SIEMENS

Traffic Solutions

Issue 1

SCOOT Validation – Handy Cross.

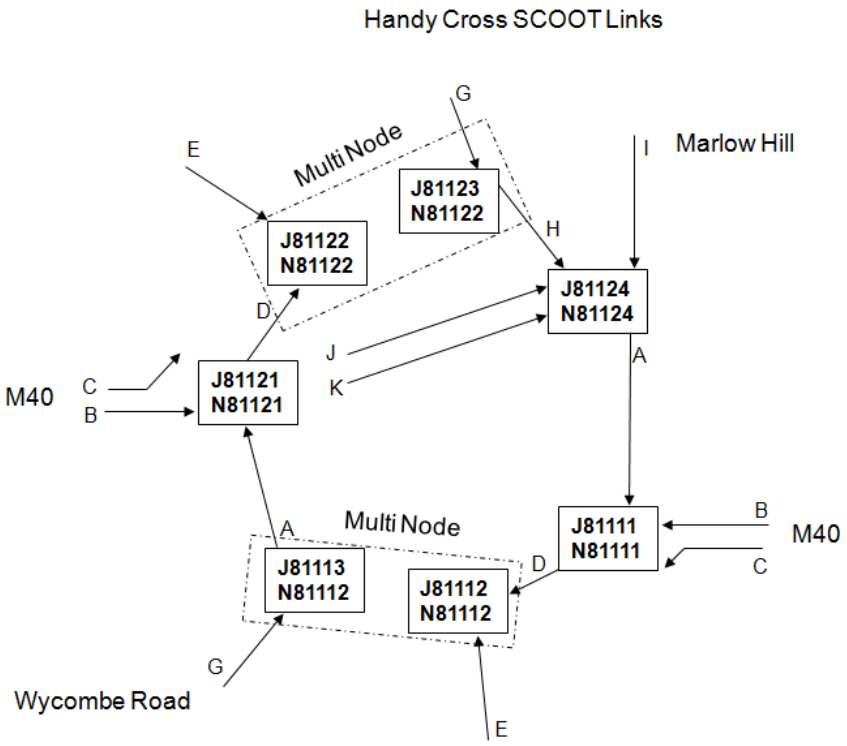
[redacted]

Date – 05 June 2014

1.0 Current operation

SCOOT has been implemented 24hrs per day with casts that vary by time of day.

2.0 Region HC



3.0 Validation

All links have been validated through the AM and PM peaks.

Different cycle times have been trialled throughout the morning and evening peak conditions. 72 Seconds is the most effective cycle time however it uses all the capacity on the roundabout not allowing much room for network issues. During validation driver behaviour caused exiting blocking with cars stopped in hatch markings and lane discipline can be very poor.
The best option is to run a 72 second cycle time for as long as possible then in the main peak traffic to reduce the cycle time to 64 seconds to help prevent any lock ups from driver behaviour or exit blocking.

Casts have been introduced by time of day to change cycle time, default offsets and bias's on links.

4.0 Time Table

List Timetable (OUTT RHC EXP)

```
Th 15:39:20 05-JUN-14 Timetable 01 Title:- Weekday
        00:01:00    ACAS 28 (ASTRID_DATA_A)
             035    MESS C01 R* >ASTRID
        00:01:00    ACAS 91 (Handy X Off peak)
             003    CHAN MAXC RHC 72
             005    CHAN MINC RHC 52
             006    SCOO RHC
        07:00:00    CHAN TREN R* ON
        07:15:00    ACAS 90 (Handy X Morning Peak)
             002    CHAN MAXC RHC 64
        09:10:00    CHAN TREN R* OFF
        09:15:00    ACAS 92 (Handy X Day time)
             001    CHAN MAXC RHC 72
             002    CHAN MINC RHC 52
        09:30:00    CHAN FDWN R* YES
        10:00:00    CHAN FDWN R* NO
        16:00:00    CHAN TREN R* ON
        16:45:00    CHAN MAXC RHC 64
        17:15:00    CHAN TREN R* OFF
        19:00:00    CHAN FDWN R* YES
        20:00:00    CHAN FDWN R* NO
        20:00:00    ACAS 91 (Handy X Off peak)
             003    CHAN MAXC RHC 72
             005    CHAN MINC RHC 52
             006    SCOO RHC
Th 15:39:20 End of Timetable
```

5.0 Casts

```
Th 15:22:48 05-JUN-14 CAST 0090 Name:- Handy X Morning Peak
         001  ;CHAN MAXC RHC 72
         002  CHAN MAXC RHC 64
         003  CHAN BIAS N81112D 126
         004  CHAN BIAS N81121A 126
         005  CHAN TPLN N81112 1
         006  CHAN MDSL N81111B 0
         007  CHAN MDSL N81111C 0
         008  CHAN DFOF N81121A 33
Th 15:22:48 05-JUN-14 End of CAST list.
```

List CAST (LCAS 91)

```
Th 15:23:22 05-JUN-14 CAST 0091 Name:- Handy X Off peak
         001  CHAN BIAS N81112D 126
         002  CHAN BIAS N81121A 0
         003  CHAN MAXC RHC 72
         004  CHAN TPLN N81112 2
         005  CHAN MINC RHC 52
         006  SCOO RHC
         007  CHAN MDSL N81111B D
         008  CHAN MDSL N81111C D
Th 15:23:22 05-JUN-14 End of CAST list.
```

List CAST (LCAS 92)

```
Th 15:23:36 05-JUN-14 CAST 0092 Name:- Handy X Day time
         001  CHAN MAXC RHC 72
         002  CHAN MINC RHC 52
         003  CHAN BIAS N81121A 0
         004  CHAN BIAS N81112D 126
         005  CHAN TPLN N81112 1
         006  CHAN MDSL N81111B D
         007  CHAN MDSL N81111C D
Th 15:23:36 05-JUN-14 End of CAST list.
```

List CAST (LCAS 93)

```
Th 15:24:08 05-JUN-14 CAST 0093 Name:- Handy X PM
         001  CHAN MDSL N81111B 0
         002  CHAN MDSL N81111C 0
         003  CHAN BIAS N81121A 126
         004  CHAN DFOF N81121A 30
         005  ;CHAN MAXC RHC 64
```

6.0 Results

Good progression has been achieved with good fixed and variable offsets. Congestion is less as a result of increasing the cycle time and variable offsets.

The roundabout is over saturated during the peaks and very volatile. With traffic behaviour causing issues all on the roundabout. Main downstream links have been set to tell the SCOOT model the circulatory is exit blocked and SCOOT responds well.

Suggest this site is monitored for detection and operational issues on a regular basis.