

ORDINANCE NO. _____

**AN ORDINANCE OF THE CITY OF CATHEDRAL CITY
AMENDING SECTION 12.20.01 0 OF THE CATHEDRAL
CITY MUNICIPAL CODE RELATING TO THE
DESIGNATION OF SPECIAL SPEED LIMITS IN 2015.**

The City Council of the City of Cathedral City does hereby ordain as follows:

SECTION Ia. AMENDED SPEED LIMITS. Subsection (B) of 12.20.010 of the Cathedral City Municipal Code is hereby amended by the adoption of the following amendments, due to roadway segment capacity changes since the previous 2009 Speed Limits Study: 1. & 2.: East Ramon Rd. (widening from 4 lanes to 6 lanes from Date Palm to E. City Limits at Da Vall); and 3. E. Palm Canyon Dr. (Perez to Golf Club Dr. widening):

<u>STREET</u>	<u>(No.) Road Segment Surveyed</u>	<u>Speed Limit (MPH)</u>	
		<u>2009</u>	<u>2015</u>
a. RAMON ROAD	(46.) Date Palm Dr. to Neuma Rd.	45	50
b. RAMON ROAD	(47.) Neuma Rd. to Da Vall Dr.	45	50
c. EAST PALM CANYON DR.	(25.) Perez Rd. to Golf Club Dr.	40	40

SECTION Ib. REVISED SPEED LIMITS. Based upon the findings of an Engineering Speed Survey dated October 2009, amended in March 2015.

<u>Street</u>	<u>No.</u>	<u>Portion Affected</u>	<u>2015 Speed Limits (MPH)</u>	
Avenida Maravilla	1.	Vista Chino to Ramon Road	25	
Cathedral Canyon Drive	2.	Ramon Road to Dinah Shore Drive	45	
	3.	Dinah Shore Drive to Paseo Real	45	
	4.	Paseo Real to Perez Road	40	
	5.	Perez Road to East Palm Canyon Dr.	40	
	6.	East Palm Canyon Drive to Kings Rd.	40	
	7.	Kings Rd. to Terrace Rd.	40	
	Date Palm Drive	8.	Varnier Road to Vista Chino Drive	50
9.		Vista Chino Drive to 30th Avenue	50	
10.		30th Avenue to McCallum Way	45	
11.		McCallum Way to Ramon Road	45	
12.		Ramon Road to Dinah Shore Drive	45	
13.		Dinah Shore Drive. to 35th Avenue	40	
14.		35th Avenue to Gerald Ford Drive	40	
15.		Gerald Ford Drive to Perez Road	40	
16.		Perez Road to East Palm Canyon Drive	40	
Da Vall Drive		17.	30th Avenue to Ramon Road	45
Da Vall Drive (cont.)		18.	Ramon Road to Dinah Shore Drive	50
		19.	Gerald Ford Drive to South City Limits	45

Dave Kelly Road	20.	Date Palm Drive to Plumley Road	35
Dinah Shore Drive	21.	West City Limits to Cathedral Canyon Drive	40
	22.	Cathedral Canyon Drive to Date Palm Drive	40
	23.	Date Palm Drive to Plumley Road	45
	24.	Plumley Road to Da Vall Drive	45
East Palm Canyon Dr.	25.	Golf Club Drive to Perez Road	40
	26.	Perez Road to Cathedral Canyon Drive	40
	27.	Cathedral Canyon Drive to Date Palm Dr.	40
	28.	Date Palm Drive to East City Limits	40
Edom Hill Road	29.	Varner Road to North Terminus	35
Gerald Ford Drive	30.	Date Palm Drive to Plumley Road	45
	31.	Plumley Road to Da Vall Drive	45
Landau Boulevard	32.	Verona Road to Vista Chino Drive	35
	33.	Vista Chino Drive to 30 th Avenue	45
	34.	30 th Avenue to Ramon Road	45
McCallum Way	35.	Landau Boulevard to Date Palm Drive	30
	36.	Date Palm Drive to Santoro Drive	35
	37.	Santoro Drive to Da Vall Road	35
Palm Drive	38.	Interstate 10 to Varner Road	60
Perez Road	39.	East Palm Canyon Dr. to Cathedral Canyon Dr.	40
	40.	Cathedral Canyon Dr. to Date Palm Dr.	40
Plumley Road	41.	Dave Kelly Road to Dinah Shore Drive	35
	42.	Dinah Shore Drive to 35 th Avenue	35
	43.	35 th Avenue to Gerald Ford Drive	35
Ramon Road	44.	West City Limits to Cathedral Canyon Dr.	40
	45.	Cathedral Canyon Drive to Date Palm Drive	40
	46.	Date Palm Drive to Neuma Drive	50
	47.	Neuma Drive to East City Limits	50
San Antonio Drive	48.	San Mateo Drive to Mission Drive	25
San Luis Rey Drive	49.	Mission Drive to Ramon Road	35
Tachevah Drive	50.	Landau Boulevard to Date Palm Drive	25
Varner Road	51.	West City Limits to Date Palm Drive	55
	52.	Date Palm Drive to East City Limits	55
Vista Chino Drive	53.	West City Limits to Landau Boulevard	50
	54.	Landau Boulevard to Date Palm Drive	50
30 th Avenue	55.	Landau Boulevard to Avenida Maravilla	35
	56.	Avenida Maravilla to Date Palm Drive	35
	57.	Date Palm Drive to Da Vall Drive	40
33 rd Avenue	58.	Cathedral Canyon Drive to Date Palm Drive	30
35 th Avenue	59.	Date Palm Drive to Plumley Road	25

SECTION 2. This Ordinance shall be in full force and effect thirty (30) days after passage.

SECTION 3. Posting. The City Clerk shall within fifteen (15) days after the passage of this Ordinance, cause it to be posted in at least the 3 public places designated by resolution of the City Council; shall certify to the adoption and posting of this Ordinance; and shall cause this Ordinance and it's certification, together with proof of posting, to be entered in the book of Ordinances and the Municipal Code of this City.

The foregoing was approved and adopted at a regular meeting of the City Council of the City of Cathedral City held on _____, by the following vote:

Ayes:

Noes:

Absent:

Stan Henry, Mayor

Attest:

Gary Howell, City Clerk

Approved as to Form:

Approved as to Content:

Charles R. Green, City Attorney

John Corella, City Engineer

Approved:

Charlie McClendon, City Manager

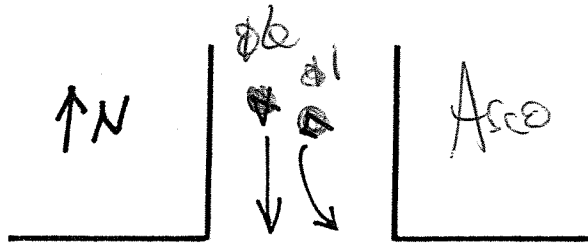
File
Traffic Signal # 113

TRACONEX

TMP - ~~390~~ ¹⁷⁰ 170 Controller Rev. J Ver. 6 TRAFFIC SIGNAL CONTROLLER PROGRAM CHART

INTERSECTION

DATE PALM
AND
VISTA CHINO

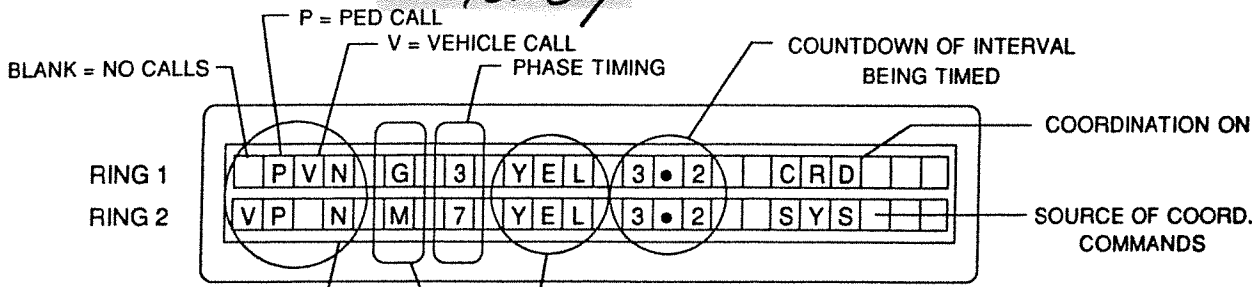
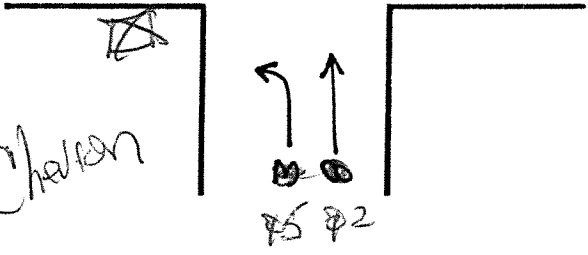
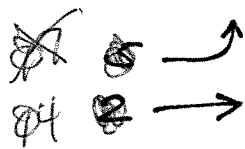


SYSTEM

ADDRESS (SYSTEM)



C. Hui Lat
8-10-09



- N = PHASE NEXT
- REASON FOR TERMINATION
 - G = GAP OUT
 - M = MAX OUT OR FORCE OFF
 - 2 = MAX #2 IN EFFECT
- INTERVAL BEING TIMED
 - MIN = MINIMUM
 - WLK = WALK
 - WCL = PED CLEAR
 - YEL = YELLOW
 - RED = ALL RED
 - RDD = RED DWELL
 - RRT = RED REVERT
 - LCP = LAST CAR PASSAGE
- SEL = SELECT
- MAX = MAXIMUM
- GAP = PASSAGE TIME
- AIN = ADDED INITIAL
- RST = REST
- HLD = HOLD
- WKD = WALK DWELL

LIQUID CRYSTAL DISPLAY
390 RUN MODE

PART # 2802 6434-001
REVISED 8/1/90

OPERATION DEFINITION
390 MODE - PAGE 0 - PHASE 0

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
0	PHASES IN USE	USE	X	X	X	X	X	X	X	X
1	PED PHASES	PED		X	/	X		X		X
2	FLASHING WALK	FWK								
3	ACT REST IN WALK	ARW ①								
4	WALK CLEAR PROTECT	WCP								
5	DENSITY PHASES	DEN		X		X				X
6	LAST CAR PASSAGE	LCP								
7	VEH CALL TO NA 1	VN1								
8	PED CALL TO NA 1	PN1								
9	VEH CALL TO NA 2	VN2								
A	PED CALL TO NA 2	PN2								
B	FAST FLASH GREEN CANADA	FGN								
C	ENABLE MENU SCROLL	MNU								
D	LEFT TURN YEL BLANK	LAB								
E	SELECT ANTI-BACKUP	ABU								
F										

① For operation, walk rest modifier must also be enabled (under MDT in TOD plans, see page 14 of this chart).

ADDITIONAL OPERATION PARAMETERS
390 MODE - PAGE 0 - PHASE 9

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY								
0	POWER UP FLASH	PUF	6							SECONDS
1	START UP RED TIME	SAR	5							SECONDS
2	START UP IN RED	SUR								
3	START UP IN YELLOW	SUY			X				X	
4	START UP IN GREEN	SUG								
5	MAIN ST PHASES (MUTCD)	MSF		X					X	
6	MIN MUTCD FL TIME	FMN	15							SECONDS
7	DUAL ENTRY	DLE				X				X
8	SIM GAP OUT	SGO								
9	MIN RECALL	MNR				X				X
A	MIN SOFT RECALL	MNS ①								
B	MAX RECALL	MXR								
C	PED RECALL	PDR								
D	LOCK DETECTOR	LKD								
E	LIQ CRYSTAL TEST	LCD ②								0 = OFF 1 = ON
F	BACKLIGHT ON/OFF	BLT	/							0 = OFF 1 = ON

① For SOFT RECALL select phase in both MNR and MNS

② For LCD TEST hold in ENTER button to run thru display check

PHASE TIMING

390 MODE - PAGE 0 - PHASES 1 THRU 8

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
0	MINIMUM GREEN	MIN	4	4	4	10	4	4	4	10
1	WALK	WLK		7		7		7		7
2	PED CLEARANCE	WCL		20		20		20		20
3	PASSAGE TIME	PSG	2	5	2	5	2	2	2	5
4	MAXIMUM #1	MX1	25	40	25	40	25	25	25	40
5	MAXIMUM #2	MX2								
6	YELLOW	YEL	4	4	4	5	4	4	4	5
7	ALL RED	RED	1	1.5	1	1.5	1	1.5	1	1.5
8	RED REVERT TIME	RRT	5	5	5	5	5	5	5	5
9	ACTUATIONS B4 ADD	ABA ①								
A	SEC PER ACTUATION	S/A ①								
B	MAX ADDED INITIAL	MXI ①								
C	TIME B4 REDUCTION	TBR ①		4		5				5
D	TIME TO REDUCE	TTR ①		10		10				10
E	MINIMUM GAP	MNG ①		2		2				2
F	COND MIN GREEN	CMN								
Reference Only {	RECALL (MNS-MIN-MAX-PED)									
	LOCK DET (ON - OFF)									

① These time settings only effective with Density (DEN) enabled
(PAGE 0 - PHASE 0 - INTERVAL 5)

OVERLAP PROGRAM

390 MODE - PAGE 0 - PHASES A THRU D

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	PHASE A	PHASE B	PHASE C	PHASE D
			OVLP A	OVLP B	OVLP C	OVLP D
0	STANDARD OVLP	STD				
1	PRO Ø OF PRO / PER	PRO				
2	PER Ø OF PRO / PER	PER				
3	AUX GREEN TIME	AXG				
4	AUX YELLOW TIME	AXY				
5	AUX RED TIME	AXR				
6	FOLLOW PARENT Ø	FPP				
7						
8						
9						
A						
B						
C						
D						
E						
F						

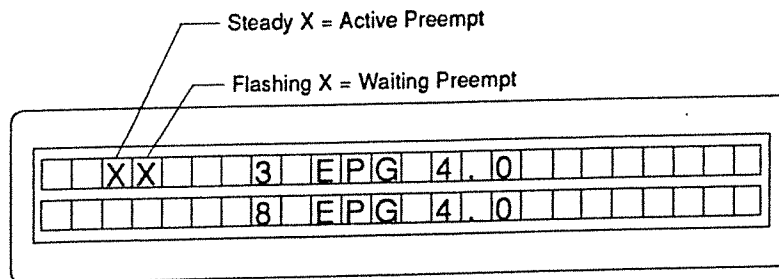
EMERGENCY VEHICLE PREEMPTION

390 MODE - PAGE 1 - PHASES 2-5

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	Ø2	Ø3	Ø4	Ø5
			EVP #1	EVP #2	EVP #3	EVP #4
0	EM PRE DELAY	EDE	0	0	0	0
1	EM PRE PED CL	EPC	6	6	6	6
2	EM PRE YEL CL #1	EY1	5	5	4	5
3	EM PRE RED CL #1	ER1	1	1	1	1
4	EM PRE MIN GRN	EMN	5	5	5	5
5	EM PRE GAP TIME	EPG	3	3	3	3
6	EM PRE YEL CL #2	EY2	5	5	4	5
7	EM PRE RED CL #2	ER2	1	1	1	1
8	EM PRE GRN DWELL Ø's	PRG	2,5	7,7	3,8	3,8,6
9	EM PRE OL GRN DWELL Ø's	OLG				
A	EM PRE RETURN PHASES	ERG	7,8	7,8	7,8	7,8
B	OL ON W/ RETURN	ROG				
C	LOCK / MAX MODE	LOK ①	1	1	1	1
D	EM PRE MAX GRN	EMX	30	30	30	30
E						
F						

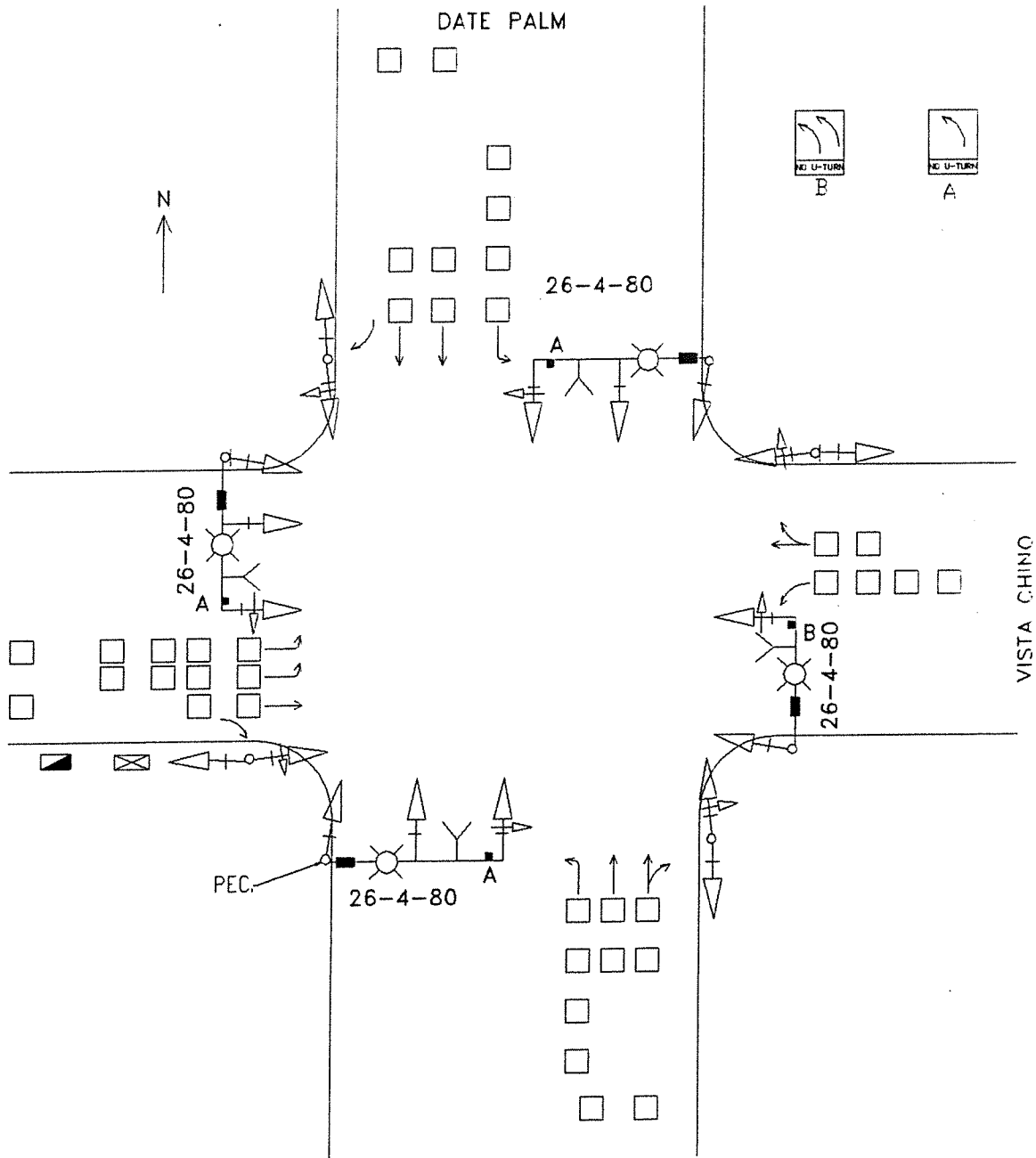
① FOUR BIT OPTIONS AVAILABLE:

- 1 = Locking Input - Latches All Preempt Calls
- 2 = Discriminator on/off, w/disc. off, all calls are considered high priority, unless bit 3 is selected.
- 3 = Special Low Priority Preempt Service - Controller will not advance out of walk, ped clear, or minimum greens when serving low priority preempts.
- 4 = Concurrent Walk not terminated
- 5 = Time normal opposing ped clearance time



FRONT PANEL DISPLAY DURING EMV PREEMPT
(PREEMPT GAP INTERVAL)

DATE PALM AND VISTA CHINO



TYPE P CABINET (18" BASE) EQUIPPED WITH:

- 1 - TRACONEX 390 CONTROLLER
- 1 - TSC FLASHER
- 8 - MODEL 200 TSC LOADSWITCHES
- 1 - MODEL 2000-16B TRACONEX FAILSAFE UNIT
- 3 - MODEL 821-2T (2 CHANNELS) DETECTOR SYSTEMS SENSOR UNITS
- 3 - MODEL 921-2T (2 CHANNELS) DETECTOR SYSTEMS SENSOR UNITS
- 1 - MODEL 360 3M OPTICOM UNIT WITH 2 PHASE SELECTORS

REMARKS: PEDESTRIAN PUSHBUTTONS EXIST AT ALL POLES.
NEED PEDESTRIAN SIGNAL HEADS

CABINET LOG

Log by Carl Hanson
Signal Tech

Dade Palm AND U.S. Chiro

DATE MM/DD/YY	TIME		DESCRIPTION OF WORK PERFORMED	NAME
	ARRIVE	DEPART		
8-5-08	1000	1015	PM105 EB Next WCAT site SW Turned High Winds	CV
9-3-08	0802	0900	Tap - Pull Source 170E & install over 170E SN-24724A	CV
9-3-08	0900	0930	4009 412F SN-3077544 & Program - Reset - 2.6k & 4.4k for 10%	CV
10-21-08	215	300	PM115	CV
11-2-08	135	215	PM115	CV
12-12-08	145	230	PM115	CV
12-21-08	1100	1200	Call I/E in Flash 005 not getting a Green Call coming in	CV
			but not getting the Controller Requested Edge Card Found	CV
			Controller not working Right Refreshed Controller Program	CV
1-14-09	700	745	PM115	CV
1-28-09	1630	1700	Wld back up Redlight monitor camera to 07 EXG via	CV
2-3-09	200	245	PM115	CV
3-11-09	1130	1200	PM115	CV
4-1-09	1045	1130	PM115	CV
5-6-09	915	1000	PM115	CV
5-8-09	745	830	(Call) EBRT no call found Pin Assignment not proper	CV
			on General Dashboard Reled Assignment for Detection and	CV
			C.O. E-3-126 E-3-E-1 1-2-3-B	CV
6-23-09	500	730	(Call) I/S in Flash Watch Dog is Startup Power edge Reset	CV
			If call PM115 RE A.F.I.W.	CV
6-24-09	800	900	(Call) I/S in Flash Found 07 Detection not 005 to see 58-09	CV
			Same Thing Also F-9-E always on pins to manually	CV
			then I force turn off see what happens	CV

Signal # 109
* 8/10/2009
(Eleven Pages)

Traconex® Model 390CJ

TRAFFIC SIGNAL CONTROLLER



Cathedral City Engineering Division
68-700 Avenida Lalo Guerrero
Cathedral City, CA 92234
760-770-0349

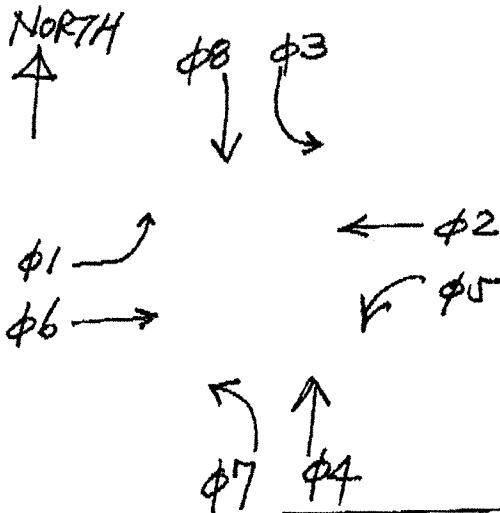
TIMING MANUAL

Rev. V4B & V4C, 7/19/00



C. Hui Lai
8-10-09

RAMON ROAD



Prepared by:

C. Hui Lai
1-30-06

Intersection of:

DATE PALM DRIVE

* 8/10/2009

U.S. Traffic Corporation

Manufacturers & System Engineers



Corporate Headquarters
9603 John Street

Santa Fe Springs, CA 90670

Tel: (562) 923-9600, (800) 733-7872 * Fax: (562) 923-7555

1.1.1 PHASE TIME

	P1	P2	P3	P4	P5	P6	P7	P8
Minimum Green, Seconds (000-255)	4	10	4	10	4	10	4	10
PED Walk, Seconds (000-255)		7		7		7		7
Walk Clearance, Seconds (000-255)		25		25		25		25
Passage (Gap), Seconds (00.0-25.5)	2		2		2		2	
Max. Green #1, Seconds (000-255)	20	40	20	40	20	40	20	40
Max. Green #2, Seconds (000-255)								
Yellow Clearance, Seconds (03.0-25.5)	4	4.5	4	4.5	4	4.5	4	4.5
All Red Clearance, Seconds (00.0-25.5)	1	1.5	1	1.5	1	1.5	1	1.5
Red Revert, Seconds (02.0-25.5)	5	5	5	5	5	5	5	5
Veh. Before Added Initial (000-255)								
Seconds per Veh to Add to Init Green (00.0-09.9)								
Max. Initial Green, Seconds (000-255)								
Time Before Gap Reduction, Seconds (000-255)		5		5		5		5
Time to Reduce Gap, Seconds (001-060)		10		10		10		10
Minimum Gap Time, Seconds (00.0-08.0)		2		2		2		2
Conditional Min. Green, Seconds (000-255)								

1.1.2 PHASE ENABLES

	P1	P2	P3	P4	P5	P6	P7	P8
Phases in Use (1-8)	X	X	X	X	X	X	X	X
Phases with PEDS (1-8)		X		X		X		X
Volume Density Operation (1-8)		X		X		X		X
Simultaneous Gap Phases (1-8)								
Enable Conditional Service (1, 3, 5, 8)								
Last Car Passage (1-8)								
Non Act Mode 1 Phases (1-8)								
Non Act Mode 1 PEDS (1-8)								
Non Act Mode 2 Phases (1-8)								
Non Act Mode 2 PEDS (1-8)								
Green Flash Phases (1-8)								
Left Turn Amber Blanking (1-8)								
Prevent Left Turn Reservice (1-8)								
Walk Clear Protection (1-8)								
Actuated Rest in Walk (1-8)								
Flashing Walk (1-8)								
Phase 1 Dual Entry Phase (0-8)						X		
Phase 2 Dual Entry Phase (0-8)								
Phase 3 Dual Entry Phase (0-8)								X
Phase 4 Dual Entry Phase (0-8)								
Phase 5 Dual Entry Phase (0-8)								
Phase 6 Dual Entry Phase (0-8)		X						
Phase 7 Dual Entry Phase (0-8)				X				
Phase 8 Dual Entry Phase (0-8)								

1.1.3.1 OVERLAP MODIFIERS

Front Panel Overlap Enable / Modifier (0-4) see table 1		
Enable Negative Standard Overlaps	YES	NO

TABLE 1	
Function Codes - Front Panel Overlap Enable/Modifiers	
Code	Function
0	Front panel overlaps disabled. Overlap operation functions in Standard Mode if hardware overlap card is programmed. Overlaps remain red if hardware overlap card is not programmed.
1	Front panel overlaps enabled. If hardware overlap program card is not installed or is not programmed, the controller accepts standard and protected/permissive overlap programming from the front panel keyboard or a database download.
2	Front panel overlaps enabled. If hardware overlap program card is not installed or is not programmed, the controller accepts standard and protected/permissive overlap programming from the front panel keyboard or database download but protected/permissive operation is modified to protect a pedestrian movement first before a right turn movement.
3	Front panel overlaps enabled. If hardware overlap program card is not installed or is not programmed, the controller accepts standard and protected/permissive overlap programming from the front panel keyboard or a database download but green fast flash is enabled for all overlaps. The overlap flashes green at 150 cycles per minute when a parent phase is on which is assigned as a fast flash phase.
4	Front panel overlaps enabled. This mode accommodates 5 section head for protective/permissive operation for Canada.

1.3.2.1 CONFIG. OVERLAP A

	P1	P2	P3	P4	P5	P6	P7	P8
Parent Phases, Standard Overlap (1-8)								
Protected Phase, Prot/Perm Overlap (1-8)								
Permissive Phase, Prot/Perm Overlap (1-8)								
Auxiliary Overlap Green (00.0-255)								
Auxiliary Overlap Yellow (00.0-25.0)								
Auxiliary Overlap Red (00.0-25.0)								
Auxiliary Times After Parent Phase(s) (1-8)								

1.3.2.2 CONFIG. OVERLAP B

	P1	P2	P3	P4	P5	P6	P7	P8
Parent Phases, Standard Overlap (1-8)								
Protected Phase, Prot/Perm Overlap (1-8)								
Permissive Phase, Prot/Perm Overlap (1-8)								
Auxiliary Overlap Green (00.0-255)								
Auxiliary Overlap Yellow (00.0-25.0)								
Auxiliary Overlap Red (00.0-25.0)								
Auxiliary Times After Parent Phase(s) (1-8)								

1.3.2.3 CONFIG. OVERLAP C

	P1	P2	P3	P4	P5	P6	P7	P8
Parent Phases, Standard Overlap (1-8)								
Protected Phase, Prot/Perm Overlap (1-8)								
Permissive Phase, Prot/Perm Overlap (1-8)								
Auxiliary Overlap Green (00.0-255)								
Auxiliary Overlap Yellow (00.0-25.0)								
Auxiliary Overlap Red (00.0-25.0)								
Auxiliary Times After Parent Phase(s) (1-8)								

1.3.2.4 CONFIG. OVERLAP D

	P1	P2	P3	P4	P5	P6	P7	P8
Parent Phases, Standard Overlap (1-8)								
Protected Phase, Prot/Perm Overlap (1-8)								
Permissive Phase, Prot/Perm Overlap (1-8)								
Auxiliary Overlap Green (00.0-255)								
Auxiliary Overlap Yellow (00.0-25.0)								
Auxiliary Overlap Red (00.0-25.0)								
Auxiliary Times After Parent Phase(s) (1-8)								

1.1.4.1 RECALL PHASES

	1	2	3	4	5	6	7	8
Locked Detectors Phases (1-8)				X				X
Min. Recall Phases (1-8)								
Soft Recall Phases (1-8)								
Max. Recall Phases (1-8)								
PED Recall Phases (1-8)								

1.4.2.1 NEMA DETECTOR #1

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.2 NEMA DETECTOR #2

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.3 NEMA DETECTOR #3

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.4 NEMA DETECTOR #4

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.5 NEMA DETECTOR #5

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.6 NEMA DETECTOR #6

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.7 NEMA DETECTOR #7

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

1.1.4.2.8 NEMA DETECTOR #8

	1	2	3	4	5	6	7	8
Call Phases (1-8)								
"Switch To" Phase (Disconnect Mode 4 or 5) (1-8)								
Call Delay Time (000-255)								
Call Extension Time (00.0-25.0)								
Extension Always Enabled? (Ignore Red)	YES	NO						
Call Disconnect Mode (000-005)								
Avg. Veh + Loop Length (001-220)								
Calculated 1 Minute Avg. Speed								

0 = No Detector Disconnect
 1 = Call Detector
 2 = Stop Bar Gap Out
 3 = Combination of 1 and 2
 4 = Detector Sw for Prot/Perm operation
 5 = Detector Sw for Perm/Prot operation

BASIC CONFIGURATION

1.2 CONFIGURATION FLAGS

Phase Config. Table (000-009) see table 1		
Convert (PCL) Phase Controller Logic Output to Special	YES	NO
Stop Time Interval Reset Enable	YES	NO
Start "TBR" Time Before Reduction After Initial Green	YES	NO

1.3 CONFIG. POWER UP

	1	2	3	4	5	6	7	8
Power Up Flash (000-255)	10							
Power Up All Red (000-256)	10							
Start Up Phases In Red (1-8)			X				X	
Start Up Phases In Yellow (1-8)				X				X
Start Up Phases in Green (1-8)								

1.4 CONFIG. FLASH

	1	2	3	4	5	6	7	8
Configuration MUTCD Flash								
MUTCD Flash Exit Phases (1-8)								
Minimum MUTCD Flash Time (000-255)	20							
Fail Voltage Monitor During Flash Command	YES	NO						

1.5 SEQUENCING

Phase Sequencing Enable (000-002) see table 2	
Manual Phase Sequencing Command (000-015) see table 3	

Code	Function
0	Standard NEMA Dual-Quad Configuration
1	Quad-Sequential Configuration
2	Eight Phase Sequential Configuration
3	Exclusive Phase 1 Configuration
4	Exclusive Phase 2 Configuration
5	Dual Four Phase Configuration (no barriers)
6	Exclusive Left Turn Configuration
7	Exclusive Phase 1 & 3 Configuration
8	8 ϕ Quad with ϕ 3, ϕ 7 Conflicting
9	8 ϕ Special Alternating Sequence

Code	Function
0	Phase sequence commands accepted only from coordinator and manual keyboard commands.
1	Phase sequence commands accepted only from coordinator. (MAN, CRD or TOD)
2	Phase sequence commands accepted from any source. The possible sources are the coordinator, front panel manual keyboard, active time-of-day plan, and external special function input. (MAN, CRD, TOD or REMOTE).

Code	Function
0	No Special Phase Sequence Selected
1	Phases 1 & 2 Rotated
2	Phases 3 & 4 Rotated
3	Phases 1 & 2, 3 & 4 Rotated
4	Phases 5 & 6 Rotated
5	Phases 1 & 2, 5 & 6 Rotated
6	Phases 3 & 4, 5 & 6 Rotated
7	Phases 1 & 2, 3 & 4, 5 & 6 Rotated
8	Phases 7 & 8 Rotated
9	Phases 1 & 2, 7 & 8 Rotated
10	Phases 3 & 4, 7 & 8 Rotated
11	Phases 1 & 2, 3 & 4, 7 & 8 Rotated
12	Phases 5 & 6, 7 & 8 Rotated
13	Phases 1 & 2, 5 & 6, 7 & 8 Rotated
14	Phases 3 & 4, 5 & 6, 7 & 8 Rotated
15	Phases 1 & 2, 3 & 4, 5 & 6, 7 & 8 Rotated

2.1 RAILROAD PREEMPTION

	1	2	3	4	5	6	7	8
Min. Green Before Allowing Preempt (0.0-20)								
PED Clear Entering Preempt (0-255)								
Yellow Clear Entering Preempt (3.0-25.0)								
Red Clear Entering Preempt (0.0-25.0)								
1 st Track Green Clear Duration (0-255)								
1 st Track Green Clear Phases (1-8)								
1 st Track Green Clear Overlaps (A-D)								
1 st Track Yellow Clear Duration (3.0-25.0)								
1 st Track Red Clear Duration (0.0-25.0)								
2 nd Track Green Clear Duration (0-255)								
2 nd Track Green Clear Phases (1-8)								
2 nd Track Green Clear Overlaps (A-D)								
2 nd Track Yellow Duration (03.0-25.0)								
2 nd Track Red Clear Duration (00.0-25.0)								
Preempt Dwell Minimum Green (000-255)								
Allowable Dwell Call Gap (01.0-25.0)								
Phases to Dwell Green (1-8)								
Overlaps to Dwell Green (A-D)								
Dwell Flash Enable (Y / N)								
Exit Dwell Yellow Clear (03.0-25.0)								
Exit Dwell Red Clear (00.0-25.0)								
Exit Dwell Red Revert (02.0-25.0)								
Normal Operation Return Phases (1-8)								
Normal Operation Return Overlaps (A-D)								
Limited Service Excluded Phase (1-8)								
Limited Service Excluded PED's (1-8)								
Limited Service Excluded Overlaps (A-D)								

2.2.1 EMERGENCY VEHICLE PREEMPT #1

	1	2	3	4	5	6	7	8
Preempt Initiation Delay (000-255)	4							
Min. Green Before Allowing Preempt (00.0-020)	6							
PED Clear Entering Preempt (000-255)	6							
Yellow Clear Entering Preempt (03.0-25.0)	4.5							
Red Clear Entering Preempt (00.0-25.0)	1							
Preempt Dwell Min. Green (000-255)	5							
Allowable Dwell Call Gap (01.0-25.0)	3							
Low Priority Max. Dwell (000-255)	30							
Phases to Dwell Green (1-8)		X			X			
Overlaps to Dwell Green (A-D)								
Dwell Flash Enable	YES	(NO)						
Exit Dwell Yellow Clear (03.0-25.0)	4.5							
Exit Dwell Red Clear (00.0-25.0)	1.0							
Normal Operation Return Phases (1-8)		X				X		
Normal Operation Return Overlaps (A-D)								
Latch Momentary Call Until Served	YES	NO						
High / Low Discrimination Enable	YES	NO						
Low Priority Bus Preempt Enable	YES	NO						

2.2.2 EMERGENCY VEHICLE PREEMPT #2

	1	2	3	4	5	6	7	8
Preempt Initiation Delay (000-255)	4							
Min. Green Before Allowing Preempt (00.0-020)	6							
PED Clear Entering Preempt (000-255)								
Yellow Clear Entering Preempt (03.0-25.0)	4.5							
Red Clear Entering Preempt (00.0-25.0)	1.0							
Preempt Dwell Min. Green (000-255)	5							
Allowable Dwell Call Gap (01.0-25.0)	3							
Low Priority Max. Dwell (000-255)	30							
Phases to Dwell Green (1-8)	X					X		
Overlaps to Dwell Green (A-D)								
Dwell Flash Enable	YES	NO						
Exit Dwell Yellow Clear (03.0-25.0)	4.5							
Exit Dwell Red Clear (00.0-25.0)	1.0							
Normal Operation Return Phases (1-8)		X				X		
Normal Operation Return Overlaps (A-D)								
Latch Momentary Call Until Served	YES	NO						
High / Low Discrimination Enable	YES	NO						
Low Priority Bus Preempt Enable	YES	NO						

2.2.3 EMERGENCY VEHICLE PREEMPT #3

	1	2	3	4	5	6	7	8
Preempt Initiation Delay (000-255)	4							
Min. Green Before Allowing Preempt (00.0-020)	6							
PED Clear Entering Preempt (000-255)								
Yellow Clear Entering Preempt (03.0-25.0)	4.5							
Red Clear Entering Preempt (00.0-25.0)	1.0							
Preempt Dwell Min. Green (000-255)	5							
Allowable Dwell Call Gap (01.0-25.0)	3							
Low Priority Max. Dwell (000-255)	30							
Phases to Dwell Green (1-8)				X			X	
Overlaps to Dwell Green (A-D)								
Dwell Flash Enable	YES	NO						
Exit Dwell Yellow Clear (03.0-25.0)	4.5							
Exit Dwell Red Clear (00.0-25.0)	1.0							
Normal Operation Return Phases (1-8)		X				X		
Normal Operation Return Overlaps (A-D)								
Latch Momentary Call Until Served	YES	NO						
High / Low Discrimination Enable	YES	NO						
Low Priority Bus Preempt Enable	YES	NO						

2.2.4 EMERGENCY VEHICLE PREEMPT #4

	1	2	3	4	5	6	7	8
Preempt Initiation Delay (000-255)	4							
Min. Green Before Allowing Preempt (00.0-020)	6							
PED Clear Entering Preempt (000-255)								
Yellow Clear Entering Preempt (03.0-25.0)	4.5							
Red Clear Entering Preempt (00.0-25.0)	1.0							
Preempt Dwell Min. Green (000-255)	5							
Allowable Dwell Call Gap (01.0-25.0)	3							
Low Priority Max. Dwell (000-255)	30							
Phases to Dwell Green (1-8)			X					X
Overlaps to Dwell Green (A-D)								
Dwell Flash Enable	YES	NO						
Exit Dwell Yellow Clear (03.0-25.0)	4.5							
Exit Dwell Red Clear (00.0-25.0)	1.0							
Normal Operation Return Phases (1-8)				X				X
Normal Operation Return Overlaps (A-D)								
Latch Momentary Call Until Served	YES	NO						
High / Low Discrimination Enable	YES	NO						
Low Priority Bus Preempt Enable	YES	NO						

2.3 PREEMPT FLAGS (GLOBAL PREEMPT FLAGS)

	1	2	3	4	5	6	7	8
Preempt Output Mode (000-003) see table								
Vehicle Calls at Preempt Exit (1-8)								
PED Calls at Preempt Exit (1-8)								

Code	Active Preempt	Other Preempt Outputs
0	ON	Waiting Calls Flash
1	ON	All Others Flash
2	ON-During Dwell Interval	Waiting Calls Flash
3	ON-During Dwell Interval	All Others Flash

3.1.1. (1-8) TIME OF DAY PLAN # 1-8

3.1.1.1 3.1.1.2 3.1.1.3 3.1.1.4 3.1.1.5 3.1.1.6 3.1.1.7 3.1.1.8

Group # 1	TIME OF DAY PLAN #							
	1	2	3	4	5	6	7	8
TOD Plan Enable (Y / N)	NO	NO	NO	NO	NO			
First Effective Year (000-099)								
First Effective (001-012)								
First Effective Day of Month (001-031)								
Hour to Implement Plan (000-023)								
Minute to Implement Plan (000-059)								
Plan's Day of Week "Type" Code (000-010) see table 1	NO	NO	NO	NO	NO			
Enable Coordination (Y / N)								
Call to Non-Act Mode #1 (Y / N)								
Call to Non-Act Mode #2 (Y / N)								
"Walk Rest Modifier" (Y / N)								
CRD: Veh Perm = PED Perm (Y / N)								
MSP Walk = Max Green When Free (Y / N)								
Actuated PED Recycle (Max > Wik + PCL) (Y / N)								
TOD Control of Detector Report (Y / N)								
Postpone Detectors Report Update (Y / N)								
Dynamically Allocate Splits in Coord. (Y / N)								
Cycle Plan to Implement (000-018)								
Offset to Implement (000-005)								
Fully Actuated Coord. Mode (Y / N)								
MUTCD Flash (Y / N)								
Enable Special Function Outputs (1-8)								
Signal Dimming (Y / N)								
Place Minimum Recall (1-8)								
Place Maximum Recall (1-8)								
Place PED Recall (1-8)								
Use Max. Green #2 (1-8)								
"Volume Density" Operation (1-8)								
Phases Sequence (000-015) see table 2								
Enable Conditional Service (1-8)								
Phase to Rest in Red (1-8)								
Phase to Omit From Service (1-8)								
PED's to Omit From Service (1-8)								
Phases to Omit Red Clearance (1-8)								

Code	Function
0	One Time Event
1	Sundays
2	Mondays
3	Tuesdays
4	Wednesdays
5	Thursdays
6	Fridays
7	Saturdays
8	All Weekdays
9	All Weekend Days
10	Every Day

Code	Function
0	No Phases Interchanged
1	Phases 1 & 2 Interchanged
2	Phases 3 & 4 Interchanged
3	Phases 1 & 2, 3 & 4 Interchanged
4	Phases 5 & 6 Interchanged
5	Phases 1 & 2, 5 & 6 Interchanged
6	Phases 3 & 4, 5 & 6 Interchanged
7	Phases 1 & 2, 3 & 4, 5 & 6 Interchanged
8	Phases 7 & 8 Interchanged
9	Phases 1 & 2, 7 & 8 Interchanged
10	Phases 3 & 4, 7 & 8 Interchanged
11	Phases 1 & 2, 3 & 4, 7 & 8 Interchanged
12	Phases 5 & 6, 7 & 8 Interchanged
13	Phases 1 & 2, 5 & 6, 7 & 8 Interchanged
14	Phases 3 & 4, 5 & 6, 7 & 8 Interchanged
15	All Phases Interchanged

Signal # 201

TRACONEX

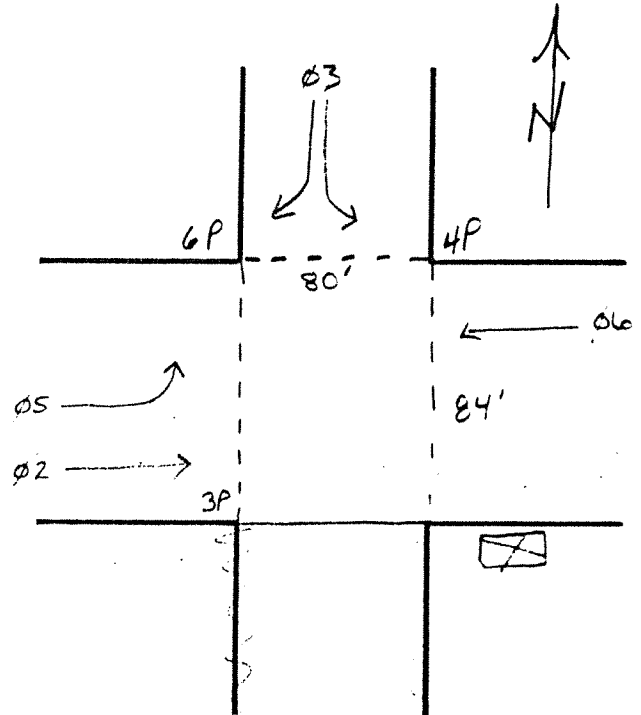
Ramon Rd.
& Landau Blvd.
Signal

TMP - 390 Rev. J Ver. 6

TRAFFIC SIGNAL CONTROLLER PROGRAM CHART

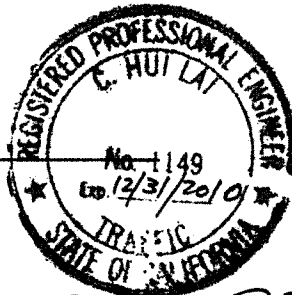
INTERSECTION

Ramon Road +
Landau Blvd

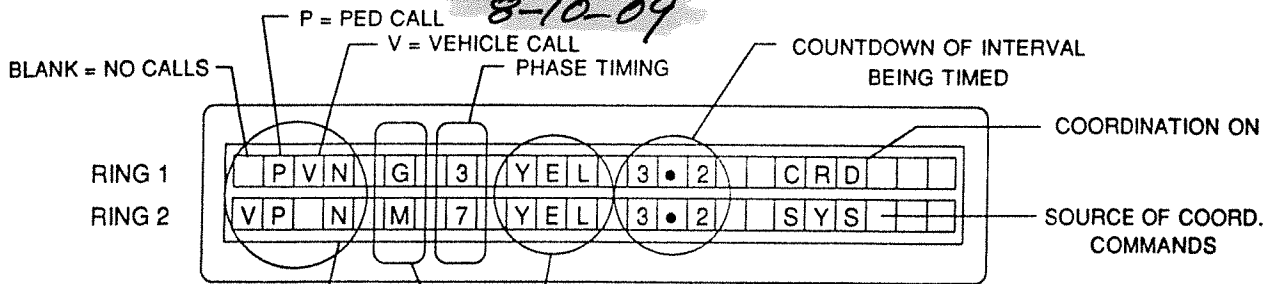


SYSTEM

ADDRESS (SYSTEM)



E. Hui Lai
8-10-09



- BLANK = NO CALLS
- P = PED CALL
- V = VEHICLE CALL
- PHASE TIMING
- COUNTDOWN OF INTERVAL BEING TIMED
- COORDINATION ON
- SOURCE OF COORD. COMMANDS
- N = PHASE NEXT
- REASON FOR TERMINATION
- G = GAP OUT
- M = MAX OUT OR FORCE OFF
- 2 = MAX #2 IN EFFECT
- INTERVAL BEING TIMED
- MIN = MINIMUM
- WLK = WALK
- WCL = PED CLEAR
- YEL = YELLOW
- RED = ALL RED
- RDD = RED DWELL
- RRT = RED REVERT
- LCP = LAST CAR PASSAGE
- SEL = SELECT
- MAX = MAXIMUM
- GAP = PASSAGE TIME
- AIN = ADDED INITIAL
- RST = REST
- HLD = HOLD
- WKD = WALK DWELL

OPERATION DEFINITION

390 MODE - PAGE 0 - PHASE 0

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
0	PHASES IN USE	USE		X	X	X	X	X		
1	PED PHASES	PED			X	X		X		
2	FLASHING WALK	FWK								
3	ACT REST IN WALK	ARW ①								
4	WALK CLEAR PROTECT	WCP								
5	DENSITY PHASES	DEN		X	X			X		
6	LAST CAR PASSAGE	LCP								
7	VEH CALL TO NA 1	VN1		X				X		
8	PED CALL TO NA 1	PN1		X				X		
9	VEH CALL TO NA 2	VN2								
A	PED CALL TO NA 2	PN2								
B	FAST FLASH GREEN CANADA	FGN								
C	ENABLE MENU SCROLL	MNU								
D	LEFT TURN YEL BLANK	LAB								
E	SELECT ANTI-BACKUP	ABU								
F										

① For operation, walk rest modifier must also be enabled (under MDT in TOD plans, see page 14 of this chart).

ADDITIONAL OPERATION PARAMETERS

390 MODE - PAGE 0 - PHASE 9

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY								
0	POWER UP FLASH	PUF	6	SECONDS						
1	START UP RED TIME	SAR	4	SECONDS						
2	START UP IN RED	SUR								
3	START UP IN YELLOW	SUY				5				
4	START UP IN GREEN	SUG								
5	MAIN ST PHASES (MUTCD)	MSF	2					6		
6	MIN MUTCD FL TIME	FMN	15	SECONDS						
7	DUAL ENTRY	DLE	2					6		
8	SIM GAP OUT	SGO								
9	MIN RECALL	MNR	2					6		
A	MIN SOFT RECALL	MNS ①								
B	MAX RECALL	MXR								
C	PED RECALL	PDR								
D	LOCK DETECTOR	LKD								
E	LIQ CRYSTAL TEST	LCD ②	0	0 = OFF	1 = ON					
F	BACKLIGHT ON/OFF	BLT	1	0 = OFF	1 = ON					

① For SOFT RECALL select phase in both MNR and MNS

② For LCD TEST hold in ENTER button to run thru display check

PHASE TIMING

390 MODE - PAGE 0 - PHASES 1 THRU 8

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
0	MINIMUM GREEN	MIN		10	8	0	4	10		
1	WALK	WLK			7	7		7		
2	PED CLEARANCE	WCL			25	25		20		
3	PASSAGE TIME	PSG		5	4	2	2	5		
4	MAXIMUM #1	MX1		40	40	40	25	40		
5	MAXIMUM #2	MX2		40	40	40	25	40		
6	YELLOW	YEL		4.5	4	4	4	4.5		
7	ALL RED	RED		1.5	1.5	1.5	1	1.5		
8	RED REVERT TIME	RRT		5	5		5	5		
9	ACTUATIONS B4 ADD	ABA ①		0	0			0		
A	SEC PER ACTUATION	S/A ①		0	0			0		
B	MAX ADDED INITIAL	MXI ①		0	0			0		
C	TIME B4 REDUCTION	TBR ①		5	5			5		
D	TIME TO REDUCE	TTR ①		15	15			15		
E	MINIMUM GAP	MNG ①		2	2			2		
F	COND MIN GREEN	CMN								
Reference Only	RECALL (MNS-MIN-MAX-PED)			MIN				MIN		
	LOCK DET (ON - OFF)									

① These time settings only effective with Density (DEN) enabled (PAGE 0 - PHASE 0 - INTERVAL 5)

OVERLAP PROGRAM

390 MODE - PAGE 0 - PHASES A THRU D

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	PHASE A	PHASE B	PHASE C	PHASE D
			OVLP A	OVLP B	OVLP C	OVLP D
0	STANDARD OVLP	STD				
1	PRO Ø OF PRO / PER	PRO				
2	PER Ø OF PRO / PER	PER				
3	AUX GREEN TIME	AXG				
4	AUX YELLOW TIME	AXY				
5	AUX RED TIME	AXR				
6	FOLLOW PARENT Ø	FPP				
7						
8						
9						
A						
B						
C						
D						
E						
F						

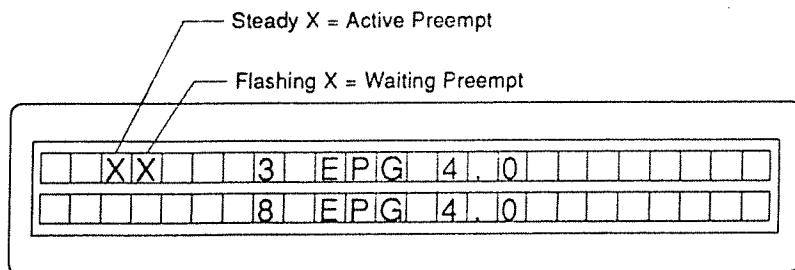
EMERGENCY VEHICLE PREEMPTION

390-MODE - PAGE 1 - PHASES 2-5

KEY BD. DESIGN	FUNCTION	INTERVAL DISPLAY	Ø2	Ø3	Ø4	Ø5
			EVP #1	EVP #2	EVP #3	EVP #4
0	EM PRE DELAY	EDE				
1	EM PRE PED CL	EPC	6	6	6	
2	EM PRE YEL CL #1	EY1	4.5	3.0	4.5	
3	EM PRE RED CL #1	ER1	1.0	1.0	1.0	
4	EM PRE MIN GRN	EMN	10	10	10	
5	EM PRE GAP TIME	EPG	3	3.0	3	
6	EM PRE YEL CL #2	EY2	4.5	3.0	4.5	
7	EM PRE RED CL #2	ER2	1.0	1.0	1.0	
8	EM PRE GRN DWELL Ø's	PRG	2.5	3	6	
9	EM PRE OL GRN DWELL Ø's	OLG				
A	EM PRE RETURN PHASES	ERG	2,6	2,6	2,6	
B	OL ON W/ RETURN	ROG				
C	LOCK/MAX MODE	LOK ①	1	1	1	
D	EM PRE MAX GRN	EMX	30	30	30	
E						
F						

① FOUR BIT OPTIONS AVAILABLE:

- 1 = Locking Input - Latches All Preempt Calls
- 2 = Discriminator on/off, w/disc. off, all calls are considered high priority, unless bit 3 is selected.
- 3 = Special Low Priority Preempt Service - Controller will not advance out of walk, ped clear, or minimum greens when serving low priority preempts.
- 4 = Concurrent Walk not terminated
- 5 = Time normal opposing ped clearance time



FRONT PANEL DISPLAY DURING EMV PREEMPT
(PREEMPT GAP INTERVAL)