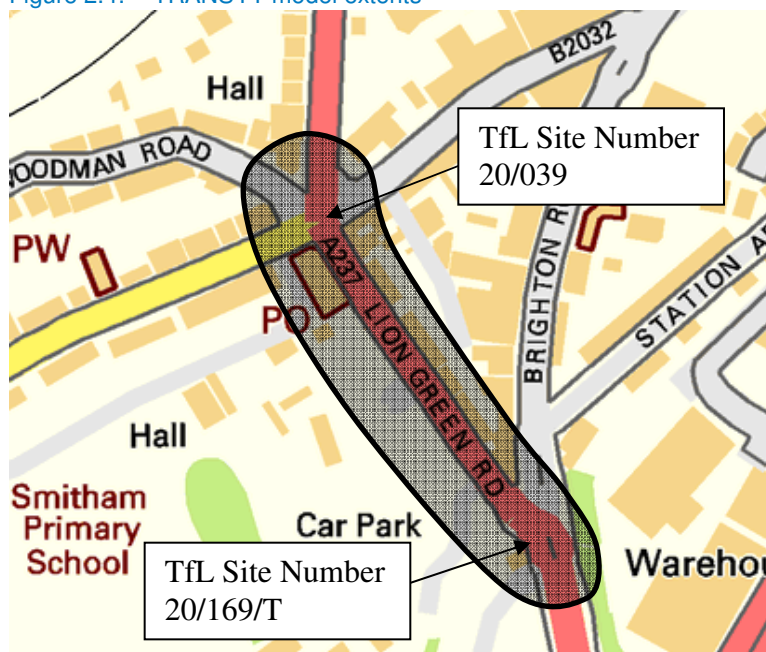
manoeuvre until the early cut off stage becomes active, due to high opposing traffic from Lion Green Road northbound.

Both Woodman Road and Chipstead Valley Road westbound are quiet throughout the peak periods, with little or no queues.

### 2.3.2 Base Model

To assess in full the impacts of introducing pedestrian facilities at the Chipstead Valley Road / Lion Green Road Junction a TRANSYT base model was built. The extents of the model can be seen below in Figure 2.4.

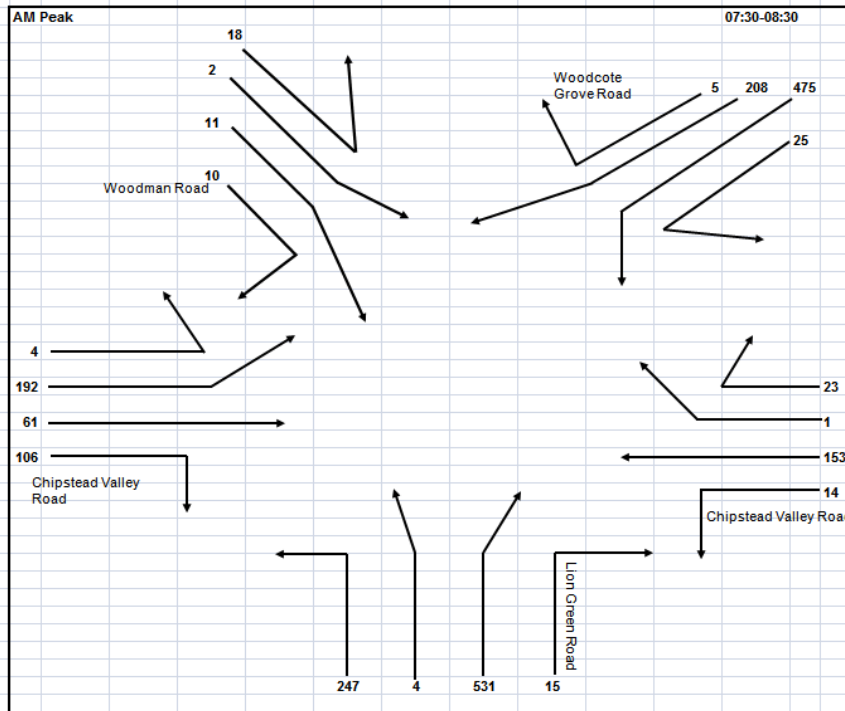
Figure 2.4: TRANSYT model extents



Source: Contains Ordnance Survey data © Crown copyright and database right (2011)

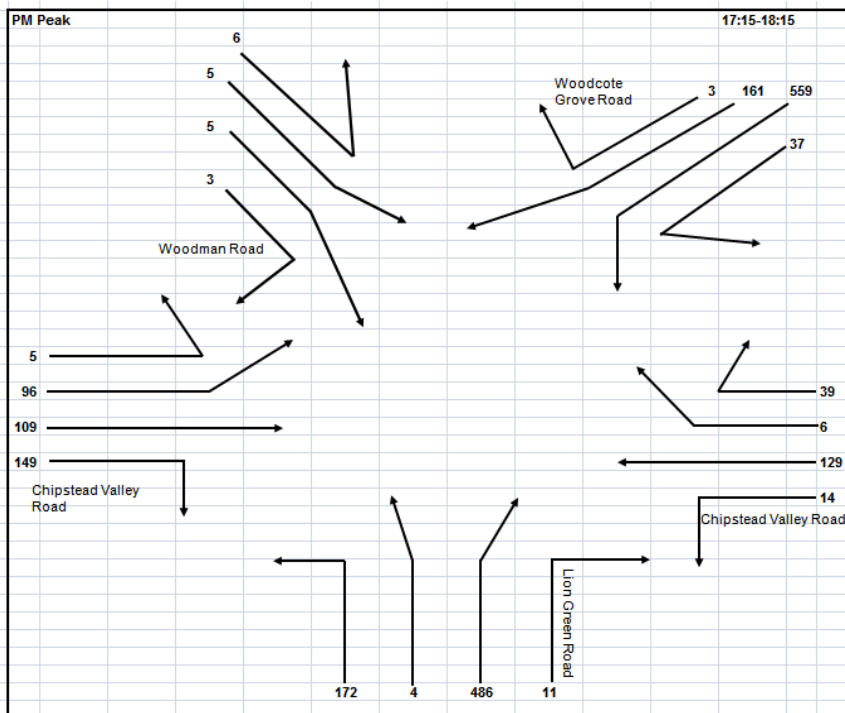
Due to ongoing gasworks in the area and time constraints of the project, it was not possible to undertake any new traffic counts. Instead, traffic counts from the 18<sup>th</sup> March 2010 have been obtained from TfL. Analysis of this data has shown the site has two significant peaks in the AM and PM, with the busiest hours being from 07:30-08:30 in the AM and 17:15-18:15 in the PM. Traffic flows during these peak hours are shown below in Figure 2.5 and Figure 2.6 for Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road Junction and Figure 2.7 and Figure 2.8 for Brighton Road / Lion Green Road Junction.

Figure 2.5: Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction traffic flows 18/03/10 07:30-08:30



Source: March 2010 Traffic Counts

Figure 2.6: Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction traffic flows 18/03/10 17:15-18:15

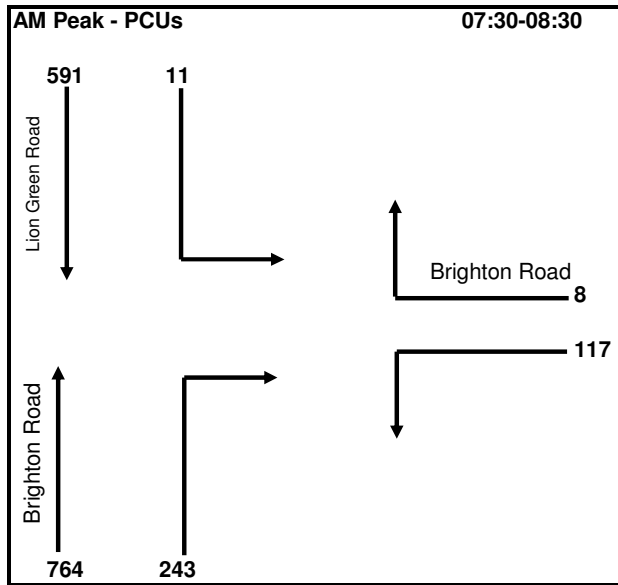


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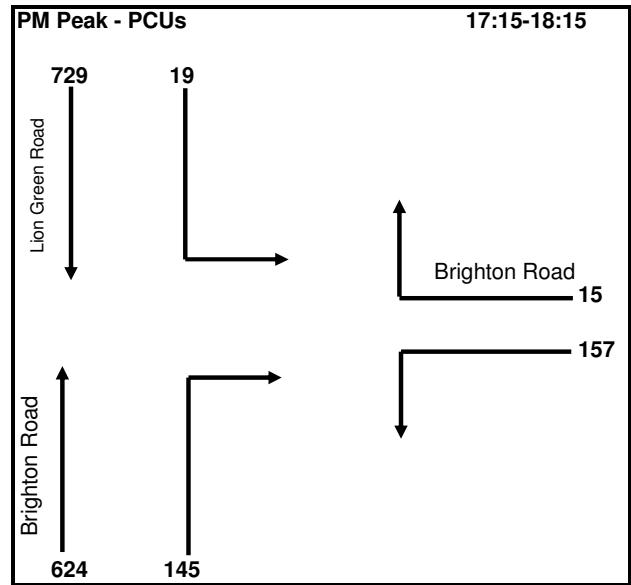
Source: March 2010 Traffic Counts

Figure 2.7: Brighton Road / Lion Green Road junction traffic flows 18/03/10 07:30-08:30



Source: March 2010 Traffic Counts

Figure 2.8: Brighton Road / Lion Green Road junction traffic flows 18/03/10 17:15-18:15



Source: March 2010 Traffic Counts

The TRANSYT base model network diagram can be seen below in Figure 2.9.



During two site visits carried out by members of the Mott MacDonald project team, saturation flow measurements were taken at all the junction approaches.

At junction 20/039 saturation flows at the Woodcote Grove Right Turn and the Chipstead Valley Road eastbound approach could not be measured due to blocking back inhibiting the free flow of traffic. Also, measurements could not be taken at the Chipstead Valley Road westbound approach because of insufficient traffic volumes using this arm.

At junction 20/169T it was not possible to measure saturation flows at the Brighton Road northbound right turn lane due to it being blocked by opposing through traffic and because of the relatively low flows using this lane.

For all the approaches listed above, where it was not possible to take accurate saturation flow measurements, saturation flows of 1,800 PCUs/h have been used in the base TRANSYT model. This is acceptable as the approaches are not critical arms in terms of capacity, and where blocking back occurs, it is the wasted green time that is constraining capacity rather than the saturation flow of the approach. The saturation flows measured on site and used in the model are shown in Table 2.4 below.

Table 2.4: Modelled Saturation Flows

| Node Number / Junction Description                    | TRANSYT Link Number | Description                              | Measured Saturation Flow | Modelled Saturation Flows |
|---|---------------------|--|--------------------------|---------------------------|
| 39 – Chipstead Valley Road / Lion Green Road Junction | 3910                | Woodcote Grove Road Right Turn           | n/a                      | 1800                      |
|   | 3911                | Woodcote Grove Road Ahead/Left Turn      | 2151                     | 2151                      |
|   | 3920                | Chipstead Valley Road Westbound Approach | n/a                      | 1800                      |
|   | 3930                | Lion Green Road Northbound Approach      | 1789                     | 1789                      |
|   | 3940                | Chipstead Valley Road Eastbound Approach | n/a                      | 1800                      |
|   | 3950                | Woodman Road Approach                    | n/a                      | 1800                      |
| 169 – Lion Green Road / Brighton Road Junction        | 16910               | Lion Green Road Southbound Approach      | 1655                     | 1655                      |
|   | 16920               | Brighton Road Southbound Approach        | 2408                     | 2408                      |
|   | 16931               | Brighton Road Northbound Right Turn      | n/a                      | 1800                      |
|   | 16932               | Brighton Road Northbound Ahead           | 2143                     | 2143                      |

Source: Site Measurements

Cruise times between stop lines in the network were also measured on site; these are presented in Table 2.5 below.

Table 2.5: Measured Cruise Times

| From TRANSYT Link | To TRANSYT Link | Description   | Cruise Time (secs) |
|-------------------|-----------------|---|--------------------|
| 3911              | 16910           | Woodcote Grove Road to Lion Green Road Southbound             | 20                 |
| 3920              | 16910           | Chipstead Valley Road Westbound to Lion Green Road Southbound | 21                 |
| 3940              | 16910           | Chipstead Valley Road Eastbound to Lion Green Road Southbound | 23                 |
| 3950              | 16910           | Woodman Road to Lion Green Road Southbound                    | 21                 |
| 16932             | 3930            | Brighton Road Northbound to Lion Green Road Northbound        | 23                 |

Source: Site Measurements

### 2.3.3 Signal Settings

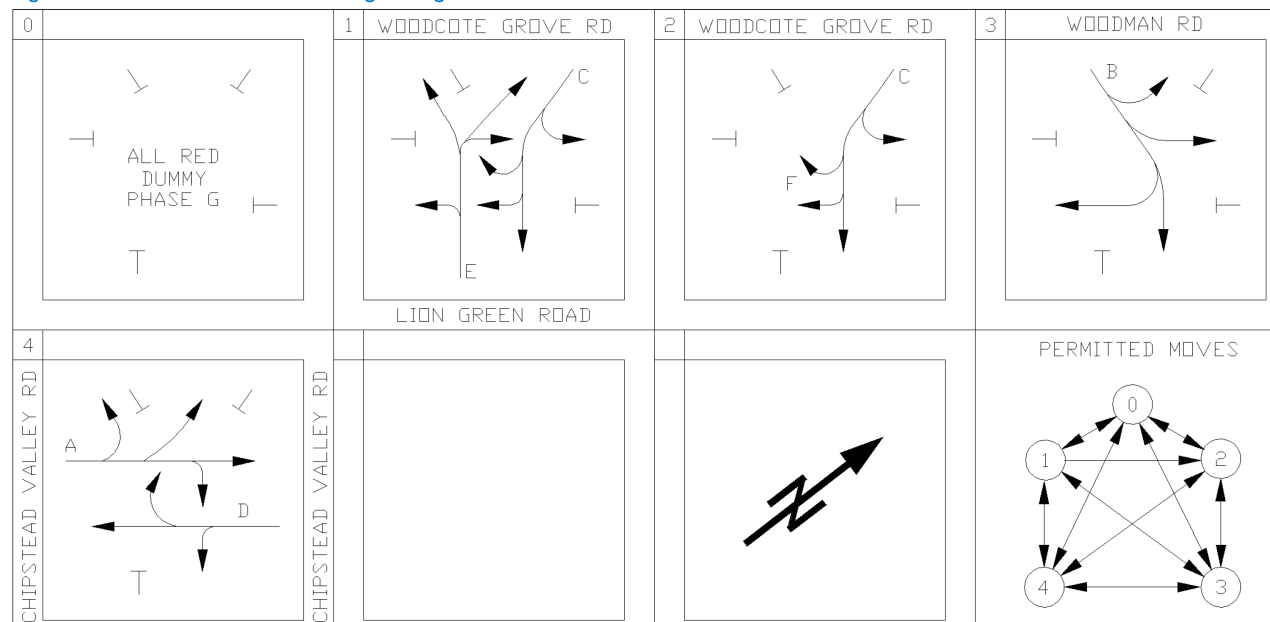
Both junctions in the study area are controlled by a UTC - SCOOT system and, as a result, they operate in a coordinated fashion under a common cycle time of 120 seconds on average. The signal timing sheets have been obtained from TfL and can be found in Appendix A.

SCOOT data was requested from TfL and analysed to obtain average signal timings for the junctions included in the study area. The following paragraphs provide details of the analysis undertaken for the purposes of base model development.

#### 2.3.3.1 Chipstead Valley Road / Lion Green Road / Woodman Road / Woodcote Grove Road Junction

The current signal stages for the junction 20/039 can be seen in Figure 2.10.

Figure 2.10: Junction 20/039 Stage Diagram



Source: TfL Signal Timing Sheet, Site Number 20/000039

Currently, stages two and three are demand dependent. Because the junction is controlled by a SCOOT system, the length of every stage varies depending on the current traffic demand. TRANSYT is only able to model fixed time signal sequences, so average values must be used to simulate the timings produced by SCOOT.

SCOOT and ACHK data collected on 5 May 2011 has been obtained from TfL for site 20/039. The corresponding data analysis is presented in Table 2.6.

**Table 2.6: Chipstead Valley Road / Lion Green Road Average Stage Lengths and Frequency**

| Stage   | Mean Stage Length AM | % Called in AM | Mean Stage Length PM | % Called in PM |
|---------|----------------------|----------------|----------------------|----------------|
| Stage 1 | 62                   | 100%           | 59                   | 100%           |
| Stage 2 | 13                   | 54%            | 13                   | 57%            |
| Stage 3 | 12                   | 68%            | 12                   | 49%            |
| Stage 4 | 34                   | 100%           | 37                   | 100%           |

Source: SCOOT Signal Data

Using the average stage lengths and frequency of appearance of demand dependent stages presented in Table 2.6 it is possible to create an 'average' signal cycle to be used in TRANSYT.

For calculation purposes, it was assumed that anytime stage 2 is called, stage 3 is also called (as stage 3 is called a higher percentage of the time), giving three possible stage sequences: 1-2-3-4, 1-4, 1-3-4. Using this method, the average hourly green time for each phase can be calculated and is shown in Tables 2.7 and 2.8 for the AM and PM peak respectively. The corresponding bonus green times and link starting delays used to replicate the average hourly timings are also included in the tables.

**Table 2.7: Bonus Green Times / Link Delays – Chipstead Valley Road / Lion Green Road AM Peak**

| Phase | All Stages |     | No Stage 2 & 3 |     | No Stage 2 |     | Average Hourly Green Time | Bonus Green Time | Link Starting Delay |
|-------|------------|-----|----------------|-----|------------|-----|---------------------------|------------------|---------------------|
|       | Green Time | %   | Green Time     | %   | Green Time | %   |                           |                  |                     |
| A     | 29         | 54% | 29             | 32% | 29         | 14% | 29                        | 0                | 0                   |
| B     | 7          | 54% | 0              | 32% | 7          | 14% | 5                         | 0                | 2                   |
| C     | 68         | 54% | 80             | 32% | 67         | 14% | 72                        | 4                | 0                   |
| D     | 29         | 54% | 29             | 32% | 29         | 14% | 29                        | 0                | 0                   |
| E     | 55         | 54% | 80             | 32% | 67         | 14% | 65                        | 10               | 0                   |
| F     | 5          | 54% | 0              | 32% | 0          | 14% | 3                         | 0                | 2                   |

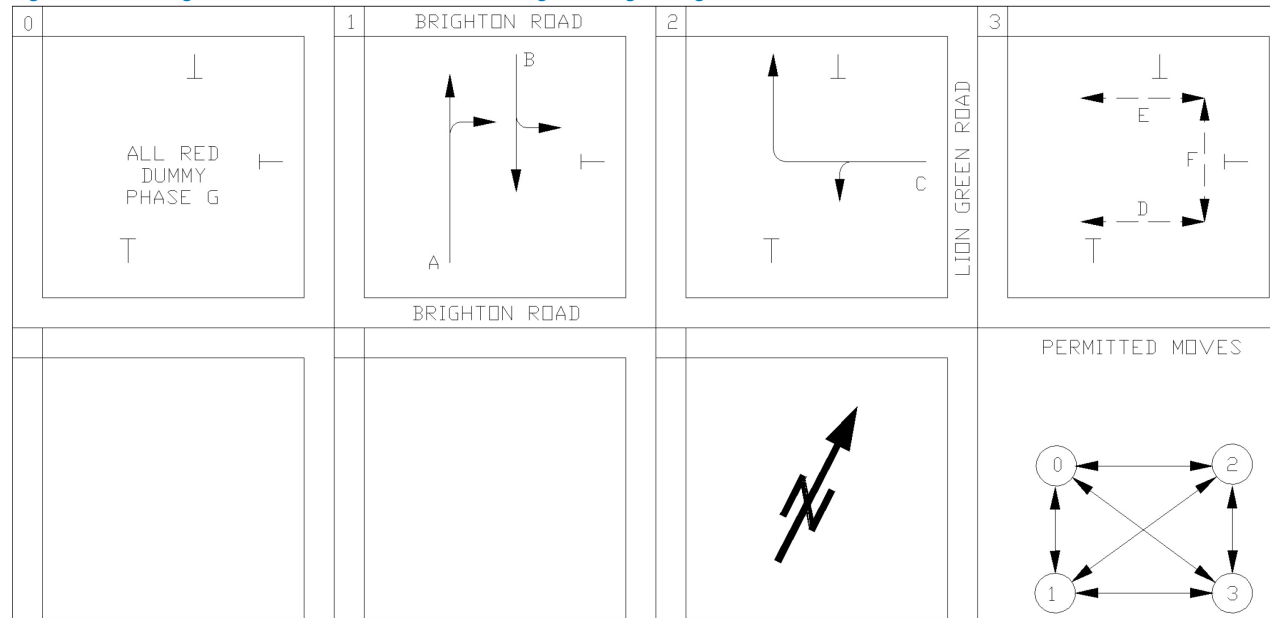
Table 2.8: Bonus Green Times / Link Delays – Chipstead Valley Road / Lion Green Road PM Peak

| Phase | All Stages |     | No Stage 2 & 3 |     | No Stage 2 |    | Average Hourly Green Time | Bonus Green Time | Link Starting Delay |
|-------|------------|-----|----------------|-----|------------|----|---------------------------|------------------|---------------------|
|       | Green Time | %   | Green Time     | %   | Green Time | %  |                           |                  |                     |
| A     | 32         | 49% | 32             | 43% | 32         | 8% | 32                        | 0                | 0                   |
| B     | 7          | 49% | 0              | 43% | 0          | 8% | 3                         | 0                | 4                   |
| C     | 62         | 49% | 74             | 43% | 74         | 8% | 68                        | 6                | 0                   |
| D     | 32         | 49% | 32             | 43% | 32         | 8% | 32                        | 0                | 0                   |
| E     | 51         | 49% | 74             | 43% | 61         | 8% | 62                        | 10               | 0                   |
| F     | 5          | 49% | 0              | 43% | 5          | 8% | 3                         | 0                | 2                   |

2.3.3.2 Signals – Brighton Road / Lion Green Road Junction

The signal timing sheets for the Brighton Road / Lion Green Road junction have been obtained from TfL and can be found in Appendix A. The current signal stages for the Brighton Road / Lion Green Road Junction can be seen in Figure 2.11.

Figure 2.11: Brighton Road / Lion Green Road Signal Stage Diagram



Source: TfL Signal Timing Sheet, Site Number 20/000169/T

Stages 2 and 3 at the Brighton Road / Lion Green Road are demand dependant. The average stage lengths and frequencies for this junction are shown in Table 2.9 below.

Table 2.9: Brighton Road / Lion Green Road Average Stage Lengths and Frequency

| Stage   | Mean Stage Length AM | % Called in AM | Mean Stage Length PM | % Called in PM |
|---------|----------------------|----------------|----------------------|----------------|
| Stage 1 | 89                   | 100%           | 84                   | 100%           |
| Stage 2 | 16                   | 98%            | 20                   | 99%            |
| Stage 3 | 16                   | 37%            | 16                   | 41%            |

Source: SCOOT Signal Data

Using the same method discussed in Section 2.3.3.1, an average cycle has been calculated. Assuming that every time Stage 3 is called, Stage 2 is also called, giving three possible sequences: 1-2-3, 1-2, 1. The average hourly green time along with the Bonus Green Time and Link Delays used in the model can be seen below in Tables 2.10 and 2.11 for the AM and PM peaks respectively.

Table 2.10: Bonus Green Times / Link Delays - Brighton Road / Lion Green Road AM Peak

| Phase | All Stages |     | No Stage 2 & 3 |    | No Stage 3 |     | Average Hourly Green Time | Bonus Green Time | Link Delay |
|-------|------------|-----|----------------|----|------------|-----|---------------------------|------------------|------------|
|       | Green Time | %   | Green Time     | %  | Green Time | %   |                           |                  |            |
| A     | 70         | 37% | 121            | 2% | 100        | 61% | 89                        | 19               | 0          |
| B     | 70         | 37% | 121            | 2% | 100        | 61% | 89                        | 19               | 0          |
| C     | 7          | 37% | 0              | 2% | 7          | 61% | 7                         | 0                | 0          |
| D     | 8          | 37% | 0              | 2% | 0          | 61% | 3                         | 0                | 5          |
| E     | 12         | 37% | 0              | 2% | 0          | 61% | 4                         | 0                | 8          |
| F     | 15         | 37% | 0              | 2% | 0          | 61% | 6                         | 0                | 9          |

Table 2.11: Bonus Green Times / Link Delays - Brighton Road / Lion Green Road PM Peak

| Phase | All Stages |     | No Stage 2 & 3 |    | No Stage 3 |     | Average Hourly Green Time | Bonus Green Time | Link Delay |
|-------|------------|-----|----------------|----|------------|-----|---------------------------|------------------|------------|
|       | Green Time | %   | Green Time     | %  | Green Time | %   |                           |                  |            |
| A     | 66         | 41% | 121            | 1% | 96         | 58% | 84                        | 18               | 0          |
| B     | 66         | 41% | 121            | 1% | 96         | 58% | 84                        | 18               | 0          |
| C     | 11         | 41% | 0              | 1% | 11         | 58% | 11                        | 0                | 0          |
| D     | 8          | 41% | 0              | 1% | 0          | 58% | 3                         | 0                | 5          |
| E     | 12         | 41% | 0              | 1% | 0          | 58% | 5                         | 0                | 7          |
| F     | 15         | 41% | 0              | 1% | 0          | 58% | 6                         | 0                | 9          |

### 2.3.4 Base Results

The base TRANSYT model results are displayed below in Table 2.12 for the AM and 2.13 for the PM. These results show that the Lion Green Road Northbound Approach and Chipstead Valley Road Eastbound Approach are both operating over capacity during the AM peak period and over or very close to capacity during the PM peak period. These results are consistent with observations made during site visits as well as local knowledge of Mott MacDonald staff.

Table 2.12: AM Base Results

| TRANSYT Link Number | Description   | Degree of Saturation | Mean Max Queue (PCUs) |
|---------------------|---|----------------------|-----------------------|
| 3910                | Woodcote Grove Road Southbound Approach Right Turn            | 19%                  | 3                     |
| 3911                | Woodcote Grove Road Southbound Approach Through and Left Turn | 40%                  | 10                    |
| 3920                | Chipstead Valley Road Westbound Approach                      | 66%                  | 7                     |
| 3930                | Lion Green Road Northbound Approach                           | 108%                 | 60                    |
| 3940                | Chipstead Valley Road Eastbound Approach                      | 110%                 | 35                    |
| 3950                | Woodman Road Approach   | 46%                  | 2                     |
| 16910               | Lion Green Road Southbound Approach                           | 48%                  | 5                     |
| 16920               | Brighton Road Southbound Approach                             | 79%                  | 6                     |
| 16931               | Brighton Road Northbound Approach Right Turn                  | 17%                  | 2                     |
| 16932               | Brighton Road Northbound Approach Through                     | 48%                  | 11                    |

Source: AM Base TRANSYT Model

Table 2.13: PM Base Results

| TRANSYT Link Number | Description   | Degree of Saturation | Mean Max Queue (PCUs) |
|---------------------|---|----------------------|-----------------------|
| 3910                | Woodcote Grove Road Southbound Approach Right Turn            | 15%                  | 3                     |
| 3911                | Woodcote Grove Road Southbound Approach Through and Left Turn | 49%                  | 13                    |
| 3920                | Chipstead Valley Road Westbound Approach                      | 61%                  | 6                     |
| 3930                | Lion Green Road Northbound Approach                           | 104%                 | 41                    |
| 3940                | Chipstead Valley Road Eastbound Approach                      | 97%                  | 19                    |
| 3950                | Woodman Road Approach   | 32%                  | 1                     |
| 16910               | Lion Green Road Southbound Approach                           | 63%                  | 9                     |
| 16920               | Brighton Road Southbound Approach                             | 66%                  | 7                     |
| 16931               | Brighton Road Northbound Approach Right Turn                  | 11%                  | 1                     |
| 16932               | Brighton Road Northbound Approach Through                     | 41%                  | 9                     |

Source: PM Base TRANSYT Model

## 3. Option Development and Operational Assessment

### 3.1 Introduction

In response to the Client's brief, the Mott MacDonald project team has developed a number of options to improve pedestrian facilities at the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction.

Some initial options were presented at a progress meeting held on 27 June 2011 and attended by the Client and TfL.

While some of the presented options were discarded as their implementation was considered impractical, it was agreed that two options would be further developed, as detailed below:

- One option would include an all round pedestrian stage. It was acknowledged that this measure is likely to increase congestion and Mott MacDonald would investigate measures to keep increases to a minimum;
- One option would propose the signalisation of pedestrian movements across selected arms only, bearing in mind that:
  - Every effort should be made to signalise the pedestrian facility across Lion Green Road, as it lies on the busiest pedestrian route;
  - The signalisation of the pedestrian crossing across Woodman Road, while desirable, was not necessary, as traffic flows on this road are very low and pedestrians find sufficient gaps to cross safely.
- The banning of turning movements should be kept to a minimum and, in any case, it was preferable to grant access to Woodman Road (which is a cul-de-sac) from all other approaches.

In response to the outcomes of the progress meeting, Options 1 and 2 have been developed and tested, as described in the following paragraphs.

### 3.2 Option 1

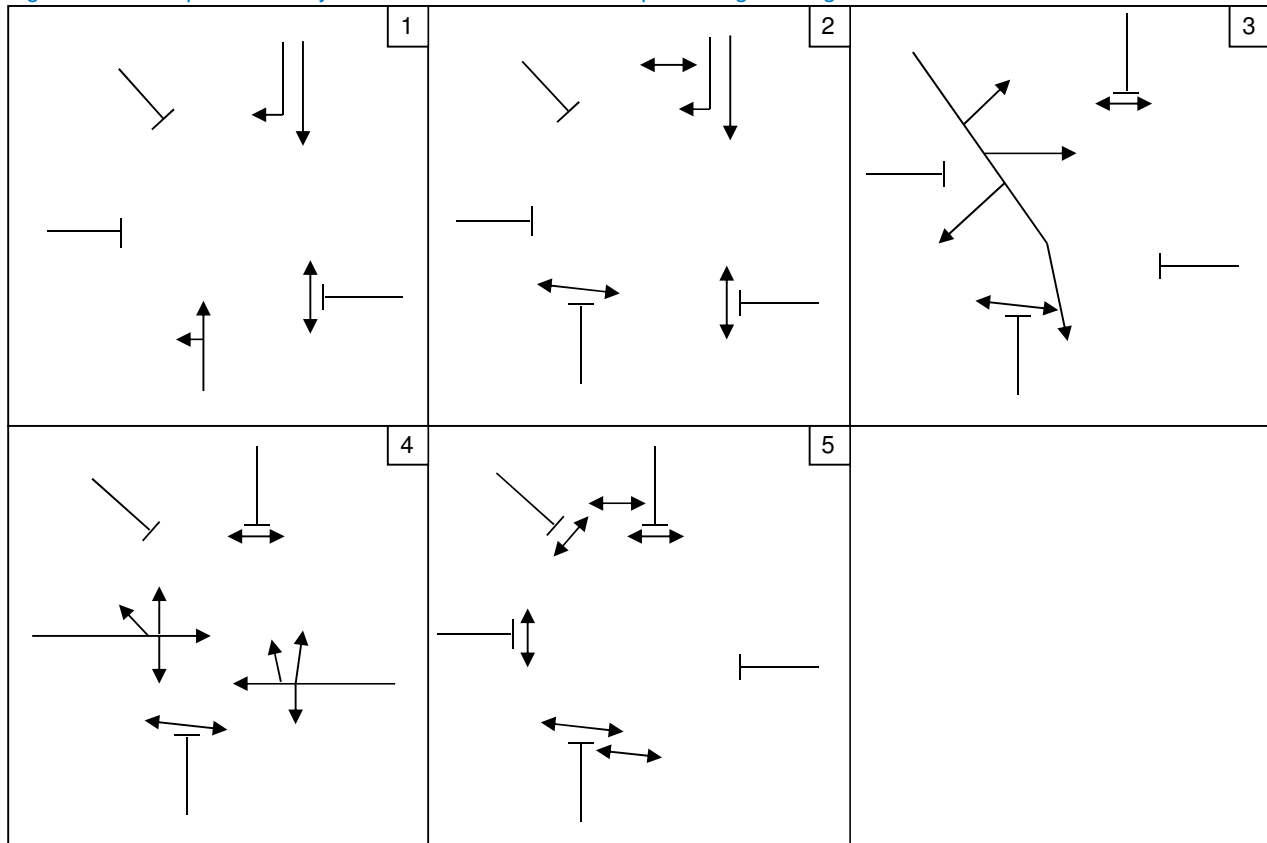
#### 3.2.1 Option Development

Drawing number MMD-280782-C-DR-001 displaying the Option 1 proposals is attached in Appendix B. The proposals for this option include:

- Introduction of signalised pedestrian crossings on all junction approaches;
- Kerb build out at the corners of Chipstead Valley Road west / Woodman Road and Chipstead Valley Road east / Woodcote Grove, in order to provide ease of access and sufficient storage space in proximity of the new pedestrian facilities. The kerb build outs also provide a more compact junction design and the possibility to reduce intergreen times, thus improving junction performance;
- Left turn banning from Woodcote Grove Road southbound into Chipstead Valley Road east; the left turn ban is necessary as a result of the proposed kerb line alignment;
- Right turn banning from Lion Green Road northbound into Chipstead Valley Road east, in order to reduce conflict points in the middle of the junction and provide a right turn bay for the right turn from Woodcote Grove Road southbound into Chipstead Valley Road west;
- Advance cycle stop lines on all approaches.

The proposed signal sequence is shown in Figure 3.1.

Figure 3.1: Chipstead Valley Road / Lion Green Road Proposed Signal Stages



A phase delay has also been introduced to Chipstead Valley Road eastbound so traffic turning right from this arm will receive some unopposed green time.

For modelling purposes, the following assumptions have been made with reference to the banned turning movements:

- Traffic currently turning right from Lion Green Road northbound would enter the network on Brighton Road northbound to continue in the same direction;
- Left turning traffic from Woodcote Road would no longer enter the modelled network and instead take an alternative route (such as Malcolm Road).

These assumptions have changed the modelled traffic flows: the new flow patterns can be seen below in Figure 3.2 and 3.3 for the AM and PM peaks respectively, while the re-routed traffic is shown in Figure 3.4.

Figure 3.2: Proposed Traffic Flows – Option 1 AM Peak

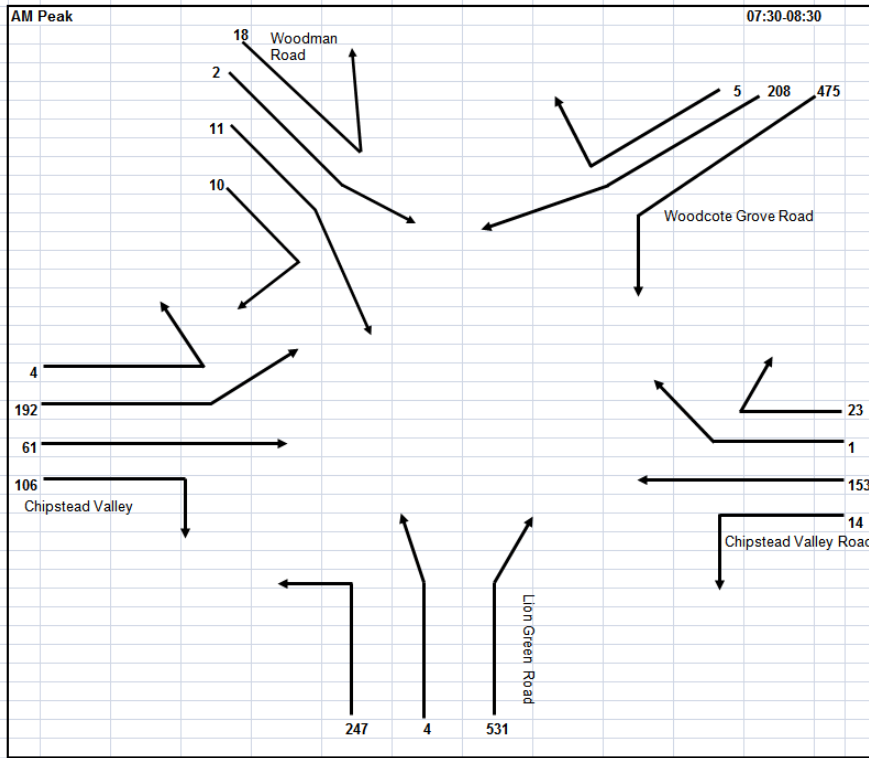


Figure 3.3: Proposed Traffic Flows – Option 1 PM Peak

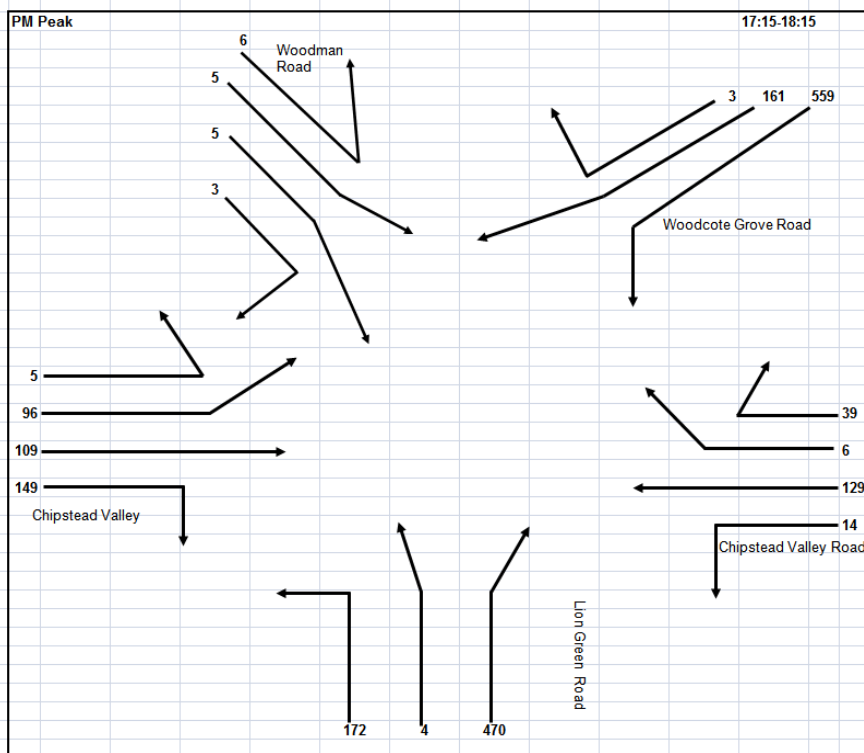
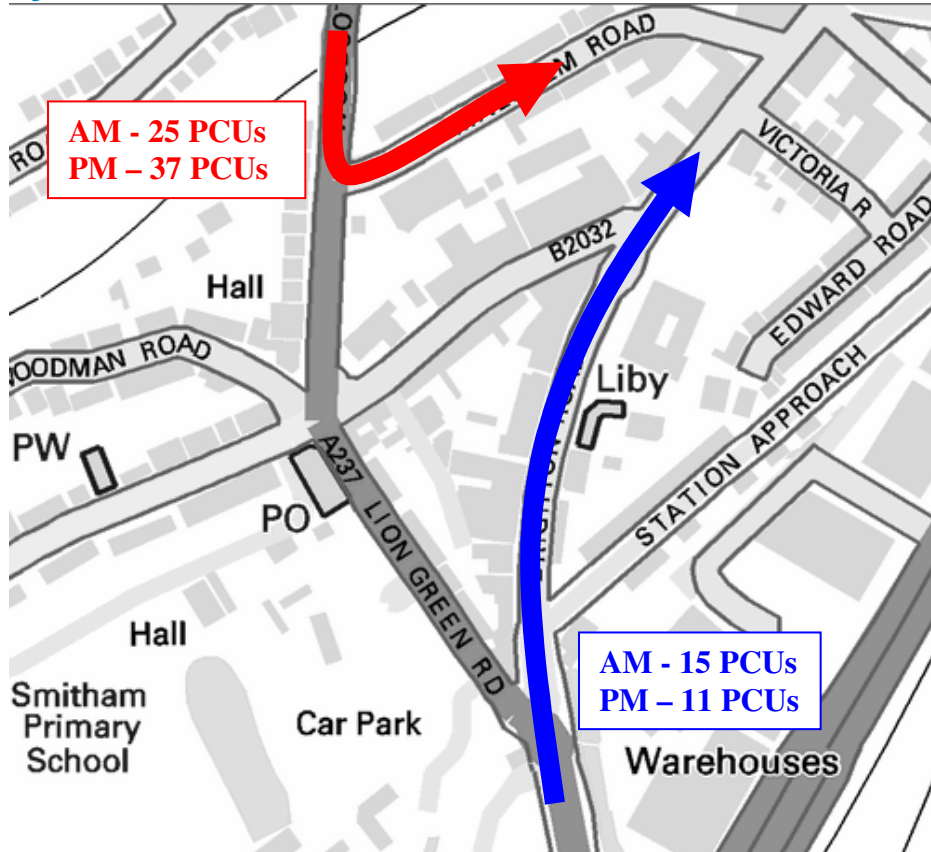


Figure 3.4: Re-routed traffic flows



Source: Contains Ordnance Survey data © Crown copyright and database right (2011)

### 3.2.2 Operational Assessment

The Option 1 TRANSYT model network structure can be seen in Figure 3.5 below.



It is proposed that for Option 1 Stages 2, 3 and 5 be configured as demand dependent. It has been assumed that stages 2 and 3 will be called the same frequency as in the base model. However, since there is no data for the proposed all round pedestrian stage and no pedestrian counts have been undertaken, a sensitivity test has been used – with stage 5 being called 25%, 50%, 75% and 100% of the cycles in both the AM and PM peak hours. TRANSYT was initially run with all stages appearing for 100% of the cycles; consequently, the bonus green times and link starting delays were then calculated using the same method outlined for the base model (see Paragraph 2.3.3). The figures thus calculated are shown in Tables 3.1 and 3.2. These values were then incorporated in the appropriate model and TRANSYT was run again to obtain the results for each sensitivity test scenario.

Table 3.1: Bonus Green Times / Link Delays Chipstead Valley Road / Lion Green Road AM Peak

| Phase | Stage 5 – 25% |                  |            | Stage 5 – 50% |                  |            | Stage 5 – 75% |                  |            |
|-------|---------------|------------------|------------|---------------|------------------|------------|---------------|------------------|------------|
|       | Green Time    | Bonus Green Time | Link Delay | Green Time    | Bonus Green Time | Link Delay | Green Time    | Bonus Green Time | Link Delay |
| A     | 9             | 16               | 0          | 9             | 10               | 0          | 9             | 5                | 0          |
| B     | 3             | 0                | 1          | 3             | 0                | 1          | 3             | 0                | 1          |
| C     | 45            | 4                | 0          | 45            | 4                | 0          | 45            | 4                | 0          |
| D     | 9             | 16               | 0          | 9             | 10               | 0          | 9             | 5                | 0          |
| E     | 31            | 11               | 0          | 31            | 11               | 0          | 31            | 11               | 0          |
| F     | 14            | 0                | 6          | 14            | 0                | 6          | 14            | 0                | 6          |
| H     | 16            | 0                | 12         | 16            | 0                | 8          | 16            | 0                | 4          |
| I     | 15            | 0                | 11         | 15            | 0                | 8          | 15            | 0                | 4          |
| J     | 5             | 0                | 2          | 5             | 0                | 2          | 5             | 1                | 0          |
| K     | 46            | 0                | 4          | 46            | 0                | 4          | 46            | 0                | 5          |
| L     | 45            | 4                | 0          | 45            | 4                | 0          | 45            | 6                | 0          |
| N     | 16            | 0                | 12         | 16            | 0                | 8          | 16            | 0                | 4          |
| O     | 60            | 0                | 11         | 60            | 0                | 11         | 60            | 0                | 11         |

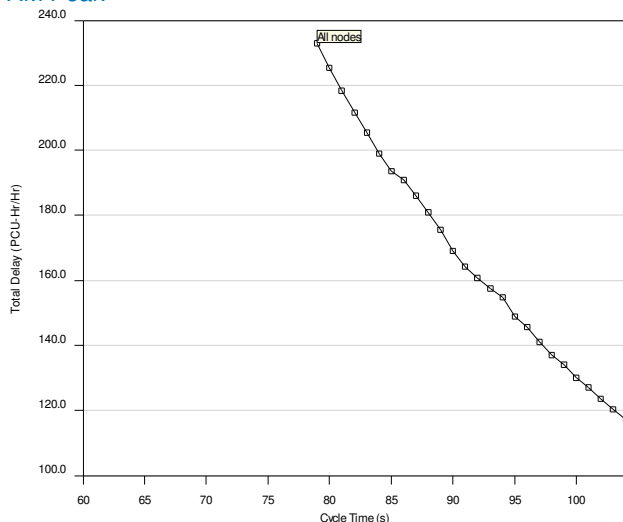
Table 3.2: Bonus Green Times / Link Delays Chipstead Valley Road / Lion Green Road PM Peak

| Phase | Stage 5 – 25% |                  |            | Stage 5 – 50% |                  |            | Stage 5 – 75% |                  |            |
|-------|---------------|------------------|------------|---------------|------------------|------------|---------------|------------------|------------|
|       | Green Time    | Bonus Green Time | Link Delay | Green Time    | Bonus Green Time | Link Delay | Green Time    | Bonus Green Time | Link Delay |
| A     | 15            | 15               | 0          | 15            | 9                | 0          | 15            | 4                | 0          |
| B     | 3             | 0                | 2          | 3             | 0                | 2          | 3             | 0                | 2          |
| C     | 39            | 7                | 0          | 39            | 7                | 0          | 39            | 7                | 0          |
| D     | 15            | 15               | 0          | 15            | 9                | 0          | 15            | 4                | 0          |
| E     | 27            | 12               | 0          | 27            | 12               | 0          | 27            | 12               | 0          |
| F     | 12            | 0                | 5          | 12            | 0                | 5          | 12            | 0                | 5          |
| H     | 13            | 0                | 10         | 13            | 0                | 7          | 13            | 0                | 3          |
| I     | 12            | 0                | 9          | 12            | 0                | 6          | 12            | 0                | 3          |
| J     | 3             | 0                | 1          | 3             | 0                | 1          | 3             | 1                | 0          |
| K     | 52            | 0                | 7          | 52            | 0                | 7          | 52            | 0                | 7          |
| L     | 47            | 1                | 0          | 47            | 3                | 0          | 47            | 5                | 0          |
| N     | 13            | 0                | 10         | 13            | 0                | 7          | 13            | 0                | 3          |
| O     | 64            | 0                | 12         | 64            | 0                | 12         | 64            | 0                | 12         |

### 3.2.3 Option 1 TRANSYT Results

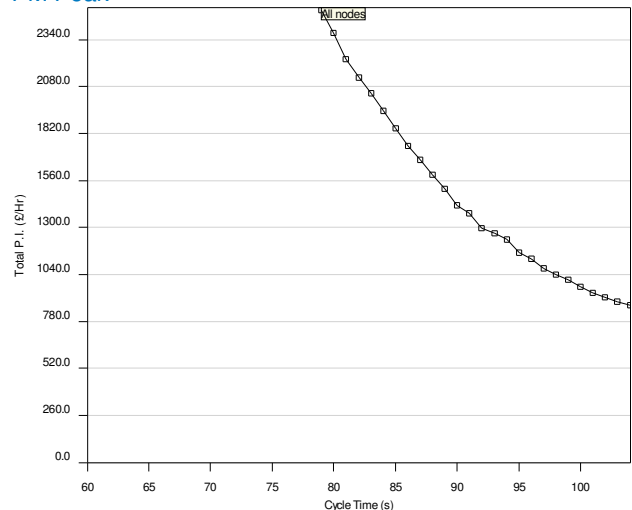
The TRANSYT Cycle Time Optimiser has been used to determine the best cycle time for Option 1. Under current design standards, when pedestrian phases are present the longest allowed cycle time is 104 seconds. As can be seen in Figures 3.6 and 3.7 this value would also achieve the highest capacity compatible with the current design standards. A cycle time of 104 seconds was therefore selected.

Figure 3.6: Cycle Time Optimisation Graph – Proposed AM Peak



Source: Option 1 AM TRANSYT Model

Figure 3.7: Cycle Time Optimisation Graph – Proposed PM Peak



Source: Option 1 PM TRANSYT Model

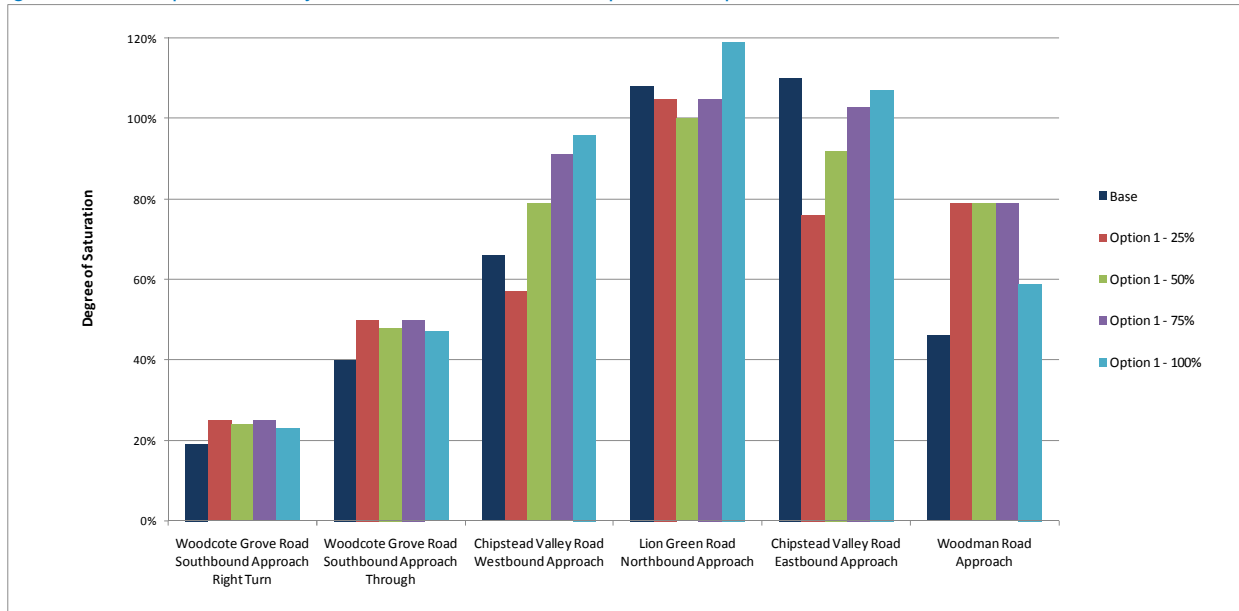
The full TRANSYT results can be seen in Appendix D. The AM peak results are summarised below in Table 3.3 and Figure 3.8 and suggest that the degree of saturation on the critical arms on the junction (Lion Green Road and Chipstead Valley Road eastbound) will increase significantly with respect to the base results when the frequency of appearance of Stage 5 exceeds 75%.

Table 3.3: AM Peak Option 1 TRANSYT Results

| TRANSYT Link Number | Description  | Base Model | Degree of Saturation |                 |                 |                  |
|---------------------|--|------------|----------------------|-----------------|-----------------|------------------|
|                     |  |            | (Stage 5 – 25%)      | Proposed Model  |                 | (Stage 5 – 100%) |
|                     |  |            |                      | (Stage 5 – 50%) | (Stage 5 – 75%) |                  |
| 3910                | Woodcote Grove Road Southbound Approach Right Turn | 19%        | 25                   | 24              | 25              | 23               |
| 3911                | Woodcote Grove Road Southbound Approach Through    | 40%        | 50                   | 48              | 50              | 47               |
| 3920                | Chipstead Valley Road Westbound Approach           | 66%        | 57                   | 79              | 91              | 96               |
| 3930                | Lion Green Road Northbound Approach                | 108%       | 105                  | 100             | 105             | 119              |
| 3940                | Chipstead Valley Road Eastbound Approach           | 110%       | 76                   | 92              | 103             | 107              |
| 3950                | Woodman Road Approach                              | 46%        | 79                   | 79              | 79              | 59               |
| 16910               | Lion Green Road Southbound Approach                | 48%        | 54                   | 54              | 53              | 52               |
| 16920               | Brighton Road Southbound Approach                  | 79%        | 52                   | 52              | 58              | 58               |
| 16931               | Brighton Road Northbound Approach Right Turn       | 17%        | 20                   | 20              | 20              | 20               |
| 16932               | Brighton Road Northbound Approach Through          | 48%        | 51                   | 51              | 50              | 50               |

Source: AM Proposed TRANSYT Model

Figure 3.8: Chipstead Valley Road / Lion Green Road Option Comparison – AM Peak



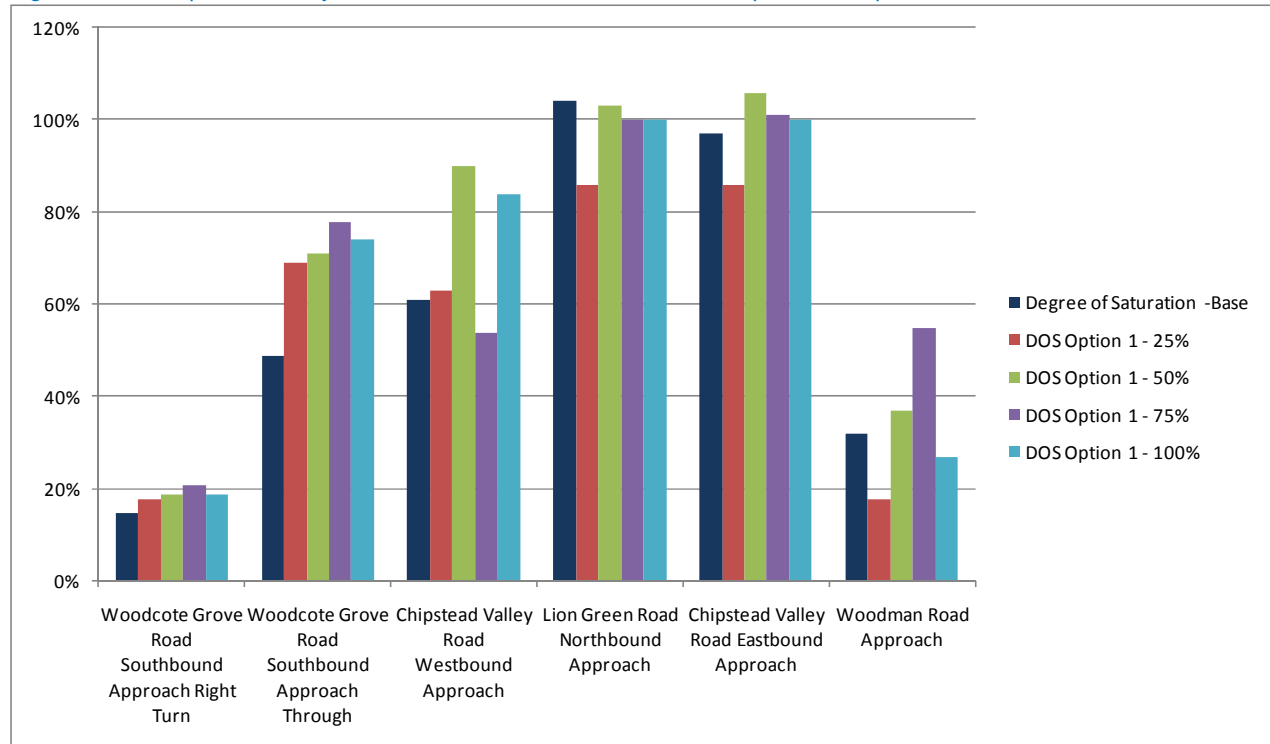
Source: Base and Option 1 AM TRANSYT Models

The PM peak model results (Table 3.4 and Figure 3.9) show that degrees of saturation are generally lower in the PM peak when compared to the AM period.

Table 3.4: Option 1 PM Proposed Results

| TRANSYT Link Number | Description  | Base Model | Degree of Saturation |                 |     |                  |
|---------------------|--|------------|----------------------|-----------------|-----|------------------|
|                     |  |            | (Stage 5 – 25%)      | Proposed Model  |     | (Stage 5 – 100%) |
|                     |  |            | (Stage 5 – 50%)      | (Stage 5 – 75%) |     |                  |
| 3910                | Woodcote Grove Road Southbound Approach Right Turn | 15%        | 18                   | 19              | 20  | 19               |
| 3911                | Woodcote Grove Road Southbound Approach Through    | 49%        | 69                   | 71              | 76  | 74               |
| 3920                | Chipstead Valley Road Westbound Approach           | 61%        | 63                   | 90              | 56  | 84               |
| 3930                | Lion Green Road Northbound Approach                | 104%       | 86                   | 103             | 98  | 100              |
| 3940                | Chipstead Valley Road Eastbound Approach           | 97%        | 86                   | 106             | 105 | 100              |
| 3950                | Woodman Road Approach                              | 32%        | 18                   | 37              | 55  | 27               |
| 16910               | Lion Green Road Southbound Approach                | 63%        | 67                   | 67              | 66  | 68               |
| 16920               | Brighton Road Southbound Approach                  | 66%        | 62                   | 57              | 62  | 57               |
| 16931               | Brighton Road Northbound Approach Right Turn       | 11%        | 12                   | 13              | 12  | 13               |
| 16932               | Brighton Road Northbound Approach Through          | 41%        | 43                   | 44              | 43  | 44               |

Figure 3.9: Chipstead Valley Road / Lion Green Road Base and Proposed Comparison – PM Peak



Source: Base and Option 1 PM TRANSYT Models

The TRANSYT results for Option 1 indicate, as expected, that the degree of saturation of the majority of the arms increase when the frequency of appearance of Stage 5 increases. It is noticeable that for some arms for a couple of the sensitivity tests the degree of saturation decreases as the frequency of the demand dependent pedestrian stage increases. This is because introducing phase delays to represent the demand dependent pedestrian stage increases the minimum stage length allowed for the pedestrian stages. Especially when the pedestrian stage is called less frequently. In reality with the SCOOT system in place, this would not happen and the minimum pedestrian stage time would be used. However, this is considered the best and most accurate way to model a demand dependent SCOOT system.

It is not possible at this stage to predict a likely frequency of appearance for the all round pedestrian stage; however, this stage would be called by pedestrians across Green Lion Road, which is along a strong pedestrian desire line. It can be concluded that Option 1 has the potential to result in unacceptable traffic operations at the study junction.

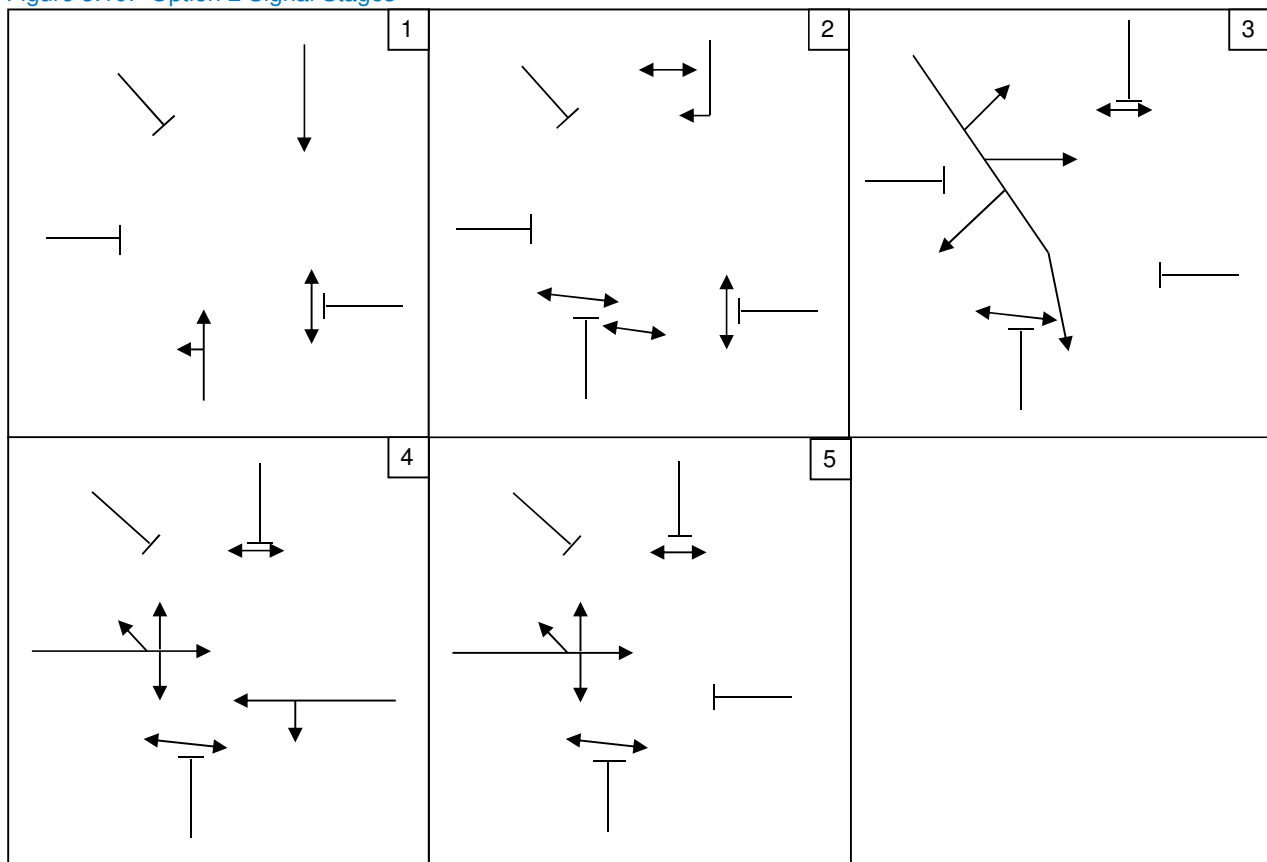
### 3.3 Option 2

#### 3.3.1 Option Development

Under Option 2 the pedestrian facilities across Chipstead Valley Road eastbound and Woodman Road would no longer be signalised, whilst allowing the remaining pedestrian phases to run in parallel with non-conflicting traffic movements. This removes the need for an all red pedestrian stage and thus would not result in junction capacity reductions. Drawing number MMD-280782-C-DR00-002 displaying the Option 2 proposals is attached in Appendix B.

In addition to these changes, Option 2 also proposes to control straight ahead and right turning traffic on Woodcote Grove Road southbound with two separate phases. This would allow the pedestrian phases across the Lion Green Road approach to be run in Stage 2 of the signal sequence, which is shown in Figure 3.10.

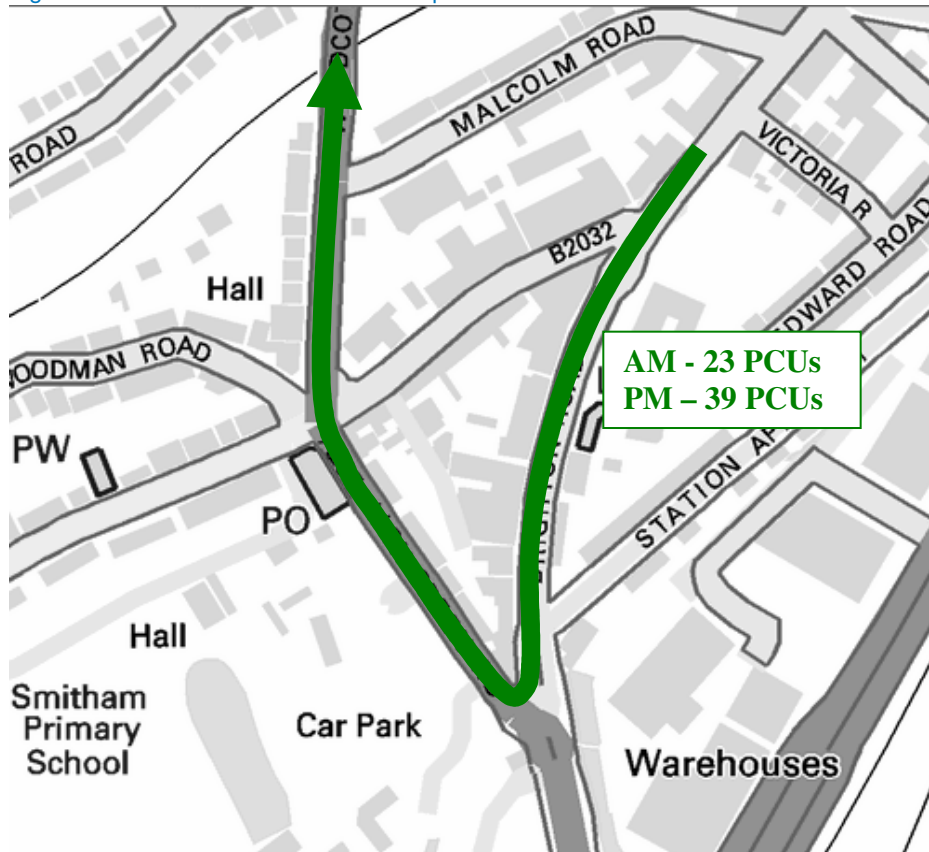
Figure 3.10: Option 2 Signal Stages



The proposed signal sequence also includes the early cut of Chipstead Valley Road westbound (Stage 5) to provide for an unopposed right turn stage for traffic on Chipstead Valley Road eastbound. This would probably result in improved junction operations as site observations suggest that right turners from Chipstead Valley Road eastbound into Lion Green Road often obstruct straight ahead traffic.

In addition to the banned movements already included in Option 1, Option 2 also proposes banning the right turn from Chipstead Valley Road westbound into Woodcote Grove Road northbound: this measure would reduce conflicts in the middle of the junction and facilitate the discharge of right tuners on the opposing arm during Stage 5. Also, the proposed shape of the pedestrian island on Woodcote Grove Road would make this manoeuvre difficult for large vehicles. The assumed alternative route is shown in Figure 3.11.

Figure 3.11: Re-routed traffic flows – Option 2



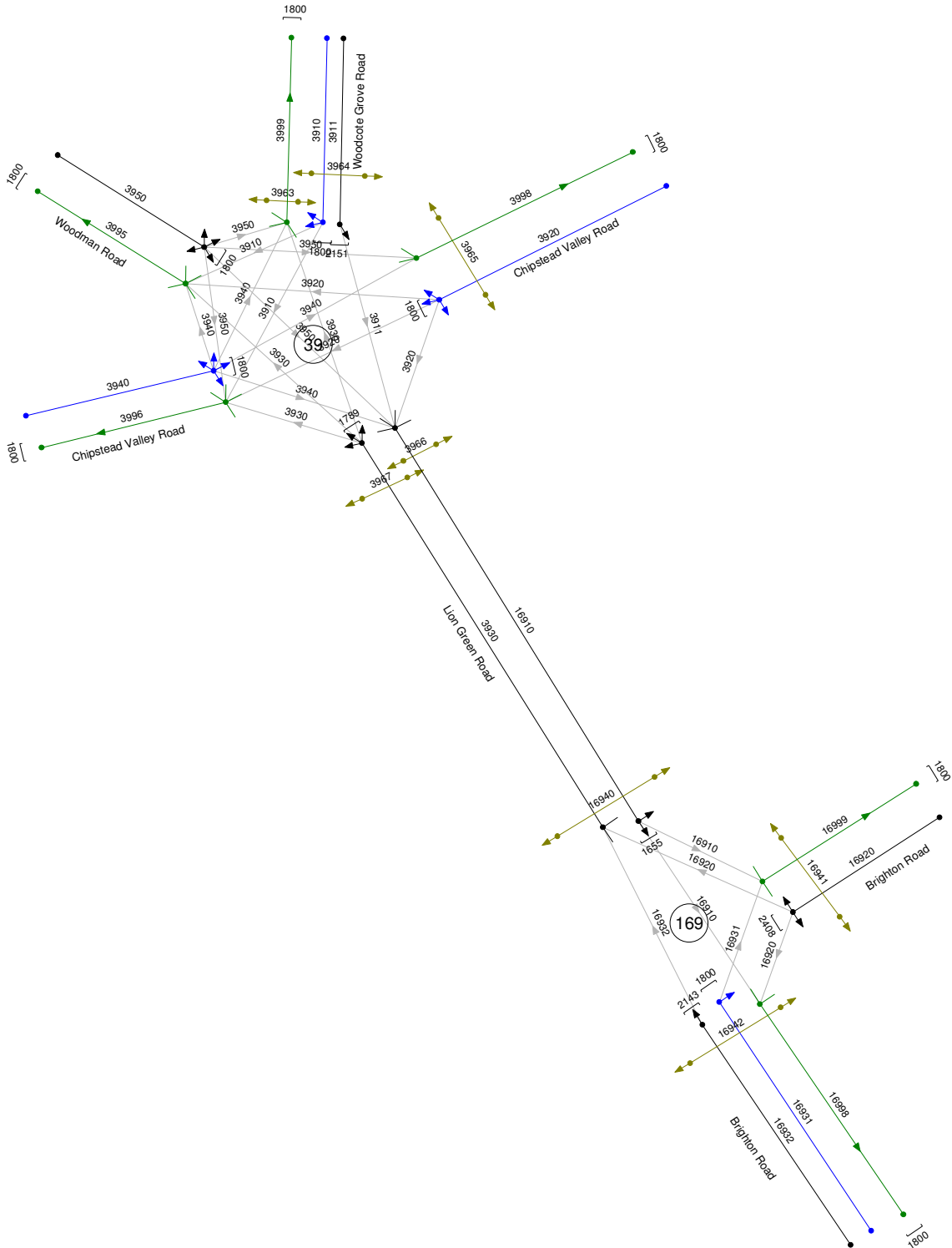
Source: Contains Ordnance Survey data © Crown copyright and database right (2011)

Other features of Option 2 include kerb build outs and advance cycle stop lines, similar to those already put forward in Option 1.

### 3.3.2 Operational Assessment

The Option 2 model network structure can be seen in Figure 3.12 below.

Figure 3.12: Option 2 TRANSYT Model Network Structure



Source: Option 2 TRANSYT Model

The modelled flows can be seen in Figure 3.13 for the AM and 3.14 for the PM.

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Figure 3.13: Option 2 AM Peak Modelled Flows

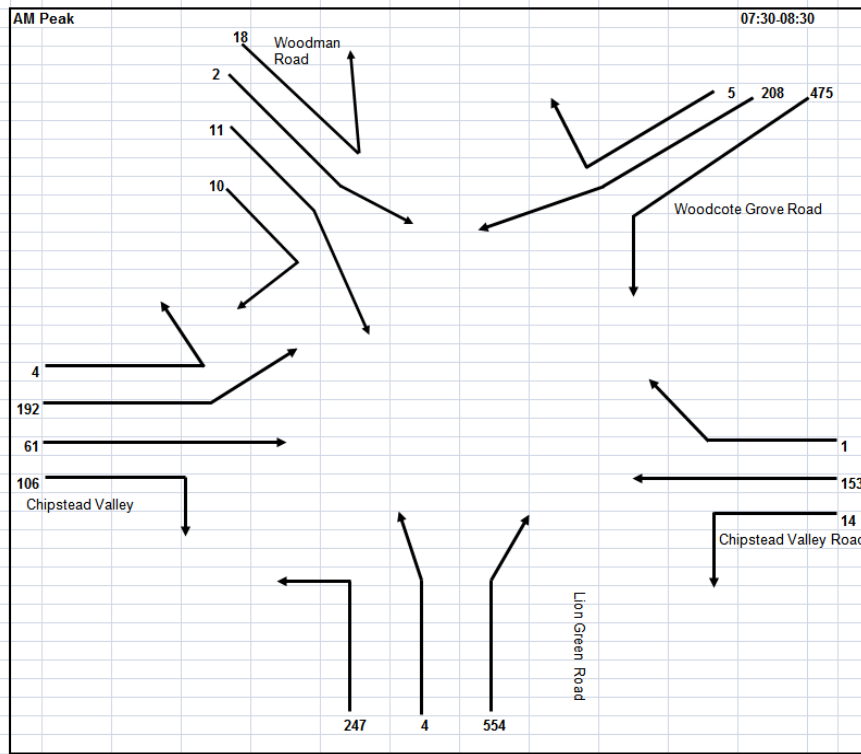
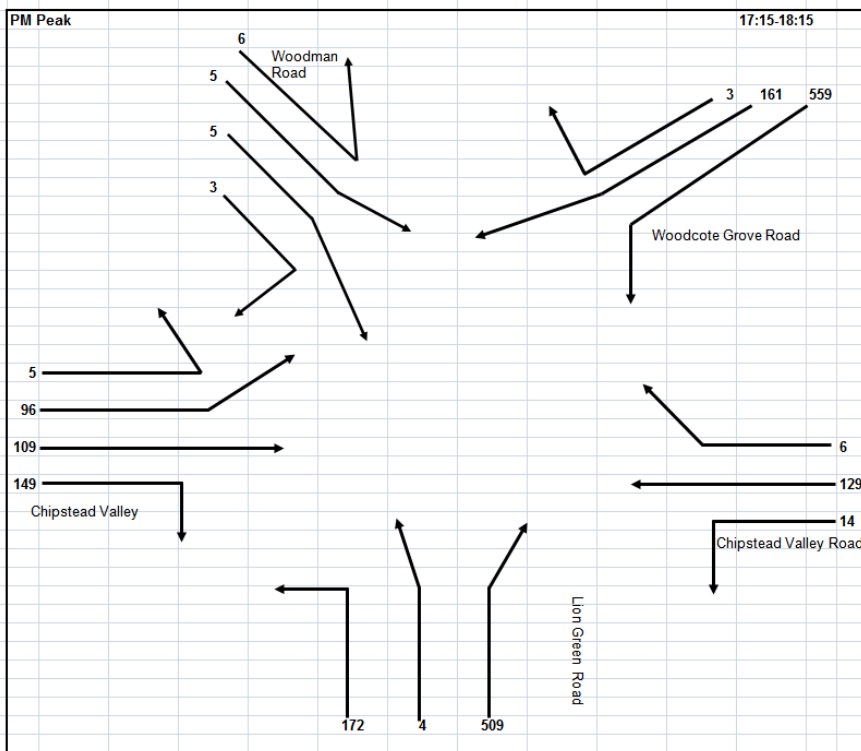


Figure 3.14: Option 2 PM Peak Modelled Flows



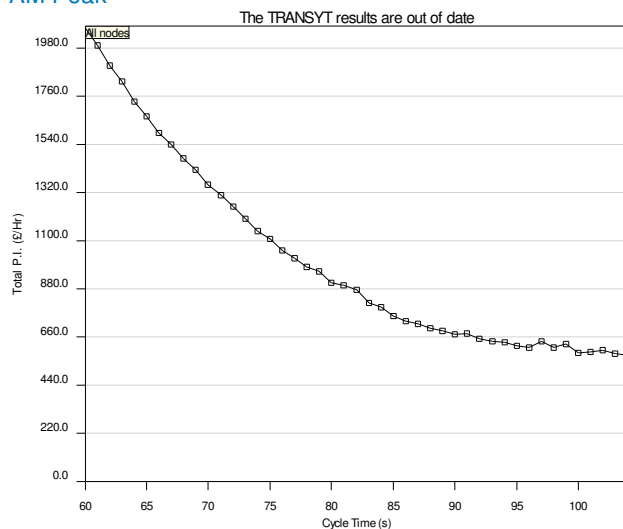
It is proposed that stages 2 and 3 remain demand dependent. As for Stage 5, while it will be configured as demand dependent, for modelling purposes we have assumed that it will appear at every cycle. This assumption is suggested by the significant right turning movement from Chipstead Valley Road eastbound into Lion Green Road westbound and the limited storage space for this movement in the middle of the junction, which are likely to trigger a demand for Stage 5 in most cycles.

As there are no new demand dependent stages added or removed from the sequence, the bonus greens and link delays introduced in the base models can again be used in the Option 2 models. The figures used can be seen in table 2.5 and 2.6 above.

### 3.3.3 Option 2 TRANSYT Results

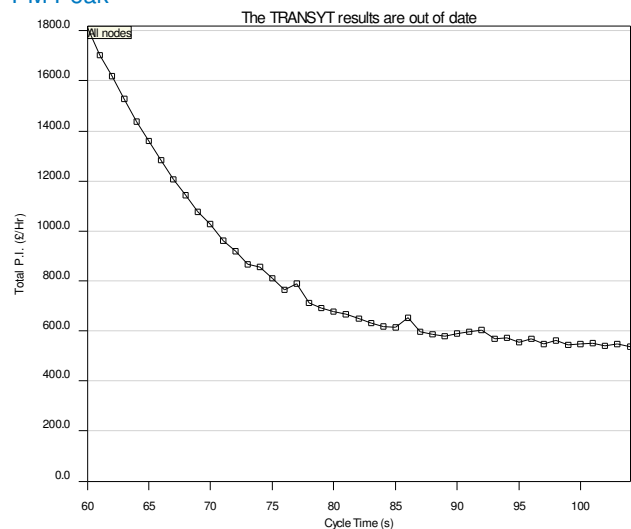
The TRANSYT Cycle Time Optimiser has been used to determine the best cycle time for the Option 2. As can be seen from Figure 3.15 and 3.16 below the optimum cycle time for Option 2 is the maximum recommended for junctions with signalised pedestrian facilities (104 seconds). However, both graphs below are relatively flat towards for longer cycle times, as such shorter cycle times have been tested to improve the pedestrian experience. The modelling shows significant deterioration in traffic conditions does not occur until cycle times go below 94 seconds. As such a cycle time of 94 seconds has been used for testing Option 2 in this report for both the AM and PM models.

Figure 3.15: Cycle Time Optimisation Graph – Proposed AM Peak



Source: Option 1 AM TRANSYT Model

Figure 3.16: Cycle Time Optimisation Graph – Proposed PM Peak



Source: Option 1 PM TRANSYT Model

The full TRANSYT results can be seen in Appendix D. The AM peak results are summarised below in Table 3.5 and Figure 3.17 and suggest that the degree of saturation on the critical arms on the junction (Lion Green Road and Chipstead Valley Road Eastbound) will reduce compared to the base results. There

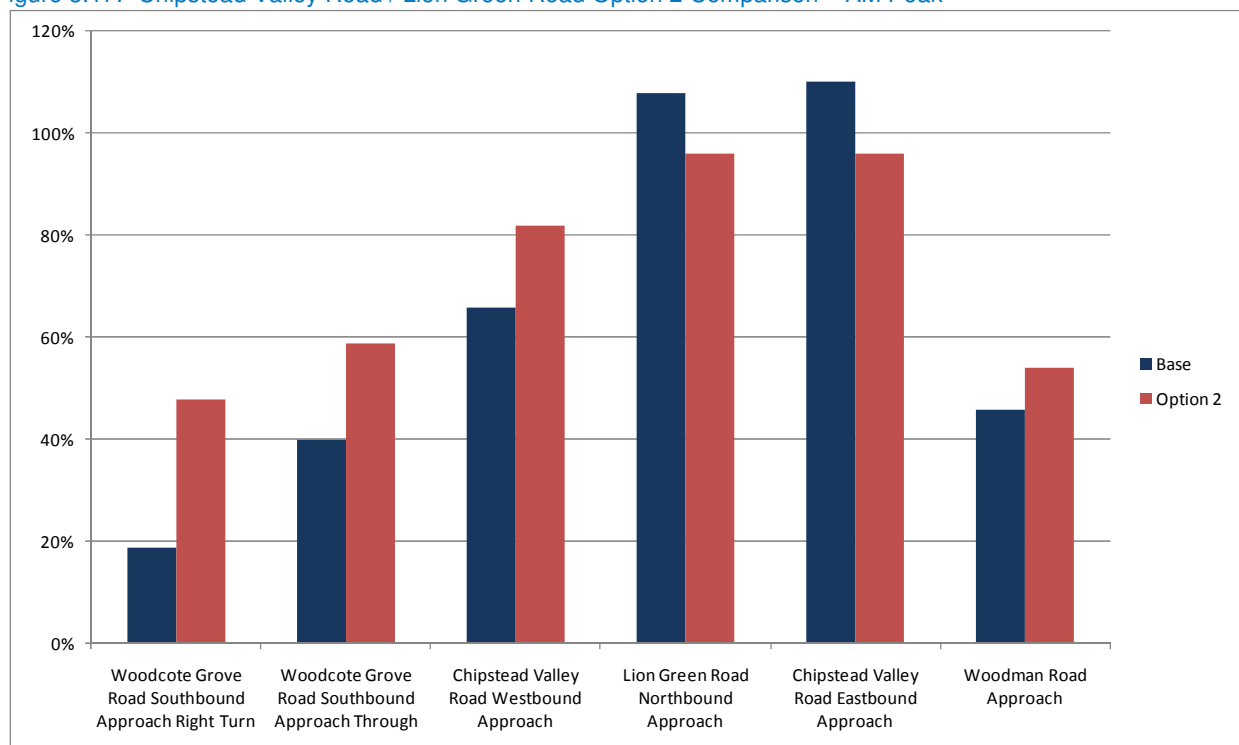
would be an increase in the degree of saturation on Woodcote Grove Road, Woodman Road and Chipstead Valley Road westbound; however these arms should continue to operate well within capacity.

Table 3.5: Option 2 AM Peak TRANSYT Results

| TRANSYT Link Number | Description  | Degree of Saturation (%) |          |
|---------------------|--|--------------------------|----------|
|                     |  | Base                     | Option 2 |
| 3910                | Woodcote Grove Road Southbound Approach Right Turn | 19%                      | 48       |
| 3911                | Woodcote Grove Road Southbound Approach Through    | 40%                      | 59       |
| 3920                | Chipstead Valley Road Westbound Approach           | 66%                      | 82       |
| 3930                | Lion Green Road Northbound Approach                | 108%                     | 96       |
| 3940                | Chipstead Valley Road Eastbound Approach           | 110%                     | 96       |
| 3950                | Woodman Road Approach                              | 46%                      | 54       |
| 16910               | Lion Green Road Southbound Approach                | 48%                      | 56       |
| 16920               | Brighton Road Southbound Approach                  | 79%                      | 56       |
| 16931               | Brighton Road Northbound Approach Right Turn       | 17%                      | 21       |
| 16932               | Brighton Road Northbound Approach Through          | 48%                      | 54       |

Source: AM Proposed TRANSYT Model

Figure 3.17: Chipstead Valley Road / Lion Green Road Option 2 Comparison – AM Peak



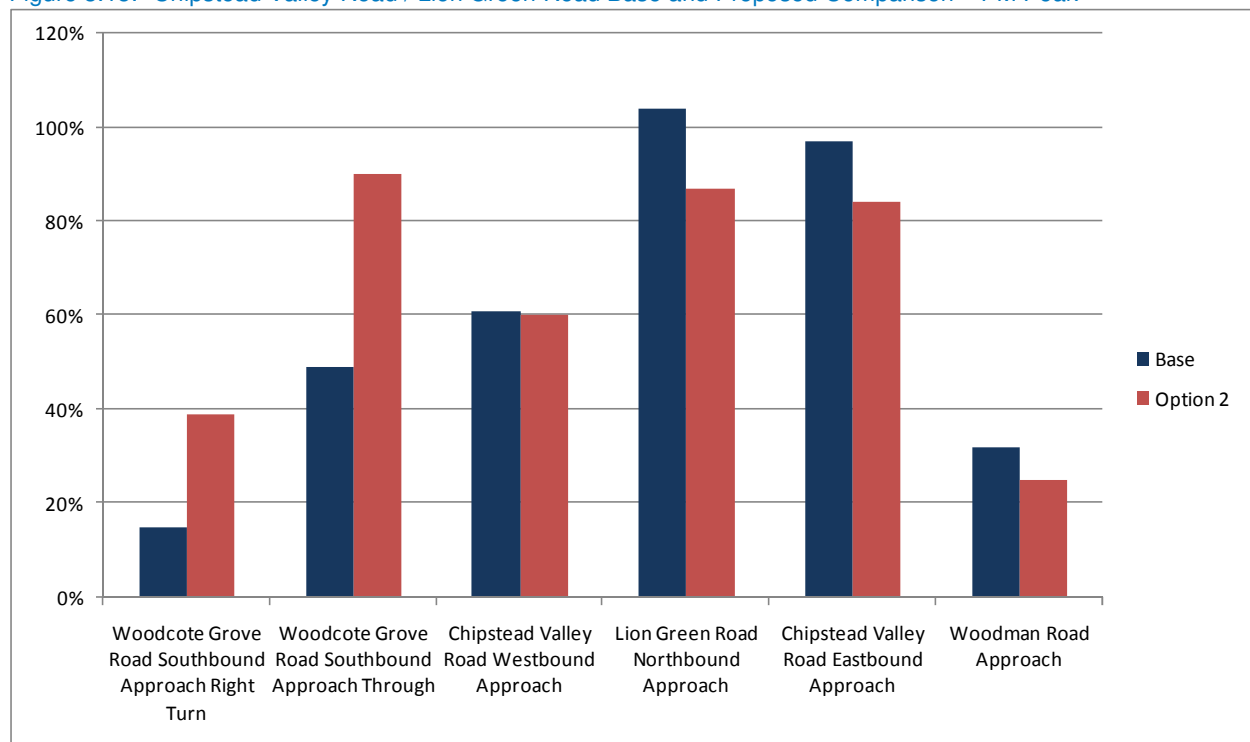
Source: Base and Option 2 AM TRANSYT Models

The PM results (Table 3.6 and Figure 3.18) show the degree of saturation on the critical arms is lower in the PM compared to the AM and is also an improvement on the base situation. There is an increase in the degree of saturation on Woodcote Grove Road; however this arm continues to operate within capacity.

Table 3.6: PM Proposed Option 2 Results

| TRANSYT Link Number | Description  | Degree of Saturation (%) |          |
|---------------------|--|--------------------------|----------|
|                     |  | Base                     | Option 2 |
| 3910                | Woodcote Grove Road Southbound Approach Right Turn | 15%                      | 39       |
| 3911                | Woodcote Grove Road Southbound Approach Through    | 49%                      | 90       |
| 3920                | Chipstead Valley Road Westbound Approach           | 61%                      | 60       |
| 3930                | Lion Green Road Northbound Approach                | 104%                     | 87       |
| 3940                | Chipstead Valley Road Eastbound Approach           | 97%                      | 84       |
| 3950                | Woodman Road Approach                              | 32%                      | 25       |
| 16910               | Lion Green Road Southbound Approach                | 63%                      | 71       |
| 16920               | Brighton Road Southbound Approach                  | 66%                      | 69       |
| 16931               | Brighton Road Northbound Approach Right Turn       | 11%                      | 13       |
| 16932               | Brighton Road Northbound Approach Through          | 41%                      | 46       |

Figure 3.18: Chipstead Valley Road / Lion Green Road Base and Proposed Comparison – PM Peak



Source: Base and Option 1 PM TRANSYT Models

## 4. Conclusions

The London Borough of Croydon commissioned Mott MacDonald to investigate the feasibility of introducing signalised pedestrian facilities at the Chipstead Valley Road / Lion Green Road / Woodcote Grove Road / Woodman Road junction in Coulsdon.

The site currently has high traffic flows making it difficult for pedestrians to cross. It is also known to suffer from severe congestion during peak periods, making it challenging to introduce signalised pedestrian crossings without causing additional delays to traffic.

Modelling has shown that currently two of the junction approaches, namely Chipstead Valley Road eastbound and Lion Green Road, operate over capacity during weekday peak periods. The Lion Green Road northbound approach operates at 108% degree of saturation during the AM and 104% during the PM peaks. The Chipstead Valley Road eastbound approach operates at 106% in the AM peak and 94% in the PM peak periods. This is consistent with site observations made by Mott MacDonald staff. It was noted that during the peak periods the queues at Chipstead Valley Road eastbound approach do not clear during the cycles and at times the queues on Lion Green Road extend through the junction to the south with Brighton Road. All other arms appear to operate within capacity.

This report suggests two options for providing signalised pedestrian facilities at the Chipstead Valley Road / Lion Green Road Junction.

Both options involve banning the right turn from Lion Green Road and the left turn from Woodcote Grove Road. In addition, Option 2 also proposes banning the right turn from Chipstead Valley Road westbound to Woodcote Grove Road. All the proposed banned movements carry very low traffic flows.

Option 1 involves introducing signalised pedestrian crossings on all approaches by the use of an all red phase as well as introducing a phase delay on the Chipstead Valley Road eastbound approach, to give right turners on this arm a period of unopposed green time. Sensitivity testing of this option has been undertaken, with the all red pedestrian phase being called in 25%, 50%, 75% and 100% of the cycles during the peak hour. The modelling shows that during the AM peak (the busiest of the peaks) Lion Green Road will operate over 100% capacity with these changes, with the degree of saturation increasing as the frequency of appearance of the all round pedestrian stage increases.

Option 2 is the preferred option. This involves introducing signalised pedestrian facilities across all but two of the arms (Woodcote Grove Road eastbound and Woodman Road). All the signalised pedestrian movements can be accommodated within the signal sequence in parallel with traffic movements. This option allows pedestrian facilities to be provided throughout the majority of the junction and a lower more pedestrian friendly cycle time of 94 seconds to be used in both the AM and PM peaks, whilst also significantly reducing congestion. The highest degree of saturation on the junction during both peaks would be 96%, significantly lower than current levels of saturation.



# Appendices

|  |    |
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# Appendix A. Signal Timing Sheets





# TfL Street Management

## Timing Sheets

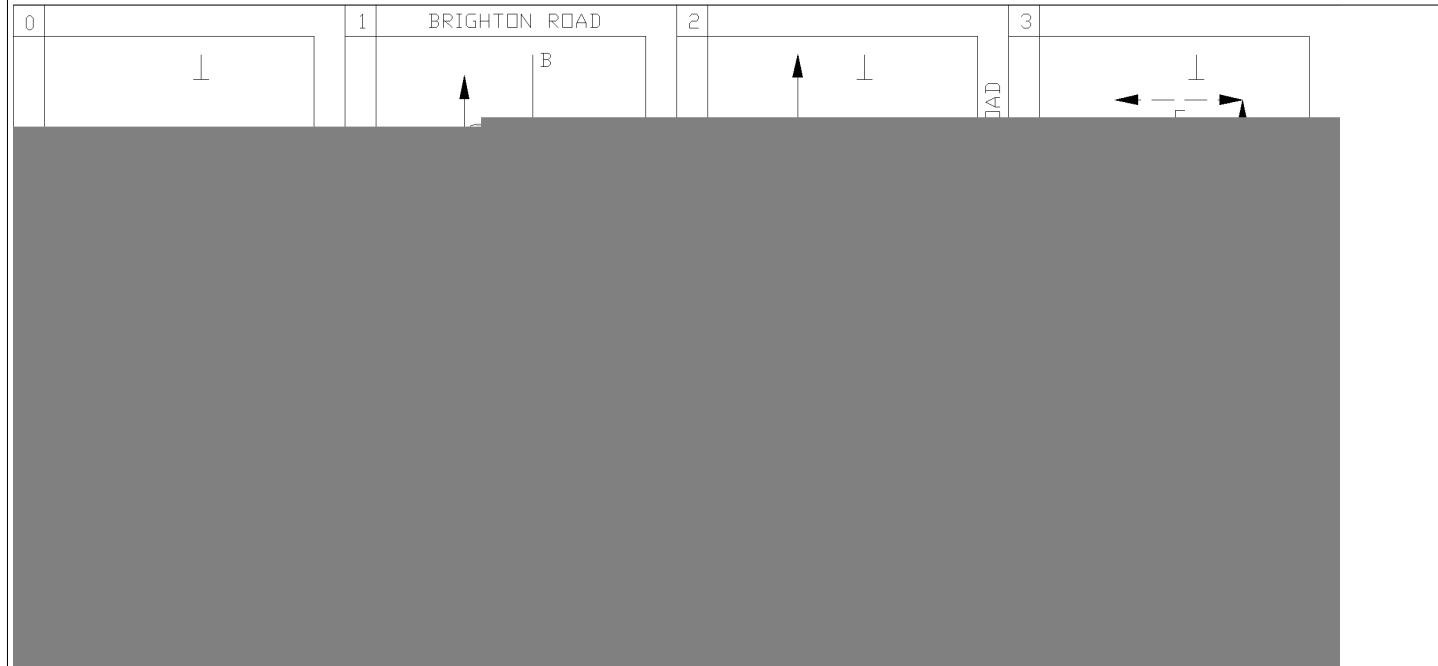
Non UTC Micro

|                   |                |          |             |       |                  |            |             |
|-------------------|----------------|----------|-------------|-------|------------------|------------|-------------|
| London Borough Of | Grid Reference | UTC Type | Bt Line No  | Issue | Date Implemented | Initials   | Site Number |
| CROYDON           | 529770/159372  | OUTR     | AXJK 567147 | 26    | 24-MAR-2011      | BLOOMFIELD | 20/000169/T |

Address  
A23 BRIGHTON ROAD - LION GREEN ROAD

|          |                           |                      |         |
|----------|---------------------------|----------------------|---------|
| PDU Rate | Controller Installed Date | Engineer Responsible | Linking |
| 68       | 30-NOV-2009               | RANGLAA              |         |

|               |               |                  |                       |             |          |  |
|---------------|---------------|------------------|-----------------------|-------------|----------|--|
| Computer      | Control Group | Control Subgroup | Concentrator Subgroup | Prom Number | Firmware | Controller Type                          |
| Takeover Date |               |                  |                       | EM30131 V3  | PB801-8  | STCL LV T900 MK 1 UTC Semi VA Controller |
| 28-JUL-2010   |               |                  |                       |             |          |  |



**Stage Diagram for Issue No 19**

|            |                |           |           |     |     |     |     |      |      |     |      |      |
|------------|----------------|-----------|-----------|-----|-----|-----|-----|------|------|-----|------|------|
| TFL Drg No | PRO/20/169/03A | HI Signal | YES       |     |     |     |     |      |      |     |      |      |
| Sig Drg No | PRO/20/169/03A | Dimming   | 160 Volts |     |     |     |     |      |      |     |      |      |
| Word       | Bit            | 01        | 02        | 03  | 04  | 05  | 06  | 07   | 08   | 09  | 12   | 13   |
| Type       | CONTROL        | 1F1       | 1F2       | 1F3 | 1DX | 1TS |     |      |      | 1EP |      |      |
| 43         | REPLY1         | 1G1       | 1G2       | 1G3 | 1JK | 1RT | 1JL | 1RF1 | 1RF2 | 1EC | 1PR0 | 1PR1 |



| Phase Timings |     |     |     |           |            |                      |
|---------------|-----|-----|-----|-----------|------------|----------------------|
| Phase         | Min | Ext | Max | Ped Black | Phase Type | Alternative Maximums |
| A             | 7   | 1   | 30  |           | T          |                      |
| B             | 7   | 1   | 30  |           | T          |                      |
| C             | 7   | .4  | 16  |           | T          |                      |
| D             | 8   |     |     | 8         | P          |                      |
| E             | 6   |     |     | 5         | P          |                      |
| F             | 9   |     |     | 9         | P          |                      |
| G             | 3   |     |     |           | D          |                      |

| Issue | Site Number |
|-------|-------------|
| 26    | 20/000169/T |

Phase Intergreens

|            |   | To Phase |    |    |   |    |    |   |
|------------|---|----------|----|----|---|----|----|---|
|            |   | A        | B  | C  | D | E  | F  | G |
| From Phase | A |          |    | 8  | 6 | 8  | 11 | 3 |
|            | B |          |    | 8  | 9 | 6  | 8  | 3 |
|            | C | 6        | 6  |    | 8 | 10 | 6  | 3 |
|            | D | 15       | 15 | 15 |   |    |    | 8 |
|            | E | 11       | 11 | 11 |   |    |    | 5 |
|            | F | 18       | 18 | 18 |   |    |    | 9 |
|            | G | 2        | 2  | 2  | 2 | 2  | 2  |   |



# TfL Street Management

## Timing Sheets

Non UTC Micro

| Mode Priority | CLF PLAN1   |                | CLF PLAN2   |                | CLF PLAN3   |                | CLF PLAN5   |                | CLF PLAN8   |                | CLF PLAN9   |                | Issue | Site Number |
|---------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------|-------------|
|               | Time Of Day | Operation Type | Time Of Day | Operation Type | Time Of Day | Operation Type | Time Of Day | Operation Type | Time Of Day | Operation Type | Time Of Day | Operation Type |       |             |
| UTC           |             |                |             |                |             |                |             |                |             |                |             |                | 26    | 20/000169/T |
| Hand Control  |             |                |             |                |             |                |             |                |             |                |             |                |       |             |
| Manual Select | 06:30       | 9              | 10:00       | 9              | 15:00       | 9              | 23:00       | 7              | 20:00       | 7              | 14:00       | 0              |       |             |
| Hurry (1)     |             |                | 08:00       | 0              |             |                |             |                |             |                | 14:00       | 1              |       |             |
| Hurry (2)     |             |                | 09:00       | 1              |             |                |             |                |             |                |             |                |       |             |
| VA            |             |                |             |                |             |                |             |                |             |                |             |                |       |             |
| CLF           |             |                |             |                |             |                |             |                |             |                |             |                |       |             |
| Fix Time      |             |                |             |                |             |                |             |                |             |                |             |                |       |             |
| Bus Priority  |             |                |             |                |             |                |             |                |             |                |             |                |       |             |
|               | Cycle Time  |                | Cycle Time  |                | Cycle Time  |                | Cycle Time  |                | Cycle Time  |                | Cycle Time  |                |       |             |
|               | 120         |                | 80          |                | 120         |                | 60          |                | 60          |                | 120         |                |       |             |

| Phase Delays |          |                  |              |
|--------------|----------|------------------|--------------|
| Stage From   | Stage To | Phase Associated | Delay Period |
|              |          |                  |              |
|              |          |                  |              |
|              |          |                  |              |
|              |          |                  |              |

| DET     | Function | Phase | DET    | Function | Phase | DET  | Function | Phase | DET | Function | Phase |
|---------|----------|-------|--------|----------|-------|------|----------|-------|-----|----------|-------|
| ASMVD3  | CEX      | A     | PB P4  | CAL      | D     | SD2  | SCT      | A     |     |          |       |
| AIRD3   | CEX      | A     | PB P5  | CAL      | E     | SD3  | SCT      | A     |     |          |       |
| BSMVD6  | CEX      | B     | PB P6  | CAL      | E     | SD4  | SCT      | A     |     |          |       |
| BIRD6   | CEX      | B     | PB P7  | CAL      | F     | SD5  | SCT      | A     |     |          |       |
| CSMVD10 | CEX      | C     | PB P8  | CAL      | F     | iSB0 | BUS      | A     |     |          |       |
| CIRD9   | CEX      | C     | PB P9  | CAL      | F     | iSB1 | BUS      | C     |     |          |       |
| PB P1   | CAL      | D     | PB P10 | CAL      | F     |      |          |       |     |          |       |
| PB P2   | CAL      | D     | SD0    | SCT      | A     |      |          |       |     |          |       |
| PB P3   | CAL      | D     | SD1    | SCT      | A     |      |          |       |     |          |       |

| Issue | Historical Amendments   |
|-------|---|
| 26    | RAM CHANGES MADE TO CLF & TIMETABLE 24-MAR-2011 BLOOMFIELDM   |
| 25    | SITE CORRECTION - SPECIAL STATUS FLAGS UPDATED. 15-FEB-2011 DTA_BM  |
| 24    | iBUS AMENDMENTS. 01-FEB-2011. CALLAWAYP   |
| 23    | SITE COMMISSIONED ON UTC. SCOOT LOOPS COMMISSIONED. 28-JUL-2010 COOKR   |
| 22    | NEW PROM (TFL SPEC ISSUE 10) INSTALLED & COMMISSIONED. 20-JUL-2010 LUCKETTF                                     |
| 21    | SNAGGING UPDATED. 14-JUN-2010. RANGLAA  |
| 20    | SCOOT LOOPS CUT & TESTED BUT STILL TO BE COMMISSIONED 04-MAR-2010 SMITHD  |
| 19.1  | SNAGGING UPDATED. 01-FEB-2010 RANGLAA   |
| 19    | NEW CONTROLLER, CABLE & EQUIPMENT INSTALLED & LOCALLY COMMISSIONED WITH RAM CHANGES (SEE RAM SHEET) 30-NOV-2009 |

| Remarks      |   |
|--------------|---|
| Version No   | 10  |
| Linking      | NONE  |
| Comments     | TFL SPEC ISSUE 10. **Outstanding Snagging**                 |
| Det Strategy | SMVDs - IRDs - PUSH BUTTONS / TACTILES - iBUS - SCOOT LOOPS |
| Amendment    | RAM CHANGES MADE TO CLF & TIMETABLE 24-MAR-2011 BLOOMFIELDM |



# TfL Street Management

## Timing Sheets

UTC Micro

|  |                           |                      |              |             |                  |  |             |
|--|---------------------------|----------------------|--------------|-------------|------------------|--|-------------|
| London Borough Of  | Grid Reference            | UTC Type             | Bt Line No   | Issue       | Date Implemented | Initials                                     | Site Number |
| CROYDON  | 529654/159524             | OUTR                 | AXJK 242295  | 26          | 24-MAR-2011      | BLOOMFIELD                                   | 20/000039/  |
| Address  |                           |                      |              |             |                  |  |             |
| CHIPSTEAD VALLEY RD - WOODMAN RD - LION GREEN ROAD - WOODCOTE GROVE ROAD |                           |                      |              |             |                  |  |             |
| PDU Rate   | Controller Installed Date | Engineer Responsible | Linking      |             |                  |  |             |
| 68   | 11-JAN-2007               | BOR_RSJ              | 20/000169/T  |             |                  |  |             |
| Computer   | Control                   | Control              | Concentrator |             |                  |  |             |
| Takeover Date  | Group                     | Subgroup             | Subgroup     | Prom Number | Firmware         | Controller Type                              |             |
| 20-JUL-2010  |                           |                      |              | EM67187 V11 | PB800-24         | STCL T800 MK 1 UTC Cntr, Integral Facilities |             |



**Stage Diagram for Issue No 21**

|            |                |           |           |     |     |     |     |     |     |      |      |
|------------|----------------|-----------|-----------|-----|-----|-----|-----|-----|-----|------|------|
| TFL Drg No | PRO/20/039/03A | HI Signal | YES       |     |     |     |     |     |     |      |      |
| Sig Drg No | PRO/20/039/02a | Dimming   | 160 Volts |     |     |     |     |     |     |      |      |
| Word       | Bit            | 01        | 02        | 03  | 04  | 05  | 06  | 07  | 08  | 11   | 12   |
| Type       | CONTROL        | 1F1       | 1F2       | 1F3 | 1F4 | 1DX | 1TS |     | 1EP |      |      |
| 23         | REPLY1         | 1G1       | 1G2       | 1G3 | 1G4 | 1JD | 1RT | 1JL | 1EC | 1PR0 | 1PR1 |



| Phase Timings |     |     |     |           |            |                      |
|---------------|-----|-----|-----|-----------|------------|----------------------|
| Phase         | Min | Ext | Max | Ped Black | Phase Type | Alternative Maximums |
| A             | 7   | .4  | 15  |           | T          |                      |
| B             | 7   | .4  | 10  |           | T          |                      |
| C             | 7   | .4  | 20  |           | T          |                      |
| D             | 7   | .4  | 15  |           | T          |                      |
| E             | 7   | .4  | 20  |           | T          |                      |
| F             | 4   | 2   | 5   |           | F          |                      |
| G             | 3   |     |     |           | D          |                      |

| Issue | Site Number |
|-------|-------------|
| 26    | 20/000039/  |

Phase Intergreens

|            |   | To Phase |   |   |   |   |   |   |
|------------|---|----------|---|---|---|---|---|---|
|            |   | A        | B | C | D | E | F | G |
| From Phase | A |          | 6 | 8 |   | 8 | 8 | 3 |
|            | B | 5        |   | 7 | 5 | 5 | 7 | 3 |
|            | C | 7        | 5 |   | 7 |   |   | 3 |
|            | D |          | 7 | 8 |   | 6 | 8 | 3 |
|            | E | 7        | 6 |   | 7 |   | 8 | 3 |
|            | F | 5        | 5 |   | 5 | 5 |   | 3 |
|            | G | 2        | 2 | 2 | 2 | 2 | 2 |   |



# TfL Street Management

## Timing Sheets

UTC Micro

| Mode Priority | CLF PLAN1         |     | CLF PLAN2         |     | CLF PLAN3         |     | CLF PLAN5         |     | CLF PLAN8         |     | CLF PLAN9         |     | Issue | Site Number |
|---------------|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------------------|-----|-------|-------------|
|               | Time Of Operation | Day | Time Of Operation | Day | Time Of Operation | Day | Time Of Operation | Day | Time Of Operation | Day | Time Of Operation | Day |       |             |
| UTC           |                   |     |                   |     |                   |     |                   |     |                   |     |                   |     | 26    | 20/000039/  |
| Hand Control  |                   |     |                   |     |                   |     |                   |     |                   |     |                   |     |       |             |
| Manual Select | 06:30             | 9   | 10:00             | 9   | 15:00             | 9   | 23:00             | 7   | 20:00             | 7   | 14:00             | 0   |       |             |
| Hurry (1)     |                   |     | 08:00             | 0   |                   |     |                   |     |                   |     | 14:00             | 1   |       |             |
| Hurry (2)     |                   |     | 08:00             | 1   |                   |     |                   |     |                   |     |                   |     |       |             |
| VA            |                   |     |                   |     |                   |     |                   |     |                   |     |                   |     |       |             |
| CLF           |                   |     |                   |     |                   |     |                   |     |                   |     |                   |     |       |             |
| Fix Time      |                   |     |                   |     |                   |     |                   |     |                   |     |                   |     |       |             |
| Bus Priority  |                   |     |                   |     |                   |     |                   |     |                   |     |                   |     |       |             |
|               | Cycle Time        |     | Cycle Time        |     | Cycle Time        |     | Cycle Time        |     | Cycle Time        |     | Cycle Time        |     |       |             |
|               | 120               |     | 80                |     | 120               |     | 60                |     | 60                |     | 120               |     |       |             |

| Phase Delays |          |                  |              |
|--------------|----------|------------------|--------------|
| Stage From   | Stage To | Phase Associated | Delay Period |
|              |          |                  |              |
|              |          |                  |              |
|              |          |                  |              |
|              |          |                  |              |

| DET    | Function | Phase | DET     | Function | Phase | DET   | Function | Phase | DET | Function | Phase |
|--------|----------|-------|---------|----------|-------|-------|----------|-------|-----|----------|-------|
| AIRD2  | CAL      | C     | ESMVD11 | CAL      | D     | SD0/1 | SCT      | A     |     |          |       |
| AIRD2  | CEX      | A     | ESMVD11 | CEX      | E     | SD2/3 | SCT      | A     |     |          |       |
| ASMVD2 | CEX      | A     | EIRD11  | CAL      | D     | SD4   | SCT      | A     |     |          |       |
| ASMVD2 | CAL      | C     | EIRD11  | CEX      | E     | SD5   | SCT      | A     |     |          |       |
| BSMVD3 | CEX      | B     | iSB0    | BUS      | A     | SD6   | SCT      | A     |     |          |       |
| CSMVD6 | CEX      | C     | iSB1    | BUS      | D     |       |          |       |     |          |       |
| CSMVD6 | CAL      | A     | ISB1    | BUS      | D     |       |          |       |     |          |       |
| DSMVD8 | CEX      | D     | FP      | EXT      | F     |       |          |       |     |          |       |
| DSMVD8 | CAL      | E     | FP      | CAN      | F     |       |          |       |     |          |       |

| Issue | Historical Amendments   |
|-------|---|
| 26    | RAM CHANGES MADE TO CLF & TIMETABLE 24-MAR-2011 BLOOMFIELDM                             |
| 25.1  | ALL SNAGGING COMPLETE. 31-AUG-2010 LUCKETTF   |
| 25    | SITE COMMISSIONED ON UTC. SCOOT LOOPS COMMISSIONED. 20-JUL-2010 LUCKETTF                |
| 24    | SCOOT LOOPS CUT & TESTED BUT STILL TO BE COMMISSIONED 10-NOV-2009 PENND                 |
| 23    | iBUS AMENDMENTS. 02-JUN-2010. CALLAWAYP   |
| 22    | NEW PROM (TFL SPEC ISSUE 11) INSTALLED. CLF PLANS AMENDED IN RAM. 10-MAY-2010 LUCKETTF  |
| 21    | COMMISSIONED BSMVD, AIRD & EIRD. 22-APR-2010 FCC HDS                                    |
| 20    | TIMING CHANGE - CLF PLANS & TIMETABLE INFORMATION AMENDED IN RAM. 03-JUL-09 RANGLAA     |
| 19    | TIMING CHANGE - CLF PLANS, INTERGREENS & PHASE DELAYS AMENDED IN RAM. 26-MAR-09 RANGLAA |

| Remarks      |   |
|--------------|---|
| Version No   | 11  |
| Linking      | NONE  |
| Comments     | TFL SPEC ISSUE 11.  |
| Det Strategy | SMVDs - IRDs - iBUS - SCOOT LOOPS                           |
| Amendment    | RAM CHANGES MADE TO CLF & TIMETABLE 24-MAR-2011 BLOOMFIELDM |

## Appendix B. Chipstead Valley Road / Lion Green Road Option 1



## Appendix C. Chipstead Valley Road / Lion Green Road Option 2



## Appendix D. TRANSYT Prt File Outputs



Lion Green Road - Chipstead Valley\_AM Peak\_V4 prt

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

121 SECOND CYCLE 121 STEPS

INITIAL SETTINGS

| NODE NO | STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|---------|-------|------------------|-------|-------|-------|-------|-------|-------|-------|
| 9       | 10    | 1                | 2     | 3     | 4     | 5     | 6     | 7     | 8     |
| 39      | 4     | 109              | 50    | 63    | 75    |       |       |       |       |
| 169     | 3     | 96               | 63    | 78    |       |       |       |       |       |

| LINK NUMBER | FLOW INTO MEAN | SAT FLOW INDEX | DEGREE OF SAT | PERFORMANCE OF INDEX | MEAN EXIT PER NODE | GREEN PCU START | UNIFORM START | RANDOM START | OVERSAT | OF COST | STOPS MEAN | OF COST |
|-------------|----------------|----------------|---------------|----------------------|--------------------|-----------------|---------------|--------------|---------|---------|------------|---------|
| 3910        | 213            | 1800           | 19            | 15.0                 | 12.4               | 0.6             | 0.1           | (10.4)       |         | 44      | (2.9)      |         |
| 3           | 119            | 13.3           | 40            | 15.0                 | 16.4               | 1.9             | 0.3           | (32.4)       |         | 54      | (8.4)      |         |
| 3911        | 500            | 2151           | 40.8          | 15.0                 | 11.9               | 67              | 2.2           | (44.4)       |         | 102     | (6.0)      |         |
| 10          | 191            | 1800           | 50.4          | 108                  | 23.0               | 189.0           | 7.5           | (577.0)      |         | 187     | (12.6)     |         |
| 3920        | 774            | 1789           | 106           | 15.0                 | 203.2              | 80              | 113           | (290.2)      |         | 189     | (21.1)     |         |
| 7           | 60             | 589.6          | 39            | 117                  | 60                 |                 |               |              |         |         |            |         |
| 3930        | 362            | 1800           | 311.2         | 46                   | 15.0               | 92.6            | 75            | (15.0)       |         | 123     | (1.6)      |         |
| 3940        | 28             | 1800           | 16.5          | 2                    | 15.0               | 1.0             | 0.0           | (0.2)        |         | 1       | (0.0)      |         |
| 23          | 3950           | 1800           | 0.2           | 33                   | 15.0               | 0.0             | 0.3           | (3.6)        |         | 1       | (0.2)      |         |
| 0           | 3995           | 107            | 1800          | 3.8                  | 6                  | 15.0            | 1.1           | 0.0          | 0.0     | (0.4)   | 1          | (0.0)   |
| 0           | 3998           | 107            | 1800          | 0.5                  | 40                 | 15.0            | 1.7           | 0.0          | 0.3     | (4.7)   | 1          | (0.3)   |
| 0           | 3999           | 716            | 1800          | 5.0                  | 49                 | 20.6            | 5.2           | 0.4          | 0.5     | (12.2)  | 21         | (1.4)   |
| 0           | 16910          | 600            | 1655          | 13.6                 | 169                | 114             | 82            | 1.9          | 1.7     | (51.1)  | 132        | (5.1)   |
| 5           | 16920          | 125            | 2408          | 56.2                 | 171                | 169             | 71            | 78           | 0.2     | (4.8)   | 25         | (1.9)   |
| 6           | 16931          | 243            | 1800          | 6.7                  | 169                | 114             | 86            | 1.3          | 0.5     | (25.1)  | 38         | (9.0)   |
| 2           | 16932          | 764            | 2143          | 34.2                 | 169                | 114             | 82            | 0.2          | 0.0     | (2.4)   | 99         | (0.0)   |
| 11          | 16940          | 10             | 10000         | 2.4                  | 2                  | 169             | 92            | 96           | 0.2     | (2.3)   | 97         | (0.0)   |
| 0           | 16941          | 10             | 10000         | 2.3                  | 3                  | 169             | 90            | 96           | 0.2     | (2.5)   | 101        | (0.0)   |
| 0           | 16942          | 10             | 10000         | 2.5                  | 3                  | 169             | 93            | 96           | 0.0     | (4.5)   | 1          | (2.7)   |
| 0           | 16998          | 703            | 1800          | 7.2                  | 39                 | 6.7             | 1.6           | 0.0          | 0.3     | (1.2)   | 1          | (0.1)   |
| 0           | 16999          | 254            | 1800          | 1.2                  | 14                 | 15.0            | 1.2           | 0.0          | 0.1     | (1.2)   | 1          | (0.1)   |
| 0           | -1000          | 200            | 1800          | 127.3                | 96                 | 15.0            | 148.6         | 3.0          | 5.3     | (117.3) | 162        | (10.0)  |
| 12          |                |                |               |                      | 39                 | 50              | 63            |              |         |         |            |         |

LINK CARDS: FLOW DATA

| ENTRY 1    | ENTRY 2    | ENTRY 3    | ENTRY 4    |
|------------|------------|------------|------------|
| CRUISE NO. | CRUISE NO. | CRUISE NO. | CRUISE NO. |
| LINK NO.   | LINK NO.   | LINK NO.   | LINK NO.   |
| FLOW TIME  | FLOW TIME  | FLOW TIME  | FLOW TIME  |
| 0 25)= 31  | 0 0        | 0 0        | 0 0        |
| 0 26)= 31  | 0 1800     | 0 1800     | 0 1800     |
| 0 27)= 31  | 0 161      | 0 1655     | 0 1655     |
| 0 28)= 31  | 0 16920    | 0 2408     | 0 2408     |
| 0 29)= 31  | 0 200      | 0 1800     | 0 1800     |
| 0 30)= 31  | 0 200      | 0 2143     | 0 2143     |
| 0 31)= 31  | 0 16941    | 0 10000    | 0 10000    |
| 0 32)= 31  | 0 10       | 0 10000    | 0 10000    |
| 0 33)= 31  | 0 10       | 0 10000    | 0 10000    |
| 0 34)= 31  | 0 200      | 0 1800     | 0 1800     |

| ENTRY 1    | ENTRY 2    | ENTRY 3    | ENTRY 4    |
|------------|------------|------------|------------|
| CRUISE NO. | CRUISE NO. | CRUISE NO. | CRUISE NO. |
| LINK NO.   | LINK NO.   | LINK NO.   | LINK NO.   |
| FLOW TIME  | FLOW TIME  | FLOW TIME  | FLOW TIME  |
| 0 41)= 32  | 0 0        | 0 41       | 0 0        |
| 0 42)= 32  | 0 3995     | 0 40       | 0 3910     |
| 0 43)= 32  | 0 3930     | 0 15       | 0 3940     |
| 0 44)= 32  | 0 3996     | 0 618      | 0 3910     |
| 0 45)= 32  | 0 3930     | 0 15       | 0 3950     |
| 0 46)= 32  | 0 3998     | 0 15       | 0 3911     |
| 0 47)= 32  | 0 61       | 0 15       | 0 3950     |
| 0 48)= 32  | 0 3999     | 0 764      | 0 3920     |
| 0 49)= 32  | 0 192      | 0 15       | 0 3950     |
| 0 50)= 32  | 0 106      | 0 22       | 0 3911     |
| 0 51)= 32  | 0 16920    | 0 125      | 0 3950     |
| 0 52)= 32  | 0 0        | 0 243      | 0 0        |
| 0 53)= 32  | 0 16931    | 0 0        | 0 0        |
| 0 54)= 32  | 0 16932    | 0 764      | 0 0        |
| 0 55)= 32  | 0 0        | 0 0        | 0 0        |
| 0 56)= 32  | 0 16940    | 0 0        | 0 0        |
| 0 57)= 32  | 0 0        | 0 10       | 0 0        |
| 0 58)= 32  | 0 16941    | 0 10       | 0 0        |
| 0 59)= 32  | 0 0        | 0 10       | 0 0        |
| 0 60)= 32  | 0 16942    | 0 10       | 0 0        |
| 0 61)= 32  | 0 0        | 0 10       | 0 0        |
| 0 62)= 32  | 0 16998    | 0 708      | 0 16910    |
| 0 63)= 32  | 0 0        | 0 0        | 0 16910    |
| 0 64)= 32  | 0 16999    | 0 254      | 0 16910    |
| 0 65)= 32  | 0 0        | 0 0        | 0 16910    |

Lion Green Road - Chipstead Valley\_AM Peak\_v4.prt

|                               | TOTAL  | MEAN     | TOTAL  | TOTAL    | TOTAL     |
|-------------------------------|--------|----------|--------|----------|-----------|
| TOTAL PENALTY                 | 39     | 4        | 11     | 73       | 86        |
| DISTANCE FOR TRAVELLED EXCESS | 169    | 3        | 96     | 63       | 78        |
| QUEUES (PCU-KM/H) (\$/H)      | 1209.3 | 103.7    | 11.7   | 22.0     | 54.3      |
| (PCU-H/H) (\$/H)              | (0.0)  | = 1157.5 | TOTALS | (1084.3) | + ( 73.2) |

\*\*\*\*\*

|                              | TOTALS          | CRUISE          | DELAY           |
|------------------------------|-----------------|-----------------|-----------------|
| STOPS                        |                 |                 |                 |
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 123.7           | +               | 97.3            |
| 37.9                         | = 259.0         |                 | +               |

NO. OF ENTRIES TO SUBPT = 1  
NO. OF LINKS RECALCULATED= 30

121 SECOND CYCLE 121 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 18  
(SECONDS)

|                               | TOTAL  | MEAN     | TOTAL  | TOTAL    | TOTAL     |
|-------------------------------|--------|----------|--------|----------|-----------|
| TOTAL PENALTY                 | 39     | 4        | 109    | 50       | 63        |
| DISTANCE FOR TRAVELLED EXCESS | 169    | 3        | 96     | 63       | 78        |
| QUEUES (PCU-KM/H) (\$/H)      | 1209.3 | 113.4    | 10.7   | 23.0     | 63.1      |
| (PCU-H/H) (\$/H)              | (0.0)  | = 1298.0 | TOTALS | (1222.2) | + ( 75.8) |

NO. OF ENTRIES TO SUBPT = 6  
NO. OF LINKS RECALCULATED= 121

121 SECOND CYCLE 121 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 18 48  
(SECONDS)

|                               | TOTAL  | MEAN     | TOTAL  | TOTAL    | TOTAL     |
|-------------------------------|--------|----------|--------|----------|-----------|
| TOTAL PENALTY                 | 39     | 4        | 11     | 73       | 86        |
| DISTANCE FOR TRAVELLED EXCESS | 169    | 3        | 96     | 63       | 78        |
| QUEUES (PCU-KM/H) (\$/H)      | 1209.3 | 103.6    | 11.7   | 21.9     | 54.3      |
| (PCU-H/H) (\$/H)              | (0.0)  | = 1155.4 | TOTALS | (1082.3) | + ( 73.2) |

Lion Green Road - Chipstead Valley\_AM Peak\_v4.prt

|                          | TRAVELLED EXCESS | SPENT INDEX | SPEED  | DELAY | OVERSAT | OF       | STOPS     |
|--------------------------|------------------|-------------|--------|-------|---------|----------|-----------|
| QUEUES (PCU-KM/H) (\$/H) | 1209.3           | 104.1       | 11.6   | 22.4  | 54.3    | (1089.6) | + ( 73.6) |
| (PCU-H/H) (\$/H)         | (0.0)            | = 1163.2    | TOTALS |       |         |          |           |

121 SECOND CYCLE 121 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 18 48 18  
(SECONDS)

|                               | TOTAL  | MEAN     | TOTAL  | TOTAL    | TOTAL     |
|-------------------------------|--------|----------|--------|----------|-----------|
| TOTAL PENALTY                 | 39     | 4        | 11     | 73       | 86        |
| DISTANCE FOR TRAVELLED EXCESS | 169    | 3        | 96     | 63       | 78        |
| QUEUES (PCU-KM/H) (\$/H)      | 1209.3 | 113.7    | 10.6   | 23.2     | 63.1      |
| (PCU-H/H) (\$/H)              | (0.0)  | = 1302.4 | TOTALS | (1226.0) | + ( 76.3) |

NO. OF ENTRIES TO SUBPT = 6  
NO. OF LINKS RECALCULATED= 123

121 SECOND CYCLE 121 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 18 48 18 48  
(SECONDS)

|                               | TOTAL  | MEAN     | TOTAL  | TOTAL    | TOTAL     |
|-------------------------------|--------|----------|--------|----------|-----------|
| TOTAL PENALTY                 | 39     | 4        | 107    | 48       | 61        |
| DISTANCE FOR TRAVELLED EXCESS | 169    | 3        | 96     | 63       | 78        |
| QUEUES (PCU-KM/H) (\$/H)      | 1209.3 | 103.6    | 11.7   | 21.9     | 54.3      |
| (PCU-H/H) (\$/H)              | (0.0)  | = 1155.4 | TOTALS | (1082.3) | + ( 73.2) |

NO. OF ENTRIES TO SUBPT = 6  
NO. OF LINKS RECALCULATED= 106

121 SECOND CYCLE 121 STEPS

Lion Green Road - Chipstead Valley\_AM Peak\_v4.prt  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 18 48 18 48 18 18  
 - (SECONDS)

| NO.     | OF LINKS RECALCULATED= | 123    | 6                  |
|---------|------------------------|--------|--------------------|
| 1209.3  | 113.3                  | 10.7   | 22.8               |
| ( 0.0 ) | 1295.4                 | TOTALS | 63.1               |
|         |                        |        | (1219.7) + ( 75.8) |

121 SECOND CYCLE 121 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 18 48 18 48 18 18  
 - (SECONDS)

| NO.     | OF LINKS RECALCULATED= | 106    | 6                  |
|---------|------------------------|--------|--------------------|
| 1209.3  | 108.9                  | 11.1   | 22.6               |
| ( 0.0 ) | 1233.0                 | TOTALS | 59.0               |
|         |                        |        | (1158.3) + ( 74.7) |

121 SECOND CYCLE 121 STEPS  
 FINAL SETTINGS OBTAINED WITH INCREMENTS :- 18 48 18 48 18 18  
 - (SECONDS)

| LINK | FLOW | SAT | DEGREE | MEAN | TOTALS | STOPS | OF |
|------|------|-----|--------|------|--------|-------|----|
| 39   | 4    | 109 | 50     | 63   | 75     | 1     | 8  |
| 169  | 3    | 96  | 63     | 78   | 75     | 1     | 8  |

Lion Green Road - Chipstead Valley\_AM Peak\_v4.prt  
 MAX. AVERAGE WEIGHTED SUM

| EXCESS | OF ( ) VALUES | DELAY | END   | END   | DELAY     | /PCU       | STOPS       |
|--------|---------------|-------|-------|-------|-----------|------------|-------------|
| (PCU)  | (PCU/H)       | (%)   | (SEC) | (SEC) | (PCU-H/H) | (%)        | (\$/H)      |
| 3910   | 213           | 1800  | 19    | 15.0  | 12.4      | 0.6 + 0.1  | ( 10.4)     |
| 3      | 500           | 2151  | 40    | 15.0  | 16.4      | 1.9 + 0.3  | ( 32.4)     |
| 10     | 191           | 1800  | 66    | 15.0  | 57.8      | 2.1 + 1.0  | ( 43.6)     |
| 3920   | 7             | 49.4  | 39    | 80    | 109       | 7.5 + 33.1 | ( 577.0)    |
| 3930   | 774           | 1789  | 108   | 23.0  | 189.0     | 60         | ( 12.6)     |
| 60     | 362           | 1800  | 110   | 15.0  | 267.8     | 5.5 + 21.4 | ( 382.5)    |
| 35     | 41            | 1800  | 46    | 15.0  | 92.6      | 0.6 + 0.4  | ( 15.0)     |
| 3950   | 2             | 16.5  | 39    | 70    | 75        | 0.0 + 0.0  | ( 0.2)      |
| 3995   | 0             | 1800  | 0.2   | 33    | 15.0      | 0.0 + 0.3  | ( 3.6)      |
| 3996   | 0             | 1800  | 3.8   | 6     | 15.0      | 0.0 + 0.0  | ( 0.4)      |
| 3998   | 0             | 1800  | 0.5   | 39    | 15.0      | 0.0 + 0.3  | ( 4.6)      |
| 3999   | 0             | 1800  | 4.9   | 48    | 20.6      | 0.4 + 0.5  | ( 11.7)     |
| 16910  | 596           | 1655  | 13.0  | 169   | 114       | 1.9 + 1.7  | ( 51.1)     |
| 5      | 125           | 2408  | 79    | 15.0  | 103.6     | 0.2 + 0.1  | ( 4.8)      |
| 16920  | 6             | 56.2  | 17    | 15.0  | 5.0       | 0.2 + 0.1  | ( 2.5)      |
| 16931  | 243           | 1800  | 6.7   | 169   | 114       | 1.3 + 0.5  | ( 25.1)     |
| 16932  | 764           | 2143  | 48    | 15.0  | 8.3       | 0.2 + 0.0  | ( 2.4)      |
| 11     | 10            | 10000 | 2.4   | 169   | 92        | 0.2 + 0.0  | ( 0.0)      |
| 16941  | 0             | 10000 | 2.3   | 169   | 90        | 0.2 + 0.0  | ( 2.3)      |
| 16942  | 10            | 10000 | 2.5   | 169   | 93        | 0.2 + 0.0  | ( 2.5)      |
| 16998  | 0             | 1800  | 2.5   | 39    | 6.7       | 0.0 + 0.3  | ( 4.5)      |
| 0      | 0             | 1800  | 7.2   | 14    | 15.0      | 0.0 + 0.1  | ( 1.2)      |
| 16999  | 0             | 1800  | 1.2   | 96    | 15.0      | 0.0 + 0.1  | ( 1.2)      |
| 0      | 0             | 1800  | 1.2   | 96    | 15.0      | 0.0 + 0.1  | ( 1.2)      |
| -1000  | 12            | 127.3 | 39    | 50    | 63        | 5.3        | ( 117.3)    |
|        |               |       |       |       |           |            | 162 ( 10.0) |





Lion Green Road - Chipstead Valley\_Pm Peak\_V3 prt

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

121 SECOND CYCLE 121 STEPS

INITIAL SETTINGS

| NODE NO | STAGE | NUMBER OF STAGES | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 | STAGE 6 | STAGE 7 | STAGE 8 |
|---------|-------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 9       | 10    | 10               | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       |

| LINK NUMBER | FLOW INTO | SAT FLOW INDEX | DEGREE OF SAT | PERFORMANCE OF | MEAN EXIT PER NODE | GREEN TIMES PER START | UNIFORM START | RANDOM START | OVERSAT | OF | STOPS | MEAN | COST |
|-------------|-----------|----------------|---------------|----------------|--------------------|-----------------------|---------------|--------------|---------|----|-------|------|------|
| 169         | 3         | 84             | 47            | 67             | 55                 | 67                    |               |              |         |    |       |      |      |

| LINK NUMBER | EXCESS (PCU) | OF (PCU/H) | VALUES (PCU/H) | (%)  | (SEC) | (SEC) | (PCU-H/H) | DELAY (U+R+O=MEAN Q) | DELAY (\$/H) | STOPS (%) | STOPS (\$/H) |
|-------------|--------------|------------|----------------|------|-------|-------|-----------|----------------------|--------------|-----------|--------------|
| 3910        | 164          | 1800       | 15             | 15.0 | 12.9  | 0.5   | 0.1       | ( 8.3)               | 44           | ( 2.2)    |              |

| LINK NUMBER | EXCESS (PCU) | OF (PCU/H) | VALUES (PCU/H) | (%)  | (SEC) | (SEC) | (PCU-H/H) | DELAY (U+R+O=MEAN Q) | DELAY (\$/H) | STOPS (%) | STOPS (\$/H) |
|-------------|--------------|------------|----------------|------|-------|-------|-----------|----------------------|--------------|-----------|--------------|
| 3910        | 164          | 1800       | 15             | 15.0 | 12.9  | 0.5   | 0.1       | ( 8.3)               | 44           | ( 2.2)    |              |
| 3911        | 596          | 2151       | 49             | 15.0 | 19.0  | 2.7   | 0.5       | ( 44.6)              | 60           | ( 11.1)   |              |
| 3913        | 13           | 3920       | 61             | 15.0 | 52.7  | 2.0   | 0.8       | ( 39.3)              | 96           | ( 5.6)    |              |
| 3920        | 189          | 1800       | 61             | 15.0 | 52.7  | 2.0   | 0.8       | ( 39.3)              | 96           | ( 5.6)    |              |
| 3930        | 639          | 1789       | 104            | 23.0 | 143.0 | 6.1   | 19.3      | ( 360.4)             | 169          | ( 9.4)    |              |
| 3940        | 359          | 1800       | 94             | 15.0 | 98.7  | 4.3   | 5.6       | ( 139.8)             | 137          | ( 15.2)   |              |
| 3950        | 17           | 3950       | 32             | 15.0 | 101.2 | 0.3   | 0.2       | ( 7.6)               | 129          | ( 0.8)    |              |
| 3995        | 1            | 1800       | 8.3            | 2    | 15.0  | 1.0   | 0.0       | ( 0.2)               | 1            | ( 0.0)    |              |
| 3996        | 0            | 1800       | 0.2            | 26   | 15.0  | 1.3   | 0.0       | ( 2.5)               | 1            | ( 0.2)    |              |
| 3998        | 0            | 1800       | 2.6            | 9    | 15.0  | 1.1   | 0.0       | ( 0.7)               | 1            | ( 0.0)    |              |
| 3999        | 0            | 1800       | 0.7            | 34   | 15.0  | 1.5   | 0.0       | ( 3.7)               | 1            | ( 0.2)    |              |
| 16910       | 9            | 16910      | 63             | 20.6 | 8.6   | 0.9   | 0.8       | ( 24.8)              | 37           | ( 3.0)    |              |
| 16920       | 172          | 2408       | 66             | 15.0 | 72.2  | 2.5   | 1.0       | ( 49.0)              | 110          | ( 5.8)    |              |
| 16931       | 145          | 1800       | 11             | 15.0 | 6.1   | 0.2   | 0.1       | ( 3.5)               | 28           | ( 1.2)    |              |
| 16932       | 1            | 16932      | 4.7            | 169  | 102   | 69    | 1.3       | ( 23.6)              | 41           | ( 7.8)    |              |
| 16940       | 9            | 10000      | 31.5           | 2    | 169   | 102   | 65        | ( 2.3)               | 98           | ( 0.0)    |              |
| 16941       | 10           | 10000      | 2.3            | 2    | 169   | 79    | 84        | ( 2.3)               | 97           | ( 0.0)    |              |
| 16942       | 10           | 10000      | 2.3            | 2    | 169   | 78    | 84        | ( 2.3)               | 97           | ( 0.0)    |              |
| 16943       | 10           | 10000      | 2.3            | 3    | 169   | 81    | 84        | ( 2.5)               | 101          | ( 0.0)    |              |
| 16944       | 886          | 1800       | 49             | 6.8  | 2.0   | 0.0   | 0.5       | ( 6.9)               | 2            | ( 4.1)    |              |
| 16945       | 0            | 16945      | 11.0           | 9    | 15.0  | 1.1   | 0.0       | ( 0.7)               | 1            | ( 0.0)    |              |
| 16946       | 164          | 1800       | 0.8            | 96   | 15.0  | 148.6 | 3.0       | ( 117.3)             | 162          | ( 10.0)   |              |
| 16947       | 0            | 1800       | 127.3          | 39   | 42    | 55    |           |                      |              |           |              |

| CRUISE NO. | CARD NO. | LINK  | ENTRY 3 | ENTRY 4 | LINK CARDS: | ENTRY 1 | ENTRY 2 | FLOW DATA |
|------------|----------|-------|---------|---------|-------------|---------|---------|-----------|
| 25)=       | 31       | 3999  | 0       | 0       | 0           | 0       | 0       | 0         |
| 26)=       | 31       | 16910 | 169     | 18      | 18          | 0       | 0       | 0         |
| 27)=       | 31       | 16920 | 169     | 8       | 3           | 0       | 0       | 0         |
| 28)=       | 31       | 16931 | 169     | 18      | 22          | 0       | 0       | 0         |
| 29)=       | 31       | 16932 | 169     | 18      | 18          | 0       | 0       | 0         |
| 30)=       | 31       | 16940 | 169     | 12      | 1           | 0       | 0       | 0         |
| 31)=       | 31       | 16941 | 169     | 11      | 1           | 0       | 0       | 0         |
| 32)=       | 31       | 16942 | 169     | 14      | 1           | 0       | 0       | 0         |
| 33)=       | 31       | 16998 | 0       | 0       | 0           | 0       | 0       | 0         |
| 34)=       | 31       | 16999 | 0       | 0       | 0           | 0       | 0       | 0         |

| CRUISE NO. | CARD NO. | LINK  | ENTRY 3 | ENTRY 4 | LINK CARDS: | ENTRY 1 | ENTRY 2 | FLOW DATA |
|------------|----------|-------|---------|---------|-------------|---------|---------|-----------|
| 35)=       | 32       | -1000 | 200     | 0       | 0           | 0       | 0       | 0         |
| 36)=       | 32       | 3910  | 164     | 0       | 0           | 0       | 0       | 0         |
| 37)=       | 32       | 3911  | 596     | 0       | 0           | 0       | 0       | 0         |
| 38)=       | 32       | 3920  | 189     | 0       | 0           | 0       | 0       | 0         |
| 39)=       | 32       | 3930  | 639     | 15      | 23          | 16932   | 624     | 624       |
| 40)=       | 32       | 3940  | 359     | 0       | 0           | 0       | 0       | 0         |
| 41)=       | 32       | 3950  | 0       | 0       | 0           | 0       | 0       | 0         |
| 42)=       | 32       | 3995  | 40      | 10      | 15          | 3920    | 10      | 10        |
| 43)=       | 32       | 3996  | 472     | 15      | 15          | 3920    | 129     | 129       |
| 44)=       | 32       | 3998  | 115     | 15      | 15          | 3930    | 11      | 11        |
| 45)=       | 32       | 3999  | 155     | 15      | 15          | 3930    | 486     | 486       |
| 46)=       | 32       | 16910 | 15      | 15      | 20          | 3920    | 14      | 14        |
| 47)=       | 32       | 16920 | 725     | 21      | 21          | 0       | 0       | 0         |
| 48)=       | 32       | 16931 | 145     | 0       | 0           | 0       | 0       | 0         |
| 49)=       | 32       | 16932 | 624     | 0       | 0           | 0       | 0       | 0         |
| 50)=       | 32       | 16940 | 0       | 0       | 0           | 0       | 0       | 0         |
| 51)=       | 32       | 16941 | 10      | 0       | 0           | 0       | 0       | 0         |
| 52)=       | 32       | 16942 | 10      | 0       | 0           | 0       | 0       | 0         |
| 53)=       | 32       | 16998 | 886     | 0       | 5           | 16920   | 157     | 157       |
| 54)=       | 32       | 16999 | 164     | 0       | 19          | 16931   | 145     | 145       |





\*\*\*\*\* Lion Green Road - Chipstead Valley PM Peak\_v3.prt \*\*\*\*\*  
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|                              | TOTALS          |                 | CRUISE          |                 | DELAY           |        |
|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------|
| STOPS                        | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR | LITRES |
| PER HOUR                     | =               | 239.1           | 133.6           | +               | 70.0            | +      |
| FUEL CONSUMPTION PREDICTIONS |                 |                 |                 |                 |                 |        |
| 35.5                         |                 |                 |                 |                 |                 |        |
| NO. OF ENTRIES TO SUBPT =    |                 |                 |                 |                 |                 | 7      |
| NO. OF LINKS RECALCULATED=   |                 |                 |                 |                 |                 | 121    |
| PROGRAM TRANSYT FINISHED     |                 |                 |                 |                 |                 |        |

For sales and distribution information,  
 program advice and maintenance, contact:  
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 Crowthorne House  
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 Email: software@trl.co.uk  
 Web: www.trlsoftware.co.uk

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
 IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "LION GREEN ROAD - CHIPSTEAD VALLEY\_AM PEAK\_V2\_OPTION 4\_100% PED  
 DEMAND\_V3.DAT" at 17:39 on 20110720

TRANSYST 12.0

PARAMETERS CONTROLLING DIMENSIONS OF PROBLEM :  
 ~~~~~  
 NUMBER OF NODES = 2  
 NUMBER OF LINKS = 26  
 NUMBER OF OPTIMISED NODES = 2  
 MAXIMUM NUMBER OF GRAPHIC PLOTS = 0  
 NUMBER OF STEPS IN CYCLE = 104  
 MAXIMUM NUMBER OF SHARED STOPLINES = 0  
 MAXIMUM NUMBER OF TIMING POINTS = 5  
 MAXIMUM LINKS AT ANY NODE = 13

CORE REQUESTED = 9522 WORDS  
 CORE AVAILABLE = 72000 WORDS

DATA INPUT :-

CARD NO. TYPE  
 ( 1 ) = TITLE :-  
 CARD NO. TYPE  
 CRUISE-SPEEDS  
 NO. TYPE  
 SCALE CARD32  
 50-200 0=TIMES  
 % 1=SPEDS 2=FULL  
 100 2)= 1  
 CARD NO. TYPE  
 OPTIMISED  
 3)= 2

CARD NO. TYPE  
 ( 1 ) = TITLE :-  
 CARD NO. TYPE  
 CRUISE-SPEEDS  
 NO. TYPE  
 SCALE CARD32  
 50-200 0=TIMES  
 % 1=SPEDS 2=FULL  
 100 2)= 1  
 CARD NO. TYPE  
 OPTIMISED  
 3)= 2

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) |
|----------|-----------|----------|-------|-------------------------------|
| S7       | S8        | S9       | S10   | S1                            |
| 4)= 10   | 10        | 39       | 7     | 5                             |
| 5)= 10   | 10        | 169      | 7     | 3                             |

(WORKING)  
 NODE CARDS: PRECEDING INTERSTAGE TIMES

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) |
|----------|-----------|----------|-------|-------------------------------|
| S7       | S8        | S9       | S10   | S1                            |
| 6)= 11   | 11        | 39       | 10    | 9                             |
| 7)= 11   | 11        | 169      | 18    | 8                             |

(WORKING)  
 NODE CARDS: STAGE CHANGE TIMES (WORKING)

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) |
|----------|-----------|----------|-------|-------------------------------|
| S7       | S8        | S9       | S10   | S1                            |
| 8)= 12   | 12        | 39       | 1     | 39                            |
| 9)= 12   | 12        | 169      | 1     | 14                            |

(WORKING)  
 LINK CARDS: GIVEWAY DATA

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | STOP NO. | PRIORITY LINKS | LINK1 ONLY | LINK2 ONLY | LINK CARDS: GIVEWAY DATA |
|----------|-----------|----------|-------------|----------|----------------|------------|------------|--------------------------|
| 10)= 30  | 30        | 200      | 3910        | 3930     | 1              | 1000       | 0          | 0                        |
| 11)= 30  | 30        | 200      | 3920        | 0        | 0              | 3940       | 88         | 0                        |
| 12)= 30  | 30        | 200      | 3940        | 0        | 0              | 3920       | 71         | 0                        |
| 13)= 30  | 30        | 200      | 16931       | 16910    | 0              | 1000       | 0          | 0                        |

LINK CARDS: GIVEWAY DATA

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | STOP NO. | PRIORITY LINKS | LINK1 ONLY | LINK2 ONLY | LINK CARDS: GIVEWAY DATA |
|----------|-----------|----------|-------------|----------|----------------|------------|------------|--------------------------|
| 14)= 31  | 31        | 200      | 3910        | 39       | 1              | 1800       | 0          | 0                        |
| 15)= 31  | 31        | 200      | 3911        | 39       | 1              | 2151       | 4          | 0                        |
| 16)= 31  | 31        | 200      | 3920        | 39       | 4              | 1800       | 0          | 0                        |
| 17)= 31  | 31        | 200      | 3930        | 39       | 1              | 1789       | 0          | 0                        |
| 18)= 31  | 31        | 200      | 3940        | 39       | 4              | 1800       | 0          | 0                        |
| 19)= 31  | 31        | 200      | 3950        | 39       | 3              | 1800       | 0          | 0                        |
| 20)= 31  | 31        | 200      | 3961        | 39       | 5              | 10000      | 0          | 0                        |
| 21)= 31  | 31        | 3962     | 10          | 39       | 5              | 10000      | 0          | 0                        |
| 22)= 31  | 31        | 3963     | 10          | 39       | 2              | 10000      | 0          | 0                        |
| 23)= 31  | 31        | 3964     | 10          | 39       | 3              | 10000      | 0          | 0                        |
| 24)= 31  | 31        | 3965     | 10          | 39       | 1              | 10000      | 0          | 0                        |

Lion Green Road - Chipstead Valley\_Am Peak\_v2\_option 4\_100% ped demand\_v3.prt

| CARD NO. | CRUISE TYPE | LINK NO. | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | ENTRY 1 LINK NO. | ENTRY 2 LINK NO. | ENTRY 4 LINK NO. | ENTRY 1 FLOW | ENTRY 2 FLOW | ENTRY 4 FLOW |
|----------|-------------|----------|---------------------------|---------------------|------------------|---------------------|------------------|------------------|------------------|--------------|--------------|--------------|
| 25)      | =           | 31       | 3966                      | 39                  | 24               | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 26)      | =           | 31       | 3967                      | 39                  | 5                | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 27)      | =           | 31       | 3995                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 28)      | =           | 31       | 3996                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 29)      | =           | 31       | 3998                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 30)      | =           | 31       | 3999                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 31)      | =           | 31       | 16910                     | 169                 | 18               | 2                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 32)      | =           | 31       | 16920                     | 169                 | 8                | 3                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 33)      | =           | 31       | 16931                     | 169                 | 18               | 2                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 34)      | =           | 31       | 16932                     | 169                 | 18               | 2                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 35)      | =           | 31       | 16940                     | 169                 | 14               | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 36)      | =           | 31       | 16941                     | 169                 | 12               | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 37)      | =           | 31       | 16942                     | 169                 | 15               | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 38)      | =           | 31       | 16998                     | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 39)      | =           | 31       | 16999                     | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |

LINK CARDS: FLOW DATA

| CARD NO. | CRUISE TYPE | LINK NO. | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | ENTRY 1 LINK NO. | ENTRY 2 LINK NO. | ENTRY 4 LINK NO. | ENTRY 1 FLOW | ENTRY 2 FLOW | ENTRY 4 FLOW |
|----------|-------------|----------|---------------------------|---------------------|------------------|---------------------|------------------|------------------|------------------|--------------|--------------|--------------|
| 40)      | =           | 32       | 3910                      | 213                 | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 41)      | =           | 32       | 3911                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 42)      | =           | 32       | 3920                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 43)      | =           | 32       | 3930                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 44)      | =           | 32       | 3940                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 45)      | =           | 32       | 3950                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 46)      | =           | 32       | 3961                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 47)      | =           | 32       | 3962                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 48)      | =           | 32       | 3963                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 49)      | =           | 32       | 3964                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 50)      | =           | 32       | 3965                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 51)      | =           | 32       | 3966                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 52)      | =           | 32       | 3967                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 53)      | =           | 32       | 3995                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 54)      | =           | 32       | 3996                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 55)      | =           | 32       | 3998                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 56)      | =           | 32       | 3999                      | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 61)      | =           | 32       | 16940                     | 169                 | 10               | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 62)      | =           | 32       | 16941                     | 169                 | 10               | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 63)      | =           | 32       | 16942                     | 169                 | 10               | 1                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 64)      | =           | 32       | 16998                     | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |
| 65)      | =           | 32       | 16999                     | 0                   | 0                | 0                   | 0                | 0                | 0                | 0            | 0            | 0            |

Lion Green Road - Chipstead Valley\_Am Peak\_v2\_option 4\_100% ped demand\_v3.prt

| STAGE NO | STAGE OF STAGES | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 | STAGE 6 | STAGE 7 | STAGE 8 |
|----------|-----------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 55)      | =               | 32      | 3998    | 71      | 0       | 0       | 0       | 0       | 0       |
| 56)      | =               | 32      | 3999    | 764     | 0       | 0       | 0       | 0       | 0       |
| 57)      | =               | 32      | 192     | 15      | 3950    | 18      | 15      | 23      | 330     |
| 58)      | =               | 32      | 16910   | 606     | 3911    | 475     | 20      | 3920    | 531     |
| 59)      | =               | 32      | 106     | 23      | 3950    | 21      | 15      | 14      | 14      |
| 60)      | =               | 32      | 16920   | 120     | 0       | 0       | 0       | 0       | 0       |
| 61)      | =               | 32      | 16931   | 258     | 0       | 0       | 0       | 0       | 0       |
| 62)      | =               | 32      | 16932   | 749     | 0       | 0       | 0       | 0       | 0       |
| 63)      | =               | 32      | 16940   | 10      | 0       | 0       | 0       | 0       | 0       |
| 64)      | =               | 32      | 16941   | 10      | 0       | 0       | 0       | 0       | 0       |
| 65)      | =               | 32      | 16942   | 10      | 0       | 0       | 0       | 0       | 0       |
| 66)      | =               | 32      | 16998   | 708     | 0       | 0       | 0       | 0       | 0       |
| 67)      | =               | 32      | 16999   | 269     | 0       | 0       | 0       | 0       | 0       |

104 SECOND CYCLE 104 STEPS

INITIAL SETTINGS

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

| LINK NO | LINK INTO | SAT INDEX | DEGREE OF | MEAN PERCENT | EXIT PERCENT | MEAN DELAY | END DELAY | MEAN DELAY | END DELAY | MEAN DELAY | END DELAY | MEAN DELAY | END DELAY | MEAN DELAY | END DELAY | MEAN DELAY | END DELAY | MEAN DELAY | END DELAY |     |
|---------|-----------|-----------|-----------|--------------|--------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-----|
| 39      | 5         | 39        | 14        | 83           | 79           | 92         | 9         | 66         | 4.3       | 81         | 11.8      | 103        | 6.1       | 255        | 16.9      | 102        | 11.4      | 147        | 1.9       |     |
| 169     | 3         | 14        | 83        | 79           | 92           | 9          | 66        | 4.3        | 81        | 11.8       | 103       | 6.1        | 255       | 16.9       | 102       | 11.4       | 147       | 1.9        | 91        | 0.0 |

Lion Green Road - Chipstead Valley\_Am Peak\_v2\_option 4\_100% ped demand\_v3.prt

|       |     |       |      |      |      |           |           |     |         |
|-------|-----|-------|------|------|------|-----------|-----------|-----|---------|
| 3964  | 10  | 10000 | 0    | 3.0  | 12.1 | 0.0 + 0.0 | ( 0.5)    | 47  | ( 0.0)  |
| 0     | 0   | 0     | 0    | 39   | 89   | 39        | 0.0       | 61  | ( 0.0)  |
| 3965  | 10  | 10000 | 0.5  | 5.0  | 19.8 | 0.1 + 0.0 | ( 0.8)    | 61  | ( 0.0)  |
| 0     | 0   | 0     | 0    | 39   | 39   | 79        | 0.0       | 96  | ( 0.0)  |
| 3966  | 10  | 10000 | 0.8  | 5.0  | 48.4 | 0.1 + 0.0 | ( 1.9)    | 96  | ( 0.0)  |
| 0     | 0   | 0     | 0    | 39   | 33   | 39        | 0.0       | 28  | ( 0.0)  |
| 3967  | 10  | 10000 | 1.9  | 10.0 | 4.4  | 0.0 + 0.0 | ( 0.2)    | 28  | ( 0.0)  |
| 0     | 0   | 0     | 0    | 39   | 70   | 40        | 0.0       | 1   | ( 0.0)  |
| 3995  | 0   | 1800  | 0.2  | 15.0 | 1.0  | 0.0 + 0.0 | ( 0.1)    | 1   | ( 0.0)  |
| 0     | 0   | 0     | 0    | 29   | 15.0 | 1.4       | 0.0 + 0.2 | 1   | ( 0.3)  |
| 3996  | 1   | 1800  | 3.2  | 4    | 15.0 | 1.0       | 0.0 + 0.0 | 1   | ( 0.0)  |
| 3998  | 71  | 1800  | 0.3  | 32   | 15.0 | 1.5       | 0.0 + 0.2 | 1   | ( 0.2)  |
| 0     | 0   | 0     | 0    | 54   | 20.6 | 7.4       | 0.7 + 0.6 | 41  | ( 2.7)  |
| 16910 | 8   | 1655  | 20.4 | 169  | 32   | 102       | 1.5 + 0.5 | 107 | ( 4.0)  |
| 16920 | 120 | 2408  | 32.7 | 169  | 60   | 7         | 100       | 31  | ( 2.5)  |
| 16931 | 4   | 1800  | 9.1  | 15.0 | 6.5  | 0.3 + 0.1 | ( 6.6)    | 48  | ( 11.0) |
| 16932 | 2   | 2143  | 42.2 | 169  | 32   | 102       | 1.7 + 0.5 | 99  | ( 0.0)  |
| 16940 | 10  | 10000 | 2.0  | 169  | 51   | 4         | 0.1 + 0.0 | 96  | ( 0.0)  |
| 16941 | 10  | 10000 | 1.9  | 169  | 53   | 4         | 0.1 + 0.0 | 101 | ( 0.0)  |
| 16942 | 10  | 10000 | 2.1  | 169  | 11   | 14        | 0.0 + 0.3 | 2   | ( 3.4)  |
| 16998 | 708 | 1800  | 8.0  | 39   | 6.7  | 1.7       | 0.0 + 0.1 | 1   | ( 0.1)  |
| 16999 | 1   | 1800  | 1.3  | 15.0 | 1.2  | 0.0 + 0.1 | ( 1.2)    | 2   | ( 3.4)  |
| 0     | 0   | 0     | 0    | 15   | 15.0 | 1.2       | 0.0 + 0.1 | 1   | ( 0.1)  |

1196.4 (PCU-KM/H) = 201.3 (PCU-H/H) 5.9 (KM/H) 27.4 (PCU-H/H) 146.7 (PCU-H/H) (\$/H) (\$/H) (\$/H)

+ ( 0.0) = 2549.4 TOTALS (2472.8) + ( 76.6)

\*\*\*\*\*

STOPS TOTALS CRUISE DELAY

PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES

FUEL CONSUMPTION PREDICTIONS = 120.9 + 200.3 +

34.9 = 356.1

NO. OF ENTRIES TO SUBRT = 1

NO. OF LINKS RECALCULATED= 36

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

-(SECONDS)

Lion Green Road - Chipstead Valley\_Am Peak\_v2\_option 4\_100% ped demand\_v3.prt

|     |   |    |    |     |    |   |  |  |
|-----|---|----|----|-----|----|---|--|--|
| 39  | 5 | 39 | 65 | 79  | 92 | 9 |  |  |
| 169 | 3 | 14 | 83 | 100 |    |   |  |  |

1196.4 (PCU-KM/H) = 201.3 (PCU-H/H) 5.9 (KM/H) 27.4 (PCU-H/H) 146.7 (PCU-H/H) (\$/H) (\$/H) (\$/H)

+ ( 0.0) = 2549.4 TOTALS (2472.8) + ( 76.6)

NO. OF ENTRIES TO SUBRT = 5

NO. OF LINKS RECALCULATED= 112

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1

-(SECONDS)

39 5 30 14 84 100 92 0

169 3 14 14 84 100 92 0

1196.4 (PCU-KM/H) 142.2 (PCU-H/H) 8.4 (KM/H) 23.5 (PCU-H/H) 91.5 (PCU-H/H) (\$/H) (\$/H) (\$/H) (1633.1) + ( 87.4)

Lion Green Road - Chipstead Valley\_Am Peak\_v2\_option 4\_100% ped demand\_v3.prt  
 + ( 0.0) = 1/20.5 TOTALS

NO. OF ENTRIES TO SUBPT = 23  
 NO. OF LINKS RECALCULATED= 428

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

|            |             |         |           |           |        |        |       |       |       |       |
|------------|-------------|---------|-----------|-----------|--------|--------|-------|-------|-------|-------|
| 39         | 5           | 30      | 65        | 79        | 92     | 0      |       |       |       |       |
| 169        | 3           | 14      | 84        | 100       |        |        |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST   | COST   |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |        |        |       |       |       |       |

1196.4 = 133.4 9.0 22.9 83.3 (1508.6) + ( 83.2)  
 + ( 0.0) = 1591.8 TOTALS

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

|            |             |         |           |           |        |        |       |       |       |       |
|------------|-------------|---------|-----------|-----------|--------|--------|-------|-------|-------|-------|
| 39         | 5           | 30      | 65        | 79        | 92     | 0      |       |       |       |       |
| 169        | 3           | 14      | 84        | 100       |        |        |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST   | COST   |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |        |        |       |       |       |       |

1196.4 = 133.4 9.0 22.9 83.3 (1508.6) + ( 83.2)  
 + ( 0.0) = 1591.8 TOTALS

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

|            |             |         |           |           |        |        |       |       |       |       |
|------------|-------------|---------|-----------|-----------|--------|--------|-------|-------|-------|-------|
| 39         | 5           | 30      | 65        | 79        | 92     | 0      |       |       |       |       |
| 169        | 3           | 14      | 84        | 100       |        |        |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST   | COST   |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |        |        |       |       |       |       |

Lion Green Road - Chipstead Valley\_Am Peak\_v2\_option 4\_100% ped demand\_v3.prt  
 + ( 0.0) = 1/20.5 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 147

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

|            |             |         |           |           |        |        |       |       |       |       |
|------------|-------------|---------|-----------|-----------|--------|--------|-------|-------|-------|-------|
| 39         | 5           | 30      | 65        | 79        | 92     | 0      |       |       |       |       |
| 169        | 3           | 14      | 84        | 100       |        |        |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST   | COST   |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF     | OF     |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |        |        |       |       |       |       |

1196.4 = 142.2 8.4 23.5 91.6 (1632.2) + ( 87.4)  
 + ( 0.0) = 1721.6 TOTALS

NO. OF ENTRIES TO SUBPT = 16  
 NO. OF LINKS RECALCULATED= 314

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

|        |        |             |          |       |       |         |         |       |       |       |
|--------|--------|-------------|----------|-------|-------|---------|---------|-------|-------|-------|
| 39     | 5      | 39          | 74       | 88    | 101   | 9       |         |       |       |       |
| 169    | 3      | 14          | 84       | 100   |       |         |         |       |       |       |
| LINK   | FLOW   | SAT         | DEGREE   | MEAN  | EXIT  | DELAY   | DELAY   | DELAY | DELAY | DELAY |
| NUMBER | INTO   | PERFORMANCE | INDEX    | PER   | PCU   | UNIFORM | RANDOM+ | COST  | MEAN  | COST  |
| MEAN   | LINK   | AVERAGE     | WEIGHTED | SUM   | START | START   | START   | START | START | START |
| MAX.   | LINK   | AVERAGE     | WEIGHTED | SUM   | START | START   | START   | START | START | START |
| EXCESS | OF ( ) | VALUES      | (SEC)    | (SEC) | (SEC) | (SEC)   | (SEC)   | (SEC) | (SEC) | (SEC) |
| (PCU)  | (PCU)  | (PCU)       | (PCU)    | (PCU) | (PCU) | (PCU)   | (PCU)   | (PCU) | (PCU) | (PCU) |

| ION   | Green Road - Chipstead Valley | AM Peak | v2_option 4_100% ped demand_v3.prt | ROUTE | DEMAND | DEMAND | DEMAND      | DEMAND         | DEMAND       |             |           |     |             |          |
|-------|-------------------------------|---------|------------------------------------|-------|--------|--------|-------------|----------------|--------------|-------------|-----------|-----|-------------|----------|
| 3911  | 4/5                           | 2151    | 47                                 | 15.0  | 22.0   | 2.5    | 0.4         | (41.2)         | 68 (10.0)    |             |           |     |             |          |
| 3910  | 190                           | 1800    | 51.2                               | 15.0  | 140.0  | 2.4    | 5.0         | (104.9)        | 170 (9.9)    |             |           |     |             |          |
| 3930  | 799                           | 1789    | 114.9                              | 23.0  | 337.6  | 6.9    | 64.3        | (999.9)        | 238 (15.7)   |             |           |     |             |          |
| 3940  | 88                            | 1026.5  | 119                                | 39    | 48     | 84     | 4.7         | + 17.5 (314.7) | 206 (23.0)   |             |           |     |             |          |
| 3950  | 362                           | 1800    | 107                                | 15.0  | 220.4  | 2      | 29          | 0.6            | + 0.7 (17.8) | 147 (1.9)   |           |     |             |          |
| 3960  | 28                            | 337.7   | 39                                 | 15.0  | 110.0  | 98     | 101         | 5.0            | 43.7         | 30          | 40        | 0.1 | + 0.0 (1.7) | 91 (0.0) |
| 3961  | 0                             | 10000   | 1.7                                | 10.0  | 38.8   | 0.1    | + 0.0 (1.5) | 86 (0.0)       |              |             |           |     |             |          |
| 3962  | 0                             | 10000   | 1.5                                | 39    | 24     | 39     | 0.1         | + 0.0 (0.9)    | 91 (0.0)     |             |           |     |             |          |
| 3963  | 0                             | 10000   | 0.9                                | 5.0   | 16.9   | 0.0    | + 0.0 (0.7) | 56 (0.0)       |              |             |           |     |             |          |
| 3964  | 0                             | 10000   | 0.7                                | 39    | 98     | 39     | 0.0         | + 0.0 (0.6)    | 52 (0.0)     |             |           |     |             |          |
| 3965  | 0                             | 10000   | 0.6                                | 39    | 14.7   | 0.0    | + 0.0 (1.9) | 96 (0.0)       |              |             |           |     |             |          |
| 3966  | 0                             | 10000   | 1.9                                | 39    | 33     | 39     | 0.0         | + 0.0 (0.3)    | 37 (0.0)     |             |           |     |             |          |
| 3967  | 0                             | 10000   | 0.3                                | 2     | 15.0   | 1.0    | 0.0         | + 0.0 (0.2)    | 1 (0.0)      |             |           |     |             |          |
| 3995  | 0                             | 1800    | 0.2                                | 32    | 15.0   | 1.5    | 0.0         | + 0.2 (3.4)    | 1 (0.3)      |             |           |     |             |          |
| 3996  | 0                             | 1800    | 3.6                                | 4     | 15.0   | 1.0    | 0.0         | + 0.0 (0.3)    | 1 (0.0)      |             |           |     |             |          |
| 3998  | 0                             | 1800    | 0.3                                | 37    | 15.0   | 1.6    | 0.0         | + 0.3 (4.2)    | 1 (0.3)      |             |           |     |             |          |
| 3999  | 0                             | 1800    | 4.5                                | 52    | 20.6   | 7.4    | 0.7         | + 0.5 (17.5)   | 33 (2.2)     |             |           |     |             |          |
| 16910 | 6                             | 1655    | 19.7                               | 169   | 32     | 103    | 1.5         | + 0.7 (31.1)   | 112 (4.1)    |             |           |     |             |          |
| 16920 | 4                             | 2408    | 58                                 | 15.0  | 65.7   | 92     | 100         | 0.3            | + 0.1 (6.2)  | 30 (2.4)    |           |     |             |          |
| 16931 | 2                             | 1800    | 8.6                                | 169   | 15.0   | 6.1    | 32          | 1.6            | + 0.5 (29.6) | 46 (10.6)   |           |     |             |          |
| 16932 | 11                            | 2143    | 40.2                               | 50    | 15.0   | 10.0   | 32          | 103            | 0.1          | + 0.0 (2.0) | 99 (0.0)  |     |             |          |
| 16940 | 0                             | 10000   | 2.0                                | 169   | 5.0    | 51.4   | 10          | 14             | 0.1          | + 0.0 (1.9) | 96 (0.0)  |     |             |          |
| 16941 | 0                             | 10000   | 1.9                                | 169   | 5.0    | 48.4   | 8           | 14             | 0.1          | + 0.0 (2.1) | 101 (0.0) |     |             |          |
| 16942 | 0                             | 10000   | 2.1                                | 39    | 6.7    | 1.6    | 0.0         | + 0.3 (4.5)    | 2 (3.3)      |             |           |     |             |          |
| 16998 | 0                             | 1800    | 7.8                                | 15    | 15.0   | 1.2    | 0.0         | + 0.1 (1.2)    | 1 (0.1)      |             |           |     |             |          |
| 16999 | 0                             | 1800    | 1.3                                |       |        |        |             |                |              |             |           |     |             |          |

1196.4 (0.0) = 140.9 1702.8 8.5 TOTALS 22.9 90.9 (1615.4) + (87.4)

Lion Green Road - Chipstead Valley AM Peak v2\_option 4\_100% ped demand\_v3.prt

ROUTE

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| STOPS                        | TOTALS          | CRUISE          | DELAY           |
|------------------------------|-----------------|-----------------|-----------------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 120.9           | +               | 130.8           |
| 39.8                         | =               | 291.6           | +               |

NO. OF ENTRIES TO SUBPT = 13  
 NO. OF LINKS RECALCULATED = 281  
 PROGRAM TRANSYT FINISHED



Lion Green Road - Chipstead Valley\_Pm Peak\_v2\_option 4\_100% ped demand\_v3.prt

| CRUISE NO. | LINK NO. | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | LINK NO. | FLOW |
|------------|----------|---------------------------|---------------------|------------------|---------------------|----------|------|
| 25)=       | 31       | 3966                      | 39                  | 26               | 1                   | 0        | 0    |
| 0          | 0        | 10                        | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 26)=     | 31                        | 3967                | 5                | 1                   | 0        | 0    |
| 0          | 0        | 10                        | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 27)=     | 31                        | 3995                | 0                | 0                   | 0        | 0    |
| 0          | 0        | 200                       | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 28)=     | 31                        | 3996                | 0                | 0                   | 0        | 0    |
| 0          | 0        | 200                       | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 29)=     | 31                        | 3998                | 0                | 0                   | 0        | 0    |
| 0          | 0        | 200                       | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 30)=     | 31                        | 3999                | 0                | 0                   | 0        | 0    |
| 0          | 0        | 200                       | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 31)=     | 31                        | 16910               | 18               | 2                   | 0        | 0    |
| 0          | 0        | 161                       | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 32)=     | 31                        | 16920               | 8                | 3                   | 0        | 0    |
| 0          | 0        | 200                       | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 33)=     | 31                        | 16931               | 18               | 2                   | 0        | 0    |
| 0          | 0        | 200                       | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 34)=     | 31                        | 16932               | 18               | 2                   | 0        | 0    |
| 0          | 0        | 200                       | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 35)=     | 31                        | 16940               | 12               | 1                   | 0        | 0    |
| 0          | 0        | 10                        | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 36)=     | 31                        | 16941               | 11               | 1                   | 0        | 0    |
| 0          | 0        | 10                        | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 37)=     | 31                        | 16942               | 14               | 1                   | 0        | 0    |
| 0          | 0        | 10                        | 169                 | 0                | 0                   | 0        | 0    |
| 0          | 38)=     | 31                        | 16998               | 0                | 0                   | 0        | 0    |
| 0          | 0        | 200                       | 0                   | 0                | 0                   | 0        | 0    |
| 0          | 39)=     | 31                        | 16999               | 0                | 0                   | 0        | 0    |
| 0          | 0        | 200                       | 0                   | 0                | 0                   | 0        | 0    |

LINK CARDS: FLOW DATA

| CRUISE NO. | LINK NO. | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | LINK NO. | FLOW  |
|------------|----------|---------------------------|---------------------|------------------|---------------------|----------|-------|
| 40)=       | 32       | 3910                      | 171                 | 0                | 0                   | 0        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 41)=     | 32                        | 3911                | 723              | 0                   | 0        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 42)=     | 32                        | 3920                | 189              | 0                   | 0        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 43)=     | 32                        | 3930                | 639              | 23                  | 15       | 16932 |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 613   |
| 0          | 44)=     | 32                        | 3940                | 364              | 0                   | 15       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 45)=     | 32                        | 3950                | 19               | 0                   | 15       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 46)=     | 32                        | 3961                | 0                | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 47)=     | 32                        | 3962                | 10               | 0                   | 10       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 48)=     | 32                        | 3963                | 0                | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 49)=     | 32                        | 3964                | 10               | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 50)=     | 32                        | 3965                | 10               | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 51)=     | 32                        | 3966                | 10               | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 52)=     | 32                        | 3967                | 10               | 0                   | 10       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 53)=     | 32                        | 3995                | 46               | 10                  | 15       | 3920  |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 10    |
| 0          | 54)=     | 32                        | 3996                | 15               | 15                  | 15       | 3920  |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 129   |
| 0          | 15       | 3930                      | 172                 | 15               | 15                  | 15       | 3920  |

Lion Green Road - Chipstead Valley\_Pm Peak\_v2\_option 4\_100% ped demand\_v3.prt

| CRUISE NO. | LINK NO. | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | LINK NO. | FLOW  |
|------------|----------|---------------------------|---------------------|------------------|---------------------|----------|-------|
| 55)=       | 32       | 3998                      | 135                 | 0                | 0                   | 0        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 56)=     | 32                        | 3999                | 670              | 0                   | 0        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 57)=     | 32                        | 16910               | 15               | 3950                | 15       | 3930  |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 480   |
| 0          | 21       | 3940                      | 149                 | 732              | 3911                | 20       | 3920  |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 14    |
| 0          | 58)=     | 32                        | 16920               | 172              | 3950                | 15       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 59)=     | 32                        | 16931               | 156              | 0                   | 15       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 60)=     | 32                        | 16932               | 613              | 0                   | 15       | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 61)=     | 32                        | 16940               | 10               | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 62)=     | 32                        | 16941               | 10               | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 63)=     | 32                        | 16942               | 10               | 0                   | 5        | 0     |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 0     |
| 0          | 64)=     | 32                        | 16998               | 886              | 0                   | 5        | 16920 |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 157   |
| 0          | 15       | 65)=                      | 32                  | 16999            | 175                 | 0        | 16910 |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 19    |
| 0          | 15       | 0                         | 0                   | 0                | 0                   | 15       | 16931 |
| 0          | 0        | 0                         | 0                   | 0                | 0                   | 0        | 156   |

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

104 SECOND CYCLE 104 STEPS

INITIAL SETTINGS

-(SECONDS)

| NODE NO | STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|---------|-------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39      | 5     | 33               | 58    | 70    | 80    | 1     |       |       |       |       |
| 169     | 3     | 10               | 50    | 97    |       |       |       |       |       |       |

| LINK NO | FLOW | SAT    | DEGREE | MEAN | GREEN | UNIFORM | RANDOM | COST    | MEAN | STOPS  | OF |
|---------|------|--------|--------|------|-------|---------|--------|---------|------|--------|----|
| 39      | 171  | 1800   | 24     | 15.0 | 23.7  | 1.0     | 0.2    | (16.0)  | 66   | (3.5)  |    |
| 3       | 723  | 2151   | 92     | 15.0 | 56.3  | 6.3     | 5.0    | (160.4) | 114  | (25.5) |    |
| 25      | 189  | 185.9  | 39     | 15.0 | 43.80 | 1.8     | 0.6    | (35.1)  | 96   | (5.6)  |    |
| 3920    | 639  | 1789   | 56     | 15.0 | 47.1  | 1.8     | 0.6    | (999.9) | 252  | (32.4) |    |
| 5       | 3930 | 40.7   | 39     | 15.0 | 88    | 7       |        |         | 101  | (11.3) |    |
| 104     | 3940 | 1291.2 | 74     | 15.0 | 45.7  | 8.2     | 80.4   | (999.9) | 127  | (0.7)  |    |
| 11      | 3950 | 1800   | 27     | 15.0 | 84.2  | 0.3     | 0.2    | (6.3)   | 83   | (0.0)  |    |
| 1       | 3962 | 7.0    | 39     | 15.0 | 80    | 0.1     | 0.0    | (1.5)   | 96   | (0.0)  |    |
| 0       | 3966 | 1.5    | 1      | 15.0 | 16    | 0.1     | 0.0    | (1.9)   | 28   | (0.0)  |    |
| 0       | 3967 | 1.9    | 0      | 10.0 | 27    | 0.0     | 0.0    | (0.2)   |      |        |    |
| 0       | 3970 | 0.2    | 39     | 10.0 | 4.4   | 0.0     | 0.0    | (0.0)   |      |        |    |

Lion Green Road - Chipstead Valley\_Pm Peak\_v2\_option 4\_100% ped demand\_v3.prt

|       |        |       |       |      |       |           |             |         |        |         |
|-------|--------|-------|-------|------|-------|-----------|-------------|---------|--------|---------|
| 3995  | 42     | 1800  | 2     | 13.0 | 1.0   | 0.0 + 0.0 | ( 0.2)      | 1       | ( 0.0) |         |
| 0     | 430 <  | 1800  | 0.2   | 24   | 15.0  | 1.3       | 0.0 + 0.2   | ( 2.2)  | 1      | ( 0.2)  |
| 3996  | 0      | 1800  | 2.4   | 9    | 15.0  | 1.1       | 0.0 + 0.0   | ( 0.7)  | 1      | ( 0.1)  |
| 3998  | 0      | 1800  | 0.7   | 30   | 15.0  | 1.4       | 0.0 + 0.2   | ( 3.1)  | 1      | ( 0.2)  |
| 3999  | 0      | 1800  | 3.3   | 112  | 20.6  | 270.3     | 10.7 + 44.3 | (781.4) | 219    | ( 17.5) |
| 16910 | 733    | 1655  | 169   | 28   | 68    | 28        | 1.0 + 0.1   | ( 16.0) | 66     | ( 3.5)  |
| 16916 | 172    | 2408  | 19    | 15.0 | 23.6  | 97        | 0.8 + 0.1   | ( 13.1) | 62     | ( 3.0)  |
| 16920 | 3      | 1800  | 1.0   | 20   | 15.0  | 21.2      | 0.1 + 0.0   | ( 0.4)  | 44     | ( 0.0)  |
| 16931 | 156    | 1800  | 16.1  | 169  | 15.0  | 34.4      | 4.6 + 1.3   | ( 83.2) | 89     | ( 16.8) |
| 16932 | 3      | 2143  | 73    | 15.0 | 49.8  | 28        | 0.1 + 0.0   | ( 2.0)  | 97     | ( 0.0)  |
| 16940 | 16     | 10000 | 100.0 | 2    | 5.0   | 48.4      | 0.1 + 0.0   | ( 1.9)  | 96     | ( 0.0)  |
| 16941 | 0      | 10000 | 2.0   | 1    | 169   | 4         | 0.1 + 0.0   | ( 2.1)  | 101    | ( 0.0)  |
| 16942 | 0      | 10000 | 1.9   | 3    | 5.0   | 53.4      | 0.1 + 0.0   | ( 0.9)  | 64     | ( 0.0)  |
| 16998 | 0      | 807 < | 1800  | 2.1  | 169   | 7         | 0.0 + 0.4   | ( 6.2)  | 6      | ( 15.9) |
| 5     | 16999  | 173   | 1800  | 22.1 | 45    | 6.8       | 0.0 + 0.1   | ( 0.8)  | 1      | ( 0.1)  |
| 0     | -3961  | 10    | 10000 | 0.8  | 1     | 5.0       | 0.1 + 0.0   | ( 1.8)  | 92     | ( 0.0)  |
| 0     | -3963  | 10    | 10000 | 1.8  | 39    | 24        | 0.1 + 0.0   | ( 0.9)  | 91     | ( 0.0)  |
| 0     | -3964  | 10    | 10000 | 1.0  | 39    | 67        | 0.0 + 0.0   | ( 0.4)  | 44     | ( 0.0)  |
| 0     | -3965  | 10    | 10000 | 0.4  | 39    | 80        | 0.1 + 0.0   | ( 0.9)  | 64     | ( 0.0)  |
| 0     | 1183.5 | 199.5 | 5.9   | 38.6 | 134.5 | (2458.5)  | ( 136.3)    |         |        |         |

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|            |             |         |           |           |          |          |        |        |        |
|------------|-------------|---------|-----------|-----------|----------|----------|--------|--------|--------|
| TOTAL      | TOTAL       | TOTAL   | TOTAL     | TOTAL     | TOTAL    | TOTAL    | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST     | COST   | COST   | COST   |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     |
| TRAVELLED  | EXCESS      |         |           |           |          |          |        |        |        |
| EXCESS     |             |         |           |           |          |          |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)   | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |          |        |        |        |
| 1183.5     | 199.5       | 5.9     | 38.6      | 134.5     | (2458.5) | ( 136.3) |        |        |        |
| ( 0.0)     | =           | 2594.7  | TOTALS    |           |          |          |        |        |        |

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STOPS TOTALS

|                              |                 |                 |                 |        |
|------------------------------|-----------------|-----------------|-----------------|--------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR | LITRES |
| FUEL CONSUMPTION PREDICTIONS |                 |                 |                 |        |
| 62.1                         | =               | 393.6           | 132.1           | 199.4  |

NO. OF ENTRIES TO SUBPT = 1  
NO. OF LINKS RECALCULATED= 34

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

-(SECONDS)

Lion Green Road - Chipstead Valley\_Pm Peak\_v2\_option 4\_100% ped demand\_v3.prt

|        |       |     |      |       |          |          |  |  |  |
|--------|-------|-----|------|-------|----------|----------|--|--|--|
| 39     | 5     | 63  | 88   | 100   | 6        | 31       |  |  |  |
| 169    | 3     | 10  | 50   | 97    |          |          |  |  |  |
| 1183.5 | 197.0 | 6.0 | 36.1 | 134.5 | (2422.6) | ( 136.3) |  |  |  |

NO. OF ENTRIES TO SUBPT = 6  
NO. OF LINKS RECALCULATED= 127

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41

-(SECONDS)

|            |             |         |           |           |          |          |        |        |        |
|------------|-------------|---------|-----------|-----------|----------|----------|--------|--------|--------|
| TOTAL      | TOTAL       | TOTAL   | TOTAL     | TOTAL     | TOTAL    | TOTAL    | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST     | COST   | COST   | COST   |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     |
| TRAVELLED  | EXCESS      |         |           |           |          |          |        |        |        |
| EXCESS     |             |         |           |           |          |          |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)   | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |          |        |        |        |
| 1183.5     | 197.0       | 6.0     | 36.1      | 134.5     | (2422.6) | ( 136.3) |        |        |        |
| ( 0.0)     | =           | 2558.9  | TOTALS    |           |          |          |        |        |        |

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STOPS TOTALS

|                              |                 |                 |                 |        |
|------------------------------|-----------------|-----------------|-----------------|--------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR | LITRES |
| FUEL CONSUMPTION PREDICTIONS |                 |                 |                 |        |
| 62.1                         | =               | 393.6           | 132.1           | 199.4  |

NO. OF ENTRIES TO SUBPT = 5  
NO. OF LINKS RECALCULATED= 108

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1

-(SECONDS)

|            |             |         |           |           |          |          |        |        |        |
|------------|-------------|---------|-----------|-----------|----------|----------|--------|--------|--------|
| TOTAL      | TOTAL       | TOTAL   | TOTAL     | TOTAL     | TOTAL    | TOTAL    | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST     | COST   | COST   | COST   |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     |
| TRAVELLED  | EXCESS      |         |           |           |          |          |        |        |        |
| EXCESS     |             |         |           |           |          |          |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)   | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |          |        |        |        |
| 1183.5     | 82.4        | 14.4    | 24.4      | 31.6      | ( 796.0) | ( 111.7) |        |        |        |

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STOPS TOTALS

|                              |                 |                 |                 |        |
|------------------------------|-----------------|-----------------|-----------------|--------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR | LITRES |
| FUEL CONSUMPTION PREDICTIONS |                 |                 |                 |        |
| 62.1                         | =               | 393.6           | 132.1           | 199.4  |

NO. OF ENTRIES TO SUBPT = 1  
NO. OF LINKS RECALCULATED= 34

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

-(SECONDS)

Lion Green Road - Chipstead Valley\_Pm Peak\_V2\_option 4\_100% ped demand\_v3.prt  
 + ( 0.0) = 907.7 TOTALS

NO. OF ENTRIES TO SUBPT = 52  
 NO. OF LINKS RECALCULATED= 752

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|
| 39         | 5           | 83      | 14        | 26        | 36       | 51        |       |       |       |       |
| 169        | 3           | 10      | 79        | 97        |          |           |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |
| 1183.5     | 77.4        | 15.3    | 24.7      | 26.3      | ( 725.0) | + ( 95.7) |       |       |       |       |
| + ( 0.0)   | = 820.7     | TOTALS  |           |           |          |           |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 134

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|
| 39         | 5           | 20      | 55        | 67        | 77       | 92        |       |       |       |       |
| 169        | 3           | 10      | 79        | 97        |          |           |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |
| 1183.5     | 74.9        | 15.8    | 22.2      | 26.3      | ( 689.0) | + ( 88.5) |       |       |       |       |
| + ( 0.0)   | = 777.5     | TOTALS  |           |           |          |           |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 116

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|
| 39         | 5           | 20      | 55        | 67        | 77       | 92        |       |       |       |       |
| 169        | 3           | 10      | 79        | 97        |          |           |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |
| 1183.5     | 74.9        | 15.8    | 22.2      | 26.3      | ( 689.0) | + ( 88.5) |       |       |       |       |
| + ( 0.0)   | = 777.5     | TOTALS  |           |           |          |           |       |       |       |       |

Lion Green Road - Chipstead Valley\_Pm Peak\_V2\_option 4\_100% ped demand\_v3.prt  
 + ( 0.0) = 862.3 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 150

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|
| 39         | 5           | 21      | 55        | 67        | 77       | 93        |       |       |       |       |
| 169        | 3           | 11      | 78        | 98        |          |           |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |
| 1183.5     | 79.5        | 14.9    | 22.9      | 30.3      | ( 754.7) | + ( 91.6) |       |       |       |       |
| + ( 0.0)   | = 846.4     | TOTALS  |           |           |          |           |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 16  
 NO. OF LINKS RECALCULATED= 303

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

|        |        |         |          |       |       |             |         |         |             |        |
|--------|--------|---------|----------|-------|-------|-------------|---------|---------|-------------|--------|
| 39     | 5      | 29      | 63       | 75    | 85    | 101         |         |         |             |        |
| 169    | 3      | 11      | 78       | 98    |       |             |         |         |             |        |
| LINK   | FLOW   | SAT     | DEGREE   | MEAN  | EXIT  | PERFORMANCE | MEAN    | EXIT    | PERFORMANCE | MEAN   |
| NUMBER | INTO   | FLOW    | INDEX    | PER   | PCU   | UNIFORM     | RANDOM+ | COST    | COST        | MEAN   |
| MEAN   | LINK   | AVERAGE | WEIGHTED | SUM   | START | START       | START   | START   | START       | START  |
| MAX.   | LINK   | AVERAGE | WEIGHTED | SUM   | START | START       | START   | START   | START       | START  |
| EXCESS | OF ( ) | VALUES  | (SEC)    | (SEC) | (SEC) | (SEC)       | (SEC)   | (SEC)   | (SEC)       | (SEC)  |
| (PCU)  | (PCU)  | (PCU)   | (PCU)    | (PCU) | (PCU) | (PCU)       | (PCU)   | (PCU)   | (PCU)       | (PCU)  |
| 3910   | 171    | 1800    | 19       | 15.0  | 17.5  | 0.7         | + 0.1   | ( 11.8) | 56          | ( 3.0) |
| 3      |        | 14.7    | 39       | 39    | 89    |             |         |         |             |        |

| ION        | GREEN ROAD - CHIPSTEAD VALLEY_PM PEAK_V2_OPTION 4_100% PED DEMAND_V3.PRT | ROUTE       | 2151  | 74    | 15.0    | 30.7      | 4.7   | 1.4       | (87.5) | 86        | (19.1) |           |
|------------|--------------------------------------------------------------------------|-------------|-------|-------|---------|-----------|-------|-----------|--------|-----------|--------|-----------|
| 3911       | 723                                                                      | 189         | 1800  | 106.6 | 39      | 15.0      | 88.2  | 2.3       | + 2.4  | (65.8)    | 133    | (7.7)     |
| 3920       | 8                                                                        | 639         | 1789  | 73.5  | 39      | 15.0      | 101.8 | 4.9       | + 13.2 | (256.6)   | 151    | (19.5)    |
| 3930       | 32                                                                       | 3940        | 276.1 | 100   | 39      | 15.0      | 137.1 | 4.1       | + 9.7  | (196.8)   | 171    | (19.2)    |
| 3940       | 20                                                                       | 3950        | 1800  | 216.0 | 27      | 15.0      | 84.2  | 0.3       | + 0.2  | (6.3)     | 127    | (0.7)     |
| 3950       | 1                                                                        | 3960        | 10000 | 7.0   | 39      | 15.0      | 85    | 88        |        |           | 83     | (0.0)     |
| 3960       | 0                                                                        | 3966        | 10000 | 1.5   | 1       | 10.0      | 37.0  | 0.1       | + 0.0  | (1.5)     | 96     | (0.0)     |
| 3967       | 0                                                                        | 3967        | 10000 | 1.9   | 1       | 5.0       | 48.4  | 0.1       | + 0.0  | (1.9)     | 37     | (0.0)     |
| 3995       | 0                                                                        | 3995        | 1800  | 0.3   | 3       | 15.0      | 68    | 29        |        |           | 1      | (0.0)     |
| 3996       | 0                                                                        | 3996        | 1800  | 0.2   | 26      | 15.0      | 1.4   | 0.0       | + 0.2  | (2.5)     | 1      | (0.2)     |
| 3998       | 0                                                                        | 3998        | 1800  | 2.7   | 9       | 15.0      | 1.1   | 0.0       | + 0.0  | (0.7)     | 1      | (0.0)     |
| 3999       | 0                                                                        | 3999        | 1800  | 0.7   | 37      | 15.0      | 1.6   | 0.0       | + 0.3  | (4.2)     | 2      | (0.3)     |
| 16910      | 7                                                                        | 16910       | 1655  | 4.5   | 68      | 20.6      | 10.0  | 1.0       | + 1.0  | (28.8)    | 33     | (2.6)     |
| 16920      | 7                                                                        | 16920       | 2408  | 31.4  | 57      | 15.0      | 56.7  | 2.0       | + 0.7  | (38.5)    | 104    | (5.5)     |
| 16931      | 5                                                                        | 16931       | 1800  | 44.0  | 169     | 15.0      | 86    | 98        |        |           | 33     | (1.6)     |
| 16932      | 2                                                                        | 16932       | 1800  | 5.9   | 169     | 15.0      | 7.0   | 0.2       | + 0.1  | (4.3)     | 47     | (9.0)     |
| 16933      | 9                                                                        | 16933       | 2143  | 35.6  | 44      | 15.0      | 11.0  | 1.5       | + 0.4  | (26.6)    | 97     | (0.0)     |
| 16940      | 0                                                                        | 16940       | 10000 | 2.0   | 2       | 5.0       | 49.8  | 0.1       | + 0.0  | (2.0)     | 96     | (0.0)     |
| 16941      | 0                                                                        | 16941       | 10000 | 1.9   | 1       | 5.0       | 48.4  | 0.1       | + 0.0  | (1.9)     | 101    | (0.0)     |
| 16942      | 0                                                                        | 16942       | 10000 | 1.9   | 3       | 5.0       | 53.4  | 0.1       | + 0.0  | (2.1)     | 53     | (0.0)     |
| 16998      | 0                                                                        | 16998       | 1800  | 2.1   | 49      | 6.8       | 2.0   | 0.0       | + 0.5  | (6.9)     | 2      | (4.8)     |
| 16999      | 0                                                                        | 16999       | 1800  | 11.6  | 10      | 15.0      | 1.1   | 0.0       | + 0.1  | (0.8)     | 1      | (0.1)     |
| -3961      | 0                                                                        | -3961       | 10000 | 0.8   | 1       | 5.0       | 44.8  | 0.1       | + 0.0  | (1.8)     | 92     | (0.0)     |
| -3963      | 0                                                                        | -3963       | 10000 | 1.8   | 1       | 5.0       | 22.5  | 0.1       | + 0.0  | (0.9)     | 91     | (0.0)     |
| -3964      | 0                                                                        | -3964       | 10000 | 0.9   | 0       | 3.0       | 15.2  | 0.0       | + 0.0  | (0.6)     | 53     | (0.0)     |
| -3965      | 0                                                                        | -3965       | 10000 | 0.6   | 0       | 3.0       | 16.3  | 0.0       | + 0.0  | (0.6)     | 55     | (0.0)     |
| TOTAL      |                                                                          | TOTAL       |       |       | MEAN    | TOTAL     |       | TOTAL     |        | TOTAL     |        | TOTAL     |
| PENALTY    |                                                                          | TOTAL       |       |       | JOURNEY | UNIFORM   |       | TOTAL     |        | TOTAL     |        | TOTAL     |
| DISTANCE   |                                                                          | TIME        |       |       | SPEED   | DELAY     |       | OVERSAT   |        | OF        |        | COST      |
| FOR        |                                                                          | PERFORMANCE |       |       | INDEX   | DELAY     |       | OF        |        | STOPS     |        |           |
| TRAVELLED  |                                                                          | EXCESS      |       |       |         |           |       |           |        |           |        |           |
| EXCESS     |                                                                          | QUEUES      |       |       |         |           |       |           |        |           |        |           |
| (PCU-KM/H) |                                                                          | (PCU-H/H)   |       |       | (KM/H)  | (PCU-H/H) |       | (PCU-H/H) |        | (PCU-H/H) |        | (PCU-H/H) |
| (\$/H)     |                                                                          | (\$/H)      |       |       |         |           |       |           |        |           |        |           |
| 1183.5     |                                                                          | 79.0        |       |       | 15.0    | 22.4      |       | 30.3      |        | (747.8)   |        | (93.2)    |
| + (0.0)    |                                                                          | = 841.1     |       |       | TOTALS  |           |       |           |        |           |        |           |

Lion Green Road - Chipstead Valley\_PM Peak\_V2\_Option 4\_100% ped demand\_V3.prt  
ROUTE

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| STOPS                          | TOTALS          | CRUISE          | DELAY           |
|--------------------------------|-----------------|-----------------|-----------------|
| PER HOUR                       | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS   |                 |                 |                 |
| 42.5                           | = 235.4         | 137.1           | + 60.9          |
| NO. OF ENTRIES TO SUBPT = 12   |                 |                 |                 |
| NO. OF LINKS RECALCULATED= 260 |                 |                 |                 |

PROGRAM TRANSYT FINISHED



lion Green Road - Chipstead Valley\_AM Peak\_v2-Option 4\_25% ped demand\_v4.prt

| CRUISE NO. | LINK | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK | ENTRY 4 CRUISE TIME | LINK NO. | FLOW |
|------------|------|---------------------------|---------------------|--------------|---------------------|----------|------|
| 25)=       | 31   | 3966                      | 39                  | 20           | 1                   | 0        | 0    |
| 26)=       | 31   | 3967                      | 39                  | 16           | 1                   | 0        | 0    |
| 27)=       | 31   | 3995                      | 0                   | 0            | 0                   | 0        | 0    |
| 28)=       | 31   | 3996                      | 0                   | 0            | 0                   | 0        | 0    |
| 29)=       | 31   | 3998                      | 0                   | 0            | 0                   | 0        | 0    |
| 30)=       | 31   | 3999                      | 0                   | 0            | 0                   | 0        | 0    |
| 31)=       | 31   | 16910                     | 169                 | 18           | 2                   | 0        | 0    |
| 32)=       | 31   | 16920                     | 169                 | 8            | 3                   | 0        | 0    |
| 33)=       | 31   | 16931                     | 169                 | 18           | 2                   | 0        | 0    |
| 34)=       | 31   | 16932                     | 169                 | 18           | 2                   | 0        | 0    |
| 35)=       | 31   | 16940                     | 169                 | 14           | 1                   | 0        | 0    |
| 36)=       | 31   | 16941                     | 169                 | 12           | 1                   | 0        | 0    |
| 37)=       | 31   | 16942                     | 169                 | 15           | 1                   | 0        | 0    |
| 38)=       | 31   | 16998                     | 0                   | 0            | 0                   | 0        | 0    |
| 39)=       | 31   | 16999                     | 0                   | 0            | 0                   | 0        | 0    |

LINK CARDS: FLOW DATA

| CRUISE NO. | LINK | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK | ENTRY 4 CRUISE TIME | LINK NO. | FLOW |
|------------|------|---------------------------|---------------------|--------------|---------------------|----------|------|
| 40)=       | 32   | 3910                      | 213                 | 0            | 0                   | 0        | 0    |
| 41)=       | 32   | 3911                      | 475                 | 0            | 0                   | 0        | 0    |
| 42)=       | 32   | 3920                      | 0                   | 0            | 0                   | 0        | 0    |
| 43)=       | 32   | 3930                      | 759                 | 0            | 0                   | 16920    | 749  |
| 44)=       | 32   | 3940                      | 362                 | 0            | 0                   | 0        | 0    |
| 45)=       | 32   | 3950                      | 41                  | 0            | 0                   | 0        | 0    |
| 46)=       | 32   | 3961                      | 0                   | 0            | 0                   | 0        | 0    |
| 47)=       | 32   | 3962                      | 0                   | 0            | 0                   | 0        | 0    |
| 48)=       | 32   | 3963                      | 0                   | 0            | 0                   | 0        | 0    |
| 49)=       | 32   | 3964                      | 0                   | 0            | 0                   | 0        | 0    |
| 50)=       | 32   | 3965                      | 0                   | 0            | 0                   | 0        | 0    |
| 51)=       | 32   | 3966                      | 0                   | 0            | 0                   | 0        | 0    |
| 52)=       | 32   | 3967                      | 0                   | 0            | 0                   | 0        | 0    |
| 53)=       | 32   | 3995                      | 0                   | 0            | 0                   | 0        | 0    |
| 54)=       | 32   | 3996                      | 0                   | 0            | 0                   | 0        | 0    |
| 55)=       | 32   | 3998                      | 0                   | 0            | 0                   | 0        | 0    |
| 56)=       | 32   | 3999                      | 0                   | 0            | 0                   | 0        | 0    |
| 61)=       | 32   | 16940                     | 169                 | 10           | 10                  | 0        | 0    |
| 62)=       | 32   | 16941                     | 169                 | 10           | 10                  | 0        | 0    |
| 63)=       | 32   | 16942                     | 169                 | 10           | 10                  | 0        | 0    |
| 64)=       | 32   | 16998                     | 0                   | 0            | 0                   | 0        | 0    |
| 65)=       | 32   | 16999                     | 0                   | 0            | 0                   | 0        | 0    |

lion Green Road - Chipstead Valley\_AM Peak\_v2-Option 4\_25% ped demand\_v4.prt

| CRUISE NO. | LINK | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK | ENTRY 4 CRUISE TIME | LINK NO. | FLOW |
|------------|------|---------------------------|---------------------|--------------|---------------------|----------|------|
| 55)=       | 32   | 3998                      | 71                  | 0            | 0                   | 61       | 15   |
| 56)=       | 32   | 3999                      | 0                   | 0            | 0                   | 15       | 3930 |
| 57)=       | 32   | 16910                     | 192                 | 15           | 3950                | 18       | 531  |
| 58)=       | 32   | 16920                     | 106                 | 23           | 3911                | 475      | 14   |
| 59)=       | 32   | 16931                     | 258                 | 0            | 3950                | 23       | 20   |
| 60)=       | 32   | 16932                     | 749                 | 0            | 0                   | 21       | 15   |
| 61)=       | 32   | 16940                     | 10                  | 0            | 0                   | 0        | 0    |
| 62)=       | 32   | 16941                     | 10                  | 0            | 0                   | 0        | 0    |
| 63)=       | 32   | 16942                     | 10                  | 0            | 0                   | 0        | 0    |
| 64)=       | 32   | 16998                     | 708                 | 0            | 0                   | 0        | 0    |
| 65)=       | 32   | 16999                     | 269                 | 0            | 0                   | 0        | 0    |

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

104 SECOND CYCLE 104 STEPS

INITIAL SETTINGS

-(SECONDS)

| NODE NO | STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|---------|-------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39      | 5     | 20               | 57    | 73    | 86    | 100   |       |       |       |       |       |
| 169     | 3     | 101              | 66    | 83    |       |       |       |       |       |       |       |

| LINK NO | LINK | FLOW  | SAT | PERFORMANCE | EXIT  | MEAN | GREEN | UNIFORM | RANDOM | COST | MEAN | STOPS  | OF |
|---------|------|-------|-----|-------------|-------|------|-------|---------|--------|------|------|--------|----|
| 3910    | 213  | 1800  | 26  | 15.0        | 20.7  | 1.0  | 0.2   | (17.4)  |        |      | 62   | (4.1)  |    |
| 3911    | 475  | 2151  | 52  | 15.0        | 26.3  | 2.9  | 0.5   | (49.4)  |        |      | 75   | (10.9) |    |
| 3920    | 190  | 1800  | 53  | 15.0        | 44.2  | 1.8  | 0.6   | (33.1)  |        |      | 93   | (5.4)  |    |
| 3930    | 759  | 1789  | 110 | 23.0        | 220.8 | 6.3  | 40.2  | (661.1) |        |      | 211  | (13.9) |    |
| 3940    | 362  | 1800  | 70  | 15.0        | 41.6  | 3.0  | 1.1   | (59.3)  |        |      | 97   | (10.8) |    |
| 3950    | 41   | 1800  | 79  | 15.0        | 179.9 | 0.6  | 1.5   | (29.1)  |        |      | 190  | (2.4)  |    |
| 3961    | 0    | 10000 | 2   | 5.0         | 49.8  | 0.1  | 0.0   | (2.0)   |        |      | 97   | (0.0)  |    |
| 3962    | 0    | 10000 | 2   | 10.0        | 51.4  | 0.1  | 0.0   | (2.0)   |        |      | 99   | (0.0)  |    |
| 3963    | 0    | 10000 | 2   | 5.0         | 27.9  | 0.1  | 0.0   | (1.1)   |        |      | 102  | (0.0)  |    |

Lion Green Road - Chipstead Valley AM Peak\_v2\_Option 4\_25% ped demand\_v4 prt

|       |        |       |      |      |       |      |      |          |     |          |
|-------|--------|-------|------|------|-------|------|------|----------|-----|----------|
| 3964  | 10     | 10000 | 0    | 3.0  | 18.6  | 0.1  | 0.0  | ( 0.7 )  | 59  | ( 0.0 )  |
| 0     | 0      | 0     | 0    | 3.0  | 82    | 20   | 0.0  | ( 0.4 )  | 44  | ( 0.0 )  |
| 3965  | 10     | 10000 | 0.7  | 5.0  | 10.7  | 77   | 0.0  | ( 2.0 )  | 99  | ( 0.0 )  |
| 0     | 0      | 0     | 0.4  | 3.0  | 20    | 20   | 0.0  | ( 0.5 )  | 49  | ( 0.0 )  |
| 3966  | 10     | 10000 | 2.0  | 10.0 | 13.1  | 21   | 0.0  | ( 0.2 )  | 1   | ( 0.0 )  |
| 0     | 0      | 0     | 0.5  | 3.0  | 73    | 21   | 0.0  | ( 0.2 )  | 2   | ( 0.3 )  |
| 3995  | 0      | 1800  | 0.2  | 15.0 | 1.0   | 1.5  | 0.0  | ( 3.5 )  | 1   | ( 0.0 )  |
| 1     | 3995 < | 1800  | 3.8  | 4    | 15.0  | 1.0  | 0.0  | ( 0.3 )  | 1   | ( 0.0 )  |
| 3998  | 0      | 1800  | 0.3  | 38   | 15.0  | 1.6  | 0.0  | ( 4.4 )  | 1   | ( 0.3 )  |
| 0     | 0      | 0     | 4.8  | 54   | 20.6  | 7.3  | 0.7  | ( 17.5 ) | 36  | ( 2.4 )  |
| 16910 | 7      | 1655  | 19.8 | 169  | 15    | 85   | 1.5  | ( 28.7 ) | 107 | ( 4.0 )  |
| 16920 | 4      | 2408  | 32.7 | 169  | 74    | 83   | 0.3  | ( 6.6 )  | 31  | ( 2.5 )  |
| 16931 | 2      | 1800  | 9.1  | 15   | 15.0  | 15   | 0.0  | ( 2.1 )  | 101 | ( 0.0 )  |
| 16932 | 11     | 2143  | 42.2 | 169  | 15    | 85   | 1.7  | ( 31.2 ) | 48  | ( 11.0 ) |
| 16940 | 0      | 10000 | 2.0  | 1.0  | 10000 | 2.0  | 1.69 | ( 2.0 )  | 99  | ( 0.0 )  |
| 16941 | 0      | 10000 | 1.9  | 3    | 5.0   | 48.4 | 0.1  | ( 1.9 )  | 96  | ( 0.0 )  |
| 16942 | 0      | 10000 | 2.1  | 3    | 5.0   | 53.4 | 0.1  | ( 2.1 )  | 101 | ( 0.0 )  |
| 16998 | 0      | 1800  | 8.1  | 39   | 6.7   | 1.7  | 0.0  | ( 4.6 )  | 2   | ( 3.5 )  |
| 16999 | 1      | 1800  | 1.3  | 15   | 15.0  | 1.2  | 0.0  | ( 1.2 )  | 1   | ( 0.1 )  |
| 0     | 0      | 0     | 0.0  | 0    | 0     | 0    | 0    | 0        | 0   | 0        |

1191.8 (PCU-KM/H) (\$/H) = 94.8 (PCU-H/H) (\$/H) 12.6 (KM/H) 20.8 (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) STOPS (\$/H)

+ ( 0.0 ) = 1034.1 TOTALS 20.8 47.0 ( 962.5 ) + ( 71.6 )

\*\*\*\*\*

STOPS TOTALS CRUISE DELAY

PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES

FUEL CONSUMPTION PREDICTIONS = 120.7 + 78.0 +

32.6 = 231.3

NO. OF ENTRIES TO SUBRT = 1

NO. OF LINKS RECALCULATED= 36

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

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Lion Green Road - Chipstead Valley AM Peak\_v2\_Option 4\_25% ped demand\_v4 prt

|        |   |      |      |      |      |           |   |          |  |  |
|--------|---|------|------|------|------|-----------|---|----------|--|--|
| 39     | 5 | 20   | 57   | 73   | 86   | 100       |   |          |  |  |
| 169    | 3 | 101  | 66   | 83   |      |           |   |          |  |  |
| 39     | 5 | 18   | 57   | 73   | 86   | 98        |   |          |  |  |
| 169    | 3 | 101  | 66   | 83   |      |           |   |          |  |  |
| 1191.8 |   | 80.2 | 14.9 | 20.2 | 32.9 | ( 754.1 ) | + | ( 69.9 ) |  |  |

NO. OF ENTRIES TO SUBRT = 6

NO. OF LINKS RECALCULATED= 147

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1

1191.8 (PCU-KM/H) (\$/H) = 94.8 (PCU-H/H) (\$/H) 12.6 (KM/H) 20.8 (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) STOPS (\$/H)

+ ( 0.0 ) = 1034.1 TOTALS 20.8 47.0 ( 962.5 ) + ( 71.6 )

\*\*\*\*\*

STOPS TOTALS CRUISE DELAY

PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES

FUEL CONSUMPTION PREDICTIONS = 120.7 + 78.0 +

32.6 = 231.3

NO. OF ENTRIES TO SUBRT = 1

NO. OF LINKS RECALCULATED= 36

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15

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Lion Green Road - Chipstead Valley\_AM Peak\_v2\_option 4\_25% ped demand\_v4.prt  
 + ( 0.0) = 824.1 TOTALS

NO. OF ENTRIES TO SUBPT = 11  
 NO. OF LINKS RECALCULATED= 199

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5           | 18      | 57        | 73        | 86       | 98        |       |       |       |       |       |       |       |
| 169        | 3           | 101     | 66        | 83        |          |           |       |       |       |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | DELAY     | STOPS    | STOPS     |       |       |       |       |       |       |       |
| TRAVELLED  | EXCESS      |         |           |           |          |           |       |       |       |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |       |       |       |
| 1191.8     | 79.9        | 14.9    | 20.1      | 32.7      | ( 750.6) | + ( 69.8) |       |       |       |       |       |       |       |
| + ( 0.0)   | =           | 820.4   | TOTALS    |           |          |           |       |       |       |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5           | 18      | 57        | 73        | 86       | 98        |       |       |       |       |       |       |       |
| 169        | 3           | 101     | 66        | 83        |          |           |       |       |       |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | DELAY     | STOPS    | STOPS     |       |       |       |       |       |       |       |
| TRAVELLED  | EXCESS      |         |           |           |          |           |       |       |       |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |       |       |       |
| 1191.8     | 79.9        | 14.9    | 20.1      | 32.7      | ( 750.2) | + ( 69.8) |       |       |       |       |       |       |       |
| + ( 0.0)   | =           | 820.0   | TOTALS    |           |          |           |       |       |       |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5           | 18      | 57        | 73        | 86       | 98        |       |       |       |       |       |       |       |
| 169        | 3           | 101     | 66        | 83        |          |           |       |       |       |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | DELAY     | STOPS    | STOPS     |       |       |       |       |       |       |       |
| TRAVELLED  | EXCESS      |         |           |           |          |           |       |       |       |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |       |       |       |
| 1191.8     | 79.9        | 14.9    | 20.1      | 32.7      | ( 750.2) | + ( 69.8) |       |       |       |       |       |       |       |
| + ( 0.0)   | =           | 820.0   | TOTALS    |           |          |           |       |       |       |       |       |       |       |

Lion Green Road - Chipstead Valley\_AM Peak\_v2\_option 4\_25% ped demand\_v4.prt  
 + ( 0.0) = 824.1 TOTALS

NO. OF ENTRIES TO SUBPT = 11  
 NO. OF LINKS RECALCULATED= 199

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5           | 18      | 57        | 73        | 86       | 98        |       |       |       |       |       |       |       |
| 169        | 3           | 101     | 66        | 83        |          |           |       |       |       |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | DELAY     | STOPS    | STOPS     |       |       |       |       |       |       |       |
| TRAVELLED  | EXCESS      |         |           |           |          |           |       |       |       |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |       |       |       |
| 1191.8     | 80.2        | 14.9    | 20.2      | 32.9      | ( 754.1) | + ( 69.9) |       |       |       |       |       |       |       |
| + ( 0.0)   | =           | 824.1   | TOTALS    |           |          |           |       |       |       |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 11  
 NO. OF LINKS RECALCULATED= 214

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5           | 19      | 58        | 74        | 87       | 99        |       |       |       |       |       |       |       |
| 169        | 3           | 101     | 66        | 83        |          |           |       |       |       |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | DELAY     | STOPS    | STOPS     |       |       |       |       |       |       |       |
| TRAVELLED  | EXCESS      |         |           |           |          |           |       |       |       |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |       |       |       |
| 1191.8     | 80.2        | 14.9    | 20.2      | 32.9      | ( 754.1) | + ( 69.9) |       |       |       |       |       |       |       |
| + ( 0.0)   | =           | 824.1   | TOTALS    |           |          |           |       |       |       |       |       |       |       |

NO. OF ENTRIES TO SUBPT = 11  
 NO. OF LINKS RECALCULATED= 214

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

|            |             |         |           |           |          |           |       |       |       |       |       |       |       |
|------------|-------------|---------|-----------|-----------|----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5           | 19      | 58        | 74        | 87       | 99        |       |       |       |       |       |       |       |
| 169        | 3           | 101     | 66        | 83        |          |           |       |       |       |       |       |       |       |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL     | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST      |       |       |       |       |       |       |       |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF        |       |       |       |       |       |       |       |
| FOR        | SPENT       | INDEX   | DELAY     | DELAY     | STOPS    | STOPS     |       |       |       |       |       |       |       |
| TRAVELLED  | EXCESS      |         |           |           |          |           |       |       |       |       |       |       |       |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)    |       |       |       |       |       |       |       |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |           |       |       |       |       |       |       |       |
| 1191.8     | 80.2        | 14.9    | 20.2      | 32.9      | ( 754.1) | + ( 69.9) |       |       |       |       |       |       |       |
| + ( 0.0)   | =           | 824.1   | TOTALS    |           |          |           |       |       |       |       |       |       |       |

| ION GREEN ROAD - CHIPSTEAD VALLEY AM PEAK_V2_OPTION 4_25% PED DEMAND_V4.PRT | ROUTE          | TOTAL  | MEAN           | TOTAL          | TOTAL          | TOTAL          | TOTAL          | TOTAL          | TOTAL          |
|-----------------------------------------------------------------------------|----------------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| PCU-KM/H (\$/H)                                                             | PCU-H/H (\$/H) | (KM/H) | PCU-H/H (\$/H) | PCU-H/H (\$/H) | PCU-H/H (\$/H) | PCU-H/H (\$/H) | PCU-H/H (\$/H) | PCU-H/H (\$/H) | PCU-H/H (\$/H) |
| 3911                                                                        | 475            | 2151   | 50             | 15.0           | 24.5           | 2.7            | 0.5            | (46.0)         | 72 (10.6)      |
| 3920                                                                        | 190            | 1800   | 57             | 15.0           | 47.6           | 1.8            | 0.7            | (35.7)         | 96 (5.6)       |
| 3930                                                                        | 799            | 1789   | 105            | 23.0           | 148.4          | 5.6            | 25.7           | (444.2)        | 184 (12.1)     |
| 3940                                                                        | 48             | 1800   | 39             | 15.0           | 48.6           | 3.4            | 1.5            | (69.3)         | 103 (11.5)     |
| 3950                                                                        | 11             | 1800   | 39             | 15.0           | 179.9          | 0.6            | 1.5            | (29.1)         | 190 (2.4)      |
| 3961                                                                        | 3              | 1800   | 31.5           | 39             | 85             | 87             |                |                |                |
| 3962                                                                        | 0              | 10000  | 2.0            | 2              | 5.0            | 49.8           | 0.1            | 0.0            | (2.0)          |
| 3963                                                                        | 0              | 10000  | 2.0            | 2              | 10.0           | 51.4           | 0.1            | 0.0            | (2.0)          |
| 3964                                                                        | 0              | 10000  | 1.1            | 0              | 39             | 74             | 19             | 20             |                |
| 3965                                                                        | 0              | 10000  | 0.8            | 0              | 5.0            | 19.8           | 0.1            | 0.0            | (0.8)          |
| 3966                                                                        | 0              | 10000  | 0.4            | 2              | 39             | 83             | 19             |                |                |
| 3967                                                                        | 0              | 10000  | 2.0            | 2              | 3.0            | 51.4           | 0.1            | 0.0            | (2.0)          |
| 3995                                                                        | 0              | 1800   | 0.6            | 2              | 10.0           | 14.1           | 0.0            | 0.0            | (0.6)          |
| 3996                                                                        | 0              | 1800   | 0.2            | 2              | 15.0           | 74             | 20             |                |                |
| 3998                                                                        | 1              | 1800   | 3.9            | 4              | 15.0           | 1.5            | 0.0            | 0.3            | (3.6)          |
| 3999                                                                        | 0              | 1800   | 0.3            | 4              | 15.0           | 1.0            | 0.0            | 0.0            | (0.3)          |
| 16910                                                                       | 606            | 1655   | 5.0            | 40             | 15.0           | 1.7            | 0.0            | 0.3            | (4.7)          |
| 16920                                                                       | 7              | 2408   | 19.6           | 54             | 20.6           | 7.3            | 0.6            | 0.6            | (17.4)         |
| 16931                                                                       | 4              | 1800   | 32.7           | 20             | 15.0           | 60.7           | 1.5            | 0.5            | (28.7)         |
| 16932                                                                       | 2              | 2143   | 9.1            | 51             | 15.0           | 15             | 0.3            | 0.1            | (6.6)          |
| 16940                                                                       | 11             | 10000  | 42.2           | 2              | 5.0            | 51.4           | 0.1            | 0.0            | (2.0)          |
| 16941                                                                       | 0              | 10000  | 2.0            | 1              | 5.0            | 48.4           | 0.1            | 0.0            | (1.9)          |
| 16942                                                                       | 0              | 10000  | 1.9            | 3              | 5.0            | 95             | 101            |                |                |
| 16998                                                                       | 1              | 1800   | 2.1            | 39             | 6.7            | 1.7            | 0.0            | 0.3            | (4.6)          |
| 16999                                                                       | 0              | 1800   | 8.0            | 15             | 15.0           | 1.2            | 0.0            | 0.1            | (1.2)          |
| TOTALS                                                                      |                |        |                |                |                |                |                |                |                |
| 1191.8                                                                      | 80.2           | 14.9   | 20.2           | 32.9           | (754.0)        | (70.0)         |                |                |                |
| (0.0)                                                                       | =              | 824.0  |                |                |                |                |                |                |                |

Lion Green Road - Chipstead Valley AM Peak\_V2\_Option 4\_25% ped demand\_v4.prt  
ROUTE

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| STOPS                        | TOTALS          | CRUISE          | DELAY           |
|------------------------------|-----------------|-----------------|-----------------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 120.7           | 61.1            |                 |
| =                            | 213.6           |                 |                 |
| NO. OF ENTRIES TO SUBPT      | 5               |                 |                 |
| NO. OF LINKS RECALCULATED    | 113             |                 |                 |

PROGRAM TRANSYT FINISHED



lion Green Road - Chipstead Val1ey\_pm Peak\_v2-Option 4\_25% ped demand\_v3.prt

| CRUISE NO. | LINK | ENTRY 3 | ENTRY 1 | ENTRY 2 | ENTRY 4 |
|------------|------|---------|---------|---------|---------|
| 25)=       | 31   | 3966    | 39      | 21      | 1       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 26)= | 31      | 3967    | 39      | 1       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 27)= | 31      | 3995    | 10      | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 28)= | 31      | 3996    | 200     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 29)= | 31      | 3998    | 200     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 30)= | 31      | 3999    | 200     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 31)= | 31      | 16910   | 169     | 18      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 32)= | 31      | 161     | 169     | 8       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 33)= | 31      | 16931   | 169     | 2       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 34)= | 31      | 16932   | 169     | 2       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 35)= | 31      | 16940   | 169     | 1       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 36)= | 31      | 16941   | 169     | 1       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 37)= | 31      | 16942   | 169     | 1       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 38)= | 31      | 16998   | 200     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 39)= | 31      | 16999   | 200     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |

LINK CARDS: FLOW DATA

| CRUISE NO. | LINK | ENTRY 3 | ENTRY 1 | ENTRY 2 | ENTRY 4 |
|------------|------|---------|---------|---------|---------|
| 40)=       | 32   | 3910    | 171     | 0       | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 41)= | 32      | 3911    | 723     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 42)= | 32      | 3920    | 189     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 43)= | 32      | 3930    | 639     | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 44)= | 32      | 3940    | 364     | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 45)= | 32      | 3950    | 19      | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 46)= | 32      | 3961    | 0       | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 47)= | 32      | 3962    | 10      | 10      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 48)= | 32      | 3963    | 0       | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 49)= | 32      | 3964    | 10      | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 50)= | 32      | 3965    | 10      | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 51)= | 32      | 3966    | 10      | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 52)= | 32      | 3967    | 10      | 10      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 53)= | 32      | 3995    | 46      | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 15         | 54)= | 32      | 3996    | 16      | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 15         | 54)= | 32      | 3996    | 472     | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 15         | 54)= | 32      | 3996    | 172     | 15      |

lion Green Road - Chipstead Val1ey\_pm Peak\_v2-Option 4\_25% ped demand\_v3.prt

| CRUISE NO. | LINK | ENTRY 3 | ENTRY 1 | ENTRY 2 | ENTRY 4 |
|------------|------|---------|---------|---------|---------|
| 55)=       | 32   | 3998    | 135     | 0       | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 56)= | 32      | 3999    | 670     | 0       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 57)= | 32      | 16910   | 96      | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 58)= | 32      | 16920   | 149     | 23      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 59)= | 32      | 16931   | 172     | 23      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 60)= | 32      | 16932   | 156     | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 61)= | 32      | 16940   | 613     | 15      |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 62)= | 32      | 16941   | 10      | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 63)= | 32      | 16942   | 10      | 5       |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 64)= | 32      | 16998   | 886     | 729     |
| 0          | 0    | 0       | 0       | 0       | 0       |
| 0          | 65)= | 32      | 16999   | 175     | 19      |
| 0          | 0    | 0       | 0       | 0       | 0       |

INITIAL SETTINGS

104 SECOND CYCLE 104 STEPS

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

| NODE NO | STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|---------|-------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39      | 5     | 94               | 27    | 39    | 56    | 70    |       |       |       |       |
| 169     | 3     | 81               | 17    | 64    |       |       |       |       |       |       |

| LINK NO | FLOW | SAT   | DEGREE | MEAN | DELAY | END  | DELAY | END | OVERSAT | OF  | STOPS    | OF  | STOPS   |
|---------|------|-------|--------|------|-------|------|-------|-----|---------|-----|----------|-----|---------|
| 3910    | 171  | 1800  | 14.3   | 19   | 15.0  | 16.8 | 4     | 55  | 0.7 +   | 0.1 | ( 11.4)  | 55  | ( 2.9)  |
| 3911    | 723  | 2151  | 71     | 39   | 15.0  | 28.1 | 51    | 82  | 4.4 +   | 1.2 | ( 80.0)  | 82  | ( 18.2) |
| 3920    | 189  | 1800  | 98.2   | 60   | 15.0  | 44.7 | 3     | 94  | 1.6 +   | 0.7 | ( 33.3)  | 94  | ( 5.5)  |
| 3930    | 639  | 1789  | 38.8   | 39   | 15.0  | 47.5 | 91    | 73  | 4.2 +   | 4.3 | ( 119.8) | 73  | ( 9.3)  |
| 3940    | 364  | 1800  | 129.1  | 80   | 15.0  | 50.5 | 39    | 108 | 3.2 +   | 1.9 | ( 72.5)  | 108 | ( 12.1) |
| 3950    | 19   | 1800  | 84.6   | 18   | 15.0  | 67.8 | 61    | 112 | 0.2 +   | 0.1 | ( 5.1)   | 112 | ( 0.7)  |
| 3962    | 10   | 10000 | 5.7    | 3    | 10.0  | 53.4 | 91    | 101 | 0.1 +   | 0.0 | ( 2.1)   | 101 | ( 0.0)  |
| 3966    | 10   | 10000 | 2.1    | 3    | 5.0   | 53.4 | 94    | 101 | 0.1 +   | 0.0 | ( 2.1)   | 101 | ( 0.0)  |
| 3967    | 10   | 10000 | 2.1    | 3    | 10.0  | 11.6 | 94    | 46  | 0.0 +   | 0.0 | ( 0.5)   | 46  | ( 0.0)  |



Lion Green Road - Chipstead Valley\_pm Peak\_v2\_option 4\_25% ped demand\_v3.prt  
 + ( 0.0) = 521.8 TOTALS  
 NO. OF ENTRIES TO SUBPT = 44  
 NO. OF LINKS RECALCULATED= 608

104 SECOND CYCLE 104 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

|           |             |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------|-------------|---------|------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39        | 5           | 92      | 27   | 39      | 56      | 68    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 169       | 3           | 81      | 46   | 64      |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TOTAL     | TOTAL       | TOTAL   | MEAN | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY |      | UNIFORM | RANDOM+ | COST  | COST  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| DISTANCE  | PERFORMANCE | SPEED   |      | DELAY   | OVERSAT | OF    | OF    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FOR       | SPENT       | INDEX   |      | DELAY   | DELAY   | STOPS |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TRAVELLED | EXCESS      |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

QUEUES (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1183.5 = 57.0 20.8 19.3 11.4 ( 435.3) + ( 71.7)  
 + ( 0.0) = 507.1 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 137  
 104 SECOND CYCLE 104 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

|           |             |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------|-------------|---------|------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39        | 5           | 92      | 27   | 39      | 56      | 68    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 169       | 3           | 81      | 46   | 64      |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TOTAL     | TOTAL       | TOTAL   | MEAN | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY |      | UNIFORM | RANDOM+ | COST  | COST  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| DISTANCE  | PERFORMANCE | SPEED   |      | DELAY   | OVERSAT | OF    | OF    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FOR       | SPENT       | INDEX   |      | DELAY   | DELAY   | STOPS |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TRAVELLED | EXCESS      |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

QUEUES (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1183.5 = 56.9 20.8 19.3 11.3 ( 433.5) + ( 71.6)  
 + ( 0.0) = 505.2 TOTALS

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 117  
 104 SECOND CYCLE 104 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

|           |             |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------|-------------|---------|------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39        | 5           | 92      | 27   | 39      | 56      | 68    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 169       | 3           | 81      | 46   | 64      |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TOTAL     | TOTAL       | TOTAL   | MEAN | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY |      | UNIFORM | RANDOM+ | COST  | COST  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| DISTANCE  | PERFORMANCE | SPEED   |      | DELAY   | OVERSAT | OF    | OF    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FOR       | SPENT       | INDEX   |      | DELAY   | DELAY   | STOPS |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TRAVELLED | EXCESS      |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

Lion Green Road - Chipstead Valley\_pm Peak\_v2\_option 4\_25% ped demand\_v3.prt  
 + ( 0.0) = 510.9 TOTALS  
 NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 151

104 SECOND CYCLE 104 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

|           |             |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------|-------------|---------|------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39        | 5           | 92      | 27   | 39      | 56      | 68    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 169       | 3           | 81      | 45   | 64      |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TOTAL     | TOTAL       | TOTAL   | MEAN | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY |      | UNIFORM | RANDOM+ | COST  | COST  |       |       |       |       |       |       |       |       |       |       |       |       |       |
| DISTANCE  | PERFORMANCE | SPEED   |      | DELAY   | OVERSAT | OF    | OF    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FOR       | SPENT       | INDEX   |      | DELAY   | DELAY   | STOPS |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| TRAVELLED | EXCESS      |         |      |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

QUEUES (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1183.5 = 57.2 20.7 19.4 11.4 ( 437.6) + ( 71.8)  
 + ( 0.0) = 509.4 TOTALS

NO. OF ENTRIES TO SUBPT = 13  
 NO. OF LINKS RECALCULATED= 270  
 104 SECOND CYCLE 104 STEPS  
 FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

|        |        |         |          |       |       |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--------|--------|---------|----------|-------|-------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39     | 5      | 94      | 29       | 41    | 58    | 70      |         |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 169    | 3      | 81      | 45       | 64    |       |         |         |       |       |       |       |       |       |       |       |       |       |       |       |       |
| LINK   | FLOW   | SAT     | DEGREE   | MEAN  | TIMES | DELAY   | DELAY   | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY | DELAY |
| NUMBER | INTO   | FLOW    | INDEX    | PER   | PCU   | UNIFORM | RANDOM+ | COST  | COST  |       |       |       |       |       |       |       |       |       |       |       |
| MEAN   | LINK   | AVERAGE | WEIGHTED | SUM   | START | START   | START   | START | START | START | START | START | START | START | START | START | START | START | START | START |
| MAX.   | LINK   | AVERAGE | WEIGHTED | SUM   | START | START   | START   | START | START | START | START | START | START | START | START | START | START | START | START | START |
| EXCESS | OF ( ) | VALUES  | (SEC)    | (SEC) | (SEC) | (SEC)   | (SEC)   | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) | (SEC) |
| (PCU)  | (PCU)  | (PCU)   | (PCU)    | (PCU) | (PCU) | (PCU)   | (PCU)   | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) | (PCU) |

3910 3 171 1800 13.3 18 15.0 15.6 0.6 + 0.1 ( 10.6) 53 ( 2.8)  
 4 57

| LINE  | ROUTE                                                                        | TRAVEL TIME | PERFORMANCE INDEX | MEAN SPEED | UNIFORM DELAY | TOTAL DELAY | TOTAL COST        | TOTAL STOPS           |
|-------|------------------------------------------------------------------------------|-------------|-------------------|------------|---------------|-------------|-------------------|-----------------------|
| 3911  | Lion Green Road - Chipstead Valley PM Peak_v2_Option 4_25% ped demand_v3 prt | 723         | 2151              | 69         | 15.0          | 25.7        | 4.1 + 1.1 ( 73.4) | 78 ( 17.4)            |
| 3917  |                                                                              | 189         | 1800              | 63         | 15.0          | 47.8        | 1.7 + 0.8 ( 35.7) | 97 ( 5.6)             |
| 3920  |                                                                              | 5           | 1789              | 86         | 22.8          | 38.9        | 3.9 + 3.0 ( 97.9) | 67 ( 8.6)             |
| 3930  |                                                                              | 13          | 1800              | 39         | 10.3          | 41          | 3.5 + 2.9 ( 90.6) | 118 ( 13.3)           |
| 3940  |                                                                              | 13          | 1800              | 103.9      | 63.1          | 99          | 0.2 + 0.1 ( 5.1)  | 112 ( 0.7)            |
| 3950  |                                                                              | 1           | 10000             | 3          | 53.4          | 91          | 0.1 + 0.0 ( 2.1)  | 101 ( 0.0)            |
| 3962  |                                                                              | 0           | 10000             | 2.1        | 3             | 39          | 0.1 + 0.0 ( 2.1)  | 101 ( 0.0)            |
| 3966  |                                                                              | 0           | 10000             | 2.1        | 3             | 39          | 0.1 + 0.0 ( 2.1)  | 101 ( 0.0)            |
| 3967  |                                                                              | 0           | 10000             | 2.1        | 3             | 39          | 0.1 + 0.0 ( 2.1)  | 101 ( 0.0)            |
| 3995  |                                                                              | 0           | 1800              | 0.5        | 3             | 15.0        | 0.0 + 0.0 ( 0.2)  | 1 ( 0.0)              |
| 3996  |                                                                              | 0           | 1800              | 0.2        | 26            | 15.0        | 0.0 + 0.2 ( 2.5)  | 1 ( 0.2)              |
| 3998  |                                                                              | 0           | 1800              | 2.7        | 9             | 15.0        | 0.0 + 0.0 ( 0.7)  | 1 ( 0.1)              |
| 3999  |                                                                              | 0           | 1800              | 0.7        | 37            | 15.0        | 0.0 + 0.3 ( 4.2)  | 2 ( 0.3)              |
| 16910 |                                                                              | 0           | 1655              | 4.5        | 67            | 20.6        | 9.1               | 63 ( 26.2)            |
| 16920 |                                                                              | 6           | 2408              | 28.3       | 62            | 15.0        | 60.6              | 2.1 + 0.8 ( 41.1)     |
| 16931 |                                                                              | 6           | 1800              | 46.8       | 12            | 15.0        | 6.7               | 0.2 + 0.1 ( 4.1)      |
| 16932 |                                                                              | 2           | 2143              | 5.6        | 43            | 15.0        | 10.5              | 1.4 + 0.4 ( 25.3)     |
| 16940 |                                                                              | 0           | 10000             | 2.0        | 2             | 169         | 76                | 81 ( 1.9)             |
| 16941 |                                                                              | 0           | 10000             | 1.9        | 3             | 169         | 75                | 81 ( 2.1)             |
| 16942 |                                                                              | 0           | 10000             | 2.1        | 49            | 6.8         | 2.0               | 0.0 + 0.5 ( 6.9)      |
| 16998 |                                                                              | 0           | 1800              | 11.6       | 10            | 15.0        | 1.1               | 0.0 + 0.1 ( 0.8)      |
| 16999 |                                                                              | 0           | 10000             | 0.8        | 3             | 5.0         | 53.4              | 0.1 + 0.0 ( 2.1)      |
| 16961 |                                                                              | 0           | 10000             | 2.1        | 3             | 39          | 40                | 41 ( 93.94)           |
| 16963 |                                                                              | 0           | 10000             | 1.2        | 0             | 39          | 58                | 94 ( 0.1 + 0.0 ( 0.9) |
| 16964 |                                                                              | 0           | 10000             | 0.9        | 0             | 39          | 58                | 94 ( 0.0 + 0.0 ( 0.5) |
| 16965 |                                                                              | 0           | 10000             | 0.5        | 39            | 13.1        | 42                | 49 ( 0.0)             |

1183.5 ( 0.0) = 57.1 20.7 19.3 11.4 ( 435.9) + ( 71.9) 507.8 TOTALS

Lion Green Road - Chipstead Valley PM Peak\_v2\_Option 4\_25% ped demand\_v3 prt  
ROUTE

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| STOPS                        | TOTALS          | CRUISE          | DELAY           |
|------------------------------|-----------------|-----------------|-----------------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 137.1           | +               | 35.7            |
| =                            | 200.5           |                 |                 |

NO. OF ENTRIES TO SUBPT = 6  
NO. OF LINKS RECALCULATED= 137  
PROGRAM TRANSYT FINISHED





Lion Green Road - Chipstead Valley AM Peak\_v2\_Option 4\_50% ped demand\_v3.prt

|        |        |       |        |        |      |           |           |          |         |
|--------|--------|-------|--------|--------|------|-----------|-----------|----------|---------|
| 3964   | 10     | 10000 | 0      | 3.0    | 16.3 | 0.0 + 0.0 | ( 0.6)    | 55       | ( 0.0)  |
| 0      | 10     | 10000 | 0.6    | 39     | 103  | 45        | 0.0 + 0.0 | 48       | ( 0.0)  |
| 3965   | 0      | 10000 | 0.5    | 39     | 45   | 98        | 0.1 + 0.0 | 99       | ( 0.0)  |
| 3966   | 10     | 10000 | 2.0    | 39     | 41   | 45        | 0.0 + 0.0 | 45       | ( 0.0)  |
| 3967   | 10     | 10000 | 0.4    | 39     | 94   | 46        | 0.0 + 0.0 | 1        | ( 0.0)  |
| 3995   | 0      | 1800  | 0.2    | 32     | 15.0 | 1.5       | 0.0 + 0.2 | 2        | ( 0.4)  |
| 3996   | 2      | 1800  | 3.7    | 4      | 15.0 | 1.0       | 0.0 + 0.0 | 1        | ( 0.0)  |
| 3998   | 0      | 1800  | 0.3    | 37     | 15.0 | 1.6       | 0.0 + 0.3 | 1        | ( 0.3)  |
| 3999   | 0      | 1655  | 4.5    | 54     | 20.6 | 6.2       | 0.5 + 0.6 | 37       | ( 2.4)  |
| 16910  | 8      | 17.3  | 169    | 46     | 12   | 1.5 + 0.5 | ( 28.7)   | 107      | ( 4.0)  |
| 16920  | 120    | 2408  | 32.7   | 169    | 1    | 10        | 0.3 + 0.1 | 31       | ( 2.5)  |
| 16931  | 2      | 1800  | 9.1    | 169    | 46   | 16        | 1.7 + 0.5 | 48       | ( 11.0) |
| 16932  | 11     | 2143  | 42.2   | 169    | 46   | 12        | 0.1 + 0.0 | 99       | ( 0.0)  |
| 16940  | 0      | 10000 | 2.0    | 169    | 24   | 28        | 0.1 + 0.0 | 96       | ( 0.0)  |
| 16941  | 10     | 10000 | 1.9    | 169    | 22   | 28        | 0.1 + 0.0 | 101      | ( 0.0)  |
| 16942  | 0      | 10000 | 2.1    | 39     | 6.7  | 1.6       | 0.0 + 0.3 | 2        | ( 3.2)  |
| 16998  | 0      | 1800  | 7.8    | 15     | 15.0 | 1.2       | 0.0 + 0.1 | 1        | ( 0.1)  |
| 16999  | 0      | 1800  | 1.3    | TOTALS | 9.2  | 23.2      | 79.5      | (1457.7) | ( 75.0) |
| 1196.4 | ( 0.0) | =     | 1532.7 | TOTALS |      |           |           |          |         |

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|                              |                 |                 |                 |
|------------------------------|-----------------|-----------------|-----------------|
| STOPS                        | TOTALS          | CRUISE          | DELAY           |
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 120.9           | 118.1           |                 |
| 34.2                         | =               | 273.1           |                 |

NO. OF ENTRIES TO SUBPT = 1  
NO. OF LINKS RECALCULATED= 36

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15  
- (SECONDS)

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Lion Green Road - Chipstead Valley AM Peak\_v2\_Option 4\_50% ped demand\_v3.prt

|            |             |         |           |           |          |         |        |        |
|------------|-------------|---------|-----------|-----------|----------|---------|--------|--------|
| 39         | 5           | 45      | 78        | 94        | 3        | 23      |        |        |
| 169        | 3           | 28      | 97        | 10        |          |         |        |        |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL   | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST    | OF     | STOPS  |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)  | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |         |        |        |
| 1196.4     | 129.8       | 9.2     | 23.2      | 79.5      | (1457.7) | ( 75.0) |        |        |
| ( 0.0)     | =           | 1532.7  | TOTALS    |           |          |         |        |        |

NO. OF ENTRIES TO SUBPT = 5  
NO. OF LINKS RECALCULATED= 112

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1  
- (SECONDS)

|            |             |         |           |           |          |         |        |        |
|------------|-------------|---------|-----------|-----------|----------|---------|--------|--------|
| 39         | 5           | 37      | 78        | 94        | 3        | 15      |        |        |
| 169        | 3           | 28      | 97        | 10        |          |         |        |        |
| TOTAL      | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL   | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST    | OF     | STOPS  |
| DISTANCE   | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| FOR        | SPENT       | INDEX   | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| TRAVELLED  | INDEX       |         | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| EXCESS     |             |         | DELAY     | OVERSAT   | OF       | OF      | OF     | OF     |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)  | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |          |         |        |        |
| 1196.4     | 72.9        | 16.4    | 20.3      | 25.5      | ( 649.8) | ( 71.0) |        |        |

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| ION GREEN ROAD - CHIPSTEAD VALLEY AM Peak_v2_Option 4_50% ped demand_v3.prt | 3911 | 475   | 2151  | 48  | 15.0 | 22.8  | 2.6  | 0.5  | (42.8)  | 69     | (10.1) |        |
|-----------------------------------------------------------------------------|------|-------|-------|-----|------|-------|------|------|---------|--------|--------|--------|
| 3910                                                                        | 190  | 1800  | 52.9  | 79  | 15.0 | 74.4  | 2.2  | 1.8  | (55.8)  | 122    | (7.1)  |        |
| 3907                                                                        | 79   | 1789  | 62.9  | 100 | 23.0 | 91.3  | 4.9  | 14.3 | (273.4) | 151    | (10.0) |        |
| 3930                                                                        | 36   | 1800  | 283.4 | 92  | 15.0 | 81.2  | 3.9  | 4.3  | (116.0) | 132    | (14.7) |        |
| 3940                                                                        | 362  | 1800  | 130.7 | 39  | 15.0 | 16    | 47   | 0.6  | 1.5     | (29.1) | 190    | (2.4)  |
| 3950                                                                        | 14   | 1800  | 31.5  | 79  | 15.0 | 179.9 | 9    | 11   |         |        |        |        |
| 3961                                                                        | 3    | 10000 | 1.9   | 1   | 5.0  | 47.1  | 0.1  | 0.0  | (1.9)   | 94     | (0.0)  |        |
| 3962                                                                        | 0    | 10000 | 1.9   | 1   | 39   | 39    | 46   | 0.1  | 0.0     | (1.9)  | 96     | (0.0)  |
| 3963                                                                        | 0    | 10000 | 1.9   | 2   | 39   | 45    | 0.1  | 0.0  | (1.1)   | 102    | (0.0)  |        |
| 3964                                                                        | 0    | 10000 | 1.1   | 0   | 5.0  | 28.2  | 0.1  | 0.0  | (0.8)   | 63     | (0.0)  |        |
| 3965                                                                        | 0    | 10000 | 0.8   | 0   | 39   | 102   | 0.1  | 0.0  | (0.8)   | 63     | (0.0)  |        |
| 3966                                                                        | 0    | 10000 | 0.4   | 0   | 39   | 7     | 45   | 0.0  | 0.0     | (0.4)  | 40     | (0.0)  |
| 3967                                                                        | 0    | 10000 | 2.0   | 2   | 3.0  | 45    | 2    | 0.1  | 0.0     | (2.0)  | 99     | (0.0)  |
| 3995                                                                        | 0    | 10000 | 0.6   | 0   | 10.0 | 15.2  | 0.0  | 0.0  | (0.6)   | 53     | (0.0)  |        |
| 3996                                                                        | 0    | 1800  | 0.2   | 2   | 15.0 | 102   | 46   | 0.0  | 0.0     | (0.2)  | 1      | (0.0)  |
| 3998                                                                        | 1    | 1800  | 4.0   | 4   | 15.0 | 1.5   | 0.0  | 0.3  | (3.7)   | 2      | (0.3)  |        |
| 3999                                                                        | 0    | 1800  | 0.3   | 4   | 15.0 | 1.0   | 0.0  | 0.0  | (0.3)   | 1      | (0.0)  |        |
| 16910                                                                       | 606  | 1655  | 5.6   | 54  | 20.6 | 6.8   | 0.6  | 0.6  | (16.2)  | 30     | (2.0)  |        |
| 16920                                                                       | 120  | 2408  | 18.2  | 52  | 15.0 | 46    | 12   | 0.0  | 0.4     | (5.2)  | 2      | (0.4)  |
| 16931                                                                       | 4    | 1800  | 32.7  | 169 | 15.0 | 60.7  | 1.5  | 0.5  | (28.7)  | 107    | (4.0)  |        |
| 16932                                                                       | 2    | 1800  | 9.1   | 20  | 15.0 | 1     | 10   | 0.3  | 0.1     | (6.6)  | 31     | (2.5)  |
| 16940                                                                       | 11   | 2143  | 42.2  | 51  | 15.0 | 46    | 16   | 1.7  | 0.5     | (31.2) | 48     | (11.0) |
| 16941                                                                       | 0    | 10000 | 2.0   | 2   | 169  | 5.0   | 51.4 | 0.1  | 0.0     | (2.0)  | 99     | (0.0)  |
| 16942                                                                       | 0    | 10000 | 1.9   | 1   | 5.0  | 48.4  | 0.1  | 0.0  | (1.9)   | 96     | (0.0)  |        |
| 16998                                                                       | 0    | 10000 | 2.1   | 3   | 5.0  | 22    | 28   | 0.1  | 0.0     | (2.1)  | 101    | (0.0)  |
| 16999                                                                       | 0    | 1800  | 7.9   | 39  | 6.7  | 1.6   | 0.0  | 0.3  | (4.6)   | 2      | (3.3)  |        |
| 16999                                                                       | 0    | 1800  | 1.3   | 15  | 15.0 | 1.2   | 0.0  | 0.1  | (1.2)   | 1      | (0.1)  |        |

1196.4 (PCU-H/H) = 72.6 (PCU-H/H) 16.5 (KM/H) 20.0 (PCU-H/H) 25.4 (PCU-H/H) (644.9) + (71.7)

Lion Green Road - Chipstead Valley AM Peak\_v2\_Option 4\_50% ped demand\_v3.prt  
 ROUTE  
 \*\*\*\*\*  
 STOPS TOTALS CRUISE DELAY  
 PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES  
 FUEL CONSUMPTION PREDICTIONS = 120.9 + 52.2 +  
 = 205.8  
 NO. OF ENTRIES TO SUBPT = 12  
 NO. OF LINKS RECALCULATED = 260  
 PROGRAM TRANSYT FINISHED



lion Green Road - Chipstead Val1ey\_pm Peak\_v2-Option 4\_50% ped demand\_v3.prt

| CRUISE NO. | LINK | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | ENTRY 3 FLOW | ENTRY 4 FLOW |
|------------|------|---------------------------|---------------------|------------------|---------------------|--------------|--------------|
| 25)=       | 31   | 3966                      | 39                  | 26               | 1                   | 0            | 0            |
| 0          | 0    | 0                         | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 10   | 0                         | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 31   | 3967                      | 39                  | 17               | 1                   | 0            | 0            |
| 0          | 26)= | 10                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 31   | 3995                      | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 27)= | 200                       | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 28)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 29)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 30)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 31)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 32)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 33)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 34)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 35)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 36)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 37)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 38)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 39)= | 31                        | 0                   | 0                | 0                   | 0            | 0            |

LINK CARDS: FLOW DATA

| CRUISE NO. | LINK | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | ENTRY 3 FLOW | ENTRY 4 FLOW |
|------------|------|---------------------------|---------------------|------------------|---------------------|--------------|--------------|
| 40)=       | 32   | 3910                      | 171                 | 0                | 0                   | 0            | 0            |
| 0          | 0    | 0                         | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 41)= | 32                        | 3911                | 723              | 0                   | 0            | 0            |
| 0          | 42)= | 32                        | 3920                | 189              | 0                   | 0            | 0            |
| 0          | 43)= | 32                        | 3930                | 639              | 0                   | 0            | 0            |
| 0          | 44)= | 32                        | 3940                | 364              | 0                   | 0            | 0            |
| 0          | 45)= | 32                        | 3950                | 19               | 0                   | 0            | 0            |
| 0          | 46)= | 32                        | 3961                | 0                | 0                   | 0            | 0            |
| 0          | 47)= | 32                        | 3962                | 0                | 0                   | 0            | 0            |
| 0          | 48)= | 32                        | 3963                | 0                | 0                   | 0            | 0            |
| 0          | 49)= | 32                        | 3964                | 0                | 0                   | 0            | 0            |
| 0          | 50)= | 32                        | 3965                | 0                | 0                   | 0            | 0            |
| 0          | 51)= | 32                        | 3966                | 0                | 0                   | 0            | 0            |
| 0          | 52)= | 32                        | 3967                | 0                | 0                   | 0            | 0            |
| 0          | 53)= | 32                        | 3995                | 0                | 0                   | 0            | 0            |
| 15         | 54)= | 32                        | 3996                | 0                | 0                   | 0            | 0            |
| 15         | 3930 | 172                       | 15                  | 3930             | 15                  | 129          | 156          |

lion Green Road - Chipstead Val1ey\_pm Peak\_v2-Option 4\_50% ped demand\_v3.prt

| CRUISE NO. | LINK | ENTRY 3 TOTAL CRUISE FLOW | ENTRY 1 CRUISE TIME | ENTRY 2 LINK NO. | ENTRY 4 CRUISE TIME | ENTRY 3 FLOW | ENTRY 4 FLOW |
|------------|------|---------------------------|---------------------|------------------|---------------------|--------------|--------------|
| 55)=       | 32   | 3998                      | 135                 | 0                | 0                   | 0            | 0            |
| 0          | 0    | 0                         | 0                   | 0                | 0                   | 0            | 0            |
| 0          | 56)= | 32                        | 3999                | 670              | 0                   | 0            | 0            |
| 0          | 15   | 3940                      | 96                  | 15               | 3950                | 39           | 480          |
| 0          | 57)= | 32                        | 16910               | 732              | 3911                | 15           | 14           |
| 0          | 21   | 3940                      | 149                 | 23               | 3950                | 21           | 157          |
| 0          | 58)= | 32                        | 16920               | 172              | 0                   | 0            | 0            |
| 0          | 59)= | 32                        | 16931               | 156              | 0                   | 0            | 0            |
| 0          | 60)= | 32                        | 16932               | 613              | 0                   | 0            | 0            |
| 0          | 61)= | 32                        | 16940               | 10               | 0                   | 0            | 0            |
| 0          | 62)= | 32                        | 16941               | 10               | 0                   | 0            | 0            |
| 0          | 63)= | 32                        | 16942               | 10               | 0                   | 0            | 0            |
| 0          | 64)= | 32                        | 16998               | 886              | 0                   | 0            | 0            |
| 0          | 15   | 65)=                      | 32                  | 16999            | 175                 | 0            | 0            |
| 0          | 15   | 3967                      | 0                   | 0                | 0                   | 0            | 0            |

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

104 SECOND CYCLE 104 STEPS  
INITIAL SETTINGS  
(SECONDS)

| NODE NO | STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|---------|-------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39      | 5     | 45               | 69    | 86    | 103   | 14    |       |       |       |       |
| 169     | 3     | 23               | 63    | 6     |       |       |       |       |       |       |

| LINK NO | LINK  | PERFORMANCE INDEX | SAT DEGREE | EXIT PERCENT | MEAN GREEN TIME | MEAN RED TIME | MEAN DELAY | MEAN STOP | MEAN COST |
|---------|-------|-------------------|------------|--------------|-----------------|---------------|------------|-----------|-----------|
| 39      | 171   | 1800              | 22         | 15.0         | 22.2            | 0.9           | 0.1        | 64        | 3.4       |
| 3       | 723   | 2151              | 85         | 15.0         | 42.5            | 5.8           | 2.8        | 100       | 22.4      |
| 22      | 143.7 | 39                | 58         | 98           |                 |               |            |           |           |
| 3920    | 189   | 1800              | 69         | 15.0         | 55.5            | 1.8           | 1.1        | 106       | 6.2       |
| 6       | 47.5  | 39                | 4          | 29           |                 |               |            |           |           |
| 3930    | 639   | 1789              | 133        | 22.8         | 500.1           | 8.0           | 80.7       | 253       | 32.5      |
| 105     | 364   | 1800              | 79         | 15.0         | 50.8            | 3.3           | 1.8        | 107       | 12.0      |
| 3940    | 84.9  | 39                | 4          | 41           |                 |               |            |           |           |
| 12      | 3950  | 1800              | 37         | 15.0         | 103.3           | 0.3           | 0.3        | 142       | 0.8       |
| 1       | 3962  | 101               | 103        | 46.0         | 0.1             | 0.0           | 1.8        | 93        | 0.0       |
| 0       | 3966  | 10                | 10000      | 1.8          | 2               | 39            | 45         | 97        | 0.0       |
| 0       | 3967  | 10                | 10000      | 2.0          | 2               | 39            | 45         | 97        | 0.0       |
| 0       | 3967  | 10                | 10000      | 0.3          | 39              | 86            | 45         | 39        | 0.0       |

Lion Green Road - Chipstead Val11ey\_pm Peak\_v2\_Option 4\_50% ped demand\_v3.prt

|        |       |        |        |       |           |          |       |         |          |        |         |
|--------|-------|--------|--------|-------|-----------|----------|-------|---------|----------|--------|---------|
| 3995   | 42    | 1800   | 2      | 15.0  | 1.0       | 0.0      | + 0.0 | ( 0.2)  | 1        | ( 0.0) |         |
| 0      | 430   | < 1800 | 0.2    | 24    | 15.0      | 1.3      | 0.0   | + 0.2   | ( 2.2)   | 1      | ( 0.2)  |
| 3996   | 0     | 1800   | 2.4    | 9     | 15.0      | 1.1      | 0.0   | + 0.0   | ( 0.7)   | 1      | ( 0.1)  |
| 3998   | 0     | 1800   | 0.7    | 30    | 15.0      | 1.4      | 0.0   | + 0.2   | ( 3.1)   | 1      | ( 0.2)  |
| 3999   | 0     | 1800   | 3.3    | 112   | 20.6      | 269.5    | 10.5  | + 44.3  | ( 779.2) | 219    | ( 17.5) |
| 16910  | 67    | 1655   | 796.7  | 169   | 41        | 81       |       |         |          |        |         |
| 16920  | 172   | 2408   | 19     | 15.0  | 23.6      | 1.0      | + 0.1 | ( 16.0) | 66       | ( 3.5) |         |
| 16931  | 3     | 1800   | 19.5   | 20    | 15.0      | 71.6     | 0.8   | + 0.1   | ( 13.1)  | 62     | ( 3.0)  |
| 16932  | 3     | 1800   | 16.1   | 169   | 41        | 85       | 4.6   | + 1.3   | ( 83.2)  | 89     | ( 16.8) |
| 16940  | 16    | 2143   | 100.0  | 169   | 41        | 81       |       |         |          |        |         |
| 16941  | 0     | 10000  | 2.0    | 2     | 5.0       | 49.8     | 0.1   | + 0.0   | ( 2.0)   | 97     | ( 0.0)  |
| 16942  | 0     | 10000  | 1.9    | 1     | 5.0       | 48.4     | 0.1   | + 0.0   | ( 1.9)   | 96     | ( 0.0)  |
| 16998  | 0     | 10000  | 2.1    | 3     | 5.0       | 53.4     | 0.1   | + 0.0   | ( 2.1)   | 101    | ( 0.0)  |
| 16999  | 5     | 807    | < 1800 | 22.1  | 45        | 6.8      | 0.0   | + 0.4   | ( 6.2)   | 6      | ( 15.9) |
| 0      | 173   | 1800   | 0.8    | 10    | 15.0      | 1.1      | 0.0   | + 0.1   | ( 0.8)   | 1      | ( 0.1)  |
| 0      | 10    | 10000  | 1.8    | 1     | 5.0       | 46.0     | 0.1   | + 0.0   | ( 1.8)   | 93     | ( 0.0)  |
| 0      | 10    | 10000  | 1.1    | 1     | 5.0       | 26.9     | 0.1   | + 0.0   | ( 1.1)   | 98     | ( 0.0)  |
| 0      | 10    | 10000  | 0.6    | 39    | 84        | 86       | 0.0   | + 0.0   | ( 0.6)   | 55     | ( 0.0)  |
| 0      | 10    | 10000  | 0.7    | 39    | 5.0       | 17.4     | 0.0   | + 0.0   | ( 0.7)   | 57     | ( 0.0)  |
| 1183.5 | 197.8 | 6.0    | 37.7   | 133.7 | ( 2433.5) | ( 134.4) |       |         |          |        |         |

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|               |             |         |           |           |           |          |        |        |        |
|---------------|-------------|---------|-----------|-----------|-----------|----------|--------|--------|--------|
| TOTAL         | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL     | TOTAL    | TOTAL  | TOTAL  | TOTAL  |
| PENALTY       | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST      | COST     | COST   | COST   | COST   |
| DISTANCE      | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF        | OF       | OF     | OF     | OF     |
| FOR TRAVELLED | SPENT INDEX |         |           |           |           |          |        |        |        |
| EXCESS        |             |         |           |           |           |          |        |        |        |
| QUEUES        | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)    | (\$/H)   | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H)    | (\$/H)      |         |           |           |           |          |        |        |        |
| 1183.5        | 197.8       | 6.0     | 37.7      | 133.7     | ( 2433.5) | ( 134.4) |        |        |        |

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|                              |                 |                 |                 |
|------------------------------|-----------------|-----------------|-----------------|
| STOPS                        | TOTALS          | CRUISE          | DELAY           |
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS |                 |                 |                 |
| 61.3                         | = 390.7         | 132.1           | + 197.4         |

NO. OF ENTRIES TO SUBRT = 1  
NO. OF LINKS RECALCULATED= 34

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15  
- (SECONDS)

Page 5

Lion Green Road - Chipstead Val11ey\_pm Peak\_v2\_Option 4\_50% ped demand\_v3.prt

|               |             |         |           |           |           |          |        |        |        |        |  |
|---------------|-------------|---------|-----------|-----------|-----------|----------|--------|--------|--------|--------|--|
| 39            | 5           | 60      | 84        | 101       | 14        | 29       |        |        |        |        |  |
| 169           | 3           | 8       | 48        | 95        |           |          |        |        |        |        |  |
| TOTAL         | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL     | TOTAL    | TOTAL  | TOTAL  | TOTAL  | TOTAL  |  |
| PENALTY       | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST      | COST     | COST   | COST   | COST   | COST   |  |
| DISTANCE      | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF        | OF       | OF     | OF     | OF     | OF     |  |
| FOR TRAVELLED | SPENT INDEX |         |           |           |           |          |        |        |        |        |  |
| EXCESS        |             |         |           |           |           |          |        |        |        |        |  |
| QUEUES        | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)    | (\$/H)   | (\$/H) | (\$/H) | (\$/H) | (\$/H) |  |
| (PCU-KM/H)    | (\$/H)      |         |           |           |           |          |        |        |        |        |  |
| 1183.5        | 195.8       | 6.0     | 35.8      | 133.7     | ( 2406.4) | ( 134.5) |        |        |        |        |  |

NO. OF ENTRIES TO SUBRT = 6  
NO. OF LINKS RECALCULATED= 119

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15  
- (SECONDS)

|               |             |         |           |           |           |          |        |        |        |        |  |
|---------------|-------------|---------|-----------|-----------|-----------|----------|--------|--------|--------|--------|--|
| 39            | 5           | 60      | 84        | 101       | 14        | 29       |        |        |        |        |  |
| 169           | 3           | 8       | 48        | 95        |           |          |        |        |        |        |  |
| TOTAL         | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL     | TOTAL    | TOTAL  | TOTAL  | TOTAL  | TOTAL  |  |
| PENALTY       | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST      | COST     | COST   | COST   | COST   | COST   |  |
| DISTANCE      | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF        | OF       | OF     | OF     | OF     | OF     |  |
| FOR TRAVELLED | SPENT INDEX |         |           |           |           |          |        |        |        |        |  |
| EXCESS        |             |         |           |           |           |          |        |        |        |        |  |
| QUEUES        | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)    | (\$/H)   | (\$/H) | (\$/H) | (\$/H) | (\$/H) |  |
| (PCU-KM/H)    | (\$/H)      |         |           |           |           |          |        |        |        |        |  |
| 1183.5        | 195.8       | 6.0     | 35.7      | 133.7     | ( 2405.3) | ( 134.5) |        |        |        |        |  |

NO. OF ENTRIES TO SUBRT = 5  
NO. OF LINKS RECALCULATED= 108

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15  
- (SECONDS)

|               |             |         |           |           |          |          |        |        |        |        |  |
|---------------|-------------|---------|-----------|-----------|----------|----------|--------|--------|--------|--------|--|
| 39            | 5           | 51      | 84        | 101       | 14       | 20       |        |        |        |        |  |
| 169           | 3           | 8       | 76        | 95        |          |          |        |        |        |        |  |
| TOTAL         | TOTAL       | MEAN    | TOTAL     | TOTAL     | TOTAL    | TOTAL    | TOTAL  | TOTAL  | TOTAL  | TOTAL  |  |
| PENALTY       | TIME        | JOURNEY | UNIFORM   | RANDOM+   | COST     | COST     | COST   | COST   | COST   | COST   |  |
| DISTANCE      | PERFORMANCE | SPEED   | DELAY     | OVERSAT   | OF       | OF       | OF     | OF     | OF     | OF     |  |
| FOR TRAVELLED | SPENT INDEX |         |           |           |          |          |        |        |        |        |  |
| EXCESS        |             |         |           |           |          |          |        |        |        |        |  |
| QUEUES        | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (\$/H)   | (\$/H)   | (\$/H) | (\$/H) | (\$/H) | (\$/H) |  |
| (PCU-KM/H)    | (\$/H)      |         |           |           |          |          |        |        |        |        |  |
| 1183.5        | 94.9        | 12.5    | 24.9      | 43.6      | ( 972.8) | ( 114.2) |        |        |        |        |  |

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Lion Green Road - Chipstead Valley\_pm Peak\_v2\_option 4\_50% ped demand\_v3.prt  
 + ( 0.0) = 1087.0 TOTALS

NO. OF ENTRIES TO SUBPT = 46  
 NO. OF LINKS RECALCULATED= 640

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

39 5 51 84 101 14 20  
 169 3 38 2 21

TOTAL TOTAL MEAN TOTAL TOTAL TOTAL TOTAL  
 PENALTY TOTAL JOURNEY UNIFORM RANDOM+ COST COST  
 DISTANCE TIME JOURNEY UNIFORM RANDOM+ COST COST  
 FOR PERFORMANCE JOURNEY UNIFORM RANDOM+ COST COST  
 TRAVELLED SPENT SPEED DELAY OVERSAT OF OF  
 EXCESS INDEX DELAY DELAY DELAY STOPS

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

1183.5 = 84.5 14.0 22.1 36.0 ( 824.7) + ( 95.1)  
 + ( 0.0) = 919.9 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 125

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

39 5 51 84 101 14 20  
 169 3 38 2 21

TOTAL TOTAL MEAN TOTAL TOTAL TOTAL TOTAL  
 PENALTY TOTAL JOURNEY UNIFORM RANDOM+ COST COST  
 DISTANCE TIME JOURNEY UNIFORM RANDOM+ COST COST  
 FOR PERFORMANCE JOURNEY UNIFORM RANDOM+ COST COST  
 TRAVELLED SPENT SPEED DELAY OVERSAT OF OF  
 EXCESS INDEX DELAY DELAY DELAY STOPS

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

1183.5 = 84.1 14.1 22.0 35.6 ( 819.1) + ( 94.8)  
 + ( 0.0) = 913.9 TOTALS

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

39 5 51 84 101 14 20  
 169 3 38 2 21

TOTAL TOTAL MEAN TOTAL TOTAL TOTAL TOTAL  
 PENALTY TOTAL JOURNEY UNIFORM RANDOM+ COST COST  
 DISTANCE TIME JOURNEY UNIFORM RANDOM+ COST COST  
 FOR PERFORMANCE JOURNEY UNIFORM RANDOM+ COST COST  
 TRAVELLED SPENT SPEED DELAY OVERSAT OF OF  
 EXCESS INDEX DELAY DELAY DELAY STOPS

Lion Green Road - Chipstead Valley\_pm Peak\_v2\_option 4\_50% ped demand\_v3.prt  
 + ( 0.0) = 1035.3 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 147

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

39 5 52 84 101 14 21  
 169 3 39 2 22

TOTAL TOTAL MEAN TOTAL TOTAL TOTAL TOTAL  
 PENALTY TOTAL JOURNEY UNIFORM RANDOM+ COST COST  
 DISTANCE TIME JOURNEY UNIFORM RANDOM+ COST COST  
 FOR PERFORMANCE JOURNEY UNIFORM RANDOM+ COST COST  
 TRAVELLED SPENT SPEED DELAY OVERSAT OF OF  
 EXCESS INDEX DELAY DELAY DELAY STOPS

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

1183.5 = 91.8 12.9 22.8 42.6 ( 928.7) + ( 98.1)  
 + ( 0.0) = 1026.7 TOTALS

NO. OF ENTRIES TO SUBPT = 12  
 NO. OF LINKS RECALCULATED= 219

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

39 5 54 86 103 16 23  
 169 3 39 2 22

LINK FLOW SAT DEGREE MEAN TIMES -----DELAY-----  
 NUMBER INTO FLOW OF PERFORM EXIT GREEN TIMES -----STOPS-----  
 MEAN LINK INDEX. SAT NODE START START UNIFORM RANDOM+ COST MEAN COST  
 MAX. AVERAGE WEIGHTED SUM CRUISE OVERSAT OF STOPS OF  
 EXCESS OF ( ) VALUES DELAY (U+R+O=MEAN Q) DELAY /PCU STOPS  
 (PCU) (PCU) (PCU/H) (%) (SEC) (SEC) (SEC) (PCU-H/H) (\$/H) (%) (\$/H)  
 (PCU) (PCU) (\$/H) (SECONDS)

3910 3 171 1800 19 15.0 16.8 0.7 + 0.1 ( 11.4) 55 ( 2.9)  
 14.3 39 68 15









Lion Green Road - Chipstead Valley\_AM Peak\_v2\_option 4\_75% ped demand\_v3.prt  
 + ( 0.0) = 1065.7 TOTALS

NO. OF ENTRIES TO SUBPT = 24  
 NO. OF LINKS RECALCULATED= 443

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

|            |             |         |           |           |           |        |        |        |        |        |        |        |
|------------|-------------|---------|-----------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|
| 39         | 5           | 36      | 75        | 91        | 0         | 14     |        |        |        |        |        |        |
| 169        | 3           | 29      | 99        | 11        |           |        |        |        |        |        |        |        |
| TOTAL      | TOTAL       | TOTAL   | MEAN      | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY |           | UNIFORM   | RANDOM+   | COST   |        |        |        |        |        |        |
| DISTANCE   | PERFORMANCE | SPEED   |           | DELAY     | OVERSAT   | OF     |        |        |        |        |        |        |
| FOR        | SPENT       | INDEX   |           | DELAY     | OF        | STOPS  |        |        |        |        |        |        |
| TRAVELLED  | EXCESS      |         |           |           |           |        |        |        |        |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |           |        |        |        |        |        |        |        |

1196.4 90.2 13.3 21.8 41.3 ( 895.5) + ( 77.8)  
 + ( 0.0) = 973.4 TOTALS

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

|            |             |         |           |           |           |        |        |        |        |        |        |        |
|------------|-------------|---------|-----------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|
| 39         | 5           | 36      | 75        | 91        | 0         | 14     |        |        |        |        |        |        |
| 169        | 3           | 29      | 99        | 11        |           |        |        |        |        |        |        |        |
| TOTAL      | TOTAL       | TOTAL   | MEAN      | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY |           | UNIFORM   | RANDOM+   | COST   |        |        |        |        |        |        |
| DISTANCE   | PERFORMANCE | SPEED   |           | DELAY     | OVERSAT   | OF     |        |        |        |        |        |        |
| FOR        | SPENT       | INDEX   |           | DELAY     | OF        | STOPS  |        |        |        |        |        |        |
| TRAVELLED  | EXCESS      |         |           |           |           |        |        |        |        |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |           |        |        |        |        |        |        |        |

1196.4 90.2 13.3 21.8 41.3 ( 895.5) + ( 77.8)  
 + ( 0.0) = 973.4 TOTALS

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 114

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

|            |             |         |           |           |           |        |        |        |        |        |        |        |
|------------|-------------|---------|-----------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|
| 39         | 5           | 36      | 75        | 91        | 0         | 14     |        |        |        |        |        |        |
| 169        | 3           | 29      | 99        | 11        |           |        |        |        |        |        |        |        |
| TOTAL      | TOTAL       | TOTAL   | MEAN      | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY |           | UNIFORM   | RANDOM+   | COST   |        |        |        |        |        |        |
| DISTANCE   | PERFORMANCE | SPEED   |           | DELAY     | OVERSAT   | OF     |        |        |        |        |        |        |
| FOR        | SPENT       | INDEX   |           | DELAY     | OF        | STOPS  |        |        |        |        |        |        |
| TRAVELLED  | EXCESS      |         |           |           |           |        |        |        |        |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |           |        |        |        |        |        |        |        |

Lion Green Road - Chipstead Valley\_AM Peak\_v2\_option 4\_75% ped demand\_v3.prt  
 + ( 0.0) = 1065.5 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 147

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

|            |             |         |           |           |           |        |        |        |        |        |        |        |
|------------|-------------|---------|-----------|-----------|-----------|--------|--------|--------|--------|--------|--------|--------|
| 39         | 5           | 36      | 75        | 91        | 0         | 14     |        |        |        |        |        |        |
| 169        | 3           | 29      | 99        | 11        |           |        |        |        |        |        |        |        |
| TOTAL      | TOTAL       | TOTAL   | MEAN      | TOTAL     | TOTAL     | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  | TOTAL  |
| PENALTY    | TIME        | JOURNEY |           | UNIFORM   | RANDOM+   | COST   |        |        |        |        |        |        |
| DISTANCE   | PERFORMANCE | SPEED   |           | DELAY     | OVERSAT   | OF     |        |        |        |        |        |        |
| FOR        | SPENT       | INDEX   |           | DELAY     | OF        | STOPS  |        |        |        |        |        |        |
| TRAVELLED  | EXCESS      |         |           |           |           |        |        |        |        |        |        |        |
| QUEUES     | (PCU-H/H)   | (KM/H)  | (PCU-H/H) | (PCU-H/H) | (PCU-H/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) | (\$/H) |
| (PCU-KM/H) | (\$/H)      |         |           |           |           |        |        |        |        |        |        |        |

1196.4 96.5 12.4 22.1 47.2 ( 984.1) + ( 81.7)  
 + ( 0.0) = 1065.8 TOTALS

NO. OF ENTRIES TO SUBPT = 15  
 NO. OF LINKS RECALCULATED= 303

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

|        |         |             |        |                |         |         |         |       |     |     |     |     |
|--------|---------|-------------|--------|----------------|---------|---------|---------|-------|-----|-----|-----|-----|
| 39     | 5       | 46          | 85     | 101            | 10      | 24      |         |       |     |     |     |     |
| 169    | 3       | 29          | 99     | 11             |         |         |         |       |     |     |     |     |
| LINK   | FLOW    | SAT         | DEGREE | MEAN           | TIME    | DELAY   |         |       |     |     |     |     |
| NUMBER | INTO    | PERFORMANCE | EXIT   | PER            | GREEN   | UNIFORM | RANDOM+ | COST  |     |     |     |     |
| MEAN   | INDEX   | INDEX       | PER    | PCU            | START   | START   | START   | START |     |     |     |     |
| MAX.   | AVERAGE | WEIGHTED    | SUM    | CRUISE         | OVERSAT | OF      |         |       |     |     |     |     |
| EXCESS | OF ( )  | VALUES      | DELAY  | (U+R+O=MEAN Q) | DELAY   |         |         |       |     |     |     |     |
| (PCU)  | (PCU/H) | (%)         | (SEC)  | (SEC)          | (SEC)   | (%)     | (%)     | (%)   | (%) | (%) | (%) | (%) |
|        |         |             |        |                |         |         |         |       |     |     |     |     |

| ION   | Green Road - Chitstead | Valley | AM Peak | v2_Option | 4_75% ped | demand_v3  | prt        |
|-------|------------------------|--------|---------|-----------|-----------|------------|------------|
| 3911  | 4/5                    | 2151   | 50      | 15.0      | 24.5      | 2.7 + 0.5  | (46.0)     |
| 3910  | 190                    | 1800   | 91      | 15.0      | 112.1     | 2.3 + 3.6  | (84.0)     |
| 3909  | 9                      | 1789   | 92.8    | 23.0      | 148.0     | 5.5 + 25.7 | (443.2)    |
| 3948  | 48                     | 455.3  | 105     | 39        | 55        | 96         | 186 (20.7) |
| 3950  | 23                     | 1800   | 103     | 15.0      | 166.2     | 4.3 + 12.4 | (237.3)    |
| 3961  | 3                      | 1800   | 79      | 15.0      | 179.9     | 0.6 + 1.5  | (29.1)     |
| 3962  | 0                      | 10000  | 2       | 5.0       | 51.4      | 0.1 + 0.0  | (2.0)      |
| 3963  | 0                      | 10000  | 1       | 10.0      | 44.8      | 0.1 + 0.0  | (1.8)      |
| 3964  | 0                      | 10000  | 0       | 39        | 94        | 0.43       | 47         |
| 3965  | 0                      | 10000  | 0       | 5.0       | 20.5      | 0.1 + 0.0  | (0.8)      |
| 3966  | 0                      | 10000  | 0       | 39        | 7         | 46         | 0.0 + 0.0  |
| 3967  | 0                      | 10000  | 2       | 3.0       | 51.4      | 0.1 + 0.0  | (2.0)      |
| 3995  | 0                      | 1800   | 0.6     | 2         | 101       | 47         | 0.0 + 0.0  |
| 3996  | 1                      | 1800   | 0.2     | 34        | 15.0      | 1.5        | 0.0 + 0.3  |
| 3998  | 0                      | 1800   | 3.9     | 4         | 15.0      | 1.0        | 0.0 + 0.0  |
| 3999  | 0                      | 1800   | 0.3     | 41        | 15.0      | 1.7        | 0.0 + 0.3  |
| 16910 | 603                    | 1655   | 5.2     | 53        | 20.6      | 6.2        | 0.5 + 0.6  |
| 16920 | 7                      | 169    | 16.7    | 47        | 14        | 14         | 0.5 + 0.6  |
| 16931 | 4                      | 258    | 1800    | 35.2      | 169       | 3          | 11         |
| 16932 | 2                      | 749    | 2143    | 40.2      | 169       | 47         | 18         |
| 16940 | 0                      | 10000  | 2.0     | 1         | 169       | 25         | 29         |
| 16941 | 0                      | 10000  | 1.9     | 3         | 169       | 23         | 29         |
| 16942 | 0                      | 10000  | 2.1     | 39        | 6.7       | 1.6        | 0.0 + 0.3  |
| 16998 | 0                      | 1800   | 7.8     | 15        | 15.0      | 1.2        | 0.0 + 0.1  |
| 16999 | 0                      | 1800   | 1.3     | 15        | 15.0      | 1.2        | 0.0 + 0.1  |

1196.4 (PCU-H/H) = 95.2 (PCU-H/H) 12.6 (KM/H) 21.2 (PCU-H/H) 46.8 (PCU-H/H) (966.4) + (81.8)  
 + (0.0) = 1048.2 TOTALS

Lion Green Road - Chitstead Valley AM Peak v2\_Option 4\_75% ped demand\_v3.prt  
 ROUTE  
 \*\*\*\*\*  
 STOPS TOTALS CRUISE DELAY  
 PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES  
 FUEL CONSUMPTION PREDICTIONS = 236.5  
 37.3 + 78.3 +  
 NO. OF ENTRIES TO SUBPT = 14  
 NO. OF LINKS RECALCULATED = 302  
 PROGRAM TRANSYT FINISHED







Lion Green Road - Chipstead Valley\_pm Peak\_v2\_option 4\_75% ped demand\_v3.prt  
 + ( 0.0) = 899.0 TOTALS

NO. OF ENTRIES TO SUBPT = 45  
 NO. OF LINKS RECALCULATED= 625

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15  
 - (SECONDS)

39 5 29 63 75 92 6  
 169 3 61 25 44

|           |             |         |         |         |       |       |       |
|-----------|-------------|---------|---------|---------|-------|-------|-------|
| TOTAL     | TOTAL       | MEAN    | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY | UNIFORM | RANDOM+ | COST  | COST  |       |
| DISTANCE  | PERFORMANCE | SPEED   | DELAY   | OVERSAT | OF    | OF    |       |
| FOR       | SPENT       | INDEX   | DELAY   | DELAY   | STOPS | STOPS |       |
| TRAVELLED | EXCESS      |         |         |         |       |       |       |

QUEUES (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1183.5 = 79.1 15.0 24.9 27.8 ( 748.9) + ( 96.6)

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED= 134

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41  
 - (SECONDS)

39 5 70 0 12 29 47  
 169 3 61 25 44

|           |             |         |         |         |       |       |       |
|-----------|-------------|---------|---------|---------|-------|-------|-------|
| TOTAL     | TOTAL       | MEAN    | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY | UNIFORM | RANDOM+ | COST  | COST  |       |
| DISTANCE  | PERFORMANCE | SPEED   | DELAY   | OVERSAT | OF    | OF    |       |
| FOR       | SPENT       | INDEX   | DELAY   | DELAY   | STOPS | STOPS |       |
| TRAVELLED | EXCESS      |         |         |         |       |       |       |

QUEUES (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1183.5 = 76.5 15.5 22.3 27.8 ( 712.3) + ( 88.2)

NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED= 116

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1  
 - (SECONDS)

39 5 70 0 12 29 47  
 169 3 61 25 44

|           |             |         |         |         |       |       |       |
|-----------|-------------|---------|---------|---------|-------|-------|-------|
| TOTAL     | TOTAL       | MEAN    | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY | UNIFORM | RANDOM+ | COST  | COST  |       |
| DISTANCE  | PERFORMANCE | SPEED   | DELAY   | OVERSAT | OF    | OF    |       |
| FOR       | SPENT       | INDEX   | DELAY   | DELAY   | STOPS | STOPS |       |
| TRAVELLED | EXCESS      |         |         |         |       |       |       |

Lion Green Road - Chipstead Valley\_pm Peak\_v2\_option 4\_75% ped demand\_v3.prt  
 + ( 0.0) = 899.0 TOTALS

NO. OF ENTRIES TO SUBPT = 45  
 NO. OF LINKS RECALCULATED= 625

104 SECOND CYCLE 104 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 15 41 -1 15 41 1 -1  
 - (SECONDS)

39 5 70 0 12 29 47  
 169 3 61 25 44

|           |             |         |         |         |       |       |       |
|-----------|-------------|---------|---------|---------|-------|-------|-------|
| TOTAL     | TOTAL       | MEAN    | TOTAL   | TOTAL   | TOTAL | TOTAL | TOTAL |
| PENALTY   | TIME        | JOURNEY | UNIFORM | RANDOM+ | COST  | COST  |       |
| DISTANCE  | PERFORMANCE | SPEED   | DELAY   | OVERSAT | OF    | OF    |       |
| FOR       | SPENT       | INDEX   | DELAY   | DELAY   | STOPS | STOPS |       |
| TRAVELLED | EXCESS      |         |         |         |       |       |       |

QUEUES (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1183.5 = 79.6 14.9 22.5 30.7 ( 755.9) + ( 89.5)

NO. OF ENTRIES TO SUBPT = 16  
 NO. OF LINKS RECALCULATED= 326

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

39 5 77 7 19 36 54  
 169 3 61 25 44

|        |         |              |        |                |       |           |         |        |       |        |
|--------|---------|--------------|--------|----------------|-------|-----------|---------|--------|-------|--------|
| LINK   | FLOW    | SAT          | DEGREE | MEAN           | TIMES | DELAY     | END     | END    | MEAN  | STOPS  |
| NUMBER | INTO    | PERFORMANCE  | EXIT   | PER            | GREEN | UNIFORM   | RANDOM+ | COST   | MEAN  | COST   |
| MEAN   | LINK    | INDEX        | PER    | PCU            | START | START     | START   | START  | STOPS | OF     |
| MAX.   | AVERAGE | WEIGHTED SUM | CRUISE | OVERSAT        | OF    | OF        | OF      | OF     | OF    | OF     |
| EXCESS | OF ( )  | VALUES       | DELAY  | (U+R+O=MEAN Q) | DELAY | 1ST       | 2ND     | DELAY  | PCU   | STOPS  |
| (PCU)  | (PCU/H) | (%)          | (SEC)  | (SEC)          | (SEC) | (PCU-H/H) | (%)     | (\$/H) | (%)   | (\$/H) |
|        |         |              |        |                |       |           |         |        |       |        |

EXCESS OF ( ) VALUES (PCU) (PCU) (PCU) (PCU) (PCU) (PCU) (PCU) (PCU) (PCU) (PCU) (PCU)  
 3910 3 171 1800 15.7 20 15.0 18.7 0.8 + 0.1 ( 12.6) 58 ( 3.1)

NO. OF ENTRIES TO SUBPT = 16  
 NO. OF LINKS RECALCULATED= 326

104 SECOND CYCLE 104 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 15 41 -1 15 41 1 -1 1  
 - (SECONDS)

39 5 77 7 19 36 54  
 169 3 61 25 44

|        |         |              |        |                |       |           |         |        |       |        |
|--------|---------|--------------|--------|----------------|-------|-----------|---------|--------|-------|--------|
| LINK   | FLOW    | SAT          | DEGREE | MEAN           | TIMES | DELAY     | END     | END    | MEAN  | STOPS  |
| NUMBER | INTO    | PERFORMANCE  | EXIT   | PER            | GREEN | UNIFORM   | RANDOM+ | COST   | MEAN  | COST   |
| MEAN   | LINK    | INDEX        | PER    | PCU            | START | START     | START   | START  | STOPS | OF     |
| MAX.   | AVERAGE | WEIGHTED SUM | CRUISE | OVERSAT        | OF    | OF        | OF      | OF     | OF    | OF     |
| EXCESS | OF ( )  | VALUES       | DELAY  | (U+R+O=MEAN Q) | DELAY | 1ST       | 2ND     | DELAY  | PCU   | STOPS  |
| (PCU)  | (PCU/H) | (%)          | (SEC)  | (SEC)          | (SEC) | (PCU-H/H) | (%)     | (\$/H) | (%)   | (\$/H) |
|        |         |              |        |                |       |           |         |        |       |        |

| QUEUES  | (PCU-KM/H)<br>(\$/H) | (PCU-H/H)<br>(\$/H) | (KM/H) | (PCU-H/H)<br>(\$/H) | (PCU-H/H)<br>(\$/H) | DELAY | OVERSAT | OF | DELAY | STOPS    |
|---------|----------------------|---------------------|--------|---------------------|---------------------|-------|---------|----|-------|----------|
| 1183.5  | 79.0                 | 15.0                | 22.0   | 30.6                | ( 747.6 )           | +     |         |    |       | ( 91.6 ) |
| ( 0.0 ) | 839.2                | TOTALS              |        |                     |                     |       |         |    |       |          |

Lion Green Road - Chipstead Valley\_Pm Peak\_v2\_Option 4\_75% ped demand\_v3.prt  
ROUTE

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| STOPS                        | TOTALS          | CRUISE          | DELAY           |
|------------------------------|-----------------|-----------------|-----------------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 137.1           | +               | 60.9            |
| 41.8                         | =               | 234.7           | +               |

NO. OF ENTRIES TO SUBPT = 11  
NO. OF LINKS RECALCULATED= 241  
PROGRAM TRANSYT FINISHED

Analysis Program Release 7 (July 2010)  
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-----  
 THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
 IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION  
 -----

Run with file:- "LION GREEN ROAD - CHIPSTEAD VALLEY AM PEAK\_V10\_OPTION 3.DAT"  
 at 14:27 on 20110722

TRANSYT 12.0

PARAMETERS CONTROLLING DIMENSIONS OF PROBLEM :

NUMBER OF NODES = 24  
 NUMBER OF LINKS = 2  
 MAXIMUM NUMBER OF GRAPHIC PLOTS = 0  
 NUMBER OF STEPS IN CYCLE = 94  
 MAXIMUM NUMBER OF SHARED STOPLINES = 0  
 MAXIMUM NUMBER OF TIMING POINTS = 5  
 MAXIMUM LINKS AT ANY NODE = 11

CORE REQUESTED = 8818 WORDS  
 CORE AVAILABLE = 72000 WORDS

DATA INPUT :-

CARD NO. TYPE  
 ( 1 ) = TITLE :-  
 CARD CRUISE- SPEEDS OPTIMISE EXTRA HILL- DELAY STOP  
 NO. TYPE TIME STEPS PERIOD DISPLACEMENTS SETTINGS CYCLE SCALE  
 SCALE CARD32 0=NONE COPIES CLIMB VALUE 0=NO 1=EQUAL 10-200  
 50-200 0=TIMES 1=0/SET FINAL OUTPUT P PER P PER 1=VES CYCLE %  
 % 1=SPEEDS 2=FULL 94 0 0 1420 260 3 1 1 100  
 2)= 1 94 0 0 1420 260 3 1 1 100  
 100 CARD CARD  
 OPTIMISED NO. TYPE 2 39 169 0 0 0 0 0 0 0 0 0 0 0 0

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) | S4 | S5 | S6 |
|----------|-----------|----------|-------|-------------------------------|----|----|----|
| 0        |           | 0        |       | 0                             | 0  | 0  | 0  |
| S7       | S8        | S9       | S10   | S1                            | S2 | S3 | S4 |
| NO. 10   | TYPE 10   | NO. 39   |       | 7                             | 5  | 3  | 7  |
| 4)= 10   |           |          |       |                               |    |    |    |
| 5)= 10   |           | 169      |       |                               |    |    | 0  |

| (WORKING) | CARD NO. | CARD TYPE | NODE NO. | STAGE | PRECEDING INTERSTAGE TIMES | S1 | S2 | S3 | S4 | S5 | S6 |
|-----------|----------|-----------|----------|-------|----------------------------|----|----|----|----|----|----|
| S7        | S8       | S9        | S10      | S1    | S2                         | S3 | S4 | S5 | S6 |    |    |
| NO. 7)    | TYPE 11  | NO. 169   |          | 10    | 9                          | 10 | 5  | 0  |    |    |    |

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) | S1 | S2 | S3 | S4 | S5 | S6 |
|----------|-----------|----------|-------|-------------------------------|----|----|----|----|----|----|
| S7       | S8        | S9       | S10   | S1                            | S2 | S3 | S4 | S5 | S6 |    |
| NO. 8)=  | TYPE 12   | NO. 39   |       | 25                            | 65 | 79 | 92 | 14 |    |    |
| 9)= 12   |           | 169      |       | 5                             | 64 | 81 |    |    |    |    |

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | STOP NO. | PRIORITY LINKS | LINK1 LINK2 | LINK1 ONLY | LINK2 ONLY | LINK1 GIVEWAY | LINK2 GIVEWAY | LINK1 COEFFS | LINK2 COEFFS | LINK1 DATA | LINK2 DATA |
|----------|-----------|----------|-------------|----------|----------------|-------------|------------|------------|---------------|---------------|--------------|--------------|------------|------------|
| 10)=     | 30        | 0        | 200         | 0        | 1000           | 0           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
| 11)=     | 30        | 0        | 3920        | 0        | 3940           | 0           | 94         | 0          | 50            | 0             | 0            | 0            | 0          | 0          |
| 12)=     | 30        | 0        | 200         | 0        | 1000           | 0           | 0          | 0          | 50            | 0             | 0            | 0            | 0          | 0          |
| 13)=     | 30        | 0        | 3940        | 0        | 3920           | 0           | 71         | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 200         | 0        | 1000           | 0           | 0          | 100        | 0             | 50            | 0            | 0            | 0          | 0          |
|          |           | 0        | 16931       | 0        | 16910          | 0           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 200         | 0        | 1000           | 0           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | STOP NO. | PRIORITY LINKS | LINK1 LINK2 | LINK1 ONLY | LINK2 ONLY | LINK1 GIVEWAY | LINK2 GIVEWAY | LINK1 COEFFS | LINK2 COEFFS | LINK1 DATA | LINK2 DATA |
|----------|-----------|----------|-------------|----------|----------------|-------------|------------|------------|---------------|---------------|--------------|--------------|------------|------------|
| 14)=     | 31        | 0        | 3910        | 39       | 1800           | 2           | 5          | 3          | 13            | 0             | 0            | 0            | 0          | 0          |
| 15)=     | 31        | 0        | 3911        | 39       | 1800           | 1           | 10         | 0          | 4             | 0             | 0            | 0            | 0          | 0          |
| 16)=     | 31        | 0        | 200         | 0        | 1000           | 4           | 5          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
| 17)=     | 31        | 0        | 3920        | 39       | 2151           | 4           | 5          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 200         | 0        | 1800           | 1           | 8          | 0          | 10            | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3930        | 39       | 1789           | 0           | 5          | 0          | 4             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 161         | 0        | 1800           | 3           | 10         | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3940        | 39       | 1800           | 4           | 10         | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 200         | 0        | 1000           | 3           | 8          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3950        | 39       | 1800           | 2           | 9          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3963        | 39       | 10000          | 2           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 10          | 0        | 10000          | 3           | 10         | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3964        | 39       | 10000          | 1           | 8          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 10          | 0        | 10000          | 1           | 8          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3965        | 39       | 10000          | 2           | 8          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 10          | 0        | 10000          | 2           | 5          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3966        | 39       | 10000          | 2           | 5          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 10          | 0        | 10000          | 2           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 3967        | 39       | 10000          | 2           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |
|          |           | 0        | 10          | 0        | 10000          | 2           | 0          | 0          | 0             | 0             | 0            | 0            | 0          | 0          |

Lion Green Road - Chipstead Valley\_AM Peak\_V10\_Option 3.prt

| CARD NO. | CARD LINK | ENTRY 3 TOTAL CRUISE LINK | ENTRY 1 CRUISE LINK | ENTRY 2 CRUISE LINK | ENTRY 4 CRUISE LINK | LINK CARDS: FLOW DATA |
|----------|-----------|---------------------------|---------------------|---------------------|---------------------|-----------------------|
| 25)=     | 31        | 3995                      | 0                   | 0                   | 0                   | 0                     |
| 26)=     | 31        | 3996                      | 0                   | 0                   | 0                   | 0                     |
| 27)=     | 31        | 3998                      | 0                   | 0                   | 0                   | 0                     |
| 28)=     | 31        | 3999                      | 0                   | 0                   | 0                   | 0                     |
| 29)=     | 31        | 16910                     | 169                 | 18                  | 2                   | 0                     |
| 30)=     | 31        | 16920                     | 169                 | 8                   | 3                   | 0                     |
| 31)=     | 31        | 16931                     | 169                 | 18                  | 2                   | 0                     |
| 32)=     | 31        | 16932                     | 169                 | 18                  | 2                   | 0                     |
| 33)=     | 31        | 16940                     | 169                 | 14                  | 1                   | 0                     |
| 34)=     | 31        | 16941                     | 169                 | 12                  | 1                   | 0                     |
| 35)=     | 31        | 16942                     | 169                 | 15                  | 1                   | 0                     |
| 36)=     | 31        | 16998                     | 0                   | 0                   | 0                   | 0                     |
| 37)=     | 31        | 16999                     | 0                   | 0                   | 0                   | 0                     |

.....

| CARD NO. | CARD LINK | ENTRY 3 TOTAL CRUISE LINK | ENTRY 1 CRUISE LINK | ENTRY 2 CRUISE LINK | ENTRY 4 CRUISE LINK | LINK CARDS: FLOW DATA |
|----------|-----------|---------------------------|---------------------|---------------------|---------------------|-----------------------|
| 38)=     | 32        | 3910                      | 213                 | 0                   | 0                   | 0                     |
| 39)=     | 32        | 3911                      | 475                 | 0                   | 0                   | 0                     |
| 40)=     | 32        | 3920                      | 167                 | 0                   | 0                   | 0                     |
| 41)=     | 32        | 3930                      | 782                 | 0                   | 0                   | 0                     |
| 42)=     | 32        | 3940                      | 362                 | 0                   | 0                   | 0                     |
| 43)=     | 32        | 3950                      | 41                  | 0                   | 0                   | 0                     |
| 44)=     | 32        | 3963                      | 0                   | 0                   | 0                   | 0                     |
| 45)=     | 32        | 3964                      | 0                   | 0                   | 0                   | 0                     |
| 46)=     | 32        | 3965                      | 0                   | 0                   | 0                   | 0                     |
| 47)=     | 32        | 3966                      | 0                   | 0                   | 0                   | 0                     |
| 48)=     | 32        | 3967                      | 0                   | 0                   | 0                   | 0                     |
| 49)=     | 32        | 3995                      | 0                   | 0                   | 0                   | 0                     |
| 50)=     | 32        | 3996                      | 0                   | 0                   | 0                   | 0                     |
| 51)=     | 32        | 3998                      | 0                   | 0                   | 0                   | 0                     |
| 52)=     | 32        | 3999                      | 0                   | 0                   | 0                   | 0                     |
| 53)=     | 32        | 16910                     | 169                 | 18                  | 2                   | 0                     |
| 54)=     | 32        | 16920                     | 169                 | 8                   | 3                   | 0                     |

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Lion Green Road - Chipstead Valley\_AM Peak\_V10\_Option 3.prt

| STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|-------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 55)=  | 32               | 16931 | 238   | 0     | 0     | 0     | 0     | 0     | 0     |
| 56)=  | 32               | 16932 | 749   | 0     | 0     | 0     | 0     | 0     | 0     |
| 57)=  | 32               | 16940 | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| 58)=  | 32               | 16941 | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| 59)=  | 32               | 16942 | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| 60)=  | 32               | 16998 | 708   | 0     | 0     | 0     | 0     | 0     | 0     |
| 61)=  | 32               | 16999 | 269   | 0     | 0     | 0     | 0     | 0     | 0     |

94 SECOND CYCLE 94 STEPS  
INITIAL SETTINGS  
- (SECONDS)

| NODE STAGE | NUMBER OF STAGES | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE | STAGE |
|------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 39         | 5                | 25    | 63    | 77    | 90    | 25    |       |       |       |
| 169        | 3                | 5     | 64    | 81    |       |       |       |       |       |

| LINK NUMBER MEAN | FLOW INTO | SAT PERFORMANCE INDEX | DEGREE OF SAT | MEAN EXIT PER NODE | TIMES GREEN PER CRUISE | UNIFORM START | RANDOM+ START | COST | STOPS   | OF  |
|------------------|-----------|-----------------------|---------------|--------------------|------------------------|---------------|---------------|------|---------|-----|
| 3910             | 213       | 1800                  | 38.1          | 48                 | 15.0                   | 38.3          | 1.8           | 0.5  | (32.2)  | 91  |
| 3911             | 475       | 2151                  | 72.3          | 63                 | 15.0                   | 31.8          | 3.4           | 0.8  | (59.6)  | 87  |
| 3920             | 167       | 1800                  | 28.4          | 43                 | 15.0                   | 36.3          | 1.3           | 0.4  | (23.9)  | 87  |
| 3930             | 782       | 1789                  | 100           | 39                 | 23.0                   | 86.2          | 4.4           | 14.4 | (266.0) | 154 |
| 3940             | 362       | 1800                  | 276.5         | 94                 | 15.0                   | 85.8          | 3.4           | 5.2  | (122.6) | 143 |
| 3950             | 41        | 1800                  | 138.5         | 54                 | 15.0                   | 93.1          | 0.5           | 0.6  | (15.1)  | 141 |
| 3963             | 0         | 10000                 | 16.8          | 2                  | 5.0                    | 44.5          | 0.1           | 0.0  | (1.8)   | 96  |
| 3964             | 0         | 10000                 | 1.8           | 0                  | 39                     | 72            | 0.1           | 0.0  | (0.8)   | 65  |
| 3965             | 0         | 10000                 | 0.8           | 0                  | 39                     | 87            | 0.1           | 0.0  | (0.5)   | 52  |
| 3966             | 0         | 10000                 | 0.5           | 0                  | 39                     | 33            | 0.1           | 0.0  | (1.7)   | 95  |
| 3967             | 0         | 10000                 | 1.7           | 1                  | 39                     | 71            | 0.1           | 0.0  | (0.4)   | 45  |
| 3995             | 0         | 10000                 | 0.4           | 2                  | 15.0                   | 68            | 0.0           | 0.0  | (0.2)   | 1   |
| 3996             | 0         | 1800                  | 0.2           | 34                 | 15.0                   | 1.5           | 0.0           | 0.3  | (3.7)   | 2   |

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Lion Green Road - Chipstead Valley AM Peak\_v10\_option 3.prt  
 3998 71 1800 0.3 4 15.0 1.0 0.0 + 0.0 ( 0.3) 1 ( 0.0)  
 0 3999 762 1800 0.3 42 15.0 1.7 0.0 + 0.4 ( 5.2) 2 ( 0.4)  
 0 16910 606 1655 5.6 56 20.6 6.1 0.4 + 0.6 ( 14.5) 32 ( 2.1)  
 8 16920 143 2408 16.6 169 23 83 1.6 + 0.6 ( 31.4) 108 ( 4.8)  
 4 16931 258 1800 36.2 169 72 81 1.6 + 0.1 ( 7.2) 35 ( 2.8)  
 2 16932 749 1800 9.9 169 23 87 0.4 + 0.1 ( 7.2) 35 ( 2.8)  
 11 16933 2143 46.8 54 15.0 11.7 1.9 + 0.6 ( 34.6) 53 ( 12.2)  
 10 16940 10 10000 1.8 2 169 23 83 0.1 + 0.0 ( 1.8) 98 ( 0.0)  
 0 16941 10 10000 1.8 1 169 1 5.0 43.2 0.1 + 0.0 ( 1.7) 95 ( 0.0)  
 0 16942 10 10000 1.7 2 169 93 5.0 47.9 0.1 + 0.0 ( 1.9) 100 ( 0.0)  
 0 16998 708 1800 1.9 39 6.7 1.6 0.0 + 0.3 ( 4.6) 2 ( 3.5)  
 0 16999 269 1800 8.1 15 15.0 1.2 0.0 + 0.1 ( 1.2) 1 ( 0.1)  
 0

TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST  
 QUEUES (PCU-KM/H) (\$/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1199.9 ( 0.0) = 71.8 16.7 19.6 24.9 ( 632.8) + ( 77.7)  
 + ( 0.0) = 710.4 TOTALS

\*\*\*\*\*  
 STOPS TOTALS CRUISE DELAY  
 PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES  
 FUEL CONSUMPTION PREDICTIONS = 121.2 + 51.2 +  
 35.4 = 207.8  
 NO. OF ENTRIES TO SUBPT = 1  
 NO. OF LINKS RECALCULATED = 34

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14  
 - (SECONDS)

| TOTAL PENALTY DISTANCE FOR TRAVELLED EXCESS | TOTAL TIME SPENT INDEX | MEAN JOURNEY SPEED | TOTAL UNIFORM DELAY | TOTAL RANDOM+ OVERSAT | TOTAL COST OF | TOTAL COST OF | TOTAL STOPS |
|---------------------------------------------|------------------------|--------------------|---------------------|-----------------------|---------------|---------------|-------------|
| 39                                          | 5                      | 25                 | 63                  | 77                    | 90            | 25            |             |
| 169                                         | 3                      | 5                  | 64                  | 81                    |               |               |             |

Lion Green Road - Chipstead Valley AM Peak\_v10\_option 3.prt  
 (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H)  
 1199.9 ( 0.0) = 73.8 16.3 19.7 26.8 ( 660.9) + ( 79.4)  
 + ( 0.0) = 740.2 TOTALS

NO. OF ENTRIES TO SUBPT = 6  
 NO. OF LINKS RECALCULATED = 137

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37  
 - (SECONDS)

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1  
 - (SECONDS)

| TOTAL PENALTY DISTANCE FOR TRAVELLED EXCESS | TOTAL TIME SPENT INDEX | MEAN JOURNEY SPEED | TOTAL UNIFORM DELAY | TOTAL RANDOM+ OVERSAT | TOTAL COST OF | TOTAL COST OF | TOTAL STOPS |
|---------------------------------------------|------------------------|--------------------|---------------------|-----------------------|---------------|---------------|-------------|
| 39                                          | 5                      | 24                 | 63                  | 77                    | 90            | 14            |             |
| 169                                         | 3                      | 5                  | 64                  | 81                    |               |               |             |

NO. OF ENTRIES TO SUBPT = 8  
 NO. OF LINKS RECALCULATED = 173

QUEUES (PCU-KM/H) (\$/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1199.9 ( 0.0) = 68.4 17.5 19.9 21.3 ( 584.6) + ( 77.2)  
 + ( 0.0) = 661.8 TOTALS

| TOTAL PENALTY DISTANCE FOR TRAVELLED EXCESS | TOTAL TIME SPENT INDEX | MEAN JOURNEY SPEED | TOTAL UNIFORM DELAY | TOTAL RANDOM+ OVERSAT | TOTAL COST OF | TOTAL COST OF | TOTAL STOPS |
|---------------------------------------------|------------------------|--------------------|---------------------|-----------------------|---------------|---------------|-------------|
| 39                                          | 5                      | 38                 | 77                  | 91                    | 10            | 28            |             |





Analysis Program Release 7 (July 2010)  
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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
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Run with file: - "LION GREEN ROAD - CHIPSTEAD VALLEY\_pm PEAK\_v9\_OPTION 3.DAT"  
 at 14:27 on 20110722

TRANSYT 12.0

PARAMETERS CONTROLLING DIMENSIONS OF PROBLEM :

NUMBER OF NODES = 2  
 NUMBER OF LINKS = 24  
 NUMBER OF OPTIMISED NODES = 2  
 MAXIMUM NUMBER OF GRAPHIC PLOTS = 0  
 NUMBER OF STEPS IN CYCLE = 94  
 MAXIMUM NUMBER OF SHARED STOPLINES = 0  
 MAXIMUM NUMBER OF TIMING POINTS = 5  
 MAXIMUM LINKS AT ANY NODE = 11

CORE REQUESTED = 8818 WORDS  
 CORE AVAILABLE = 72000 WORDS

DATA INPUT :-

CARD NO. TYPE  
 ( 1 ) = TITLE :-  
 CARD CRUISE- SPEEDS OPTIMISE EXTRA HILL- DELAY STOP  
 NO. TYPE TIME STEPS PERIOD DISPLACEMENTS SETTINGS CYCLE SCALE  
 SCALE CARD32 0=NONE COPIES CLIMB VALUE 0=NO 1=EQUAL 10-200  
 50-200 0=TIMES 1=0/SET FINAL OUTPUT P PER P PER 1=VES CYCLE %  
 % 1=SPEEDS 2=FULL 94 0 0 1420 3 1 1 100  
 2)= 1 94 0 0 260 LIST OF NODES TO BE  
 100 CARD CARD OPTIMISED  
 NO. TYPE 2 39 169 0 0 0 0 0 0 0

Lion Green Road - Chipstead Valley\_pm Peak\_v9\_Option 3.prt

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) | S6 |
|----------|-----------|----------|-------|-------------------------------|----|
| 0        |           | 0        |       | 0                             |    |
| S7       | S8        | S9       | S10   | S1                            | S2 |
| NO. 10   | TYPE 10   | NO. 39   |       | 7                             | 4  |
| 4)= 10   |           |          |       | 7                             | 7  |
| 5)= 10   |           | 169      |       | 3                             | 3  |

(WORKING) NODE CARDS: PRECEDING INTERSTAGE TIMES

| CARD NO. | CARD TYPE | NODE NO. | STAGE | MINIMUM STAGE TIMES (WORKING) | S6 |
|----------|-----------|----------|-------|-------------------------------|----|
| S7       | S8        | S9       | S10   | S1                            | S2 |
| NO. 8)   | TYPE 11   | NO. 39   |       | 8                             | 9  |
| 9)= 12   |           | 169      |       | 18                            | 8  |
|          |           |          |       | 8                             | 8  |
|          |           |          |       | 14                            | 14 |

NODE CARDS: STAGE CHANGE TIMES (WORKING)

| CARD NO. | CARD TYPE | NODE NO. | STAGE | CHANGE TIMES (WORKING) | S6 |
|----------|-----------|----------|-------|------------------------|----|
| S7       | S8        | S9       | S10   | S1                     | S2 |
| NO. 8)   | TYPE 12   | NO. 39   |       | 86                     | 29 |
| 9)= 12   |           | 169      |       | 70                     | 34 |
|          |           |          |       | 42                     | 53 |
|          |           |          |       | 55                     | 75 |

LINK CARDS: GIVEWAY DATA

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | WT.X100 | STOP NO. | SAT FLOW | START DELAY | DISPNS | LINK CARDS: GIVEWAY DATA |
|----------|-----------|----------|-------------|---------|----------|----------|-------------|--------|--------------------------|
| 10)=     | 30        | 0        | 200         | 0       | 0        | 1000     | 0           | 0      | 0                        |
| 11)=     | 30        | 0        | 3920        | 0       | 0        | 3940     | 91          | 0      | 0                        |
| 12)=     | 30        | 0        | 200         | 0       | 0        | 1000     | 0           | 0      | 0                        |
| 13)=     | 30        | 0        | 3940        | 0       | 0        | 3920     | 59          | 0      | 0                        |
|          | 0         | 0        | 200         | 0       | 0        | 1000     | 0           | 0      | 0                        |
|          | 0         | 0        | 16931       | 16910   | 0        | 1000     | 100         | 0      | 0                        |
|          | 0         | 0        | 200         | 0       | 0        | 1000     | 0           | 0      | 0                        |

PRIORITY LINKS LINK1 LINK2 LINK1 ONLY LINK2 ONLY LINK1 GIVEWAY COEFFS LINK CARDS: GIVEWAY DATA

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | WT.X100 | STOP NO. | SAT FLOW | START DELAY | DISPNS | LINK CARDS: GIVEWAY DATA |
|----------|-----------|----------|-------------|---------|----------|----------|-------------|--------|--------------------------|
| 14)=     | 31        | 0        | 3910        | 39      | 2        | 1800     | 5           | 14     | 0                        |
| 15)=     | 31        | 0        | 3911        | 0       | 1        | 2151     | 8           | 5      | 0                        |
| 16)=     | 31        | 0        | 200         | 0       | 39       | 1800     | 5           | 0      | 0                        |
| 17)=     | 31        | 0        | 200         | 0       | 39       | 1800     | 5           | 0      | 0                        |
| 18)=     | 31        | 0        | 161         | 0       | 1789     | 0        | 0           | 4      | 0                        |
| 19)=     | 31        | 0        | 3940        | 0       | 1800     | 0        | 0           | 0      | 0                        |
| 20)=     | 31        | 0        | 200         | 0       | 39       | 1800     | 10          | 0      | 0                        |
| 21)=     | 31        | 0        | -3963       | 0       | 1800     | 2        | 9           | 2      | 0                        |
| 22)=     | 31        | 0        | -3964       | 0       | 10000    | 3        | 10          | 0      | 0                        |
| 23)=     | 31        | 0        | -3965       | 0       | 10000    | 1        | 8           | 0      | 0                        |
| 24)=     | 31        | 0        | 3966        | 0       | 10000    | 2        | 8           | 0      | 0                        |
|          | 0         | 0        | 10          | 0       | 10000    | 2        | 5           | 0      | 0                        |
|          | 0         | 0        | 3967        | 0       | 10000    | 2        | 5           | 0      | 0                        |

LINK CARDS: GIVEWAY DATA

| CARD NO. | CARD TYPE | LINK NO. | LINK LENGTH | WT.X100 | STOP NO. | SAT FLOW | START DELAY | DISPNS | LINK CARDS: GIVEWAY DATA |
|----------|-----------|----------|-------------|---------|----------|----------|-------------|--------|--------------------------|
| 14)=     | 31        | 0        | 3910        | 39      | 2        | 1800     | 5           | 14     | 0                        |
| 15)=     | 31        | 0        | 3911        | 0       | 1        | 2151     | 8           | 5      | 0                        |
| 16)=     | 31        | 0        | 200         | 0       | 39       | 1800     | 5           | 0      | 0                        |
| 17)=     | 31        | 0        | 200         | 0       | 39       | 1800     | 5           | 0      | 0                        |
| 18)=     | 31        | 0        | 161         | 0       | 1789     | 0        | 0           | 4      | 0                        |
| 19)=     | 31        | 0        | 3940        | 0       | 1800     | 0        | 0           | 0      | 0                        |
| 20)=     | 31        | 0        | 200         | 0       | 39       | 1800     | 10          | 0      | 0                        |
| 21)=     | 31        | 0        | -3963       | 0       | 1800     | 2        | 9           | 2      | 0                        |
| 22)=     | 31        | 0        | -3964       | 0       | 10000    | 3        | 10          | 0      | 0                        |
| 23)=     | 31        | 0        | -3965       | 0       | 10000    | 1        | 8           | 0      | 0                        |
| 24)=     | 31        | 0        | 3966        | 0       | 10000    | 2        | 8           | 0      | 0                        |
|          | 0         | 0        | 10          | 0       | 10000    | 2        | 5           | 0      | 0                        |
|          | 0         | 0        | 3967        | 0       | 10000    | 2        | 5           | 0      | 0                        |

LINK CARDS: FLOW DATA

| ENTRY 1    | ENTRY 2  | ENTRY 3           | ENTRY 4     |
|------------|----------|-------------------|-------------|
| CRUISE NO. | LINK NO. | TOTAL CRUISE FLOW | CRUISE TIME |
| 25)= 31    | 3995     | 0                 | 0           |
| 26)= 31    | 3996     | 0                 | 0           |
| 27)= 31    | 3998     | 0                 | 0           |
| 28)= 31    | 3999     | 0                 | 0           |
| 29)= 31    | 16910    | 169               | 18          |
| 30)= 31    | 16920    | 169               | 3           |
| 31)= 31    | 16931    | 169               | 22          |
| 32)= 31    | 200      | 169               | 18          |
| 33)= 31    | 16940    | 169               | 1           |
| 34)= 31    | 16941    | 169               | 0           |
| 35)= 31    | 16942    | 169               | 0           |
| 36)= 31    | 16998    | 0                 | 0           |
| 37)= 31    | 16999    | 0                 | 0           |

LINK CARDS: FLOW DATA

| ENTRY 1    | ENTRY 2  | ENTRY 3           | ENTRY 4     |
|------------|----------|-------------------|-------------|
| CRUISE NO. | LINK NO. | TOTAL CRUISE FLOW | CRUISE TIME |
| 41)= 32    | 3930     | 0                 | 0           |
| 42)= 32    | 3940     | 0                 | 0           |
| 43)= 32    | 3950     | 0                 | 0           |
| 44)= 32    | 3963     | 0                 | 0           |
| 45)= 32    | 3964     | 0                 | 0           |
| 46)= 32    | 3965     | 0                 | 0           |
| 47)= 32    | 3966     | 0                 | 0           |
| 48)= 32    | 3967     | 0                 | 0           |
| 49)= 32    | 3995     | 0                 | 0           |
| 50)= 32    | 3996     | 0                 | 0           |
| 51)= 32    | 3998     | 0                 | 0           |
| 52)= 32    | 3999     | 0                 | 0           |
| 53)= 32    | 16910    | 169               | 15          |
| 54)= 32    | 16920    | 169               | 21          |

94 SECOND CYCLE 94 STEPS

INITIAL SETTINGS

| NODE STAGE | NUMBER OF STAGES | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 | STAGE 6 | STAGE 7 | STAGE 8 |
|------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| 55)= 32    | 16931            | 136     | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| 56)= 32    | 16932            | 613     | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| 57)= 32    | 16940            | 10      | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| 58)= 32    | 16941            | 10      | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| 59)= 32    | 16942            | 10      | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| 60)= 32    | 16998            | 886     | 0       | 0       | 0       | 0       | 0       | 0       | 0       |
| 61)= 32    | 16999            | 175     | 0       | 0       | 0       | 0       | 0       | 0       | 0       |

| LINK NUMBER | FLOW  | SAT PERFORMANCE | DEGREE OF SAT | MEAN EXIT PER | GREEN TIMES | UNIFORM   | RANDOM    | COST   | STOPS | MEAN    | COST |
|-------------|-------|-----------------|---------------|---------------|-------------|-----------|-----------|--------|-------|---------|------|
| (PCU)       | (PCU) | (PCU/H)         | (%/H)         | (SEC)         | (SEC)       | (PCU-H/H) | (PCU-H/H) | (\$/H) | (%)   | (\$/H)  | (%)  |
| 39          | 5     | 86              | 29            | 42            | 55          | 86        |           |        | 88    | ( 4.6)  |      |
| 169         | 3     | 70              | 34            | 53            |             |           |           |        | 112   | ( 24.8) |      |
| 3910        | 171   | 1800            | 39            | 36.3          | 1.4         | 0.3       | ( 24.5)   |        | 88    | ( 4.6)  |      |
| 4           | 723   | 2151            | 90            | 48.8          | 5.6         | 4.2       | ( 139.0)  |        | 112   | ( 24.8) |      |
| 3911        | 150   | 1800            | 37            | 33.6          | 1.1         | 0.3       | ( 19.9)   |        | 84    | ( 3.9)  |      |
| 3922        | 678   | 1789            | 87            | 60            | 3.5         | 3.1       | ( 93.8)   |        | 73    | ( 4.3)  |      |
| 3930        | 364   | 1800            | 93            | 81.6          | 3.3         | 4.9       | ( 117.1)  |        | 140   | ( 15.7) |      |
| 17          | 3940  | 1800            | 39            | 35.1          | 0.40        |           |           |        | 73    | ( 4.3)  |      |
| 3940        | 19    | 1800            | 25            | 15.0          | 74.6        | 0.2       | ( 5.6)    |        | 124   | ( 0.7)  |      |
| 14          | 3950  | 10000           | 2             | 5.0           | 44.5        | 0.1       | ( 1.8)    |        | 96    | ( 0.0)  |      |
| 3966        | 10    | 10000           | 0             | 37            | 42          | 0.0       | ( 0.4)    |        | 44    | ( 0.0)  |      |
| 0           | 3967  | 10000           | 0             | 39            | 9.5         | 34        | 86        |        | 1     | ( 0.0)  |      |
| 0           | 3995  | 1800            | 0.4           | 3             | 13.0        | 1.0       | 0.0       | ( 0.2) | 1     | ( 0.0)  |      |
| 0           | 3996  | 1800            | 0.2           | 26            | 15.0        | 1.4       | 0.0       | ( 2.5) | 1     | ( 0.2)  |      |
| 0           | 3998  | 1800            | 0.7           | 9             | 15.0        | 1.1       | 0.0       | ( 0.7) | 1     | ( 0.1)  |      |
| 0           | 3999  | 1800            | 4.5           | 37            | 15.0        | 1.6       | 0.0       | ( 4.2) | 2     | ( 0.3)  |      |
| 0           | 16910 | 733             | 1655          | 71            | 20.6        | 8.2       | 0.5       | ( 1.2) | 19    | ( 1.5)  |      |
| 4           |       |                 | 25.3          | 169           |             | 88        | 52        |        |       |         |      |

Lion Green Road - Chipstead Valley PM Peak\_v9\_Option 3.prt  
 16920 211 2408 69 15.0 57.5 2.3 + 1.1 ( 47.8 ) 111 ( 7.2 )  
 6 156 1800 55.0 13 15.0 42 53 0.2 + 0.1 ( 4.5 ) 35 ( 1.7 )  
 16931 2 613 2143 6.2 169 169 88 56 1.6 + 0.4 ( 28.0 ) 51 ( 9.6 )  
 16932 9 10 10000 37.6 2 5.0 44.5 0.1 + 0.0 ( 1.8 ) 96 ( 0.0 )  
 16940 0 10 10000 1.8 2 169 65 70 0.1 + 0.0 ( 1.7 ) 95 ( 0.0 )  
 16941 0 10 10000 1.7 1 169 64 70 0.1 + 0.0 ( 1.7 ) 95 ( 0.0 )  
 16942 0 10 10000 1.7 2 169 67 70 0.1 + 0.0 ( 1.9 ) 100 ( 0.0 )  
 16998 0 887 1800 1.9 2 169 67 70 0.0 + 0.5 ( 6.9 ) 2 ( 5.3 )  
 16999 0 175 1800 12.2 10 15.0 1.1 0.0 + 0.1 ( 0.8 ) 1 ( 0.1 )  
 0 -3963 0 10 10000 0.8 1 5.0 43.2 0.1 + 0.0 ( 1.7 ) 95 ( 0.0 )  
 0 -3964 0 10 10000 1.7 39 38 44 0.1 + 0.0 ( 0.8 ) 63 ( 0.0 )  
 -3965 0 10 10000 0.8 39 32 86 0.0 + 0.0 ( 0.6 ) 54 ( 0.0 )  
 0 -3966 0 10 10000 0.6 39 0 42 0.0 + 0.0 ( 0.6 ) 54 ( 0.0 )  
 0  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 606.8 TOTALS

\*\*\*\*\*  
 STOPS TOTALS CRUISE DELAY  
 PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES  
 FUEL CONSUMPTION PREDICTIONS = 134.1 + 42.9 +  
 36.5 = 213.5  
 NO. OF ENTRIES TO SUBPT = 1  
 NO. OF LINKS RECALCULATED = 34

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14  
 - (SECONDS)  
 39 5 6 43 56 69 6  
 169 3 84 48 67 69 6  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 619.0 TOTALS

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14  
 - (SECONDS)  
 39 5 6 43 56 69 6  
 169 3 84 48 67 69 6  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 619.0 TOTALS

Lion Green Road - Chipstead Valley PM Peak\_v9\_Option 3.prt  
 (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 606.8 TOTALS  
 NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED = 105  
 94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37  
 - (SECONDS)  
 39 5 6 43 56 69 6  
 169 3 84 48 67 69 6  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 606.8 TOTALS  
 NO. OF ENTRIES TO SUBPT = 5  
 NO. OF LINKS RECALCULATED = 104  
 94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1  
 - (SECONDS)  
 39 5 6 43 56 69 6  
 169 3 84 48 67 69 6  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 619.0 TOTALS

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1  
 - (SECONDS)  
 39 5 6 43 56 69 6  
 169 3 84 48 67 69 6  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 619.0 TOTALS

94 SECOND CYCLE 94 STEPS  
 INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1 14  
 - (SECONDS)  
 39 5 6 43 56 69 6  
 169 3 84 48 67 69 6  
 TOTAL PENALTY TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL  
 DISTANCE FOR TRAVELLED EXCESS PERFORMANCE SPENT INDEX JOURNEY SPEED DELAY OVERSAT OF COST OF COST OF COST OF  
 QUEUES (PCU-KM/H) (PCU-H/H) (KM/H) (PCU-H/H) (PCU-H/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H) (\$/H)  
 1189.7 63.7 18.7 20.2 16.9 ( 526.7 ) + ( 80.1 )  
 + ( 0.0 ) = 619.0 TOTALS

Lion Green Road - Chipstead Valley\_PM Peak\_v9\_Option 3.prt

|                                |        |                   |      |               |       |               |        |                 |       |         |       |         |       |         |       |         |       |         |       |         |  |
|--------------------------------|--------|-------------------|------|---------------|-------|---------------|--------|-----------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|--|
| 169                            | 3      | 4                 | 62   | 81            | TOTAL | TOTAL         | TOTAL  | TOTAL           | TOTAL | TOTAL   | TOTAL | TOTAL   | TOTAL | TOTAL   | TOTAL | TOTAL   | TOTAL | TOTAL   | TOTAL | TOTAL   |  |
| PENALTY                        |        | TOTAL             |      | MEAN          |       | TOTAL         |        | TOTAL           |       | TOTAL   |       | TOTAL   |       | TOTAL   |       | TOTAL   |       | TOTAL   |       | TOTAL   |  |
| DISTANCE FOR TRAVELLED EXCESS  |        | PERFORMANCE INDEX |      | JOURNEY SPEED |       | UNIFORM DELAY |        | RANDOM+ OVERSAT |       | COST OF |       | COST OF |       | COST OF |       | COST OF |       | COST OF |       | COST OF |  |
| QUEUES (PCU-KM/H) (\$/H)       | 1189.7 | 63.7              | 18.7 | 20.2          | 16.9  | (526.7)       | (80.1) |                 |       |         |       |         |       |         |       |         |       |         |       |         |  |
| + (0.0) =                      |        | 606.8             |      | TOTALS        |       |               |        |                 |       |         |       |         |       |         |       |         |       |         |       |         |  |
| NO. OF ENTRIES TO SUBPT = 5    |        |                   |      |               |       |               |        |                 |       |         |       |         |       |         |       |         |       |         |       |         |  |
| NO. OF LINKS RECALCULATED= 108 |        |                   |      |               |       |               |        |                 |       |         |       |         |       |         |       |         |       |         |       |         |  |

94 SECOND CYCLE 94 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1 14 37

-(SECONDS)

|                                |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------|--------|-------|------|--------|------|---------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 39                             | 5      | 20    | 57   | 70     | 83   | 20      |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 169                            | 3      | 4     | 62   | 81     |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| QUEUES (PCU-KM/H) (\$/H)       | 1189.7 | 63.7  | 18.7 | 20.2   | 16.9 | (526.7) | (80.1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + (0.0) =                      |        | 606.8 |      | TOTALS |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NO. OF ENTRIES TO SUBPT = 5    |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NO. OF LINKS RECALCULATED= 109 |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

94 SECOND CYCLE 94 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1 14 37 1

-(SECONDS)

|                          |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------|--------|-------|------|--------|------|---------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 39                       | 5      | 20    | 57   | 70     | 83   | 20      |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 169                      | 3      | 4     | 62   | 81     |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| QUEUES (PCU-KM/H) (\$/H) | 1189.7 | 64.5  | 18.4 | 20.3   | 17.6 | (538.3) | (80.7) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + (0.0) =                |        | 619.0 |      | TOTALS |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Lion Green Road - Chipstead Valley\_PM Peak\_v9\_Option 3.prt

94 SECOND CYCLE 94 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 14 37 -1 14 37 1 -1

-(SECONDS)

|                                |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------------------|--------|-------|------|--------|------|---------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 39                             | 5      | 20    | 57   | 70     | 83   | 9       |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 169                            | 3      | 4     | 62   | 81     |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| QUEUES (PCU-KM/H) (\$/H)       | 1189.7 | 62.1  | 19.1 | 20.6   | 14.9 | (504.2) | (78.4) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| + (0.0) =                      |        | 582.6 |      | TOTALS |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NO. OF ENTRIES TO SUBPT = 23   |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NO. OF LINKS RECALCULATED= 430 |        |       |      |        |      |         |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

94 SECOND CYCLE 94 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 14 37 -1 14 37 1 -1 1

-(SECONDS)

|                      |                                                           |             |        |         |       |         |         |         |       |        |
|----------------------|-----------------------------------------------------------|-------------|--------|---------|-------|---------|---------|---------|-------|--------|
| LINK                 | FLOW                                                      | SAT         | DEGREE | MEAN    | GREEN | UNIFORM | RANDOM+ | COST    | MEAN  | COST   |
| NUMBER               | INTO                                                      | PERFORMANCE | OF     | PER PCU | EXIT  | UNIFORM | RANDOM+ | COST    | STOPS | OF     |
| MEAN                 | LINK                                                      | INDEX       | SAT    | GRUISE  | START | START   | START   | START   | OF    | OF     |
| MAX. AVERAGE         | WEIGHTED SUM                                              |             |        |         |       |         |         |         |       |        |
| EXCESS OF ( ) VALUES | (PCU/H) (PCU/H) (%) (SEC) (SEC) (PCU/H) (\$/H) (%) (\$/H) |             |        |         |       |         |         |         |       |        |
| (PCU)                | (PCU)                                                     |             |        |         |       |         |         |         |       |        |
| 3910                 | 171                                                       | 1800        | 39     | 15.0    | 36.3  | 1.4     | 0.3     | (24.5)  | 88    | (4.6)  |
| 4                    | 29.1                                                      | 39          | 62     | 84      |       |         |         |         |       |        |
| 3911                 | 723                                                       | 2151        | 90     | 15.0    | 48.8  | 5.6     | 4.2     | (139.0) | 112   | (24.8) |
| 22                   | 163.9                                                     | 39          | 28     | 62      | 1.5   | 0.7     | (31.7)  | 106     | (4.9) |        |
| 3920                 | 150                                                       | 1800        | 60     | 15.0    | 53.5  | 1.5     | 0.7     | (31.7)  | 106   | (4.9)  |
| 4                    | 36.6                                                      | 39          | 39     | 88      | 9     | 3.5     | 3.1     | (93.8)  | 73    | (4.3)  |
| 3930                 | 678                                                       | 1789        | 87     | 23.0    | 35.1  | 28      | 68      |         |       |        |
| 17                   | 98.1                                                      | 39          | 28     | 68      |       |         |         |         |       |        |
| 3940                 | 364                                                       | 1800        | 84     | 15.0    | 57.7  | 3.4     | 2.5     | (82.8)  | 117   | (13.1) |
| 11                   | 95.9                                                      | 39          | 88     | 24      | 0.2   | 0.2     | (5.6)   | 124     | (0.7) |        |
| 3950                 | 19                                                        | 1800        | 25     | 15.0    | 74.6  | 0.2     | 0.2     | (5.6)   | 124   | (0.7)  |
| 1                    | 6.3                                                       | 39          | 39     | 80      | 83    | 0.1     | 0.0     | (1.8)   | 96    | (0.0)  |
| 3966                 | 10                                                        | 10000       | 2      | 5.0     | 44.5  | 0.1     | 0.0     | (1.8)   | 96    | (0.0)  |
| 0                    | 1.8                                                       | 39          | 65     | 70      |       |         |         |         |       |        |

| 3967  | 10  | 10000 | 0.6   | 3    | 15.0 | 1.0  | 9    | 0.0 | 0.0  | 0.6 | 56  | 0.0 |
|-------|-----|-------|-------|------|------|------|------|-----|------|-----|-----|-----|
| 3967  | 10  | 10000 | 0.6   | 3    | 15.0 | 1.0  | 9    | 0.0 | 0.0  | 0.6 | 56  | 0.0 |
| 3995  | 46  | 1800  | 0.2   | 26   | 15.0 | 1.4  | 0.0  | 0.2 | 2.5  | 1   | 0.0 | 0.0 |
| 3996  | 472 | 1800  | 2.7   | 9    | 15.0 | 1.1  | 0.0  | 0.0 | 0.7  | 1   | 0.1 | 0.1 |
| 3998  | 155 | 1800  | 0.7   | 37   | 15.0 | 1.6  | 0.0  | 0.3 | 4.2  | 2   | 0.3 | 0.3 |
| 3999  | 0   | 1800  | 4.5   | 71   | 20.6 | 8.1  | 0.5  | 1.2 | 23.6 | 18  | 1.4 | 1.4 |
| 16910 | 4   | 1655  | 25.0  | 169  | 22   | 80   | 2.3  | 1.1 | 47.8 | 111 | 7.2 | 7.2 |
| 16920 | 211 | 2408  | 5.0   | 69   | 15.0 | 57.5 | 70   | 81  | 4.5  | 35  | 1.7 | 1.7 |
| 16931 | 6   | 1800  | 5.0   | 13   | 15.0 | 7.3  | 0.2  | 0.1 | 4.5  | 35  | 1.7 | 1.7 |
| 16932 | 156 | 1800  | 6.2   | 169  | 15.0 | 11.6 | 1.6  | 0.4 | 28.0 | 51  | 9.6 | 9.6 |
| 16933 | 9   | 2143  | 6.2   | 46   | 15.0 | 11.6 | 1.6  | 0.4 | 28.0 | 51  | 9.6 | 9.6 |
| 16940 | 10  | 10000 | 1.8   | 2    | 169  | 44.5 | 4    | 0.1 | 1.8  | 96  | 0.0 | 0.0 |
| 16941 | 0   | 10000 | 1.7   | 1    | 169  | 43.2 | 4    | 0.1 | 1.7  | 95  | 0.0 | 0.0 |
| 16942 | 0   | 10000 | 1.7   | 2    | 169  | 47.9 | 4    | 0.1 | 1.9  | 100 | 0.0 | 0.0 |
| 16942 | 0   | 10000 | 1.9   | 2    | 169  | 47.9 | 4    | 0.1 | 1.9  | 100 | 0.0 | 0.0 |
| 16998 | 887 | 1800  | 12.2  | 49   | 6.8  | 2.0  | 0.0  | 0.5 | 6.9  | 2   | 5.3 | 5.3 |
| 16999 | 0   | 175   | 1800  | 12.2 | 10   | 15.0 | 1.1  | 0.0 | 0.1  | 1   | 0.1 | 0.1 |
| 0     | 0   | 10    | 10000 | 0.8  | 1    | 5.0  | 43.2 | 0.1 | 0.0  | 95  | 0.0 | 0.0 |
| -3963 | 0   | 10    | 10000 | 1.7  | 39   | 66   | 72   | 0.1 | 0.8  | 63  | 0.0 | 0.0 |
| -3964 | 0   | 10    | 10000 | 0.8  | 39   | 80   | 20   | 0.0 | 0.8  | 63  | 0.0 | 0.0 |
| -3965 | 0   | 10    | 10000 | 0.6  | 39   | 28   | 70   | 0.0 | 0.6  | 54  | 0.0 | 0.0 |
| 0     | 0   | 10    | 10000 | 0.6  | 39   | 28   | 70   | 0.0 | 0.6  | 54  | 0.0 | 0.0 |

ROUTE

| 1189.7 | 62.1   | 19.1 | 20.6  | 14.9   | 504.3 | 78.4 |
|--------|--------|------|-------|--------|-------|------|
| 1189.7 | 62.1   | 19.1 | 20.6  | 14.9   | 504.3 | 78.4 |
| +      | ( 0.0) | =    | 582.6 | TOTALS |       |      |

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| STOPS                        | TOTALS          | CRUISE          | DELAY           |
|------------------------------|-----------------|-----------------|-----------------|
| PER HOUR                     | LITRES PER HOUR | LITRES PER HOUR | LITRES PER HOUR |
| FUEL CONSUMPTION PREDICTIONS | 210.9           | 134.1           | 41.1            |
| NO. OF ENTRIES TO SUBPT =    | 6               |                 |                 |
| NO. OF LINKS RECALCULATED=   | 141             |                 |                 |