_____ O S C A D Y 5 _____

Analysis Program: Release 2.0 (Oct 2003)

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Run with file:- "g:\2006\P062028\calcs\oscady\062028 Do Something PM 2008 Junction_4.voi" at 11:45:13 on Thursday, 29 M

FILE PROPERTIES

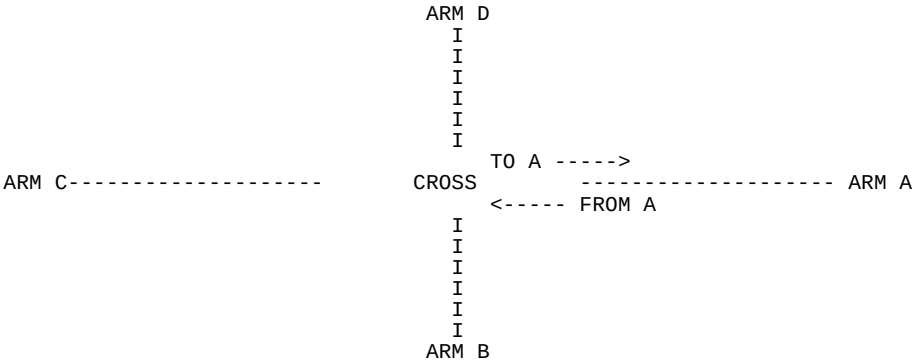
RUN TITLE: 062028 2008 Do Something Junction_4 PM 290307 epf
LOCATION: Leixlip
DATE: 29 March 2007
CLIENT: South Dublin County Council
ENUMERATOR: epf
JOB NUMBER: p062028
STATUS: On-going
DESCRIPTION:

**** ERROR AND WARNING MESSAGES ****

No errors or warnings in the data.

TRAFFIC SIGNAL JUNCTION ANALYSIS

INPUT DATA



ARM A IS R403 (North)
ARM B IS N4 off-ramp
ARM C IS R403 (South)
ARM D IS M4 on-ramp

GEOMETRIC DATA

DATA ITEM		ARM A	ARM B	ARM C	ARM D
GRADIENT		0.0 %	0.0 %	0.0 %	0.0 %
NUMBER OF LANES		2	1	1	1
PERMITTED MOVEMENTS	LANE 1	S	SR	LS	L
	LANE 2	R			
TOTAL EXIT WIDTH FOR STRAIGHT-AHEAD VEHICLES FROM THIS ARM		N/A	N/A	N/A	N/A
LANE WIDTHS	LANE 1	3.50 M	4.00 M	4.50 M	5.00 M
	LANE 2	3.00 M	0.00 M	0.00 M	0.00 M
LEFT TURN RADII	LANE 1	N/A	N/A	10.0 M	10.0 M
RIGHT TURN RADII	LANE 1	N/A	12.0 M	N/A	N/A
	LANE 2	12.0 M	N/A	N/A	N/A

TRAFFIC DEMAND DATA

DEMAND PROFILES ARE SYNTHESISED USING THE ** ODTAB ** OPTION

DEMAND DATA SUPPLIED BETWEEN TIMES - 16.45 TO 18.15
PERIOD OF INTEREST (FOR QUEUE AND DELAY CALCULATIONS) - 17.00 TO 18.00

THE FOLLOWING DATA HAS BEEN INPUT

TRAFFIC SCALING FACTOR HAS BEEN SET TO 100 %

062098 2007 Do Something Route 1 Junction_1 AM 240706 epf

TOTAL TRAFFIC DEMAND (VEHICLES / HOUR)

FROM/TO	ARM A	ARM B	ARM C	ARM D
ARM A	0.0	0.0	79.0	413.0
ARM B	317.0	0.0	0.0	0.0
ARM C	370.0	0.0	0.0	366.0
ARM D	0.0	0.0	0.0	0.0

TIME PERIOD	ARM	VEHICLE TYPE PROPORTIONS					
		CARS AND LIGHT GOODS	MEDIUM GOODS	HEAVY GOODS	BUSES AND COACHES	MOTOR CYCLES	PEDAL CYCLES
17.00-18.00	A	1.000	0.000	0.000	0.000	0.000	0.000
	B	1.000	0.000	0.000	0.000	0.000	0.000
	C	1.000	0.000	0.000	0.000	0.000	0.000
	D	1.000	0.000	0.000	0.000	0.000	0.000

DATA DETERMINED FOR USE IN SYNTHESIS OF DEMAND PROFILES ARE AS FOLLOWS-

ENTRY/EXIT FLOWS	ARM	TIME WHEN FLOW STARTS TO RISE	TIME WHEN TOP OF PEAK IS REACHED	TIME WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ENTRY	A	17.00	17.30	18.00	6.15	9.23	6.15
	B	17.00	17.30	18.00	3.96	5.94	3.96
	C	17.00	17.30	18.00	9.20	13.80	9.20
	D	17.00	17.30	18.00	0.00	0.00	0.00

SIGNAL TIMING DETAILS FOR SIGNAL SET 1

TIMING OPTION- FIXED MODE: TIMINGS TO BE OPTIMISED BY OSCADY

PERIOD FOR OPTIMISATION-	17.00-18.00
MAXIMUM CYCLE TIME-	120.0 SECONDS
OPTIMISED CYCLE TIME-	103.2 SECONDS
OPTIMISED TIMINGS BELOW ARE-	DELAY MINIMIZED (see Note 1)
JUNCTION IS-	WITHIN CAPACITY
MAXIMUM DEGREE OF SATURATION (X'):	88.5 PERCENT
PRACTICAL RESERVE CAPACITY OF JUNCTION [100(90-X')/X'] :	1.7 PERCENT

GLOBAL EFFECTIVE GREEN DISPLACEMENTS - START = 1.4
END = 2.9

DATA ITEM		STAGE 1	STAGE 2	STAGE 3
LANES ON GREEN: ARM	A		1	1 2
	B	1		
	C		1	
	D			1
MINIMUM GREEN TIME (SECS)		7.0	7.0	7.0
OPTIMISED GREEN TIME (SECS)		19.8	43.0	25.4
PRECEDING INTERSTAGE		5.0	5.0	5.0

Note 1: The "delay-minimized" timings above are for an optimised or fixed cycle time of 103.2 seconds and for demand and sat flow values averaged over the specified optimisation period. They are used to calculate the queues and delays over this period and also the quoted maximum degree of saturation (88.5 %) and practical reserve capacity of the junction (1.7 %) values.

CAPACITY MAXIMISED TIMINGS

Optimised "capacity-maximized" timings (seconds) are derived during the first stage of the optimisation process and are as follows:-

STAGE:	1	2	3
GREEN:	23	52	30

These timings were calculated for a fixed or maximum cycle time of 120.0 seconds and give a maximum degree of saturation of 85.8 % and practical reserve capacity of the junction of 4.9 % .

DEMAND AND SATURATION FLOW INFORMATION OVER OPTIMISATION PERIOD (17.00-18.00) FOR SIGNAL SET 1

ARM	LANES	MOVEMENT	DEMAND (VEH/HR)	DEMAND (PCU/HR)	SAT FLOW (PCU/HR)	DEGREE OF SAT(%)	RESERVE CAPACITY (%)
A	1	S	78.7	78.7	1965.0	5.5	1530.3
	2	R	411.4	411.4	1826.7	86.5	4.0
B	1	S R	315.8	315.8	1791.1	85.3	5.5
C	1	L S	733.2	733.2	1921.7	88.5	1.7
D	1	L	0.0	0.0	1839.1	0.0	0.0

DEMAND AND CAPACITY INFORMATION FOR EACH 15 MINUTE TIME SEGMENT BETWEEN 17.00 AND 18.00

TIME / ARM	LANES	MOVEMENT	DEMAND (VEHS/MIN)	SAT FLOW (PCU/HR)	SAT FLOW (VEHS/MIN)	EFFECTIVE GREEN-TIME TRUE (SECS)	EFFECTIVE GREEN-TIME FLARE+NOTIONL (SECS)	CAPACITY (VEHS /MIN)
17.00-17.15								
A	1	S	1.18	1965.0	32.75	74.9		23.76
	2	R	6.16	1826.7	30.44	26.9		7.93
B	1	S R	4.73	1791.1	29.85	21.3		6.17
C	1	L S	10.99	1921.7	32.03	44.5		13.81
D	1	L	0.00	1839.1	30.65	26.9		7.98

17.15-17.30								
A	1		S	1.44	1965.0	32.75	74.9	23.76
	2		R	7.55	1826.7	30.44	26.9	7.93
B	1		S R	5.80	1791.1	29.85	21.3	6.17
C	1	L	S	13.45	1921.7	32.03	44.5	13.81
D	1	L		0.00	1839.1	30.65	26.9	7.98
17.30-17.45								
A	1		S	1.44	1965.0	32.75	74.9	23.76
	2		R	7.55	1826.7	30.44	26.9	7.93
B	1		S R	5.80	1791.1	29.85	21.3	6.17
C	1	L	S	13.45	1921.7	32.03	44.5	13.81
D	1	L		0.00	1839.1	30.65	26.9	7.98
17.45-18.00								
A	1		S	1.18	1965.0	32.75	74.9	23.76
	2		R	6.16	1826.7	30.44	26.9	7.93
B	1		S R	4.73	1791.1	29.85	21.3	6.17
C	1	L	S	10.99	1921.7	32.03	44.5	13.81
D	1	L		0.00	1839.1	30.65	26.9	7.98

QUEUE AND DELAY INFORMATION FOR EACH 15 MINUTE TIME SEGMENT BETWEEN 17.00 AND 18.00

TIME		MOVEMENT		DEMAND EXCL 2-WHEEL (VEHS/MIN)	CAPACITY (VEHS/MIN)	DEGREE OF SAT (RFC)	QUEUE AT END OF SEGMENT MEAN (PHASE AVERAGED) (VEHS/LANE)	QUEUE AT END OF SEGMENT MAXIMUM (END OF RED) (VEHS/LANE)	QUEUEING DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
ARM	LANES									
17.00-17.15										
A	1		S	1.18	23.76	0.050	0.1	0.6	1.2	
	2		R	6.16	7.93	0.778	5.1	9.3	75.4	
B	1		S R	4.73	6.17	0.767	4.4	7.8	64.6	
C	1	L	S	10.99	13.81	0.795	6.4	12.5	94.6	
D	1	L		0.00	7.98	0.000	0.0	0.0	0.0	
17.15-17.30										
A	1		S	1.44	23.76	0.061	0.1	0.7	1.5	
	2		R	7.55	7.93	0.953	10.2	15.1	142.0	
B	1		S R	5.80	6.17	0.939	8.4	12.4	118.2	
C	1	L	S	13.45	13.81	0.974	14.7	21.4	199.4	
D	1	L		0.00	7.98	0.000	0.0	0.0	0.0	
17.30-17.45										
A	1		S	1.44	23.76	0.061	0.1	0.7	1.5	
	2		R	7.55	7.93	0.953	11.6	16.4	176.2	
B	1		S R	5.80	6.17	0.939	9.4	13.5	144.5	
C	1	L	S	13.45	13.81	0.974	17.1	23.8	258.1	
D	1	L		0.00	7.98	0.000	0.0	0.0	0.0	
17.45-18.00										
A	1		S	1.18	23.76	0.050	0.1	0.6	1.2	
	2		R	6.16	7.93	0.778	5.4	9.6	96.3	
B	1		S R	4.73	6.17	0.767	4.7	8.1	83.1	
C	1	L	S	10.99	13.81	0.795	6.6	12.7	119.9	
D	1	L		0.00	7.98	0.000	0.0	0.0	0.0	

QUEUES FOR ARM A

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
17.15	2	5.1	9.3	*****++++
	1	0.1	0.6	+
17.30	2	10.2	15.1	**********+++++
	1	0.1	0.7	+
17.45	2	11.6	16.4	************++++
	1	0.1	0.7	+
18.00	2	5.4	9.6	*****+++++
	1	0.1	0.6	+

QUEUES FOR ARM B

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
17.15	1	4.4	7.8	****++++
17.30	1	8.4	12.4	********++++
17.45	1	9.4	13.5	*********++++
18.00	1	4.7	8.1	*****+++

QUEUES FOR ARM C

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
17.15	1	6.4	12.5	******++++++
17.30	1	14.7	21.4	***************++++++
17.45	1	17.1	23.8	*****************+++++++
18.00	1	6.6	12.7	*******++++++

QUEUES FOR ARM D

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +
17.15	1	0.0	0.0
17.30	1	0.0	0.0
17.45	1	0.0	0.0
18.00	1	0.0	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD (17.00-18.00)

STREAM	TOTAL DEMAND (EXCL 2-WHEEL)		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A-B	0.0	0.0	0.0	0.00	0.0	0.00
A-C	78.7	78.7	5.4	0.07	5.4	0.07
A-D	411.4	411.4	490.0	1.19	491.9	1.20
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-D	0.0	0.0	0.0	0.00	0.0	0.00
B-A	315.8	315.8	410.3	1.30	412.2	1.31
C-D	364.6	364.6	334.2	0.92	334.9	0.92
C-A	368.6	368.6	337.8	0.92	338.6	0.92
C-B	0.0	0.0	0.0	0.00	0.0	0.00
D-A	0.0	0.0	0.0	0.00	0.0	0.00
D-B	0.0	0.0	0.0	0.00	0.0	0.00
D-C	0.0	0.0	0.0	0.00	0.0	0.00
ALL	1539.1	1539.1	1577.8	1.03	1583.1	1.03

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

* TOTAL GEOMETRIC DELAY INCLUDES DELAY SUFFERED BY VEHICLES STILL QUEUEING AT THE END OF THE WHOLE TIME PERIOD.
* THE SUM OF DELAYS FOR EACH SEGMENT AND THE TOTAL GEOMETRIC DELAY WILL BE SIGNIFICANTLY DIFFERENT ONLY IF THERE IS
* A LARGE QUEUE AT THE END OF THE TIME PERIOD.

****** OSCADY 5 run completed
========== end of file ==========

[Printed at 10:11:51 on 16/05/2007]