

		ACTION	DATE
TO	1. SENIOR ENGINEER, CONTROLLER APPLICATIONS		
	2. AUSTIN HAZELDENE, REGIONAL PROJECTS		
FROM	BRENDAN SAMG	DATE	16/06/21
SITE	MAUDE STREET / VAUGHAN STREET	SITE NO.	6064
REGION	NORTH EASTERN	MUNICIPALITY	GREATER SHEPPARTON

## GENERAL

Works Program Job?	Yes	Project Number	44DFPGSE
Classification	SIMPLE	Works Order Number	4A007479

## EXISTING CONTROLLER DETAILS

Type	ATSC 4	Software Version & Release	V6.2 R20	Lanterns	ELV LED
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## CONTROLLER APPLICATIONS

Target Date for Draft Opsheet	ASAP
Target Date for completion of Program	ASAP

Prepare Interlocking	
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## PERSONALITY CHECKSUMS

	Hex	Octal
Total	D4	324
Times	66	146
Pers	B2	262

Dispatched 18/06/21

Update Graphics, Site Notes	No	<input type="checkbox"/> Site ID Revision updated to
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Description of changes	Reprogram due to speed limit reduction to 40 km/h in all directions.
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## REGIONAL PROJECTS - SIGNAL INSTALLATION

<input type="checkbox"/> Changes to signal hardware	<input type="checkbox"/> Changes to interlocking
<input type="checkbox"/> Additional detectors	<input type="checkbox"/> Changes to existing detector numbering
<input type="checkbox"/> Upgrade controller software to	
<input type="checkbox"/> Other changes	
<input checked="" type="checkbox"/> Place new operation specification in controller	

## PRIOR NOTICE

A job must be entered into RAI Action database before this PROM change will be allowed.

<input checked="" type="checkbox"/> SCATS data changes - notify	BRENDAN SAMG	Ext	8999
	OR CHRIS EER	Ext	8711
before 3:00pm on the day before switch on.			

## SCATS Data Changes -

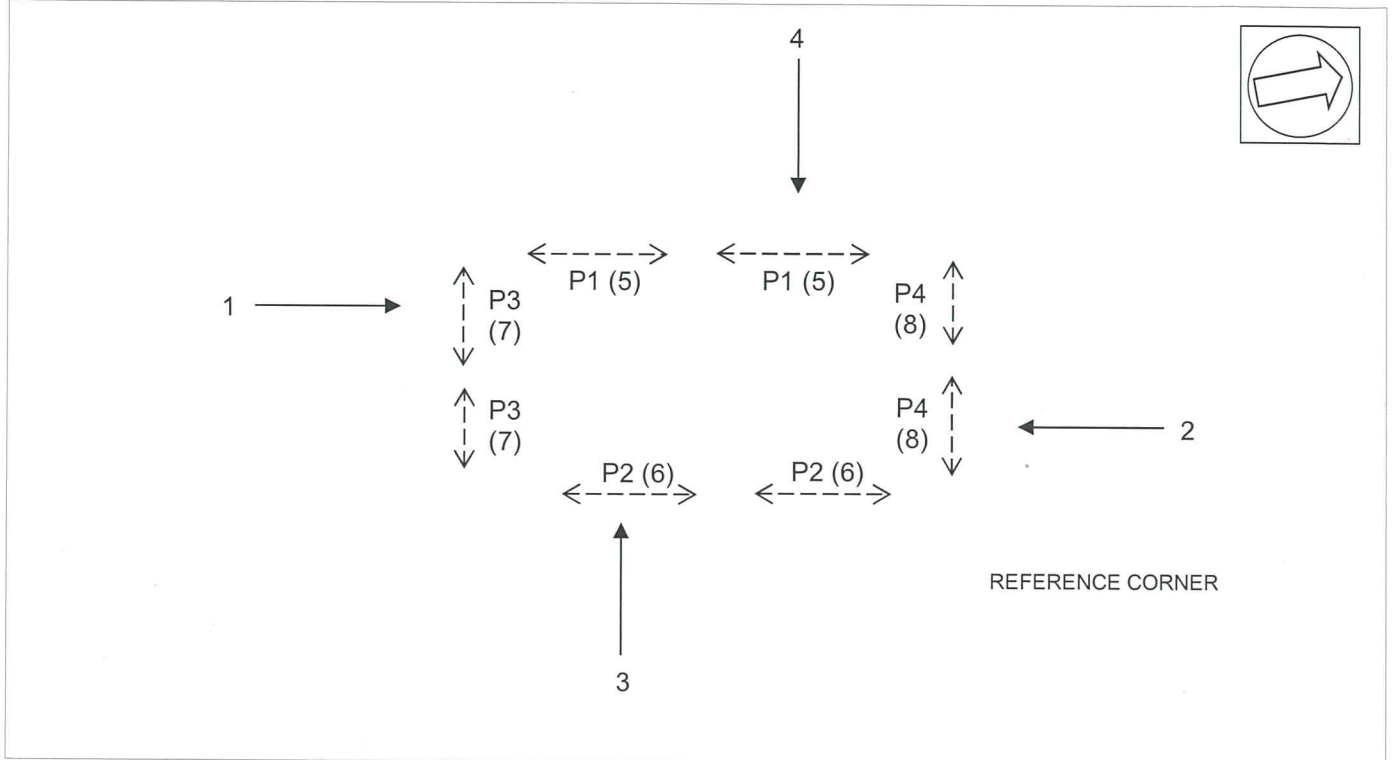
## TRAFFIC MANAGEMENT CENTRE

<input type="checkbox"/> Checksum update only
<input type="checkbox"/> Changes to trim or manual intervention features required
<input checked="" type="checkbox"/> Please notify BRENDAN SAMG (x8999) on job completion.

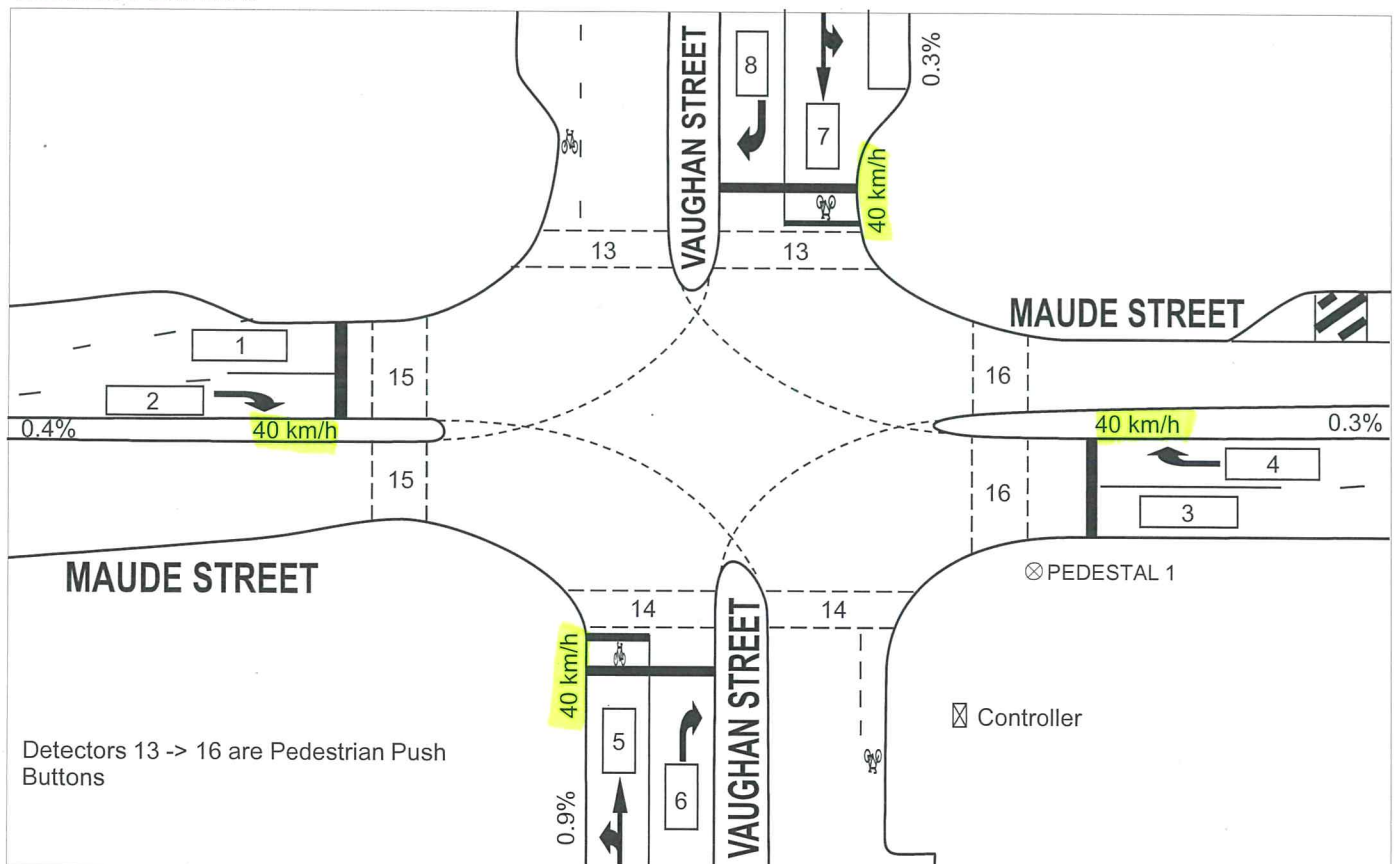
## DATE PROM INSTALLED

SITE NAME	<b>MAUDE STREET / VAUGHAN STREET</b>			SITE NO.	<b>6064</b>
MUNICIPALITY	GREATER SHEPPARTON	DESIGNED BY	BRENDAN SAMG	DATE	16/06/21
PLAN NO.	787104	DESIGN CHECKED	<i>Chris Lee</i>	DATE	17/6/2021
CONTROLLER TYPE	ATSC 4	PROM CHECKED	<i>Brendan</i>	DATE	18/6/2021

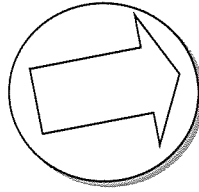
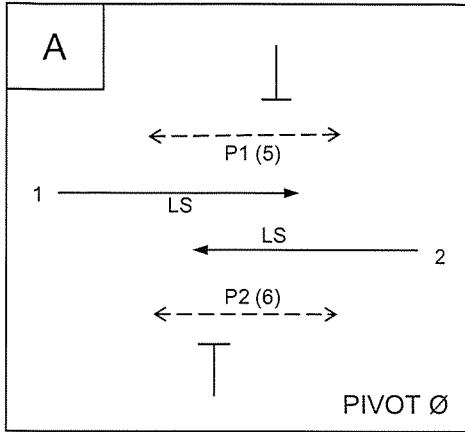
## GROUP ALLOCATION



## DETECTOR MAP

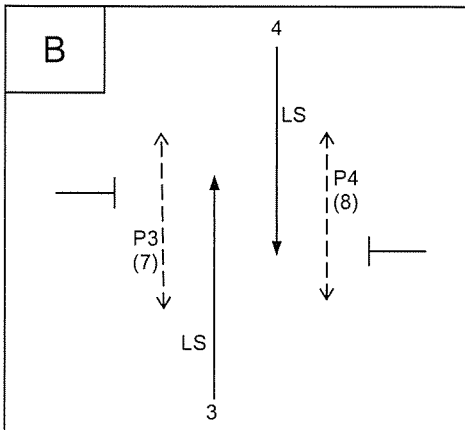


# PHASING DIAGRAM



Refer General Notes

PHASE	PROHIBITED PHASE CHANGES TO	REVERSION ON MAXIMUM	MAXIMUM V.I.G ON REVERSION



V.A. SEQUENCE AB

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DATE 16/06/21

DETECTOR FUNCTIONS

DETECTOR No.	Internal / External	Input Number	CALL PHASE	LOCKING CALL	NON-LOCKING CALL	SET VIG ON PHASE	EXTEND PHASE	SPECIAL FUNCTION			DETECTOR ALARMS						
								Detector Type	Description	Refer Special Notes	DA Category	Disable	DA on S/C only	Fault Simulation			
														Call & Extend	Call Only	Ignore Alarm	Refer Special Notes
1	I	1	A	✓			A				0			A			
2	I	2	A	✓			A				0				A		
3	I	3	A	✓			A				0			A			
4	I	4	A	✓			A				0				A		
5	I	5	B	✓			B				0			B			
6	I	6	B	✓			B				0				B		
7	I	7	B	✓			B				0			B			
8	I	8	B	✓			B				0				B		
9											1						
10											1						
11											1						
12											1						
13	E	1	A		✓			P1		✓	6		✓				
14	E	2	A		✓			P2		✓	6		✓				
15	E	3	B		✓			P3		✓	6		✓				
16	E	4	B		✓			P4		✓	6		✓				
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
32																	

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DATE 16/06/21

# DETECTOR FUNCTIONS

DETECTOR No.	Internal / External	Input Number	CALL PHASE	LOCKING CALL	NON-LOCKING CALL	SET VIG ON PHASE	EXTEND PHASE	SPECIAL FUNCTION			DETECTOR ALARMS						
								Detector Type	Description	Refer Special Notes	DA Category	Disable	DA on S/C only	Fault Simulation			
														Call & Extend	Call Only	Ignore Alarm	Refer Special Notes
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	
41																	
42																	
43																	
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61																	
62																	
63																	
64																	

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DATE 16/06/21

**APPROACH DEFINITIONS****PHASE APPROACHES**

Approach No	EXTENDING DETECTORS	APPROACH TIMER AND TIMESETTING DEFINITION*	SIGNAL GROUP	APPROACH EXPIRY (EXPAP)	Refer Special Notes
1	1	A11	1		
2	3	A22	2		
3	2	A33	1		
4	4	A44	2		
5	5	B11	3		
6	7	B22	4		
7	6	B33	3		
8	8	B44	4		
9					
10					
11					
12					
13					
14					
15					
16					

\* There are 8 approach timers and 4 approach timesettings available per phase:

- Where there are 4 or fewer approaches per phase, allocate one timesetting to each timer.

For example: A11, A22, A33, B11, C11.

- Where there are more than 4 approaches per phase, two or more timers must have the same timesetting.

For example: A11, A21, A32, A43, A54, B11.

**SPECIAL APPROACHES**

Approach No	EXTENDING DETECTORS	APPROACH TIMESETTING	SIGNAL GROUP	DESCRIPTION	Refer Special Notes
1					
2					
3					
4					

**APPROACH DEFINITIONS****PHASE APPROACHES**

Approach No	EXTENDING DETECTORS	APPROACH TIMER AND TIMESETTING DEFINITION*	SIGNAL GROUP	APPROACH EXPIRY (EXPAP)	Refer Special Notes
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

\* There are 8 approach timers and 4 approach timesettings available per phase:

- Where there are 4 or fewer approaches per phase, allocate one timesetting to each timer.

For example: A11, A22, A33, B11, C11.

- Where there are more than 4 approaches per phase, two or more timers must have the same timesetting.

For example: A11, A21, A32, A43, A54, B11.

## **SITE NAME: MAUDE STREET / VAUGHAN STREET**

### GENERAL NOTES

#### **SUMMARY OF XSF FLAGS**

(Communications Operation of XSF flags is required)

- XSF1** — Allows auto introduction of P1 in AØ.
- XSF2** — Allows auto introduction of P2 in AØ.
- XSF3** — For permanent demand of P3 in BØ.
- XSF4** — For permanent demand of P4 in BØ.

#### **GENERAL OPERATION**

- REVn – first scan after start-up demands BØ.
- Clear vehicle demands during associated phase green and yellow.
- If P1 and/or P2 are demanded prior to the start of AØ, P1 and/or P2 introduce at the start of AØ late start period respectively and SG1 & SG2 introduce at the start of AØ minimum green.
- If both P1 and P2 are not demanded prior to the start of AØ, expire AØ late start period and both SG1 & SG2 introduce at the start of AØ green (*i.e. at the start of AØ minimum green*).
- If P3 and/or P4 are demanded prior to the start of BØ, P3 and/or P4 introduce at the start of BØ late start period respectively and SG3 & SG4 introduce at the start of BØ minimum green.
- If both P3 and P4 are not demanded prior to the start of BØ, expire BØ late start period and both SG3 & SG4 introduce at the start of BØ green (*i.e. at the start of BØ minimum green*).

#### **PEDESTRIAN GROUP OPERATION**

##### **Pedestrian 1**

- P1 calls AØ.
- P1 can introduce at the start of AØ (*i.e. at the start of AØ late start*).
- P1 auto introduces at the start of AØ when XSF1 is set.
- P1 calls away to BØ when controller is resting in AØ.

##### **Pedestrian 2**

- P2 calls AØ.
- P2 can introduce at the start of AØ (*i.e. at the start of AØ late start*).
- P2 auto introduces at the start of AØ when XSF2 is set.
- P2 calls away to BØ when controller is resting in AØ.

##### **Pedestrian 3**

- P3 calls BØ.
- P3 can introduce at the start of BØ (*i.e. at the start of BØ late start*).
- P3 is permanently demanded when XSF3 is set.

##### **Pedestrian 4**

- P4 calls BØ.
- P4 can introduce at the start of BØ (*i.e. at the start of BØ late start*).
- P4 is permanently demanded when XSF4 is set.

## DESIGN OF INTERGREEN AND PEDESTRIAN TIMES

### INTERGREEN TIMES

PHASE	CLEARANCE DETAILS			LEGAL SPEED	DESIGN SPEED		INTERGREEN		
	GROUP TRANSITION	DISTANCE	GRADE (%)*		YELLOW	RED	YELLOW	RED	TOTAL
A	1 → P4	32.0	0.40	40	40	40	3.0	3.0	6.0
B	4 → P2	31.0	0.90	40	40	40	3.0	3.0	6.0
C	→								
D	→								
E	→								
F	→								
G	→								

\*Positive grade indicates an uphill approach & negative grade indicates a downhill approach. Specify negative grade values with a "-" prefix

### PHASE SPECIAL ALL REDS AND SPECIAL MOVEMENT ALL REDS

FROM PHASE	TO PHASE	CLEARANCE DETAILS		DESIGN SPEED	ALL RED	PHASE or S.M. No**
		GROUP TRANSITION	DISTANCE			
		→				
		→				
		→				
		→				
		→				
		→				

\*\* Specify where the timesetting is stored (the phase special all red or the special movement time setting number)

### PEDESTRIAN TIMES

PED	PHASE(S)	WALK			CLEARANCE				MINIMUM SOLID DON'T WALK
		DISTANCE (m)	TIME		DISTANCE (m)	TIME			
			GRAPH	ADOPTED		GRAPH	CL1	CL2	
P1	A	15.5	8	8	15.5	10	10.0	0.0	6.0
P2	A	15.5	8	8	15.5	10	10.0	0.0	6.0
P3	B	15.0	8	8	15.0	10	10.0	0.0	6.0
P4	B	15.0	8	8	15.0	10	10.0	0.0	6.0

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DATE 16/06/21

**CONTROLLER TIMESETTINGS - 1****PHASE TIMESETTINGS**

Front Panel Command: Phase No.Timesetting No (e.g. 3.2 accesses C phase late start)

DESCRIPTION	Timesetting No	PHASE						
		A (1)	B (2)	C (3)	D (4)	E (5)	F (6)	G (7)
RED / YELLOW	1	-	-	-	-	-	-	-
LATE START	2	2	2					
MINIMUM GREEN	3	10	8					
INCREMENT	4	-	-					
MAXIMUM INITIAL GREEN*	5	-	-					
MAXIMUM EXTENSION GREEN	6	30	20					
EARLY CUT OFF	7							
YELLOW	8	3.0	3.0					
ALL RED	9	3.0	3.0					
SPECIAL ALL RED	10	-	-					
GAP 1	11	2.5	2.5					
GAP 2	12	2.5	2.5					
GAP 3	13	0.0	0.0					
GAP 4	14	0.0	0.0					
HEADWAY 1	15	1.2	1.2					
HEADWAY 2	16	1.2	1.2					
HEADWAY 3	17	1.2	1.2					
HEADWAY 4	18	1.2	1.2					
WASTE 1	19	7	7					
WASTE 2	20	7	7					
WASTE 3	21	7	7					
WASTE 4	22	7	7					

\* Maximum Initial Green = Minimum Green + V.I.G.

**PEDESTRIAN TIMESETTINGS**

Front Panel Command: Pedestrian No.Timesetting No (e.g. 18.2 accesses P2 walk)

DESCRIPTION	Timesetting No	PEDESTRIAN							
		P1 (17)	P2 (18)	P3 (19)	P4 (20)	P5 (21)	P6 (22)	P7 (23)	P8 (24)
DELAY	1	-	-	-	-	-	-	-	-
WALK*	2	8.0	8.0	8.0	8.0				
CLEARANCE 1	3	10.0	10.0	10.0	10.0				
CLEARANCE 2	4								

\* Minimum walk time - used in Isolated and Flexilink operation

For walk times in Masterlink operation, refer to slot data.

**CONTROLLER TIMESETTINGS - 2****SPECIAL MOVEMENT TIMESETTINGS**

Front Panel Command: B.Timesetting No (e.g. B.5 accesses Special Movement Timesetting No 5)

Timesetting No	Timesetting (Range: 0-5)	FUNCTION
1		
2		
3		
4		
5		
6		
7		
8		

**SPECIAL PURPOSE TIMESETTINGS**

Front Panel Command: B.Timesetting No (e.g. B.19 accesses Special Movement Timesetting No 19)

Timesetting No	Timesetting (Range: 0-200)	FUNCTION
9		
10		
11		
12		
13		
14		
15		
16		
17		
18	0	LIMIT GREEN WATCHDOG TIMER
19	0	SPECIAL FACILITY CONTROLS ALARM TIMER
20	10	ALL RED START UP INTERVAL
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

**CONTROLLER TIMESETTINGS - 3****PRESENCE TIMESETTINGS**

Front Panel Command: D.Detector No (e.g. D.7 accesses presence time for detector 7)

DETECTOR No	TIMESETTING (Range: 0-15)	DETECTOR No	TIMESETTING (Range: 0-10)
1		25	
2		26	
3		27	
4		28	
5		29	
6		30	
7		31	
8		32	
9		33	
10		34	
11		35	
12		36	
13		37	
14		38	
15		39	
16		40	
17		41	
18		42	
19		43	
20		44	
21		45	
22		46	
23		47	
24		48	

NOTE: Set presence time to zero if the detector is not a presence detector

NOTE: No support for presence timesettings for dets 25-48

Use presence timesettings for dets 1 - 24 or  
special movement timesettings for dets 1 - 40**DAILY EVENT TIMESETTINGS**

FUNCTION	TIMESETTING
Daily start time (Hours)	
Daily start time (Minutes)	
Daily finish time (Hours)	
Daily finish time (Minutes)	

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DATE 16/06/21

**CONTROLLER TIMESETTINGS - 4****SPECIAL MOVEMENT TIMESETTINGS**

GROUP No	STAGE 1 TIMESETTINGS (Yellow Timing)	STAGE 2 TIMESETTINGS (Red Timing)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

**NOTE:**

Stage 1: Timesetting (Yellow Time)

Default is zero, uses phase yellow if special movement is activated

Can specify phase timesettings, eg. A phase yellow, or a time value, eg. 3 secs

Stage 2: Timesetting (Red Time)

Default is zero, Traff will use 2 secs red as default if special movement is activated

Can specify phase timesettings or other timesettings, eg. A phase red, or a time value, eg. 2.5 secs

DESIGNED BY: **BRENDAN SAMG**DATE **16/06/21**

**FLEXILINK OPERATION****PHASE SEQUENCES**

No	PHASE SEQUENCE
1 (No Y+)	AB
2 (Y+)	

**NOTES:**

1. All phases must be specified in the phase sequence
2. Only specify phase sequence 2 if it is different from phase sequence 1.

**LOOK AHEADS & RELEASES**

PHASE SEQUENCE 1		
PHASE	LOOK AHEAD*	RELEASE
A	No	R-
B	Yes (to A)	R+
C		
D		
E		
F		
G		

PHASE SEQUENCE 2		
PHASE	LOOK AHEAD*	RELEASE
A		
B		
C		
D		
E		
F		
G		

\* Specify the phases to which look ahead is permitted, e.g. Yes (to E, F, G, A)

**INHIBIT PHASES**

The following phases can be inhibited in flexilink by setting the call pulse one step before the call pulse of the next phase in sequence None

**PULSE STEP LENGTH**

☐ One Second ☒ Two Second

**MASTERLINK & FLEXILINK SPECIAL FLAGS**

FLAG	FUNCTION
Y- Flexi	The site will operate in flexilink mode if the signal is continuously sent (C) or is used as an offset (e.g. 25)
Y- Master	
Y+ Flexi	
Z- Flexi	
Z- Master	
Z+ Flexi	
Z+ Master	
R- Flexi	AØ RELEASE PULSE
R+ Flexi	BØ RELEASE PULSE
Q- Flexi	
Q+ Flexi	

**SCATS INTERSECTION DATA**

The data shown on this page is typical data that can be used for testing controller operations.  
This data is not necessarily applicable when the site is switched on in the field.

**TYPICAL SLOT DATA**

PHASE SLOT DATA

SLOT <i>n</i>	=	2	,	1	,	4
		(phases)		(split plans)		(walks)
INT	=	6064				
VC	=	6				
CS	=					
COM	=	NET				
PK	=	!				
S#	=					
LM	=					
RMN	=	0				
DCL	=	0				
AT	=	6				
BT	=	6				
CT	=					
DT	=					
ET	=					
FT	=					
GT	=					
W1	=	8	W1 T	=	16	
W2	=	8	W2 T	=	16	
W3	=	8	W3 T	=	16	
W4	=	8	W4 T	=	16	
W5	=		W5 T	=		
W6	=		W6 T	=		
W7	=		W7 T	=		
W8	=		W8 T	=		
PP1	=	0,0A				
PP2	=	0,0A				
PP3	=	0,0A				
PP4	=	0,0A				

**TYPICAL SPLIT PLAN DATA**

PHASE SEQUENCE 1		PHASE SEQUENCE 2		PHASE SEQUENCE 3	
A	= 0PDB	A	=	A	=
B	= 30A	B	=	B	=

**TYPICAL VARIATION PARAMETERS**

VP1	=		VP22	=		VP43	=	
VP2	=		VP23	=		VP44	=	
VP3	=		VP24	=		VP45	=	
VP4	=		VP25	=		VP46	=	
VP5	=		VP26	=		VP47	=	
VP6	=		VP27	=		VP48	=	
VP7	=		VP28	=		VP49	=	
VP8	=		VP29	=		VP50	=	
VP9	=		VP30	=		VP51	=	
VP10	=		VP31	=		VP52	=	
VP11	=		VP32	=		VP53	=	
VP12	=		VP33	=		VP54	=	
VP13	=		VP34	=		VP55	=	
VP14	=		VP35	=		VP56	=	
VP15	=		VP36	=		VP57	=	
VP16	=		VP37	=		VP58	=	
VP17	=		VP38	=		VP59	=	
VP18	=		VP39	=		VP60	=	
VP19	=		VP40	=		VP61	=	
VP20	=		VP41	=		VP62	=	
VP21	=		VP42	=				

## GROUP CONFLICT TABLE

[illegible]

NOTE: NO CHANGE TO CONFLICT TABLE (16/06/21 - BS)

CHECKED: *Syrina Pi* DATE: 23/02/21

DESIGNED BY: BRENDAN SAMG

DATE 16/06/21

```

PAGE
*** MAPPING TABLES
*** Input translation map
IMAP EQU *
SECT1 EQU *
      FDB INT1+1          ( APP A 1 )
      FDB INT2+2          ( APP A 2 )
      FDB INT3+3          ( APP A 3 )
      FDB INT4+4          ( APP A 4 )
      FDB INT5+5          ( APP B 5 )
      FDB INT6+6          ( APP B 6 )
      FDB INT7+7          ( APP B 7 )
      FDB INT8+8          ( APP B 8 )
      FDB NOMAP
      FDB NOMAP
      FDB NOMAP
      FDB NOMAP
      FDB EXT1+P1         ( P1 P.B. )
      FDB EXT2+P2         ( P2 P.B. )
      FDB EXT3+P3         ( P3 P.B. )
      FDB EXT4+P4         ( P4 P.B. )
      FDB END

SECT2 EQU *
      FDB END
```