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FINAL TECHNICAL MEMORANDUM

To: Metro **From:** Iteris, Inc.

Date: November 20, 2018

RE: Metro Orange Line Model Design Memorandum

This memorandum outlines the model design assumptions used in the VISSIM microsimulation model that ultimately serves as the traffic analysis tool for comparing improvement alternatives for the Metro Orange Line (MOL). Model design assumptions detailed in this document are based on Iteris' meetings with Metro, the Los Angeles Department of Transportation (LADOT) and Iteris' work performed to-date on the MOL corridor.

Proposed improvements to the MOL include grade separating a segment of the busway at Sepulveda and Van Nuys, platooning buses and installing railroad-type four quadrant gate systems at 35 crossings.

STUDY AREA

The proposed locations for the railroad-type four quadrant gates at 35 crossings along the MOL, shown in **Figure 1**, are listed below:

1. Tujunga Avenue
2. Colfax Avenue
3. Laurel Canyon Boulevard
4. Corteen Place
5. Whitsett Avenue
6. Bellaire Avenue
7. Coldwater Canyon Avenue
8. Chandler Boulevard
9. Ethel Avenue
10. Fulton Avenue
11. Oxnard Street
12. Woodman Avenue
13. Hazeltine Avenue
14. Kester Avenue
15. Densmore Avenue
16. Private driveway*
17. Woodley Avenue
18. Balboa Boulevard
19. White Oak Avenue
20. Lindley Avenue
21. Reseda Boulevard
22. Wilbur Avenue
23. Tampa Avenue
24. Corbin Avenue
25. Victory Boulevard
26. Winnetka Avenue
27. Mason Avenue
28. De Soto Avenue
29. Vanowen Street
30. Sherman Way
31. Valerio Street
32. Saticoy Street
33. Roscoe Boulevard
34. Parthenia Street
35. Nordhoff Street

**Private driveway not in jurisdiction of LADOT*

Figure 1 – Study Area

Source: *MOL Grade Separation Analysis and Operational Improvements Technical Study*

MODEL DESIGN ASSUMPTIONS

As a first step, Iteris evaluated the conceptual drawings showing lane configuration changes at all gated crossings. These drawings were prepared by HNTB and Mott Macdonald under a separate contract as part of the MOL Improvements. This information was then used to develop the traffic signal phasing schemes for locations proposed to be gated, and typical layouts for all gated crossings.

The following assumptions were assumed for the development of the phasing schemes and will be applied in the VISSIM microsimulation model:

- The pertinent traffic signal timing parameters for Existing and Future No Build scenarios are coded per the timing sheets provided by LADOT.
- Pedestrian walking speed is assumed to be 3.5 feet per second.
- In order to calculate preemption parameters and represent the amount of time that the gate system warning devices (i.e. flashing lights) would be operational between when the gates are first "activated" by an approaching bus vehicle and when the gates begin going down and initiate closure of the crossing, the LADOT Railroad Preemption Form (revised on 6/23/2008) was used at each proposed gate crossing by using the storage and track clearance distance characteristics unique to each intersection. These forms are included in **Appendix A**.
    - It should be noted that the minimum track clearance distance (MTCD) was measured from the proposed limit line to six feet past the arm of exit gate.
    - The design vehicles include from 15-feet car to 65-feet semi-trailer.
    - The calculation used a design speed of 45 miles per hour.
- As a result of the conversion of the existing Metro Orange Line service from diesel buses to electric buses, the modeled buses will reflect the electric bus driving characteristics in future scenarios.
- The traffic analysis evaluates two different operating headways: 4-minute and 6-minute, and platooned bus operations. Metro provided the following operating assumptions for vehicle spacing and required braking distances from *Metro's Operator Rulebook*. **Figure 2** from Metro's document shows that an eight second interval would provide safe stopping distance for a 60 foot bus.
    - After further discussion with Metro, a ten second interval for platooning was used for the model simulation.

Figure 2 – Computation of Safe Stopping Distances for Metroliner Services

FULLY LOADED 40 FOOT COACH									60 FOOT COACH	
A	B	C	D	E	F	G	H	I	J	K
		=A*1.1	=A*1.1	=(V^2*7)/100	=C+D+E	=B*4	=B*5	=B*6	=F*1.425	=B*8
MPH	FEET/SEC	PERC. DIST. (FEET)	REACT DIST. (FEET)	BRAKING DIST. (FEET)	TOTAL STOPPING DIST. (FEET)	4 SEC RULE (FEET)	5 SEC (FEET)	6 SEC (FEET)	STOP DIST. (FEET)	8 SEC (FEET)
10	15	11	11	7	29	60	na	90	86	OK
20	30	22	22	28	72	120	na	180	171	OK
30	45	33	33	63	129	180	na	270	257	OK
40	60	44	44	112	200	240	na	360	342	OK
45	66	50	50	142	242	na	330	396	470	528
50	73	55	55	175	285	na	367	440	522	586
55	75	61	61	212	333	na	375	450	534	600

Source: Metro Operator Rulebook, SOP 3.128.

- For the adjacent bike path and pedestrian crossings, the traffic analysis assumed that the traffic signal controlled crossings of the adjacent bike path would still be served as a normal part of the traffic signal cycle for the crossing, while the existing busway crossing would be converted to a "railroad preemption" type of signal operation. The railroad preemption-style gate system will maintain the existing pedestrian walk interval or operate with a minimum of 7 seconds.
- Typical schematics showing how traffic signal phasing would operate with both the gate system operations as well as continued activity on the adjacent bike path and pedestrian crossings are included in **Appendix B**. The schematics show proposed preliminary signal phasing for all movements at each crossing, inclusive of BRT operations, cross traffic, and associated bicycle and pedestrian phases. This phasing may change in future analyses, leading to modified impacts and delay calculations.
- Furthermore, Iteris led two Focused Group meetings for Metro and LADOT in order to discuss the VISSIM model coding and methodology. The meetings included discussions on how to incorporate the changes being proposed on the preliminary schematics into the VISSIM model. LADOT raised the questions on operation, and Metro and Iteris concurred with the changes needed. As a result, left-turn changes were coded into the model at eight locations. **Appendix C** presents screenshots of changes to the model for documentation purposes.
    - Colfax Avenue/Chandler Boulevard:
        - Northbound and southbound lead-lag left-turn phasing
        - Eastbound and westbound lead-lag left-turn phasing
    - Laurel Canyon Boulevard/Chandler Boulevard:
        - Northbound and southbound lead-lag left-turn phasing
        - Eastbound and westbound lead-lag left-turn phasing
    - Whitsett Avenue/Chandler Boulevard:

- Northbound and southbound lead-lag left-turn phasing
- Eastbound and westbound lead-lag left-turn phasing

- Coldwater Canyon Avenue/Chandler Boulevard:
  - Northbound and southbound lead-lag left-turn phasing
- Fulton Avenue/Burbank Boulevard
  - Eastbound and westbound protected left-turn phases
- Woodley Avenue/Victory Boulevard
  - Northbound protected left turn phase
- Mason Avenue/Victory Boulevard
  - Southbound protected left turn phase
- De Soto Avenue/Victory Boulevard
  - Southbound protected left turn phase

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APPENDIX A

Pre-emption Forms

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Tujunga	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade 0.0	%
Maximum Conflicting Move Distance	0	ft	Grade 0.0	%
Minimum Track Clearance Dist, MTCD	80	ft	Grade 0.0	%
Clear Storage Distance, CSD	56	ft		
Length, L	**136**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	6	3	2	1	
Start moving last vehicle in L (sec)	**11.2**	**6.9**	**6.2**	**7.0**	**11**
Move front of vehicle thru L (sec)	8.0	8.9	7.4	16.1	16
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**6.6**	**7.9**	**6.9**	**16.6**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**30**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**28**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	18	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**30**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**70**	sec	*for actual Separation Time*

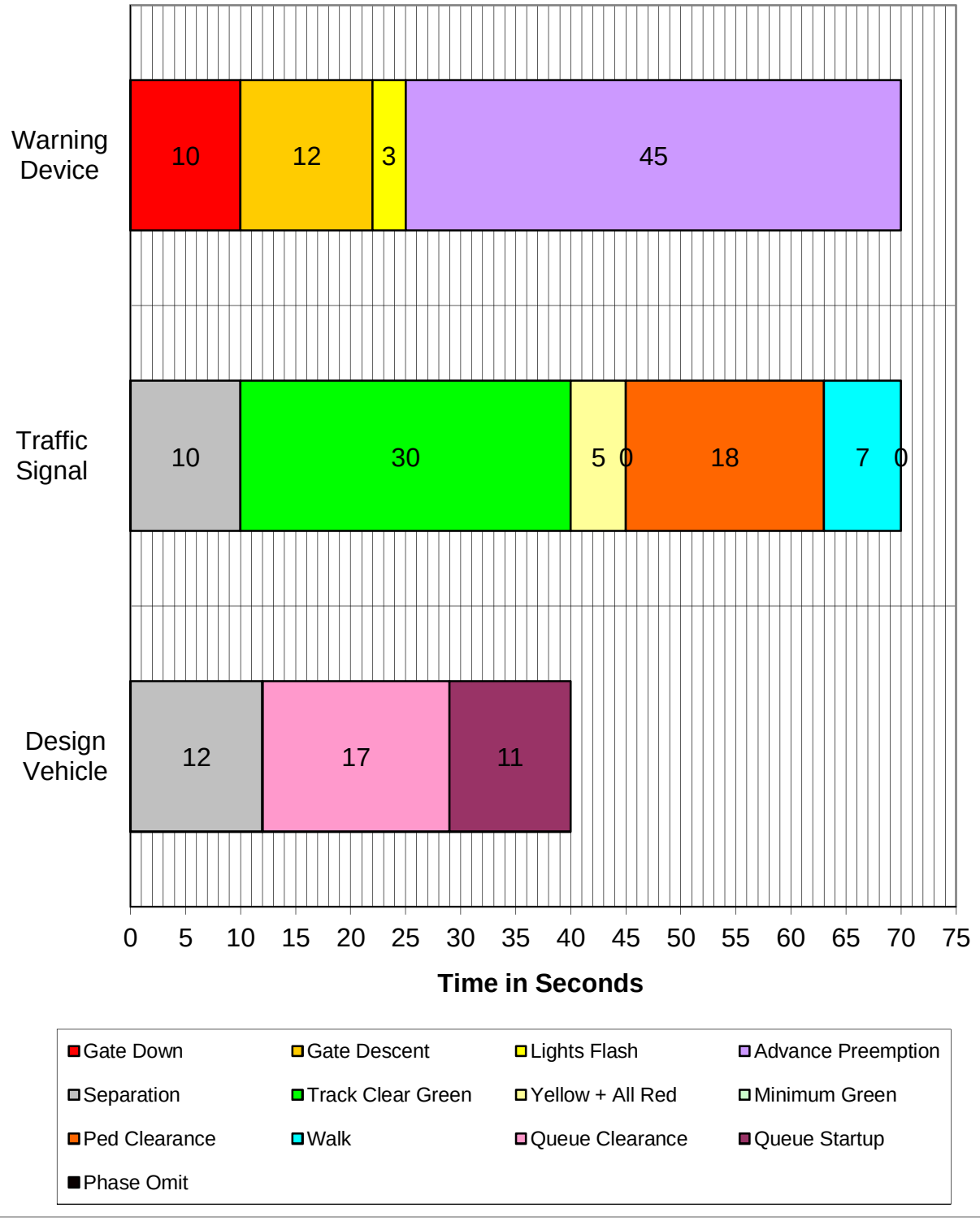
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	5	sec	5 sec minimum
Minimum Warning Time, MWT	**25**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**25**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**45**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**75**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4950**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Tujunga	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Colfax	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	120 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**120** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.5	8.3	6.9	15.1	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**8.0**	**9.4**	**8.0**	**18.8**	**19**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**29** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	21 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	6.0 sec		
Maximum RWTT	**34** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**77** sec	*for actual Separation Time*	

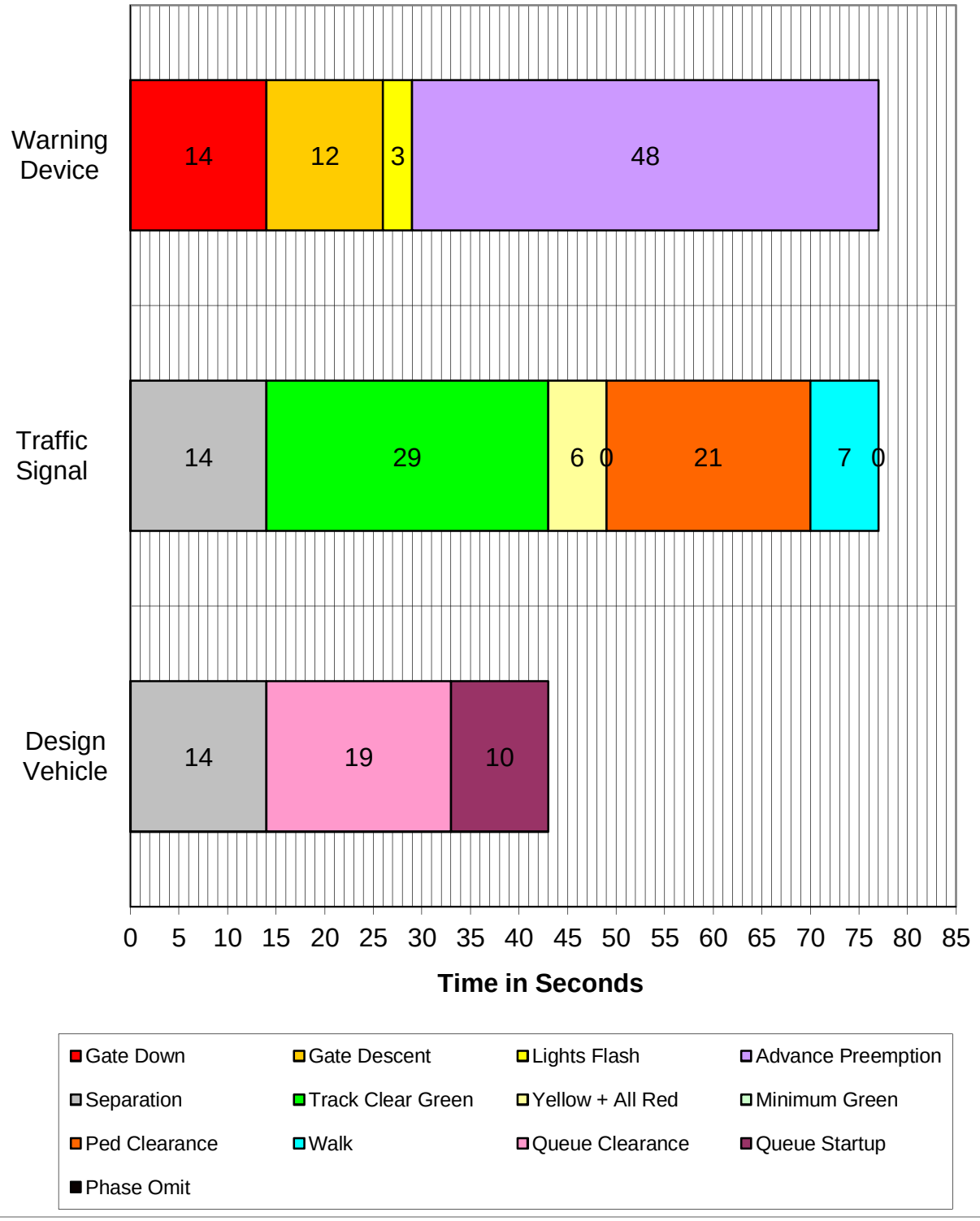
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	9 sec	9 sec minimum
Minimum Warning Time, MWT	**29** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**29** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**48** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**82** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**5412** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Colfax	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Laurel Canyon	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	118	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**118**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.4	8.2	6.8	14.9	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.9**	**9.3**	**8.0**	**18.7**	**19**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**29**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	6.0	sec	
Maximum RWTT	**36**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**79**	sec	*for actual Separation Time*

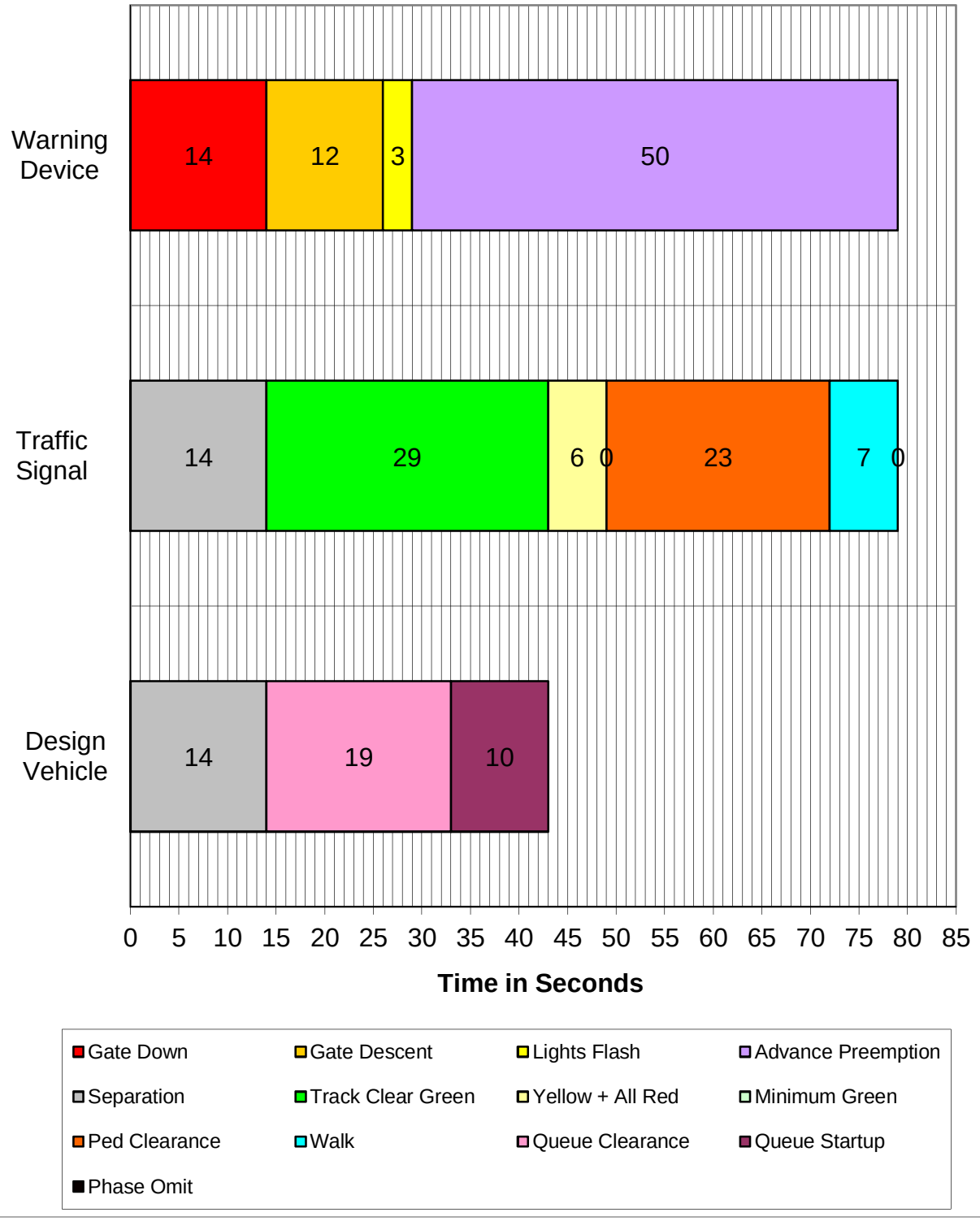
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	9	sec	9 sec minimum
Minimum Warning Time, MWT	**29**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**29**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**50**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**84**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5544**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Laurel Canyon	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Corteen	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	117 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**117** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.4	8.2	6.8	14.9	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.9**	**9.3**	**8.0**	**18.7**	**19**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**29** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	26 sec		
Minimum Green	7 sec		
Maximum Yellow + All Red	6.0 sec		
Maximum RWTT	**39** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**82** sec	*for actual Separation Time*	

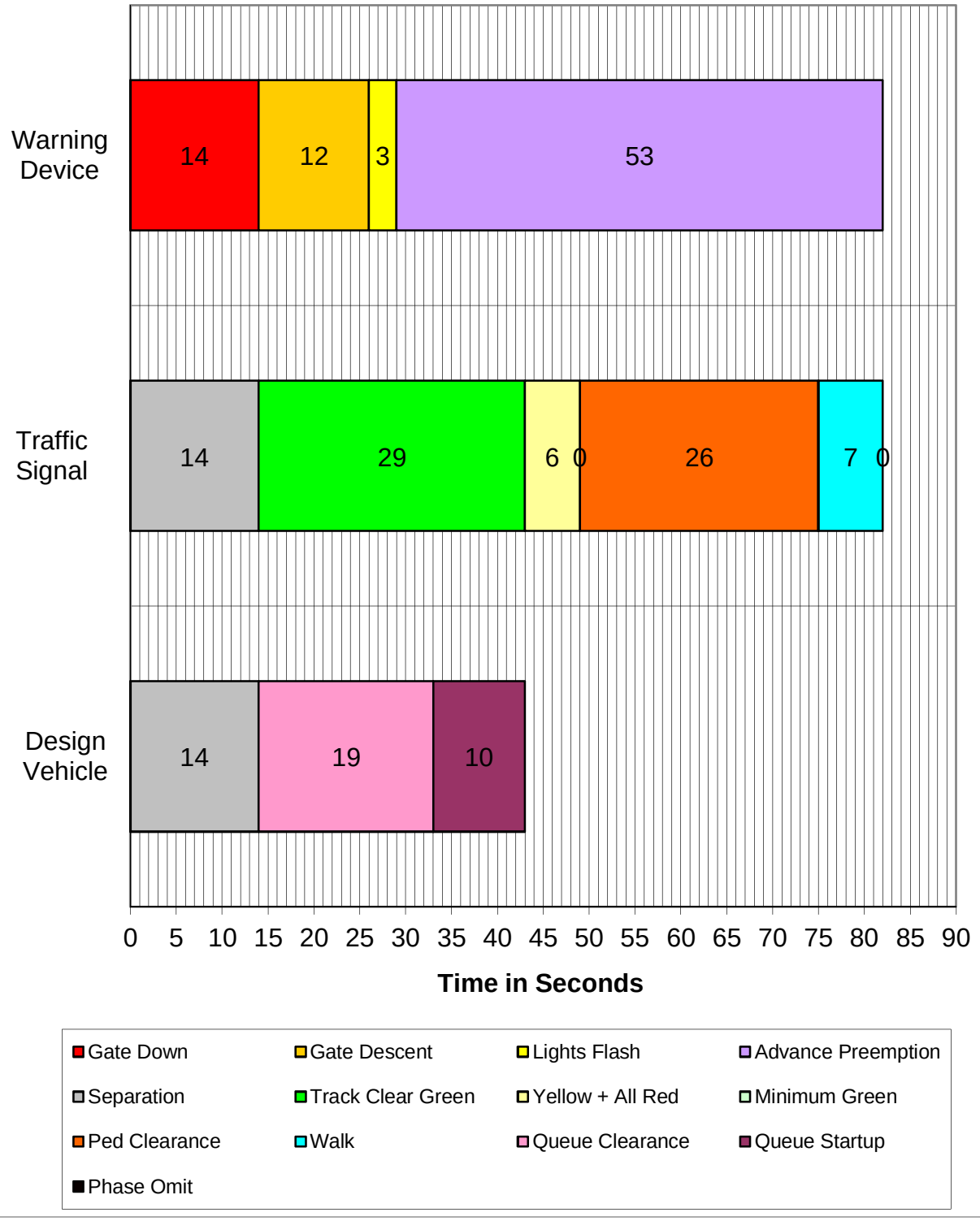
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	9 sec	9 sec minimum
Minimum Warning Time, MWT	**29** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**29** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**53** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**87** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**5742** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Corteen	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Whitsett	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	123 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**123** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.6	8.4	7.0	15.2	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**8.1**	**9.5**	**8.1**	**19.0**	**19**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**29** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	28 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	7.0 sec		
Maximum RWTT	**42** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**85** sec	*for actual Separation Time*	

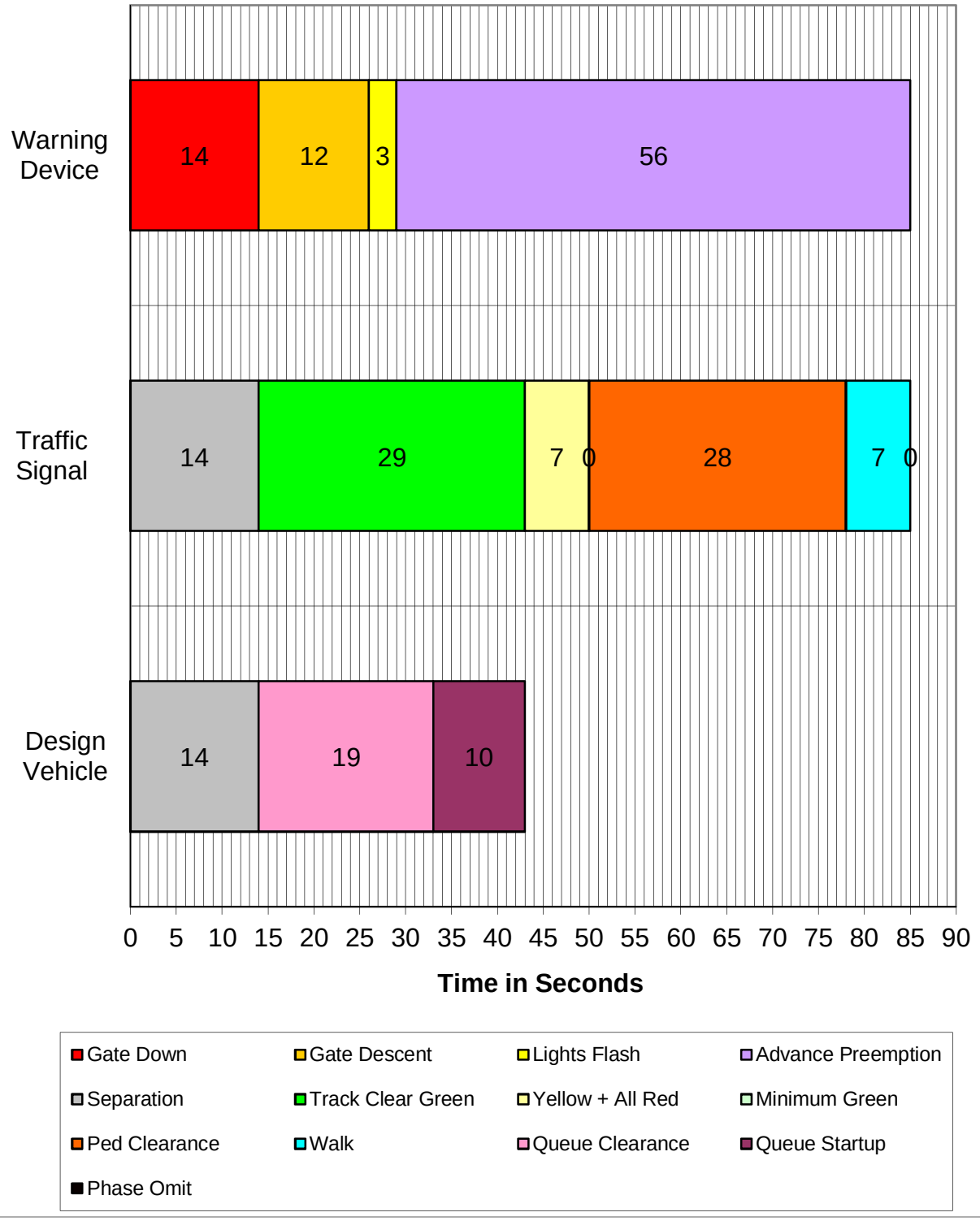
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	9 sec	9 sec minimum
Minimum Warning Time, MWT	**29** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**29** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**56** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**90** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**5940** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Whitsett	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Bellaire	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	142	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**142**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	6	3	3	2	
Start moving last vehicle in L (sec)	**11.2**	**6.9**	**8.0**	**10.0**	**11**
Move front of vehicle thru L (sec)	8.2	9.1	7.6	16.4	16
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**8.7**	**10.1**	**8.6**	**20.0**	**20**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**30**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**31**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	33	sec	
Minimum Green	7	sec	
Maximum Yellow + All Red	6.0	sec	
Maximum RWTT	**46**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**92**	sec	*for actual Separation Time*

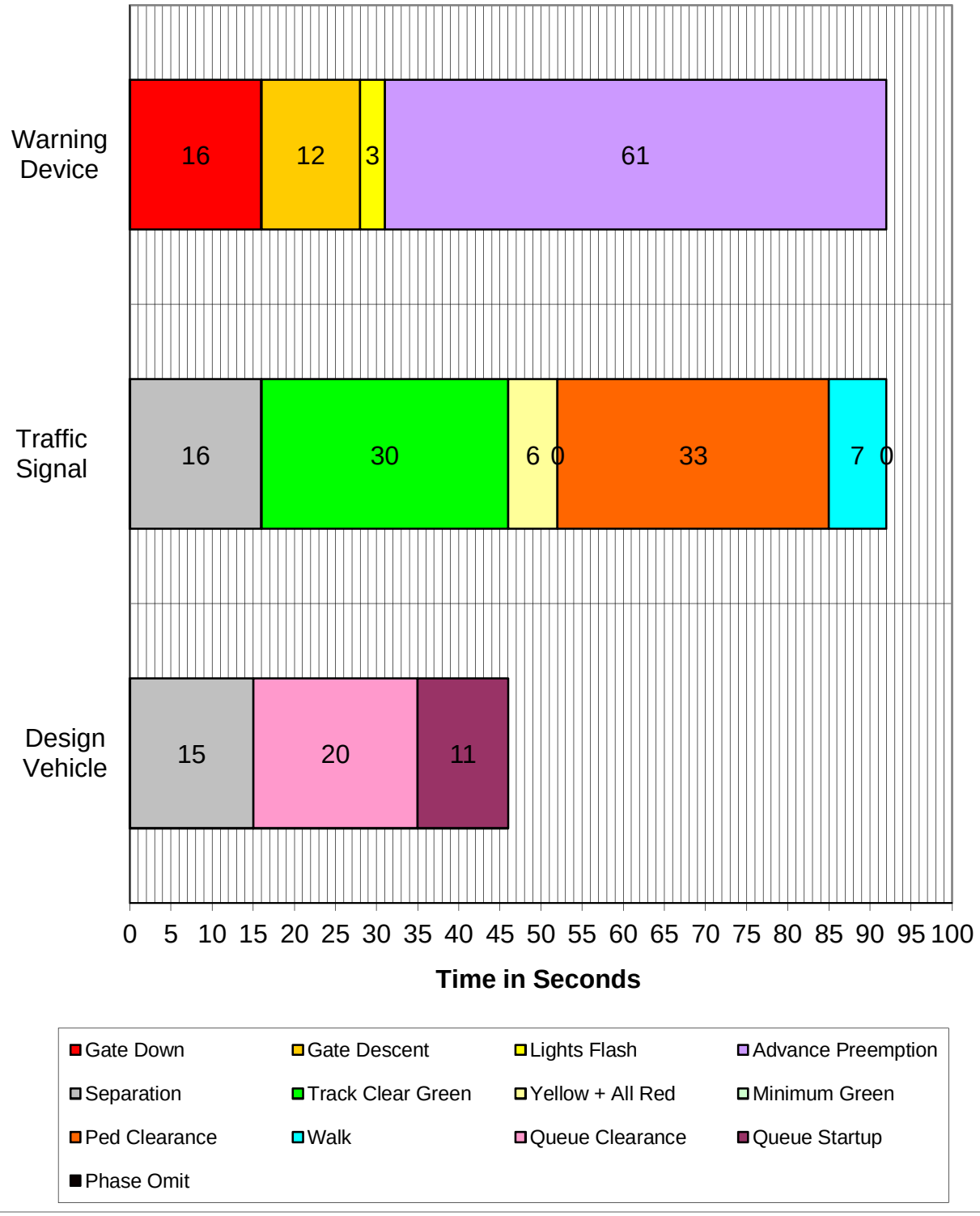
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	11	sec	11 sec minimum
Minimum Warning Time, MWT	**31**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**31**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**61**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**97**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**6402**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Bellaire	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Coldwater	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	150 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**150** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	7	4	3	2	
Start moving last vehicle in L (sec)	**12.7**	**8.3**	**8.0**	**10.0**	**13**
Move front of vehicle thru L (sec)	8.5	9.4	7.8	16.9	17
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**8.9**	**10.3**	**8.8**	**20.4**	**20**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**32** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**33** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	25 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	6.0 sec		
Maximum RWTT	**38** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**87** sec	*for actual Separation Time*	

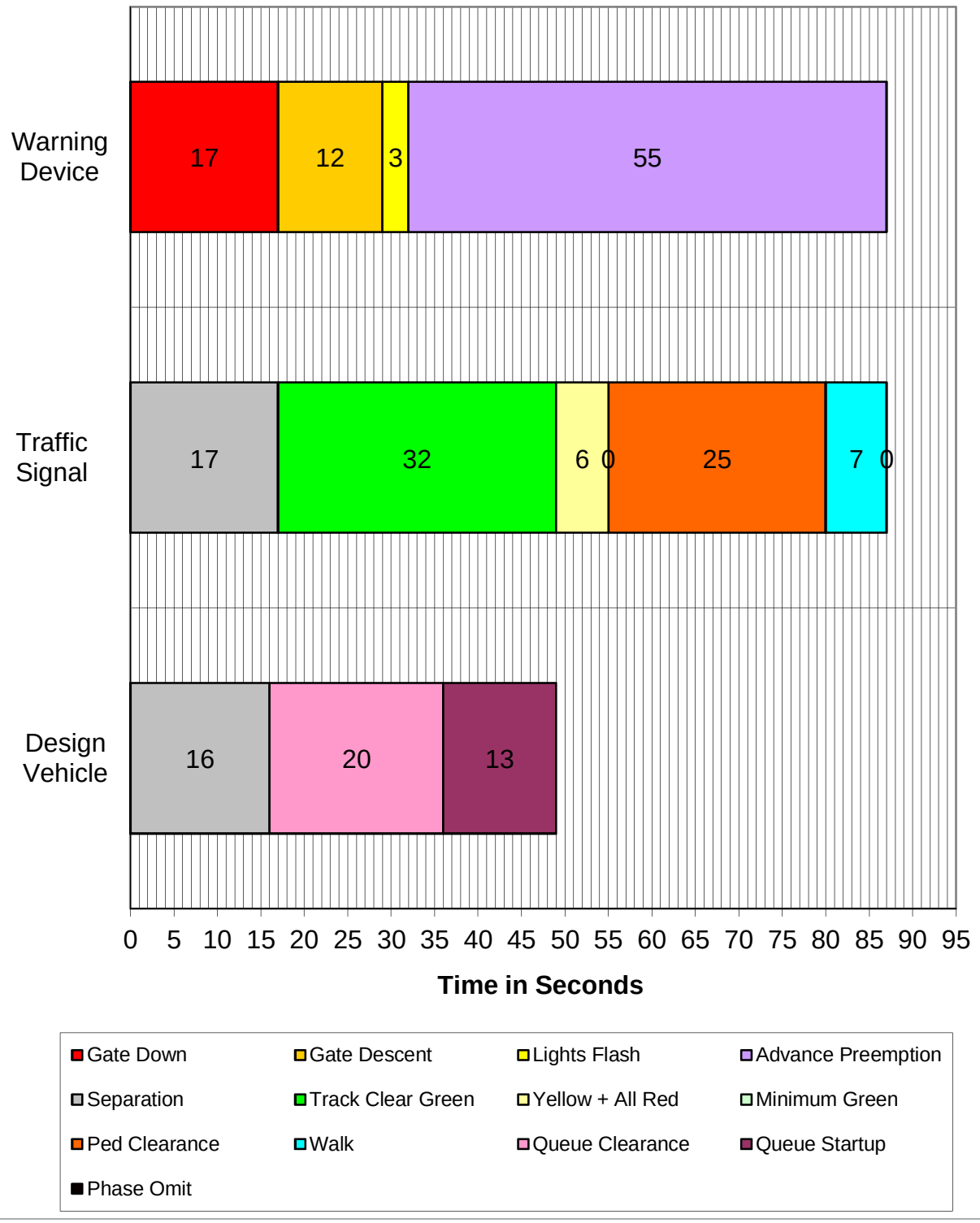
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	12 sec	12 sec minimum
Minimum Warning Time, MWT	**32** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**32** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**55** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**92** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**6072** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Coldwater	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Chandler	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	36 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**36** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	1	1	0	0	
Start moving last vehicle in L (sec)	**3.9**	**3.9**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	3.9	4.3	3.6	8.1	8
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**4.7**	**6.0**	**5.4**	**13.8**	**14**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**18** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	17 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	6.0 sec		
Maximum RWTT	**30** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**59** sec	*for actual Separation Time*	

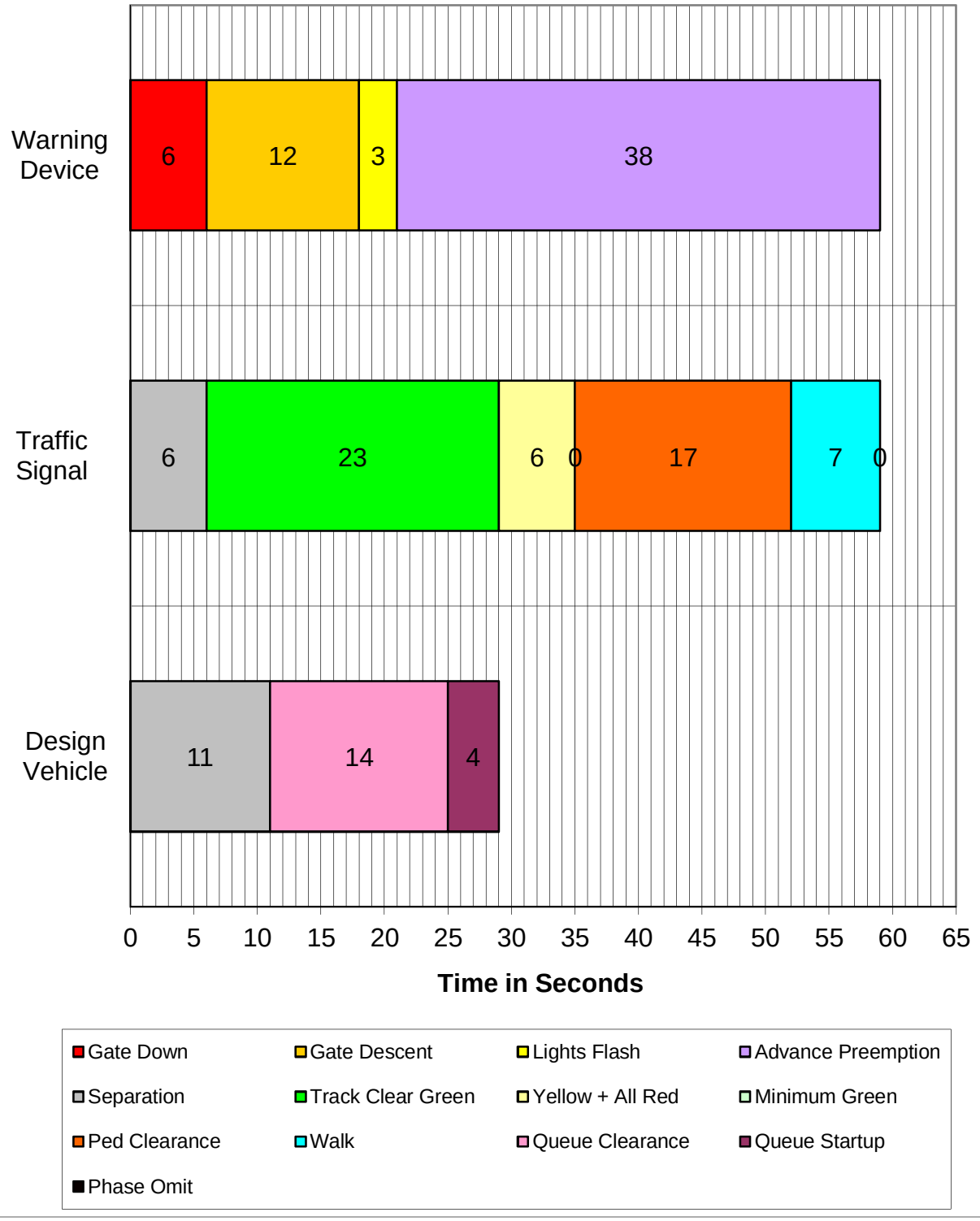
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	1 sec	1 sec minimum
Minimum Warning Time, MWT	**21** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**21** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**38** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**64** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**4224** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Chandler	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Ethel	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	61	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**61**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	2	1	1	0	
Start moving last vehicle in L (sec)	**5.4**	**3.9**	**4.5**	**4.0**	**5**
Move front of vehicle thru L (sec)	5.2	5.7	4.8	10.6	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.8**	**7.1**	**6.3**	**15.4**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**24**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**20**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	12	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**24**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**56**	sec	*for actual Separation Time*

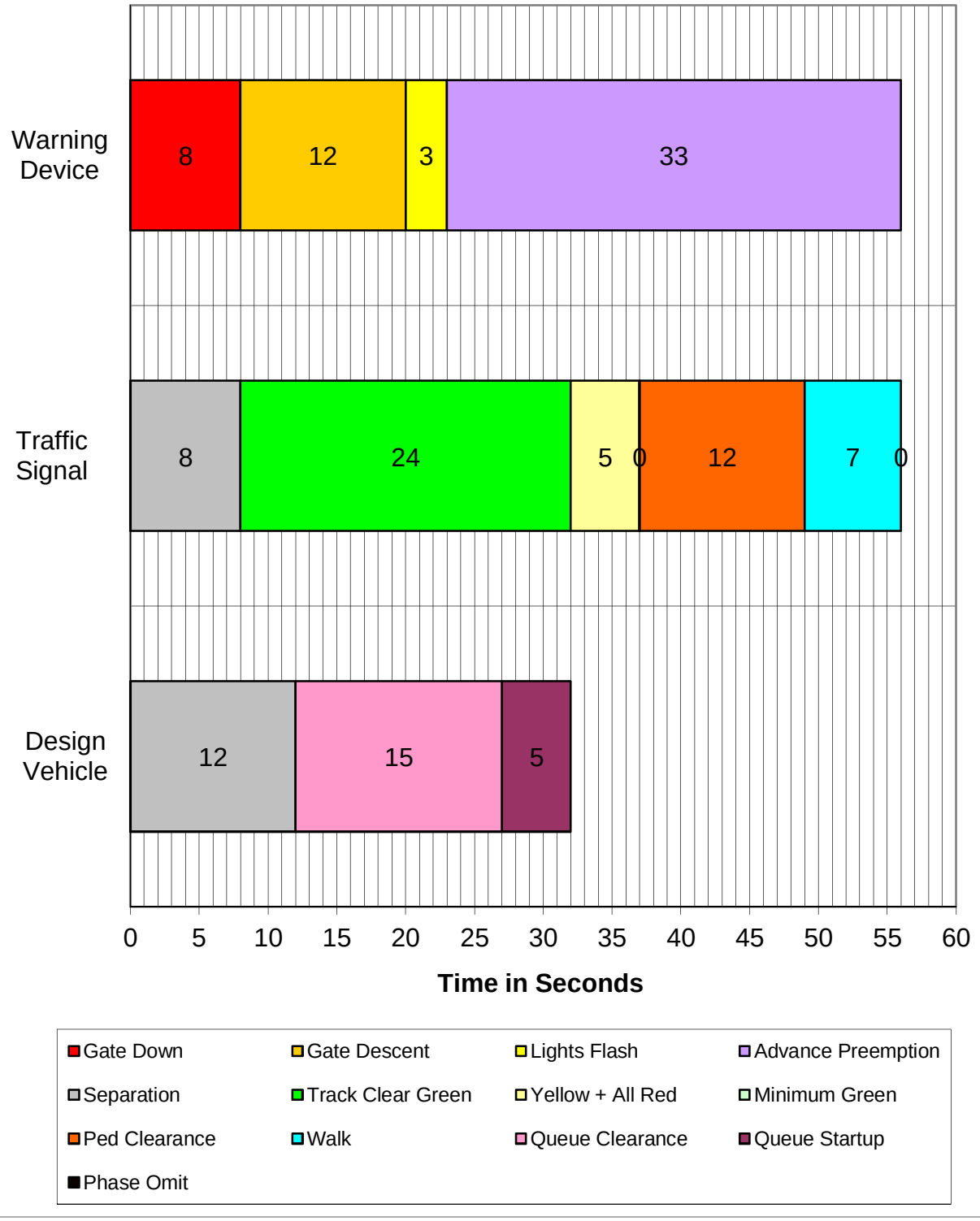
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	3	sec	3 sec minimum
Minimum Warning Time, MWT	**23**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**23**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**33**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**61**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4026**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Ethel	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Fulton	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	21	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	9.0	sec	
Maximum RWTT	**37**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**65**	sec	*for actual Separation Time*

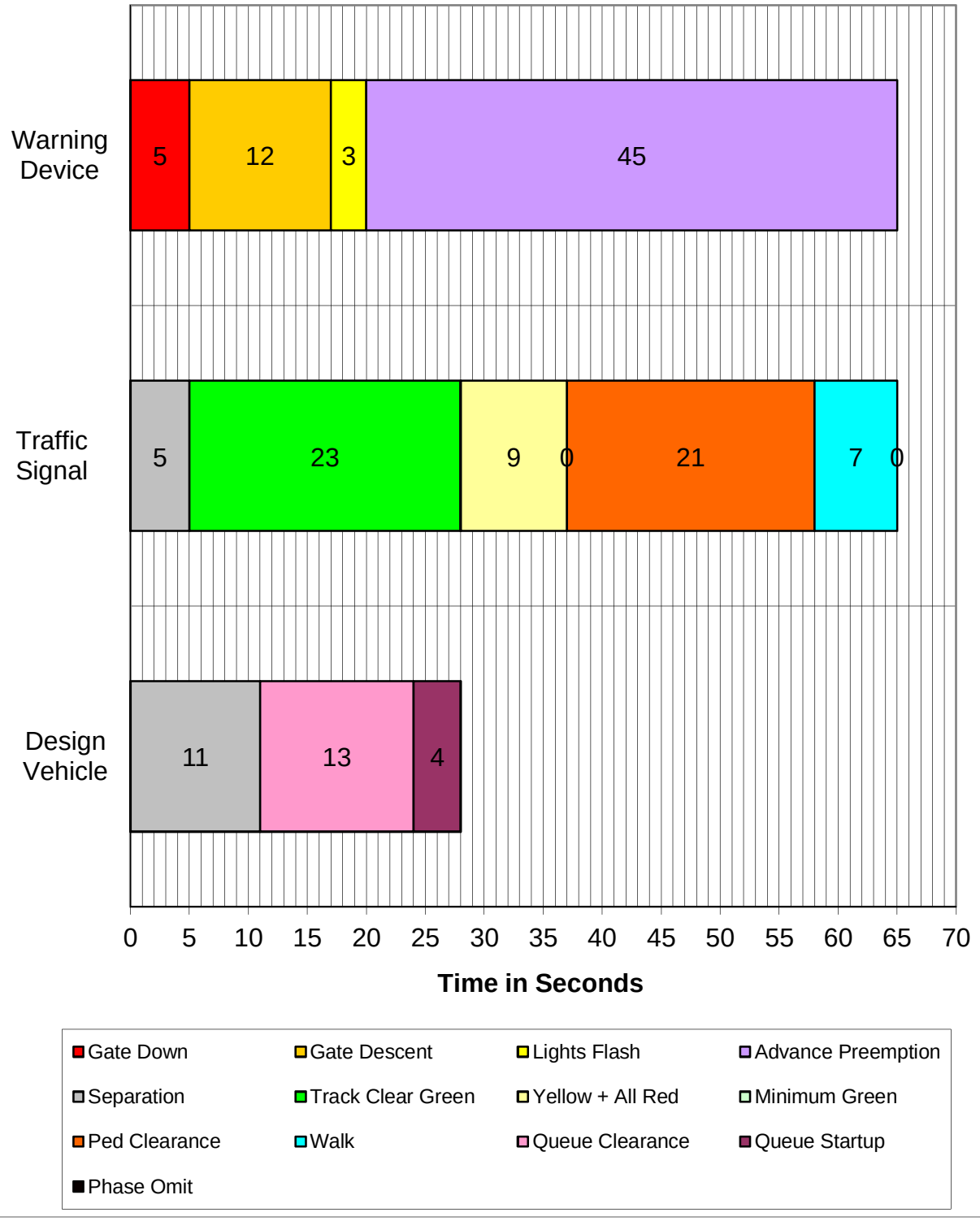
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**45**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**70**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4620**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Fulton	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Oxnard	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	17	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**29**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**57**	sec	*for actual Separation Time*

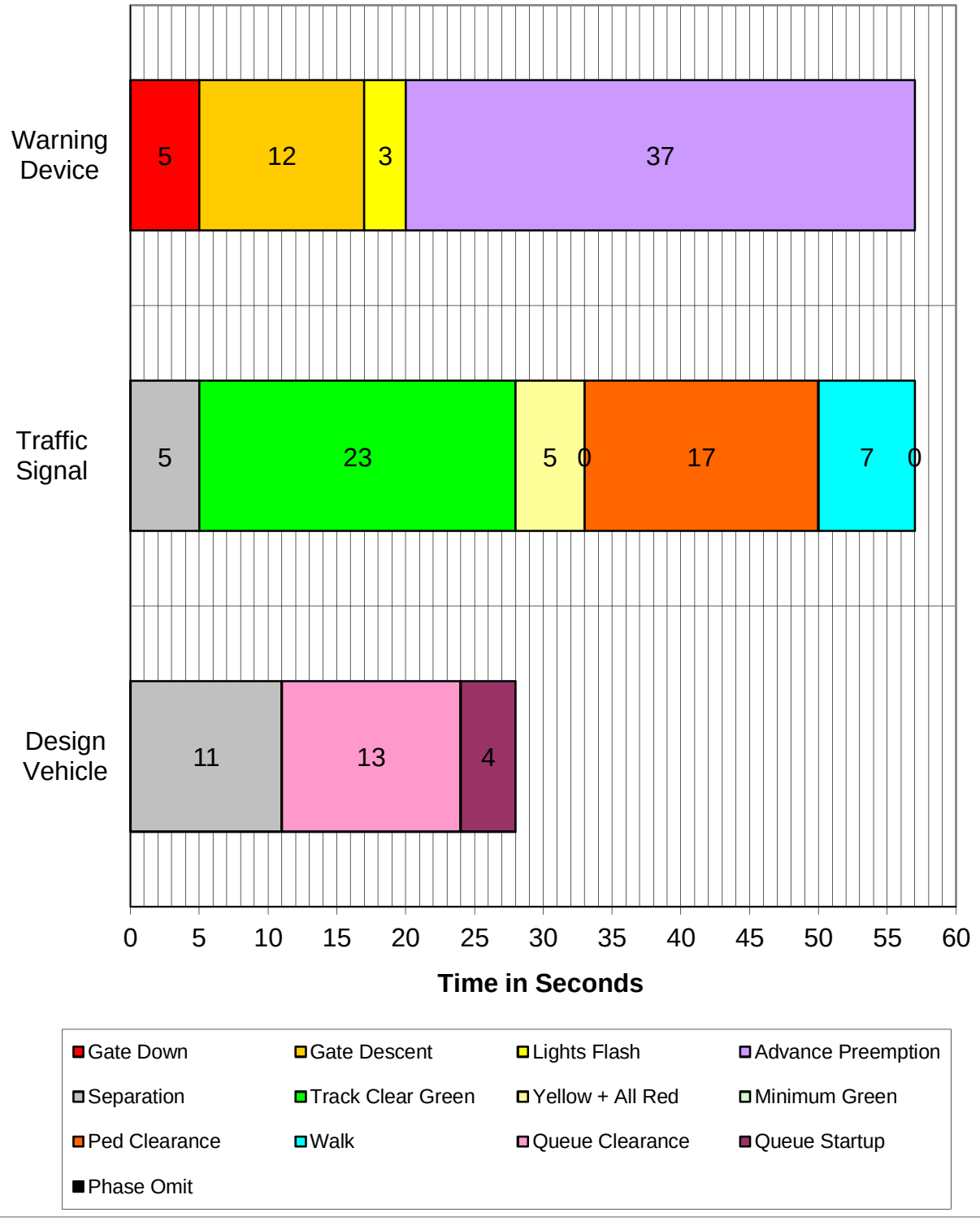
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**37**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**62**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4092**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Oxnard	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Woodman	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	20 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**20** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**17** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	15 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	5.0 sec		
Maximum RWTT	**27** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**55** sec	*for actual Separation Time*	

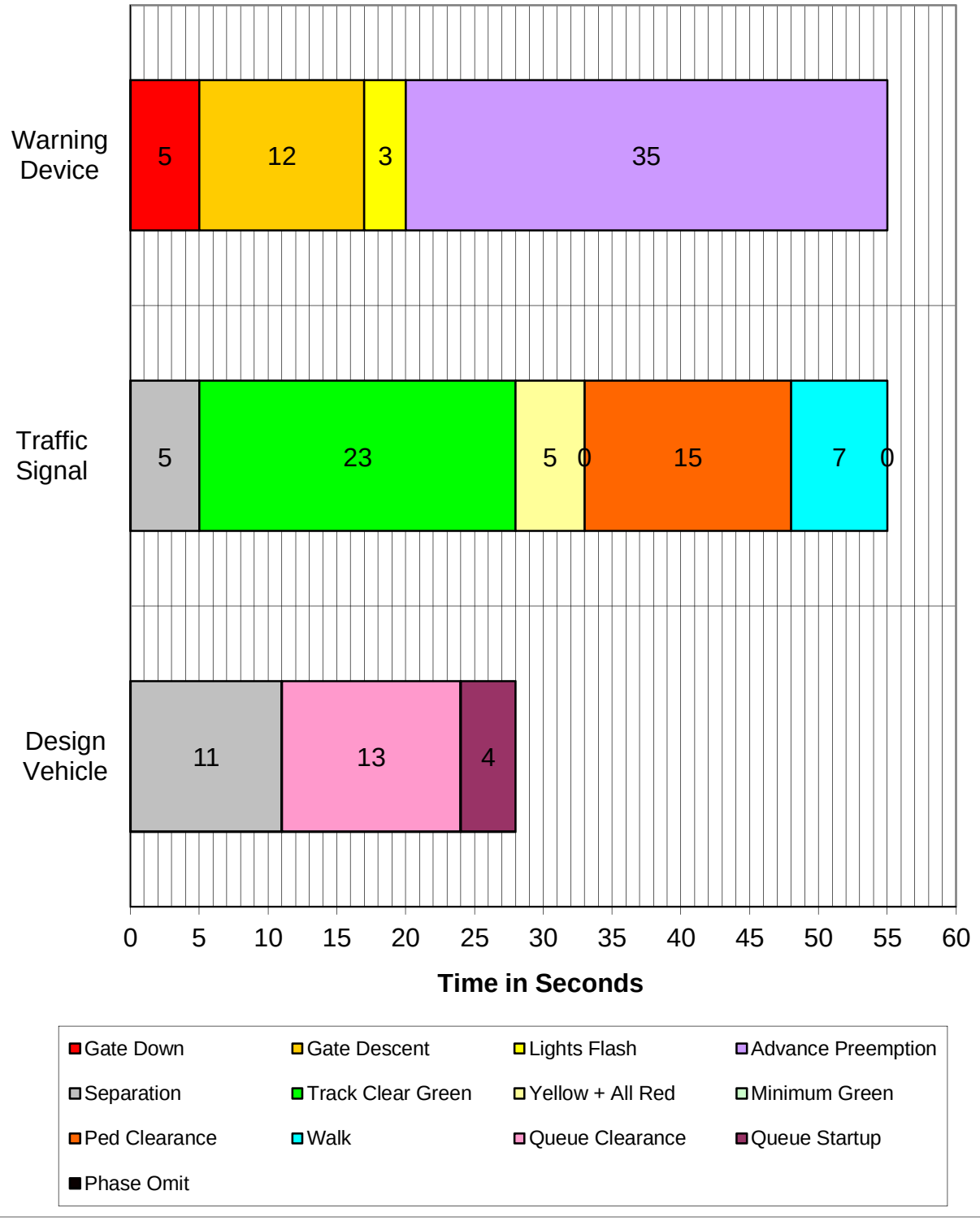
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	0 sec	0 sec minimum
Minimum Warning Time, MWT	**20** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**20** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**35** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**60** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**3960** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Woodman	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Hazeltine	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	15	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**27**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**55**	sec	*for actual Separation Time*

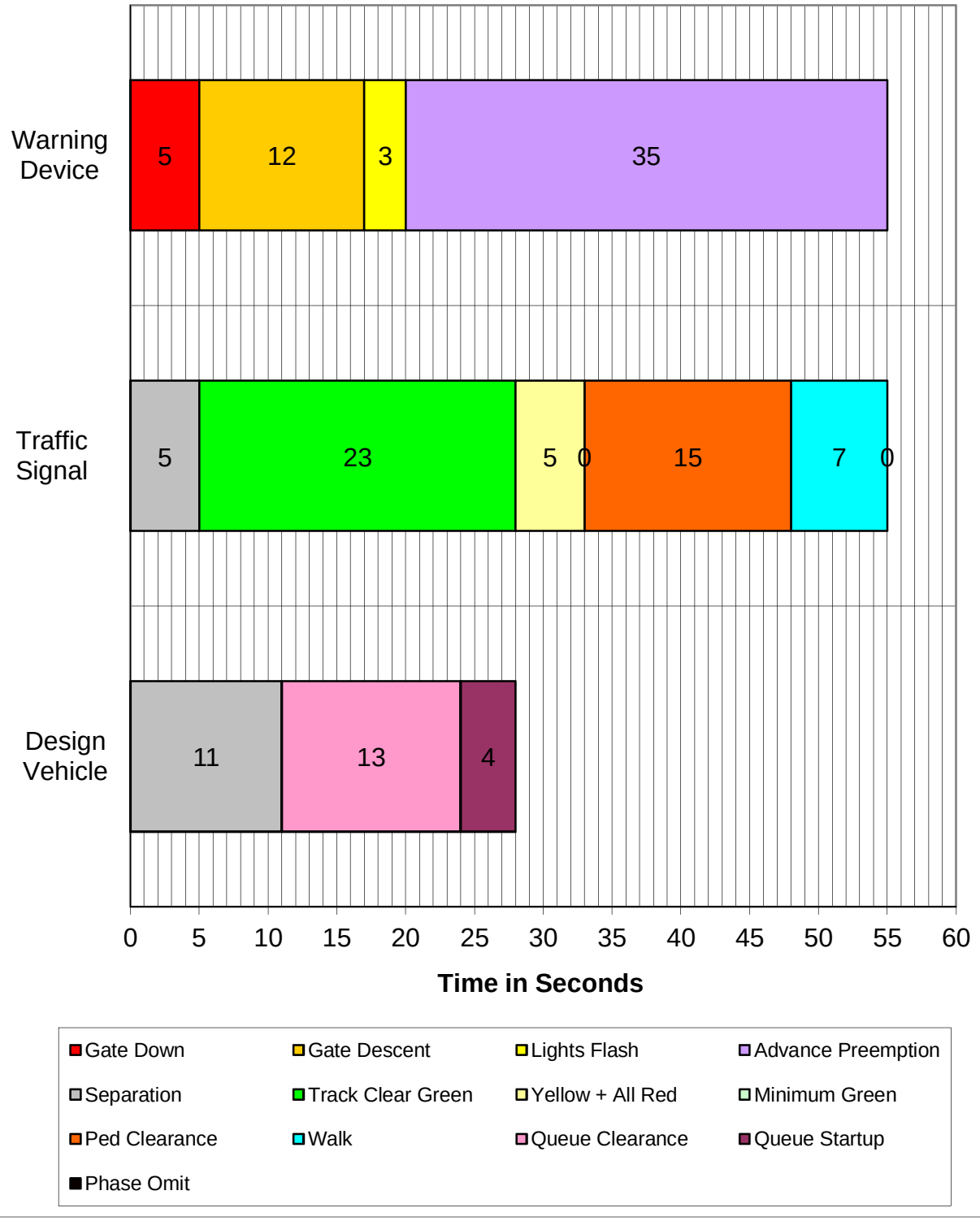
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**35**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**60**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**3960**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Hazeltine	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Kester Ave	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	8	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	6.5	sec	
Maximum RWTT	**22**	sec	
Separation Time, ST	8	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**50**	sec	*for actual Separation Time*

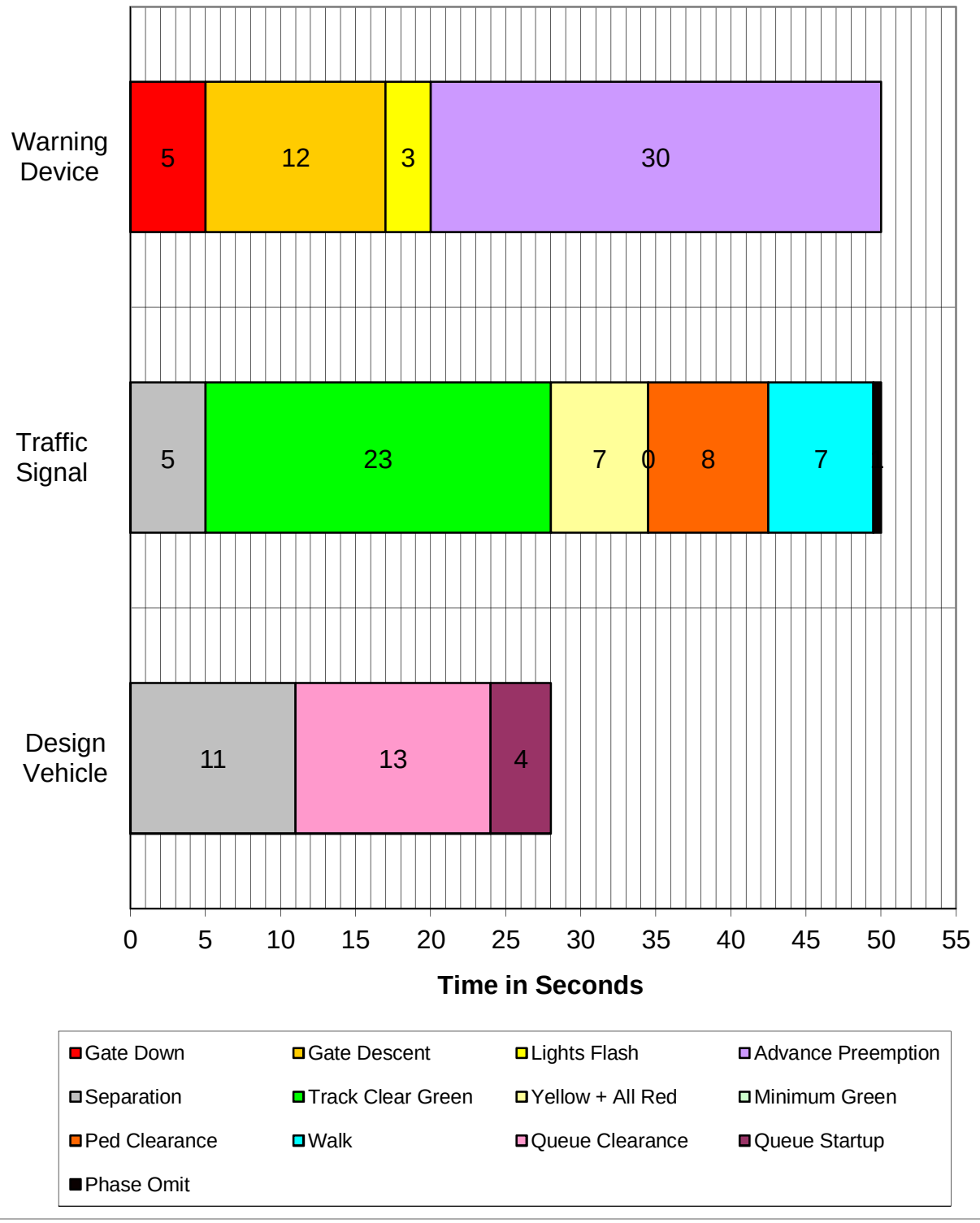
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**30**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**55**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**3630**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Kester Ave	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Densmore	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade 0.0	%
Maximum Conflicting Move Distance	0	ft	Grade 0.0	%
Minimum Track Clearance Dist, MTCD	52	ft	Grade 0.0	%
Clear Storage Distance, CSD	72	ft		
Length, L	**124**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.6	8.4	7.0	15.3	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.5**	**6.7**	**6.0**	**14.9**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29**	sec	*Green Track Clearance extended to Gate Down*
MTCD Queue Clearance Time	**25**	sec	
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	7	sec	
Maximum Yellow + All Red	7.0	sec	
Maximum RWTT	**37**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline for actual Separation Time*
Maximum Preemption Time, MPT	**73**	sec	

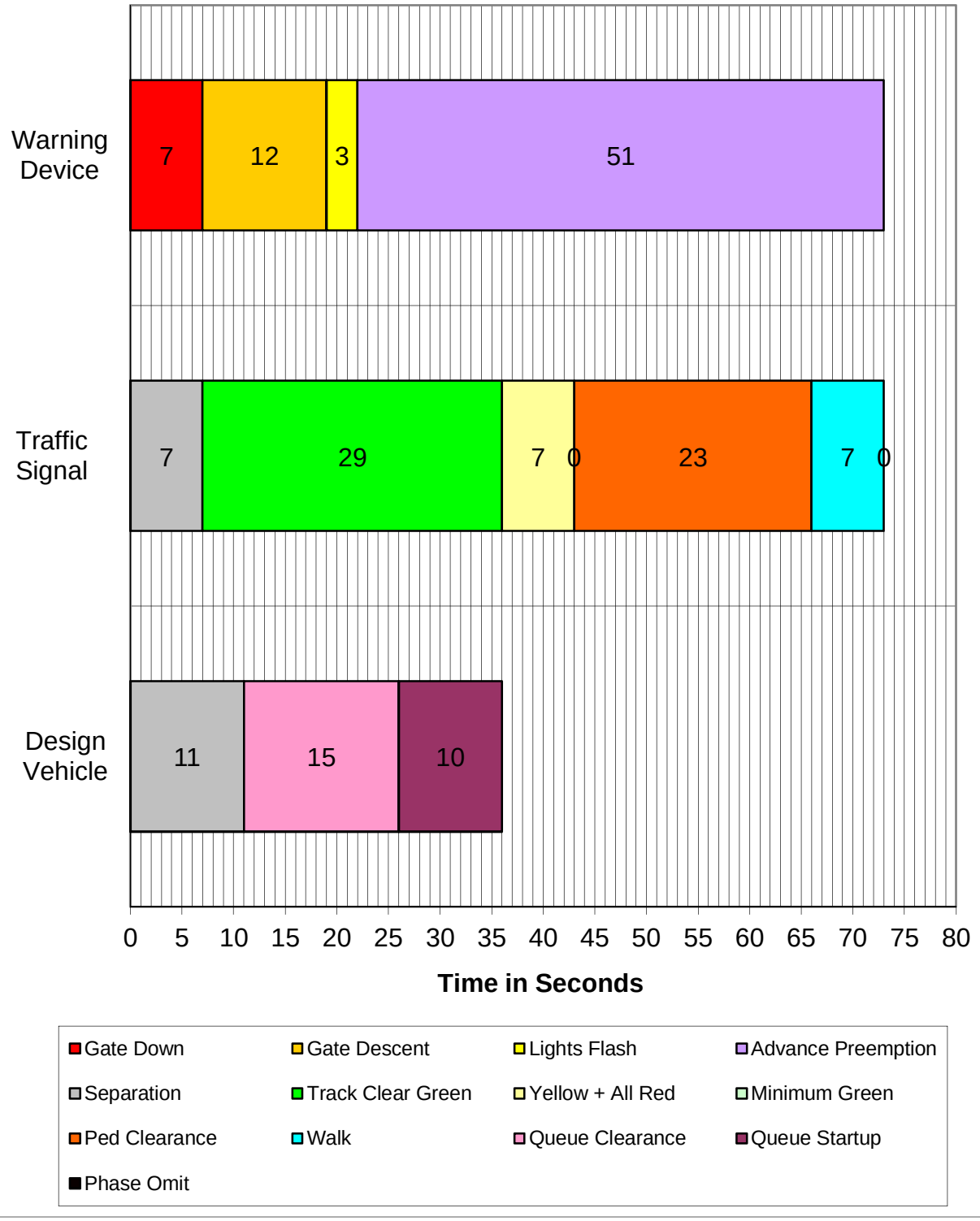
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	2	sec	2 sec minimum
Minimum Warning Time, MWT	**22**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**22**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**51**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**78**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5148**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Densmore	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Woodley	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade 0.0	%
Maximum Conflicting Move Distance	0	ft	Grade 0.0	%
Minimum Track Clearance Dist, MTCD	72	ft	Grade 0.0	%
Clear Storage Distance, CSD	48	ft		
Length, L	**120**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.5	8.3	6.9	15.1	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**6.3**	**7.6**	**6.7**	**16.1**	**16**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29**	sec	*Green Track Clearance extended to Gate Down*
MTCD Queue Clearance Time	**26**	sec	
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	7	sec	
Maximum Yellow + All Red	6.0	sec	
Maximum RWTT	**36**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline for actual Separation Time*
Maximum Preemption Time, MPT	**74**	sec	

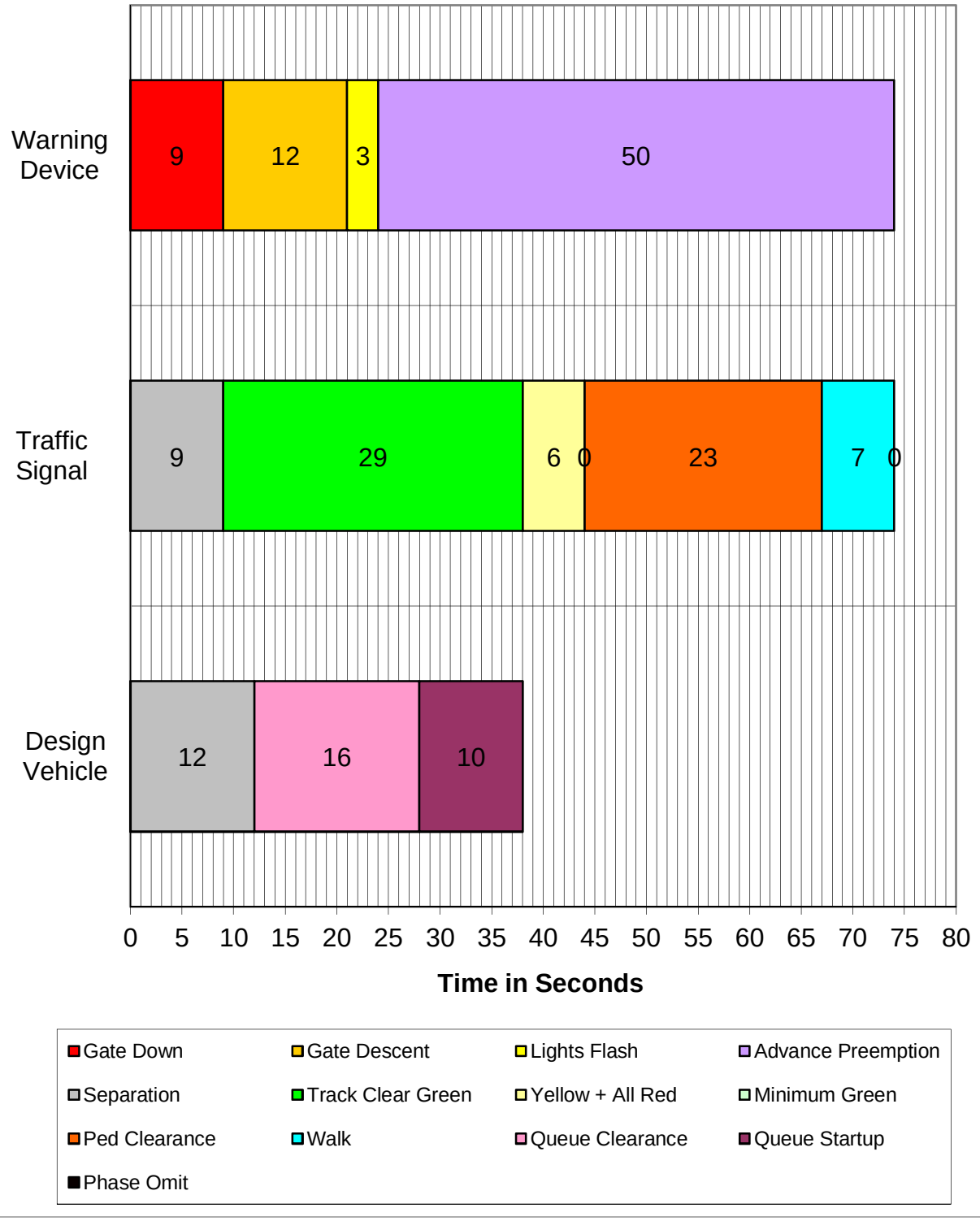
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	4	sec	4 sec minimum
Minimum Warning Time, MWT	**24**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**24**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**50**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**79**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5214**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Woodley	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Balboa	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	15	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**27**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**55**	sec	*for actual Separation Time*

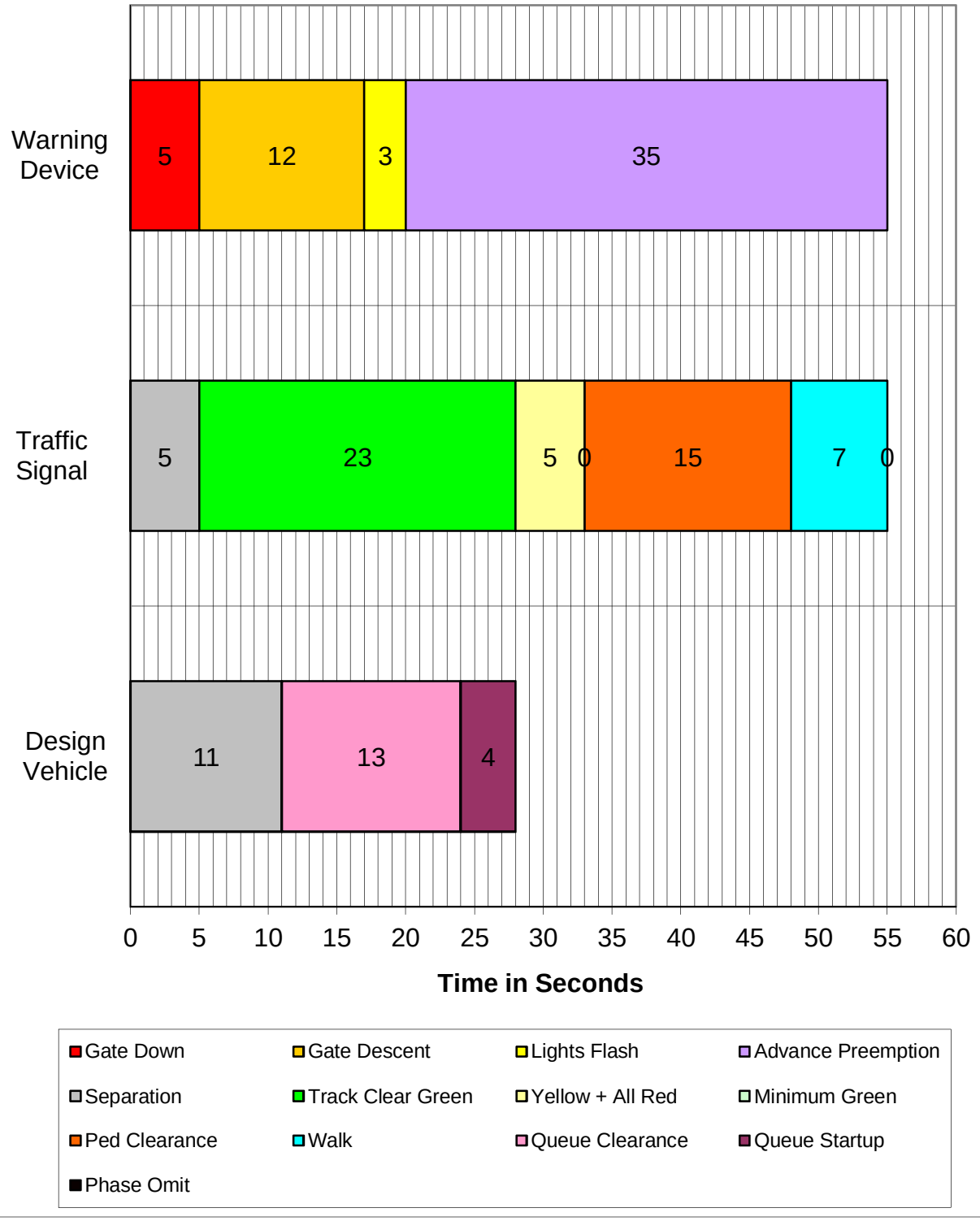
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**35**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**60**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**3960**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Balboa	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@White Oak	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	55	ft	Grade	0.0 %
Clear Storage Distance, CSD	48	ft		
Length, L	**103**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	4	2	2	1	
Start moving last vehicle in L (sec)	**8.3**	**5.4**	**6.2**	**7.0**	**8**
Move front of vehicle thru L (sec)	6.9	7.6	6.4	13.9	14
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.6**	**6.9**	**6.1**	**15.1**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**27**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**23**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	15	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**27**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**61**	sec	*for actual Separation Time*

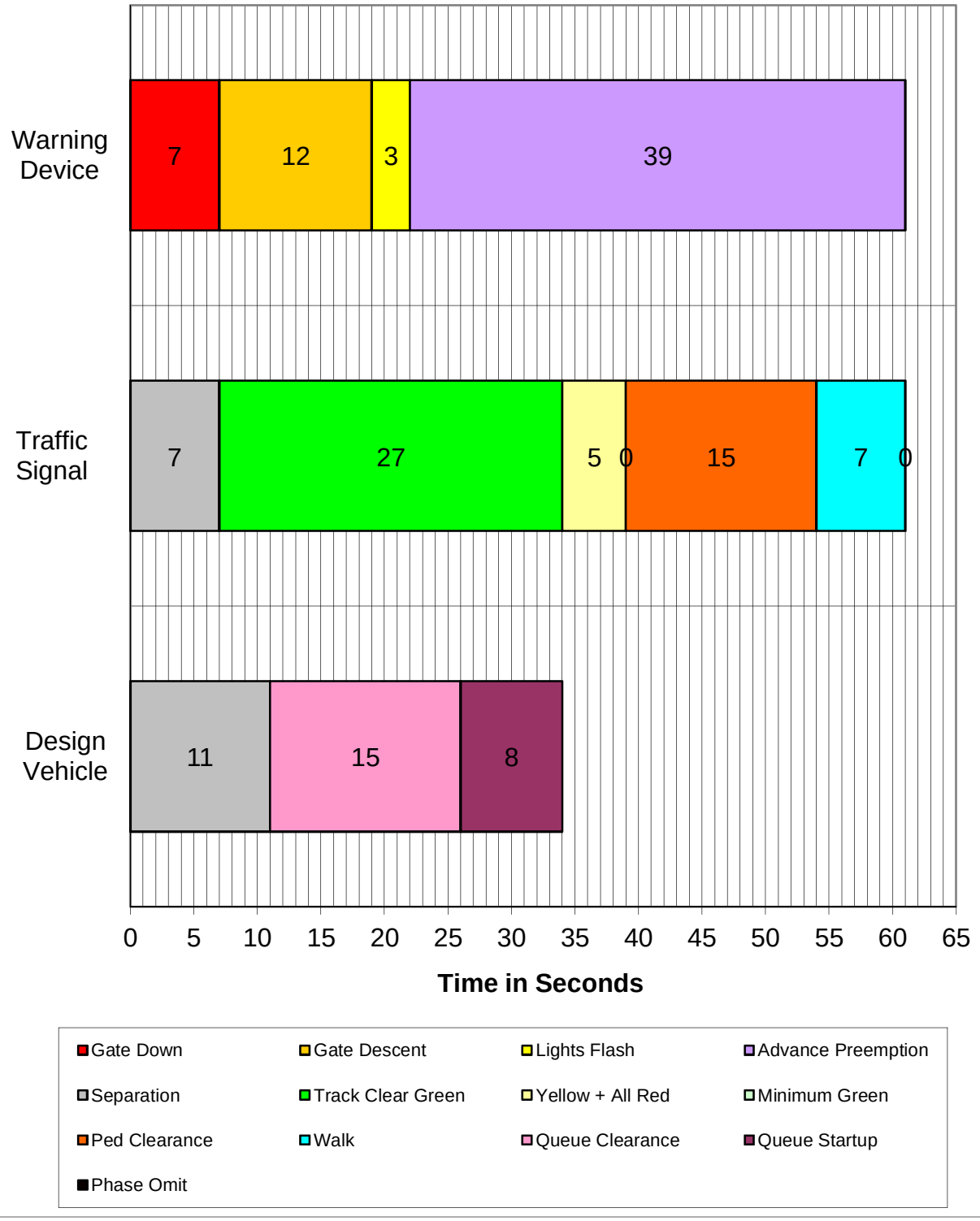
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	2	sec	2 sec minimum
Minimum Warning Time, MWT	**22**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**22**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**39**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**66**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4356**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@White Oak	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Lindley	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	45	ft	Grade	0.0 %
Clear Storage Distance, CSD	5	ft		
Length, L	**50**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	2	1	1	0	
Start moving last vehicle in L (sec)	**5.4**	**3.9**	**4.5**	**4.0**	**5**
Move front of vehicle thru L (sec)	4.6	5.1	4.3	9.6	10
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.1**	**6.4**	**5.7**	**14.4**	**14**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**24**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**19**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	20	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**32**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**62**	sec	*for actual Separation Time*

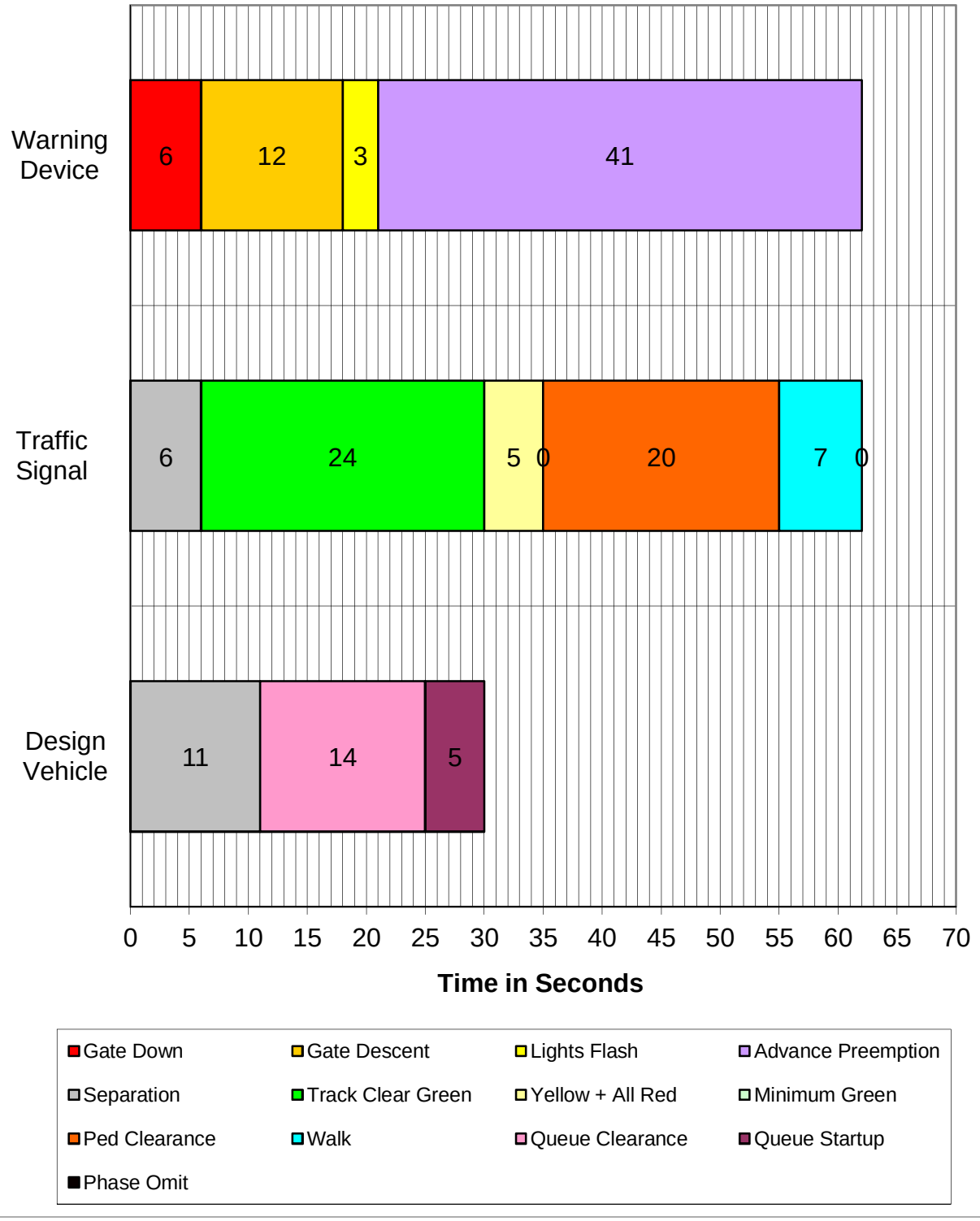
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	1	sec	1 sec minimum
Minimum Warning Time, MWT	**21**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**21**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**41**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**67**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4422**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Lindley	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Reseda	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	94	ft	Grade	0.0 %
Clear Storage Distance, CSD	68	ft		
Length, L	**162**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	7	4	3	2	
Start moving last vehicle in L (sec)	**12.7**	**8.3**	**8.0**	**10.0**	**13**
Move front of vehicle thru L (sec)	8.8	9.8	8.1	17.6	18
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.1**	**8.4**	**7.3**	**17.4**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**32**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**30**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	24	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**36**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**79**	sec	*for actual Separation Time*

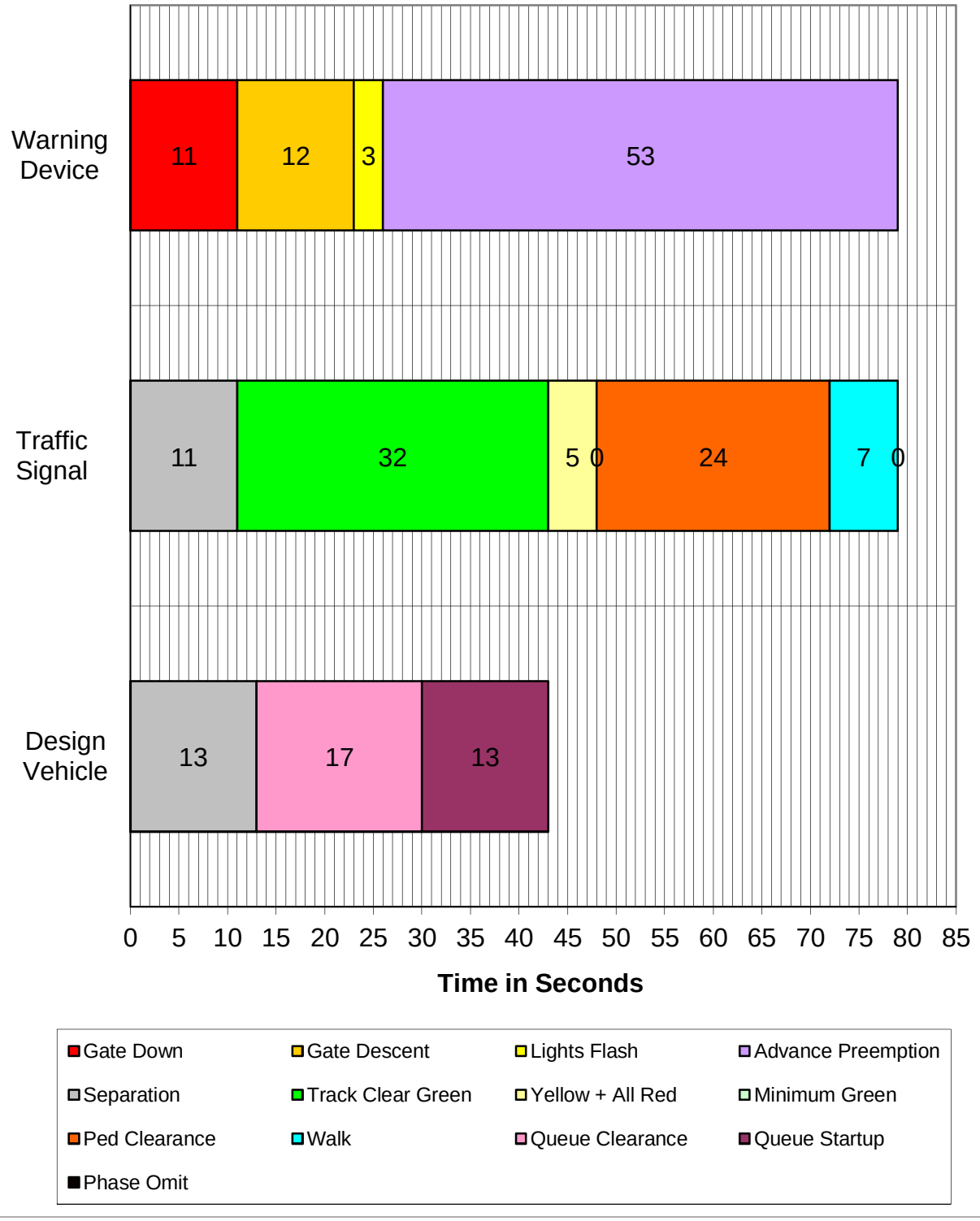
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	6	sec	6 sec minimum
Minimum Warning Time, MWT	**26**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**26**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**53**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**84**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5544**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Reseda	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Wilbur	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	42	ft	Grade	0.0 %
Clear Storage Distance, CSD	11	ft		
Length, L	**53**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	2	1	1	0	
Start moving last vehicle in L (sec)	**5.4**	**3.9**	**4.5**	**4.0**	**5**
Move front of vehicle thru L (sec)	4.8	5.3	4.5	9.9	10
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.0**	**6.3**	**5.6**	**14.2**	**14**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**24**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**19**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	20	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**32**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**62**	sec	*for actual Separation Time*

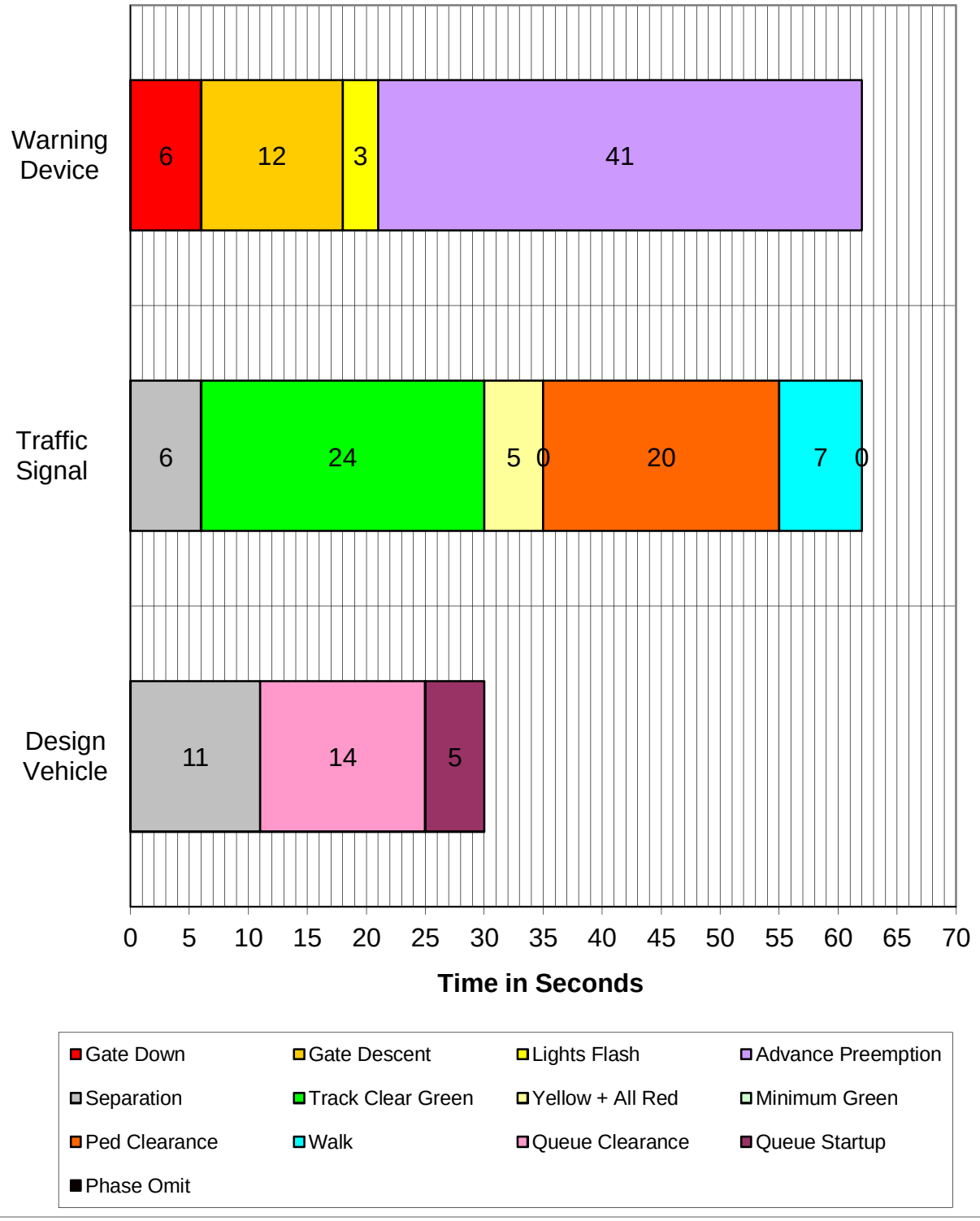
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	1	sec	1 sec minimum
Minimum Warning Time, MWT	**21**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**21**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**41**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**67**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4422**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Wilbur	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Tampa	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	85	ft	Grade	0.0 %
Clear Storage Distance, CSD	8	ft		
Length, L	**93**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	4	2	2	1	
Start moving last vehicle in L (sec)	**8.3**	**5.4**	**6.2**	**7.0**	**8**
Move front of vehicle thru L (sec)	6.5	7.2	6.0	13.2	13
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**6.8**	**8.1**	**7.1**	**16.9**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**27**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**25**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	17	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**29**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**66**	sec	*for actual Separation Time*

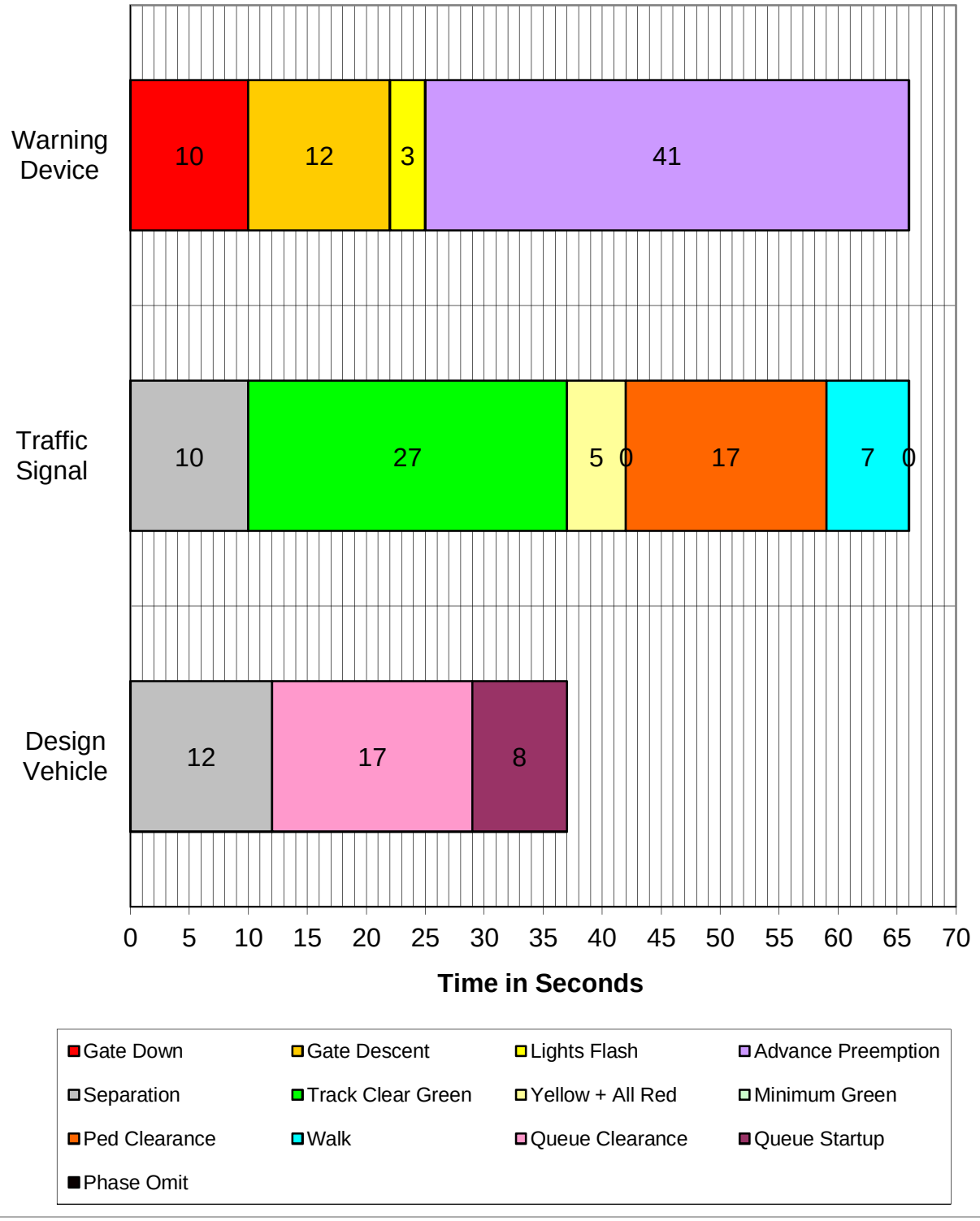
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	5	sec	5 sec minimum
Minimum Warning Time, MWT	**25**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**25**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**41**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**71**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4686**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Tampa	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Corbin	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	52 ft	Grade	0.0	%
Clear Storage Distance, CSD	8 ft			
Length, L	**60** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	2	1	1	0	
Start moving last vehicle in L (sec)	**5.4**	**3.9**	**4.5**	**4.0**	**5**
Move front of vehicle thru L (sec)	5.1	5.7	4.8	10.5	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.5**	**6.7**	**6.0**	**14.9**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**24** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**20** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	17 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	5.0 sec		
Maximum RWTT	**29** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**60** sec	*for actual Separation Time*	

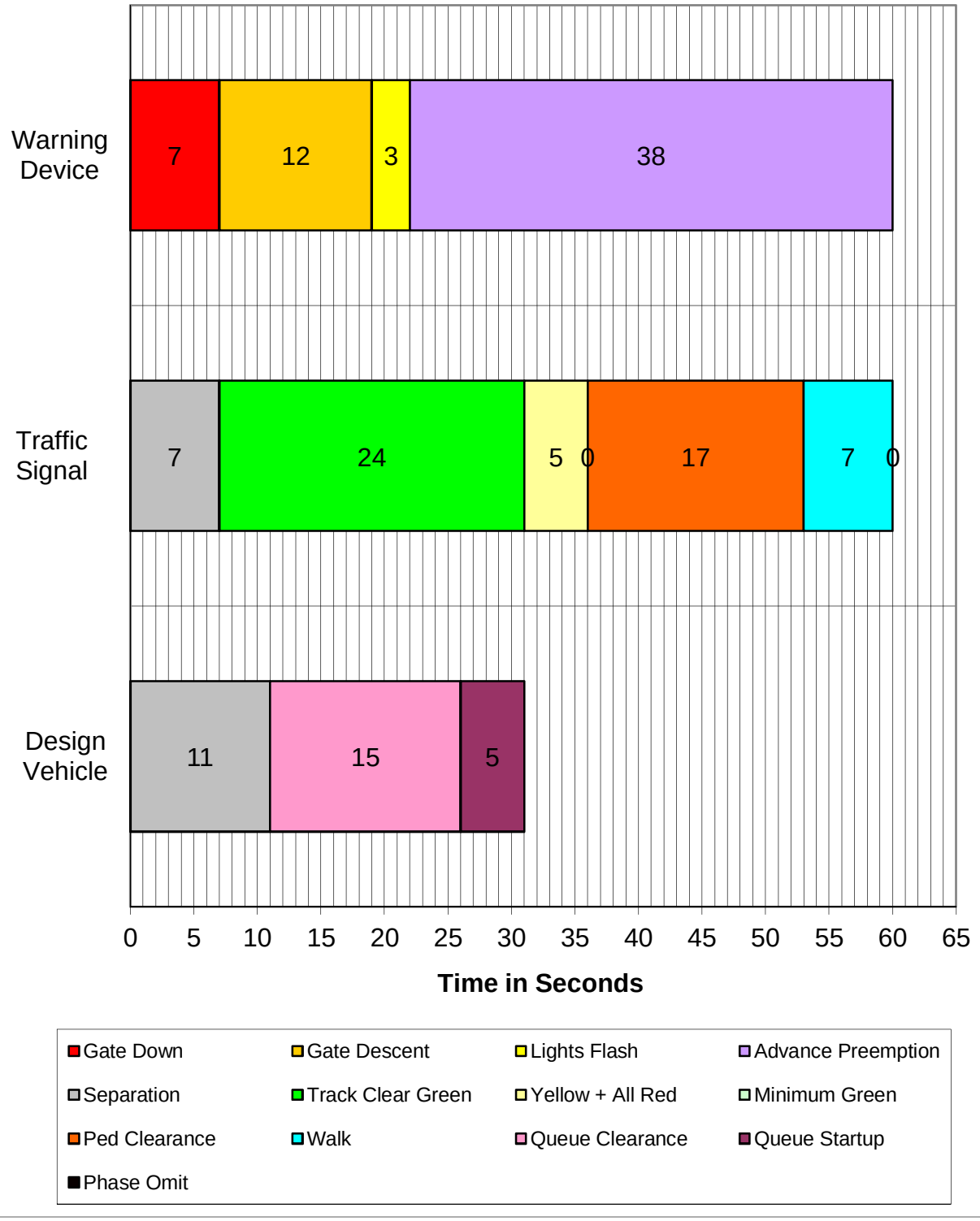
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	2 sec	2 sec minimum
Minimum Warning Time, MWT	**22** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**22** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**38** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**65** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**4290** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Corbin	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Victory	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	21	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	6.0	sec	
Maximum RWTT	**34**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**62**	sec	*for actual Separation Time*

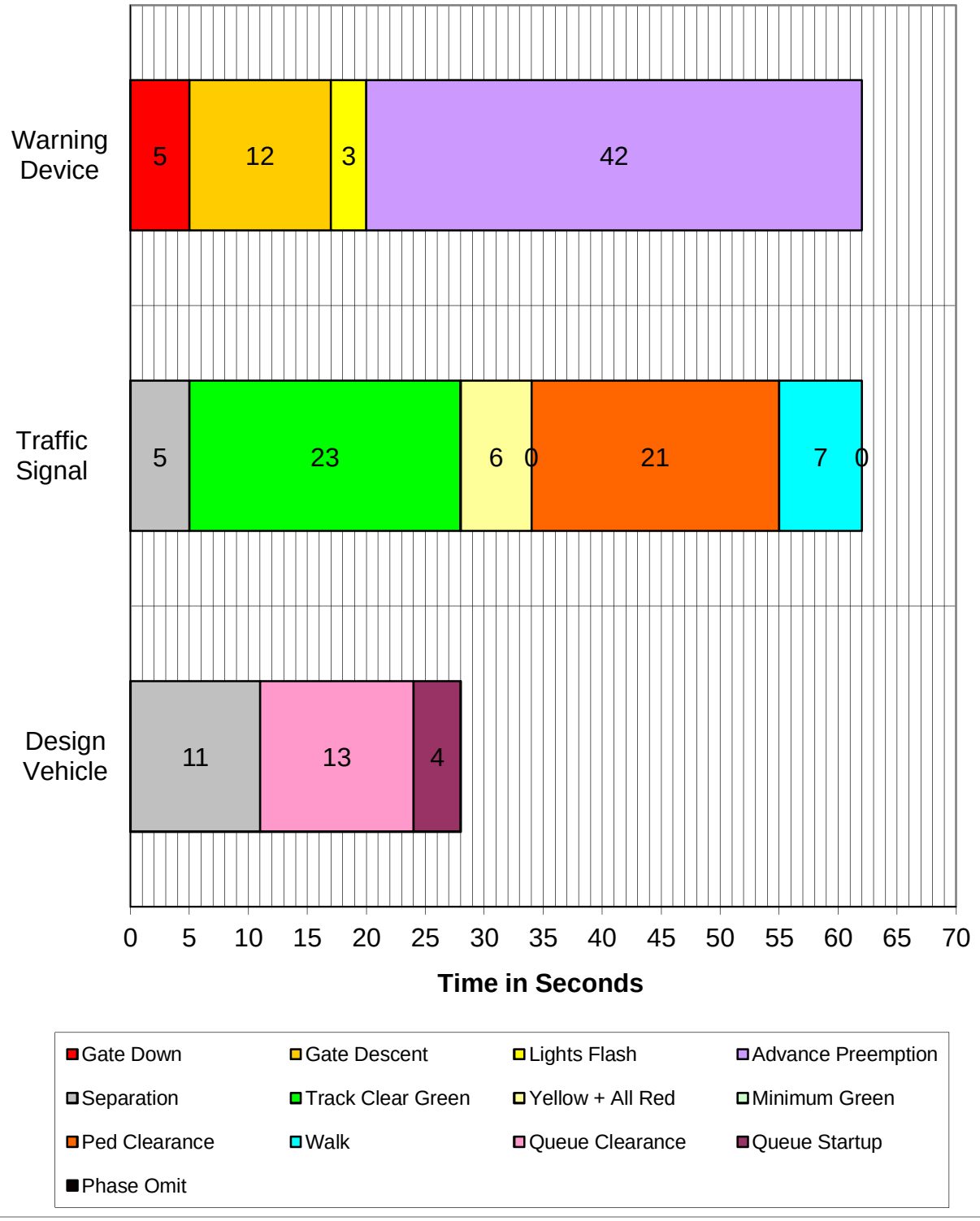
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**42**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**67**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4422**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Victory	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Winnetka	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	15	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**27**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**55**	sec	*for actual Separation Time*

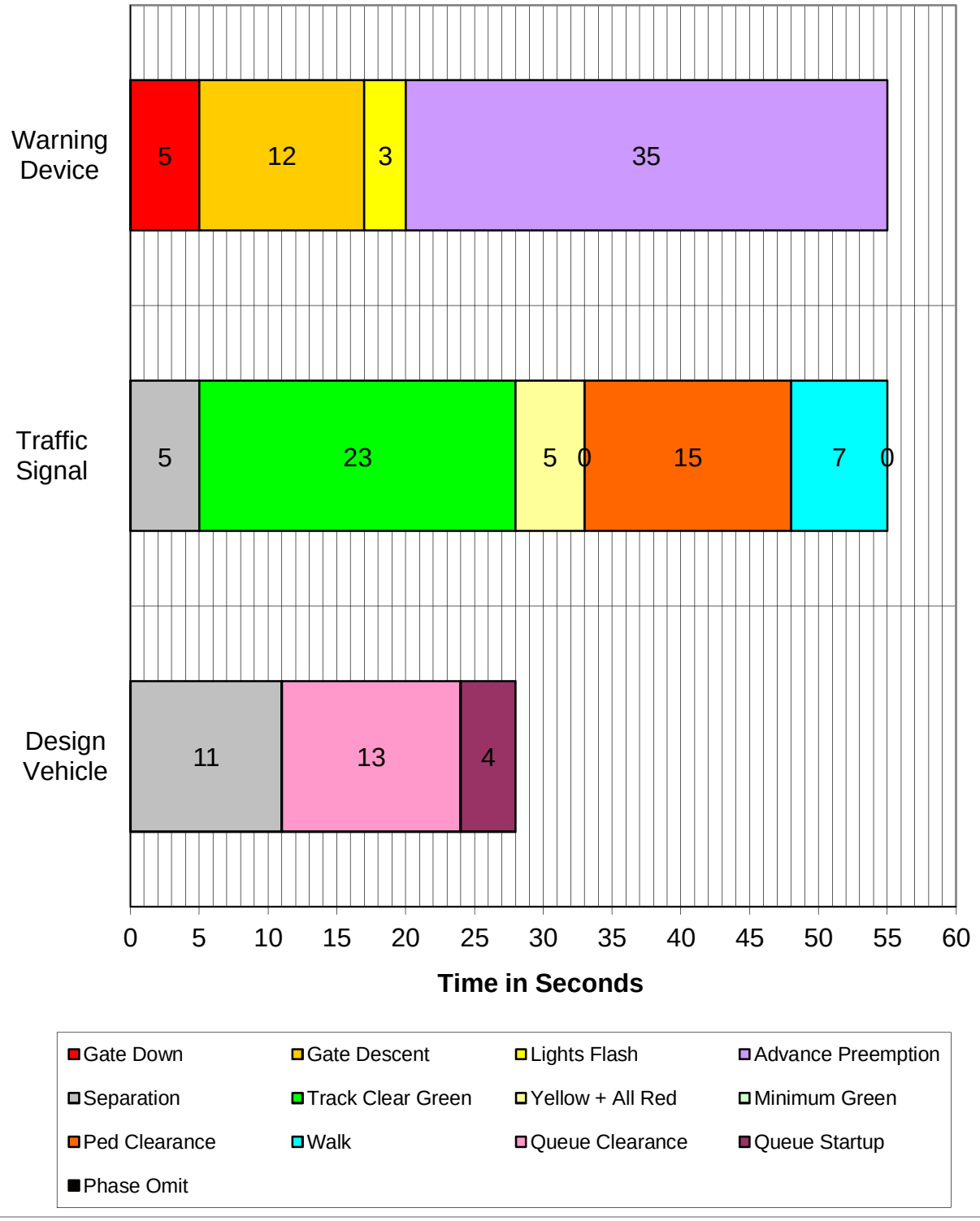
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**35**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**60**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**3960**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Winnetka	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Mason	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	46	ft	Grade	0.0 %
Clear Storage Distance, CSD	20	ft		
Length, L	**66**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	0	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**4.0**	**7**
Move front of vehicle thru L (sec)	5.4	6.0	5.0	11.0	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.2**	**6.5**	**5.8**	**14.5**	**14**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**21**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	5	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**35**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**68**	sec	*for actual Separation Time*

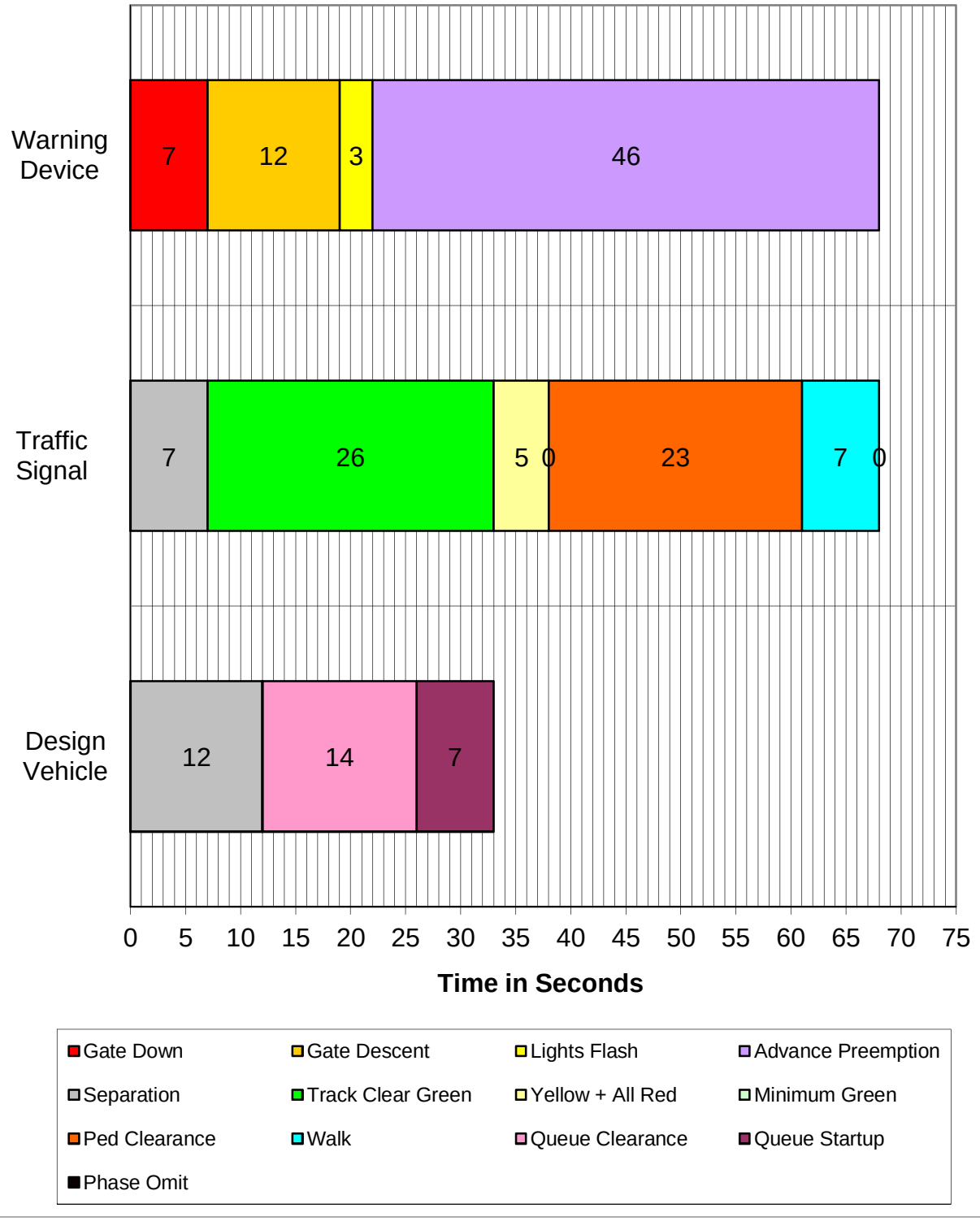
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	2	sec	2 sec minimum
Minimum Warning Time, MWT	**22**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**22**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**46**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**73**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4818**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Mason	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@DeSoto	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	56	ft	Grade	0.0 %
Clear Storage Distance, CSD	9	ft		
Length, L	**65**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	0	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**4.0**	**7**
Move front of vehicle thru L (sec)	5.4	5.9	5.0	11.0	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.6**	**6.9**	**6.1**	**15.1**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**22**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.5	sec	
Maximum RWTT	**35**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**69**	sec	*for actual Separation Time*

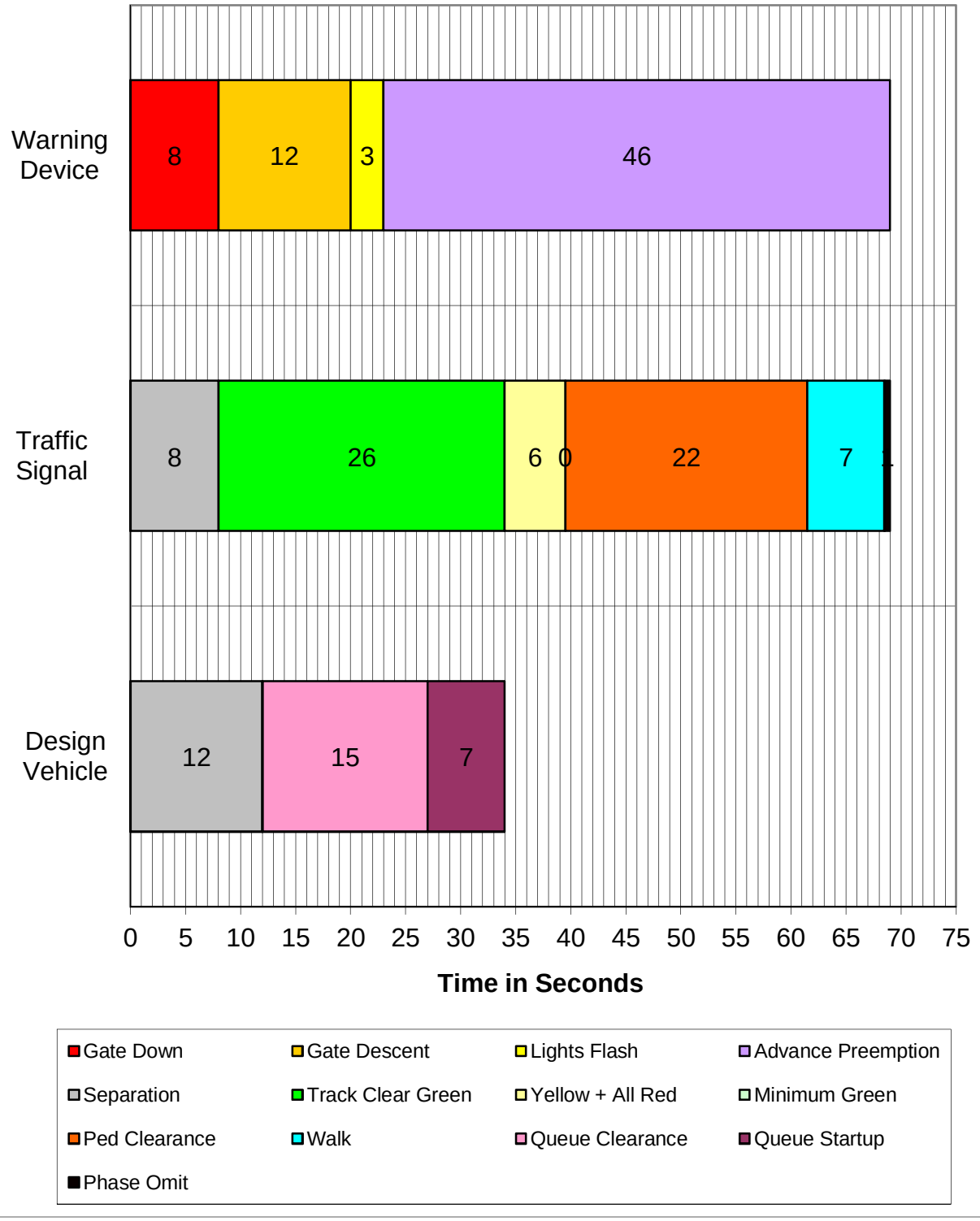
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	3	sec	3 sec minimum
Minimum Warning Time, MWT	**23**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**23**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**46**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**74**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4884**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@DeSoto	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Vanowen	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	60	ft	Grade	0.0 %
Clear Storage Distance, CSD	5	ft		
Length, L	**65**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	0	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**4.0**	**7**
Move front of vehicle thru L (sec)	5.4	5.9	5.0	11.0	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.8**	**7.1**	**6.3**	**15.4**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**22**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	21	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**33**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**67**	sec	*for actual Separation Time*

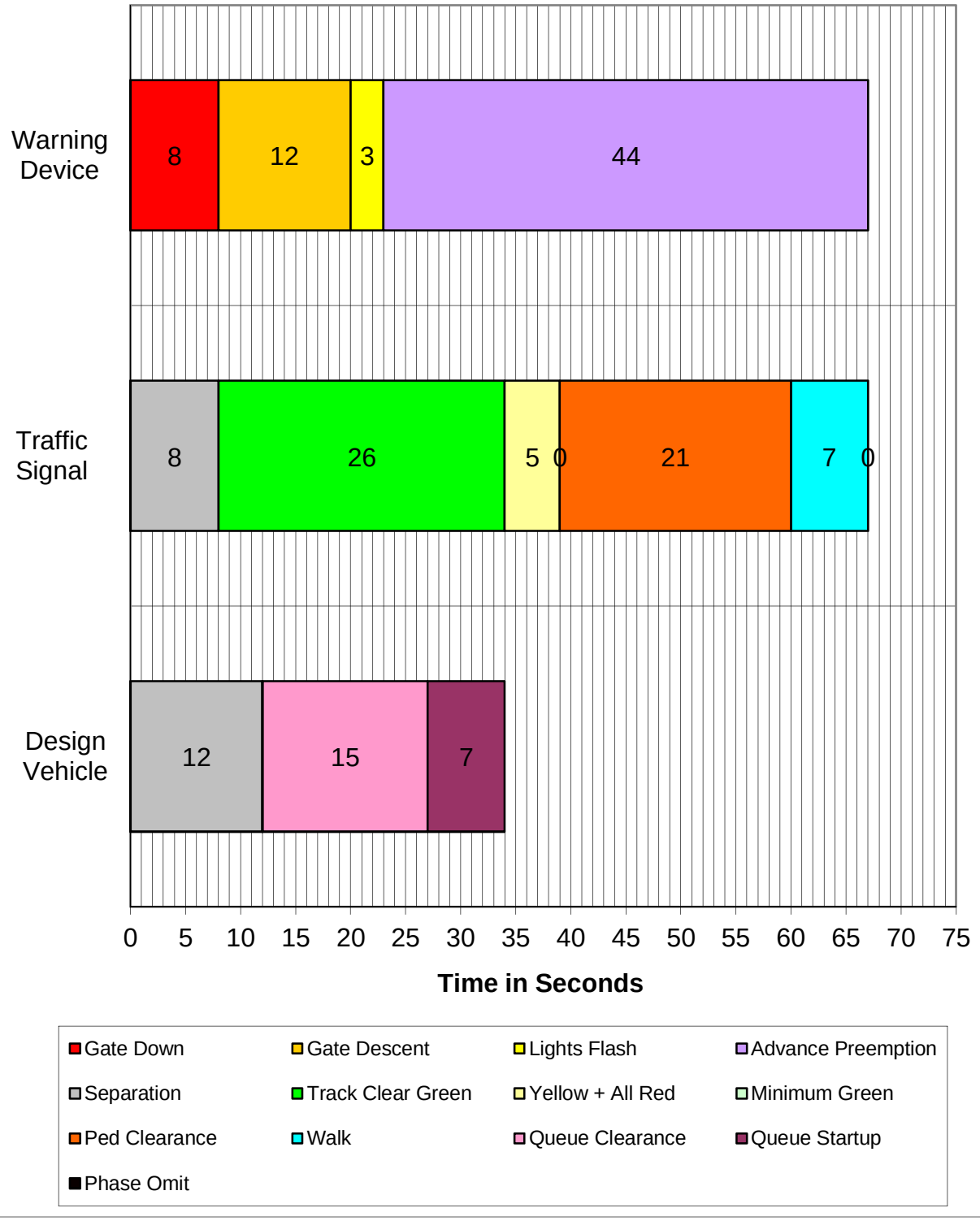
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	3	sec	3 sec minimum
Minimum Warning Time, MWT	**23**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**23**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**44**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**72**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4752**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Vanowen	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Sherman Way	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	92	ft	Grade	0.0 %
Clear Storage Distance, CSD	75	ft		
Length, L	**167**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	7	4	3	2	
Start moving last vehicle in L (sec)	**12.7**	**8.3**	**8.0**	**10.0**	**13**
Move front of vehicle thru L (sec)	9.0	9.9	8.2	17.9	18
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.0**	**8.4**	**7.3**	**17.3**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**32**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**30**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**34**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**77**	sec	*for actual Separation Time*

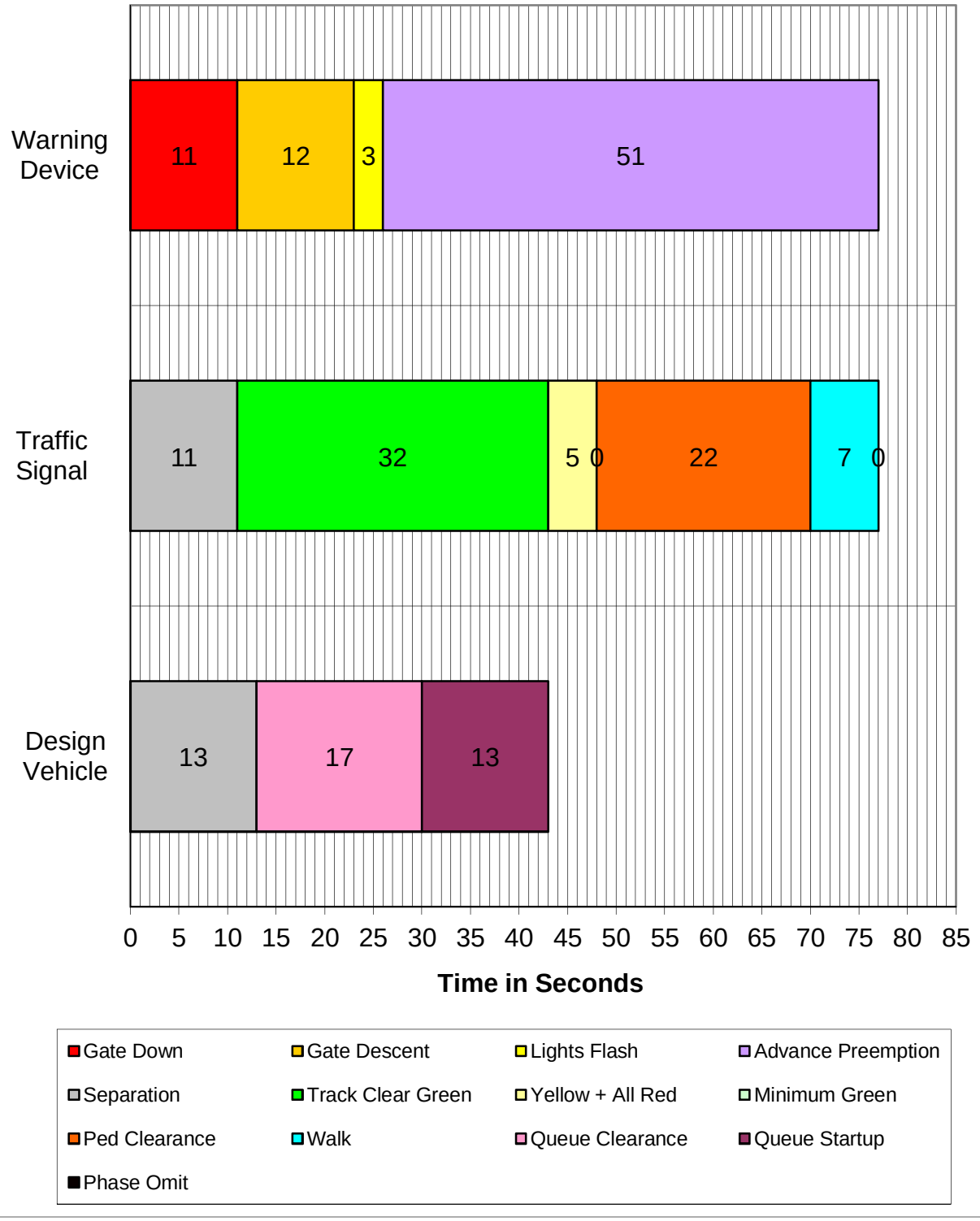
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	6	sec	6 sec minimum
Minimum Warning Time, MWT	**26**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**26**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**51**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**82**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5412**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Sherman Way	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Valerio	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	57	ft	Grade	0.0 %
Clear Storage Distance, CSD	14	ft		
Length, L	**71**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	1	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**7.0**	**7**
Move front of vehicle thru L (sec)	5.6	6.2	5.2	11.5	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.7**	**6.9**	**6.2**	**15.2**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance extended to Gate Down*
MTCD Queue Clearance Time	**22**	sec	
Minimum Walk	7	sec	
Maximum Ped Clearance	21	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**33**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline for actual Separation Time*
Maximum Preemption Time, MPT	**67**	sec	

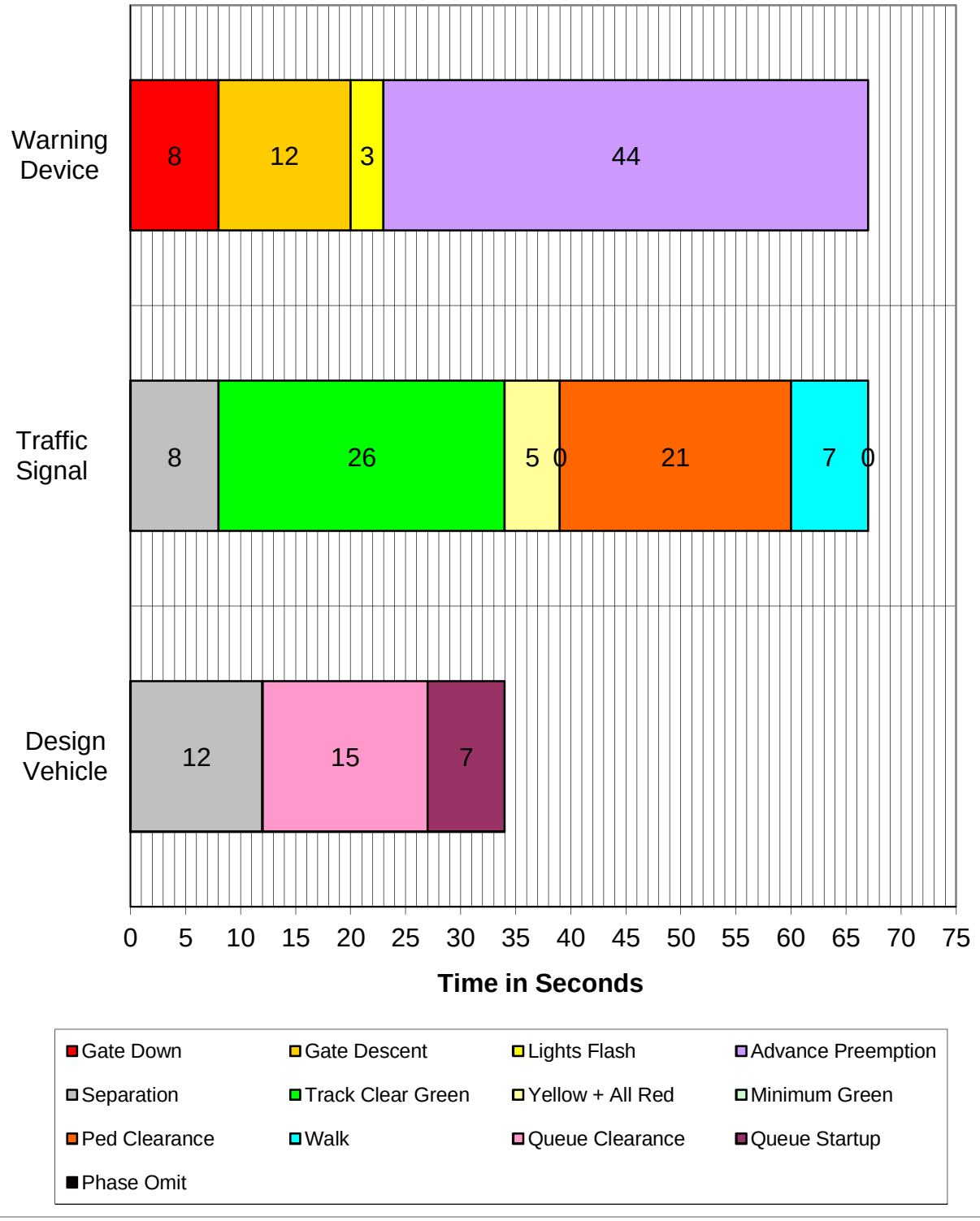
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	3	sec	3 sec minimum
Minimum Warning Time, MWT	**23**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**23**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**44**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**72**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4752**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Valerio	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Saticoy	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	51	ft	Grade	0.0 %
Clear Storage Distance, CSD	29	ft		
Length, L	**80**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	2	1	1	
Start moving last vehicle in L (sec)	**6.8**	**5.4**	**4.5**	**7.0**	**7**
Move front of vehicle thru L (sec)	6.0	6.6	5.6	12.2	12
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.4**	**6.7**	**6.0**	**14.8**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance extended to Gate Down*
MTCD Queue Clearance Time	**22**	sec	
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.3	sec	
Maximum RWTT	**34**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline for actual Separation Time*
Maximum Preemption Time, MPT	**67**	sec	

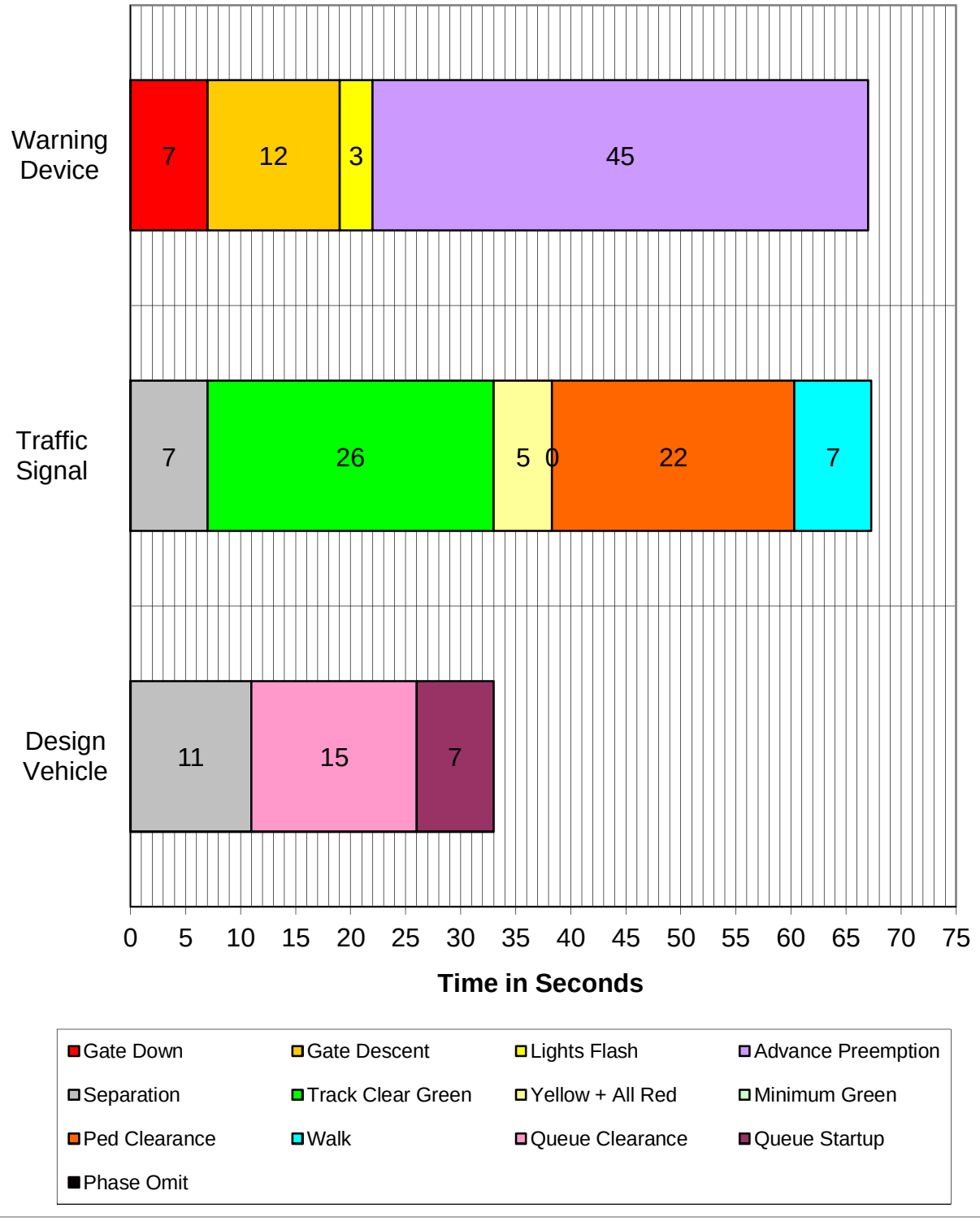
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	2	sec	2 sec minimum
Minimum Warning Time, MWT	**22**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**22**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**45**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**72**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4752**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Saticoy	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Roscoe	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	51 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**51** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	2	1	1	0	
Start moving last vehicle in L (sec)	**5.4**	**3.9**	**4.5**	**4.0**	**5**
Move front of vehicle thru L (sec)	4.7	5.2	4.4	9.7	10
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.4**	**6.7**	**6.0**	**14.8**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**24** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**20** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	21 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	5.0 sec		
Maximum RWTT	**33** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**64** sec	*for actual Separation Time*	

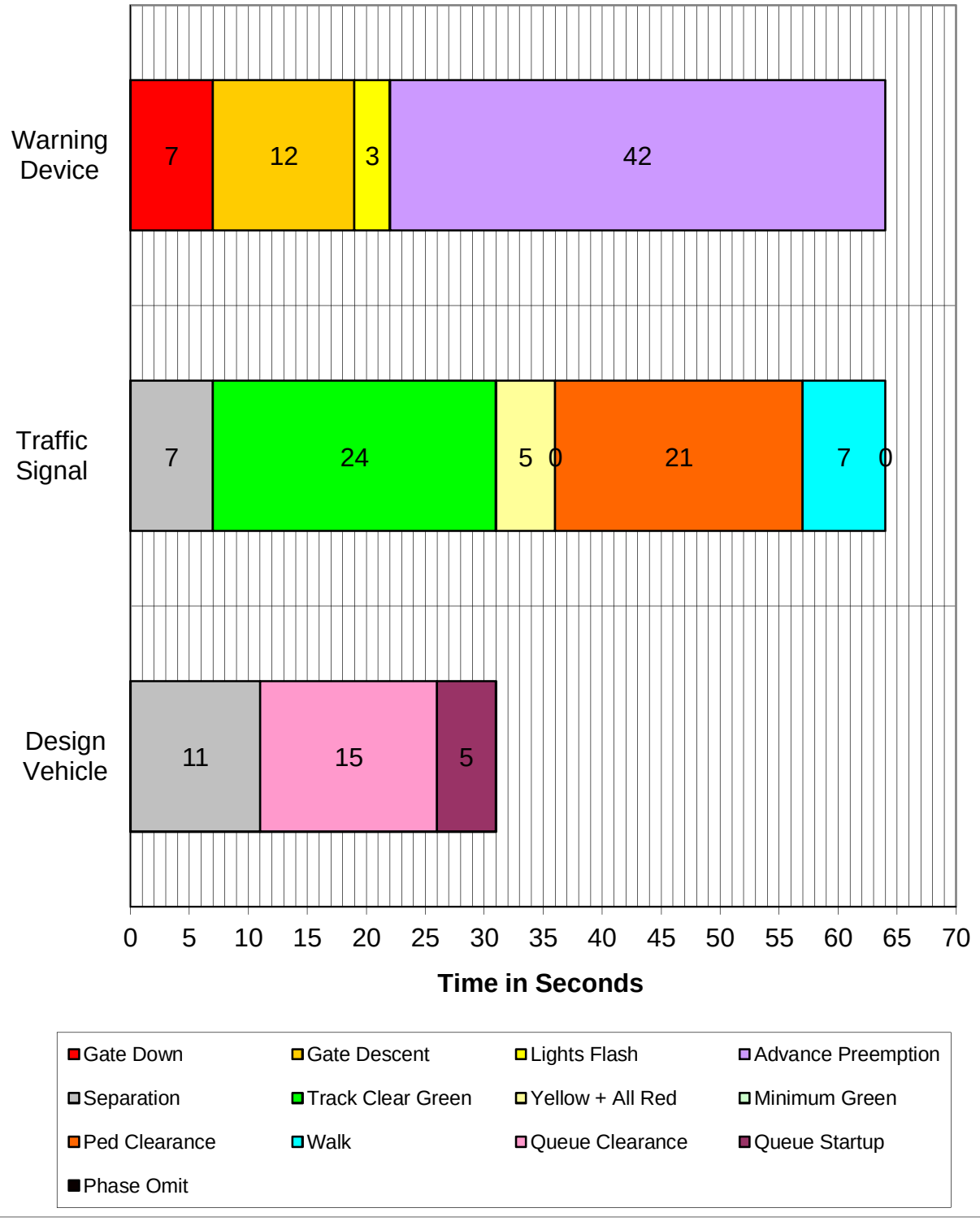
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	2 sec	2 sec minimum
Minimum Warning Time, MWT	**22** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**22** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**42** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**69** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**4554** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Roscoe	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Parthenia	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	52	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**52**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	2	1	1	0	
Start moving last vehicle in L (sec)	**5.4**	**3.9**	**4.5**	**4.0**	**5**
Move front of vehicle thru L (sec)	4.7	5.2	4.4	9.8	10
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.5**	**6.7**	**6.0**	**14.9**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**24**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**20**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.2	sec	
Maximum RWTT	**34**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**65**	sec	*for actual Separation Time*

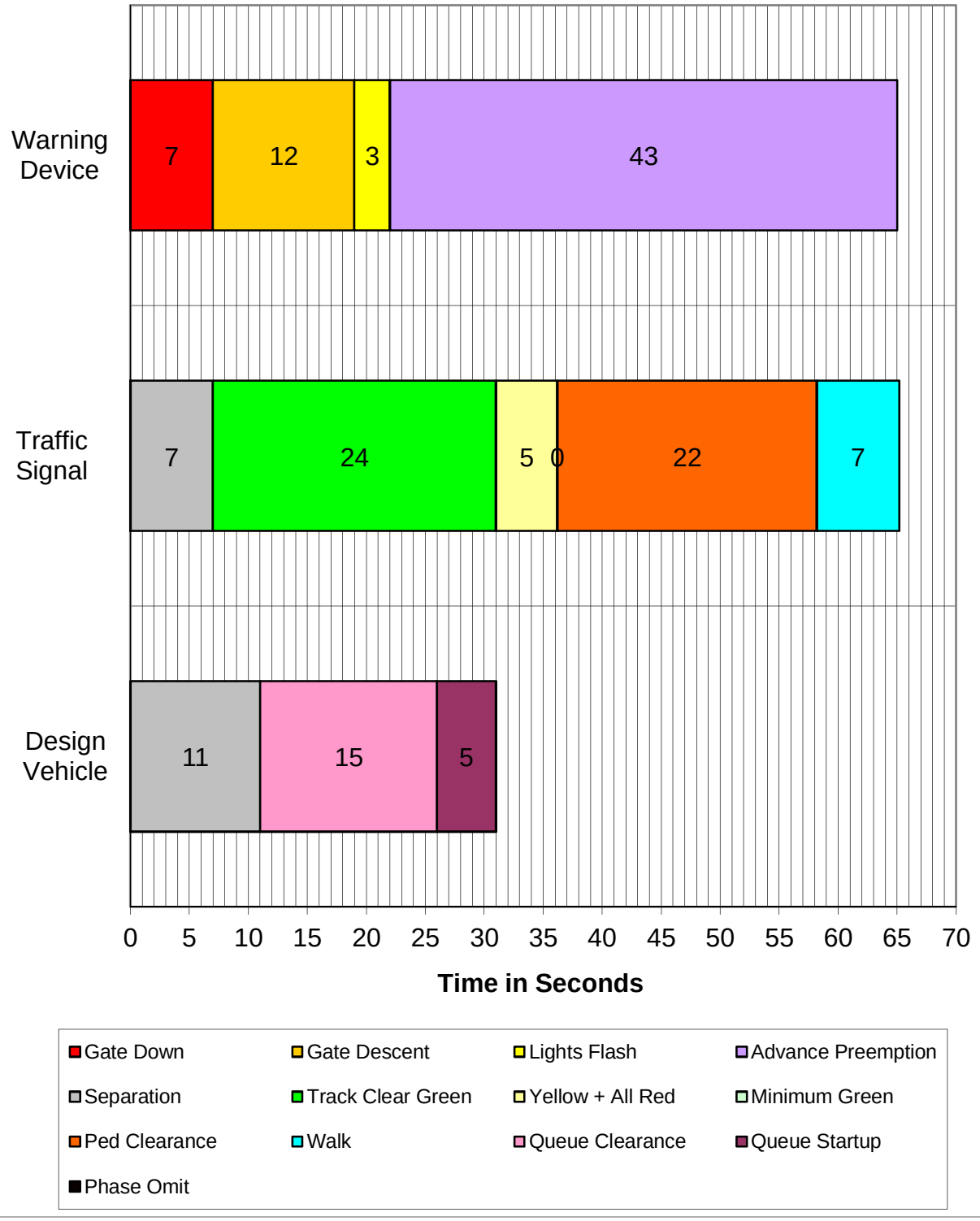
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	2	sec	2 sec minimum
Minimum Warning Time, MWT	**22**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**22**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**43**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**70**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4620**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Parthenia	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Nordoff	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	70	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**70**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	0	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**4.0**	**7**
Move front of vehicle thru L (sec)	5.6	6.2	5.2	11.4	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**6.2**	**7.5**	**6.6**	**16.0**	**16**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**23**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**34**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**69**	sec	*for actual Separation Time*

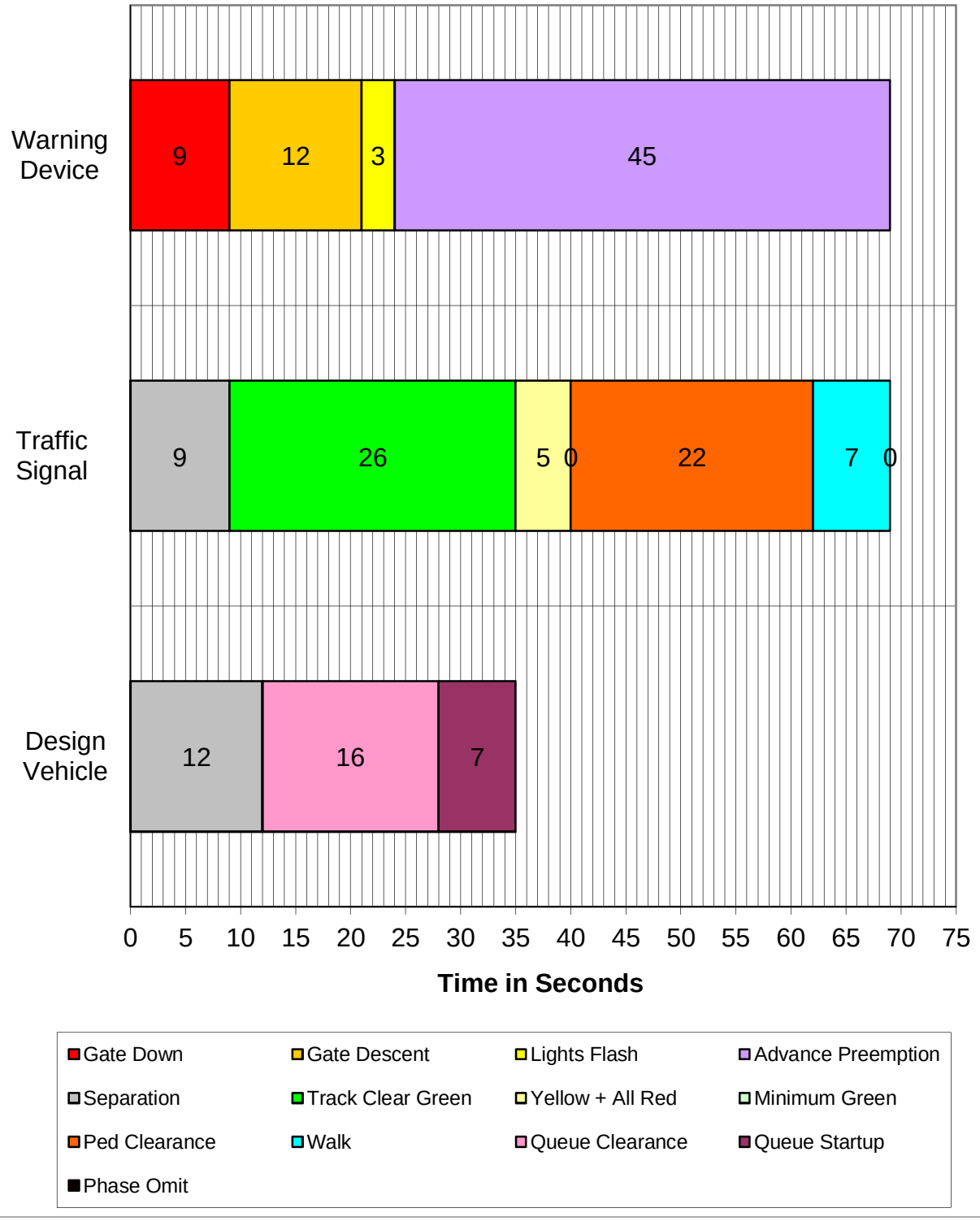
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	4	sec	4 sec minimum
Minimum Warning Time, MWT	**24**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**24**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**45**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**74**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4884**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Nordoff	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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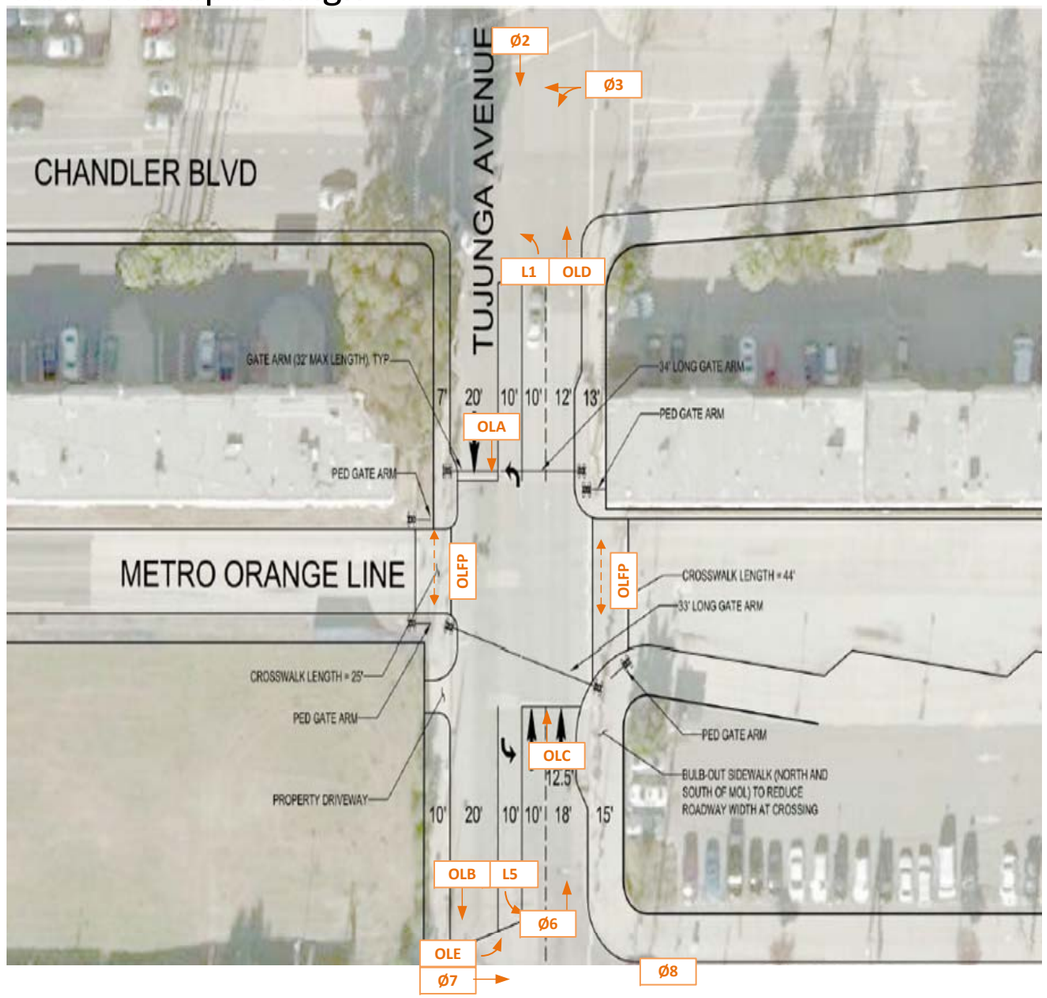
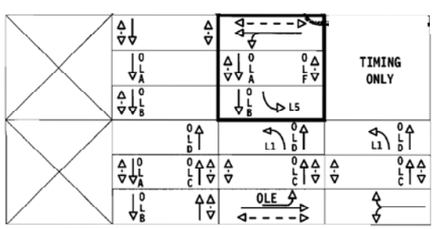
APPENDIX B

Four Quadrant Gate System Phasing Schematics

Gate Concept Design

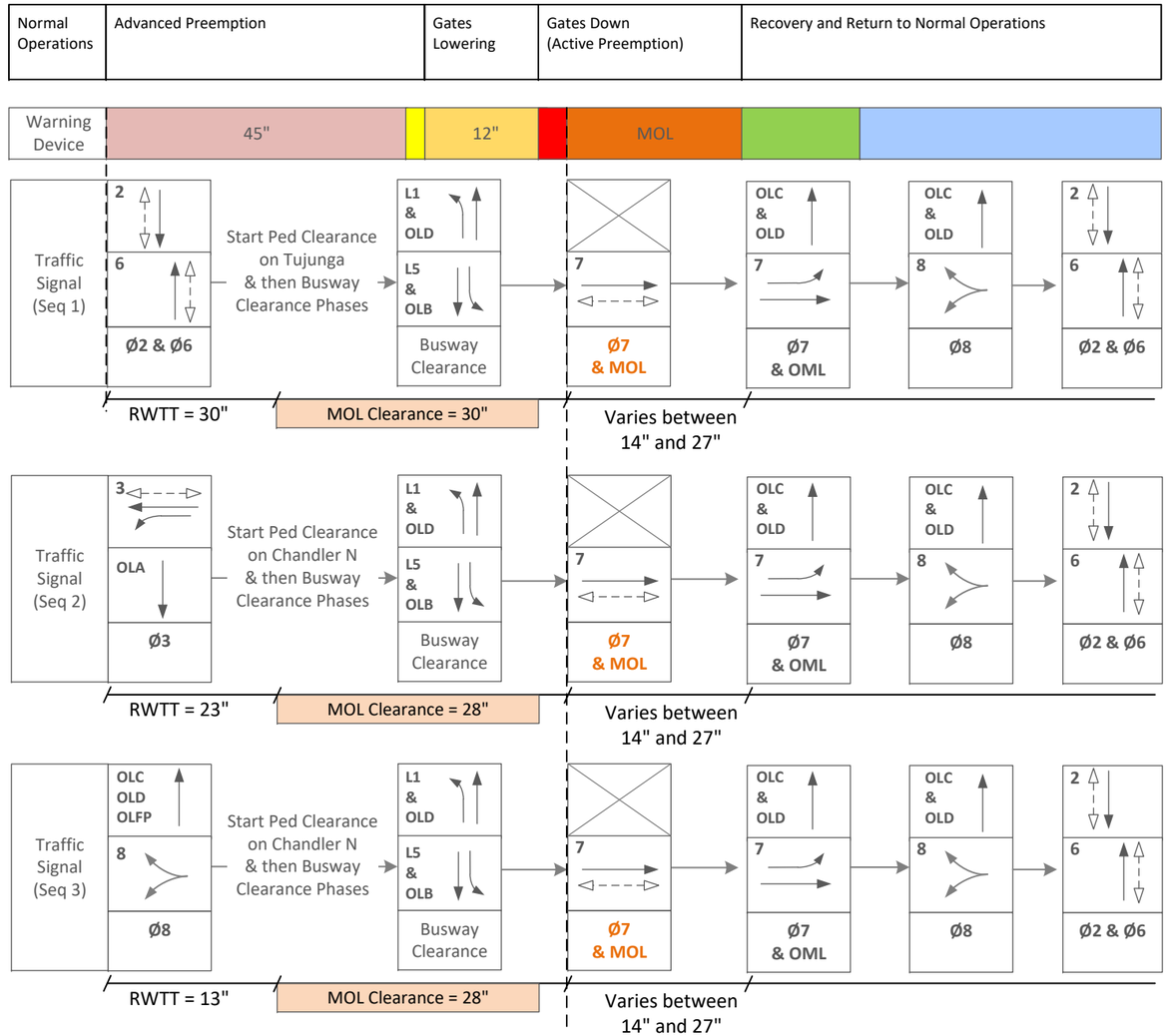


Future with Gates Phasing Diagram



OLA: Ø2, Ø3, Ø7
OLB: Ø2, Ø3, Ø7
OLC: Ø6, Ø7, Ø8
OLD: Ø6, Ø7, Ø8
OLE: Ø7
OLF: Ø3, Ø6, Ø7, Ø8
L1: Ø7 & Ø8
L5: Ø3
Ø4 Timing Only

Preemption Sequence



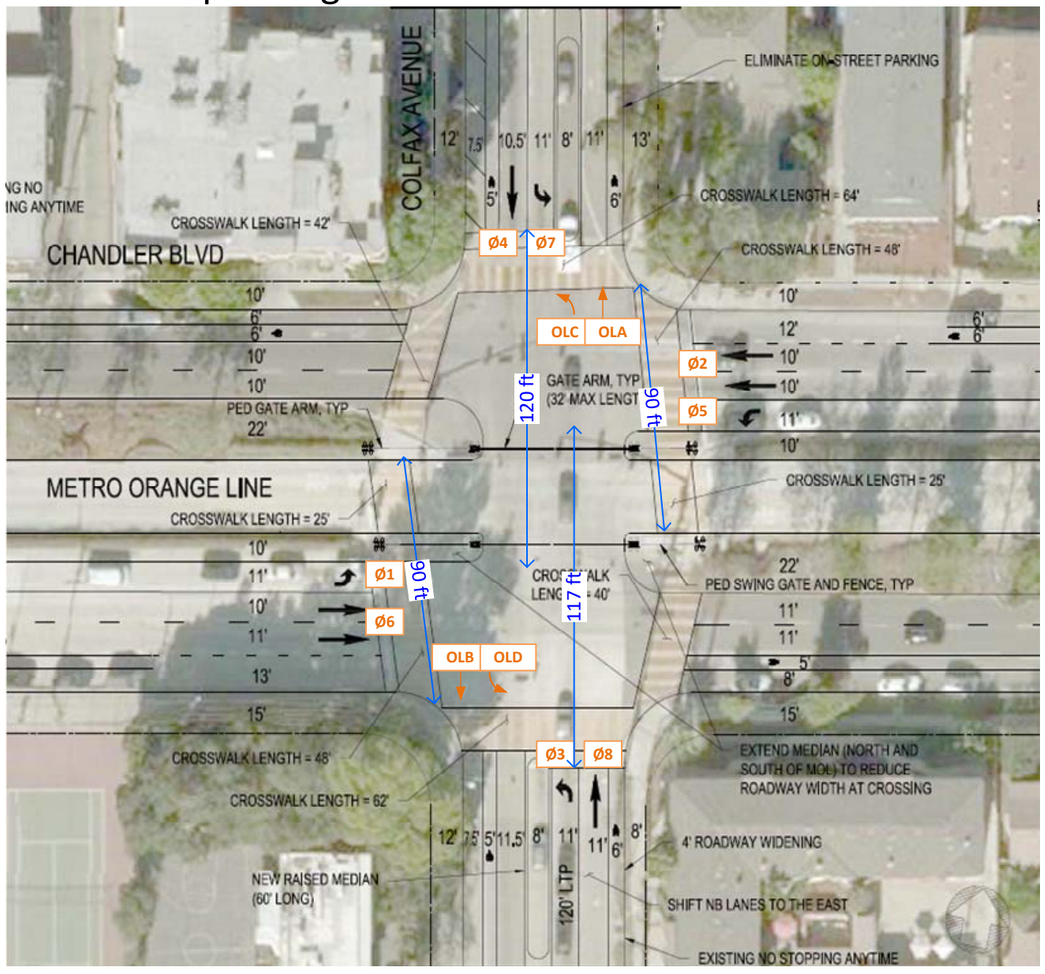
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

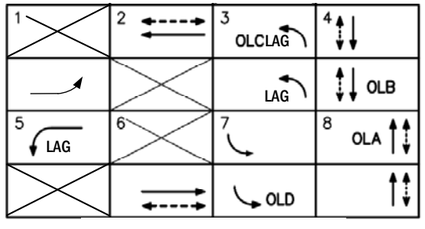
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 1
Chandler Boulevard and Tujunga Avenue

Gate Concept Design



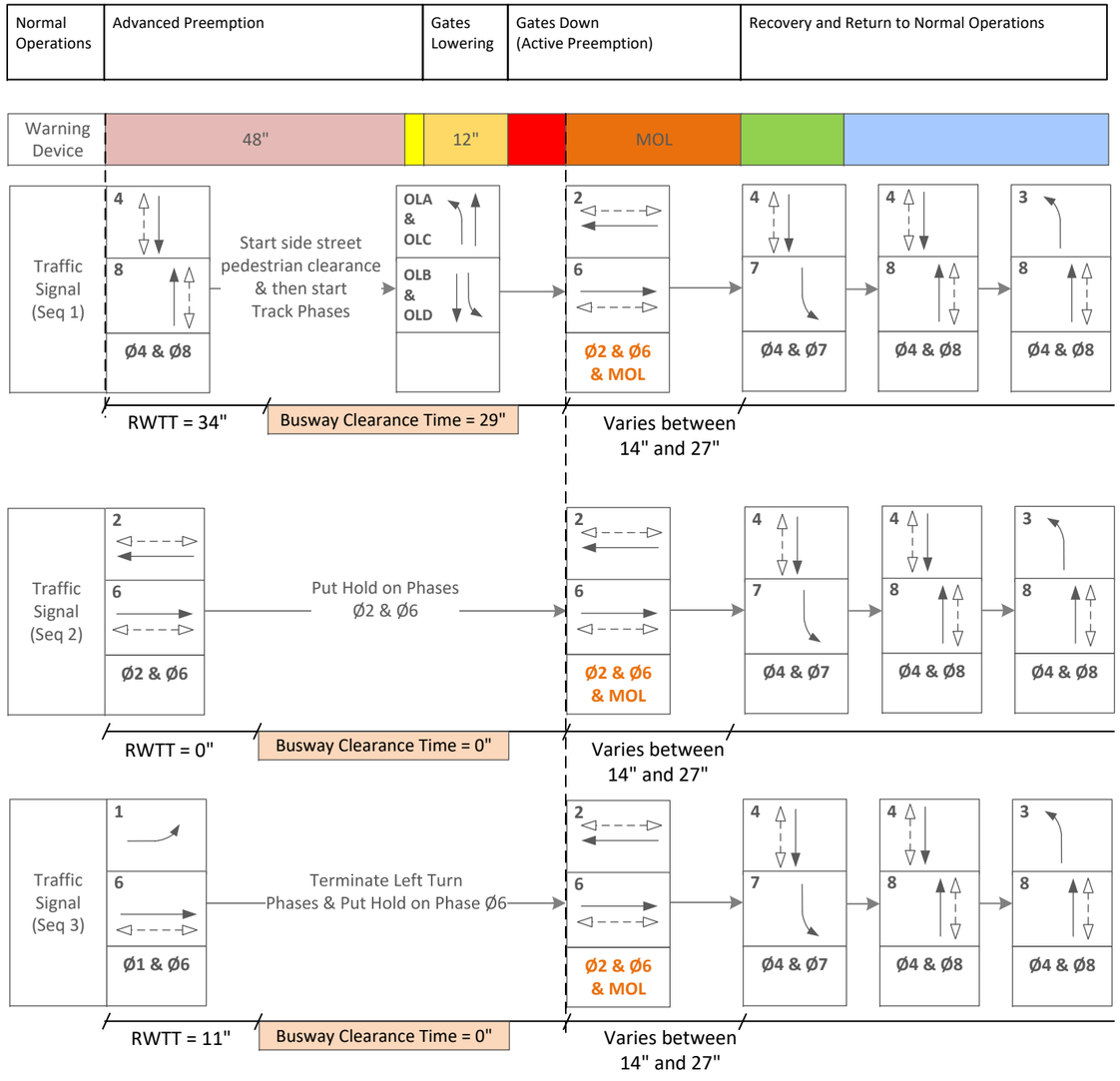
Future with Gates Phasing Diagram



OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

OLA, OLB, OLC, OLD:
MOL Busway Clearance

Preemption Sequence



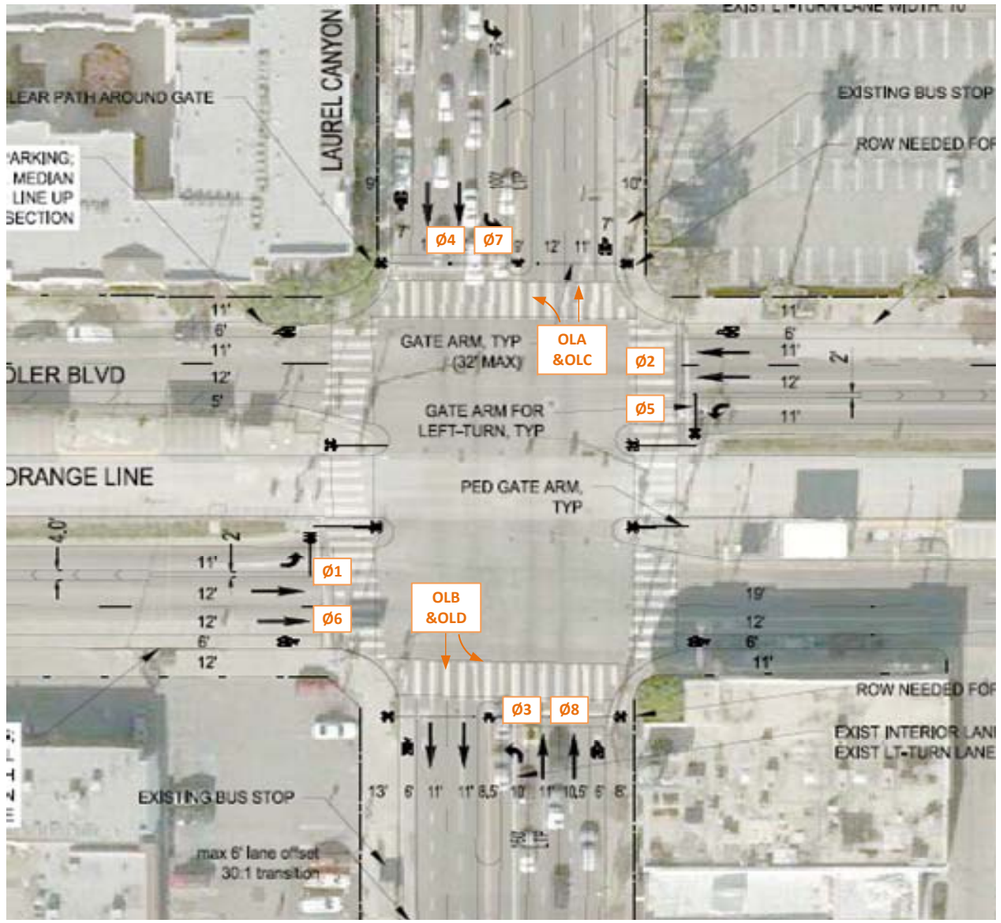
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

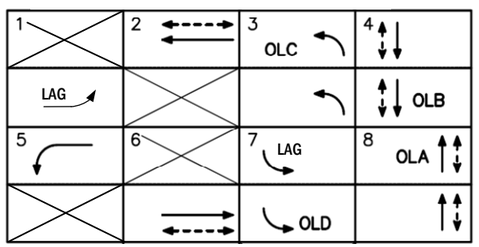
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 2
Chandler Boulevard and Colfax Avenue

Gate Concept Design



Future with Gates Phasing Diagram

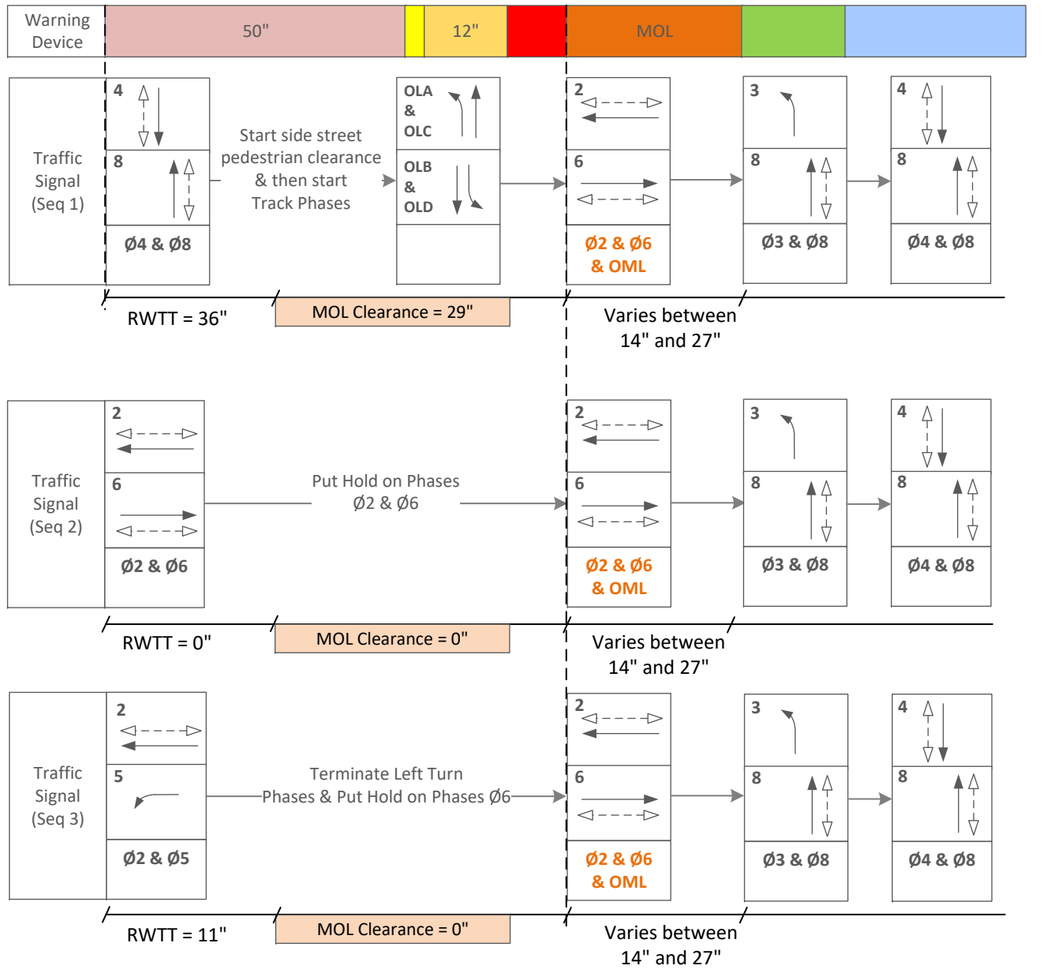


OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

OLA, OLB, OLC, OLD:
MOL Busway Clearance

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



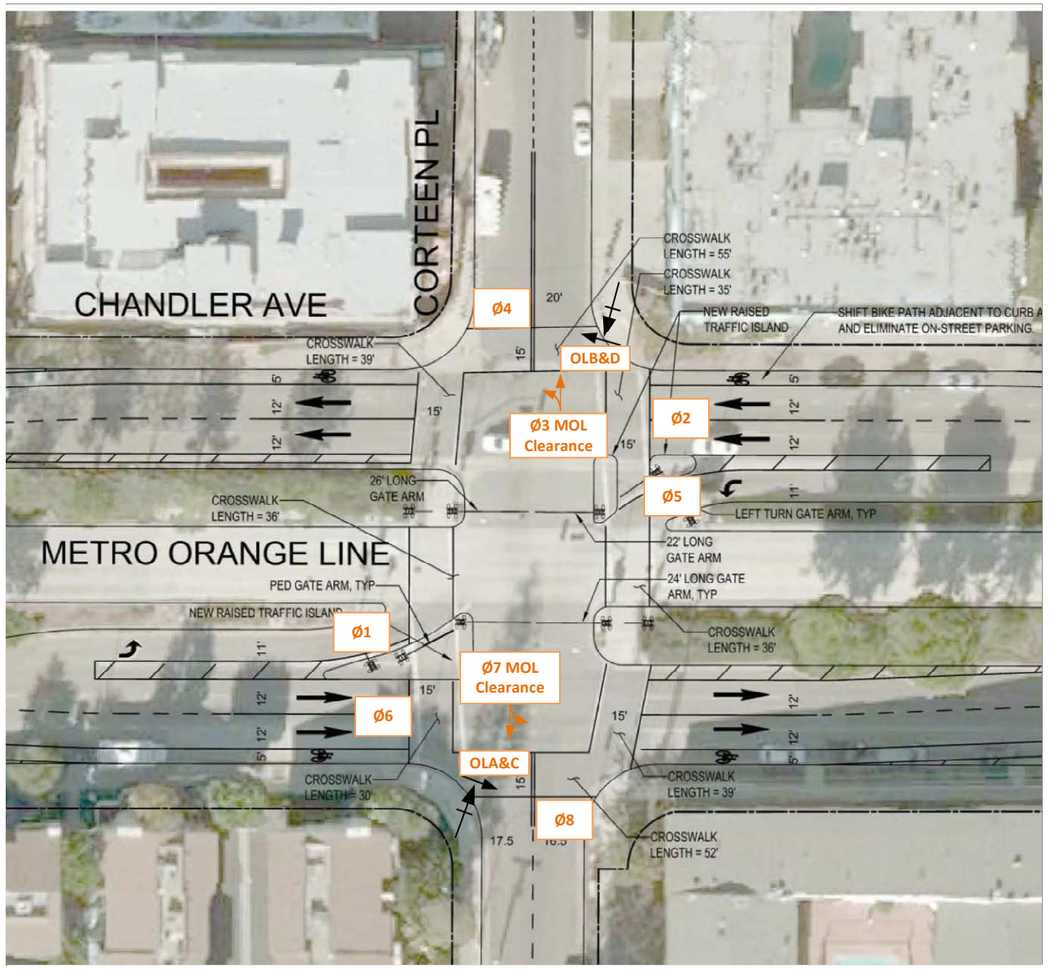
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

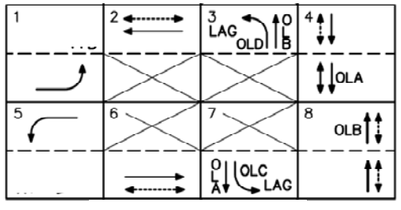
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 3
Chandler Boulevard and Laurel Canyon Boulevard

Gate Concept Design

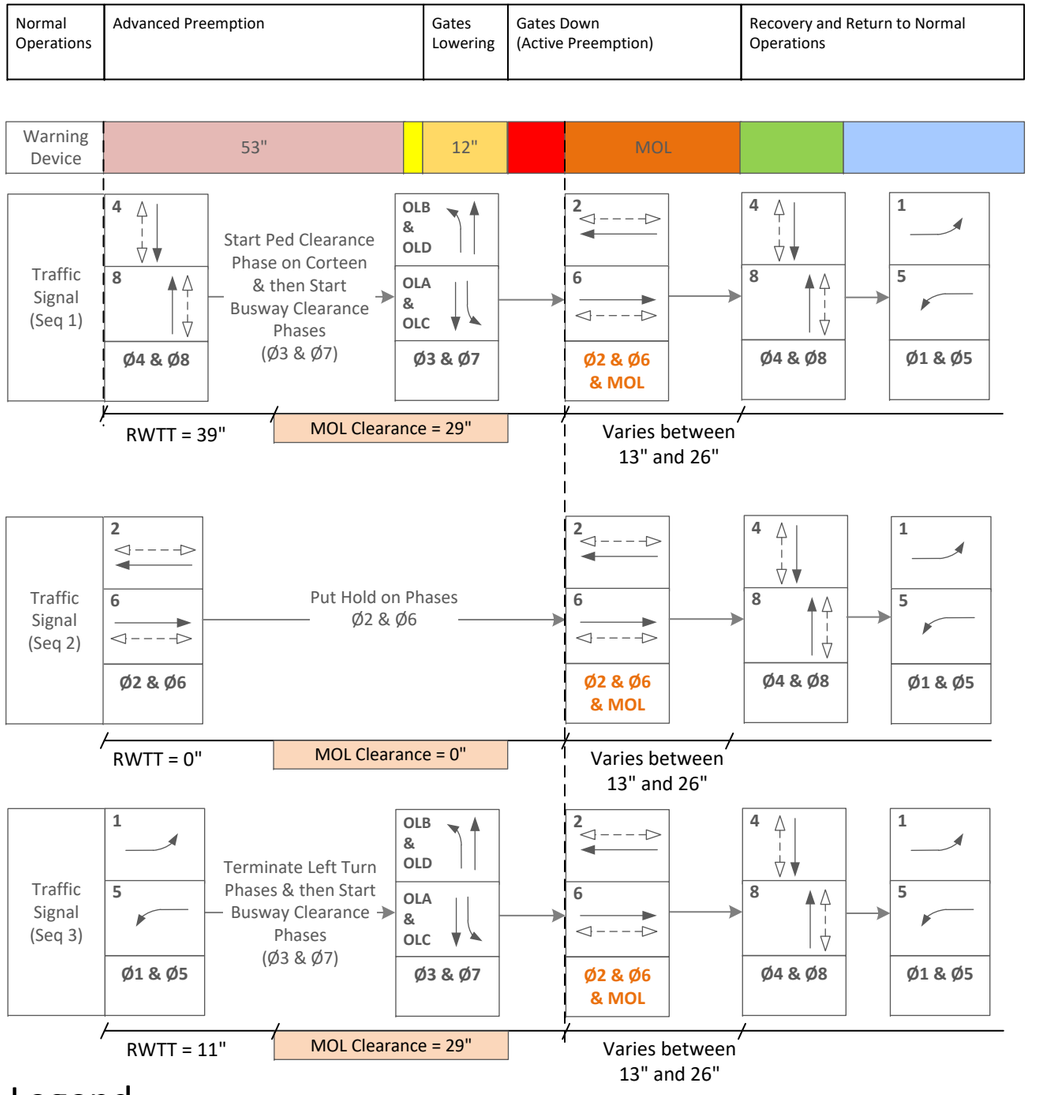


Future with Gates Phasing Diagram



OLA: Phases 3 and 4
OLB: Phases 7 and 8
OLC: Phase 7
OLD: Phase 3

Preemption Sequence



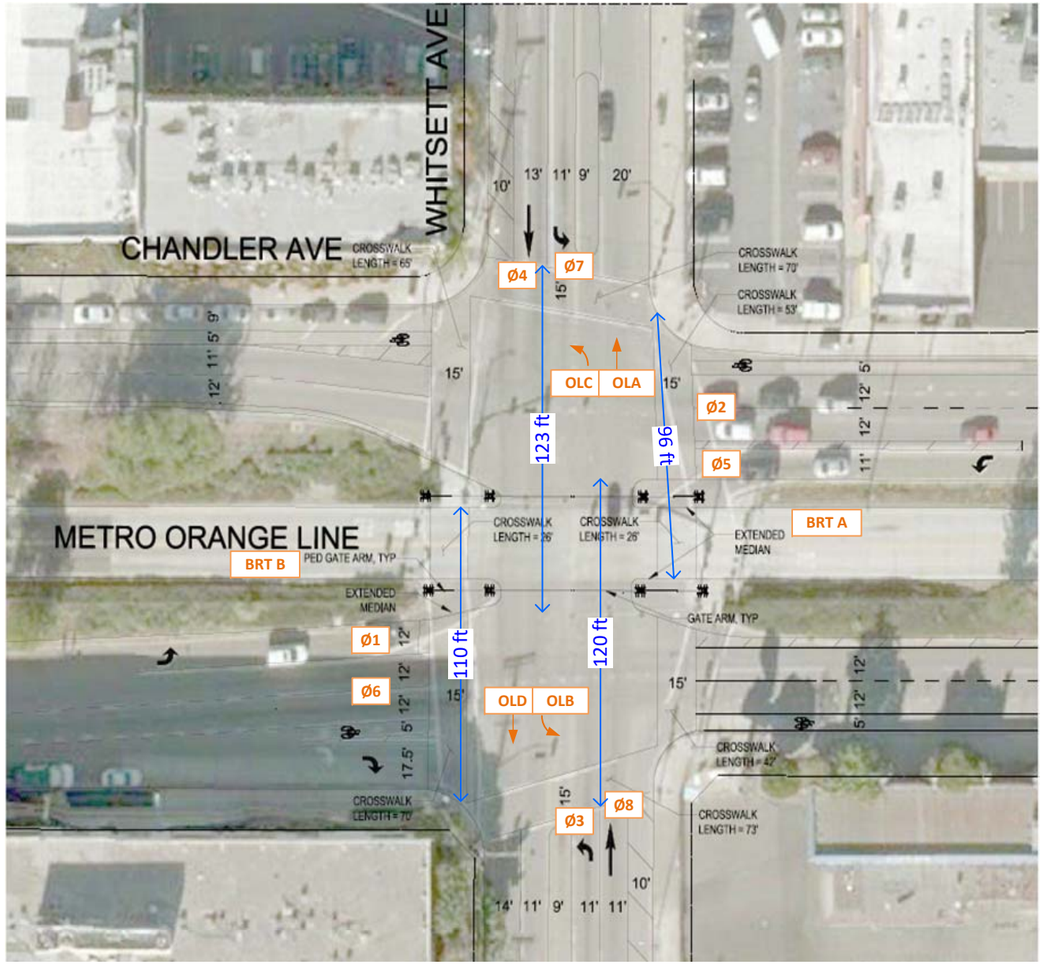
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

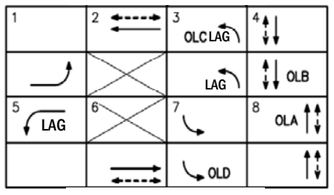
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 4
Chandler Avenue and Corteen Place

Gate Concept Design



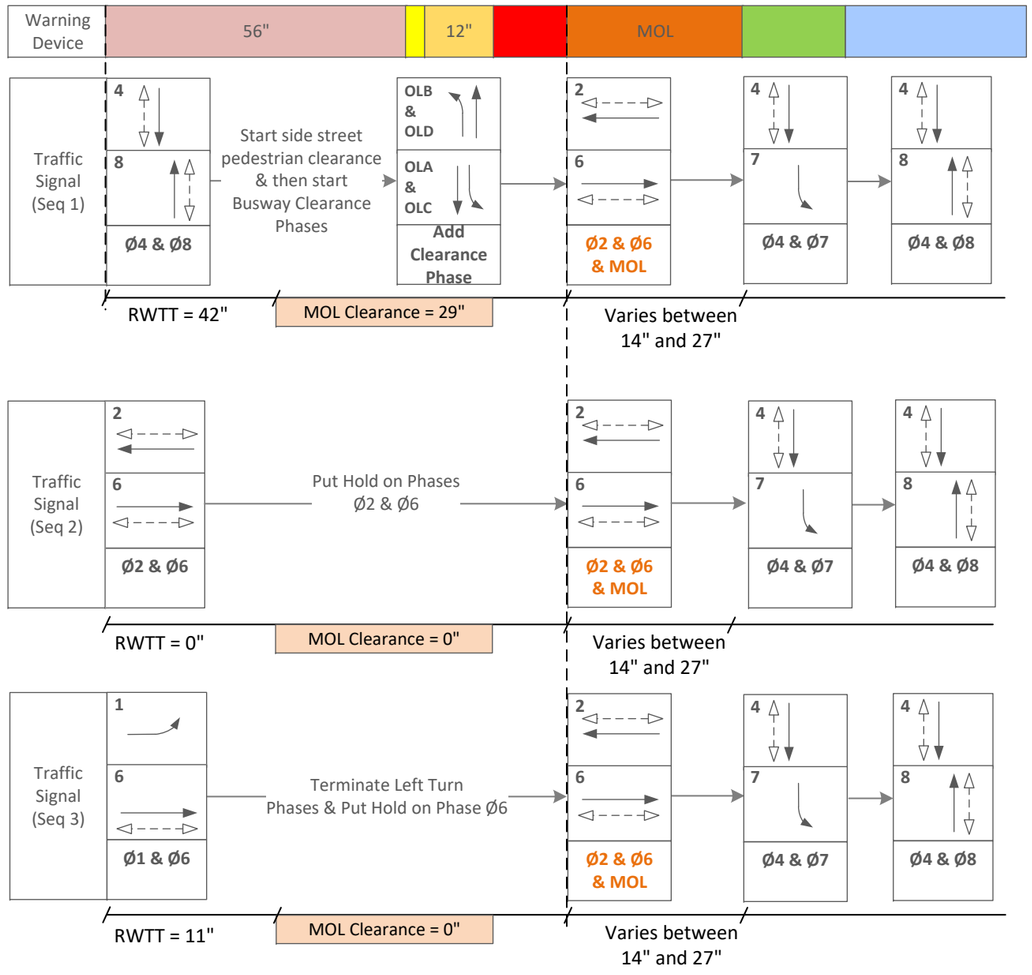
Future with Gates Phasing Diagram



OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



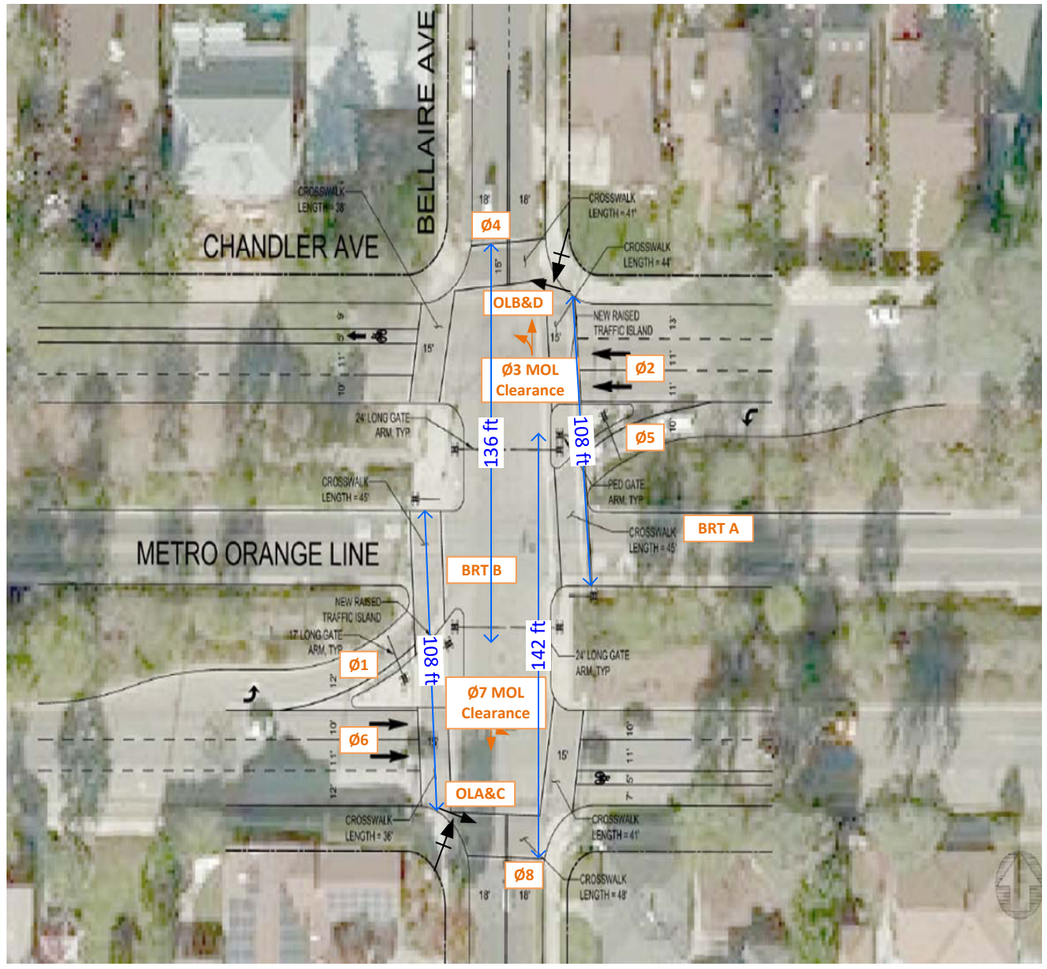
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

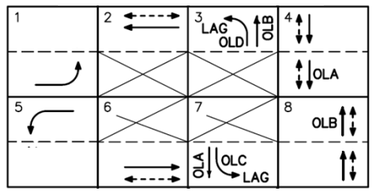
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 5
Chandler Boulevard and Whitsett Avenue

Gate Concept Design



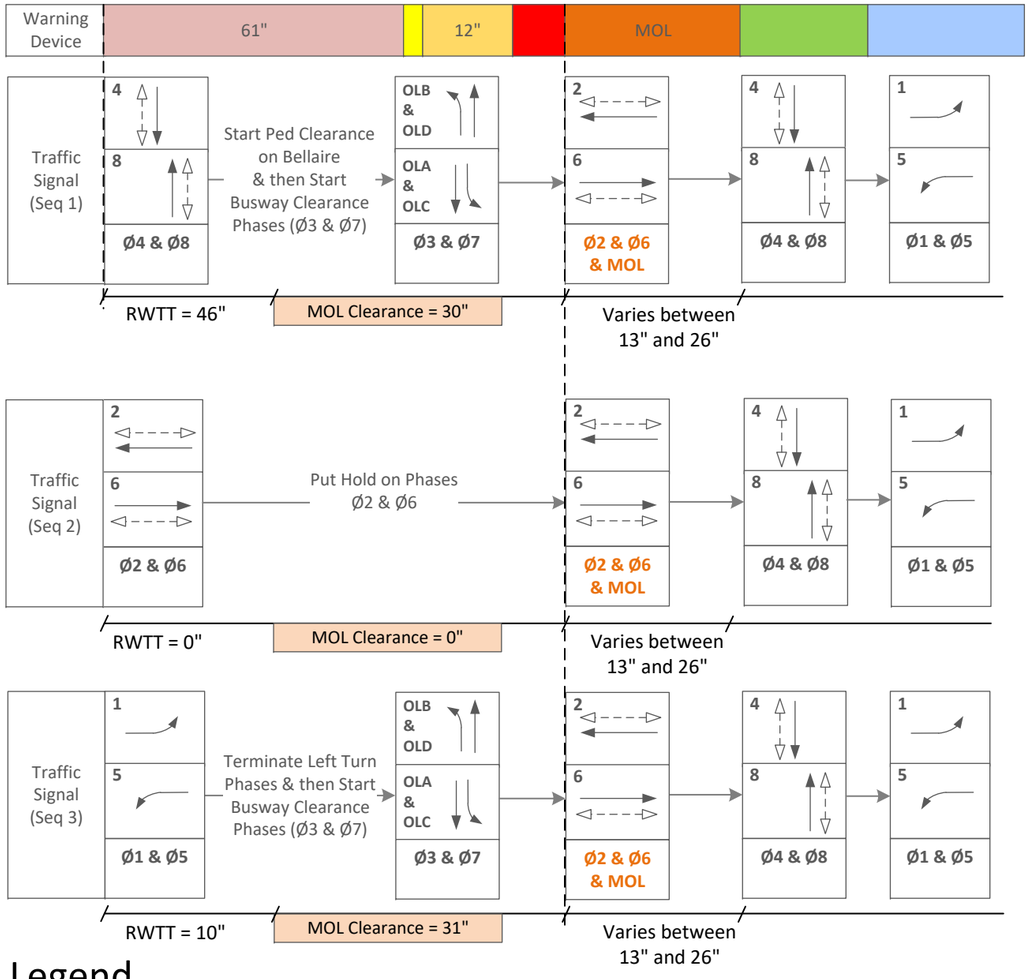
Future with Gates Phasing Diagram



OLA: Ø3, Ø4
OLB: Ø7, Ø8
OLC: Ø7
OLD: Ø3
Phase 3: MOL Busway Clearance
Phase 7: MOL Busway Clearance

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



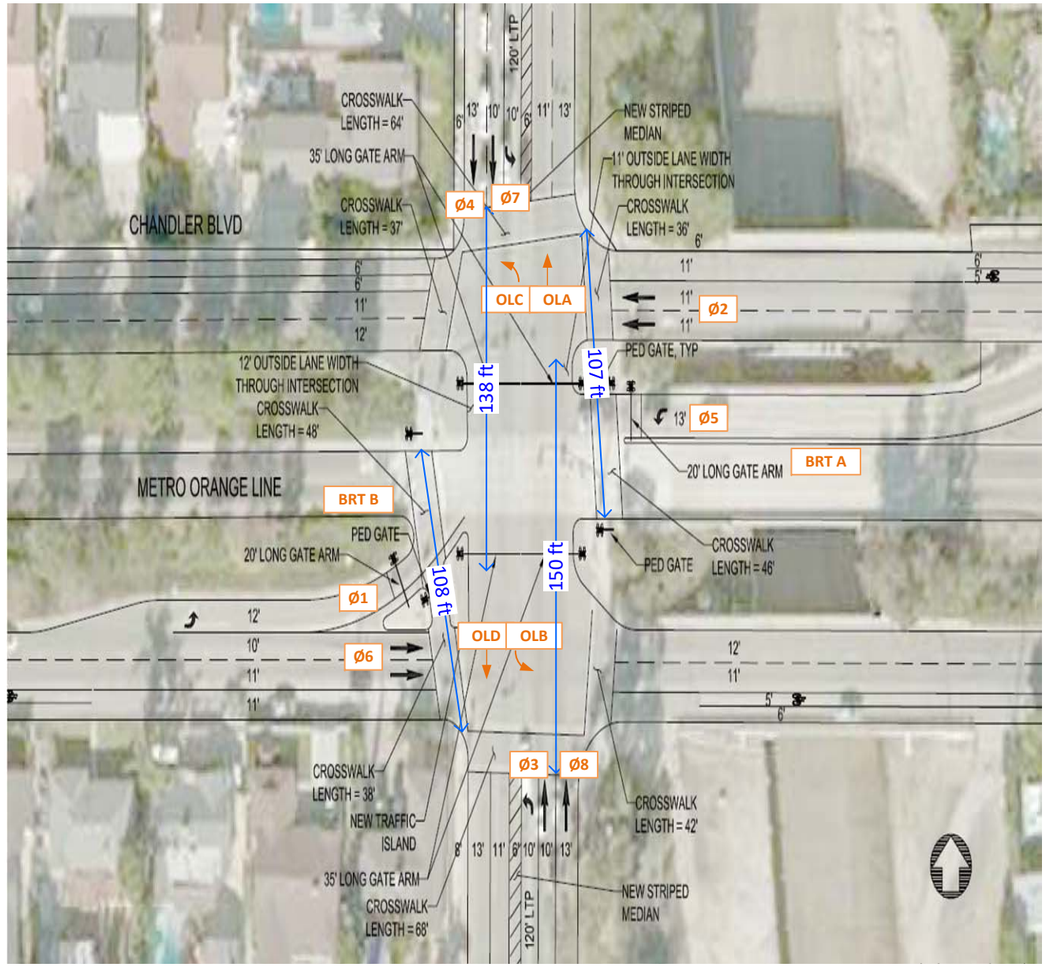
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

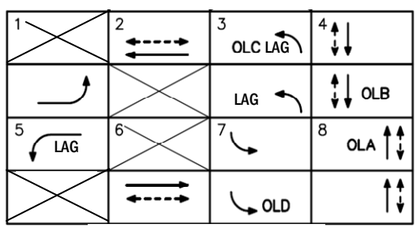
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 6
Chandler Boulevard and Bellaire Avenue

Gate Concept Design

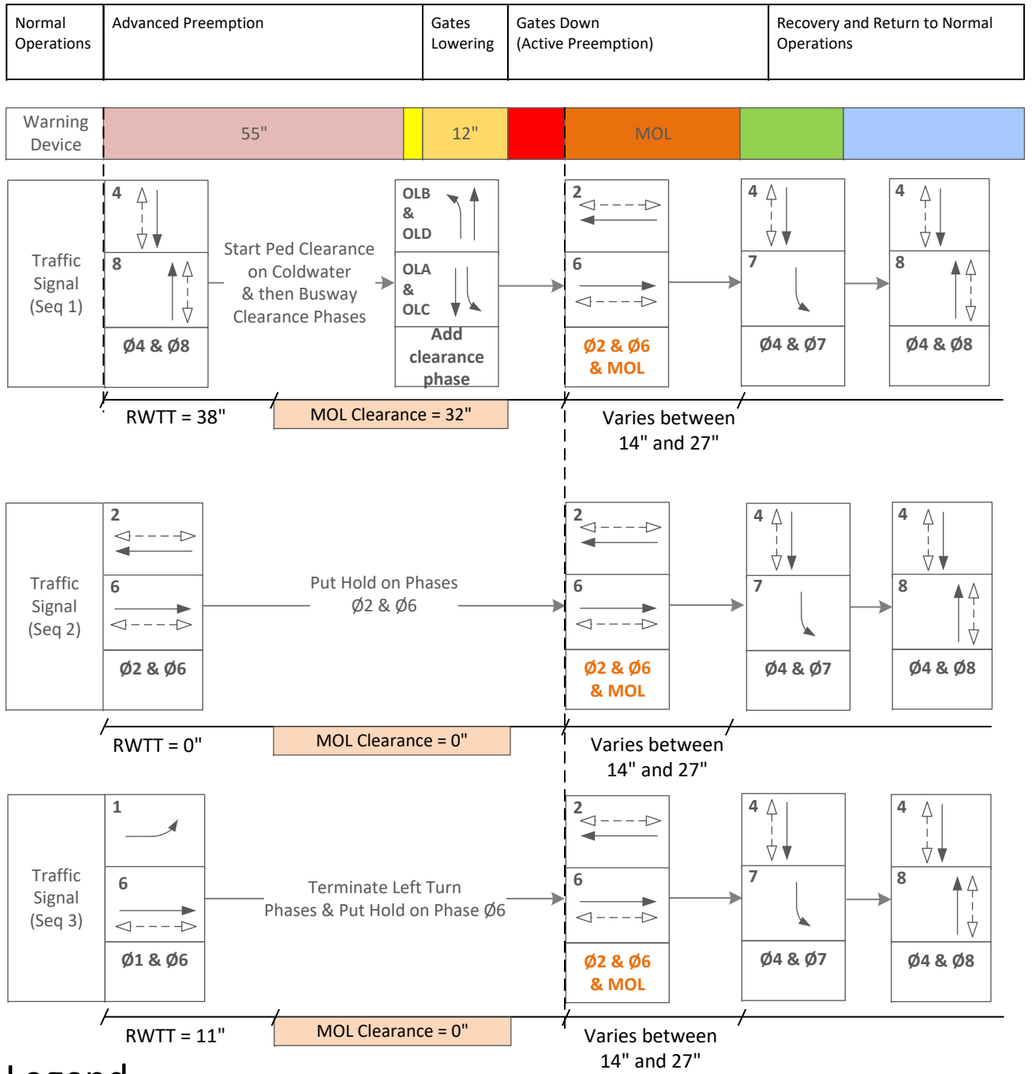


Future with Gates Phasing Diagram



OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

Preemption Sequence



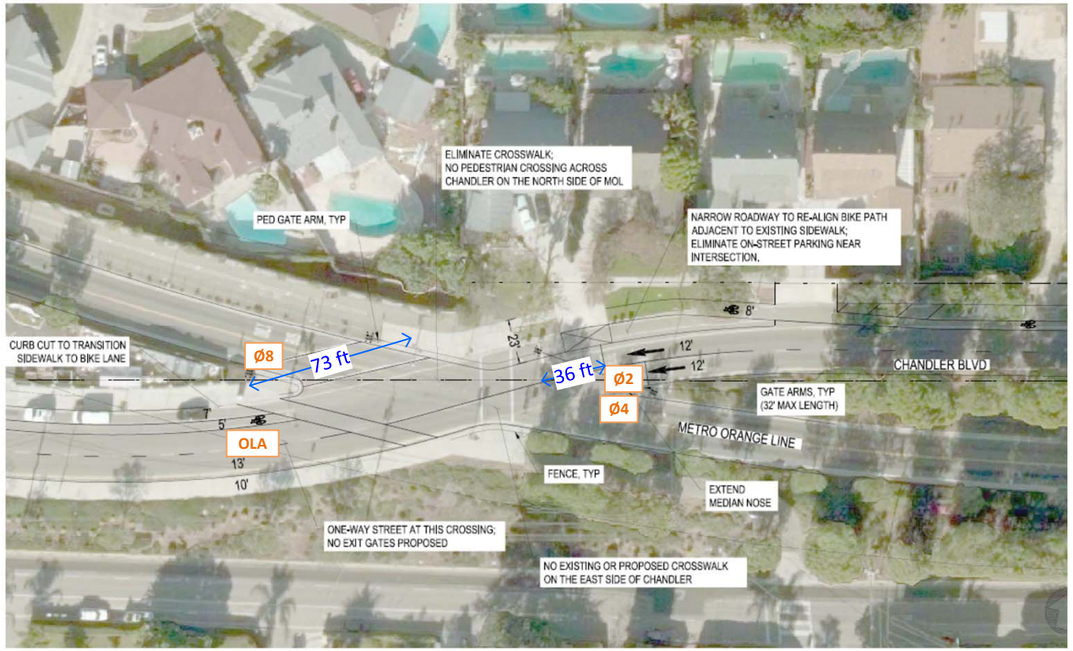
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

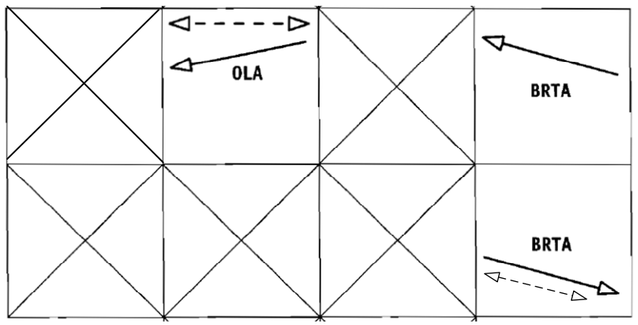
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 7
Chandler Boulevard and Coldwater Canyon Avenue

Gate Concept Design

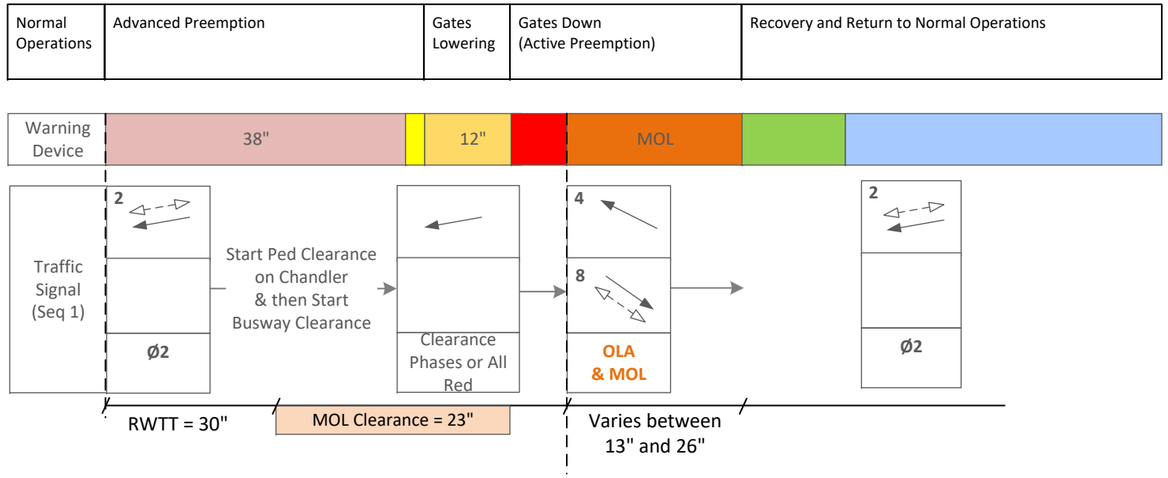


Future with Gates Phasing Diagram



OLA: Ø2, Ø4, Ø8
Modify signal phasing to add busway clearance phase

Preemption Sequence



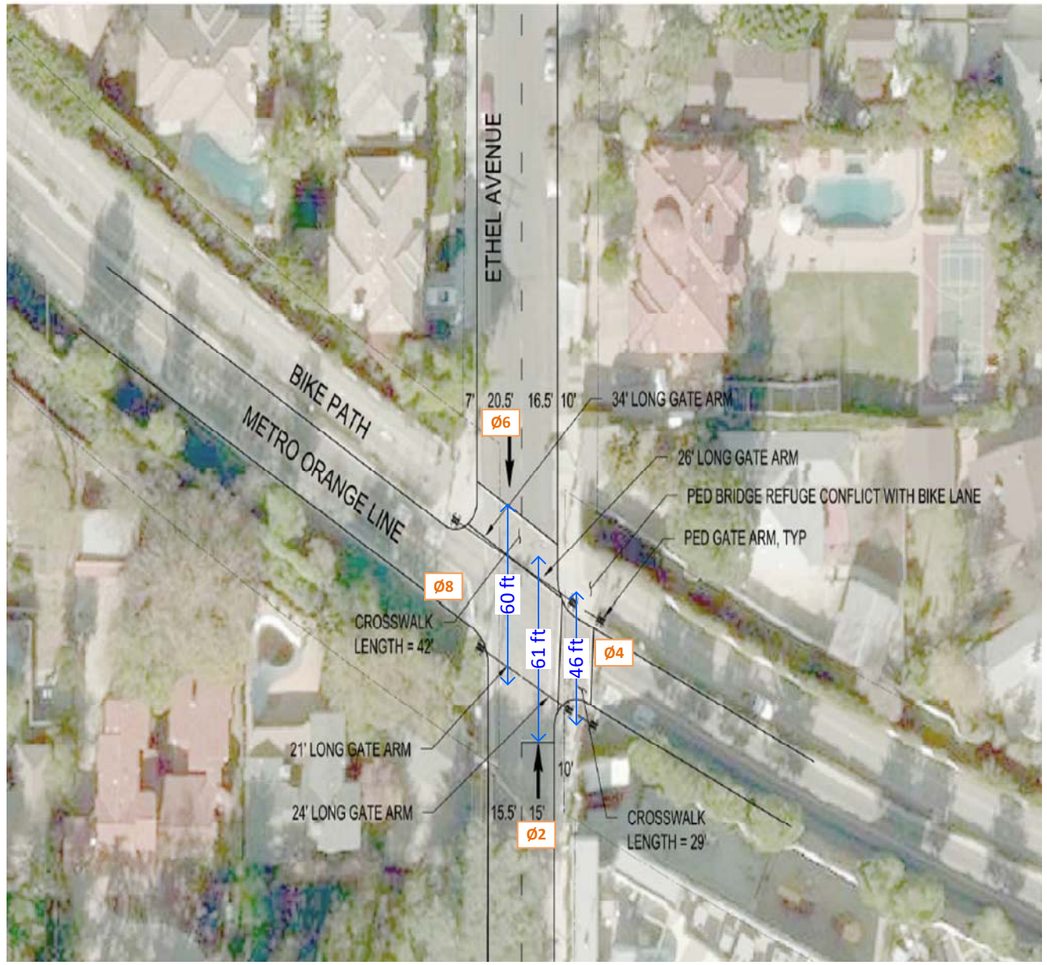
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

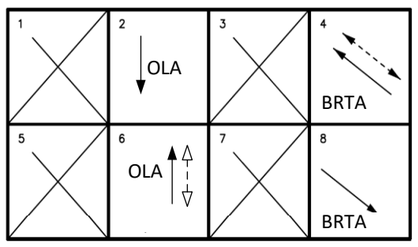
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 8
Chandler Boulevard and Busway

Gate Concept Design



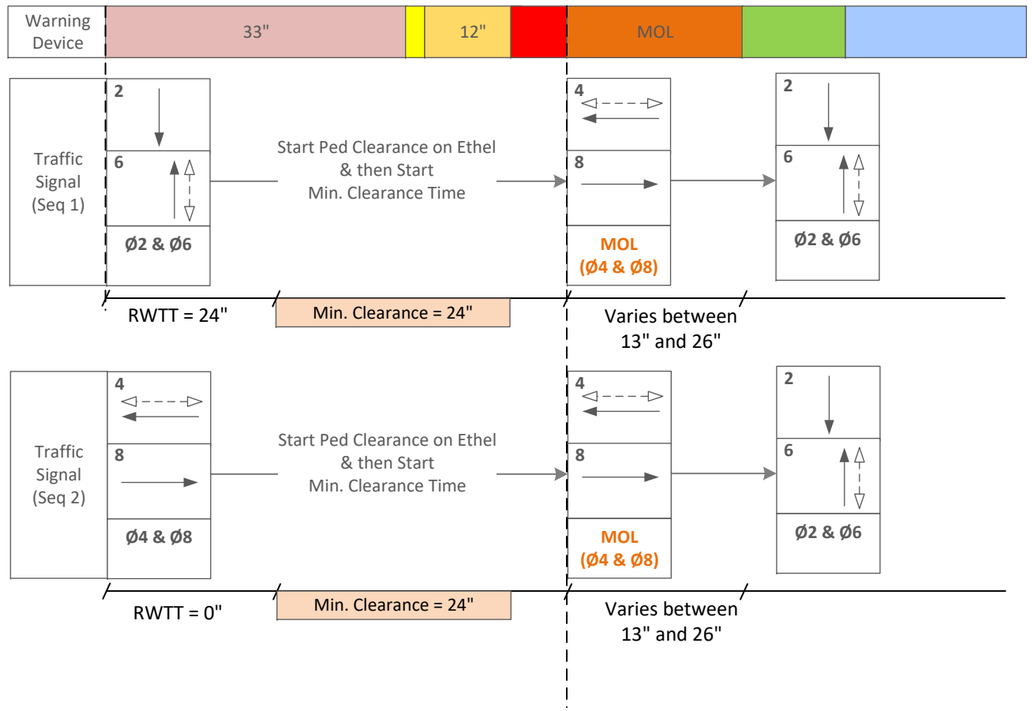
Future with Gates Phasing Diagram



OLA: Ø2, Ø6
Modify signal phasing to add busway clearance phase

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



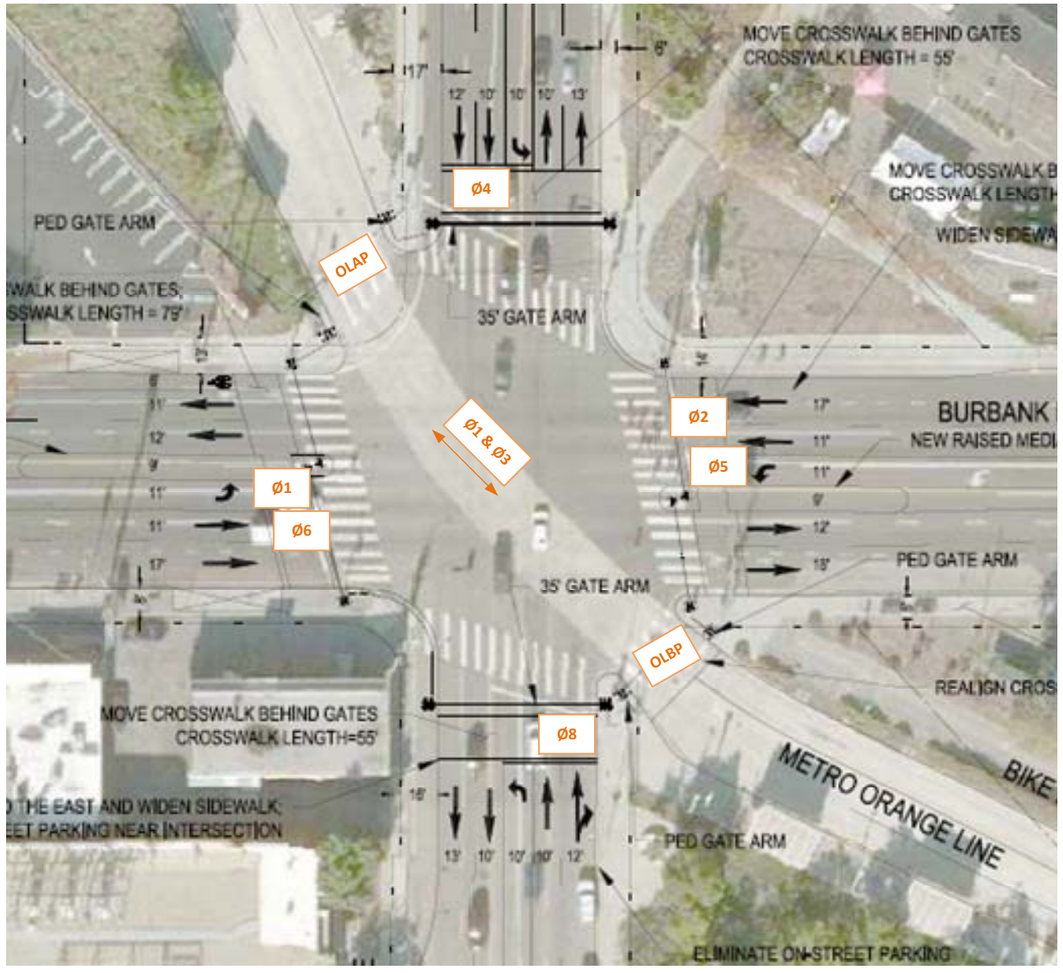
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

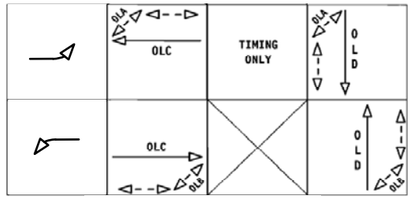
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 9
Busway and Ethel Avenue

Gate Concept Design

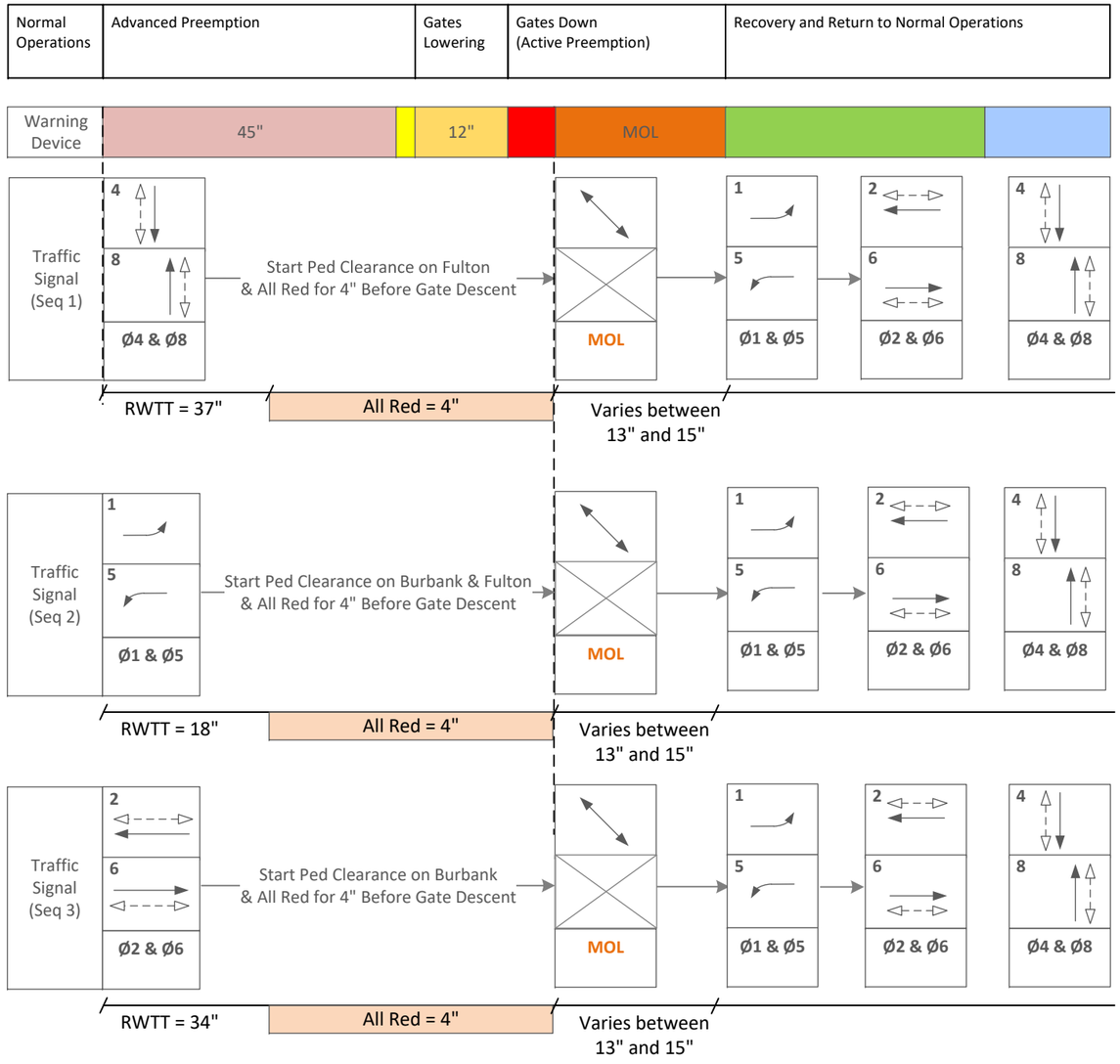


Future with Gates Phasing Diagram



OLAP: Ø2 & Ø4
OLBP: Ø6 & Ø8
OLC: Ø2 & Ø6
OLD: Ø4 & Ø8

Preemption Sequence



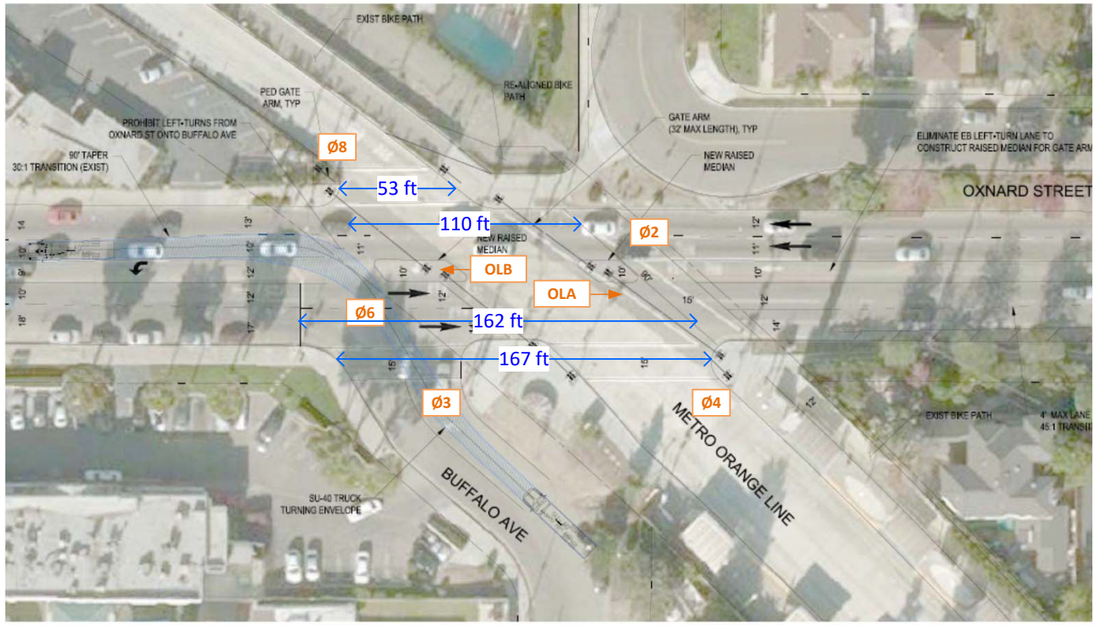
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

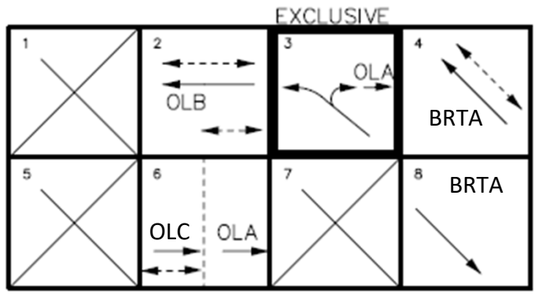
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 10
Burbank Boulevard and Fulton Avenue

Gate Concept Design

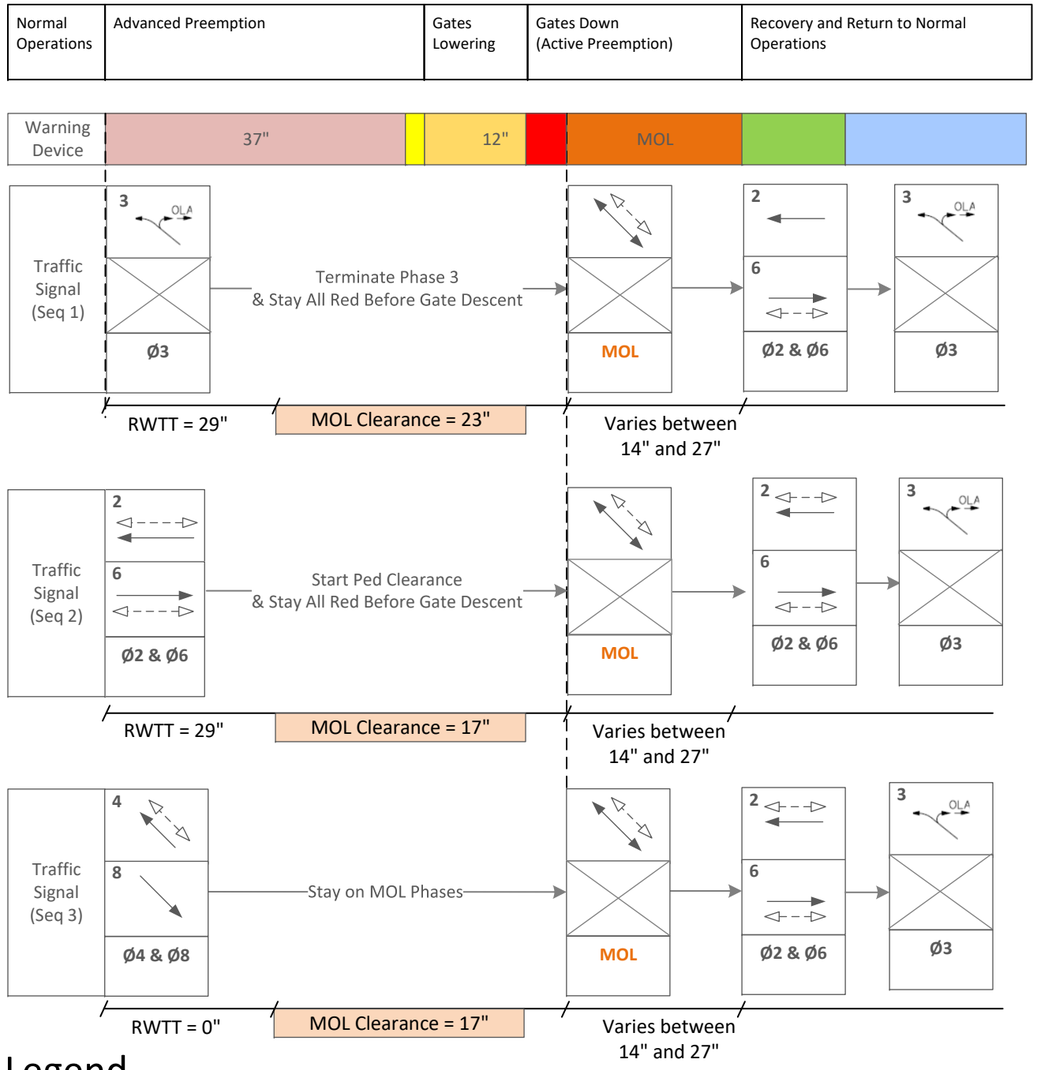


Future with Gates Phasing Diagram



OLA: Ø3 & Ø6
OLB: Ø2
OLC: Oxnard Street E/B (Approach)
OLA & OLB are for slot clearance

Preemption Sequence



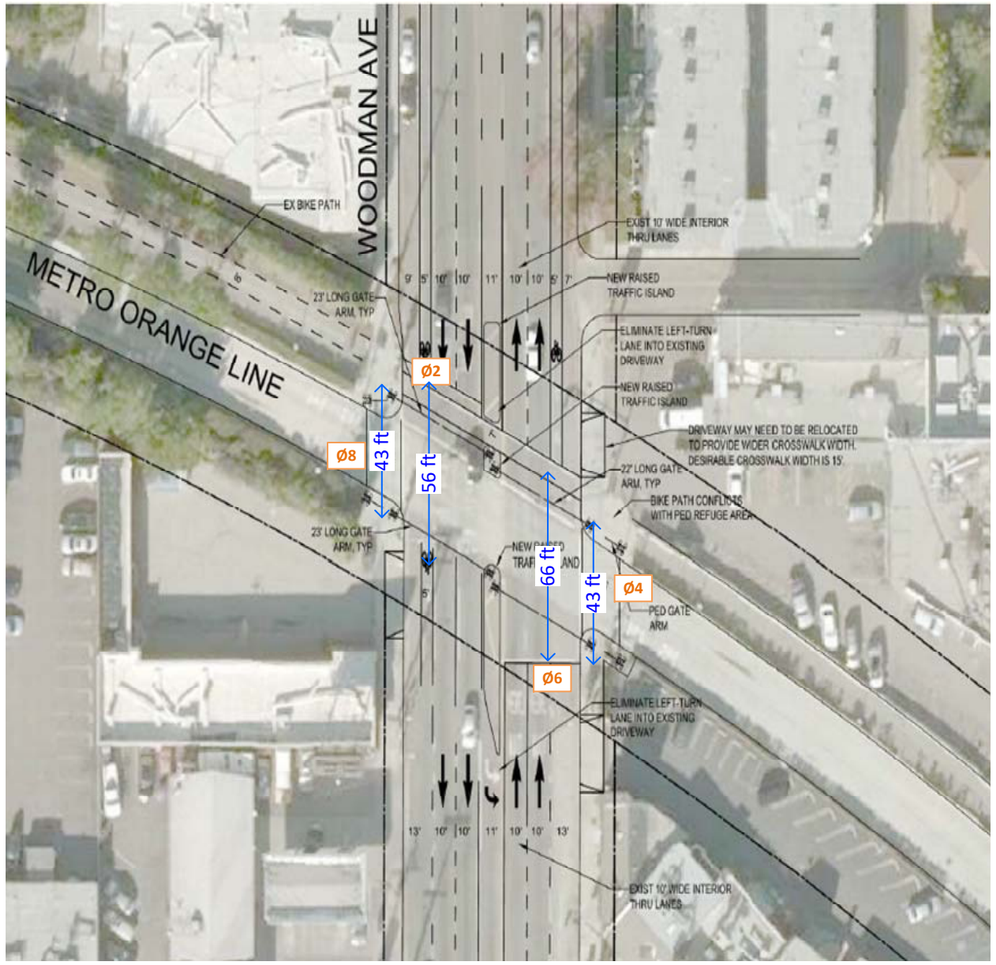
Legend

- Advance Preemption
- Gate Down
- Exit Phases
- Lights Flash (3 seconds)
- MOL Phase
- Normal Operation
- Gate Descent (12 seconds)

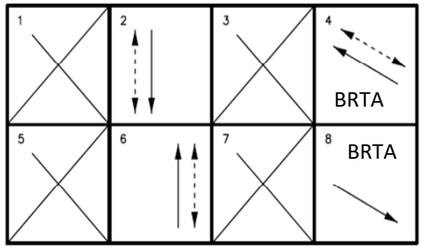
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 11
Oxnard Street and Busway

Gate Concept Design

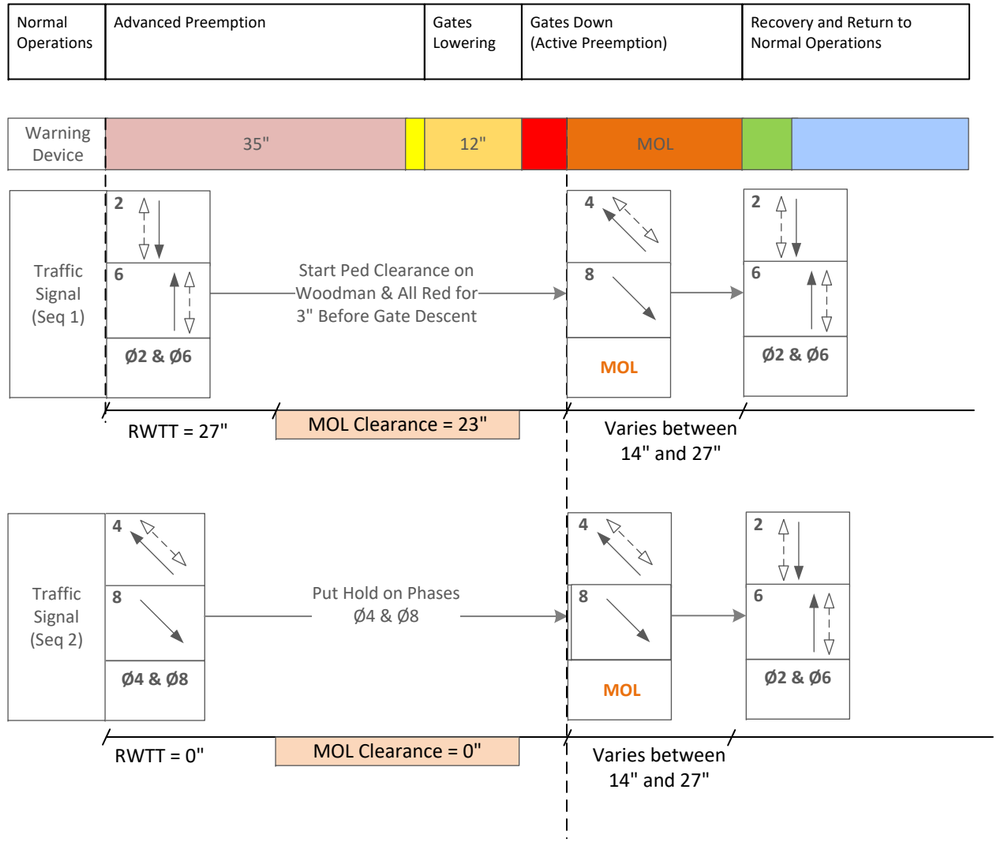


Future with Gates Phasing Diagram



Oxnard Street and Woodman Avenue is 240 ft south of busway. The storage distance between proposed gate and limit line at Woodman SB is approximately 165 ft.

Preemption Sequence



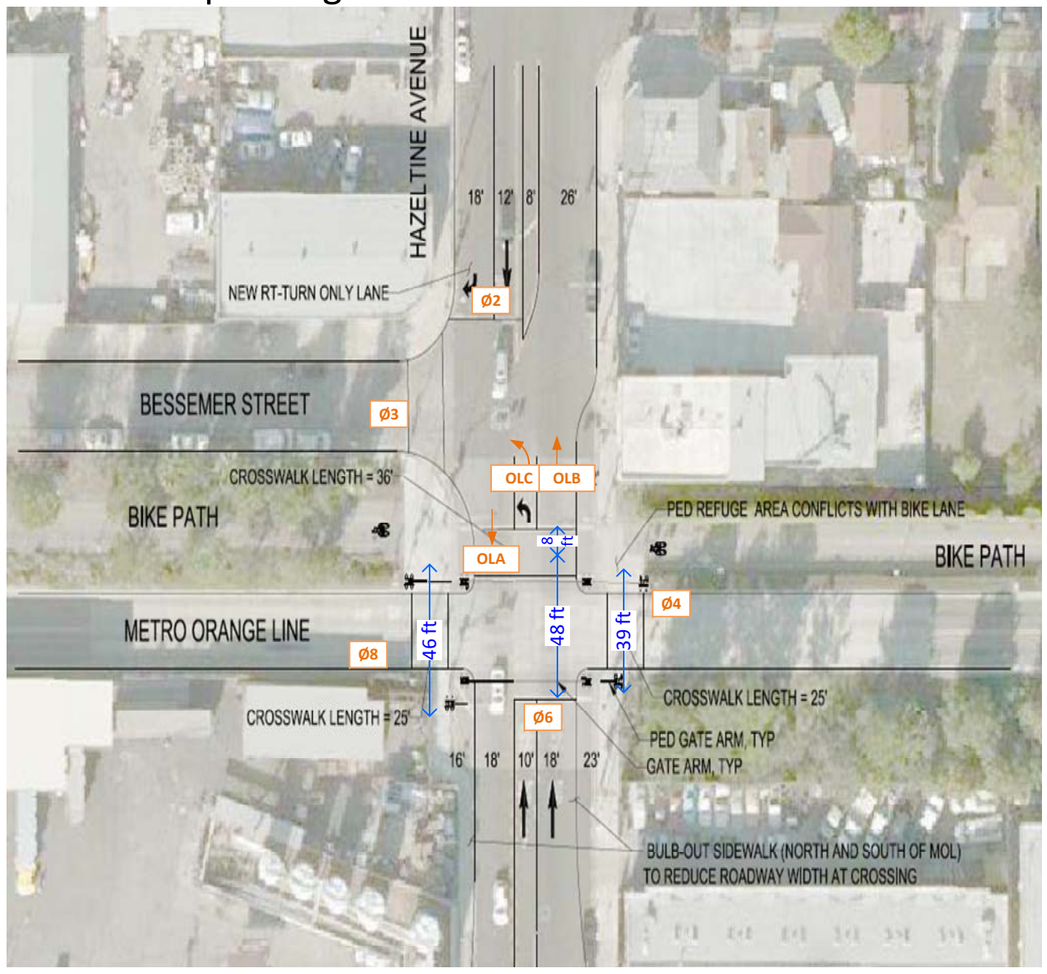
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

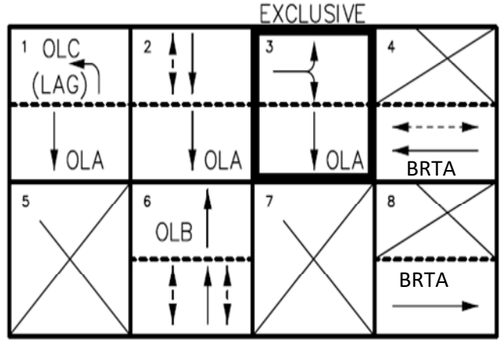
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 12
Metro Orange Line and Woodman Avenue

Gate Concept Design

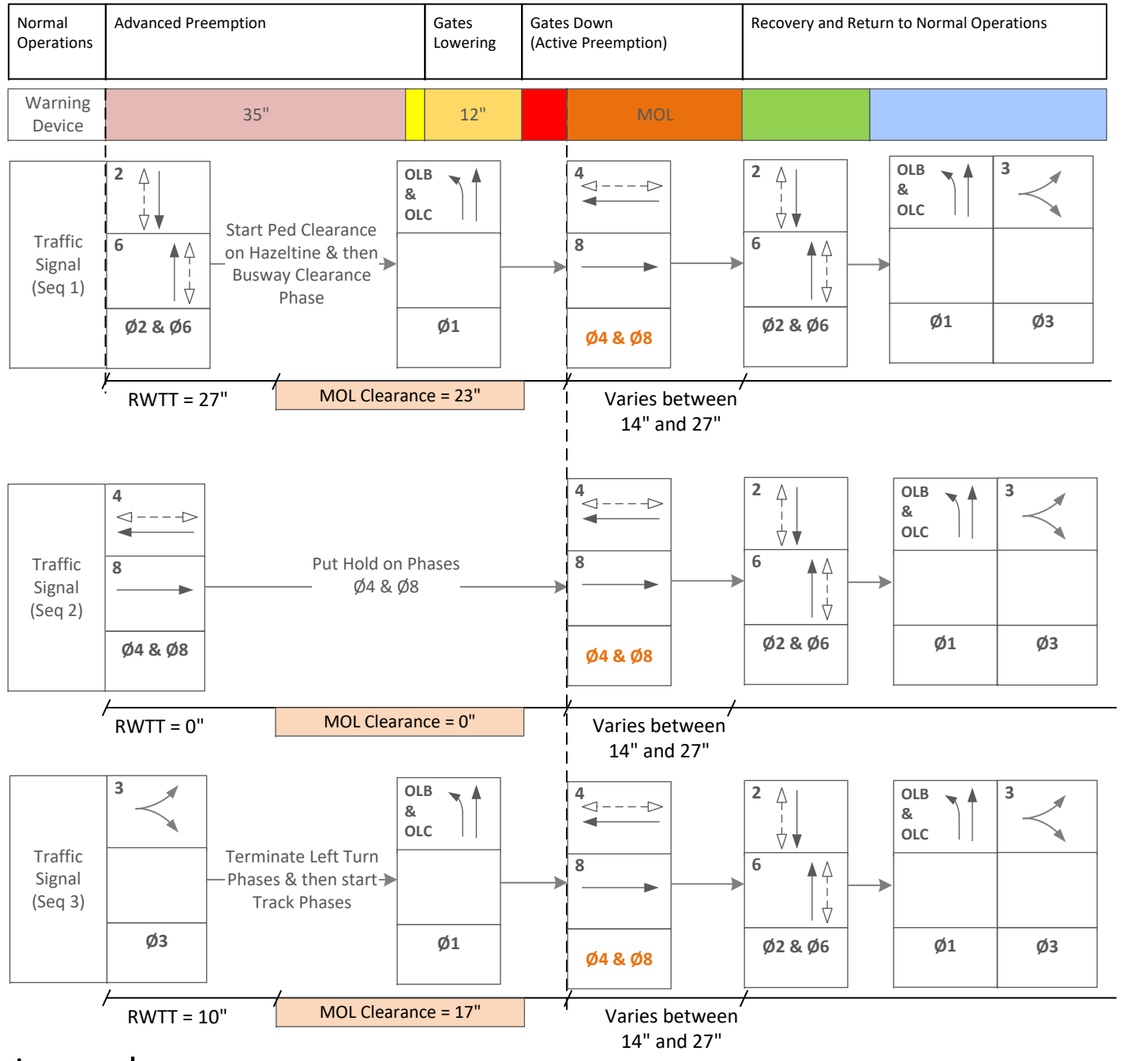


Future with Gates Phasing Diagram



OLA: Ø1, Ø2, and Ø3
OLB: Ø6
OLC: Ø1

Preemption Sequence



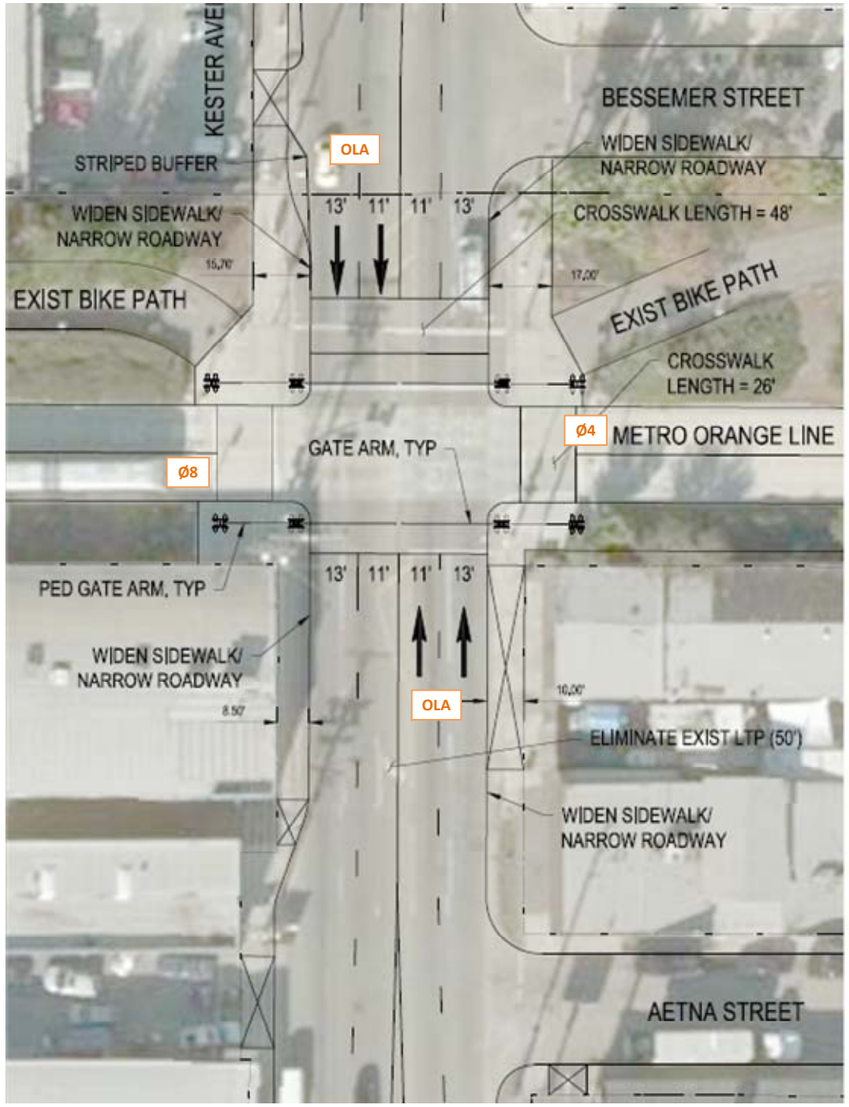
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

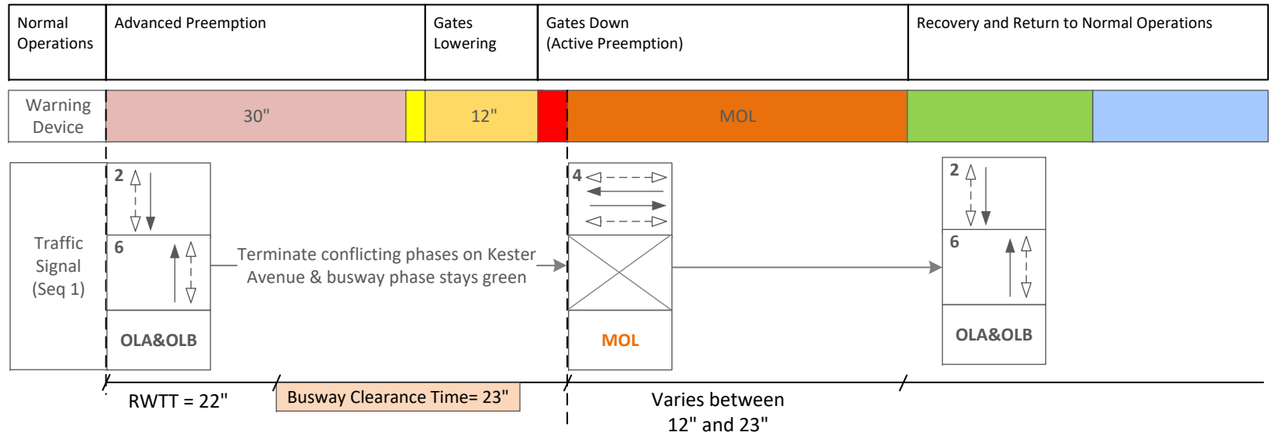
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 13
Metro Orange Line and Hazeltine Avenue

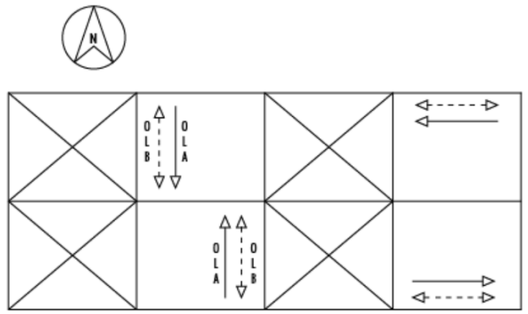
Gate Concept Design



Preemption Sequence



Signal Phasing Diagram



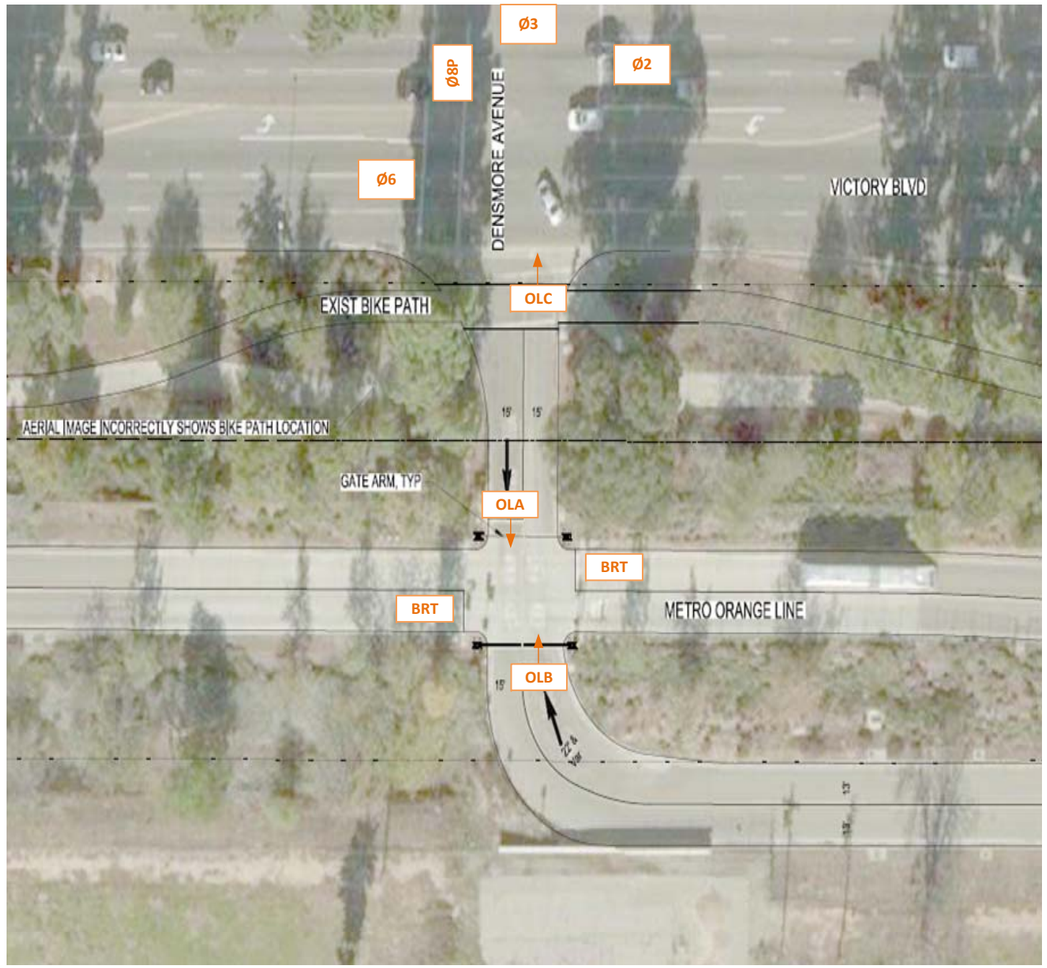
Legend

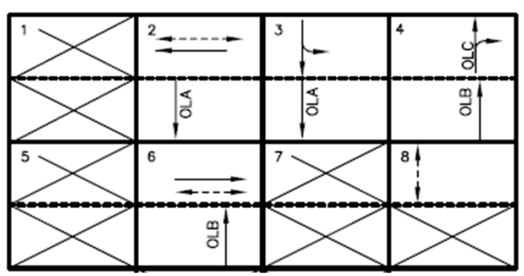
- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 35
Kester Avenue and Busway

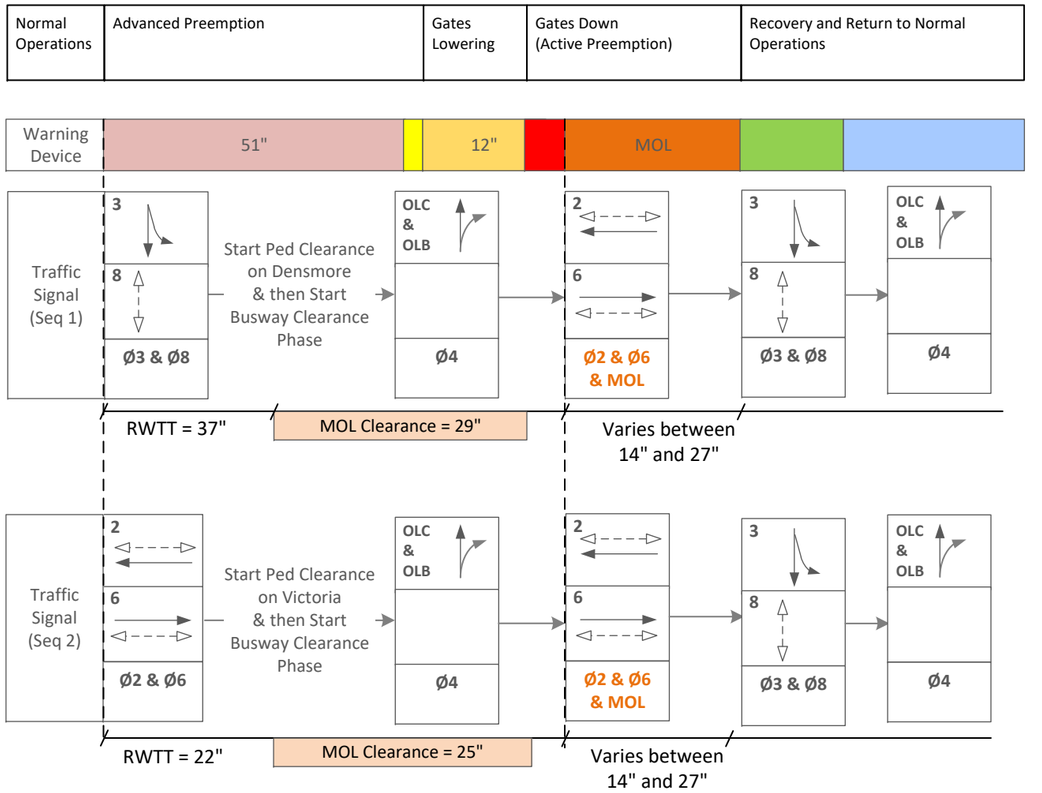
Gate Concept Design





OLA: Ø2 & Ø8
OLB: Ø3, Ø4, Ø6
OLC: Ø4
MOL on or next will prevent or terminate OLA and OLB

Preemption Sequence



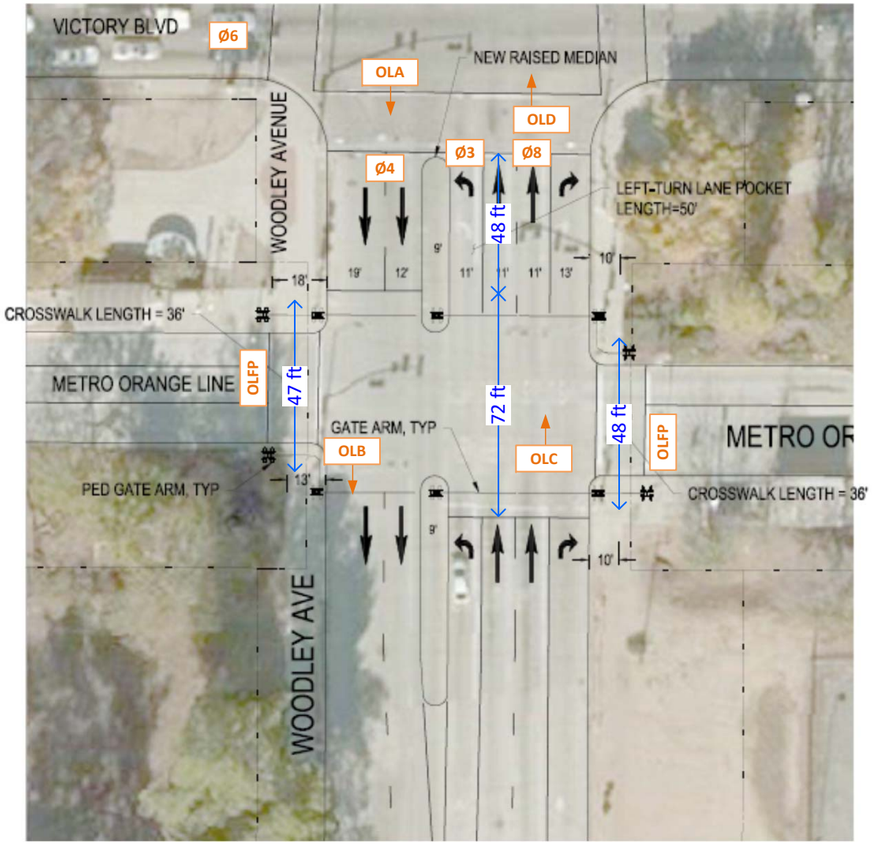
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

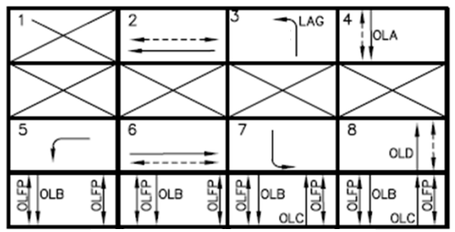
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 14
Metro Orange Line and Densmore Avenue

Gate Concept Design



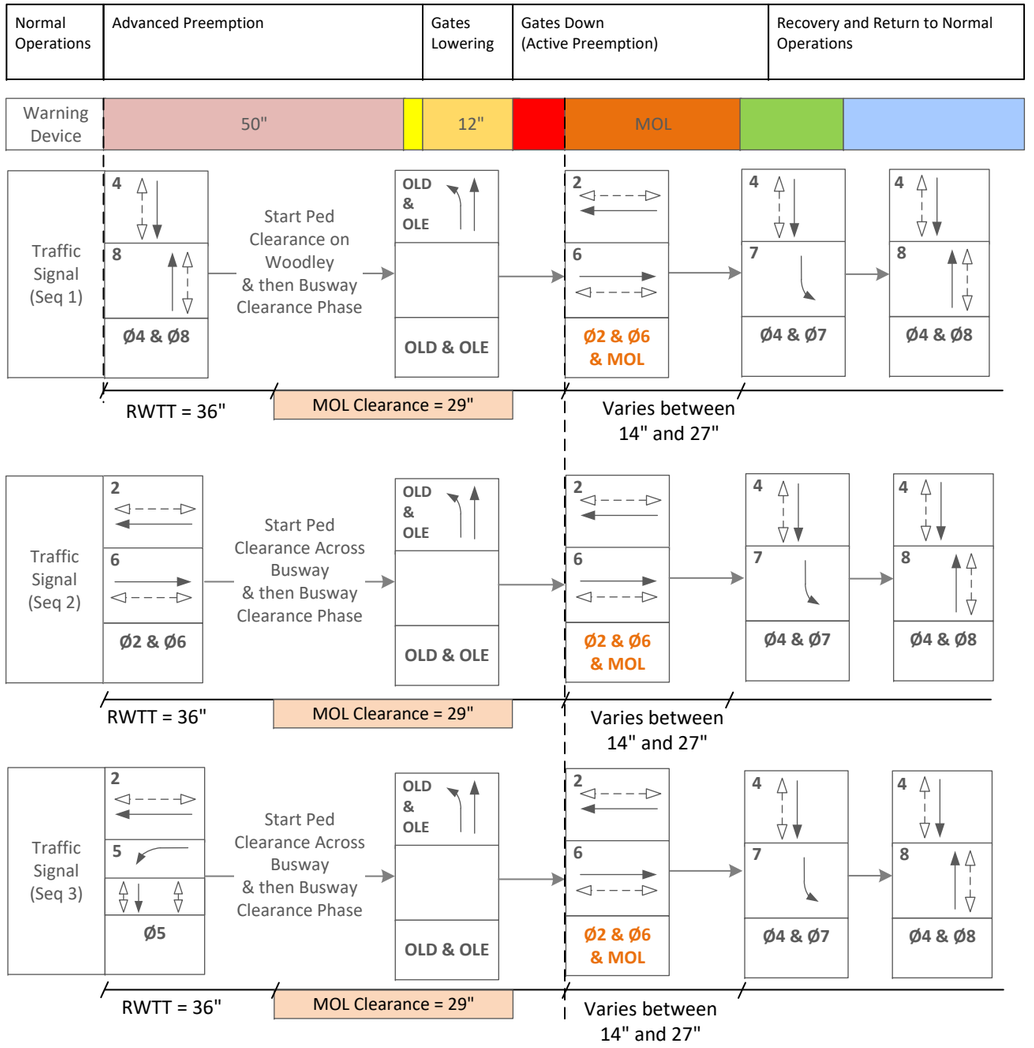
Future with Gates Phasing Diagram



OLA: Ø4
OLB: Ø5, Ø6, Ø7, and Ø8
OLC: Ø3 and Ø8
OLD: Ø8
OLE: Ø3
OLFP: Ø5, Ø6, Ø7 and Ø8

BRT: Busway
OLC terminates before OLD & OLE
BRT on or next will prevent or terminate OLB, OLC, and OLF PED

Preemption Sequence



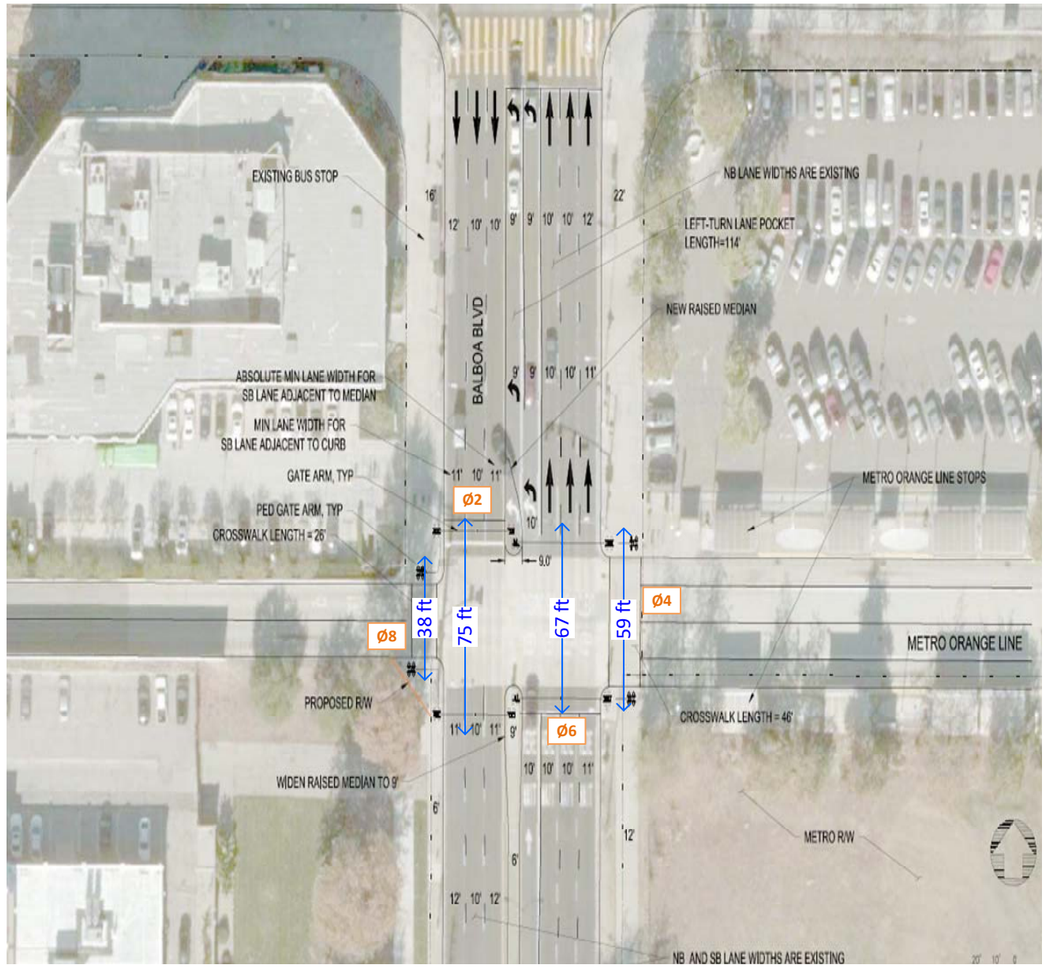
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

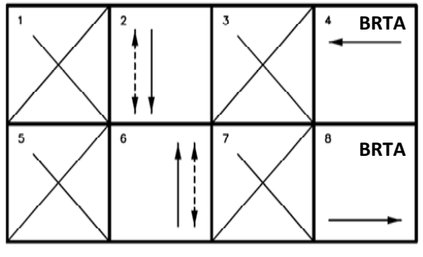
Figure 16
Victory Boulevard and Woodley Avenue

Gate Concept Design

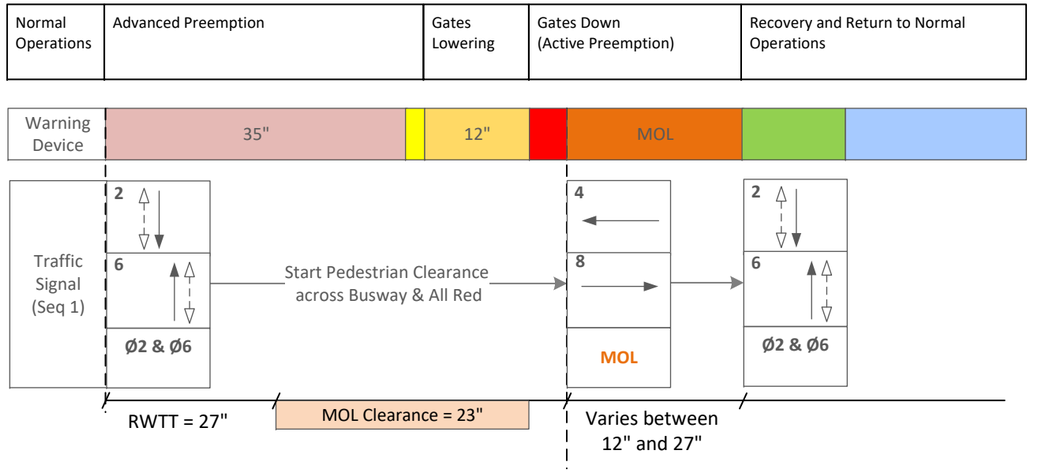


Victory and Balboa is approximately 200 feet north of this crossing.

Future with Gates Phasing Diagram



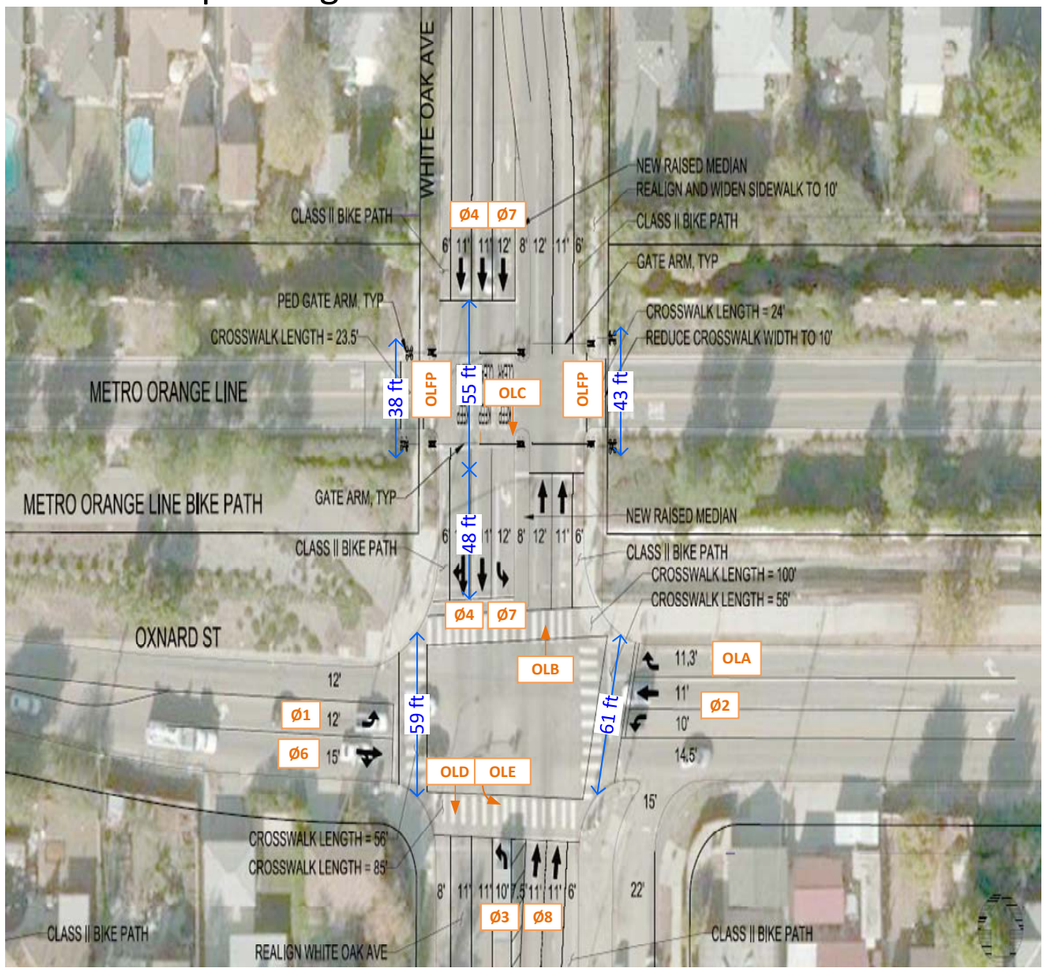
Preemption Sequence



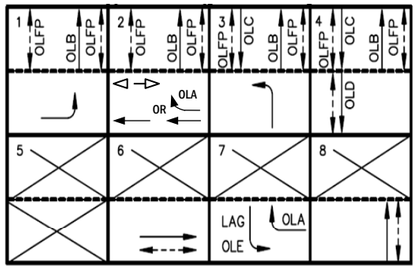
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Gate Concept Design



Future with Gates Phasing Diagram

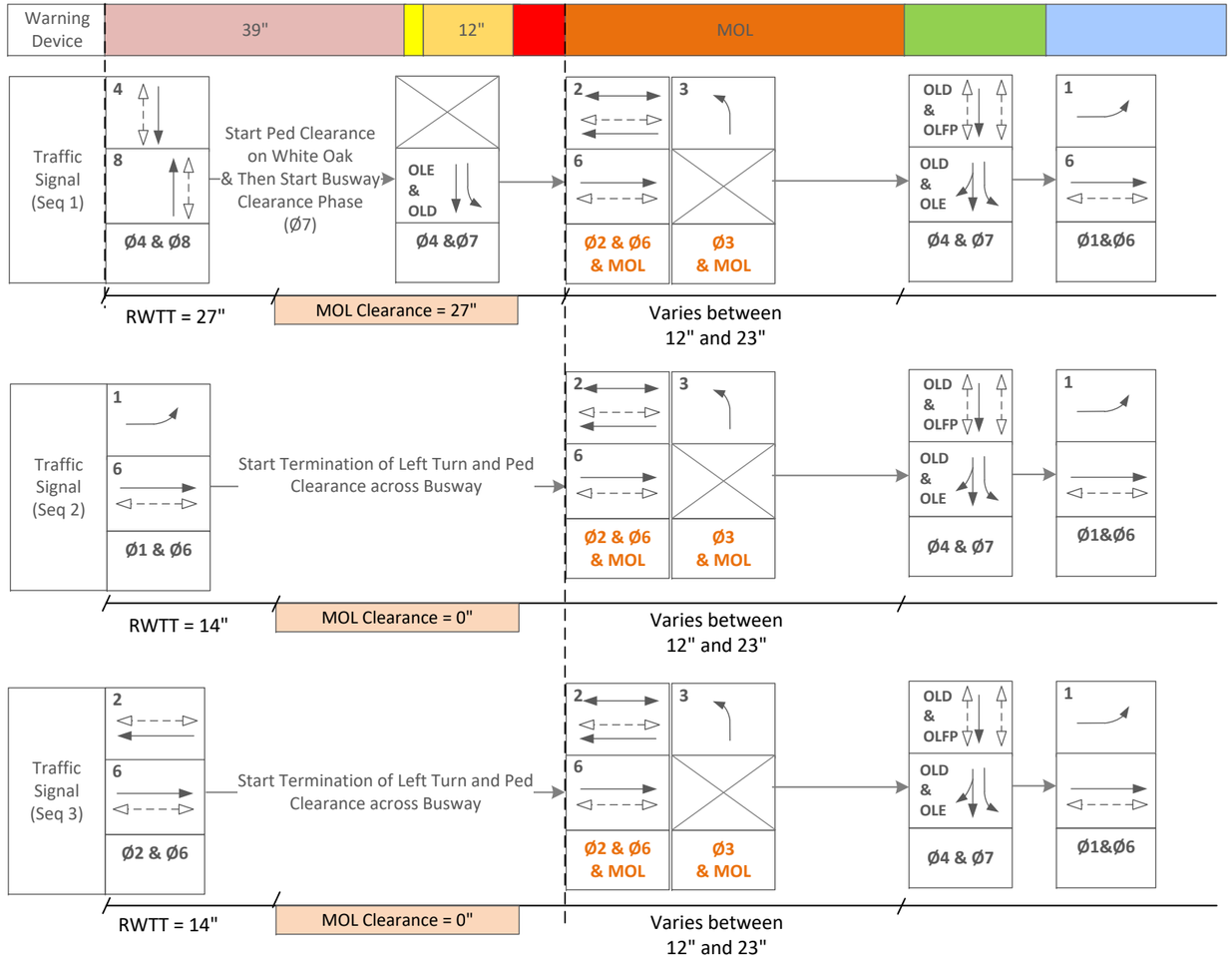


OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø1, Ø2, Ø3, and Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4

Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



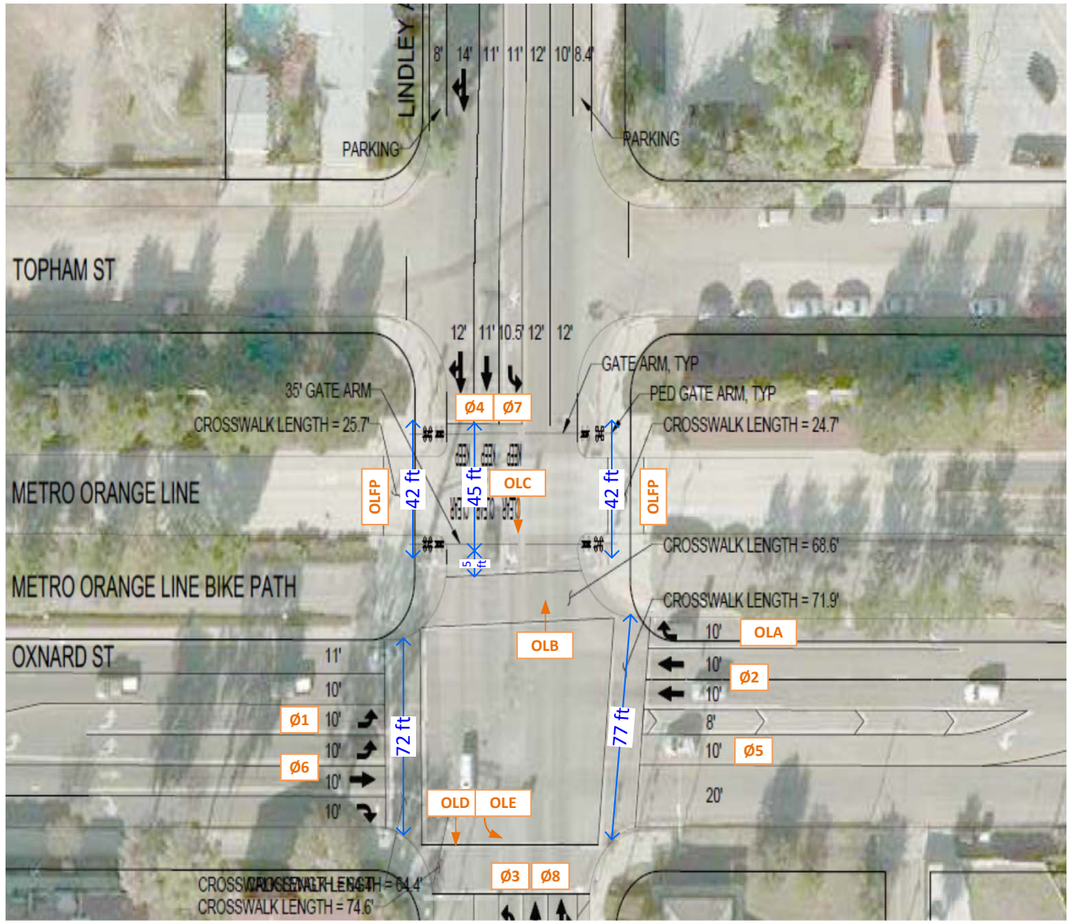
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

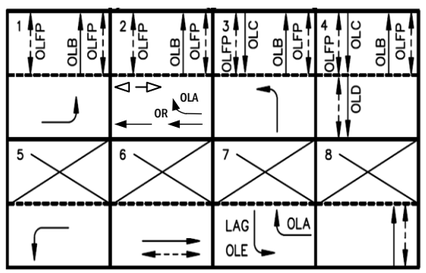
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 18
Oxnard Street and White Oak Avenue

Gate Concept Design



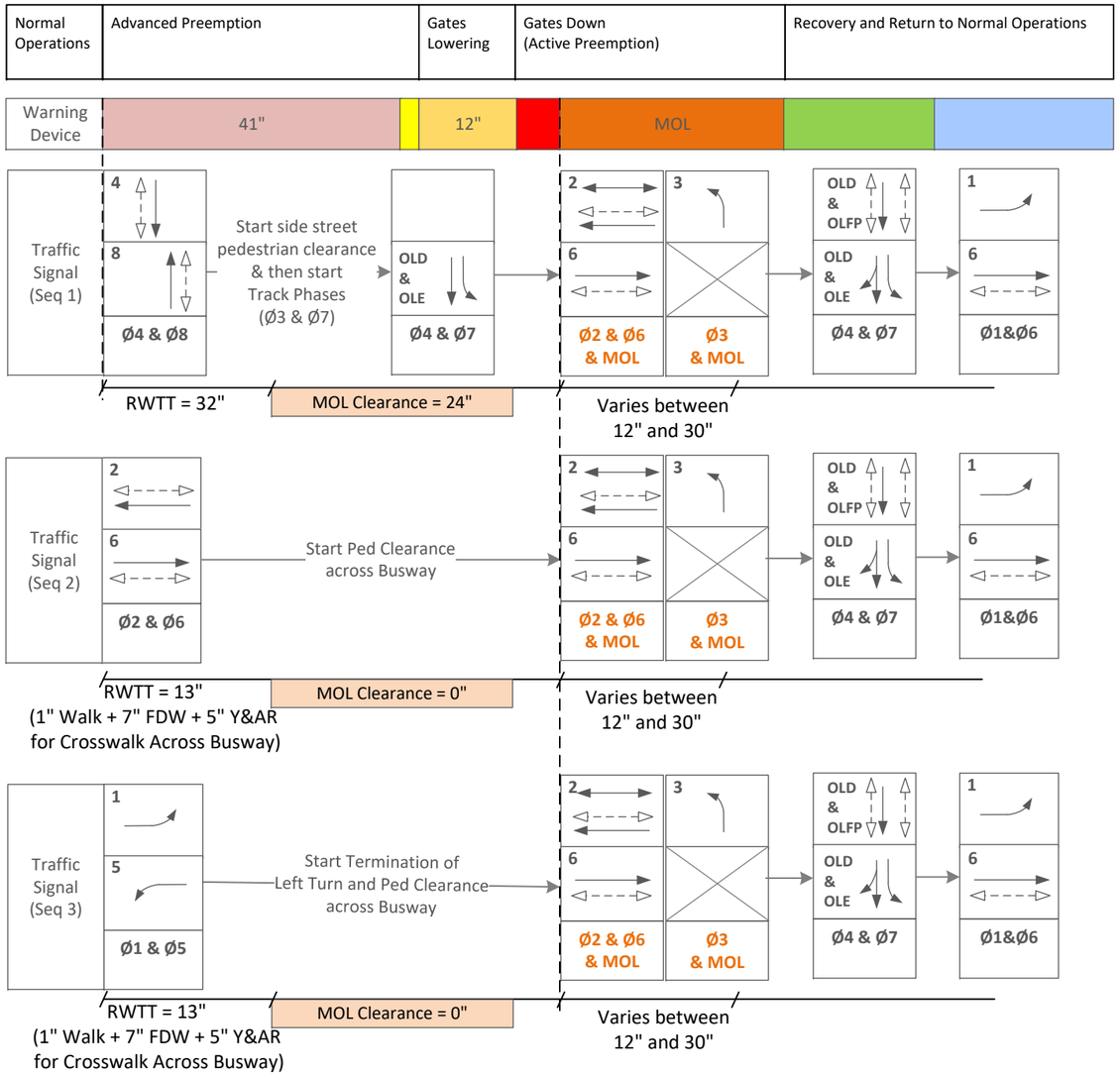
Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4

Update controller setting to call preemption

Preemption Sequence



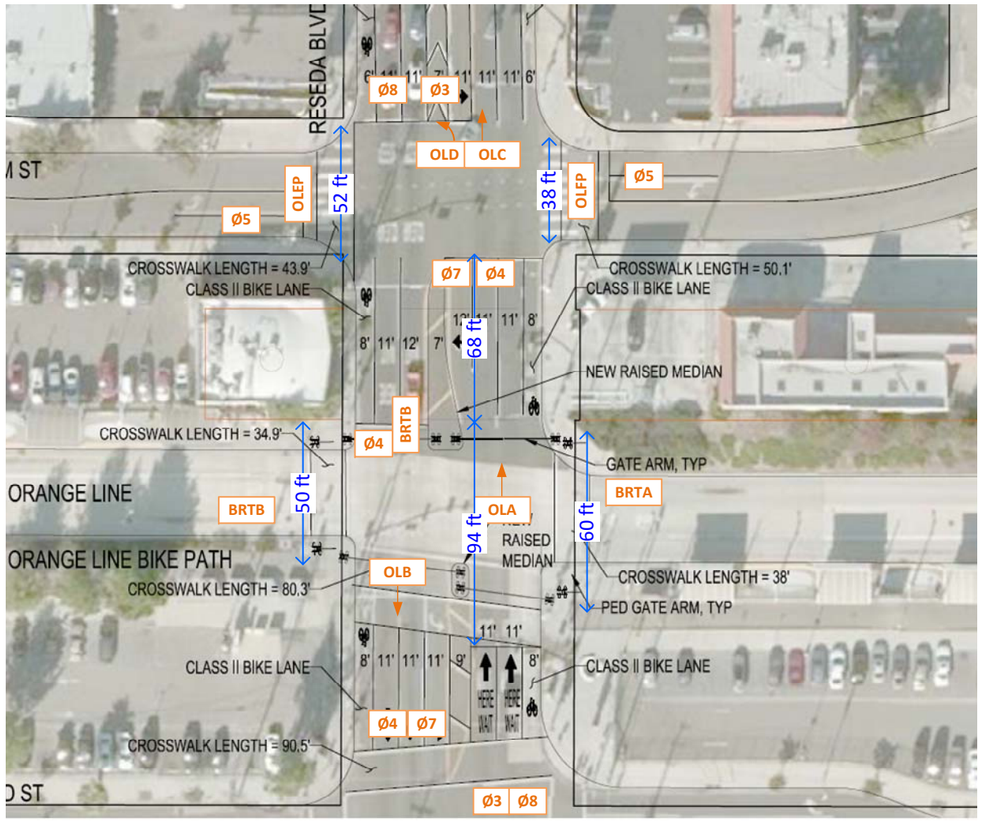
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

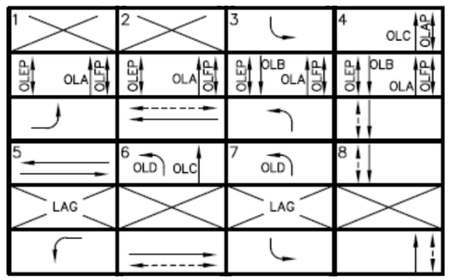
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 19
Oxnard Street and Lindley Avenue

Gate Concept Design



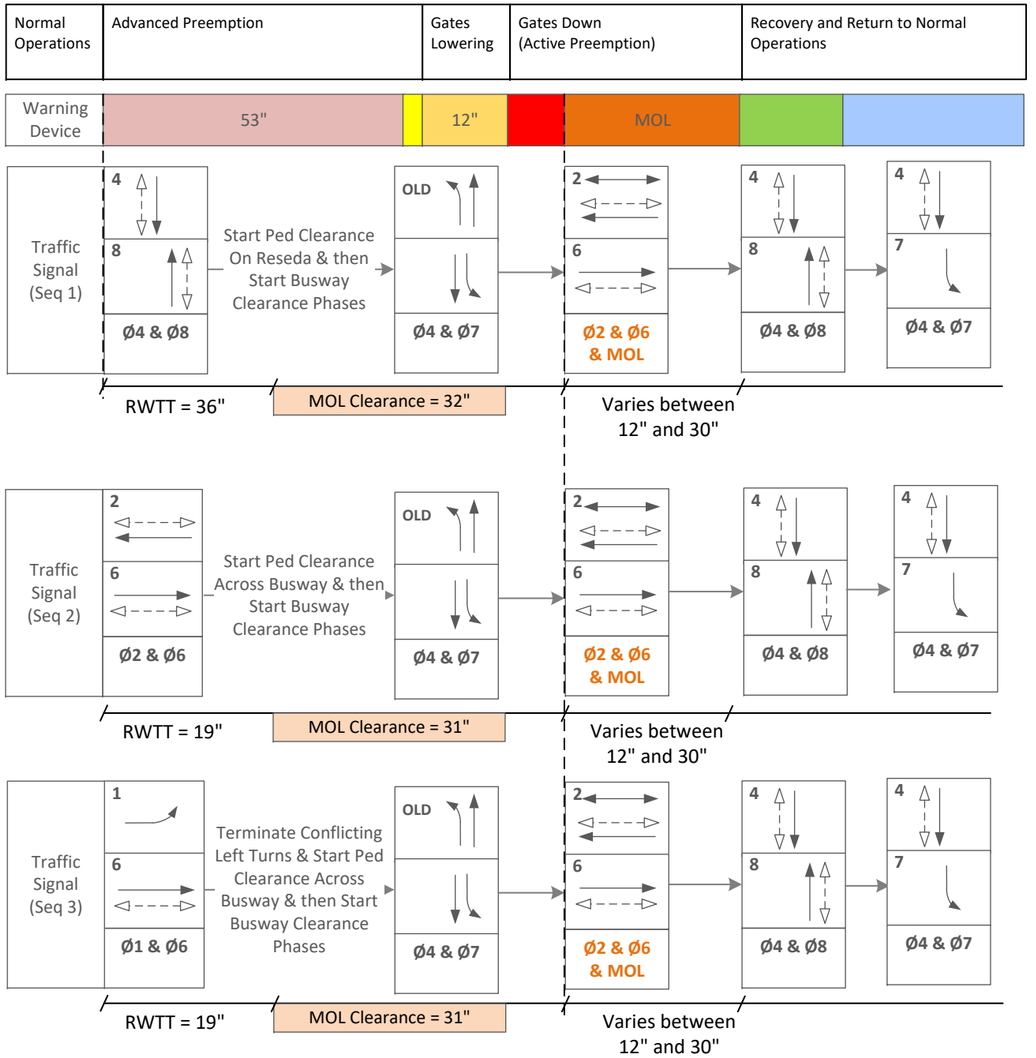
Future with Gates Phasing Diagram



Ø1: Oxnard St E/B LT
Ø2: Oxnard St W/B Through
Ø3: Reseda S/B LT at Topham & N/B at Oxnard
Ø5: Oxnard W/B LT & Bessemer W/B & Topham E/B
Ø6: Oxnard E/B

OLA: Ø1, Ø2, Ø3, and Ø4
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4 & Ø6
OLD: Ø6 & Ø7
OLEP: Ø1, Ø2, Ø3, and Ø4
OLFP: Ø1, Ø2, Ø3, and Ø4

Preemption Sequence



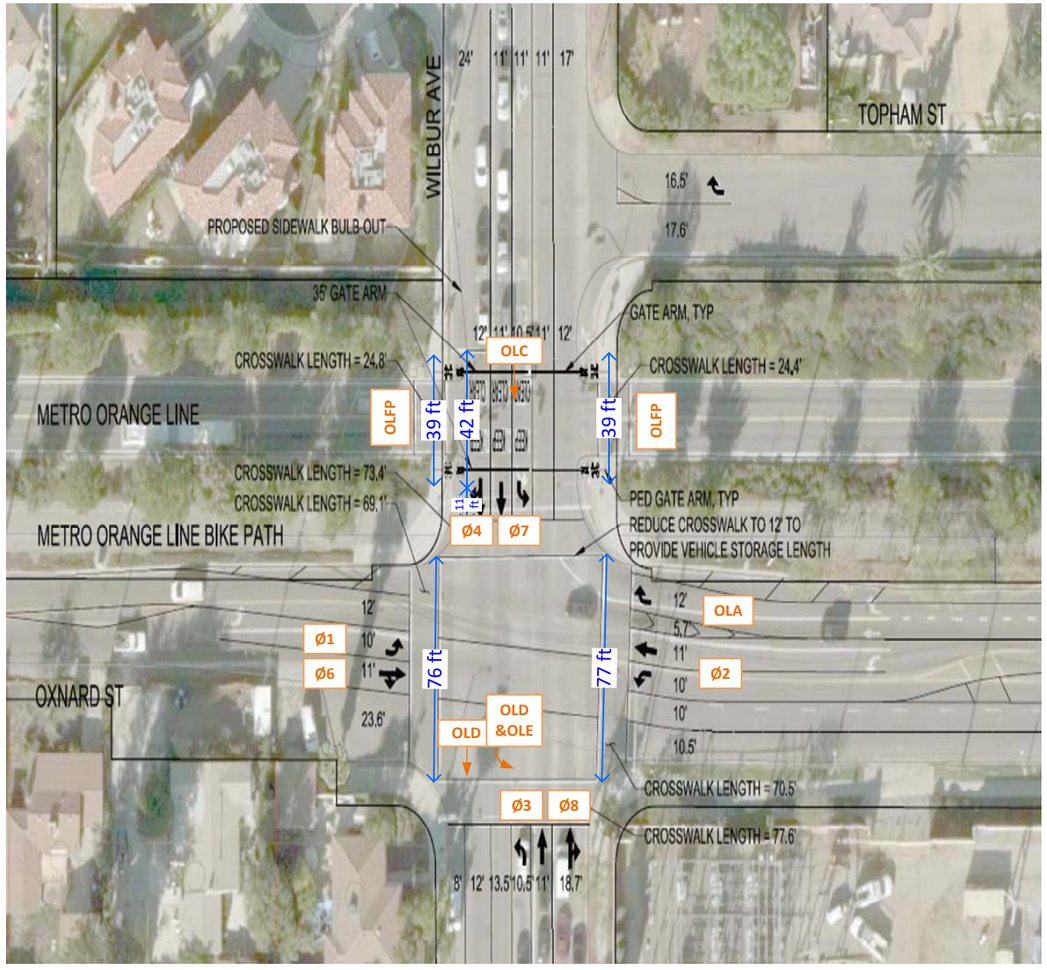
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

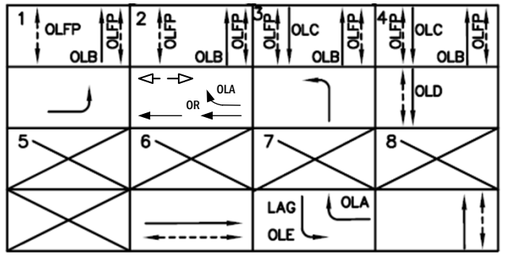
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 20
Metro Orange Line and Reseda Boulevard

Gate Concept Design

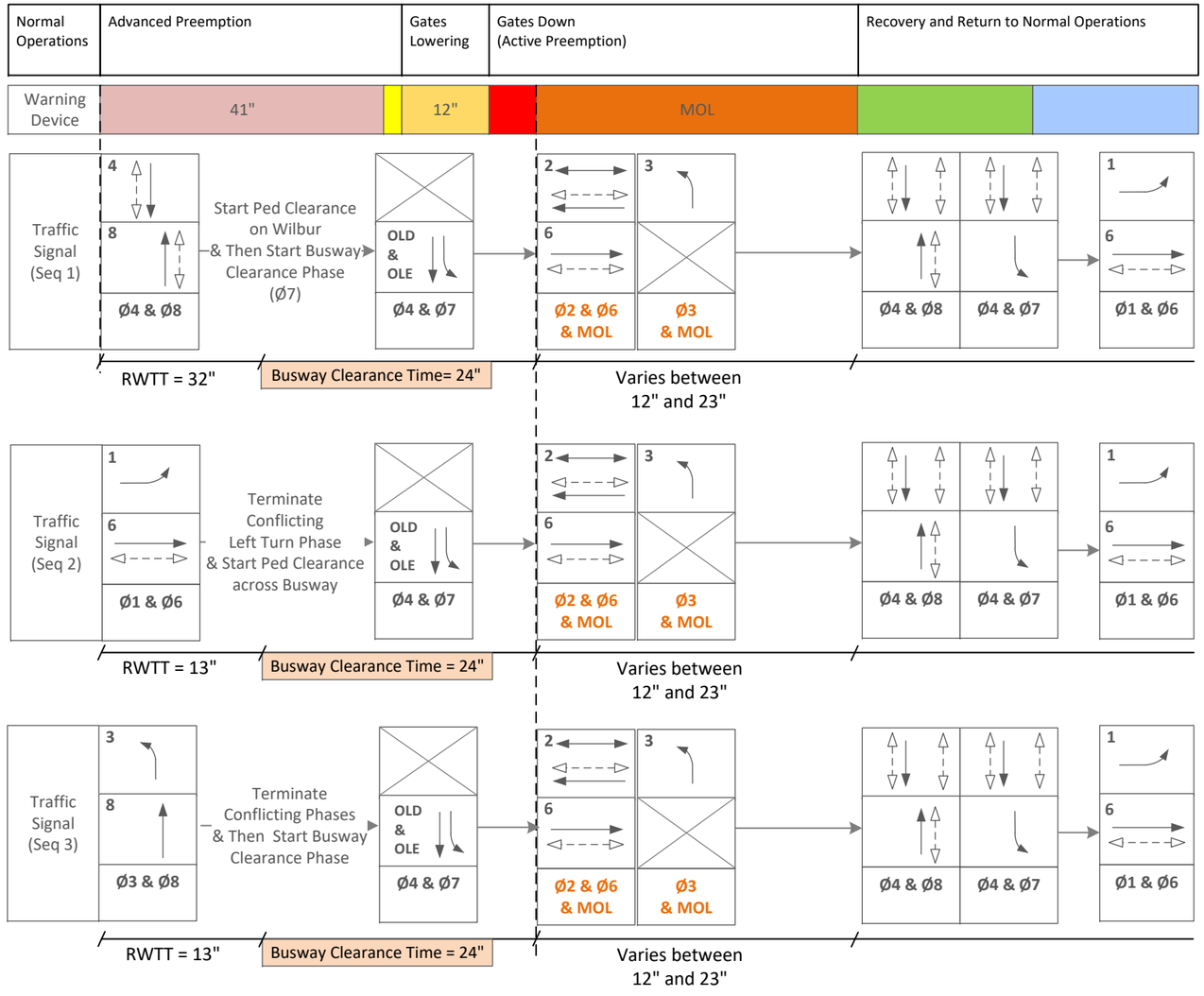


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7 (prohibit during preemption)
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Ø7: MOL Busway Clearance Phase
Update controller setting to call preemption

Preemption Sequence



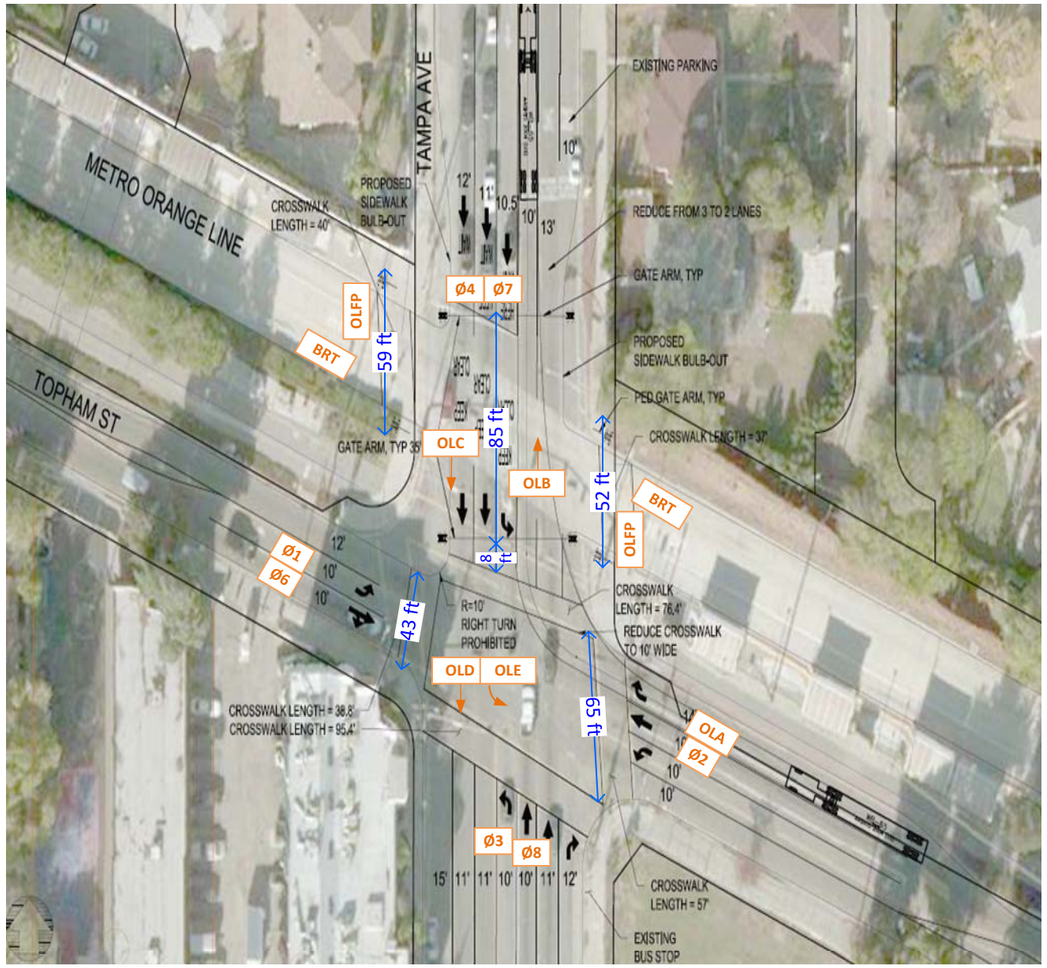
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

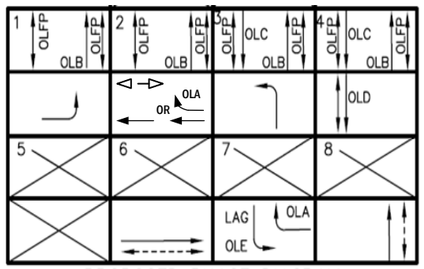
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 21
Oxnard Street and Wilbur Avenue

Gate Concept Design

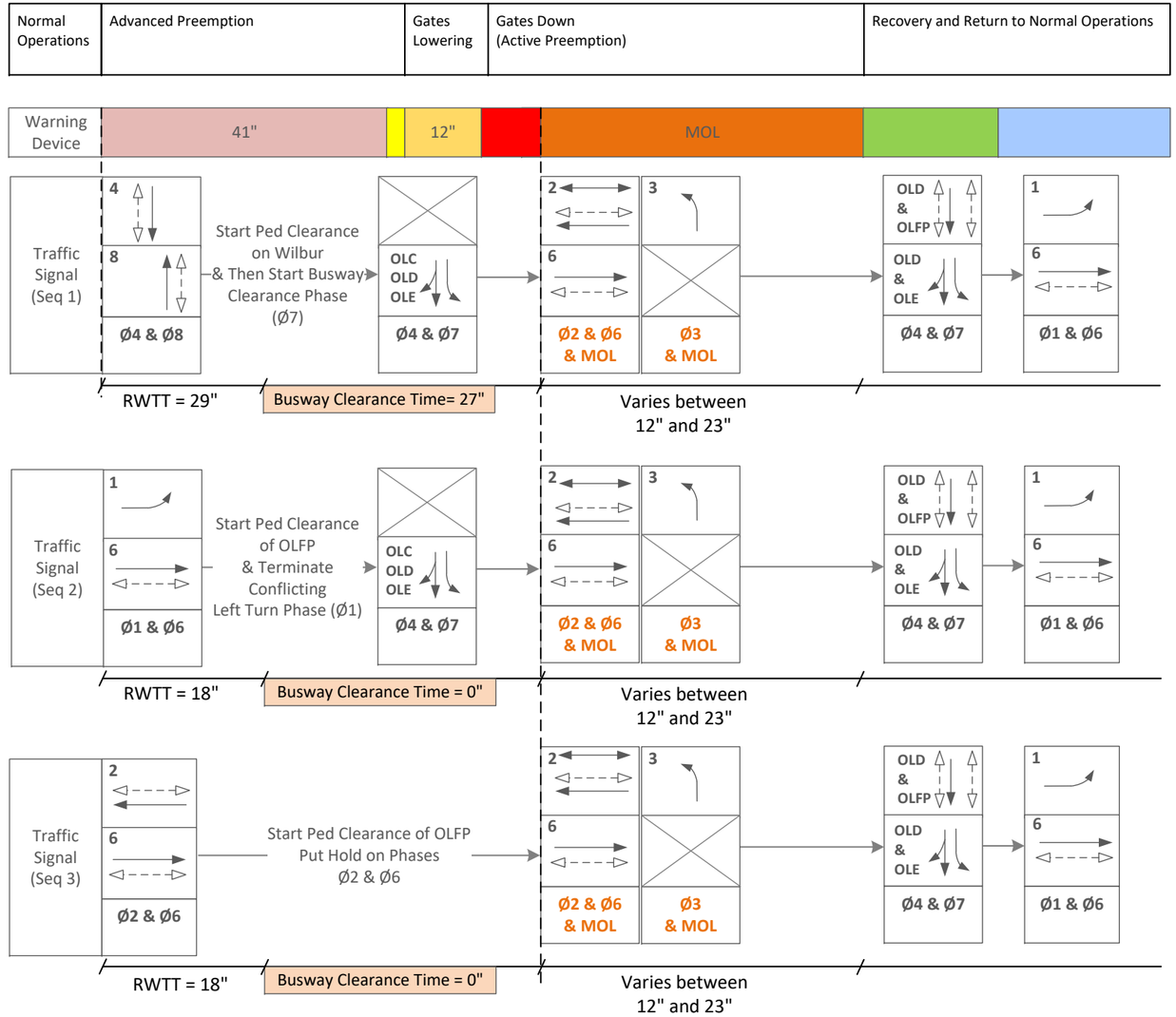


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4

Preemption Sequence



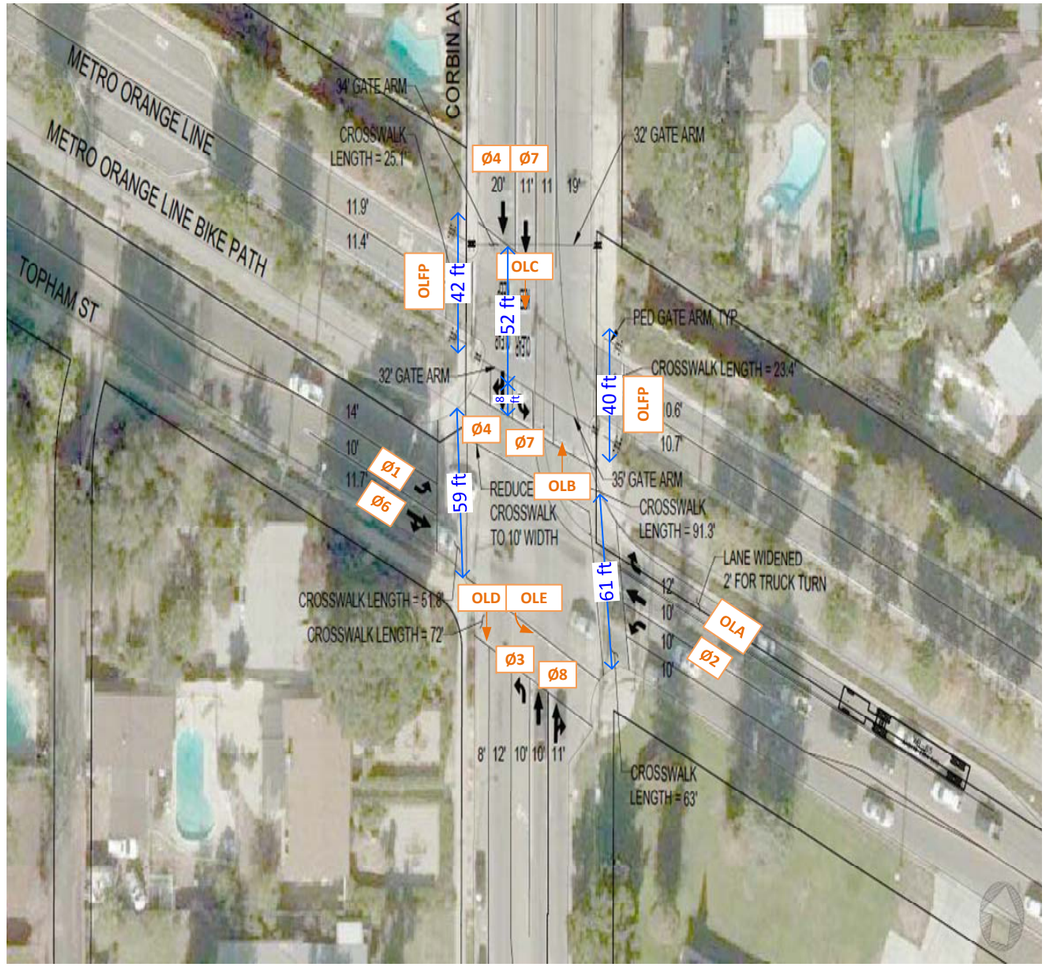
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

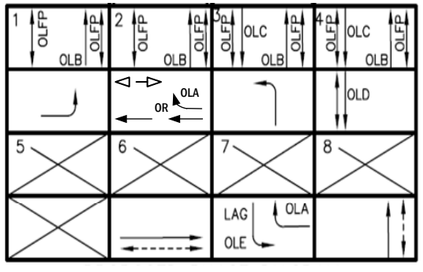
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 22
Tampa Avenue and Topham Street

Gate Concept Design

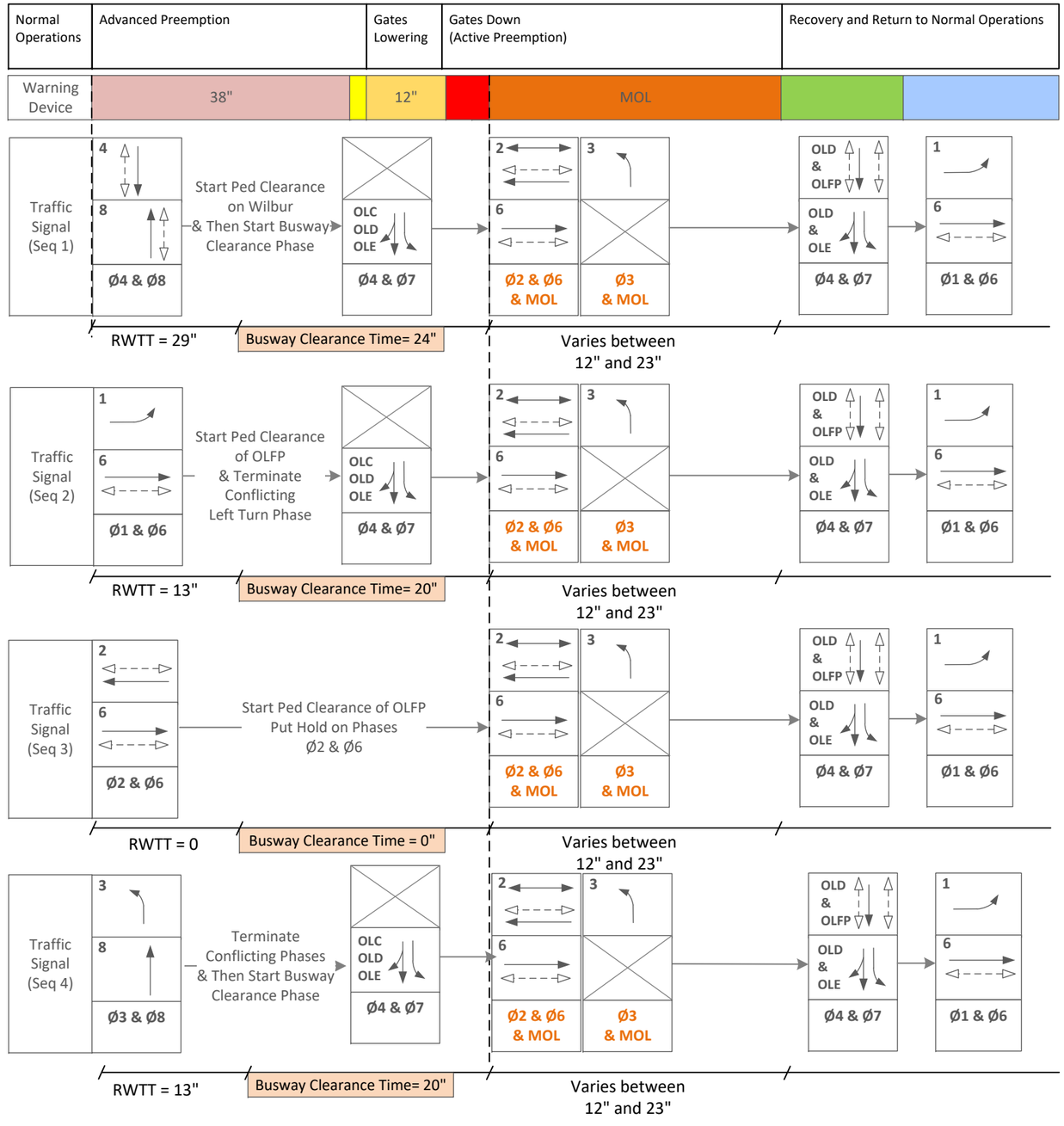


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence

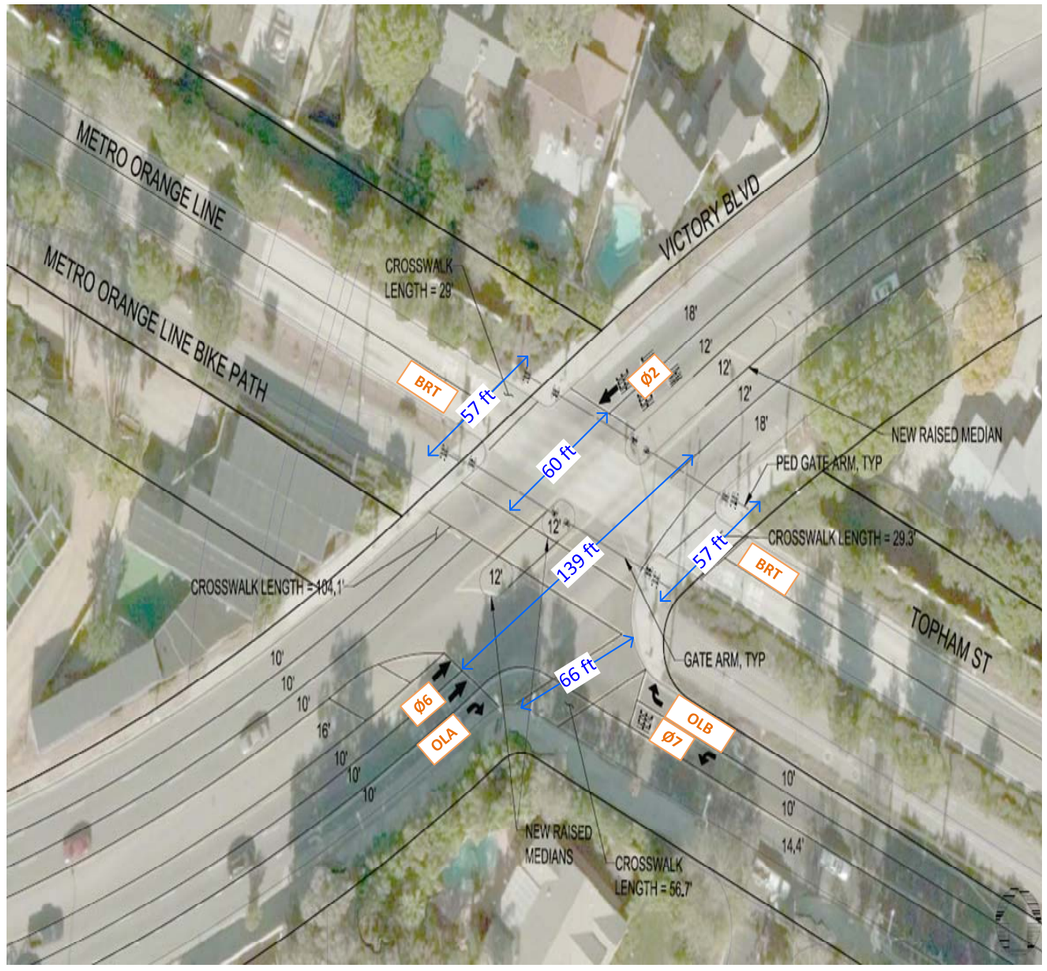


Advance Preemption | Gate Down | Exit Phases | Lights Flash (3 seconds) | MOL Phase | Normal Operation | Gate Descent (12 seconds)

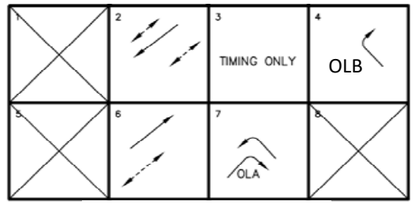
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 23
Corbin Avenue and Topham Street

Gate Concept Design



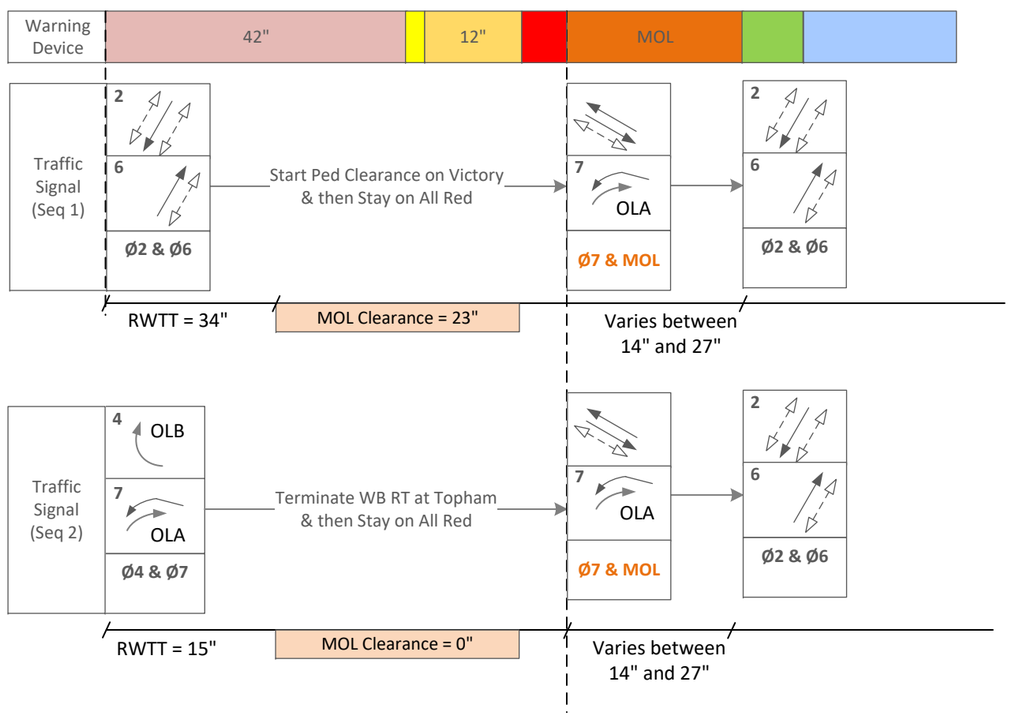
Future with Gates Phasing Diagram



OLA: Ø6, Ø7
OLB: Ø4

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



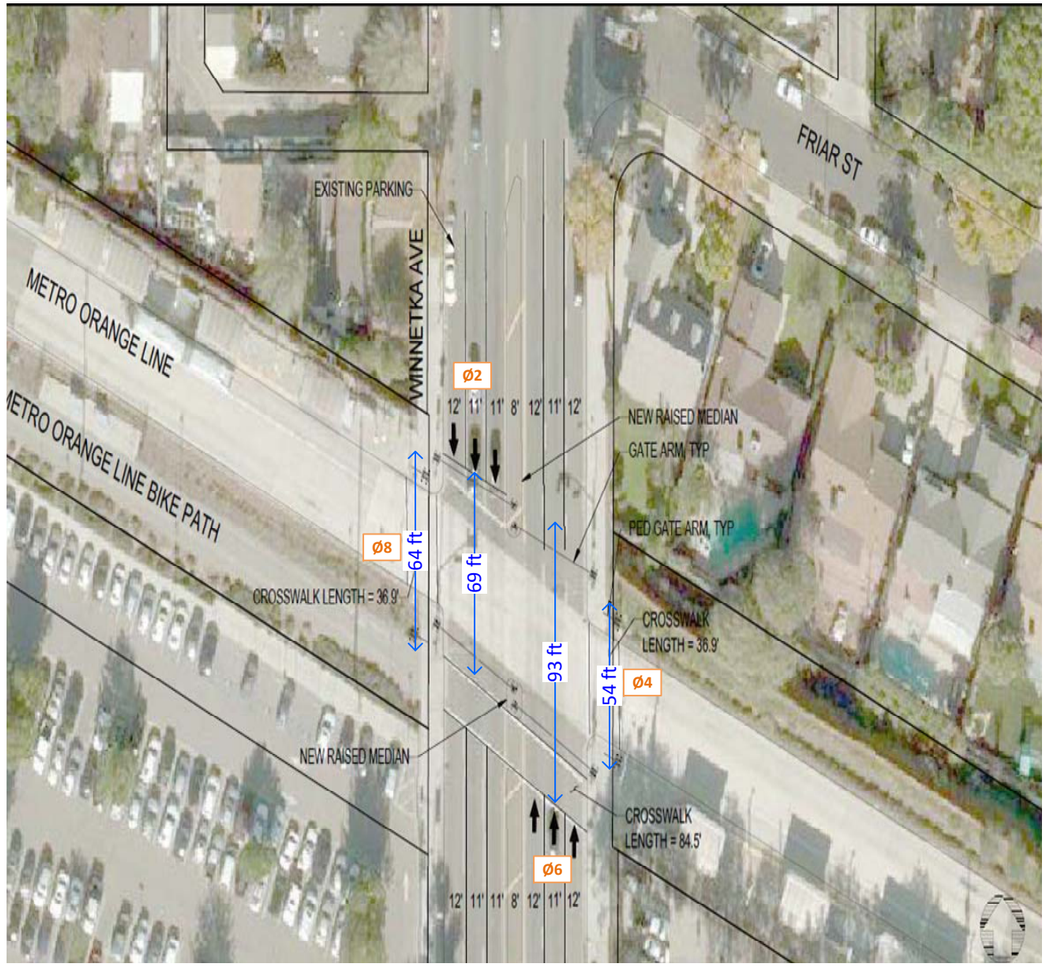
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

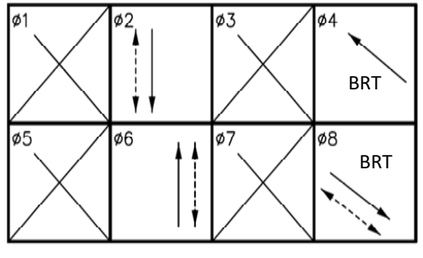
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 24
Victory Boulevard and Topham Street

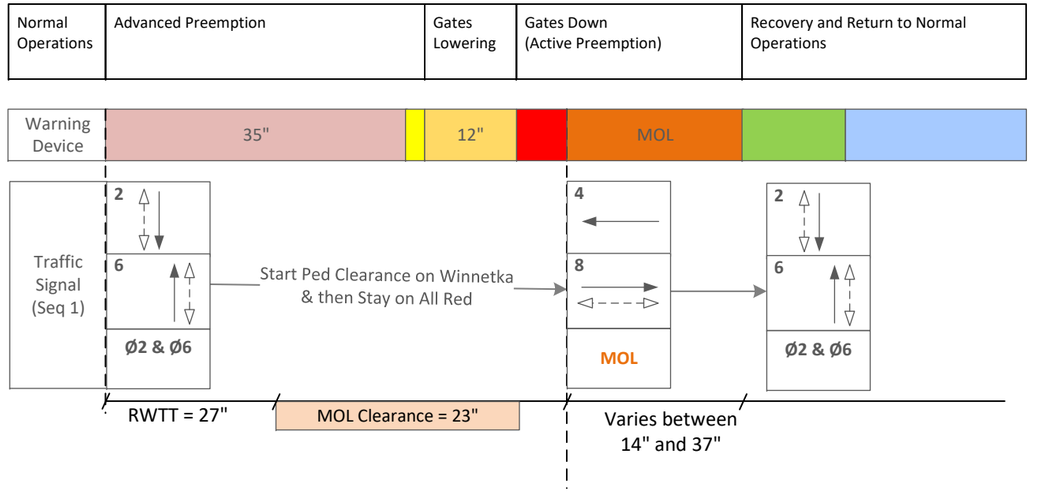
Gate Concept Design



Future with Gates Phasing Diagram



Preemption Sequence



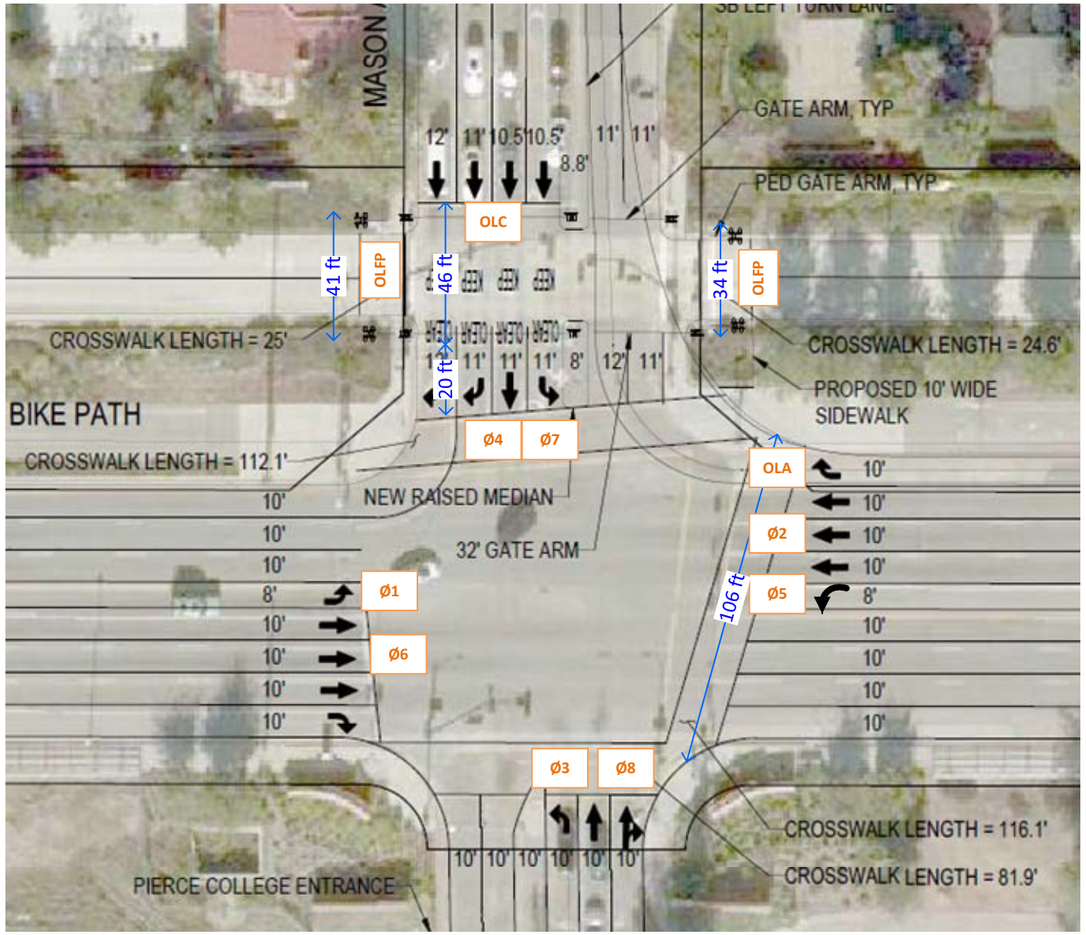
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

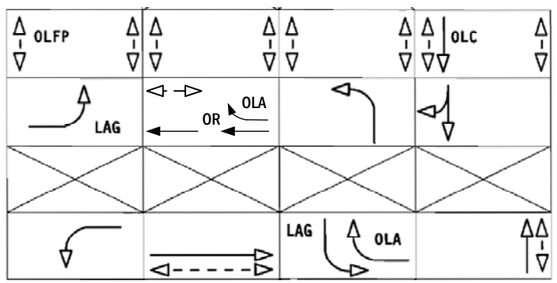
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 25
Metro Orange Line and Winnetka Avenue

Gate Concept Design



Future with Gates Phasing Diagram

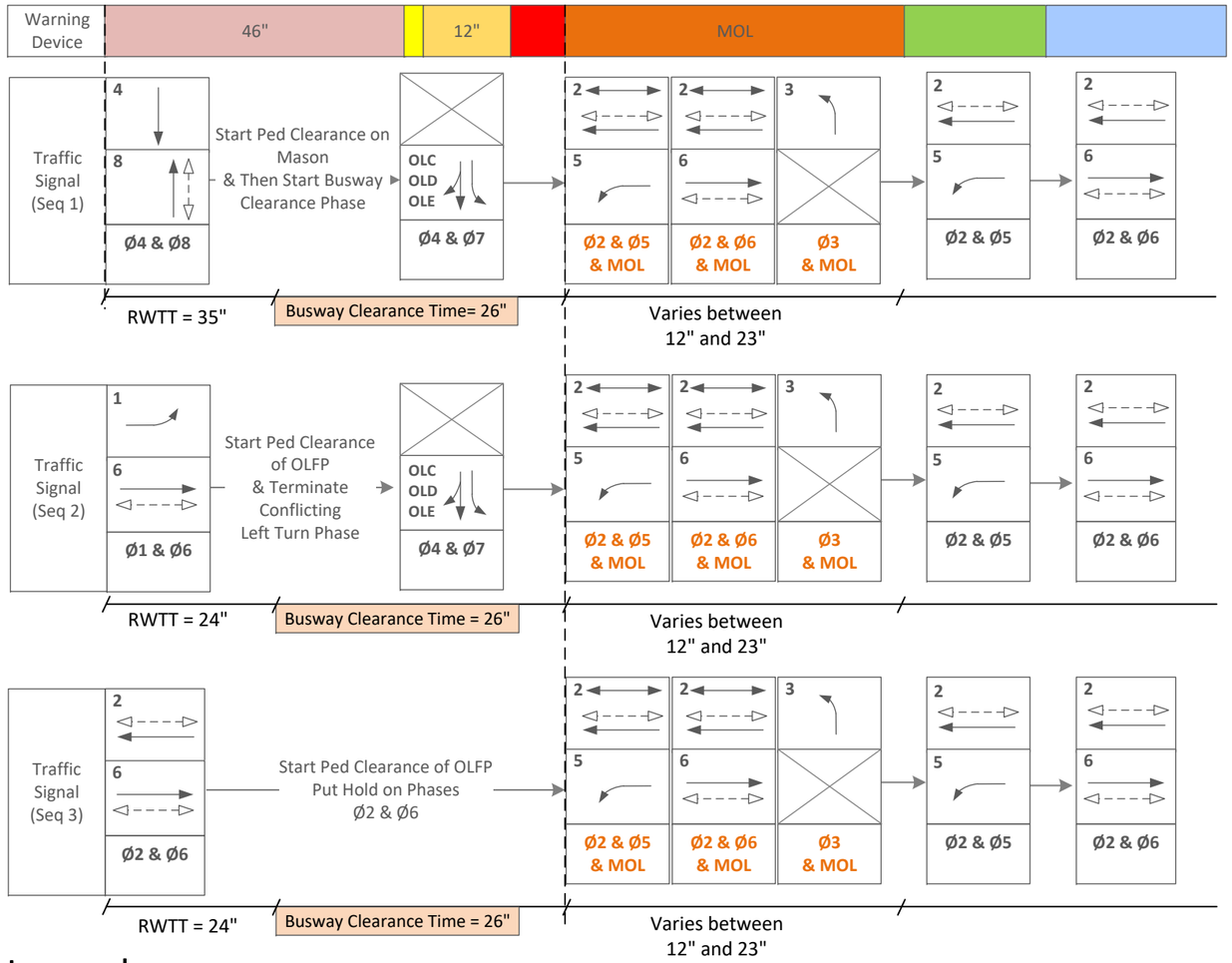


OLA: Ø2 & Ø7
OLC: Ø4 & Ø7
OLFP: Ø1, Ø2, Ø3, and Ø4

OLC Terminates Before OLD&OLE
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



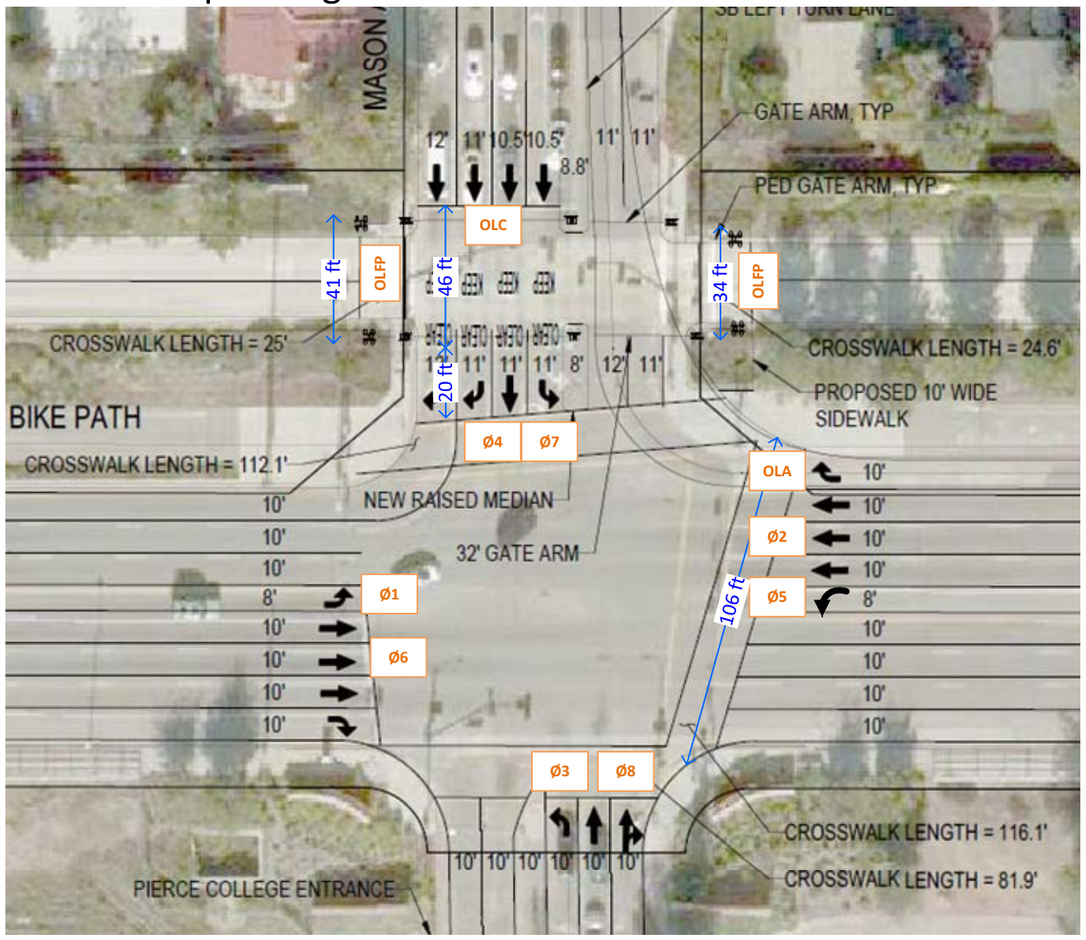
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

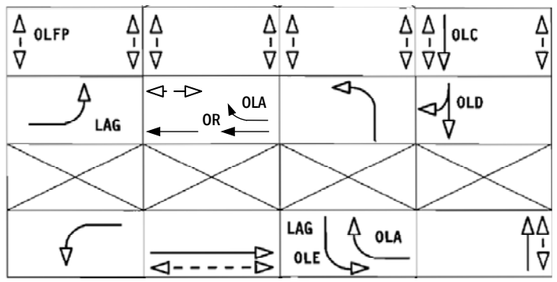
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 26.A
Mason Avenue and Victory Boulevard

Gate Concept Design



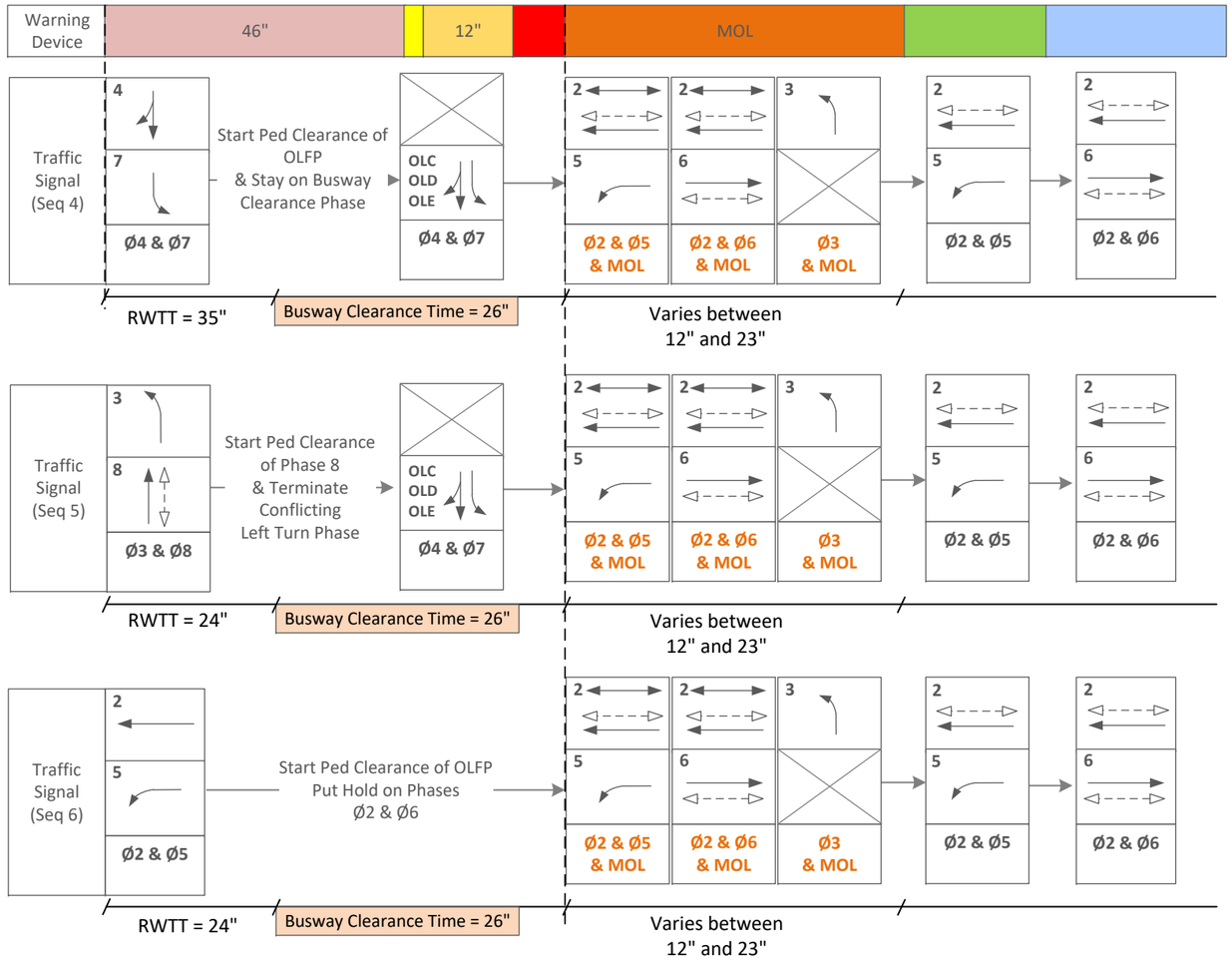
Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLC: Ø4 & Ø7
OLFP: Ø1, Ø2, Ø3, and Ø4
OLC Terminates Before OLD&OLE
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



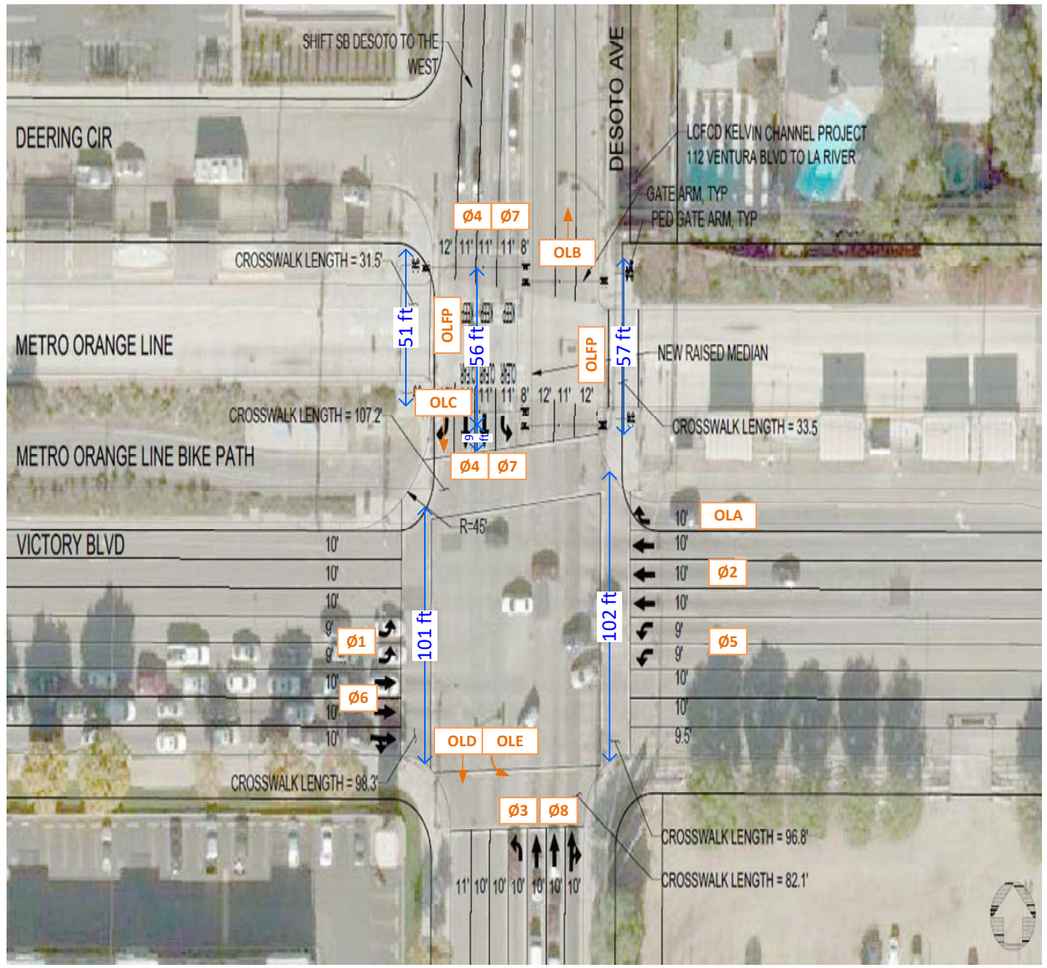
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

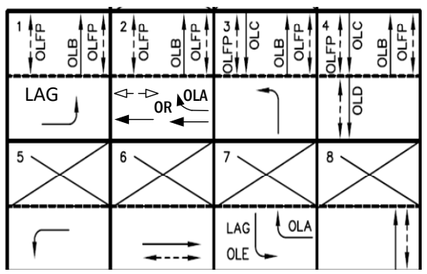
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 26.B
Mason Avenue and Victory Boulevard

Gate Concept Design



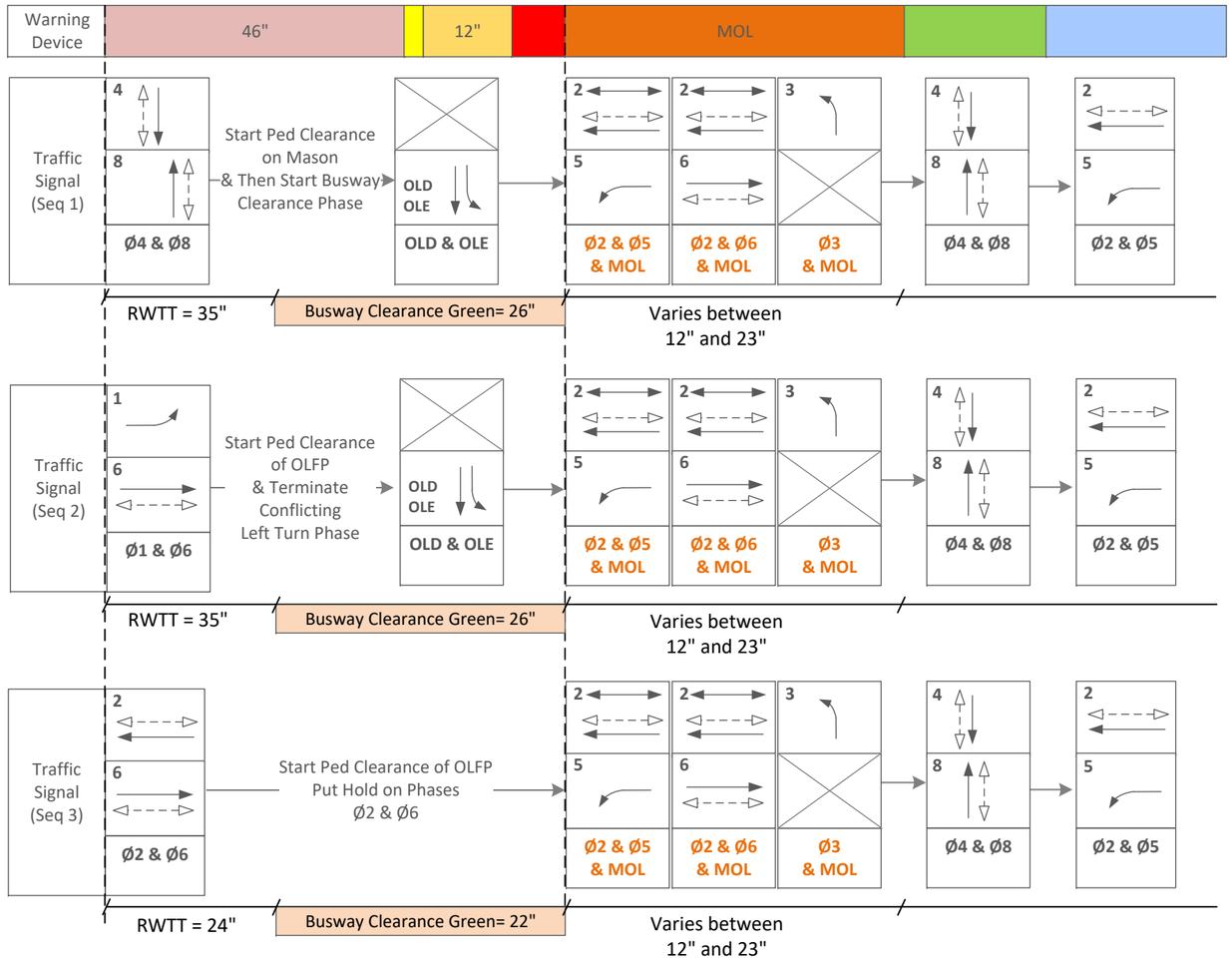
Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø3 & Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



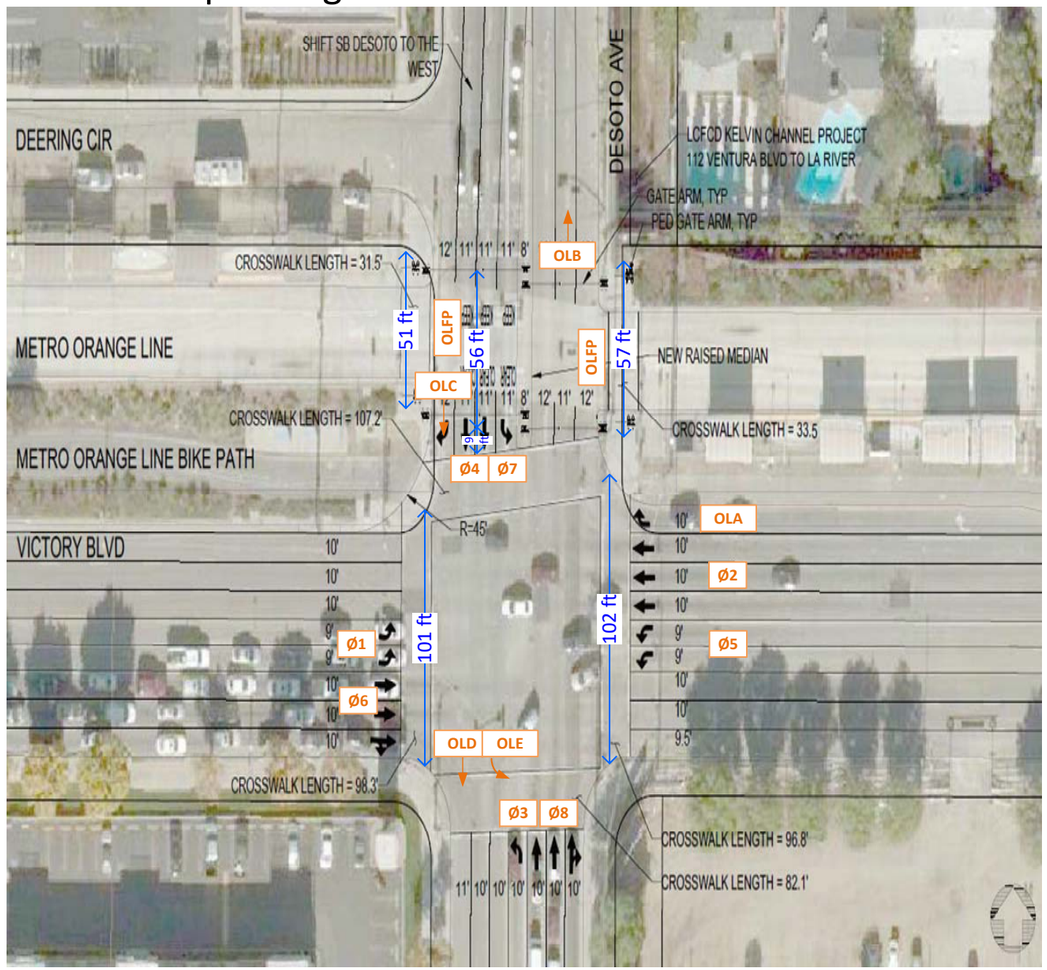
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

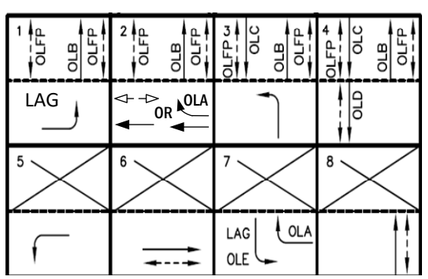
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 27
Victory Boulevard and Desoto Avenue

Gate Concept Design

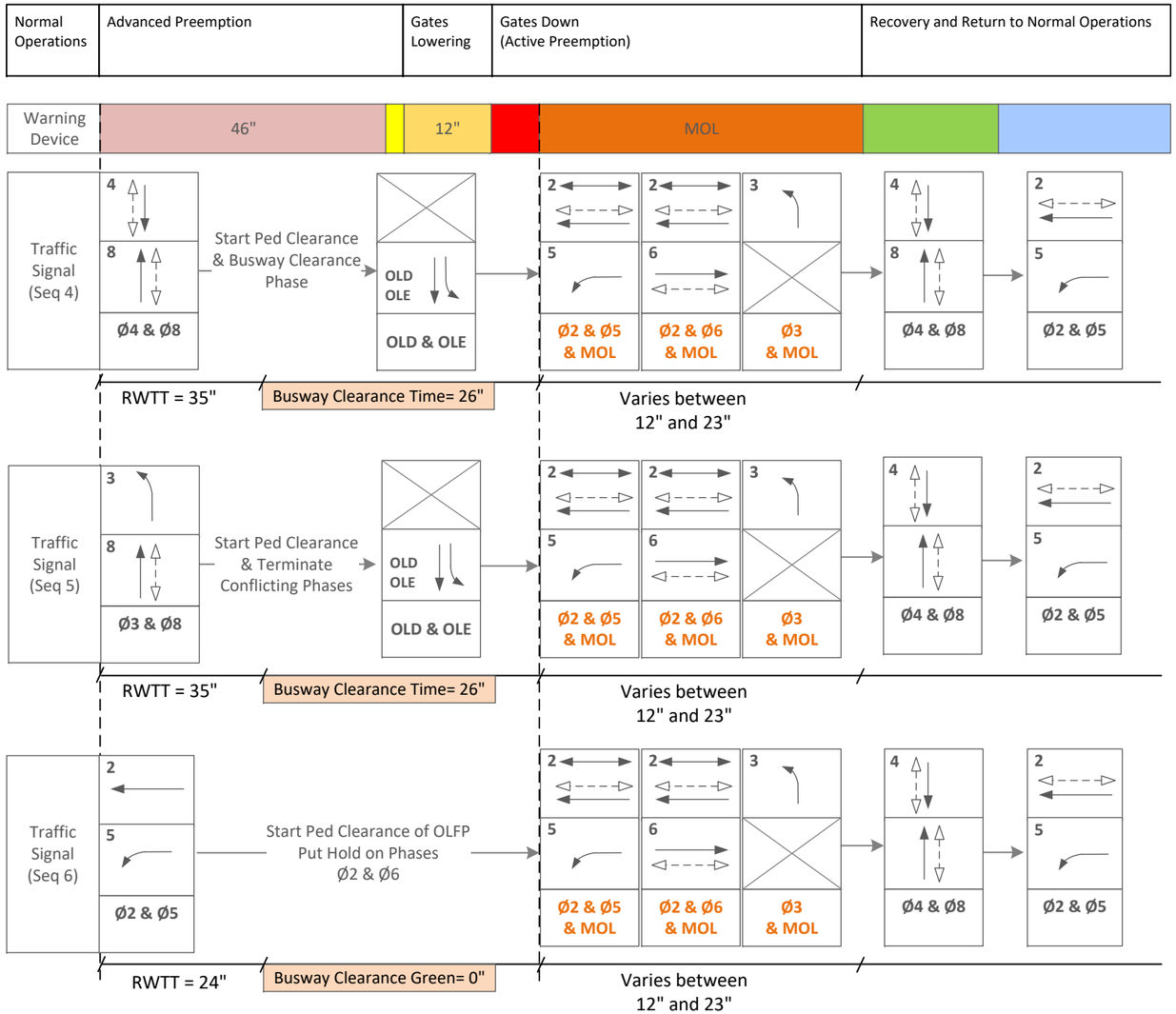


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø3 & Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence



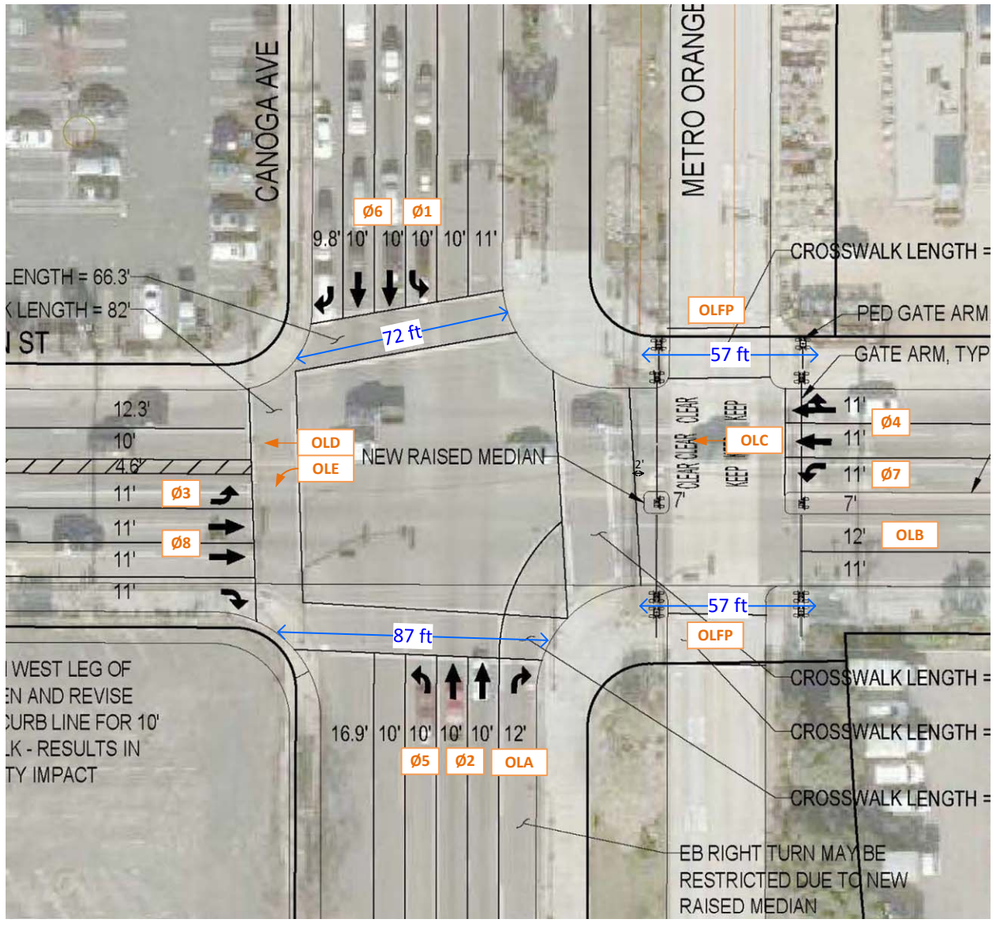
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

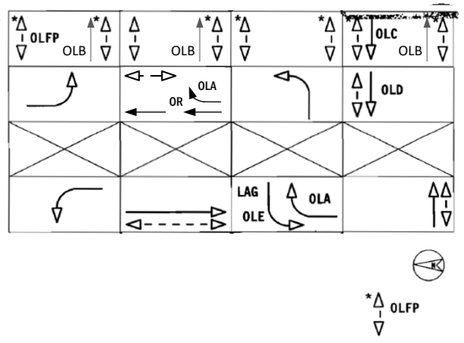
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 27B
Victory Boulevard and Desoto Avenue

Gate Concept Design

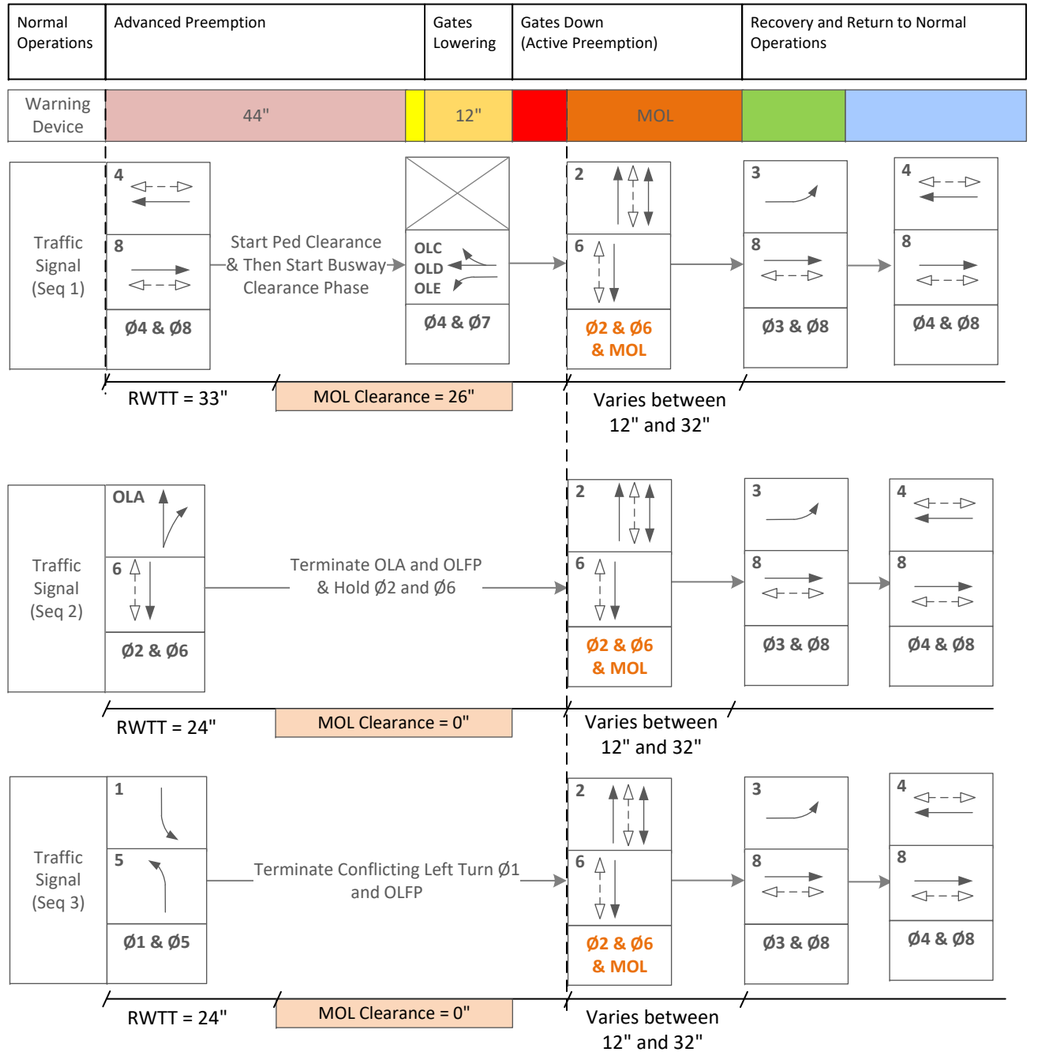


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: N/S & S/S Ped Xing at Busway
Update controller setting to call preemption

Preemption Sequence



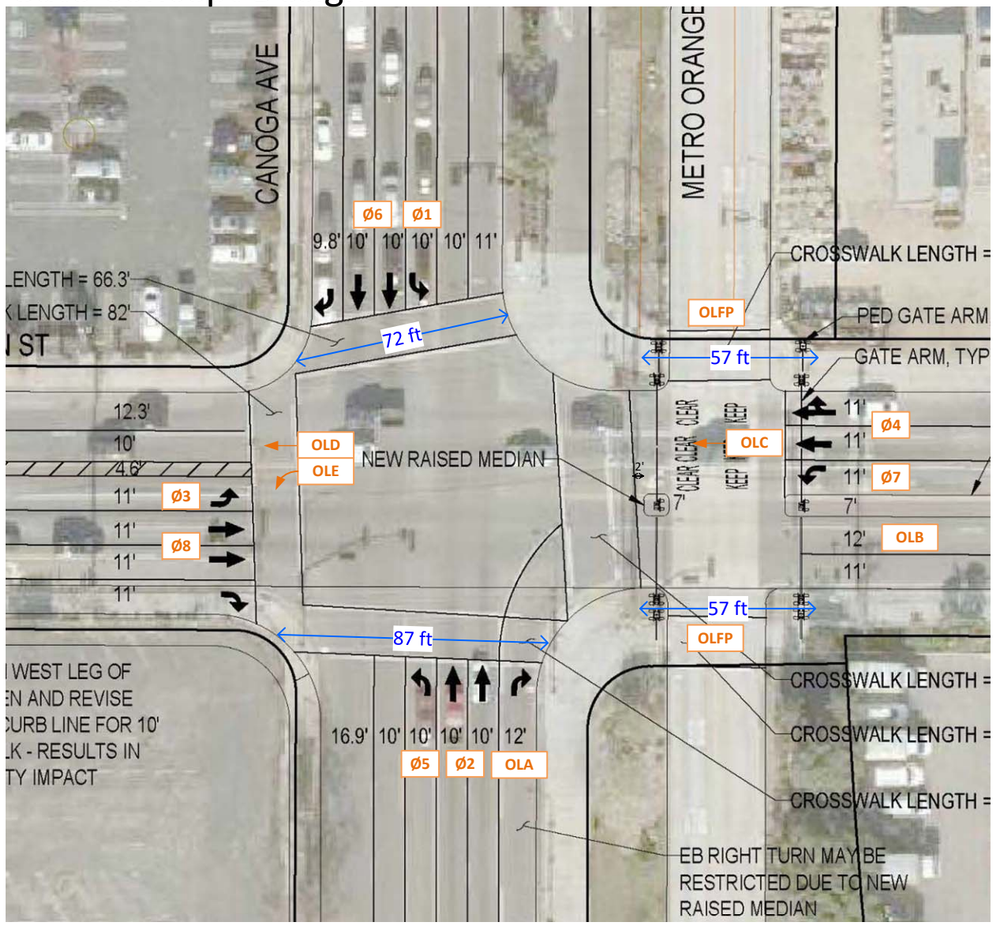
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

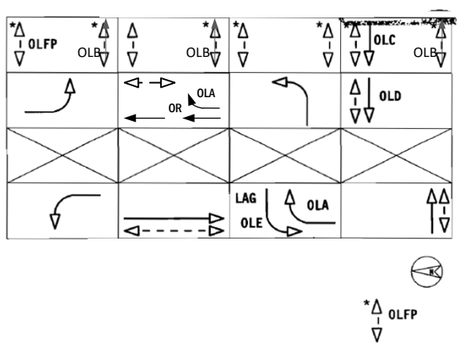
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 28A
Vanowen Street and Canoga Avenue

Gate Concept Design

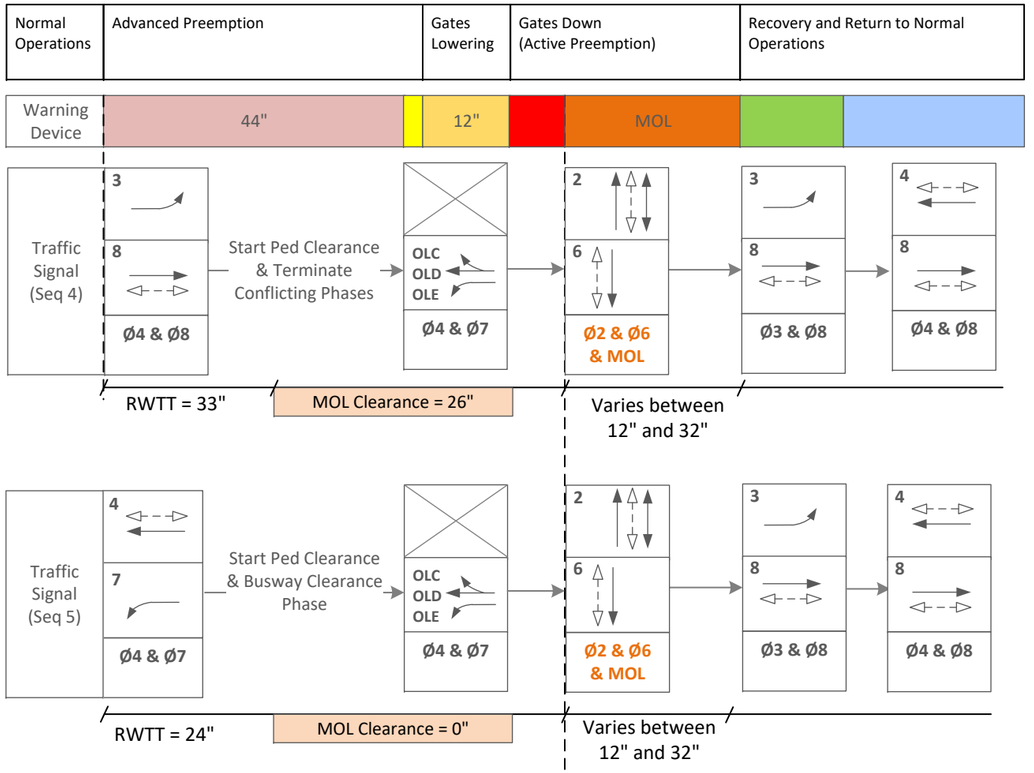


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: N/S & S/S Ped Xing at Busway
Update controller setting to call preemption

Preemption Sequence



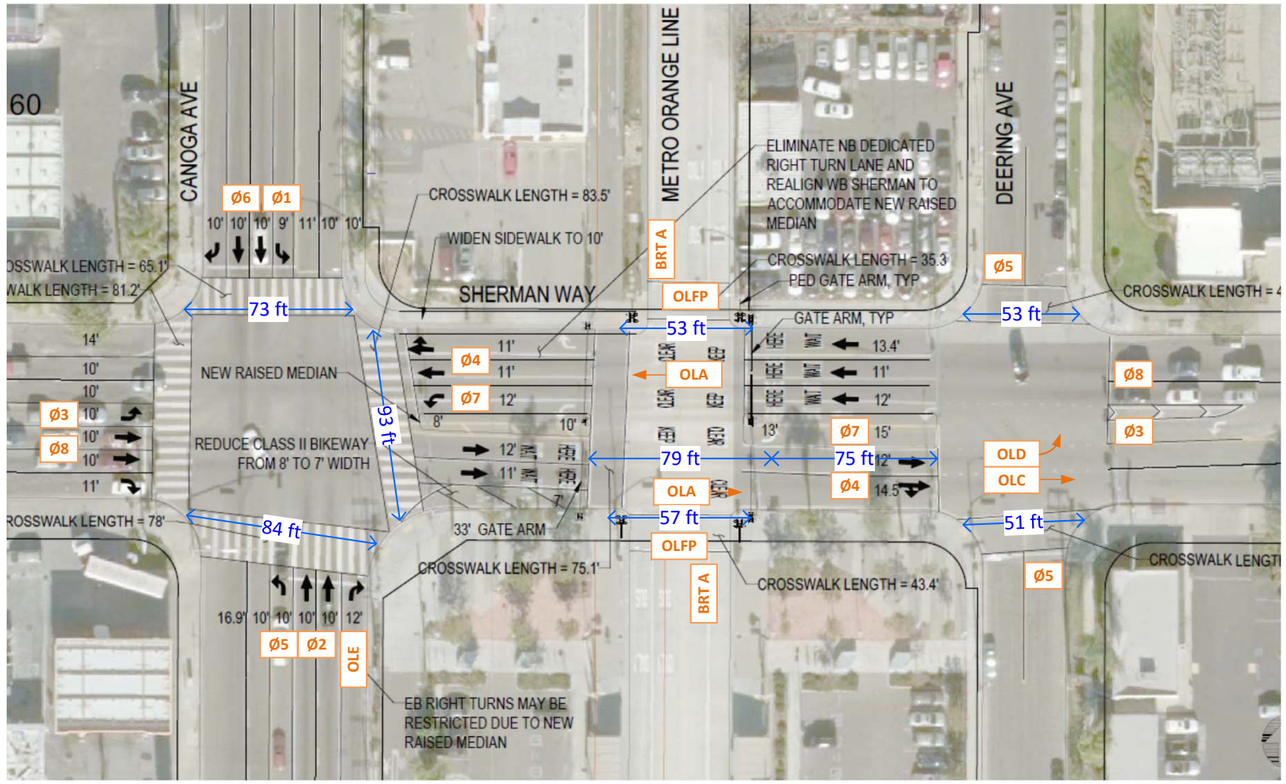
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

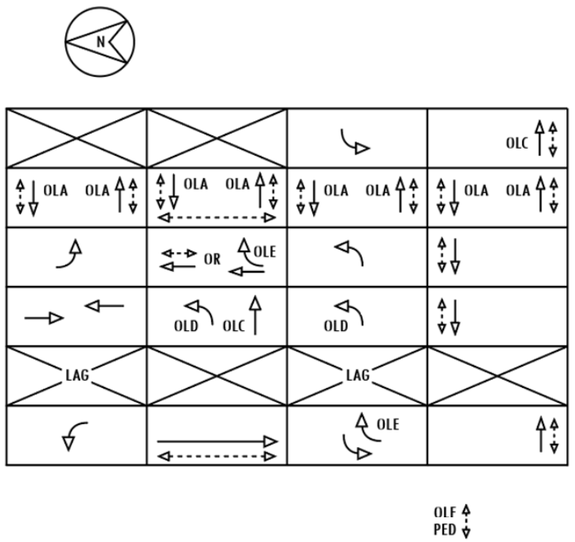
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 28B
Vanowen Street and Canoga Avenue

Gate Concept Design

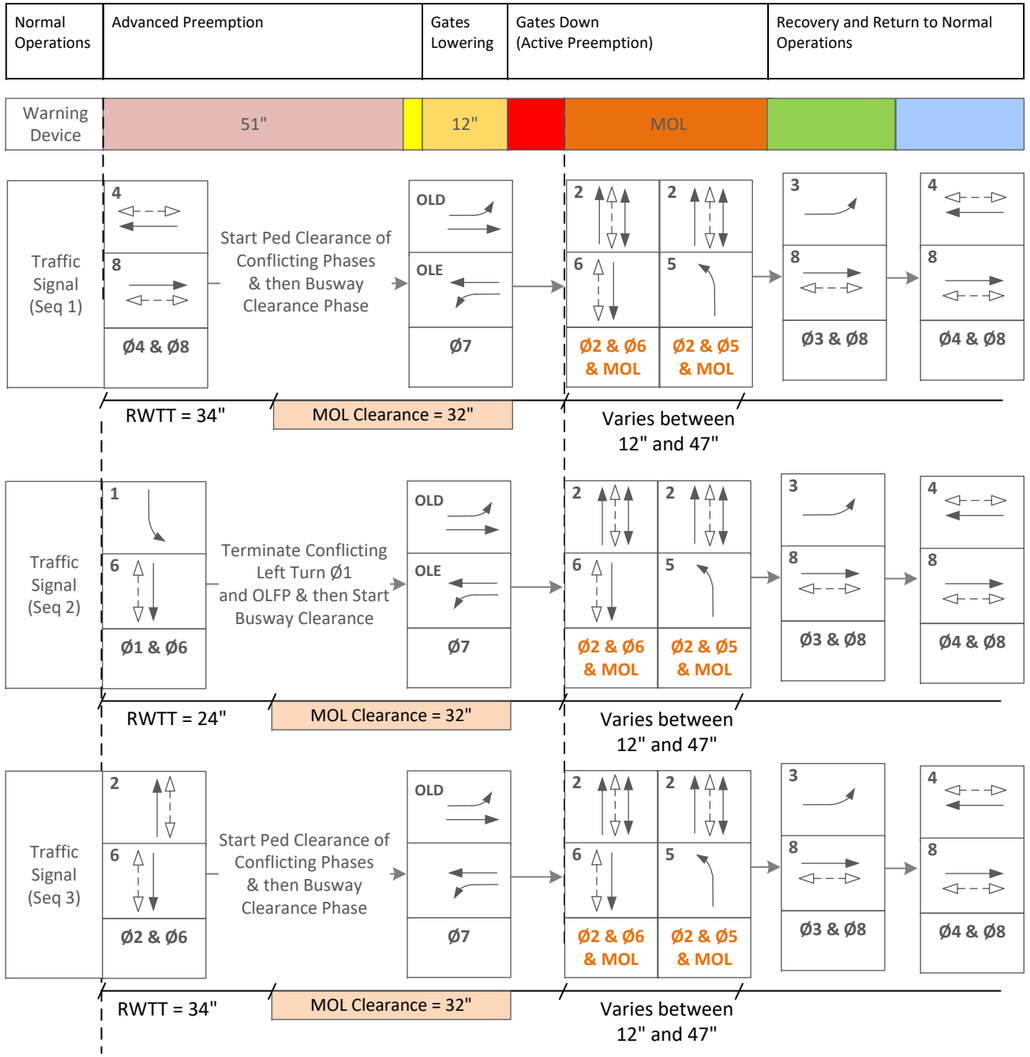


Future with Gates Phasing Diagram



OLA: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4 & Ø6
OLD: Ø6 & Ø7
OLE: Ø2, Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence



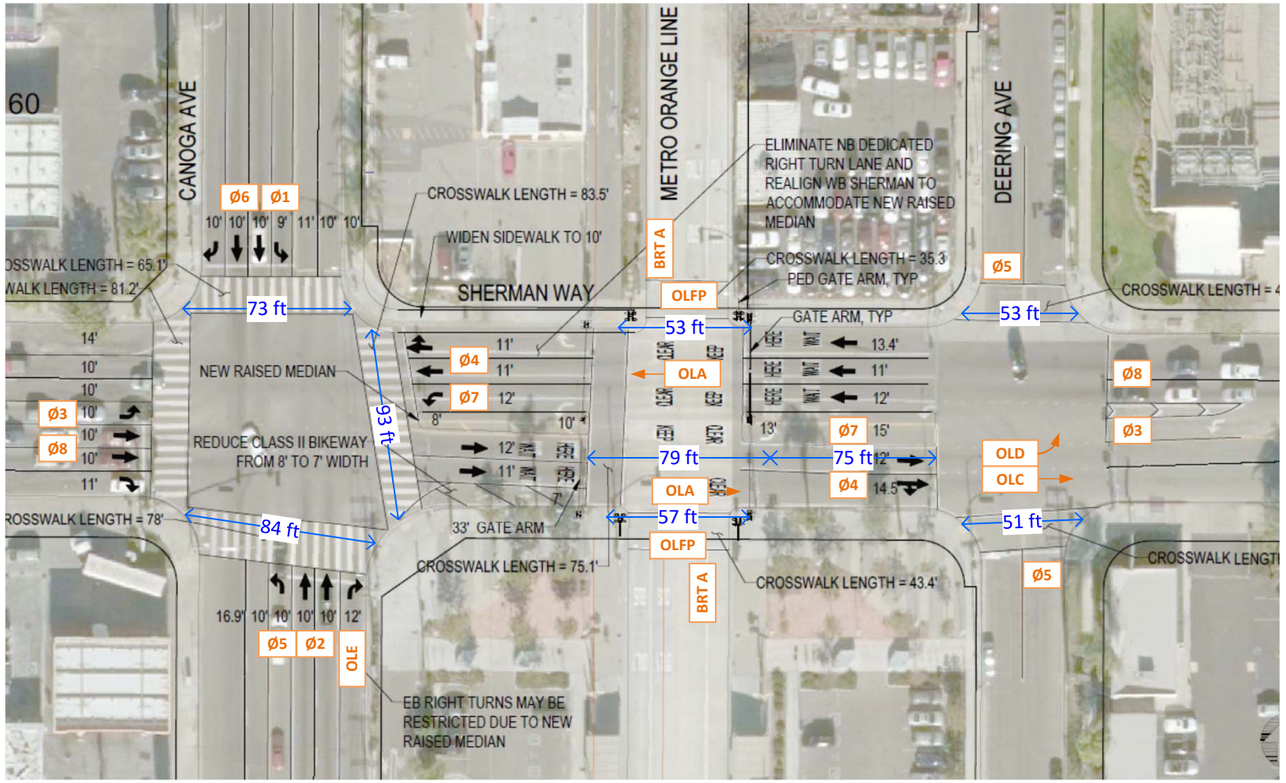
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

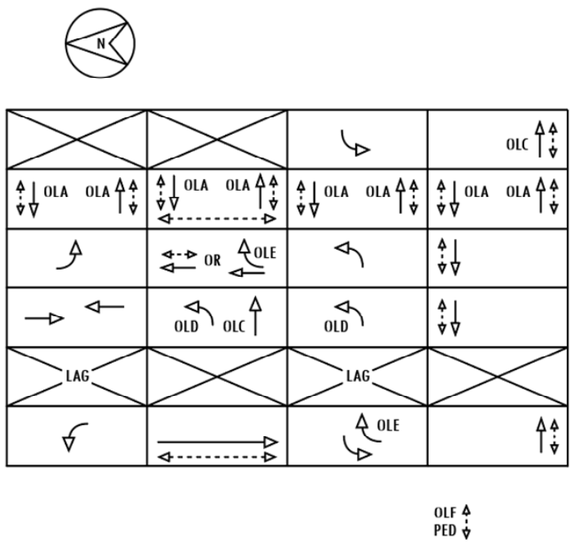
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 29A
Sherman Way and Canoga Avenue

Gate Concept Design



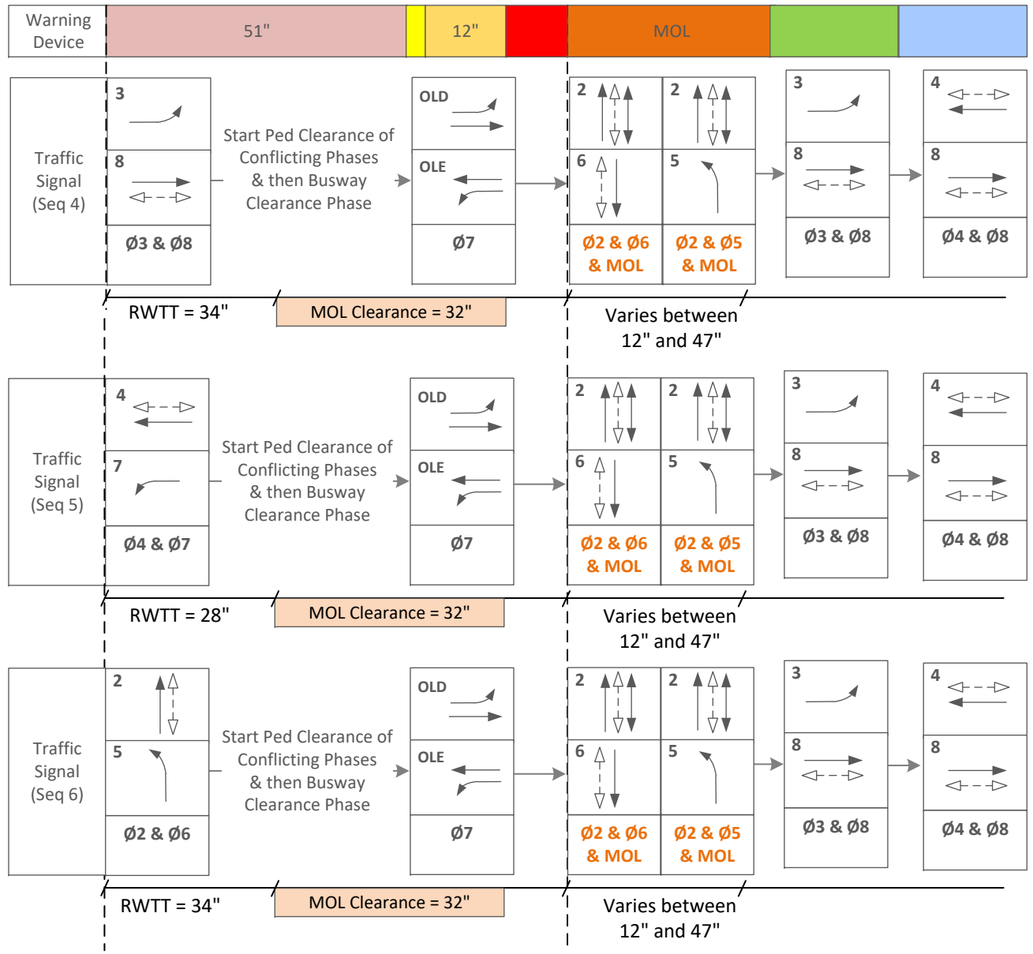
Future with Gates Phasing Diagram



OLA: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4 & Ø6
OLD: Ø6 & Ø7
OLE: Ø2 & Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



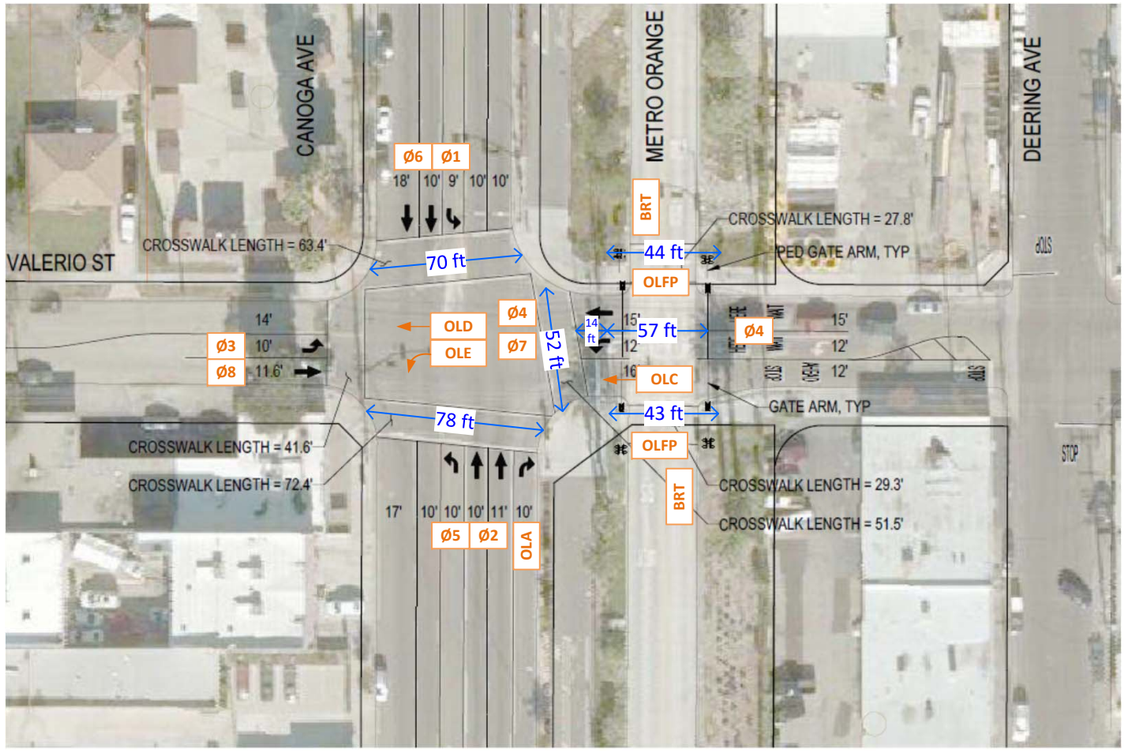
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

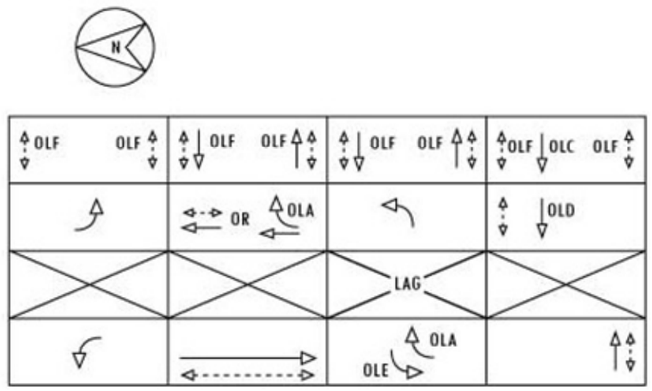
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 29B
Sherman Way and Canoga Avenue

Gate Concept Design

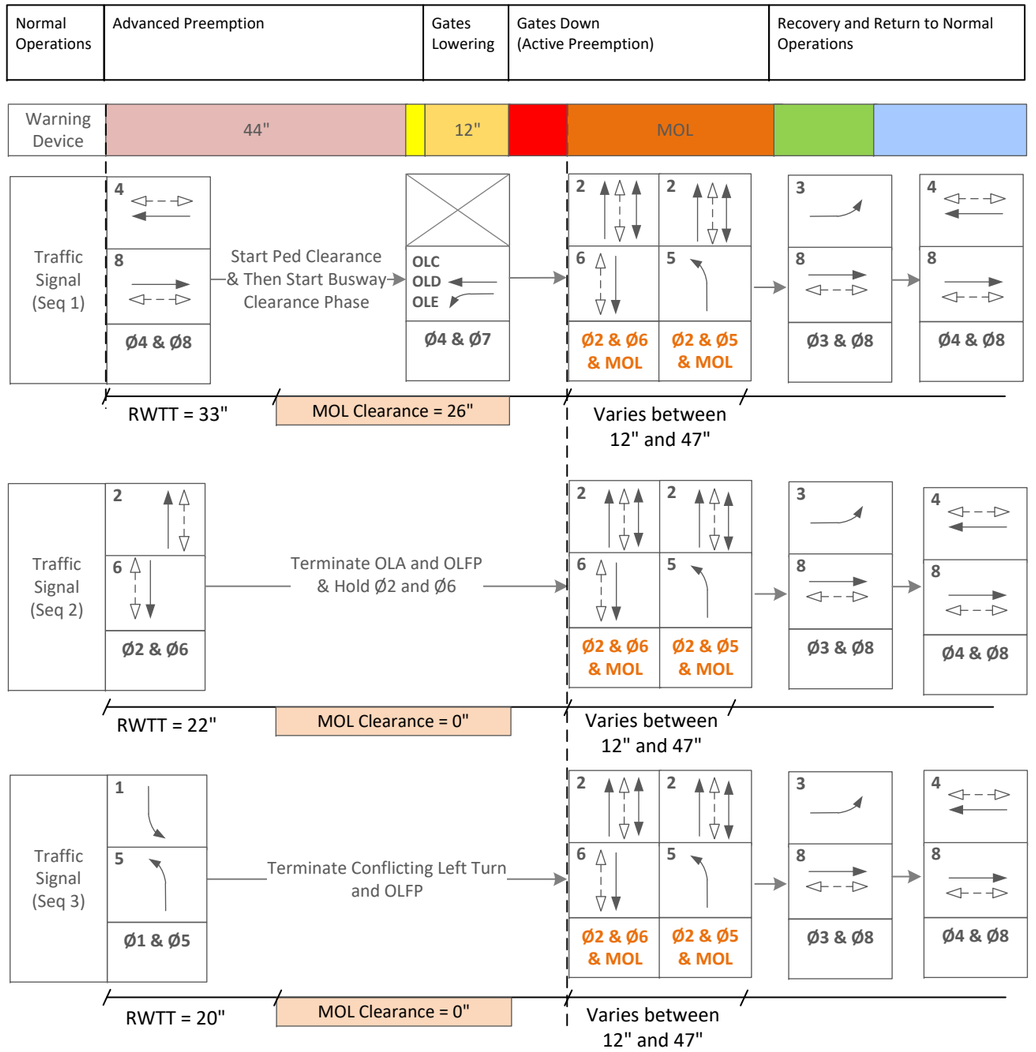


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, Ø4

Preemption Sequence



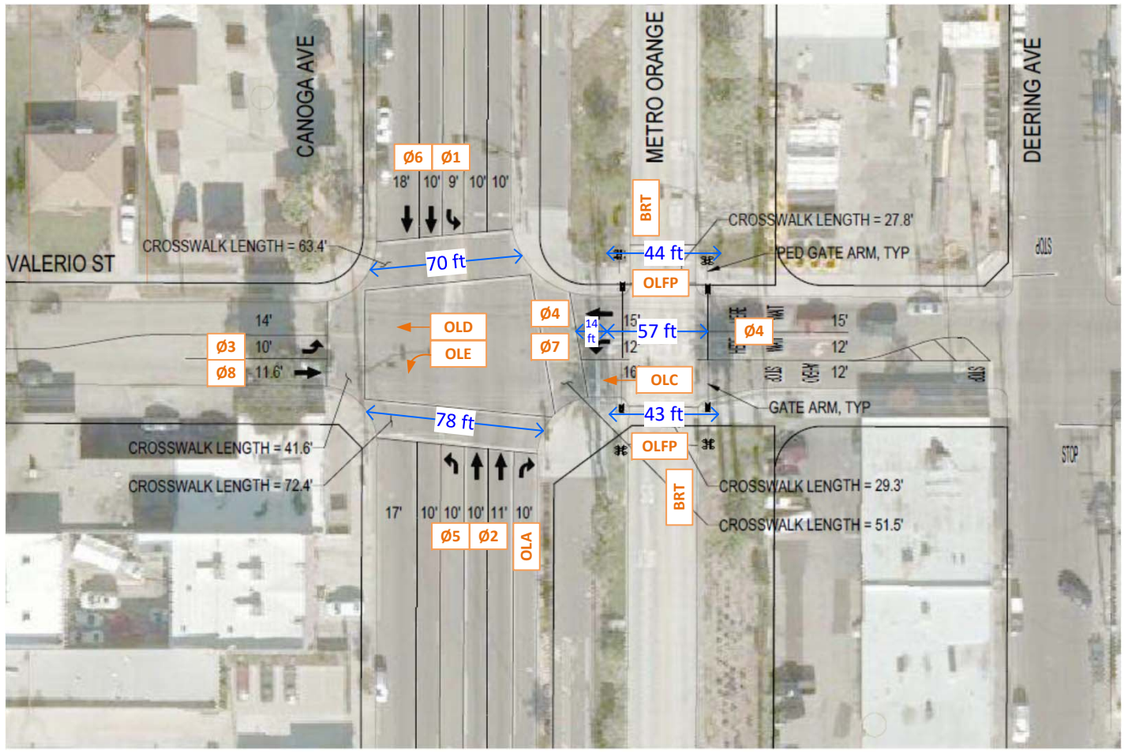
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

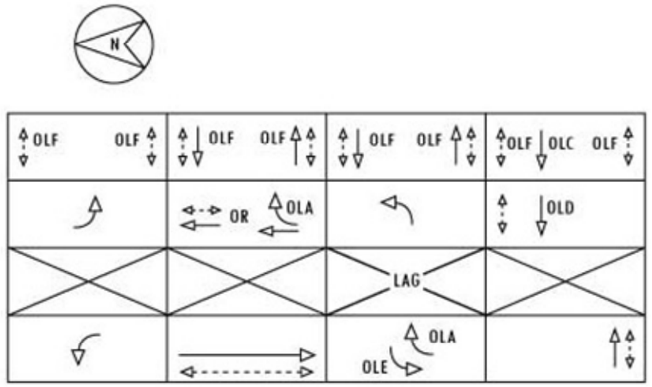
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 30A
Valerio Street and Canoga Avenue

Gate Concept Design



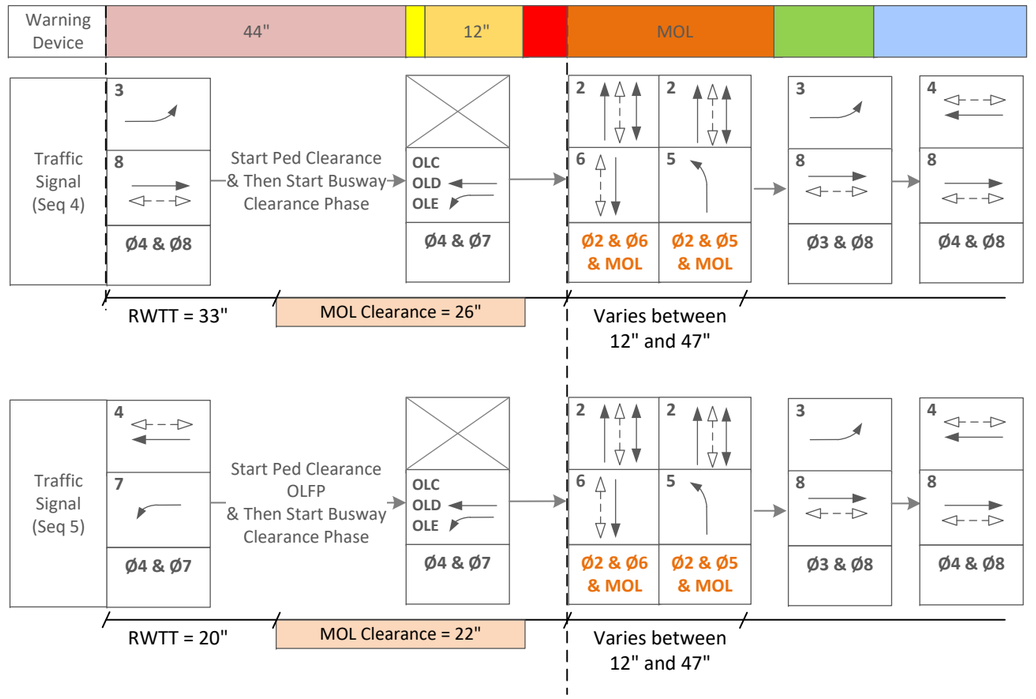
Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, Ø4

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



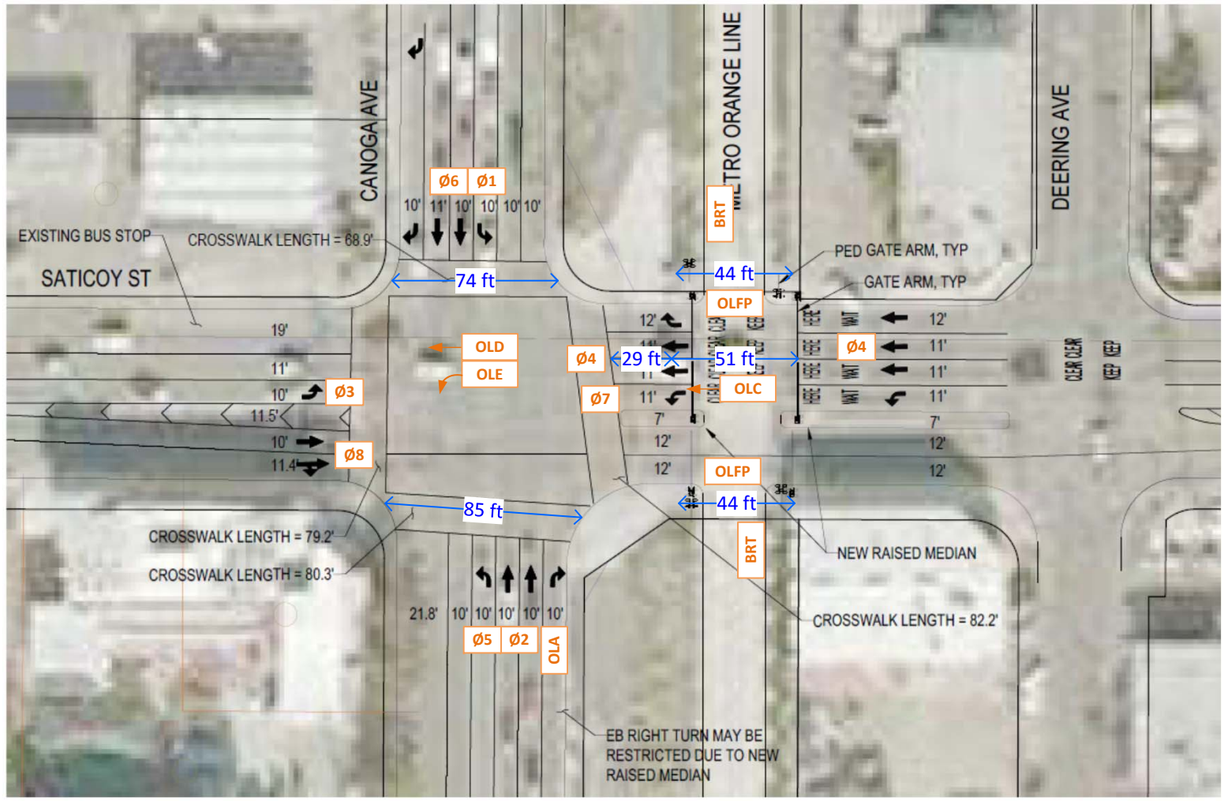
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

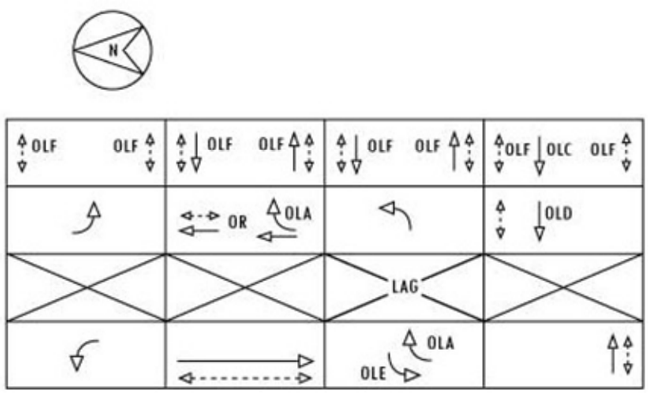
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 30B
Valerio Street and Canoga Avenue

Gate Concept Design

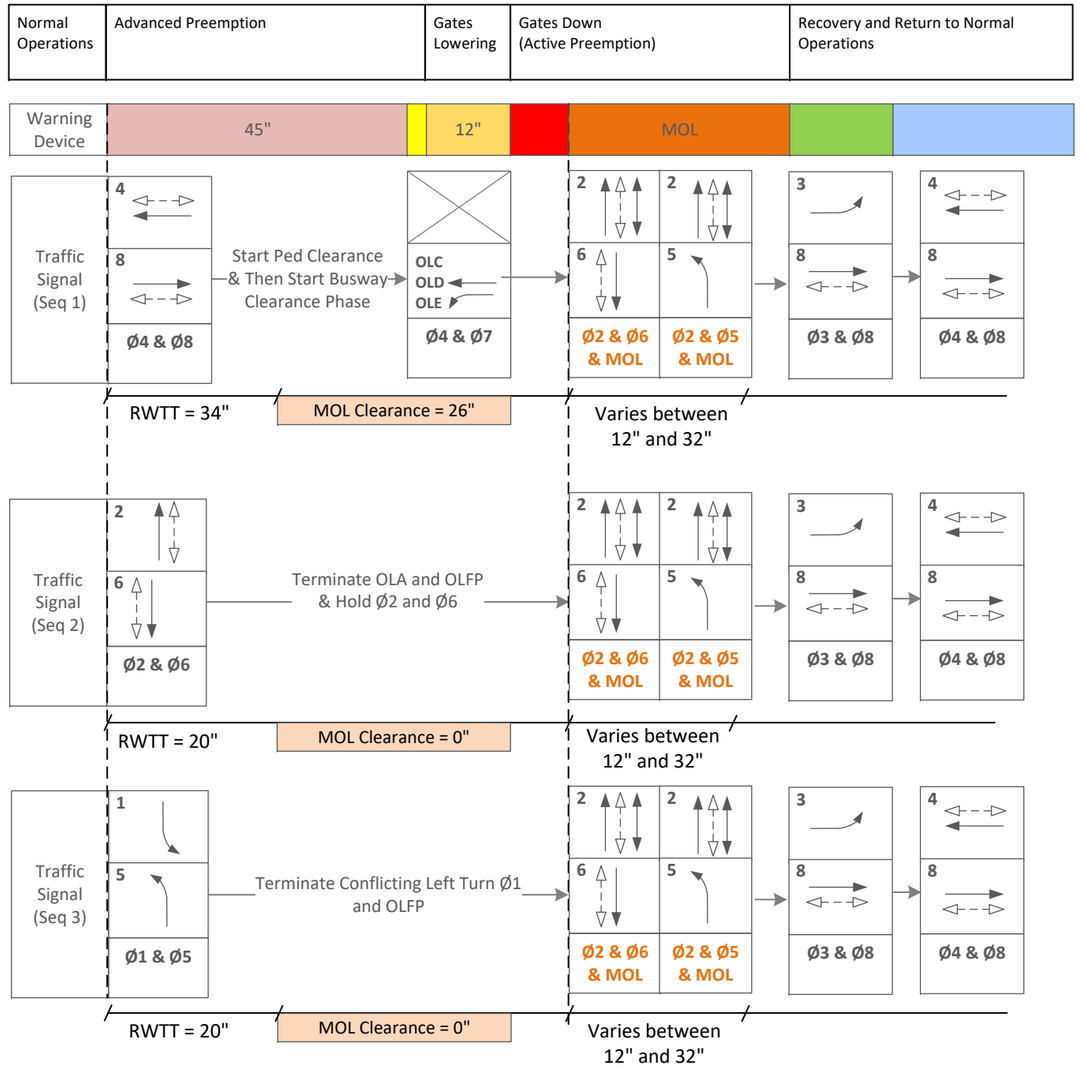


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4. Roscoe Bl N/S & S/S Ped Xing at Busway

Preemption Sequence



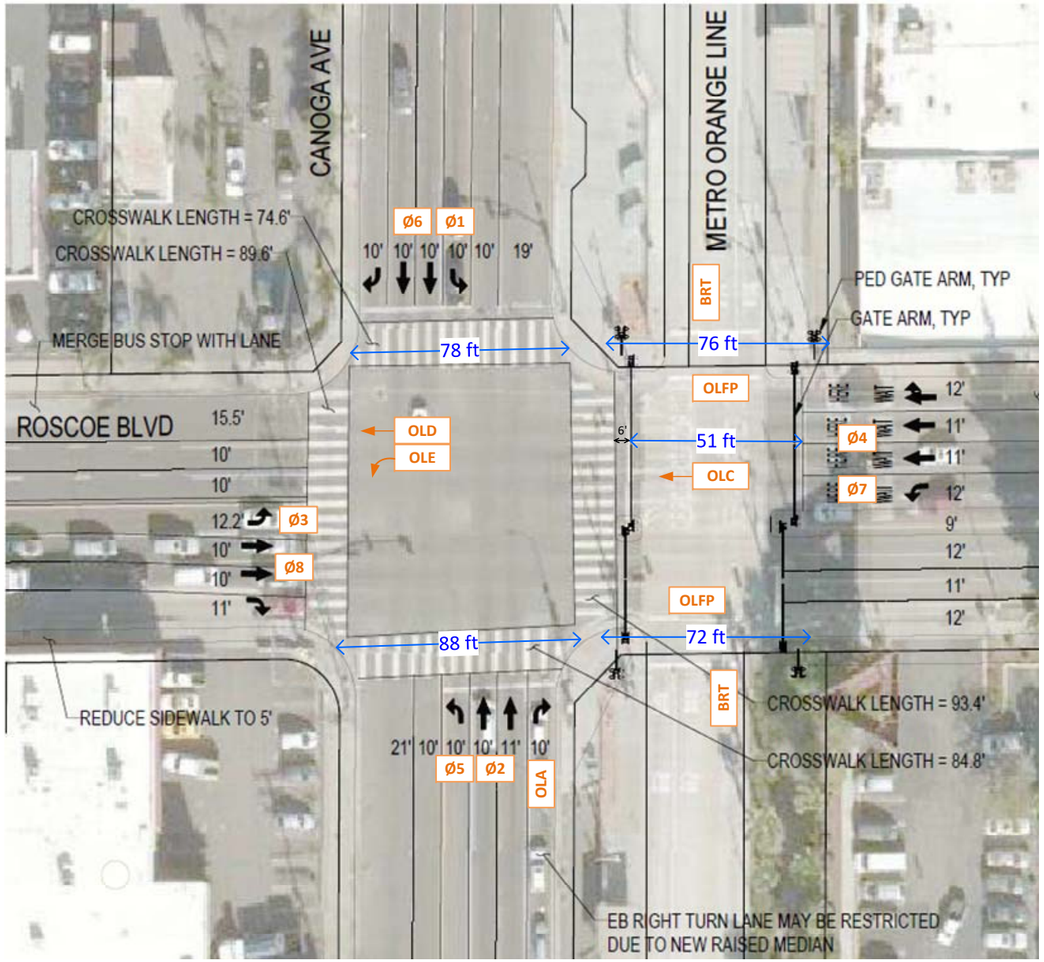
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

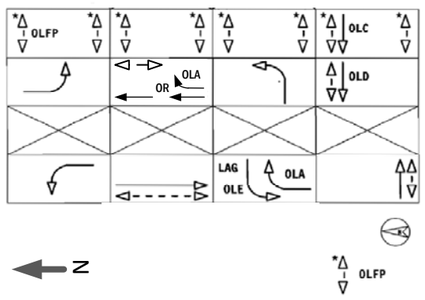
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 31A
Saticoy Street and Canoga Avenue

Gate Concept Design

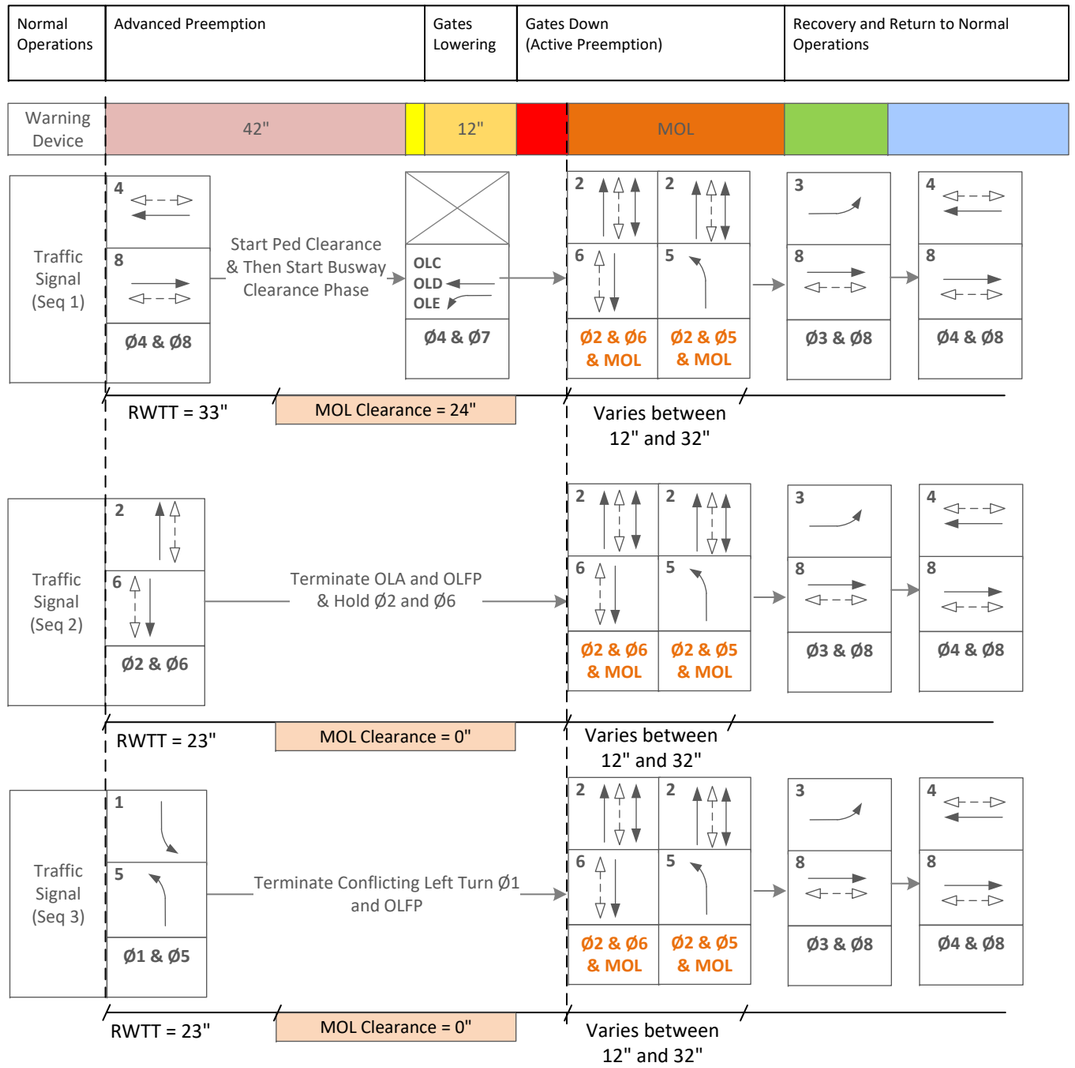


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4. Roscoe Bl N/S & S/S Ped Xing at Busway

Preemption Sequence



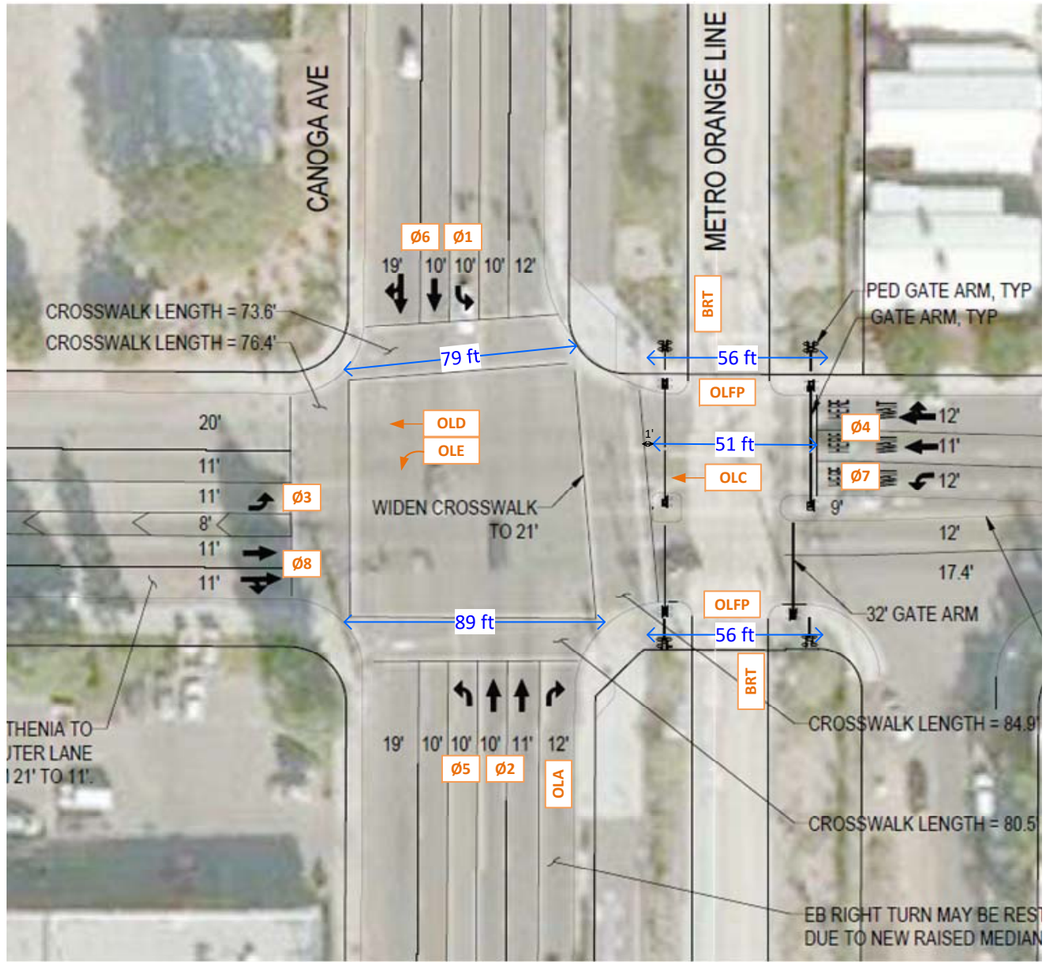
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

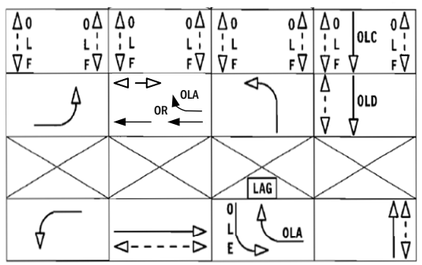
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 32
Canoga Avenue and Roscoe Boulevard

Gate Concept Design

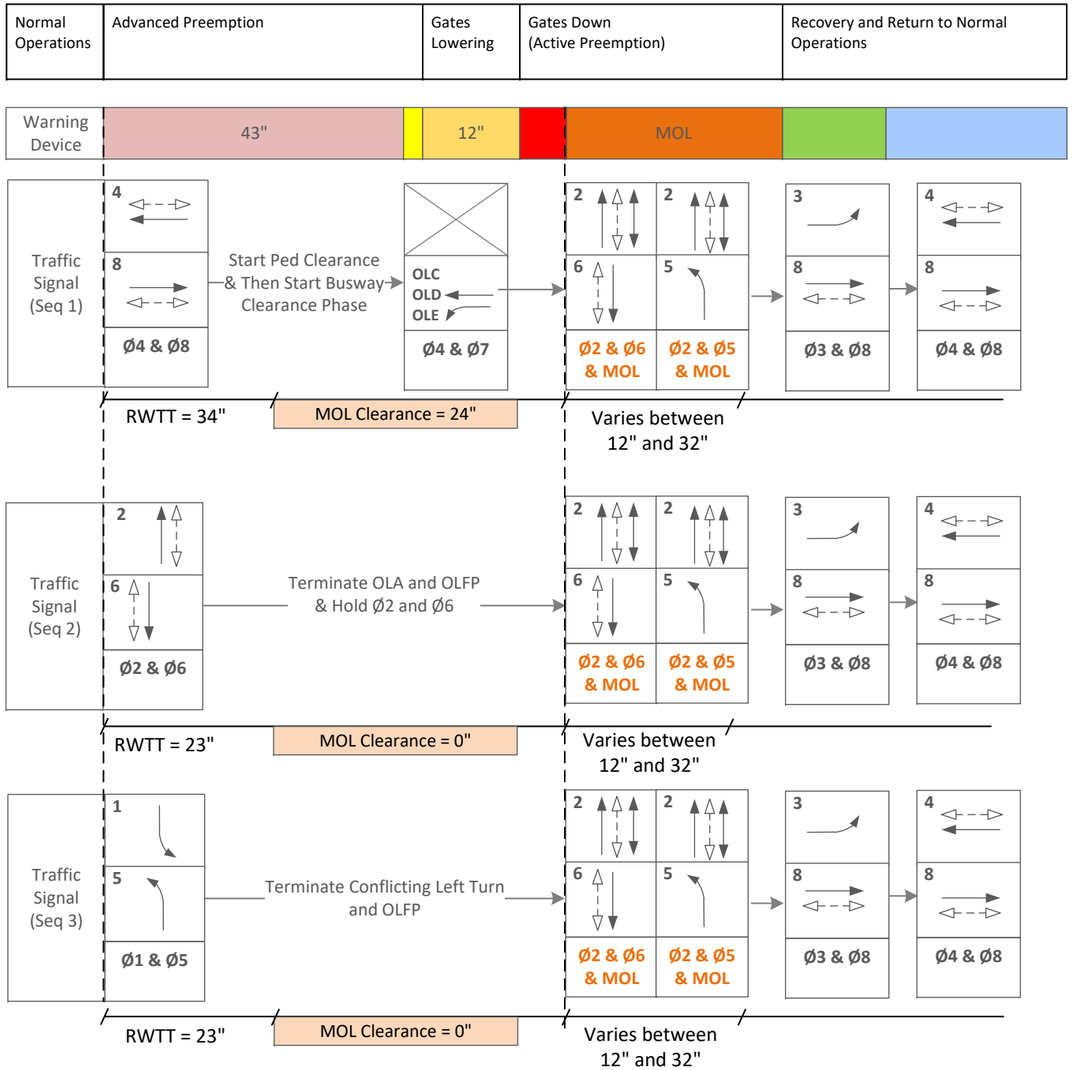


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Timing Only
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4. Parthenia St N/S & S/S ped Xing @ Busway
BRTA: Busway & E/S Ped Xing at Parthenia St

Preemption Sequence



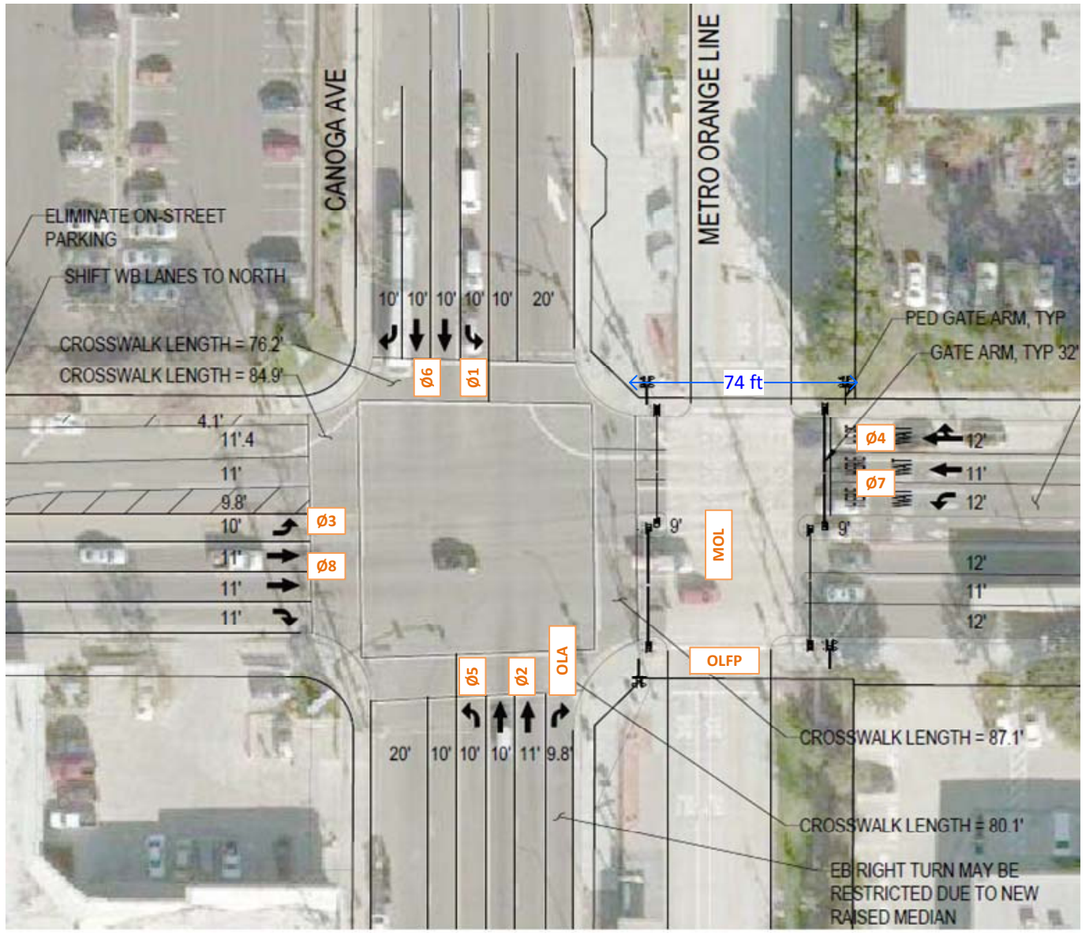
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

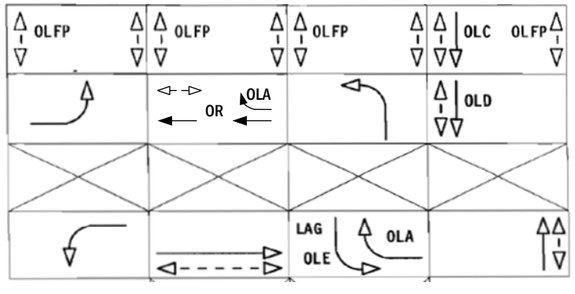
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 33
Canoga Avenue and Parthenia Street

Gate Concept Design

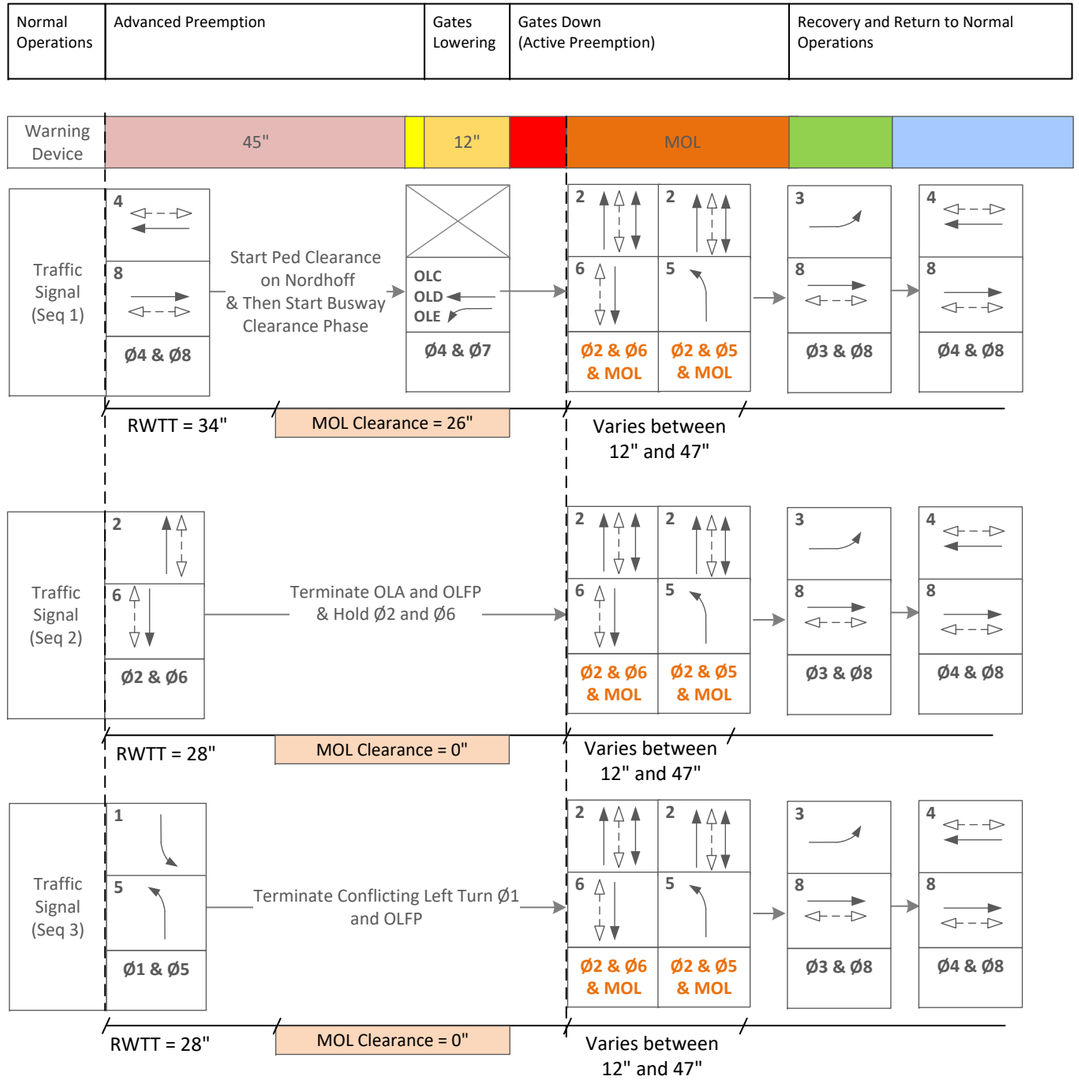


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLC: Ø4
OLD: Ø4
OLE: Ø7, MOL Clearance
OLFP: Ø1, Ø2, Ø3, and Ø4
Ø 4 On Without Ø7 Calls Ø7
Ø7 Timing Only
OLC Terminates Before OLD&OLE

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 34
Nordhoff Street and Canoga Avenue

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APPENDIX C

LADOT Comment Resolution

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VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 1: Chandler/Tujunga

1) Basic Timing Inputs:

Ring Barrier Controller 01.70.04 (INT_001_Chandler&Tujuna&Busway.rbc)

File View Help Notes

- Base Timing
- Detectors
- SC Communication
- Preempts
- Transit Priority

Basic

SG Number		2	3			6	7	8			
SG Name		SBT	WBT			NBT	NBL	WBT			
Min Green		10	10			10	10	10			
Veh Extension		4	3			4	4	3			
Max 1		44	18			44	20	18			
Yellow		3.9	3.9			3.9	3.9	3.9			
Red Clearance		1.1	1.1			1.1	1.1	1.1			
Ped SG Number		102	103			106	107				
Walk		7	7			7	7				
Ped Clear (FDW)		8	11			9	11				
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Min Recall	☐	☑	☐	☐	☐	☑	☐	☐	☐	☐	☐
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Recall	☐	☑	☐	☐	☐	☑	☐	☐	☐	☐	☐
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dual Entry	☐	☑	☐	☐	☐	☑	☑	☑	☐	☐	☐

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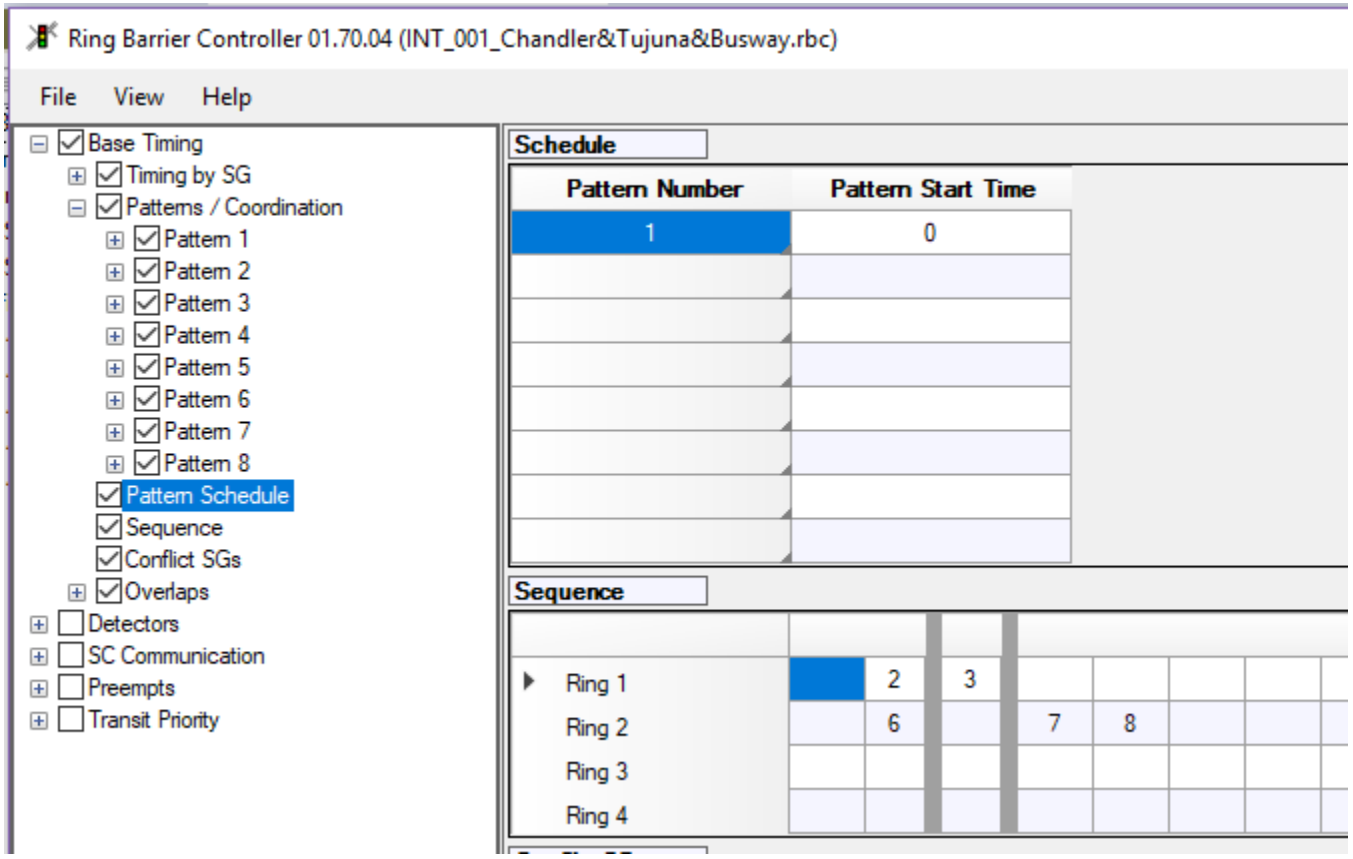
2) Pattern Number and Sequence Inputs:



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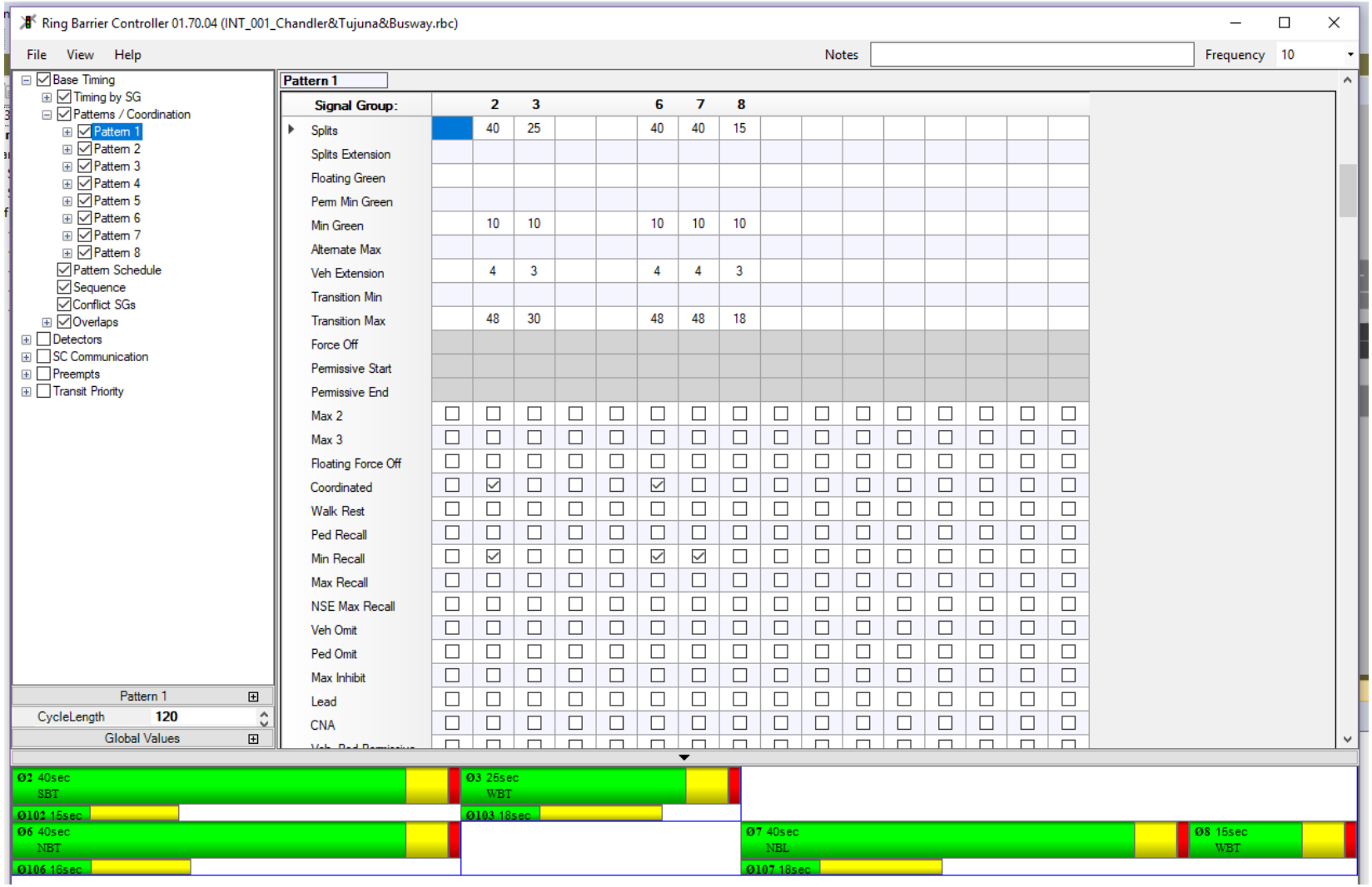
3) Pattern (Coordination Plan) Timing Inputs:



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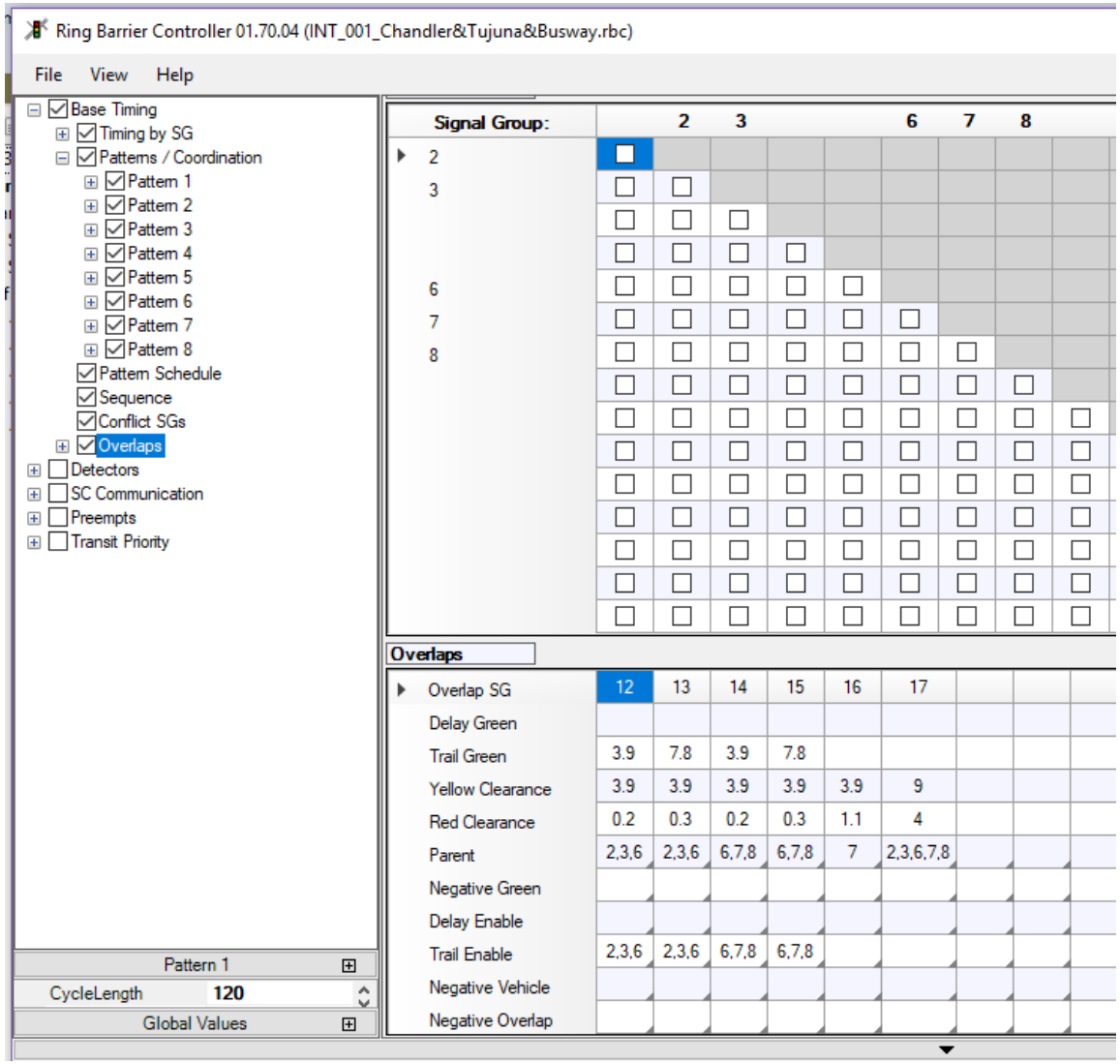
4) Overlap Inputs:



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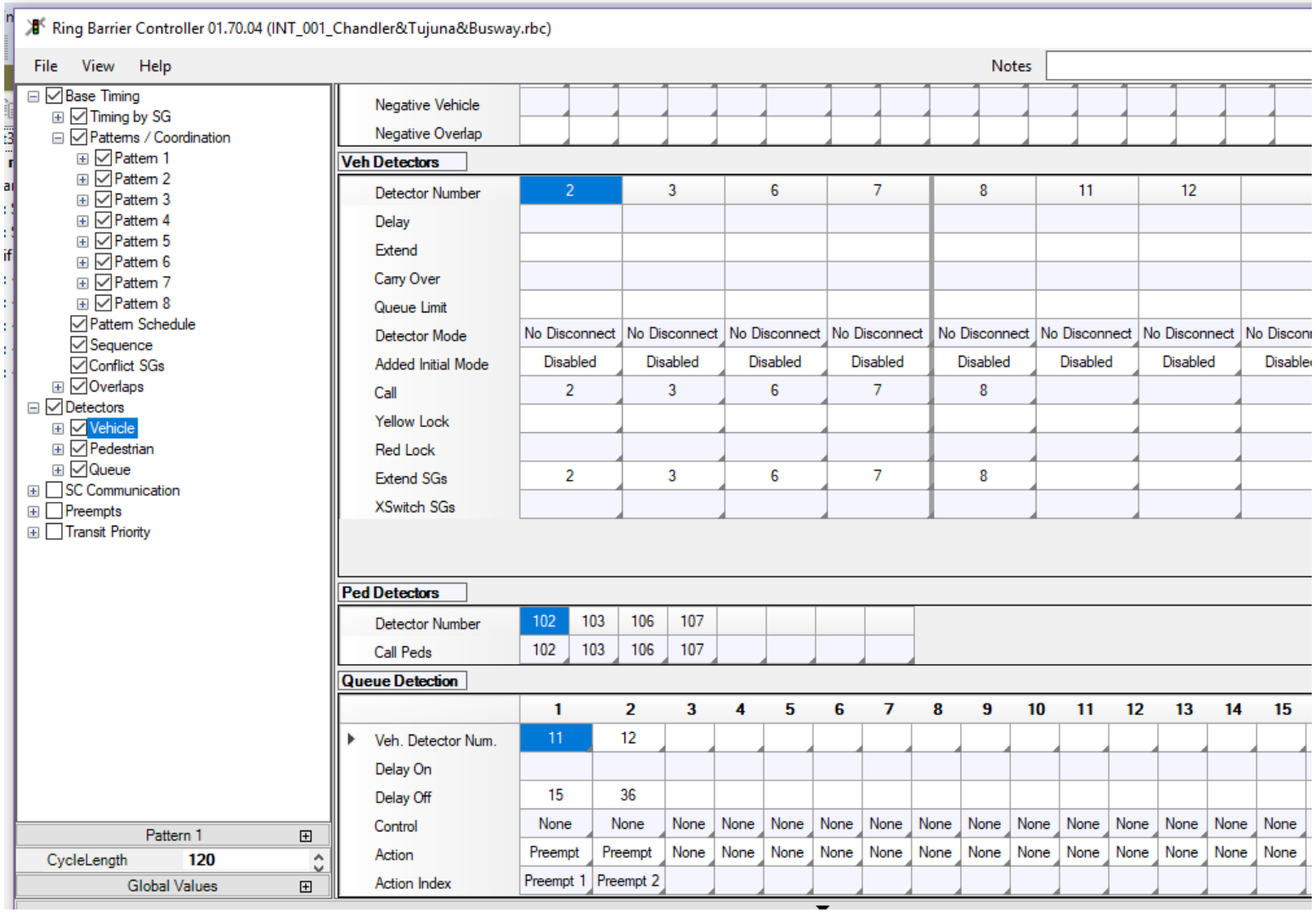
5) Detector Inputs:



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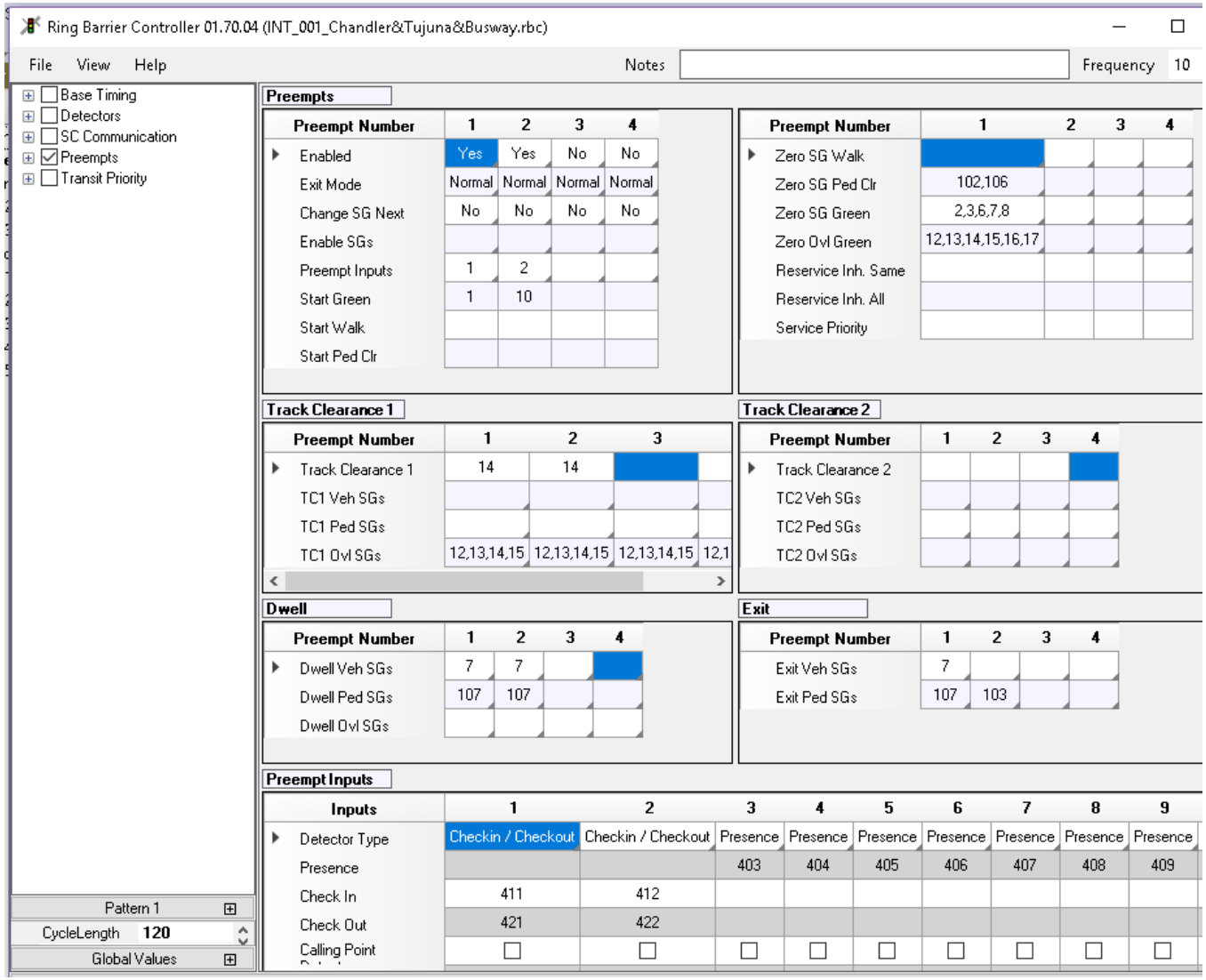
6) Preempt Inputs:



3-1: Laurel Canyon/Chandler

- Basic timing inputs:
  - Check minimum recall phase: 2,4,6,8
  - Ped recall phase: 2,4,6,8
- Pattern (coordination plan)
  - Ped recall phase: 2,4,6,8
- Preempt inputs:
  - Comment: need to reflect railroad preemption form worksheet.
- Preemption form
  - Include vehicle-gate interaction check – change to YES

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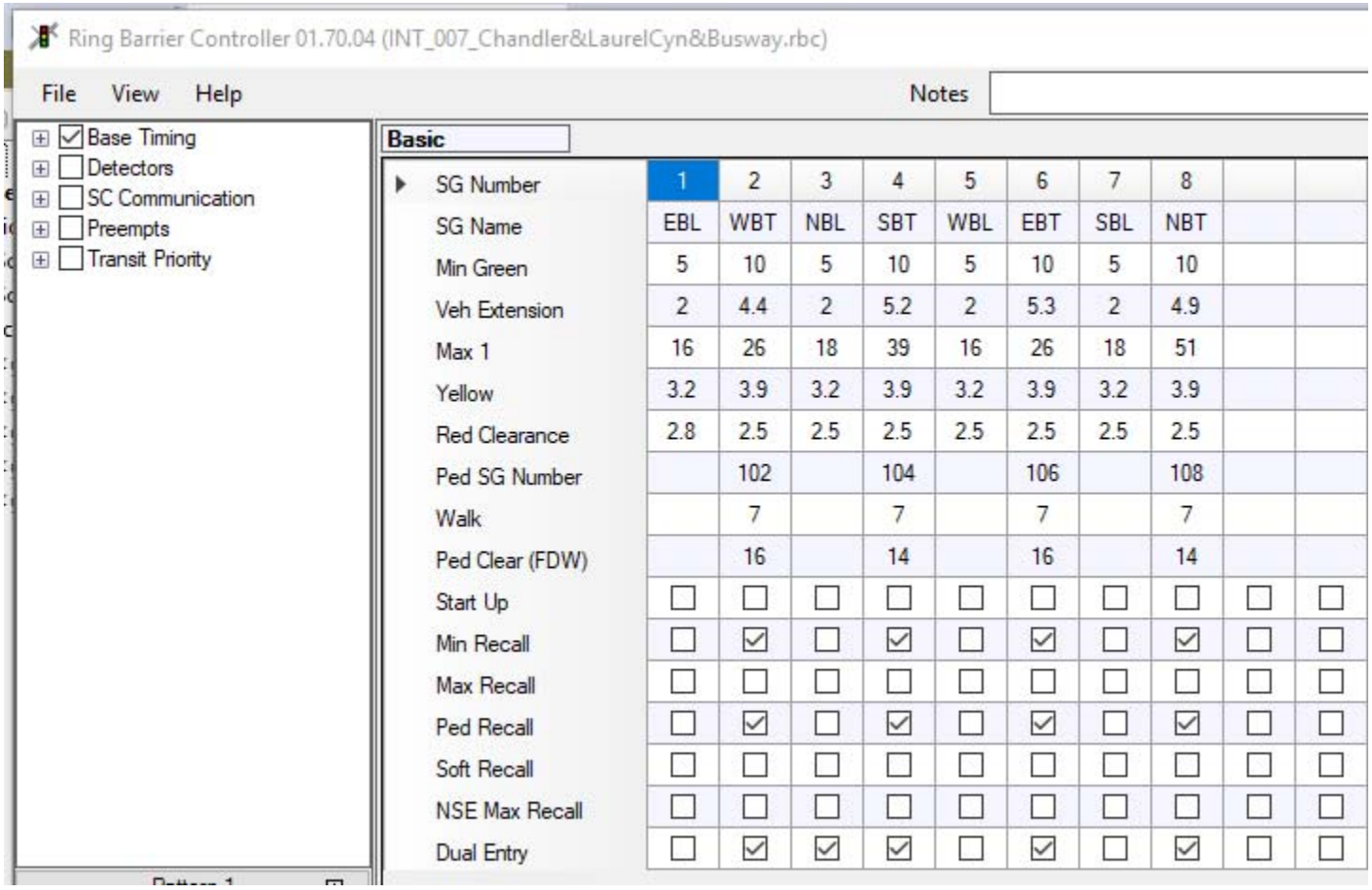
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 2: Chandler/Laurel Canyon

1) Basic Timing Inputs:



SG Number	1	2	3	4	5	6	7	8		
SG Name	EBL	WBT	NBL	SBT	WBL	EBT	SBL	NBT		
Min Green	5	10	5	10	5	10	5	10		
Veh Extension	2	4.4	2	5.2	2	5.3	2	4.9		
Max 1	16	26	18	39	16	26	18	51		
Yellow	3.2	3.9	3.2	3.9	3.2	3.9	3.2	3.9		
Red Clearance	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		16		14		16		14		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Min Recall	☐	☑	☐	☑	☐	☑	☐	☑	☐	☐
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Recall	☐	☑	☐	☑	☐	☑	☐	☑	☐	☐
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dual Entry	☐	☑	☑	☑	☐	☑	☐	☑	☐	☐

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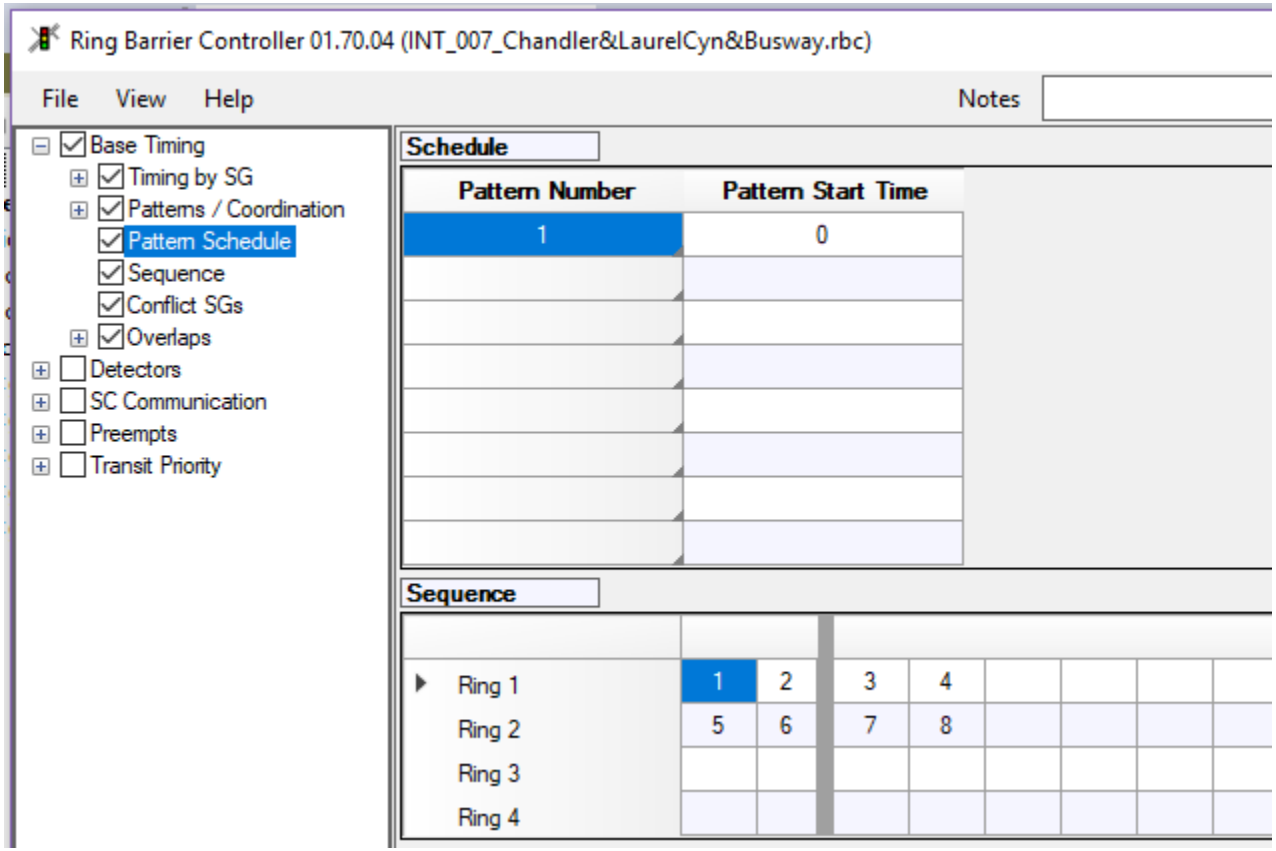
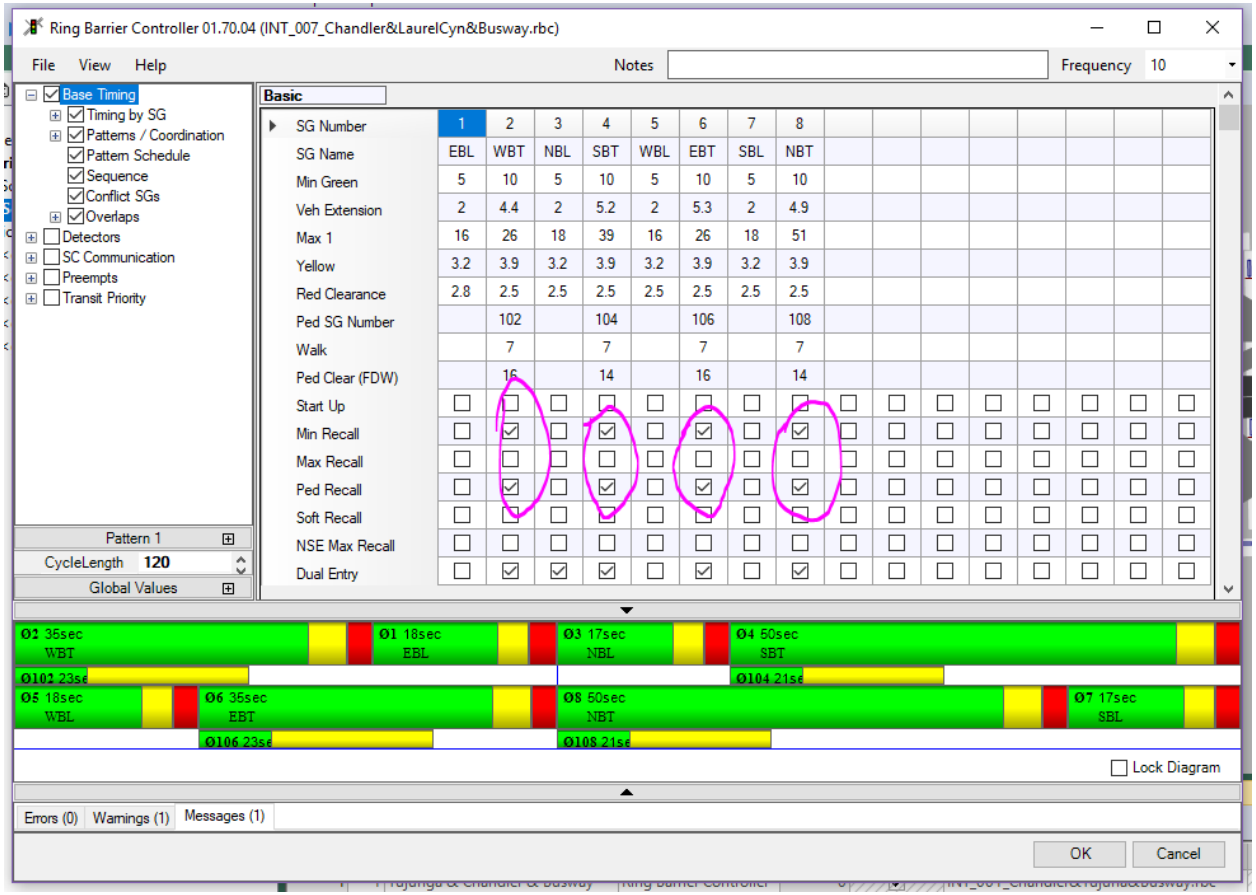
2) Pattern Number and Sequence Inputs:




Ring Barrier Controller 01.70.04 (INT_007_Chandler&LaurelCyn&Busway.rbc)
File View Help
Notes
Frequency 10
Base Timing
Timing by SG
Patterns / Coordination
Pattern Schedule
Sequence
Conflict SGs
Overlaps
Detectors
SC Communication
Preempts
Transit Priority
Pattern 1
CycleLength 120
Global Values
Basic
SG Number 1 2 3 4 5 6 7 8
SG Name EBL WBT NBL SBT WBL EBT SBL NBT
Min Green 5 10 5 10 5 10 5 10
Veh Extension 2 4.4 2 5.2 2 5.3 2 4.9
Max 1 16 26 18 39 16 26 18 51
Yellow 3.2 3.9 3.2 3.9 3.2 3.9 3.2 3.9
Red Clearance 2.8 2.5 2.5 2.5 2.5 2.5 2.5 2.5
Ped SG Number 102 104 106 108
Walk 7 7 7 7
Ped Clear (FDW) 16 14 16 14
Start Up
Min Recall
Max Recall
Ped Recall
Soft Recall
NSE Max Recall
Dual Entry
Ø2 35sec WBT
Ø1 18sec EBL
Ø3 17sec NBL
Ø4 50sec SBT
Ø102 23sec
Ø104 21sec
Ø5 18sec WBL
Ø6 35sec EBT
Ø8 50sec NBT
Ø7 17sec SBL
Ø106 23sec
Ø108 21sec
Lock Diagram
Errors (0) Warnings (1) Messages (1)
OK Cancel

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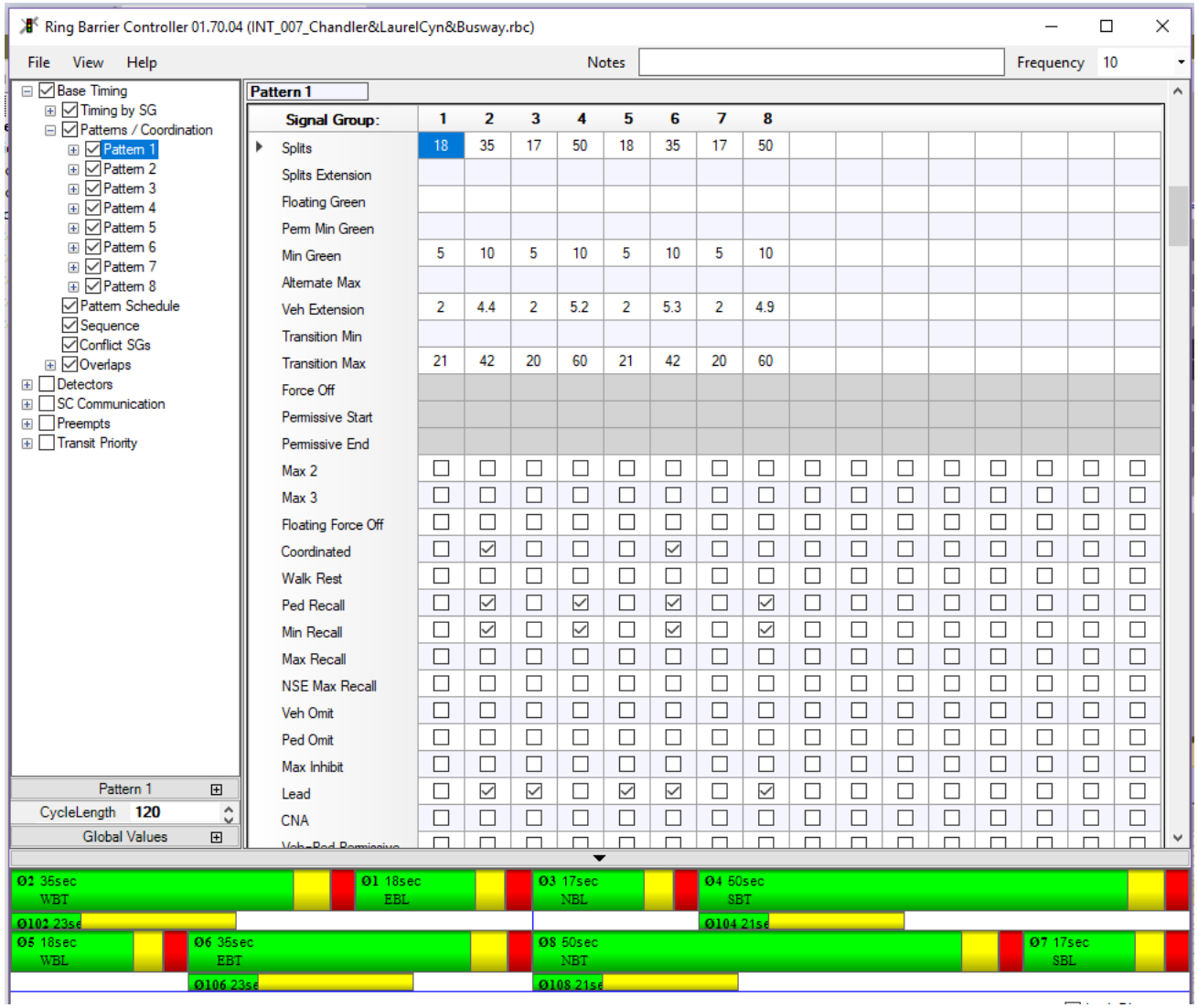
3) Pattern (Coordination Plan) Timing Inputs:



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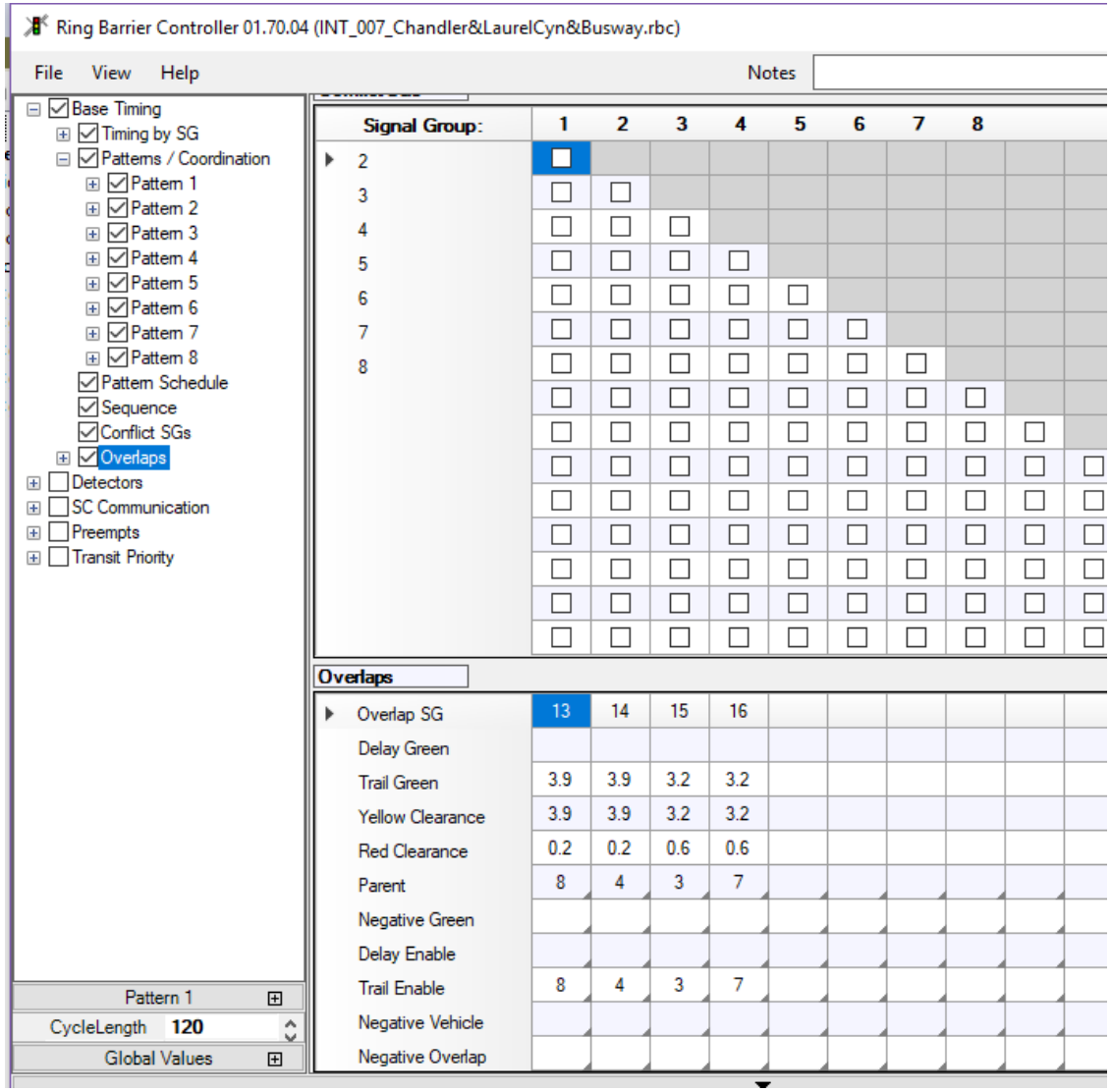
4) Overlap Inputs:



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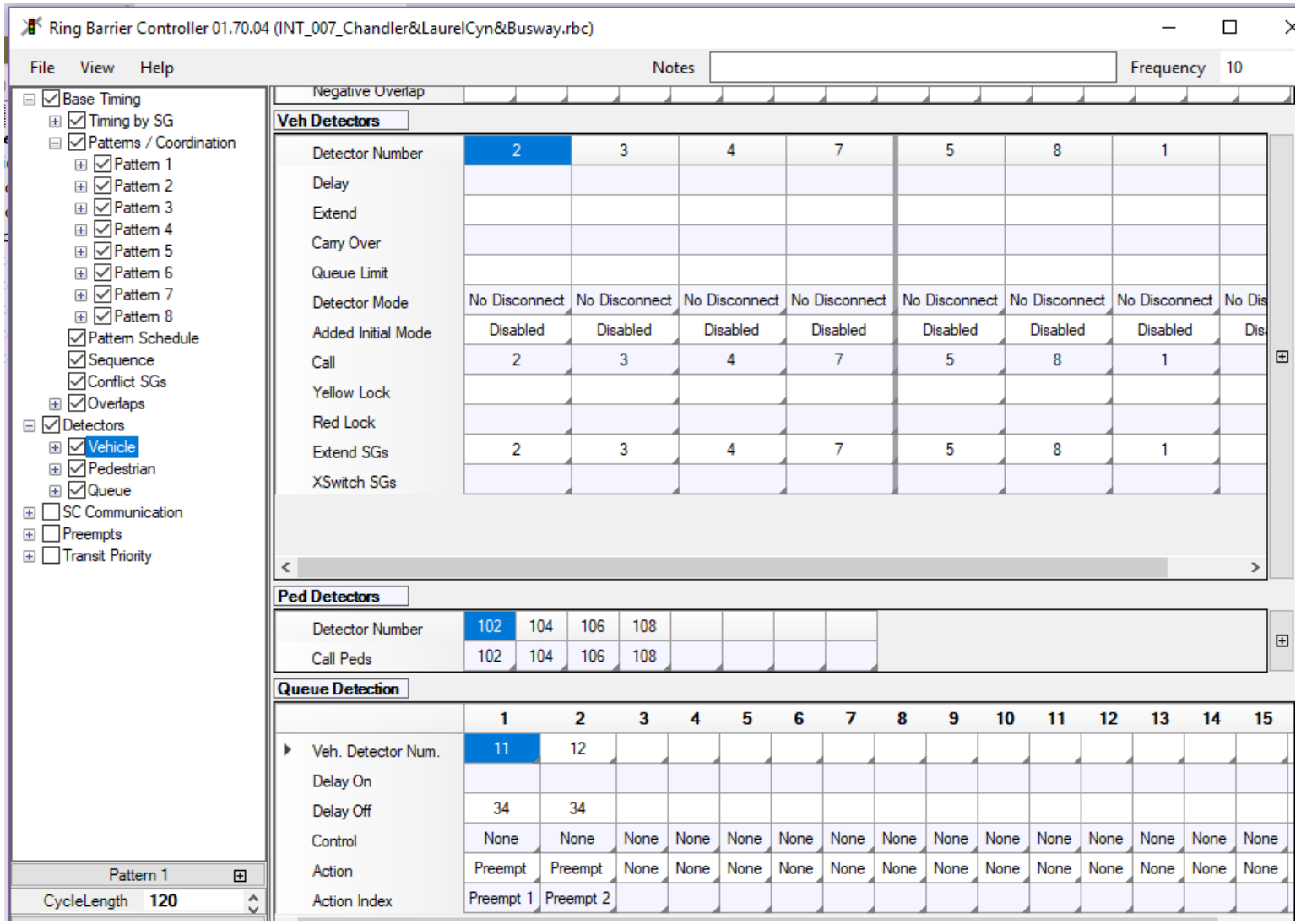
5) Detector Inputs:



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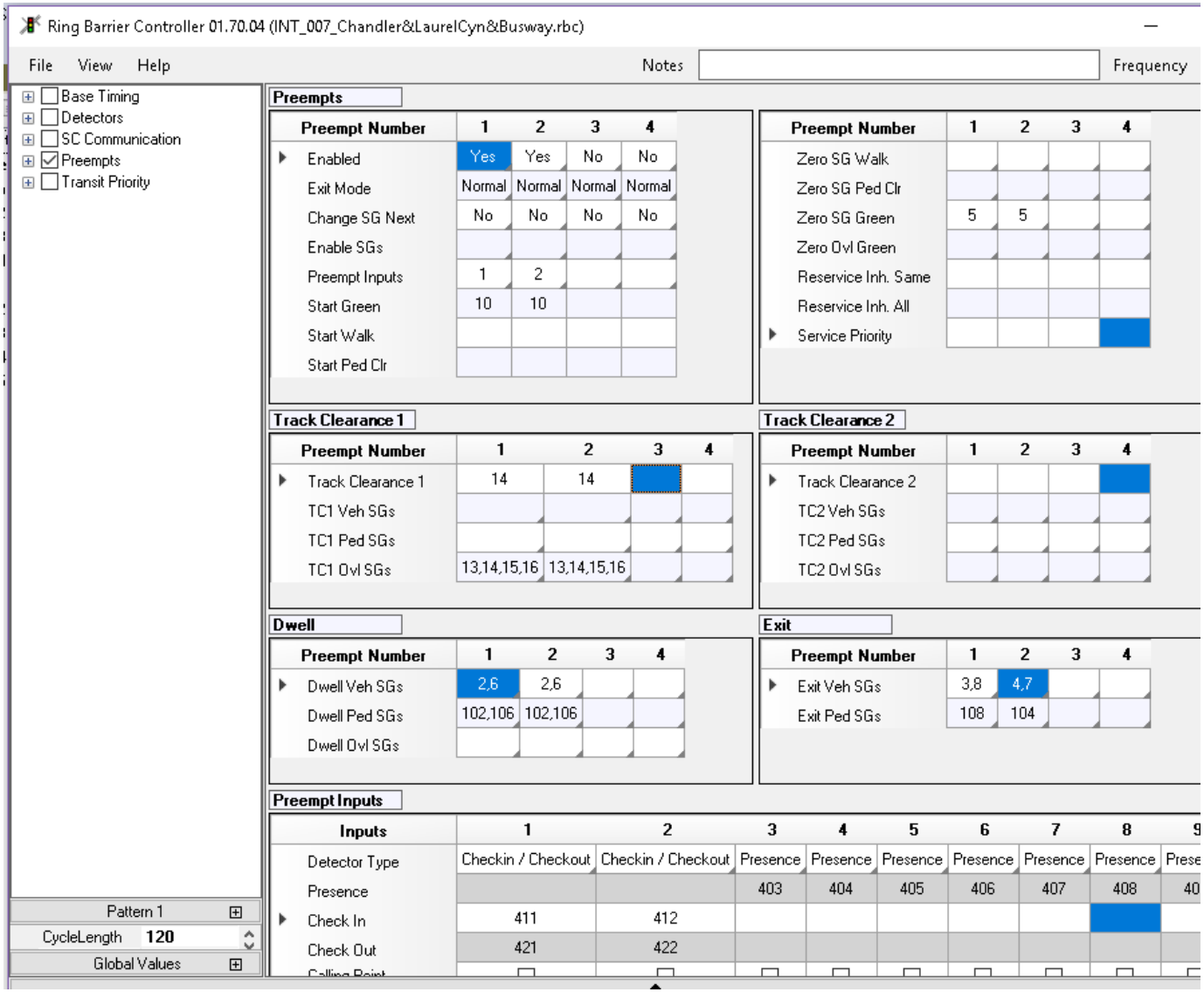
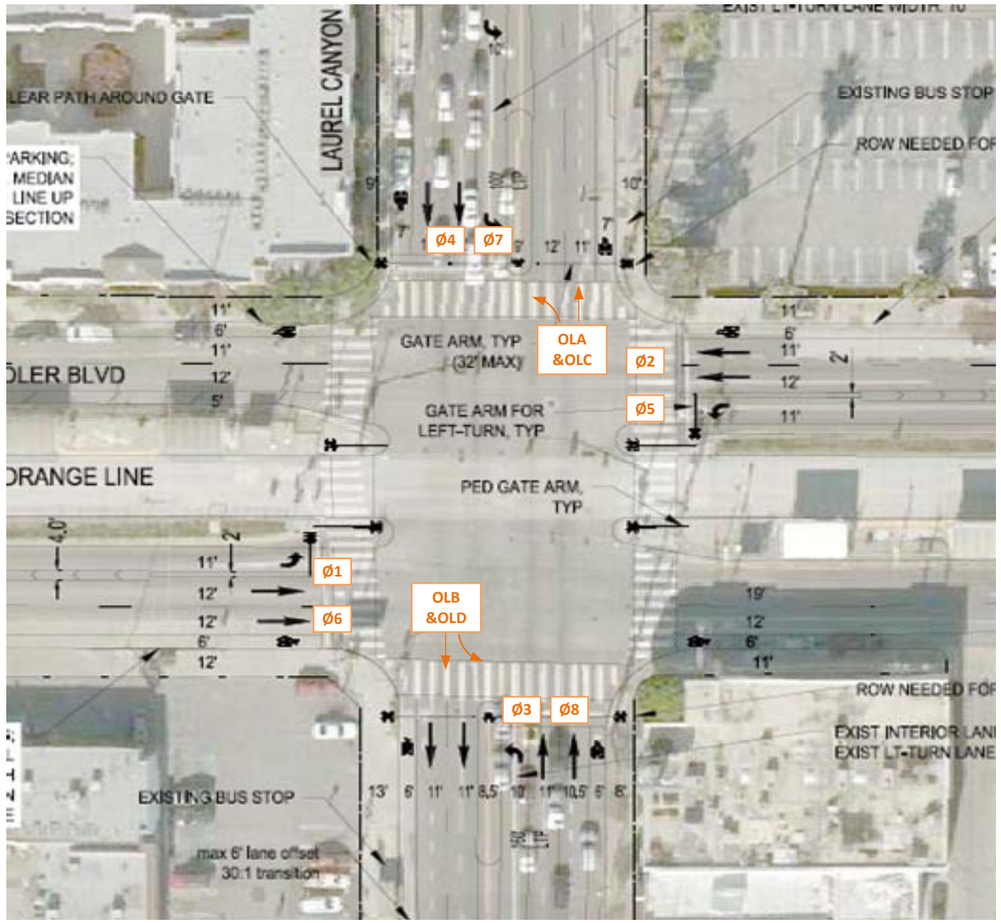
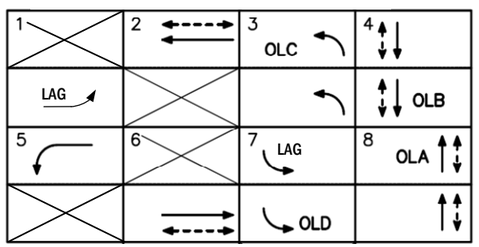
6) Preempt Inputs:



Gate Concept Design



Future with Gates Phasing Diagram

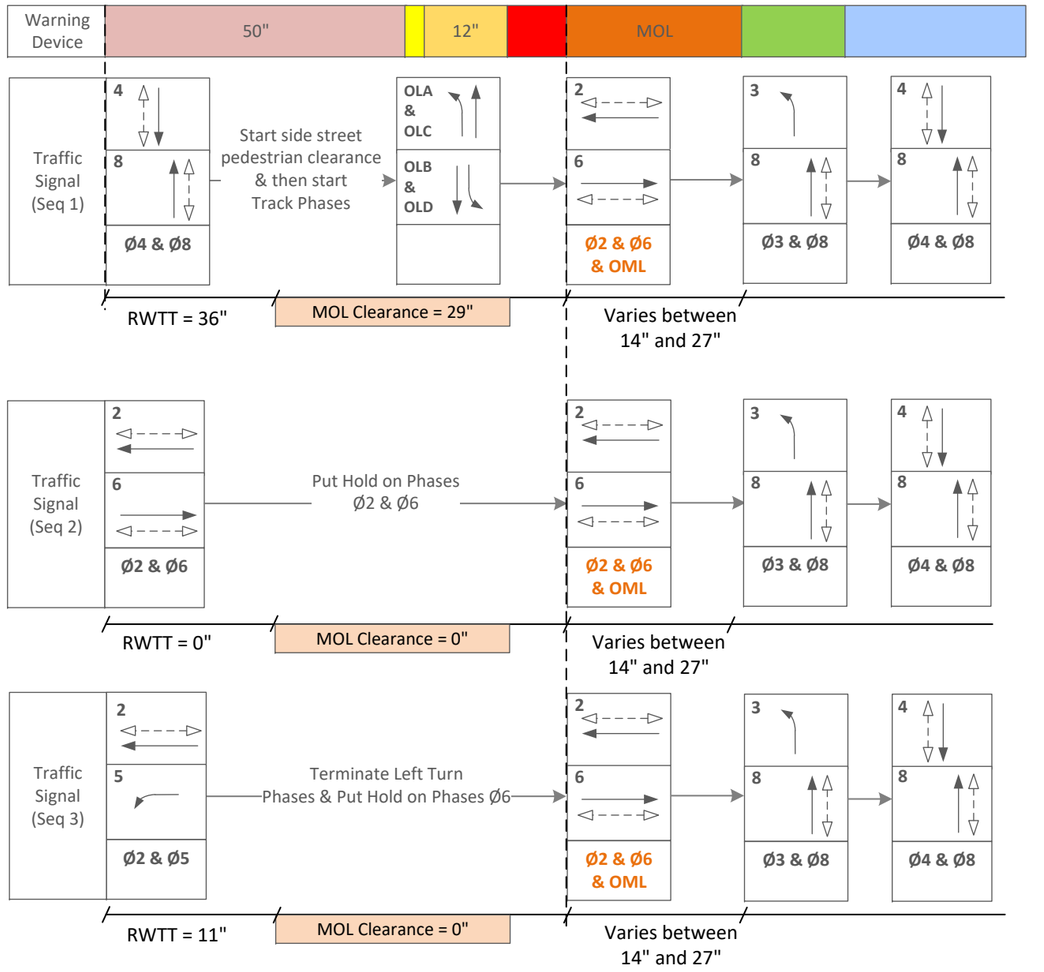


OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

OLA, OLB, OLC, OLD:
MOL Busway Clearance

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 3
Chandler Boulevard and Laurel Canyon Boulevard

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Laurel Canyon	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	118	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**118**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.4	8.2	6.8	14.9	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.9**	**9.3**	**8.0**	**18.7**	**19**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**29**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	6.0	sec	
Maximum RWTT	**36**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**79**	sec	*for actual Separation Time*

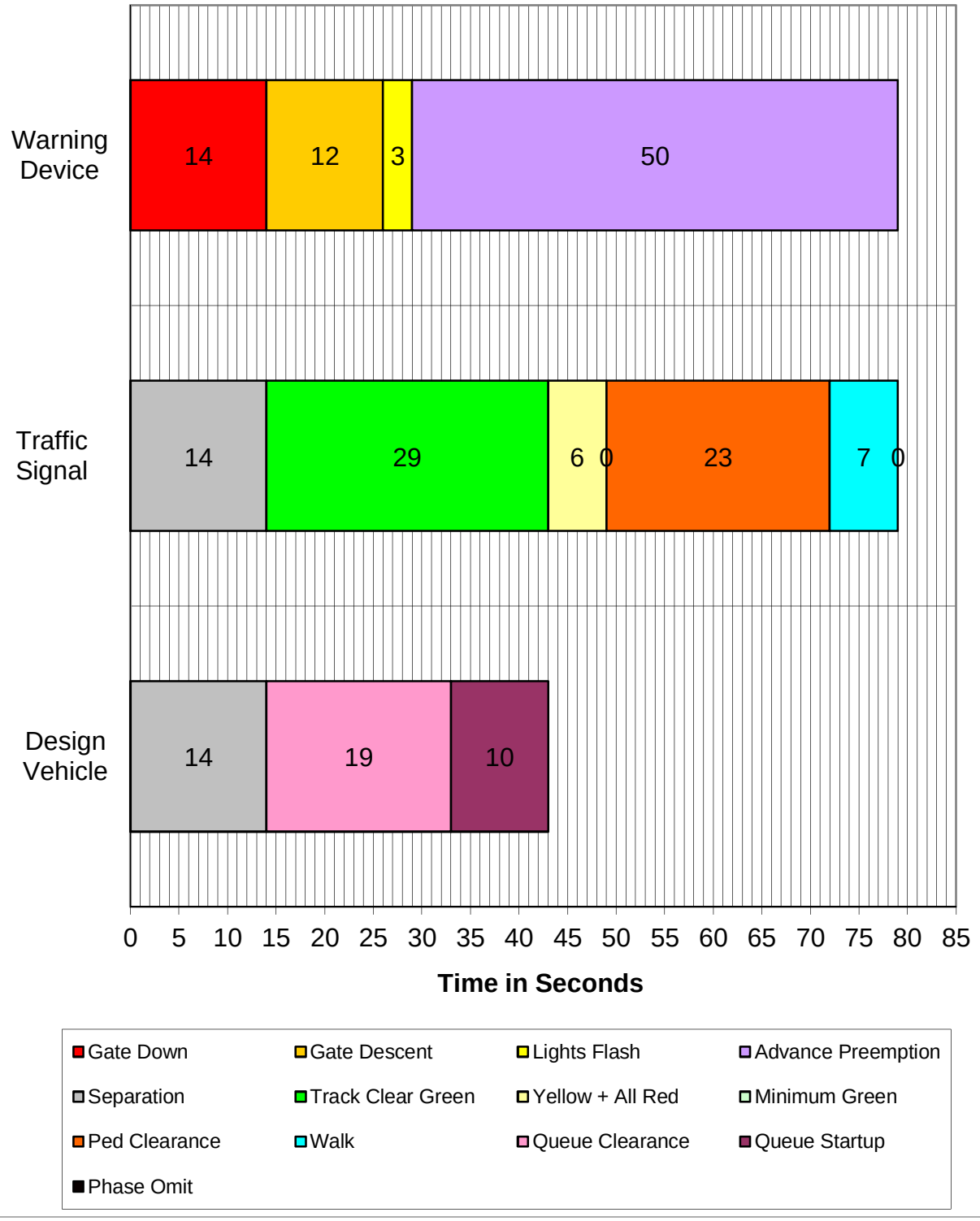
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	9	sec	9 sec minimum
Minimum Warning Time, MWT	**29**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**29**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**50**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**84**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5544**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Laurel Canyon	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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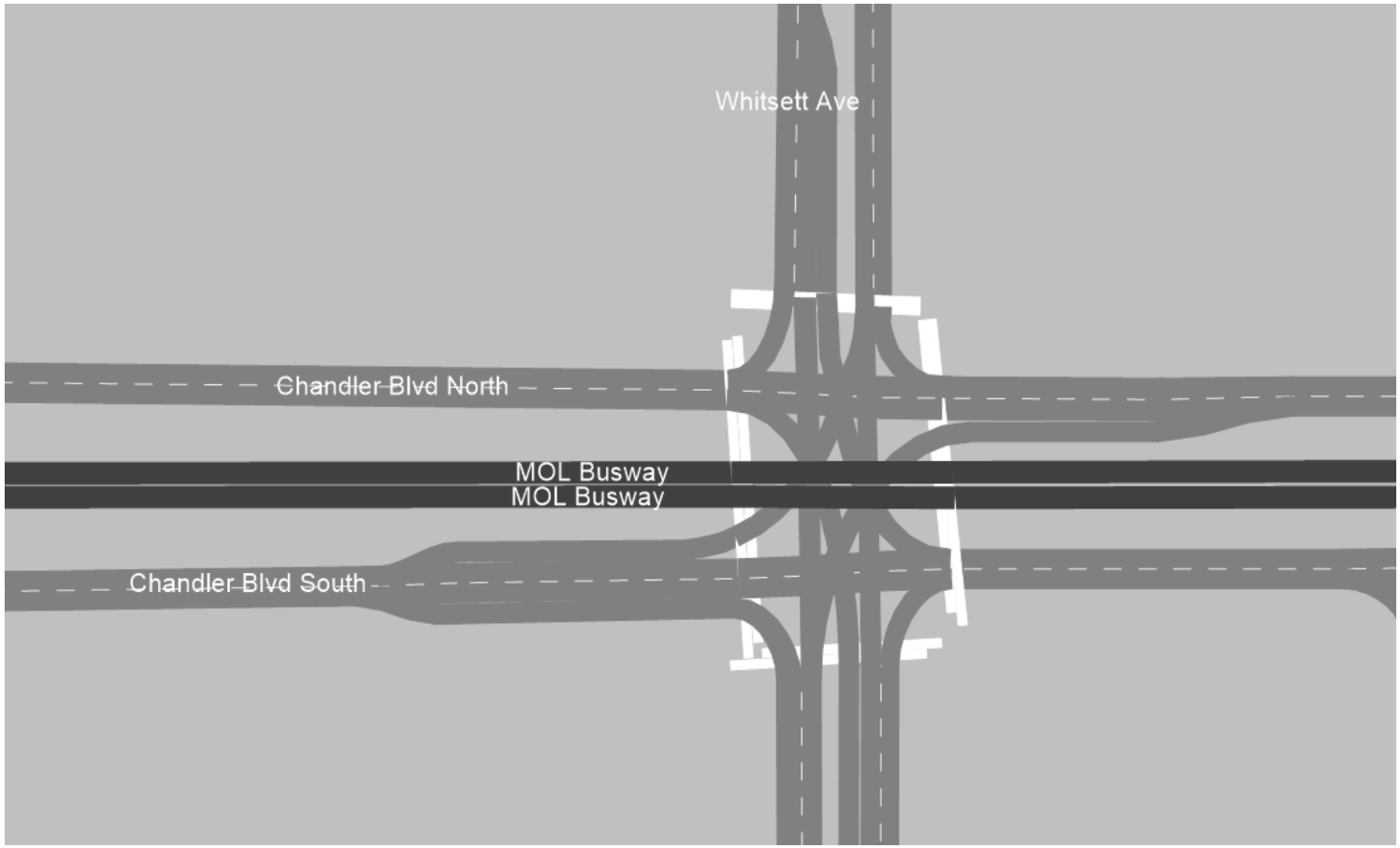
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 1: Chandler/Whitsett



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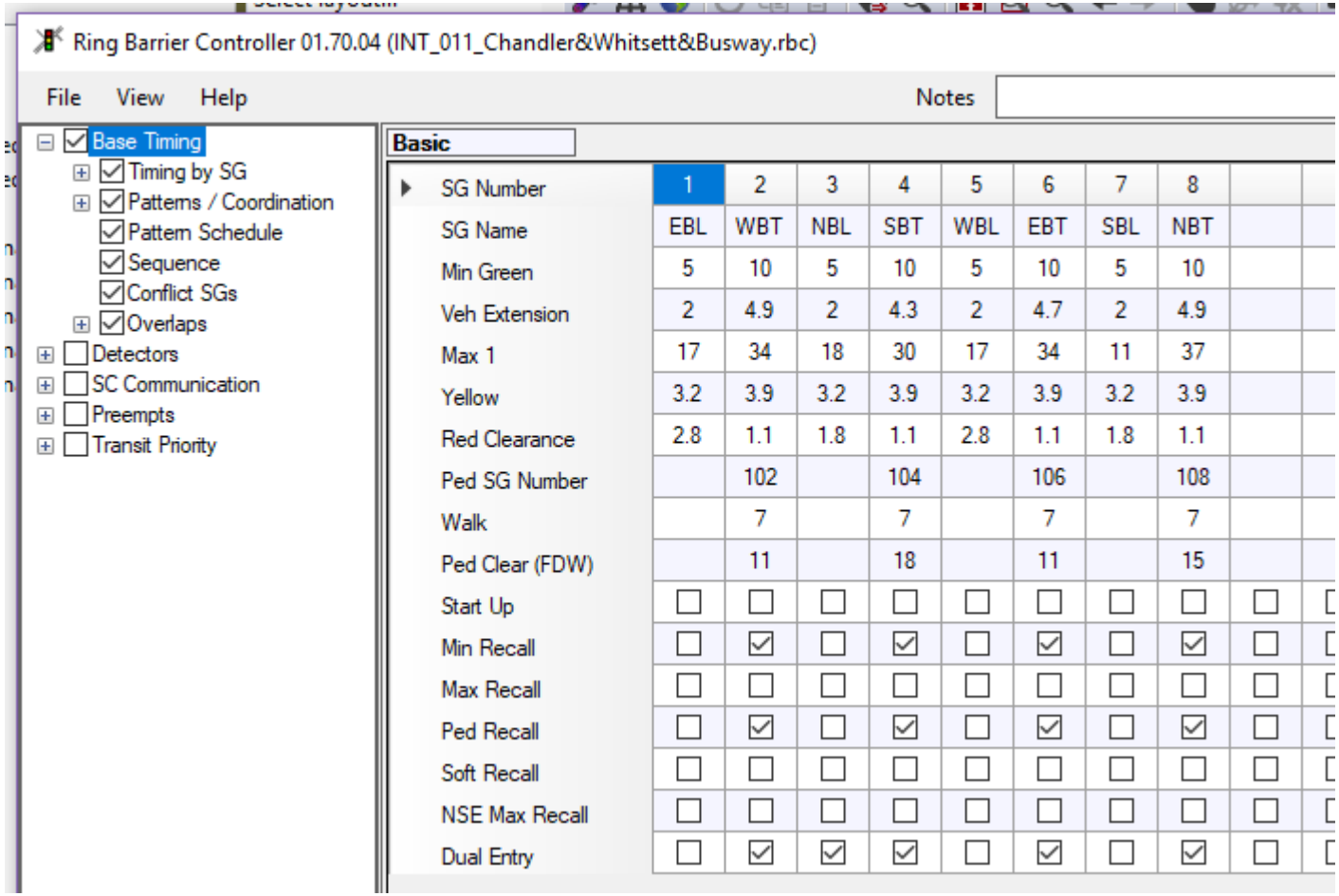
1) Basic Timing Inputs:



SG Number	1	2	3	4	5	6	7	8		
SG Name	EBL	WBT	NBL	SBT	WBL	EBT	SBL	NBT		
Min Green	5	10	5	10	5	10	5	10		
Veh Extension	2	4.9	2	4.3	2	4.7	2	4.9		
Max 1	17	34	18	30	17	34	11	37		
Yellow	3.2	3.9	3.2	3.9	3.2	3.9	3.2	3.9		
Red Clearance	2.8	1.1	1.8	1.1	2.8	1.1	1.8	1.1		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		11		18		11		15		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Min Recall	☐	☑	☐	☑	☐	☑	☐	☑	☐	
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Ped Recall	☐	☑	☐	☑	☐	☑	☐	☑	☐	
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Dual Entry	☐	☑	☑	☑	☐	☑	☐	☑	☐	

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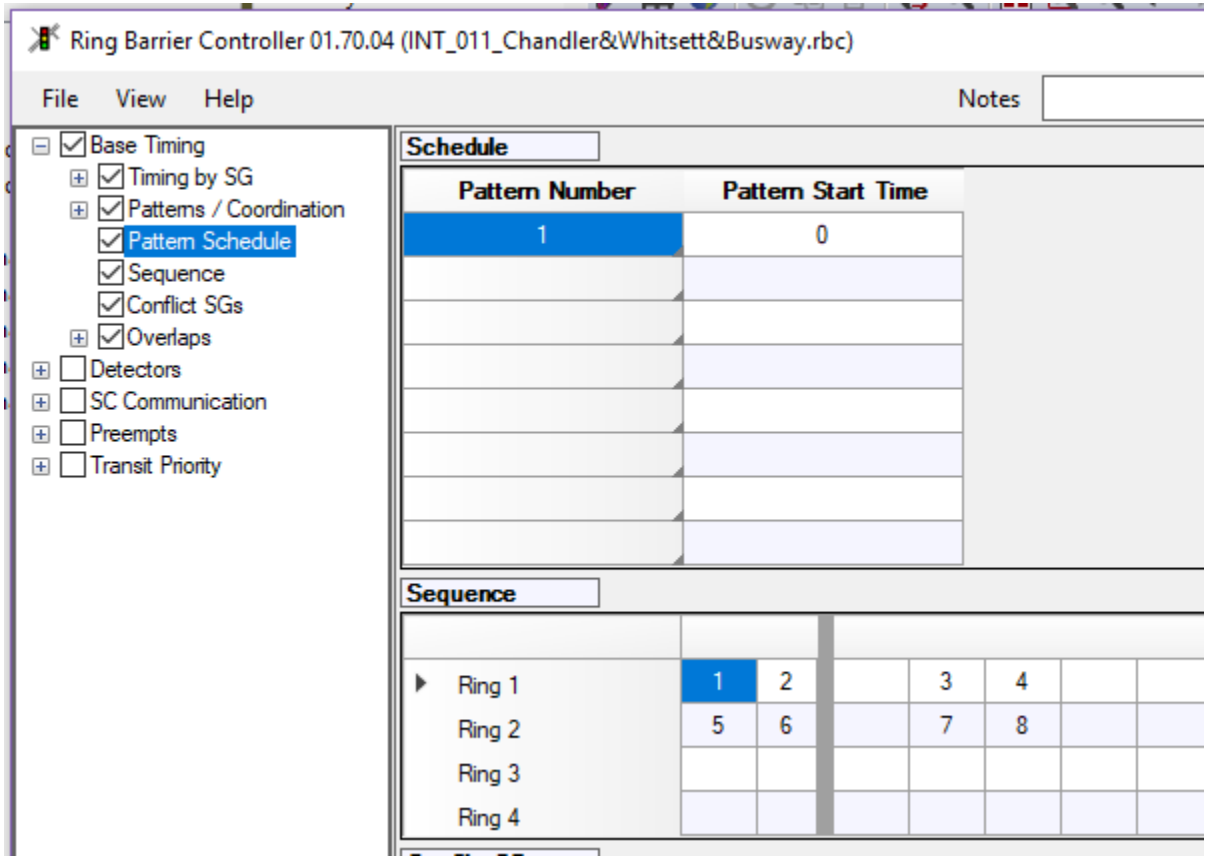
2) Pattern Number and Sequence Inputs:



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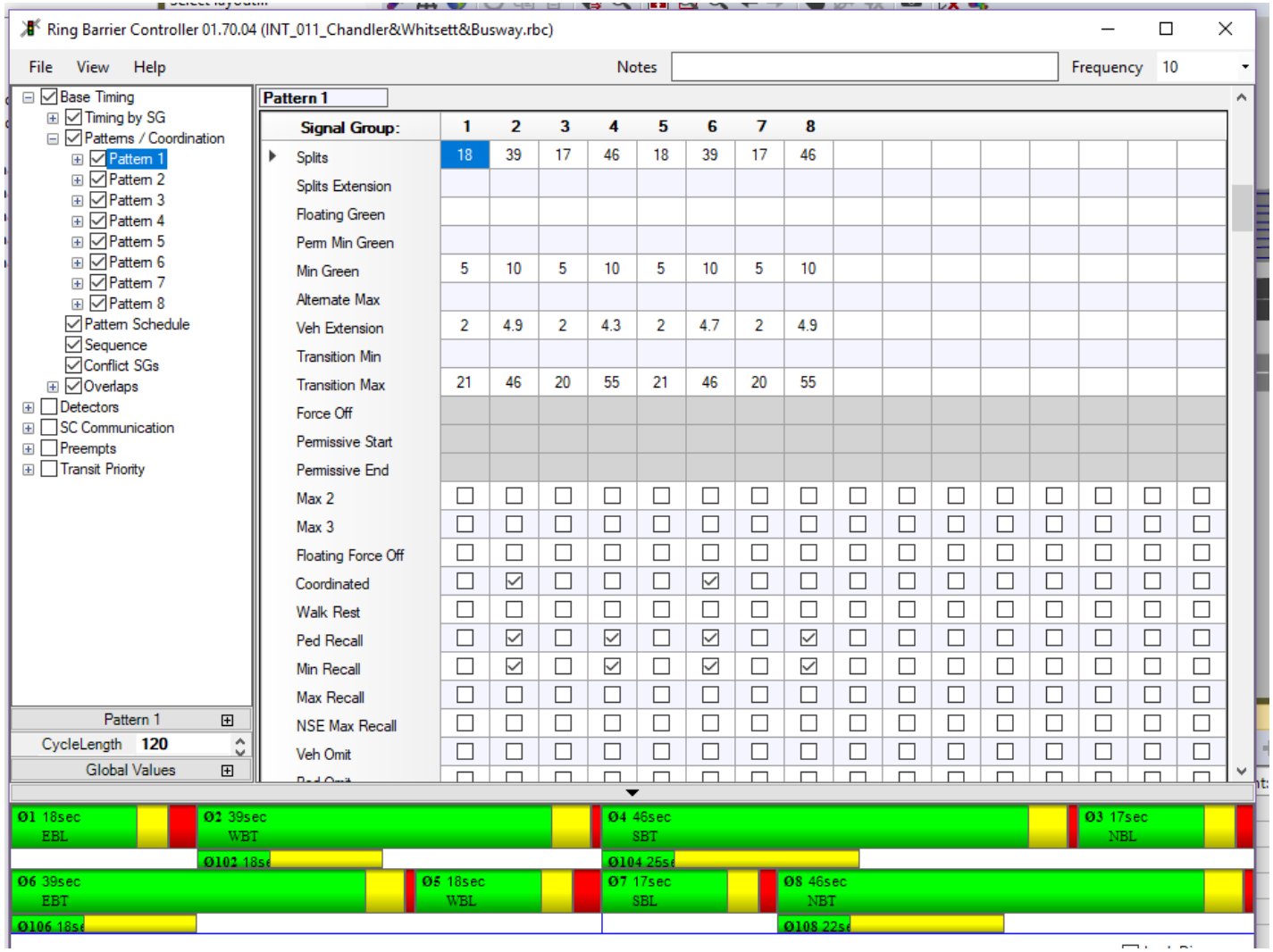
3) Pattern (Coordination Plan) Timing Inputs:



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4) Overlap Inputs:

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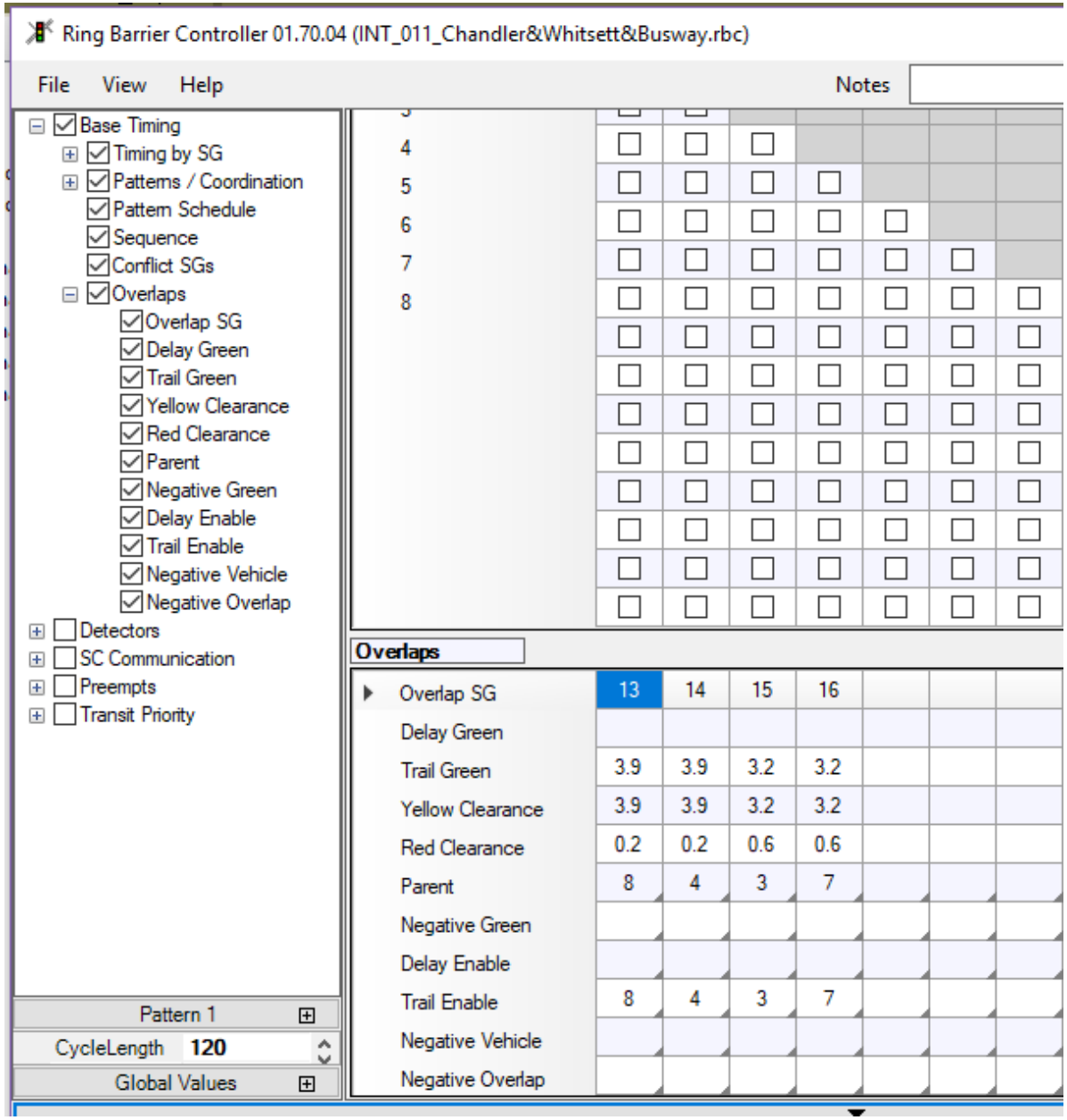

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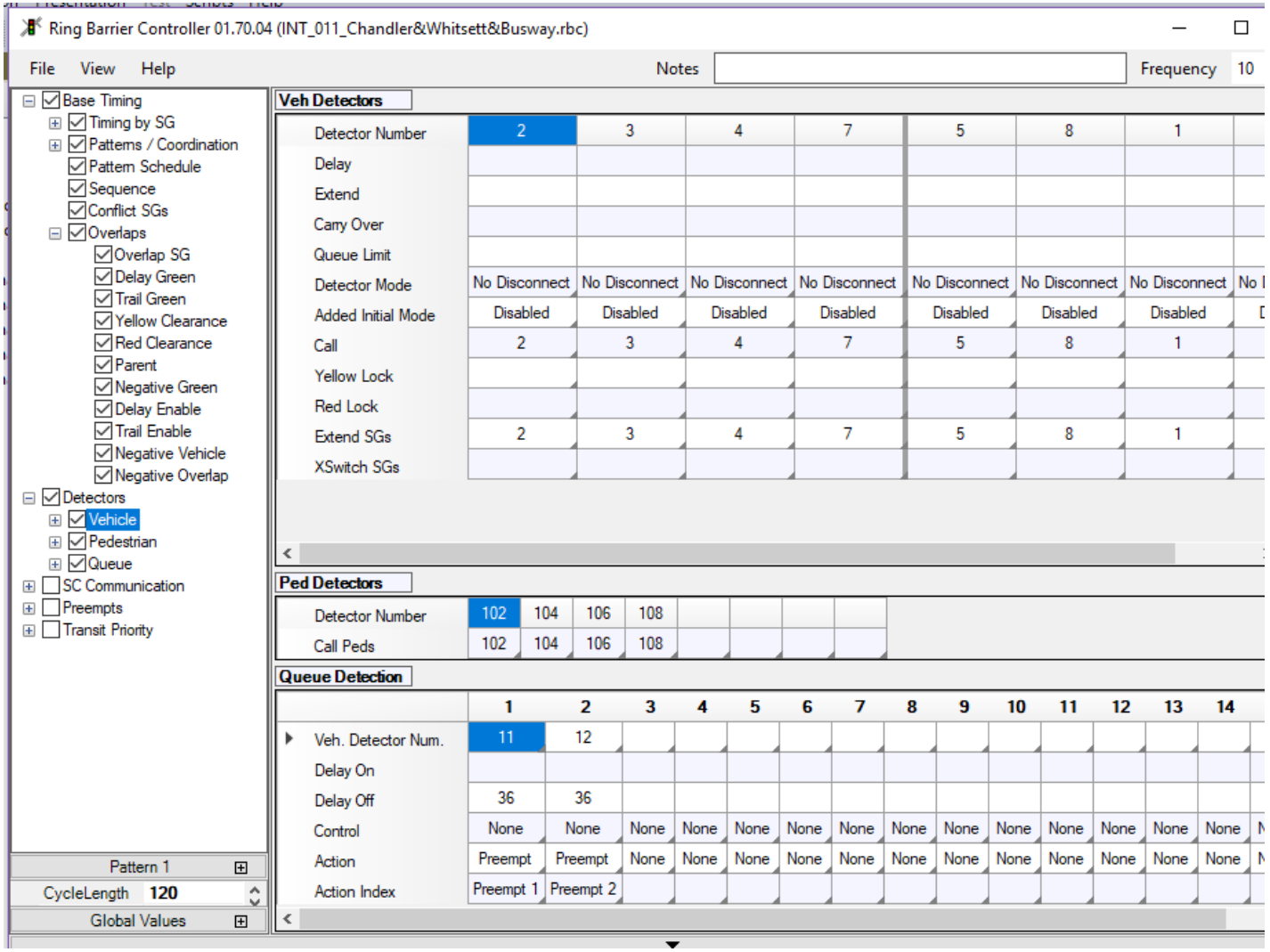
5) Detector Inputs:



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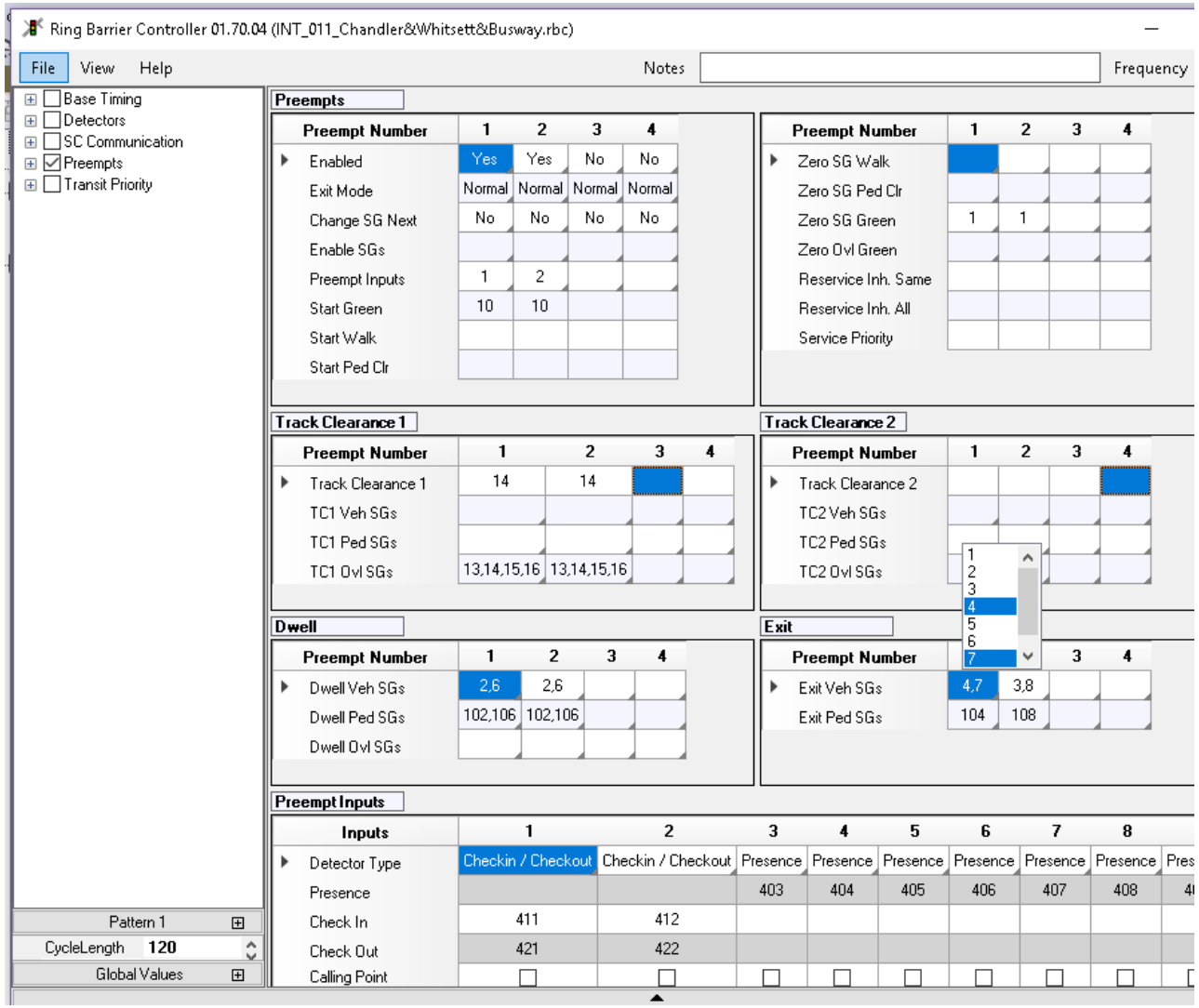
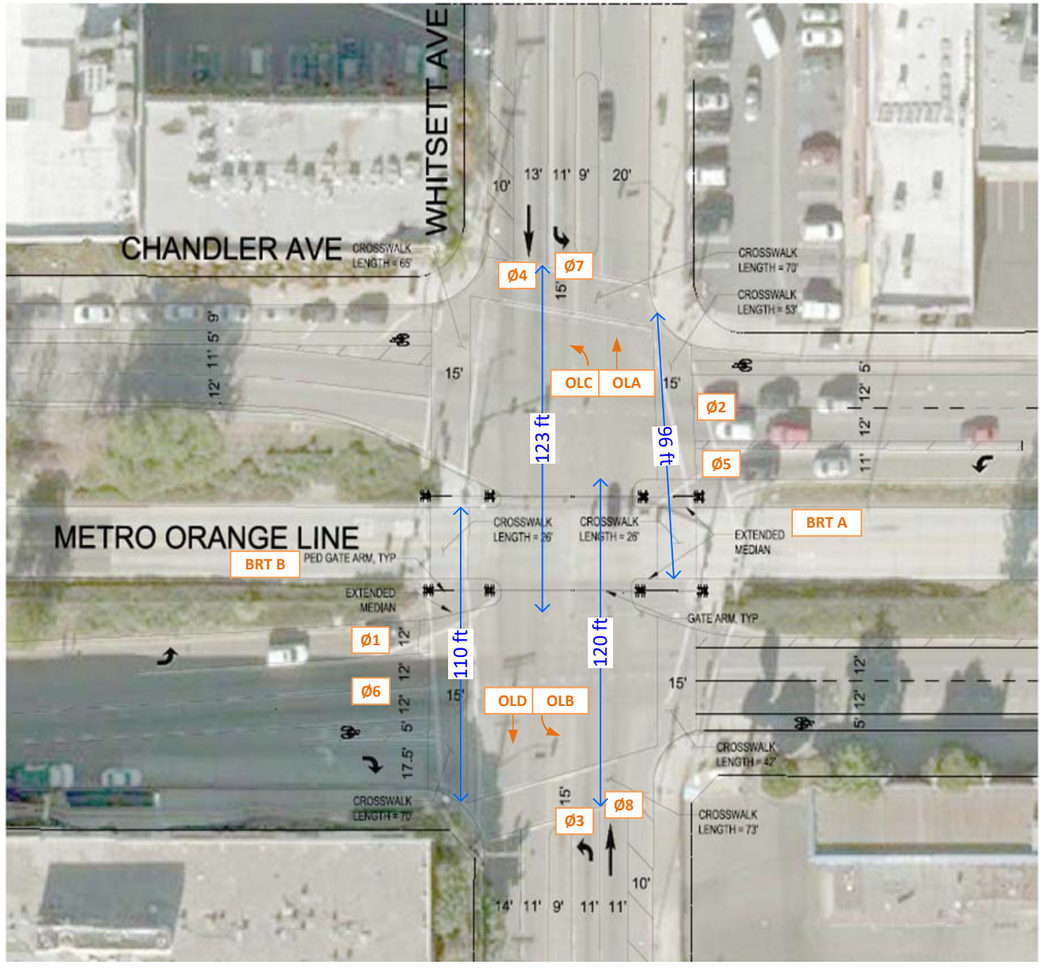
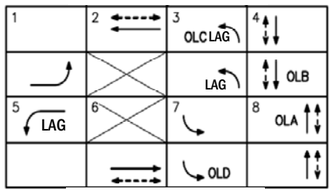
6) Preempt Inputs:



Gate Concept Design



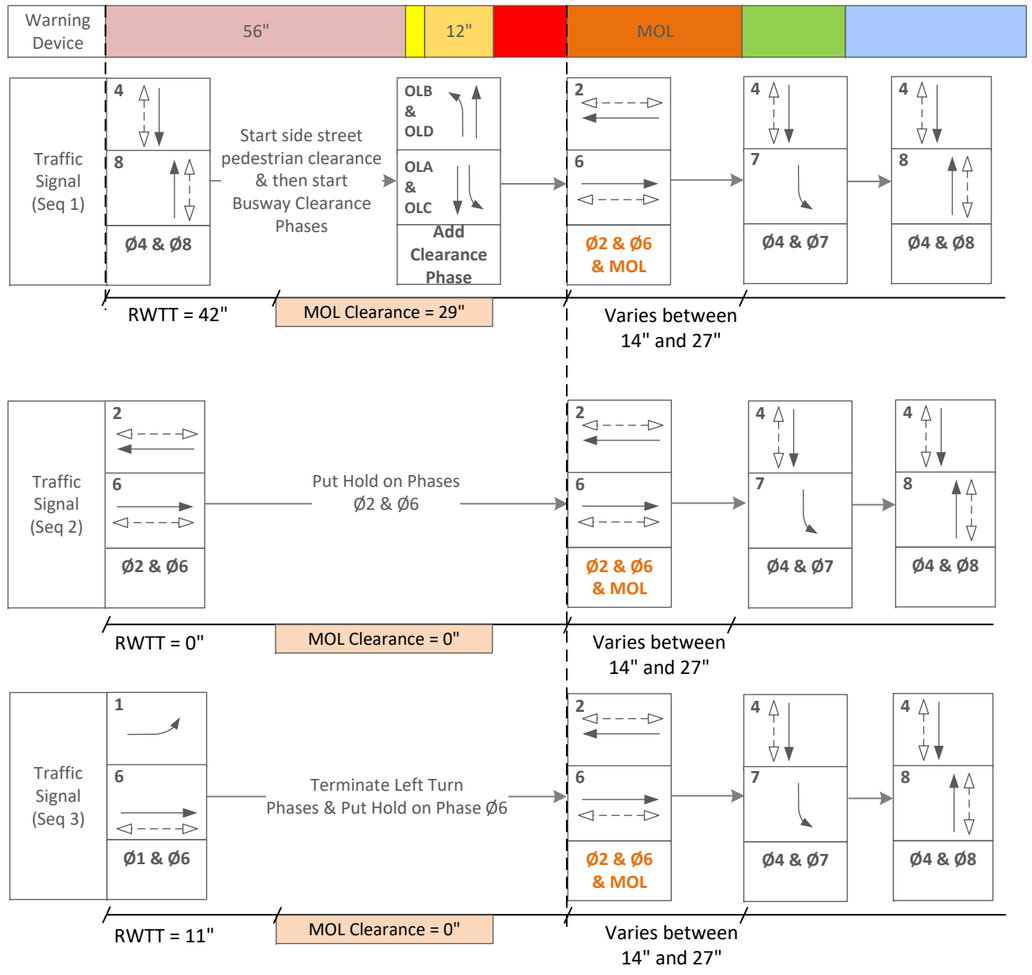
Future with Gates Phasing Diagram



OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 5
Chandler Boulevard and Whitsett Avenue

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Whitsett	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	123 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**123** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.6	8.4	7.0	15.2	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**8.1**	**9.5**	**8.1**	**19.0**	**19**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**29** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	28 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	7.0 sec		
Maximum RWTT	**42** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**85** sec	*for actual Separation Time*	

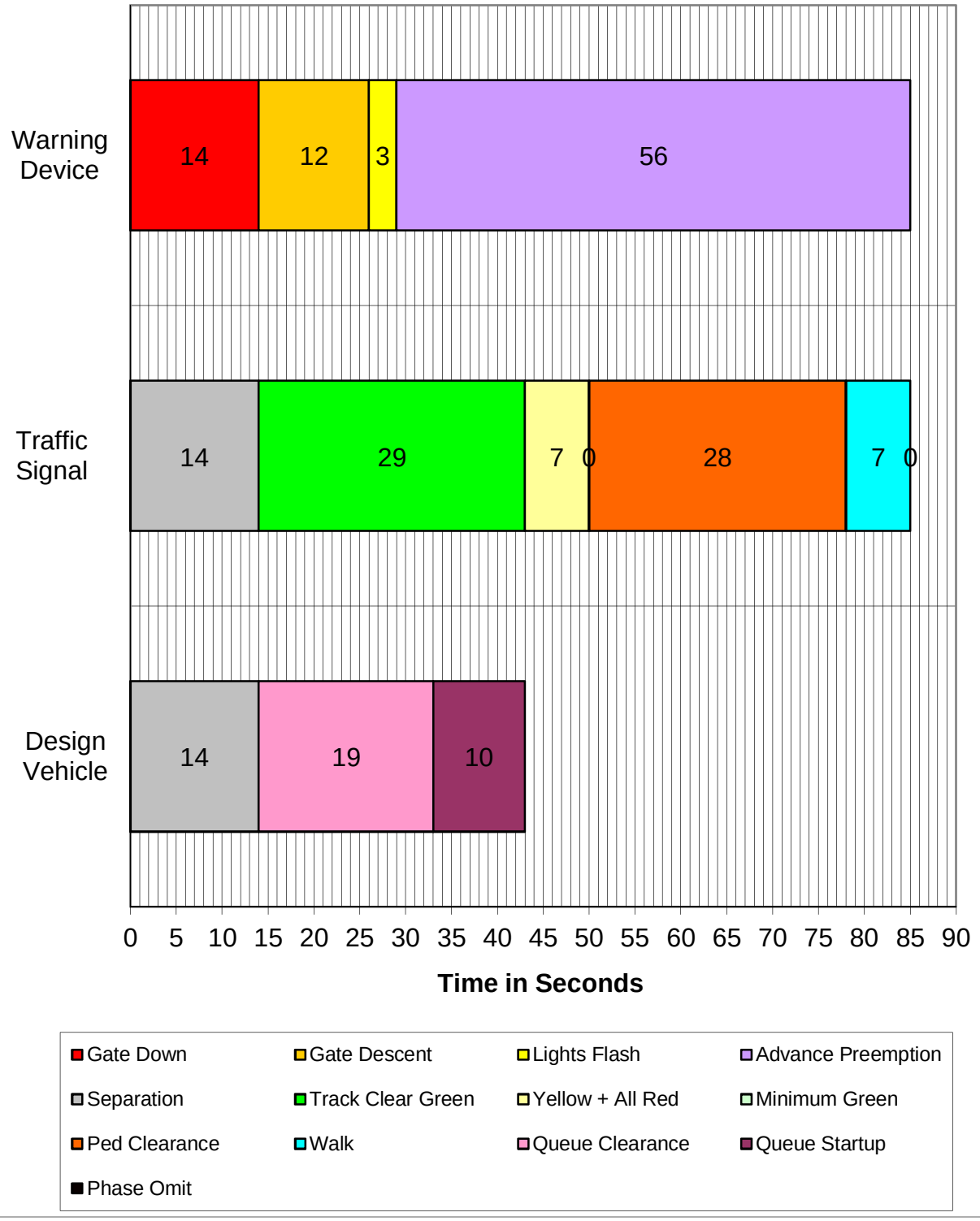
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	9 sec	9 sec minimum
Minimum Warning Time, MWT	**29** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**29** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**56** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**90** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**5940** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Whitsett	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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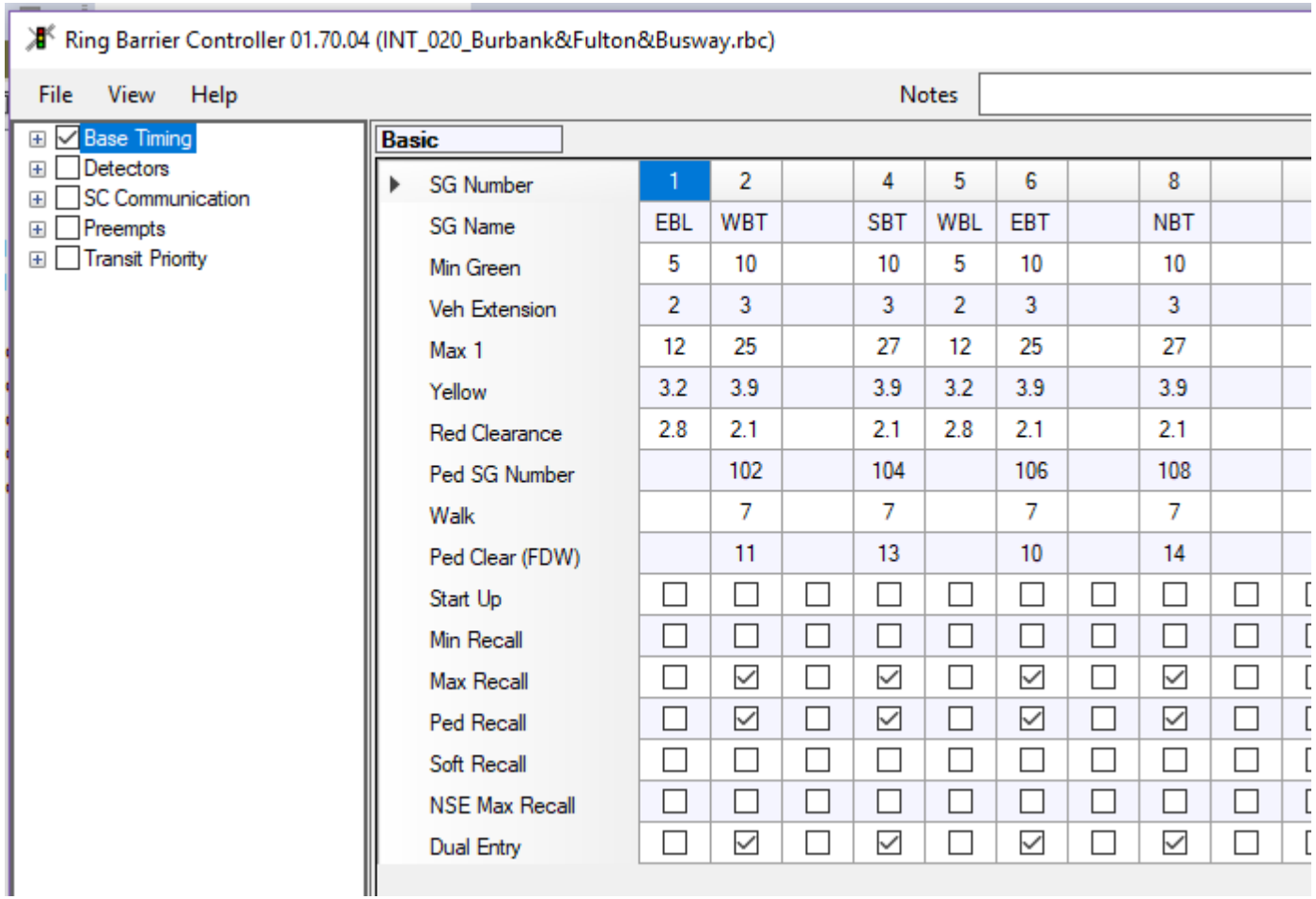
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 3: Burbank/Fulton

1) Basic Timing Inputs:



SG Number	1	2		4	5	6		8		
SG Name	EBL	WBT		SBT	WBL	EBT		NBT		
Min Green	5	10		10	5	10		10		
Veh Extension	2	3		3	2	3		3		
Max 1	12	25		27	12	25		27		
Yellow	3.2	3.9		3.9	3.2	3.9		3.9		
Red Clearance	2.8	2.1		2.1	2.8	2.1		2.1		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		11		13		10		14		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Min Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Max Recall	☐	☑	☐	☑	☐	☑	☐	☑	☐	
Ped Recall	☐	☑	☐	☑	☐	☑	☐	☑	☐	
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Dual Entry	☐	☑	☐	☑	☐	☑	☐	☑	☐	

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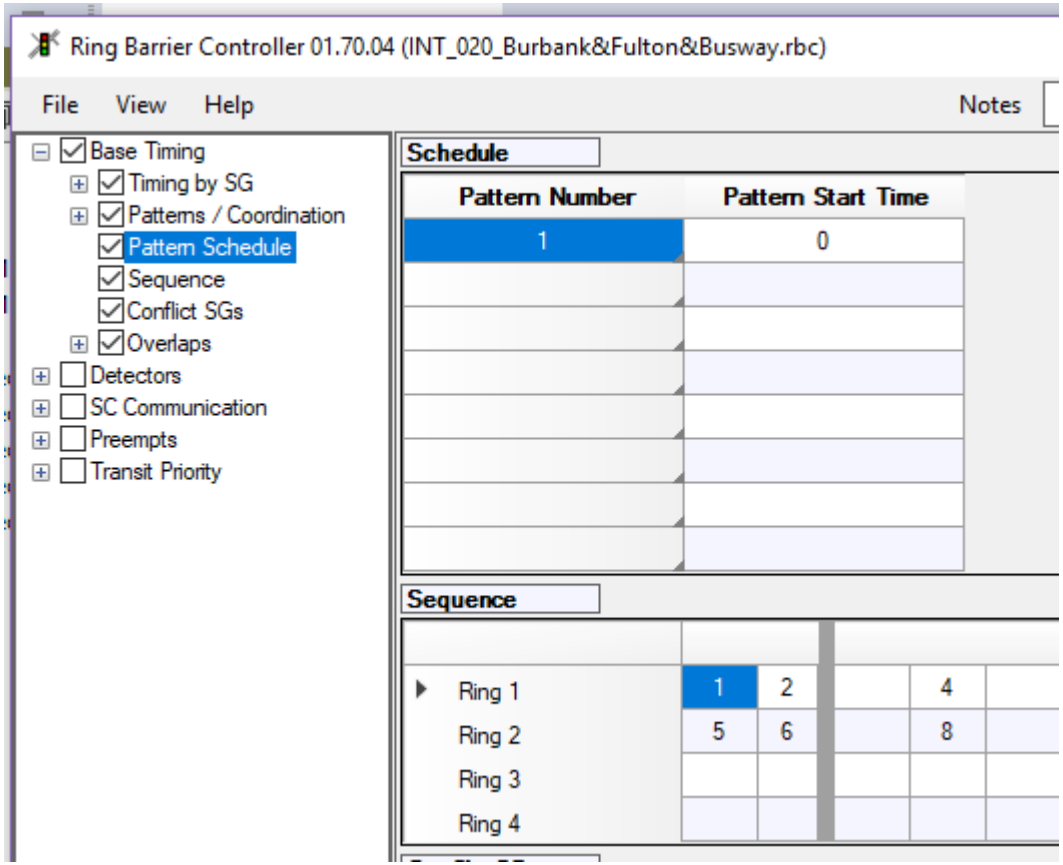
2) Pattern Number and Sequence Inputs:



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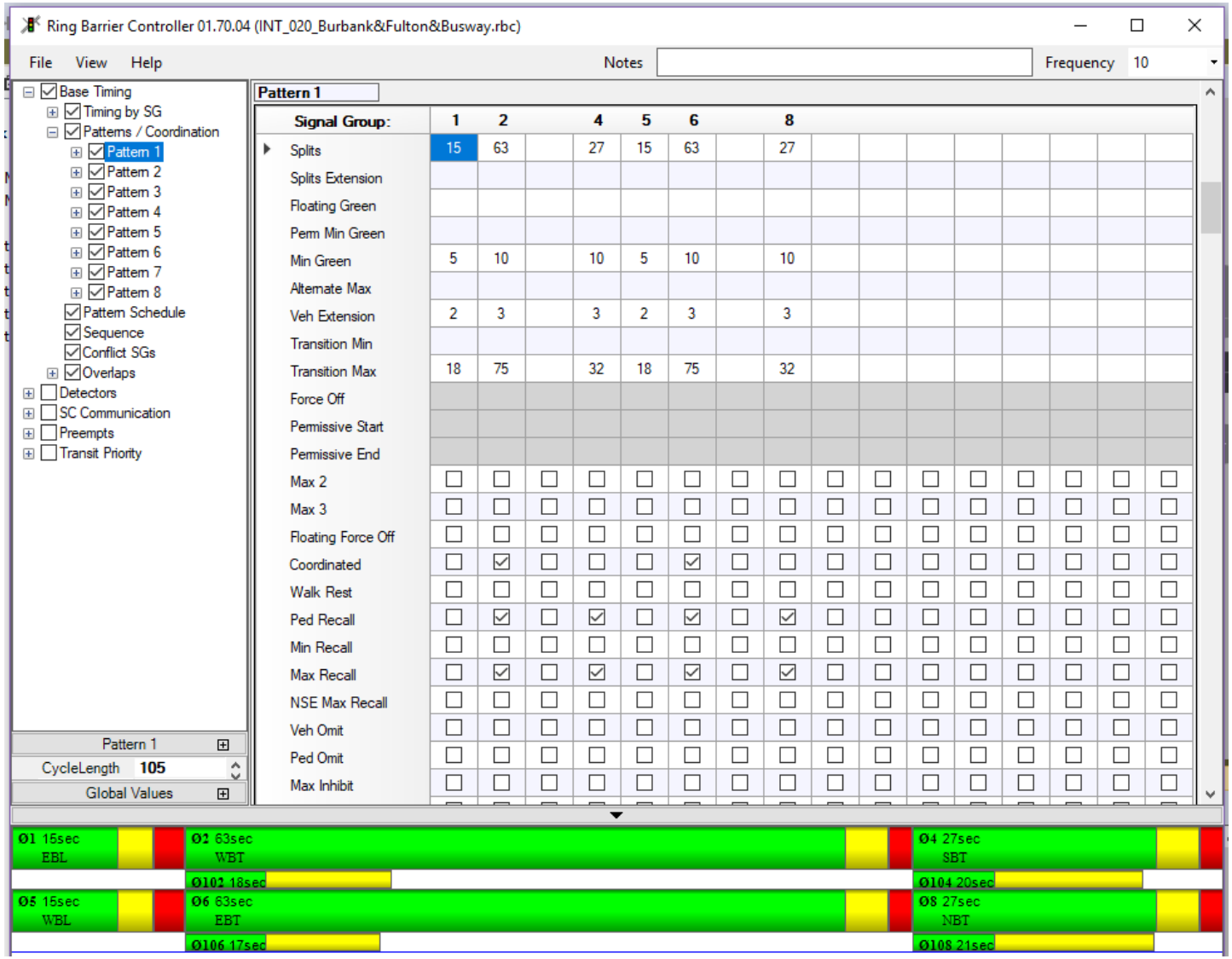
3) Pattern (Coordination Plan) Timing Inputs:



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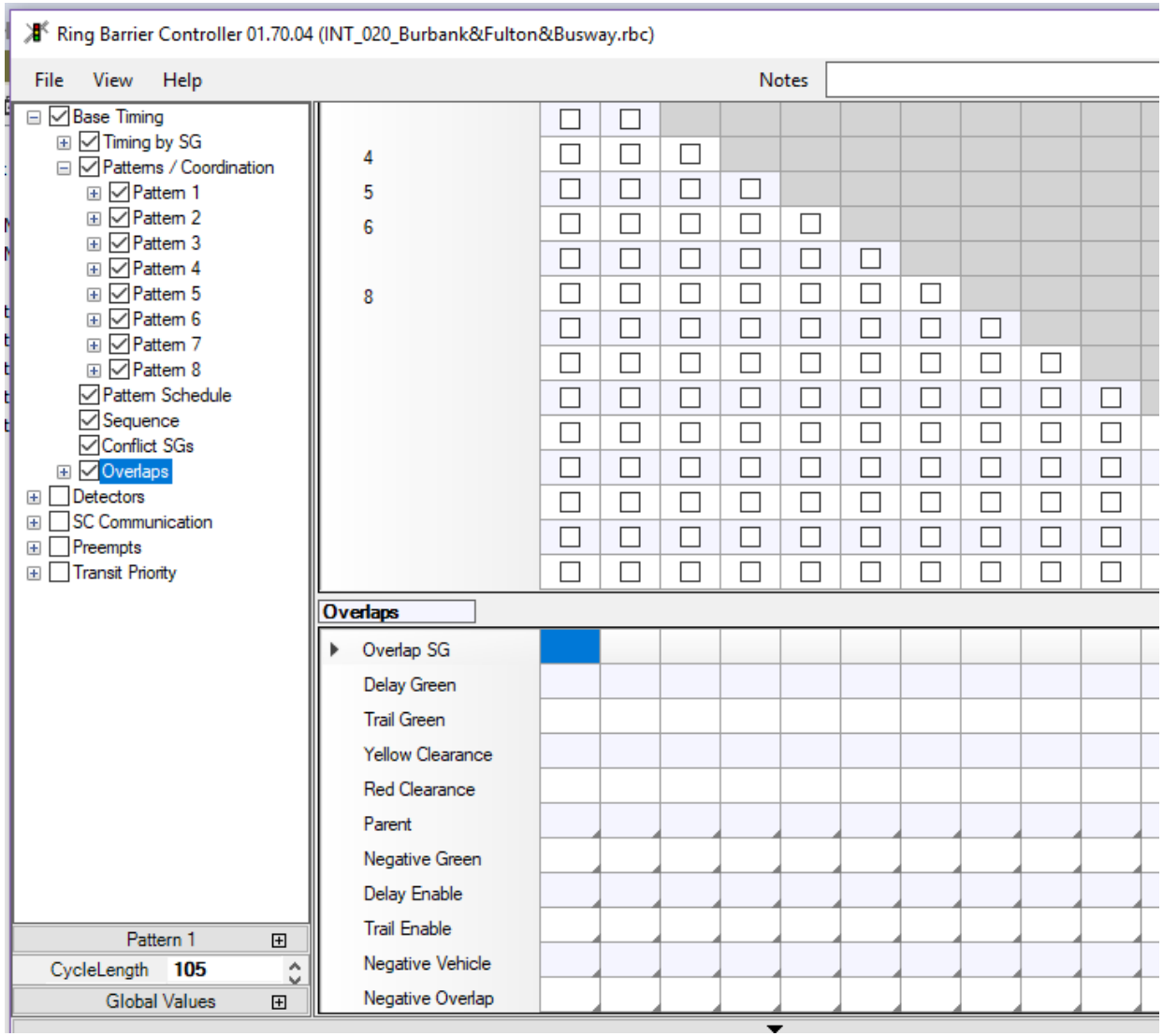
4) Overlap Inputs:



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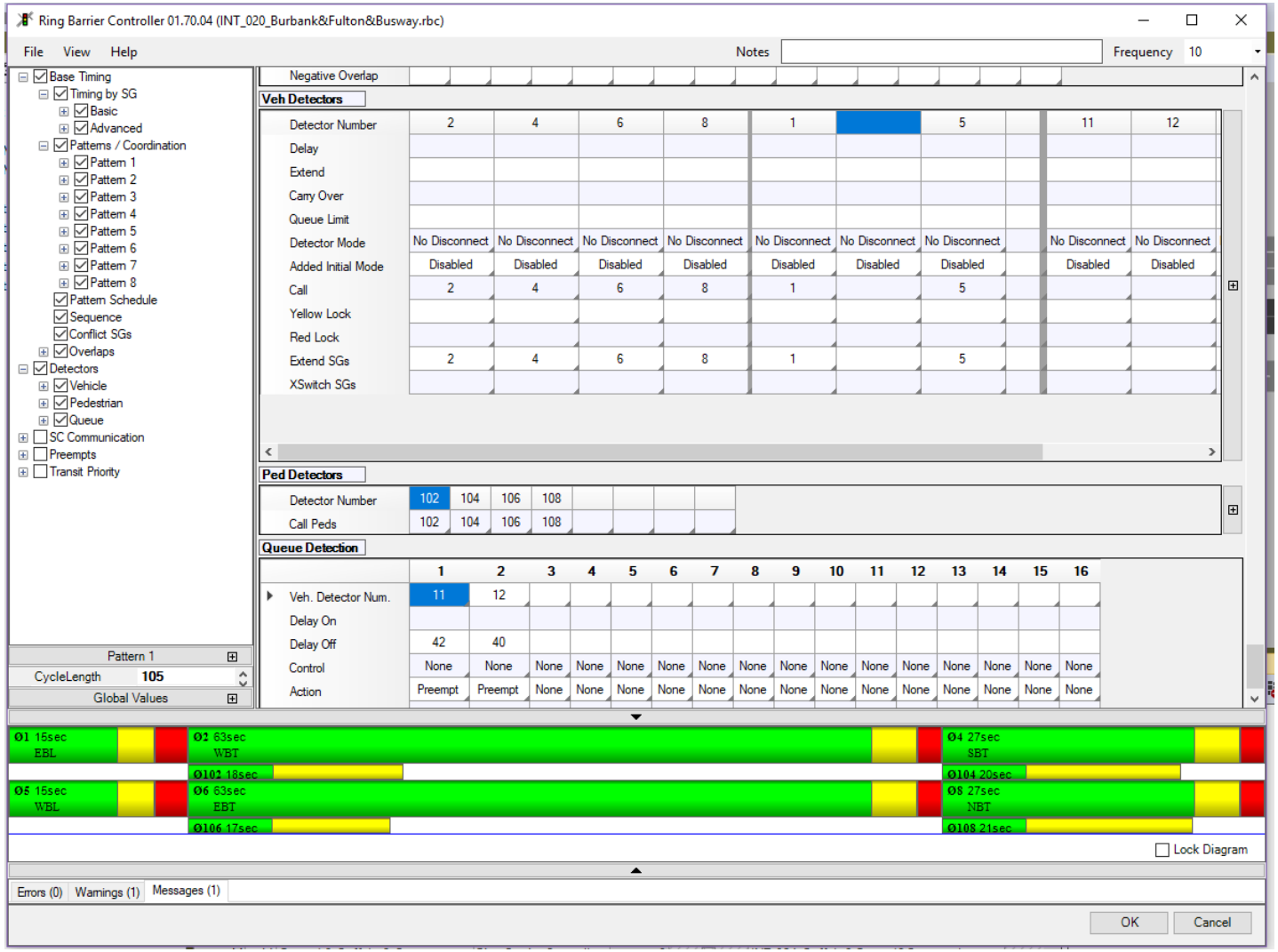
5) Detector Inputs:



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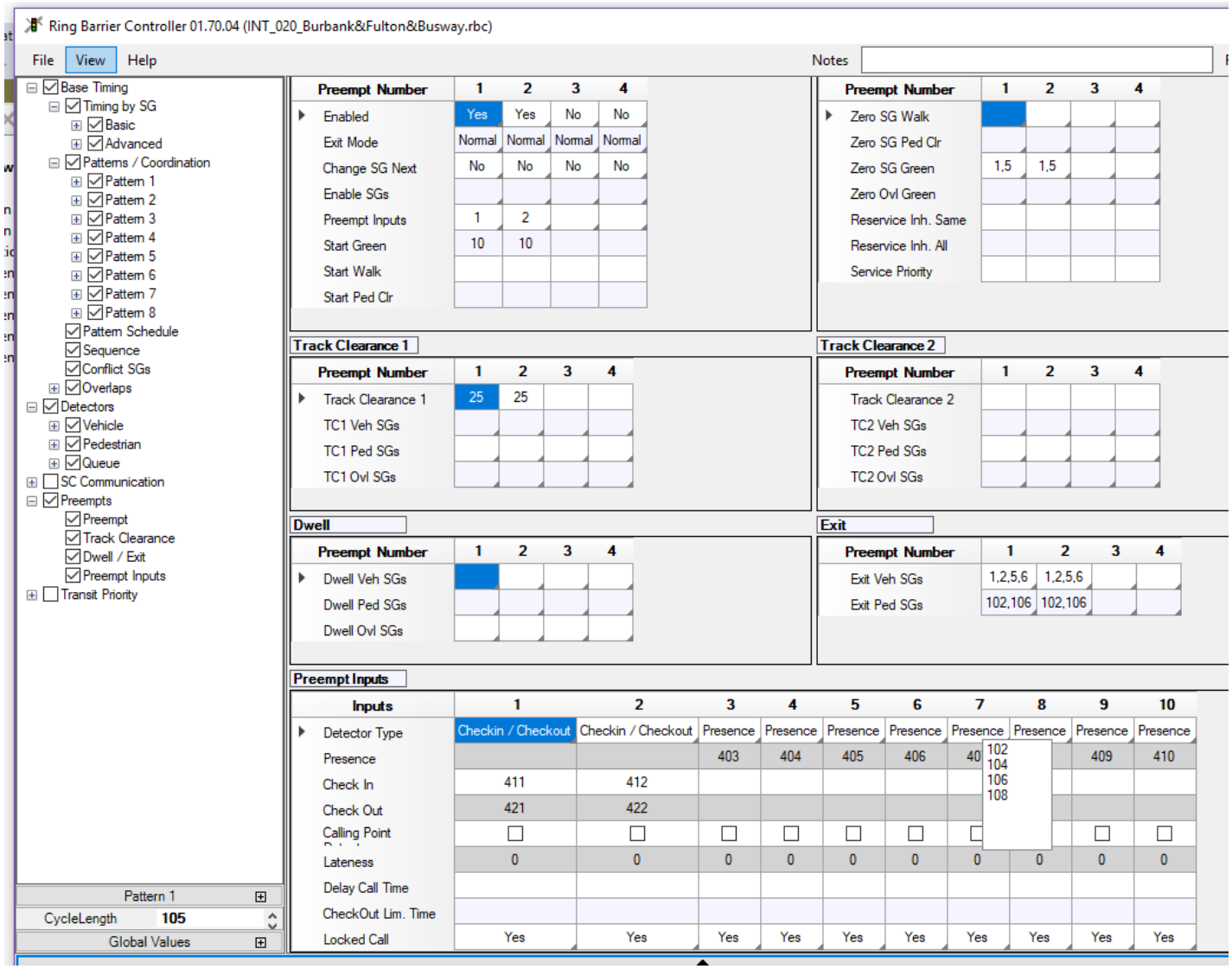
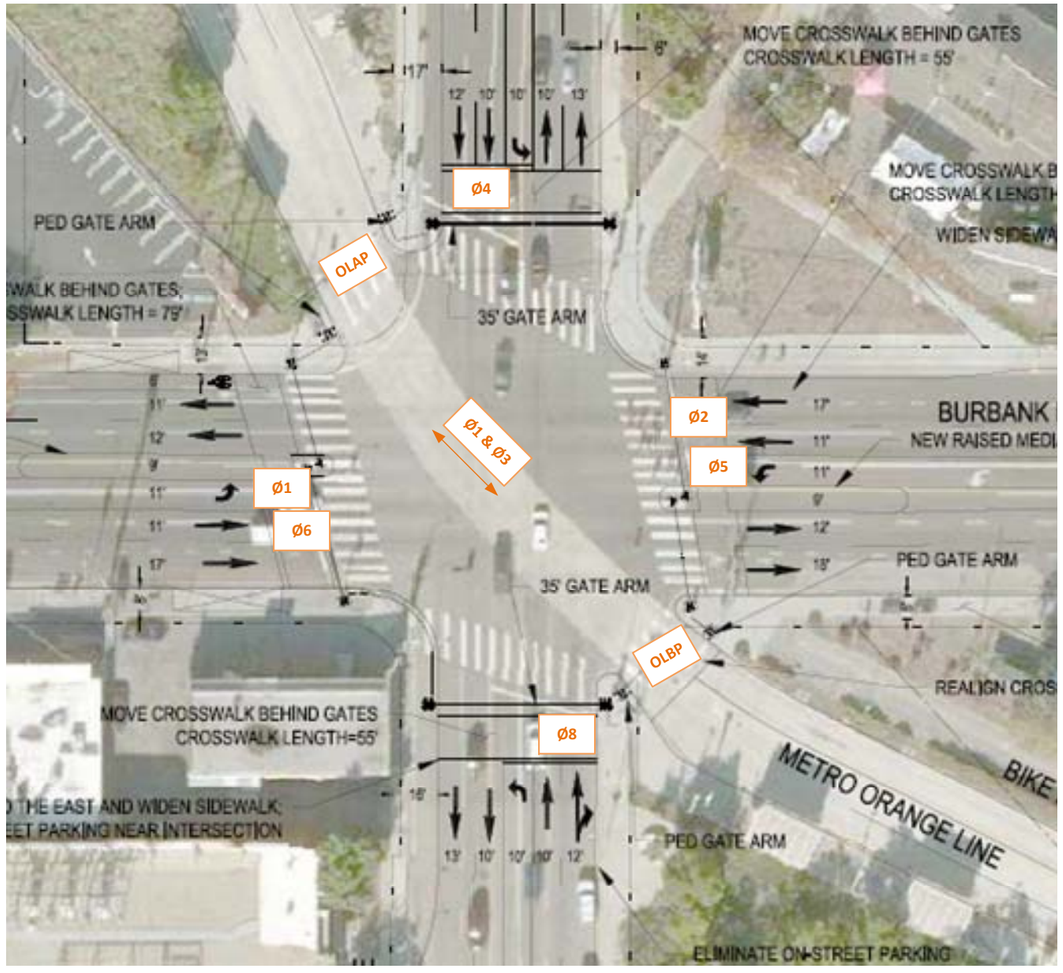
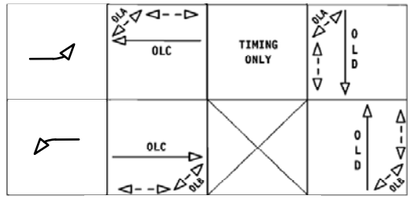
6) Preempt Inputs:



Gate Concept Design

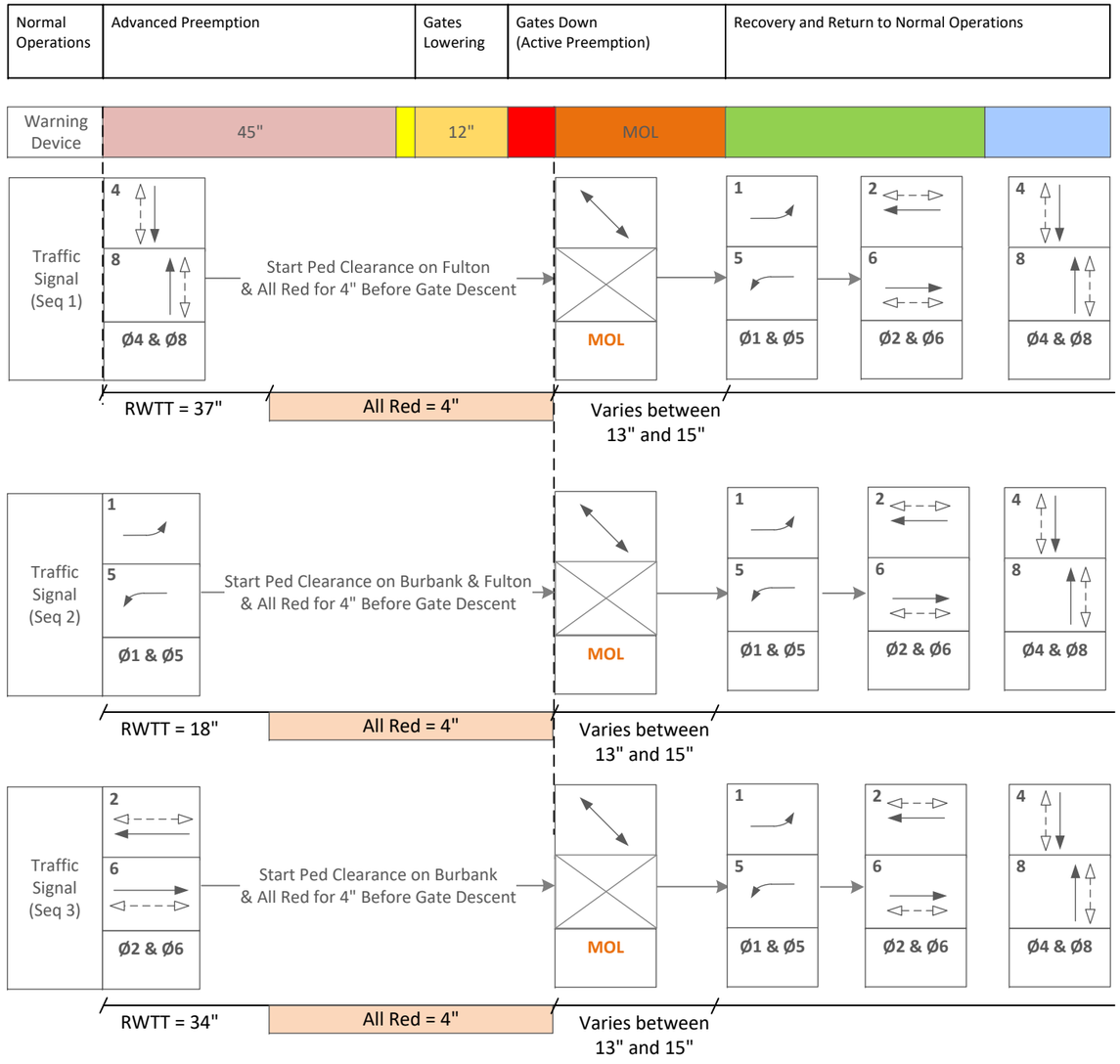


Future with Gates Phasing Diagram



OLAP: Ø2 & Ø4
OLBP: Ø6 & Ø8
OLC: Ø2 & Ø6
OLD: Ø4 & Ø8

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 10
Burbank Boulevard and Fulton Avenue

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Fulton	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	20	ft	Grade	0.0 %
Clear Storage Distance, CSD	0	ft		
Length, L	**20**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	0	0	0	0	
Start moving last vehicle in L (sec)	**2.5**	**2.5**	**2.7**	**4.0**	**4**
Move front of vehicle thru L (sec)	2.8	3.1	2.6	5.9	6
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**3.8**	**5.1**	**4.8**	**12.6**	**13**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**23**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**17**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	21	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	9.0	sec	
Maximum RWTT	**37**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**65**	sec	*for actual Separation Time*

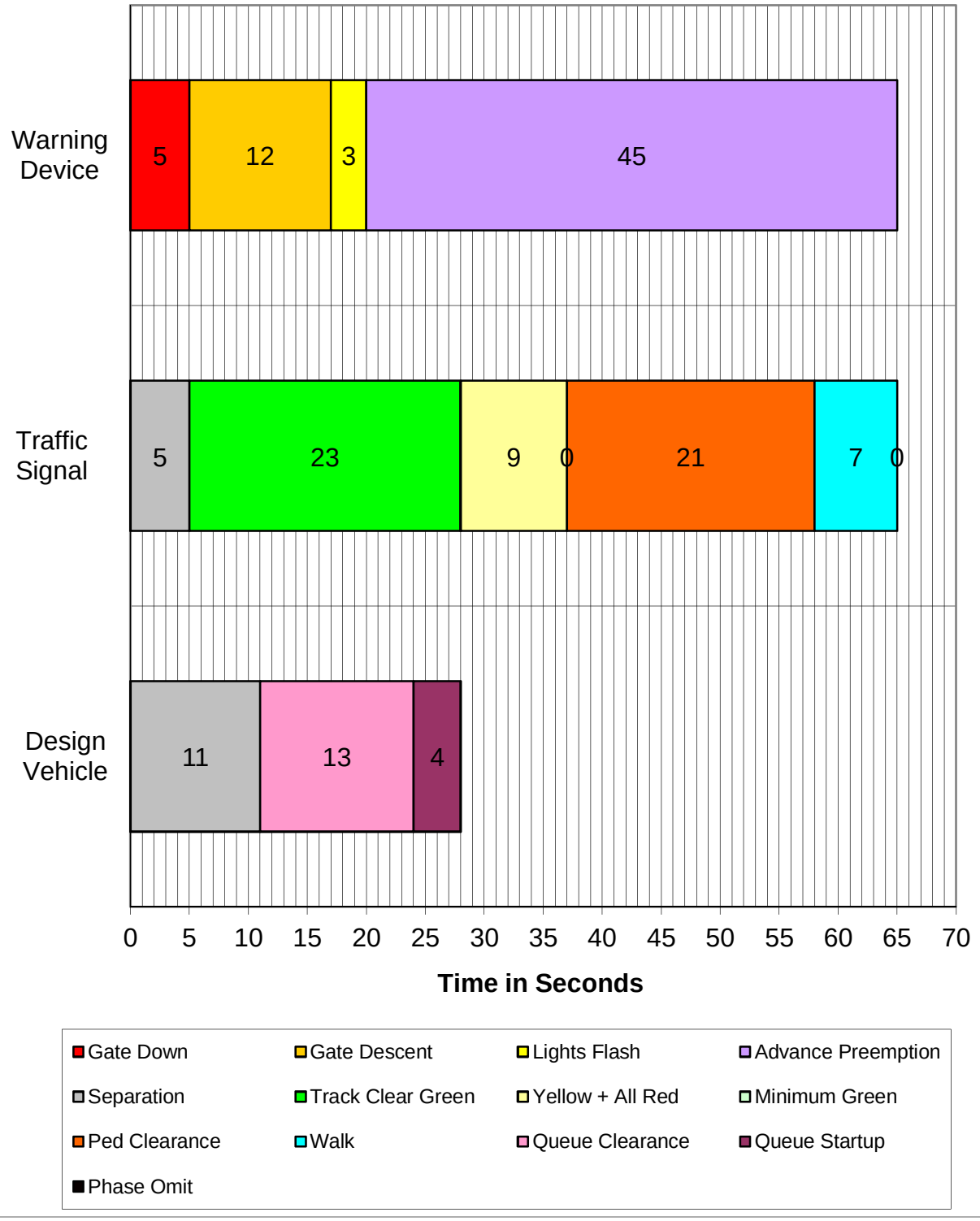
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	0	sec	0 sec minimum
Minimum Warning Time, MWT	**20**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**20**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**45**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**70**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4620**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Fulton	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

25-2, -3: Reseda/MOL Busway/Oxnard

- Basic timing inputs:
  - Change NBL YELLOW to 3.0
  - Check minimum recall phase 4 & 8, not phase 2 & 6
  - Ped recall phase 4 & 8
- Preempt inputs:
  - Comment: need to reflect railroad preemption form worksheet.
- Preemption form
  - Include vehicle-gate interaction check – change to YES

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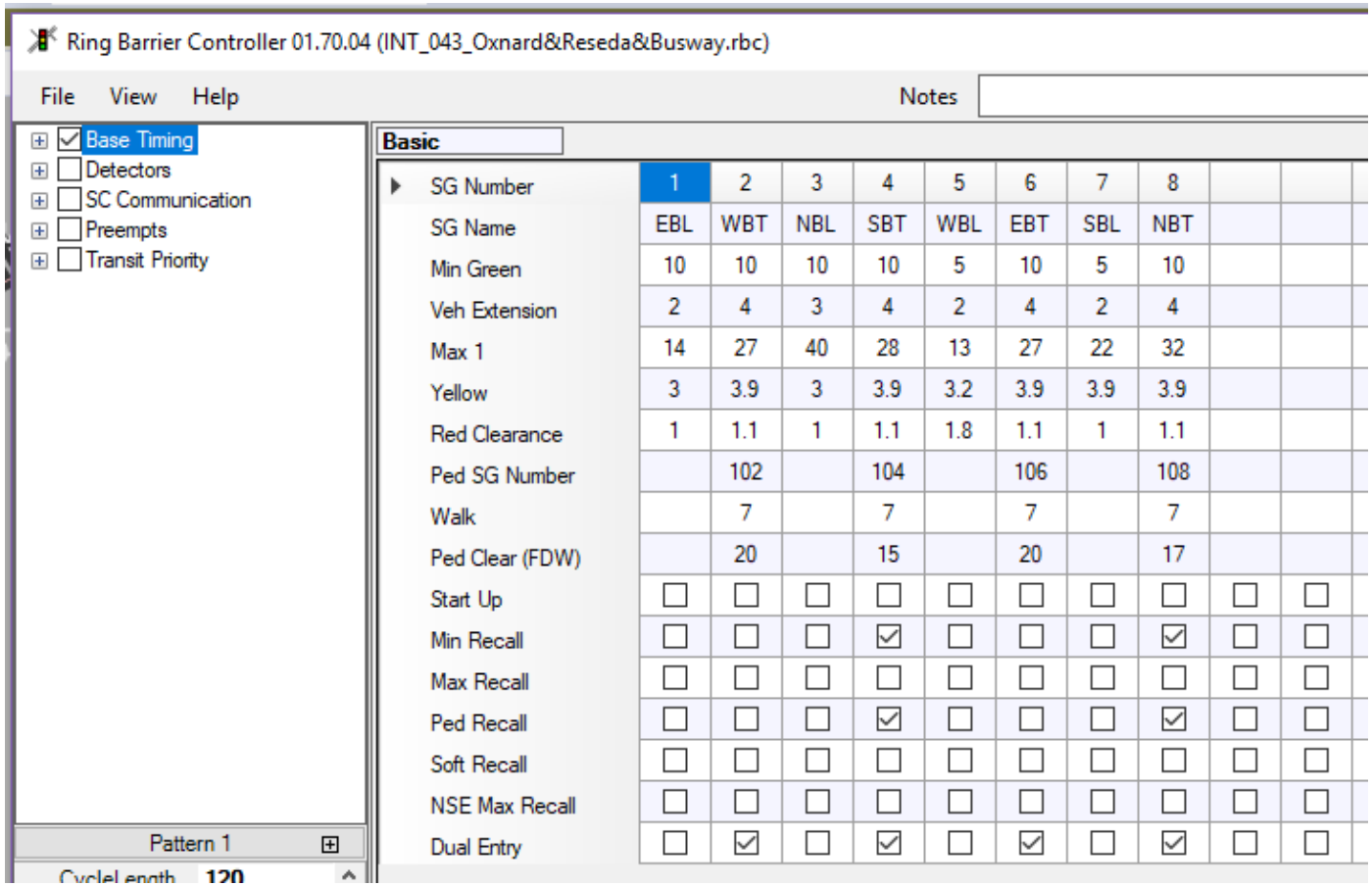
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 6: Reseda/Oxnard/Busway

1) Basic Timing Inputs:



SG Number	1	2	3	4	5	6	7	8		
SG Name	EBL	WBT	NBL	SBT	WBL	EBT	SBL	NBT		
Min Green	10	10	10	10	5	10	5	10		
Veh Extension	2	4	3	4	2	4	2	4		
Max 1	14	27	40	28	13	27	22	32		
Yellow	3	3.9	3	3.9	3.2	3.9	3.9	3.9		
Red Clearance	1	1.1	1	1.1	1.8	1.1	1	1.1		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		20		15		20		17		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Min Recall	☐	☐	☐	☑	☐	☐	☐	☑	☐	☐
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Recall	☐	☐	☐	☑	☐	☐	☐	☑	☐	☐
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dual Entry	☐	☑	☐	☑	☐	☑	☐	☑	☐	☐

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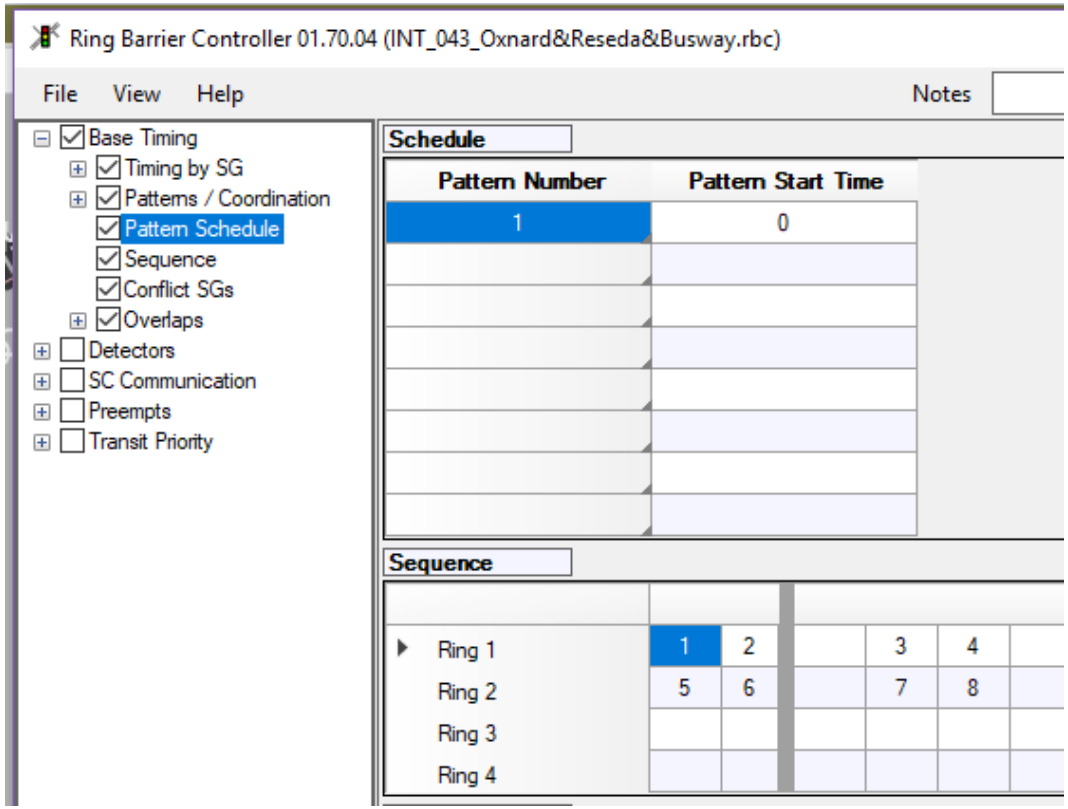
2) Pattern Number and Sequence Inputs:



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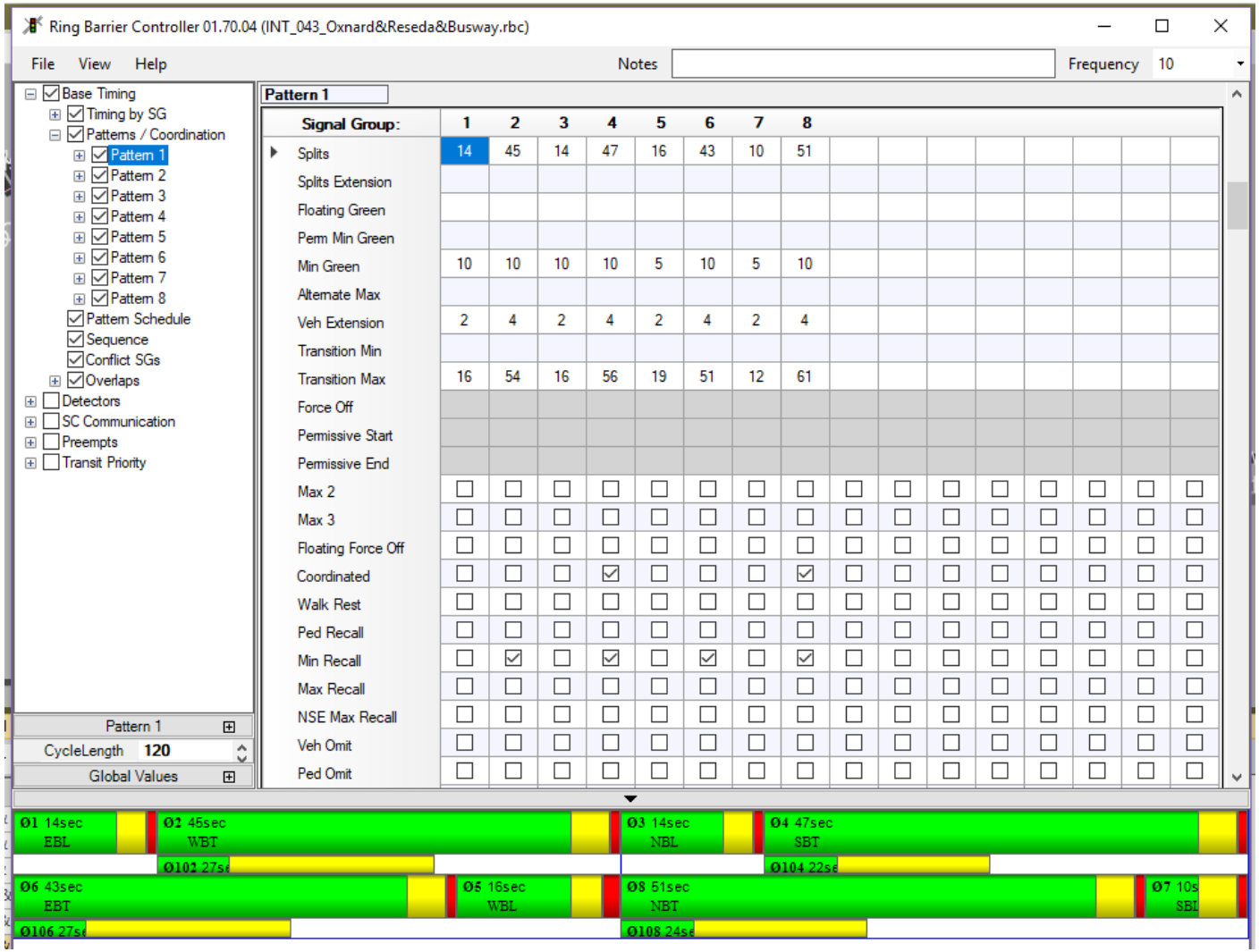
3) Pattern (Coordination Plan) Timing Inputs:



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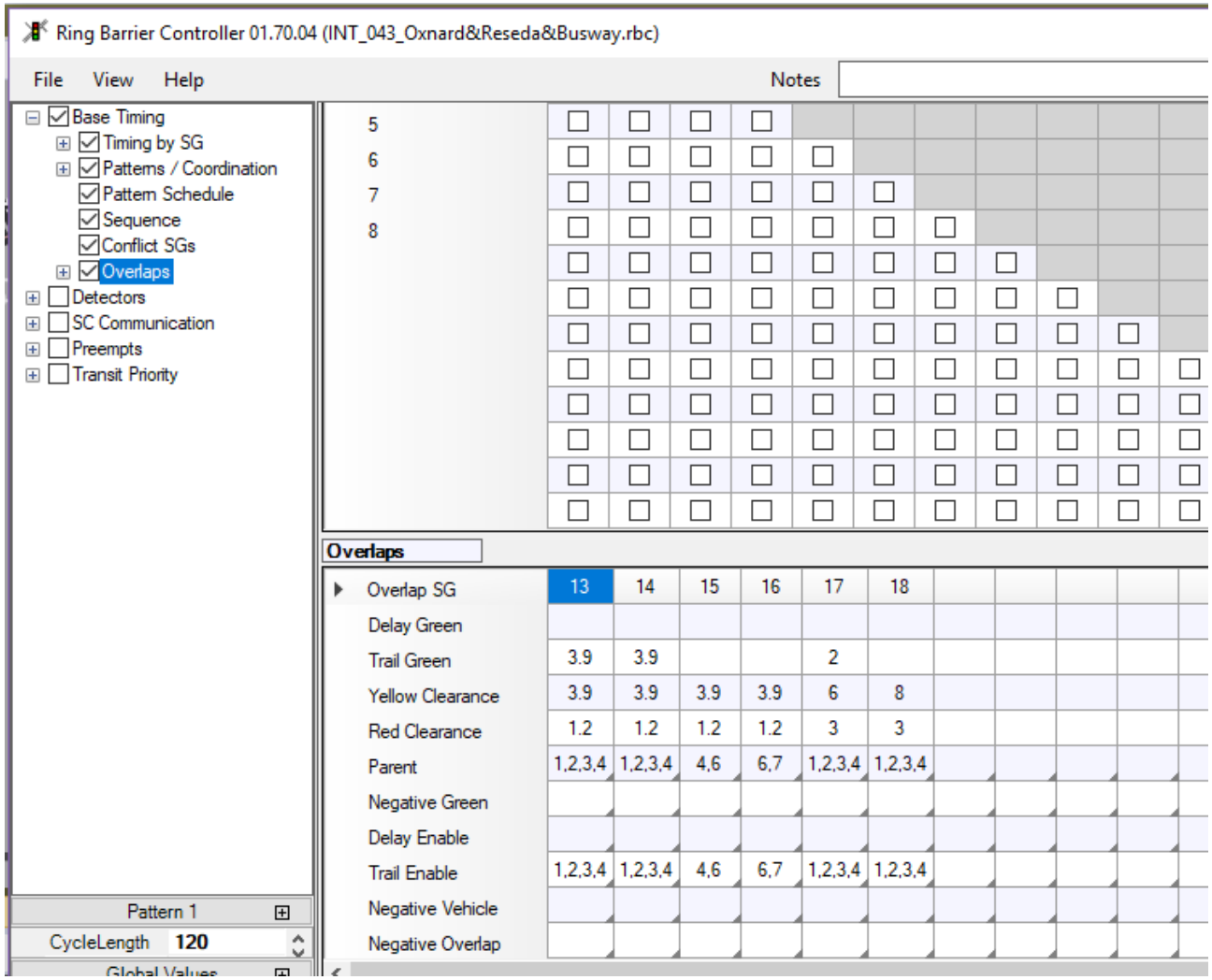
4) Overlap Inputs:



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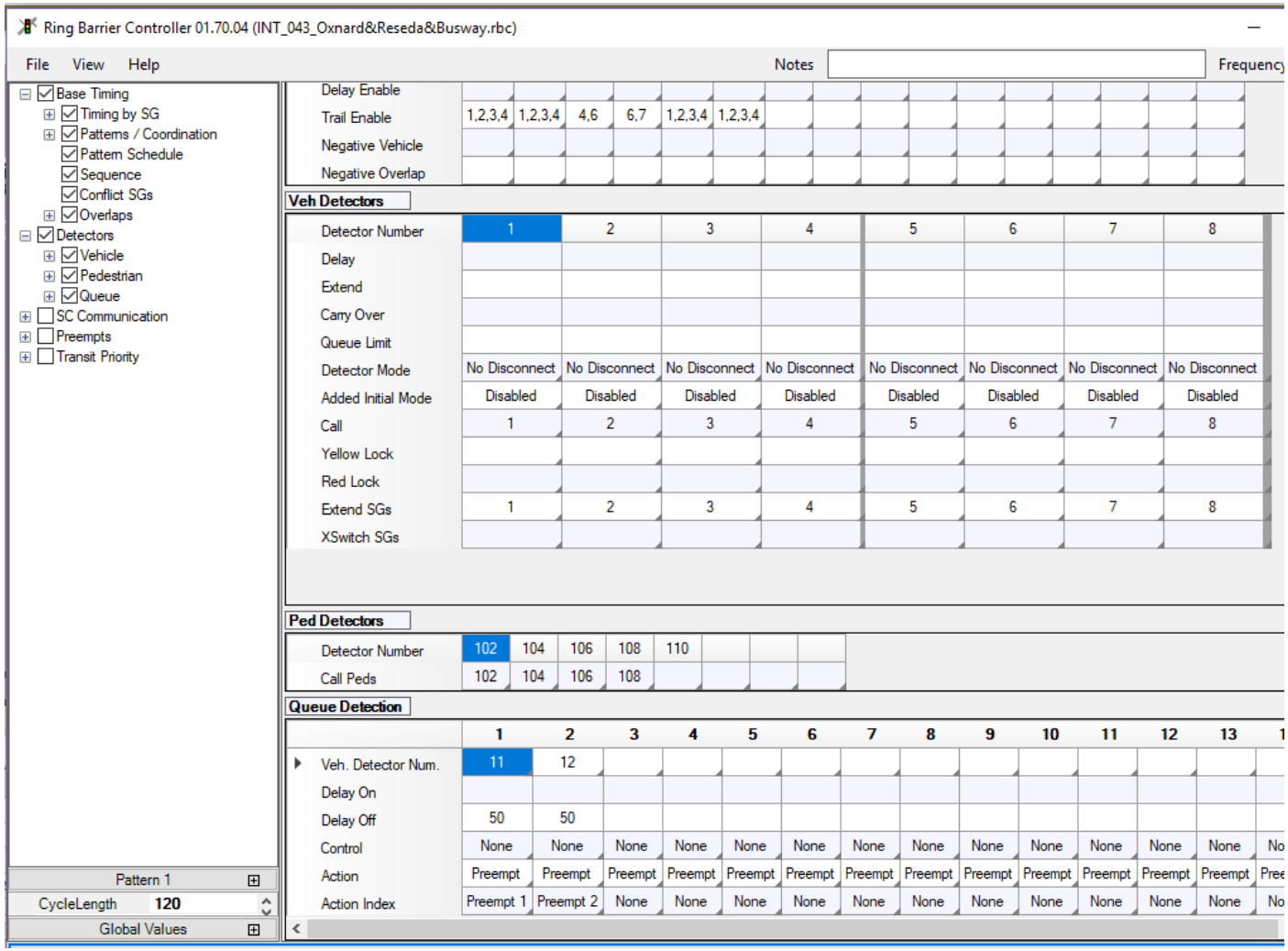
5) Detector Inputs:



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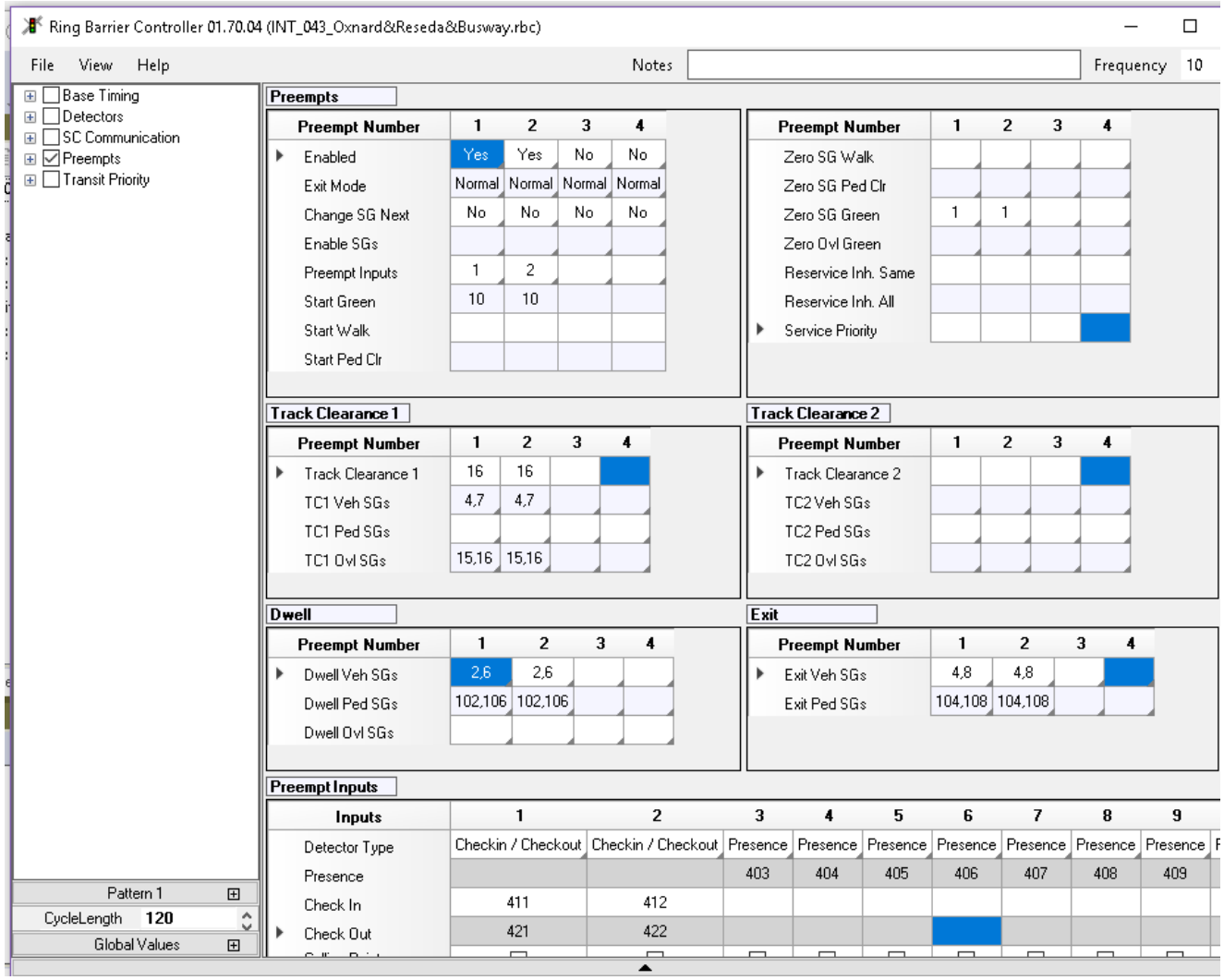
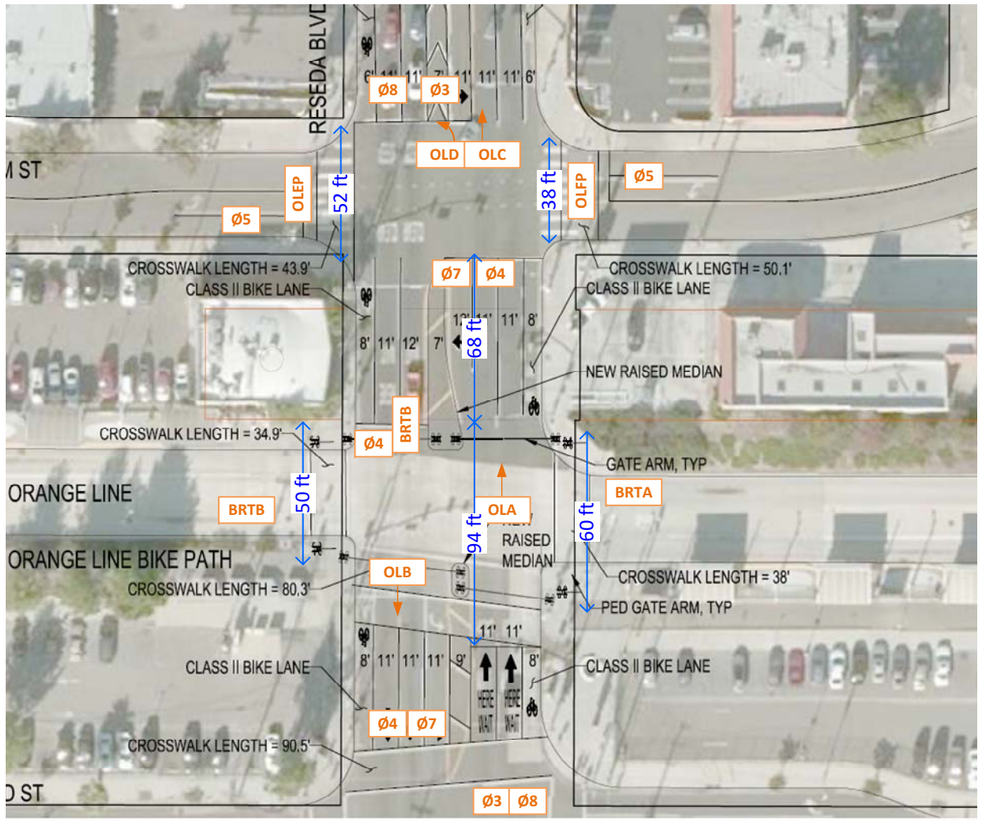
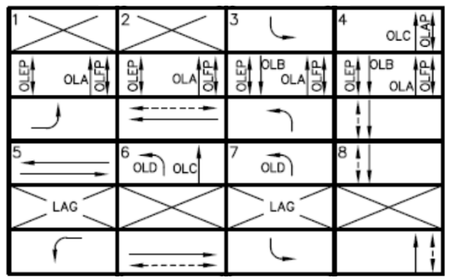
6) Preempt Inputs:



Gate Concept Design



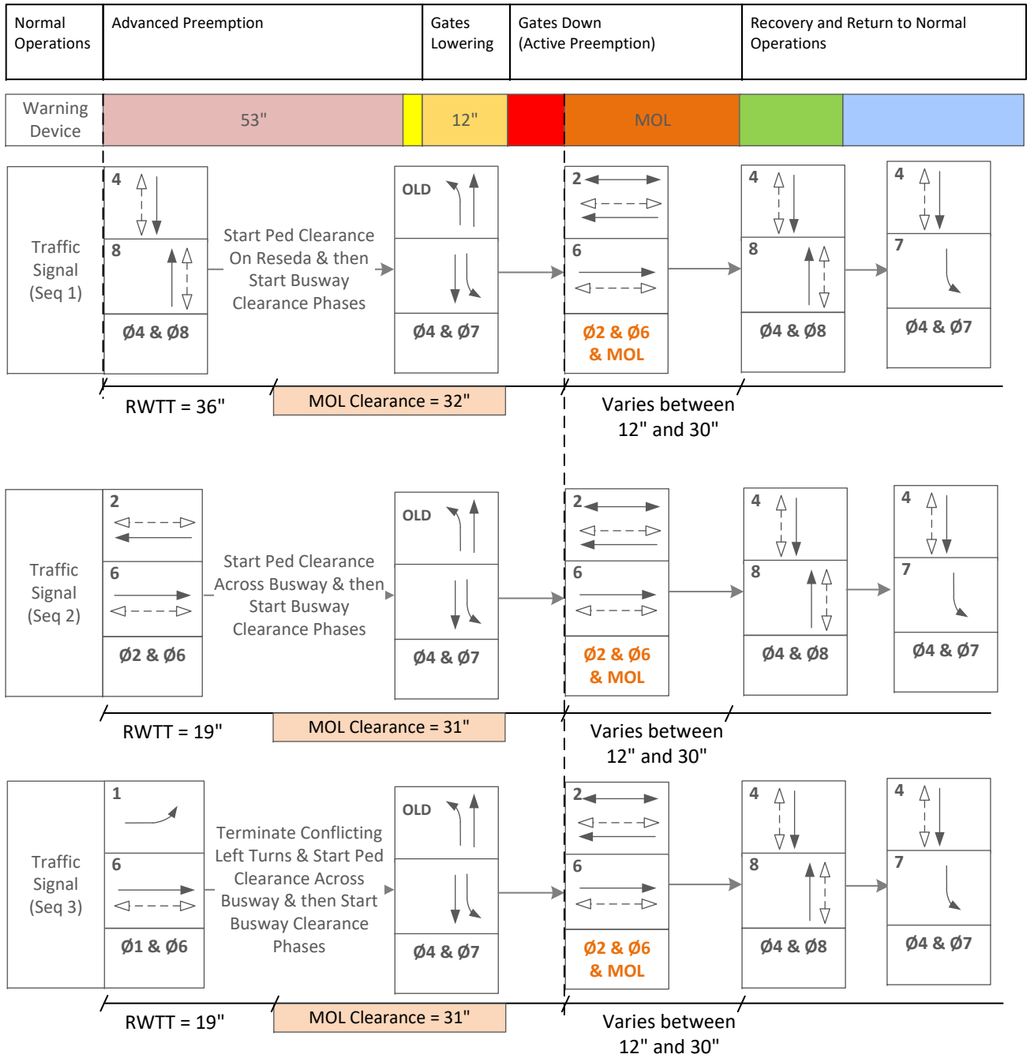
Future with Gates Phasing Diagram



Ø1: Oxnard St E/B LT
Ø2: Oxnard St W/B Through
Ø3: Reseda S/B LT at Topham & N/B at Oxnard
Ø5: Oxnard W/B LT & Bessemer W/B & Topham E/B
Ø6: Oxnard E/B

OLA: Ø1, Ø2, Ø3, and Ø4
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4 & Ø6
OLD: Ø6 & Ø7
OLEP: Ø1, Ø2, Ø3, and Ø4
OLFP: Ø1, Ø2, Ø3, and Ø4

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 20
Metro Orange Line and Reseda Boulevard

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Reseda	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	94	ft	Grade	0.0 %
Clear Storage Distance, CSD	68	ft		
Length, L	**162**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	7	4	3	2	
Start moving last vehicle in L (sec)	**12.7**	**8.3**	**8.0**	**10.0**	**13**
Move front of vehicle thru L (sec)	8.8	9.8	8.1	17.6	18
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.1**	**8.4**	**7.3**	**17.4**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**32**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**30**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	24	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**36**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**79**	sec	*for actual Separation Time*

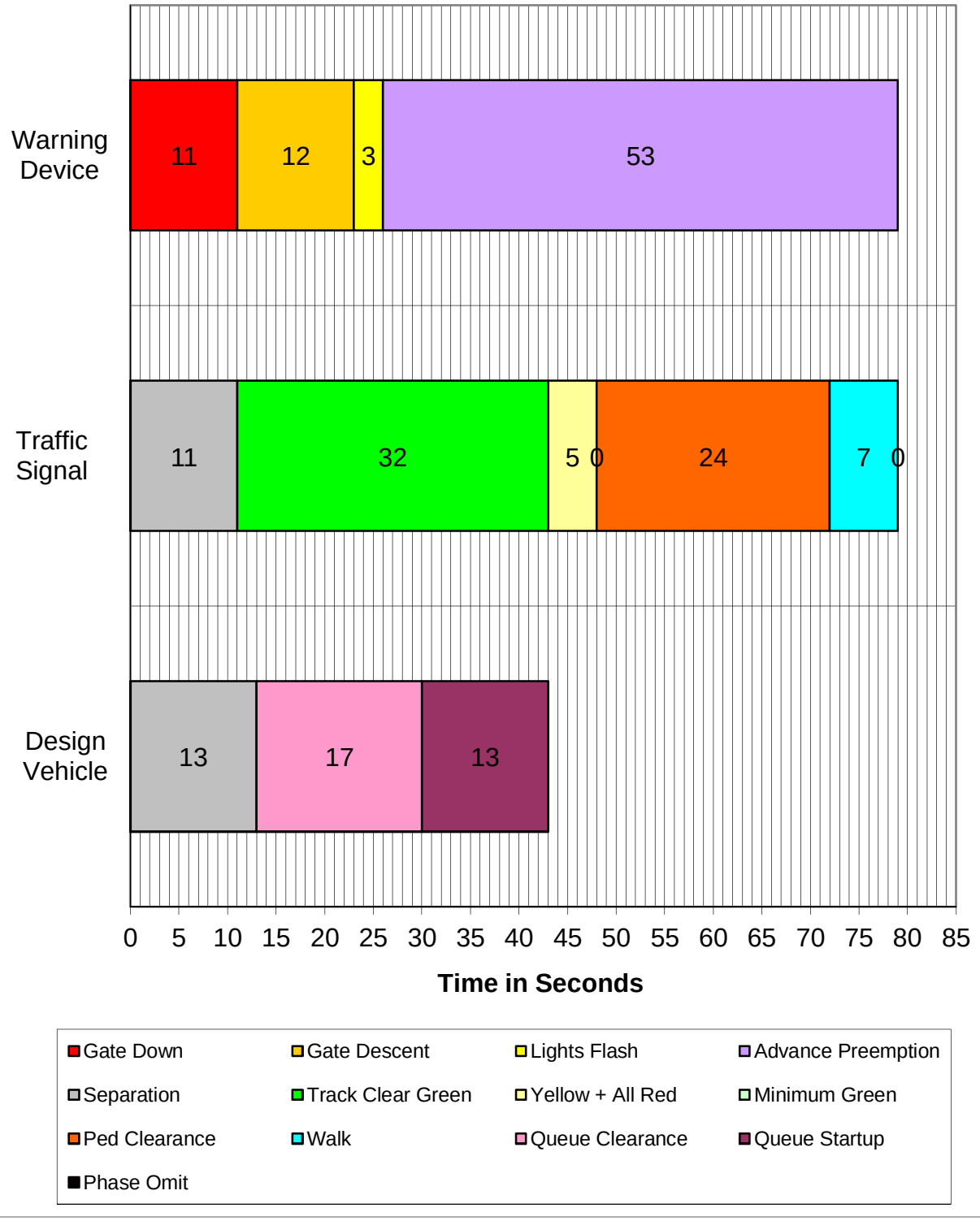
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	6	sec	6 sec minimum
Minimum Warning Time, MWT	**26**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**26**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**53**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**84**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5544**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Reseda	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

27-1: Tampa/Topham

- Basic timing inputs:
  - Check minimum recall phase 4 & 8, not phase 2 & 6
  - Ped recall phase 4 & 8
- Preempt inputs:
  - Comment: need to reflect railroad preemption form worksheet.
- Preemption form
  - Include vehicle-gate interaction check – change to YES

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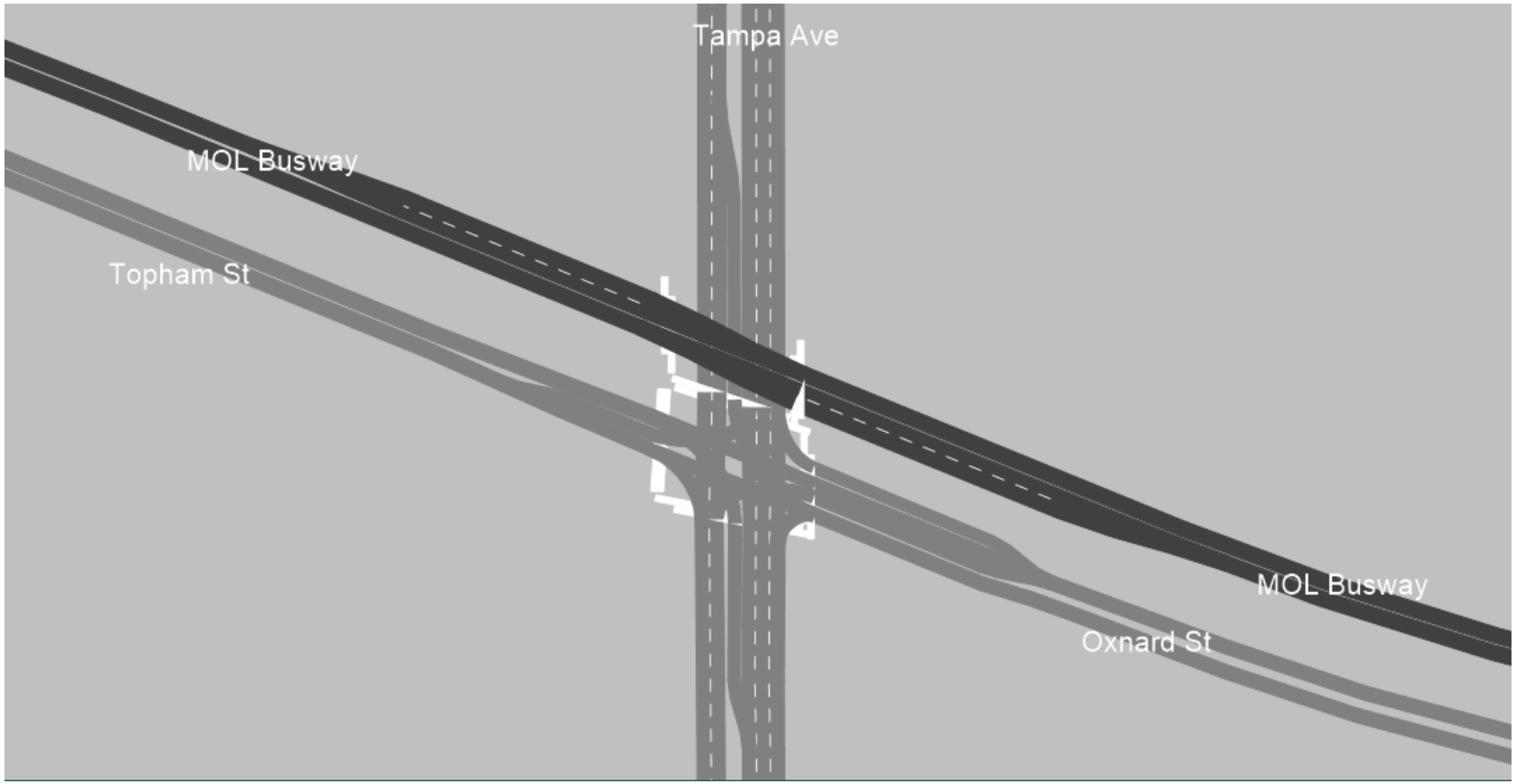
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 2: Tampa/Topham



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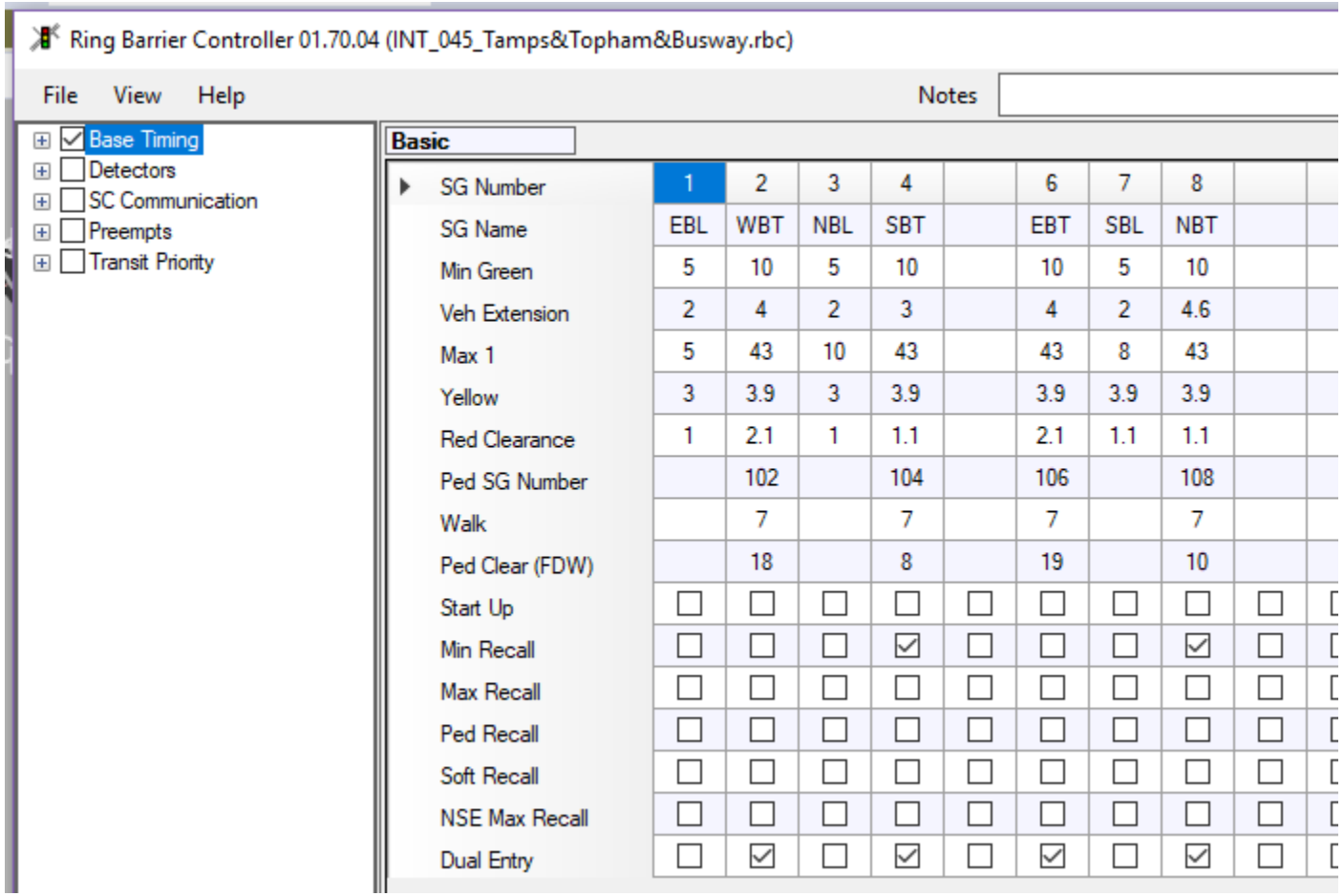
1) Basic Timing Inputs:



SG Number	1	2	3	4		6	7	8		
SG Name	EBL	WBT	NBL	SBT		EBT	SBL	NBT		
Min Green	5	10	5	10		10	5	10		
Veh Extension	2	4	2	3		4	2	4.6		
Max 1	5	43	10	43		43	8	43		
Yellow	3	3.9	3	3.9		3.9	3.9	3.9		
Red Clearance	1	2.1	1	1.1		2.1	1.1	1.1		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		18		8		19		10		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Min Recall	☐	☐	☐	☑	☐	☐	☐	☑	☐	☐
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dual Entry	☐	☑	☐	☑	☐	☑	☐	☑	☐	☐

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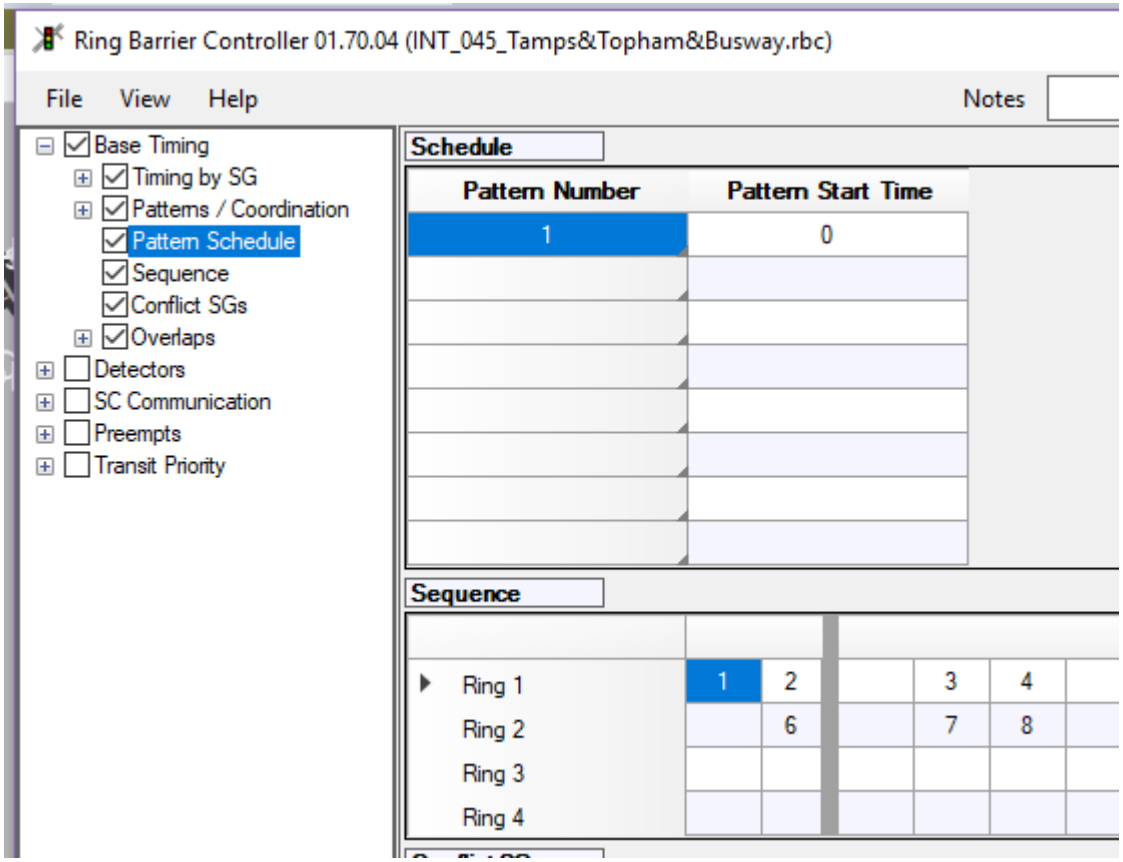
2) Pattern Number and Sequence Inputs:



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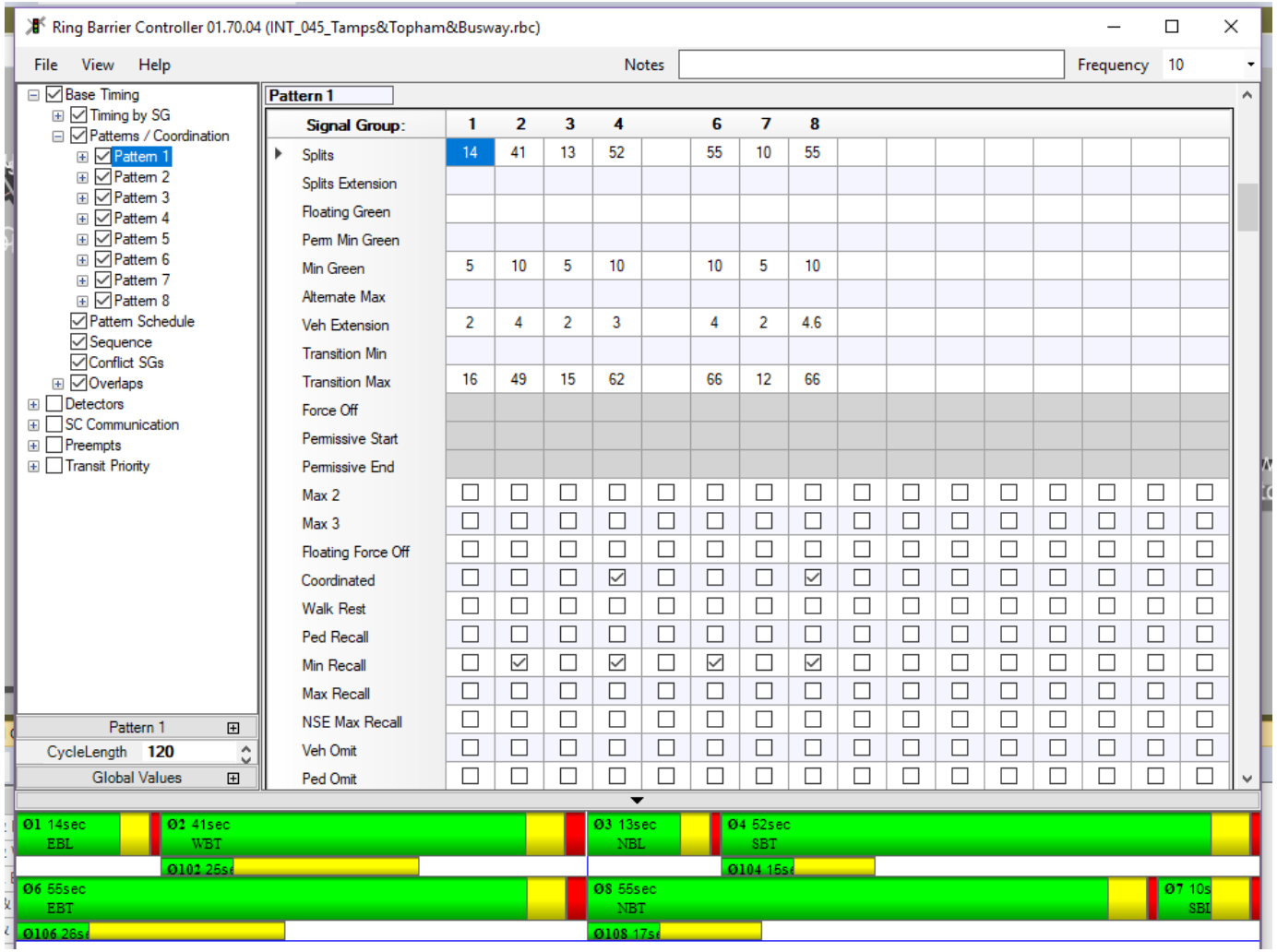
3) Pattern (Coordination Plan) Timing Inputs:



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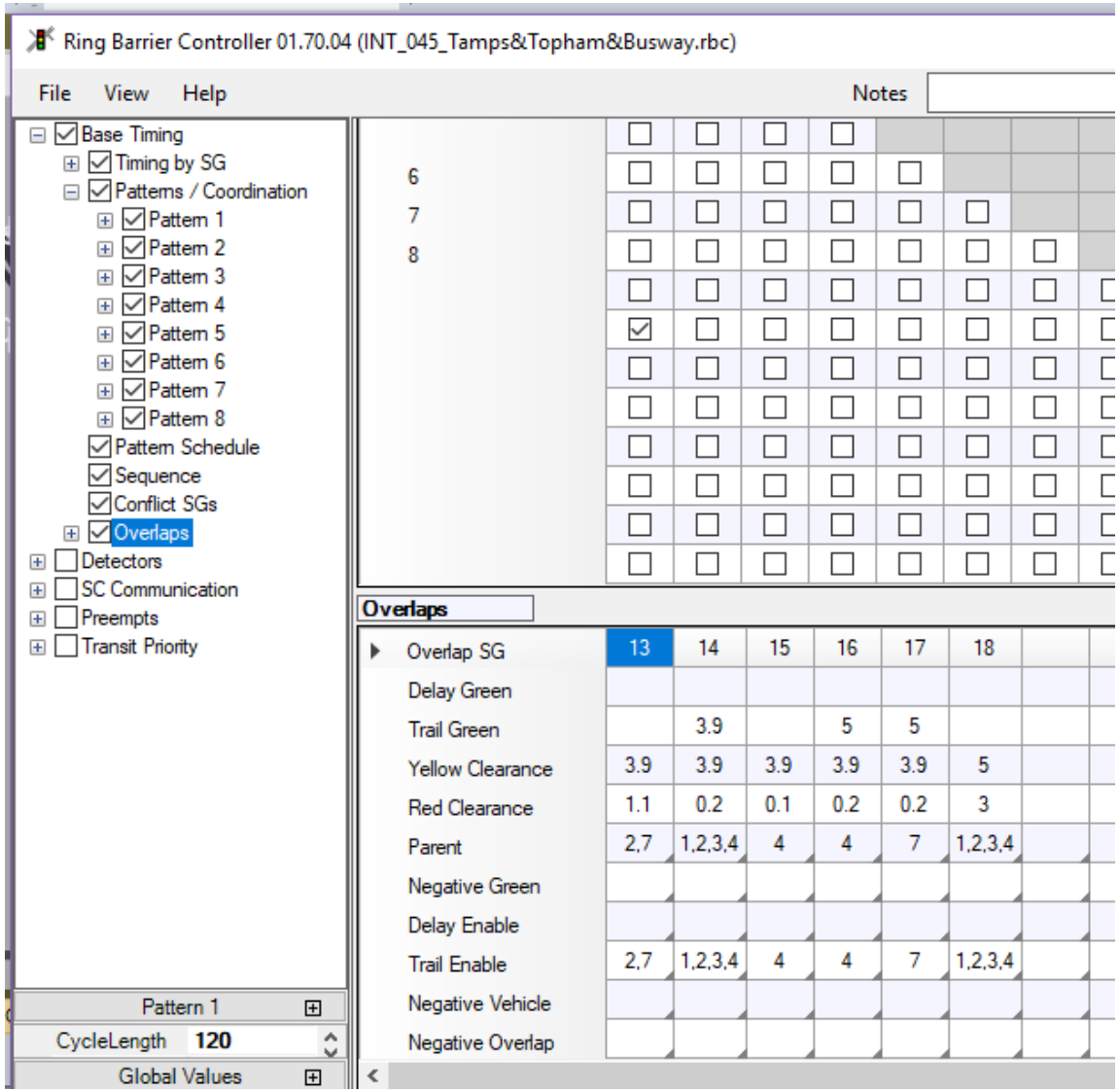
4) Overlap Inputs:



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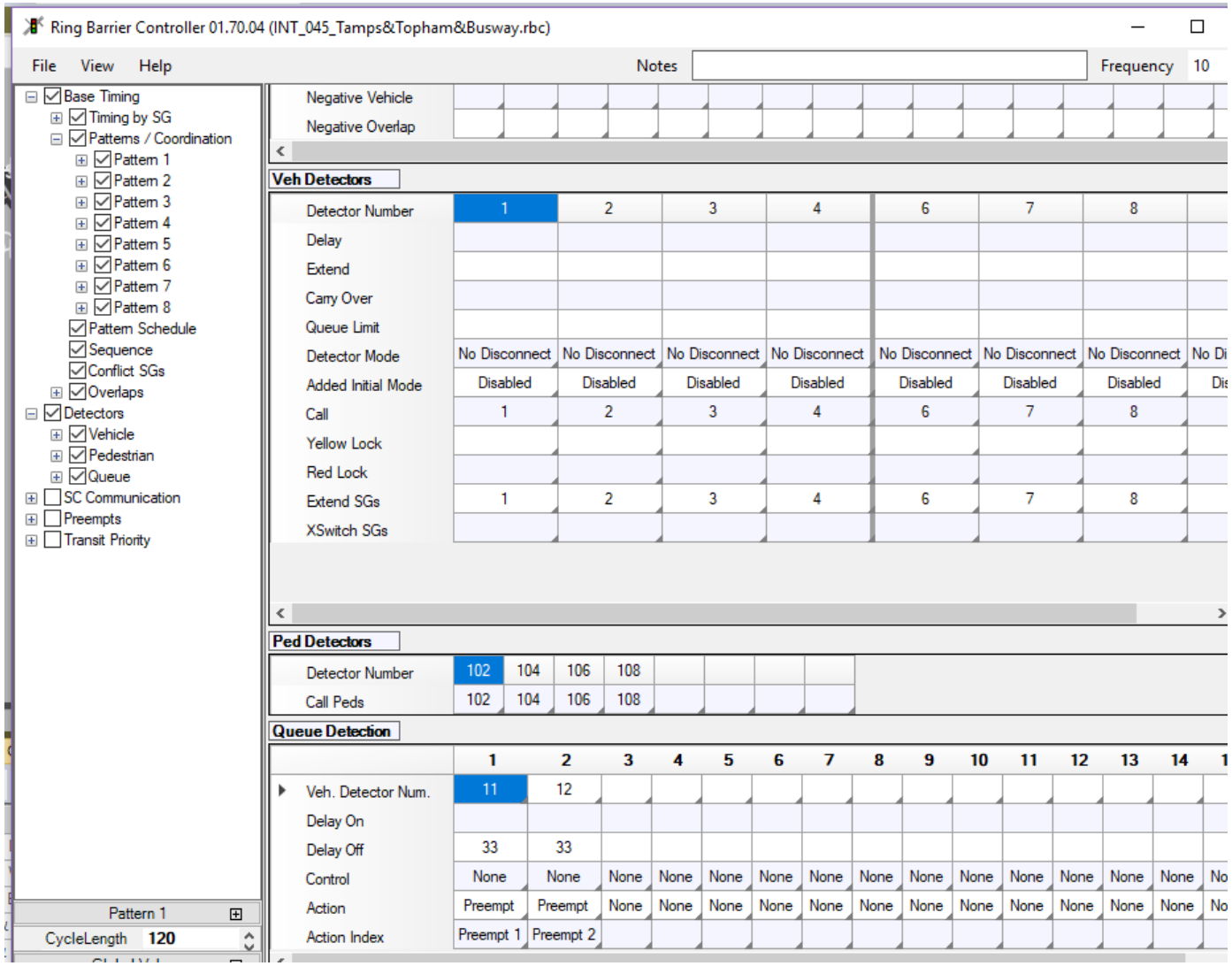
5) Detector Inputs:



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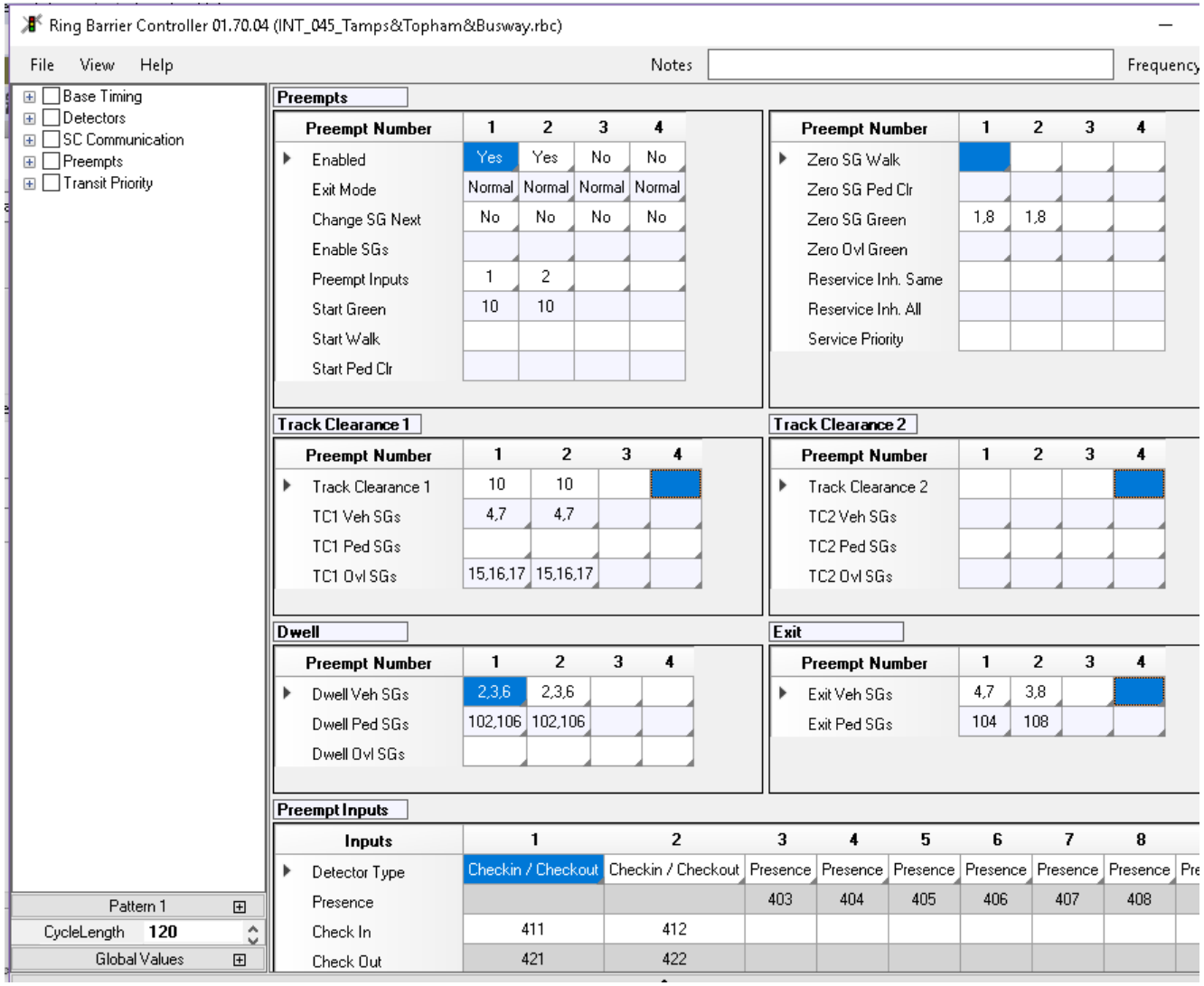
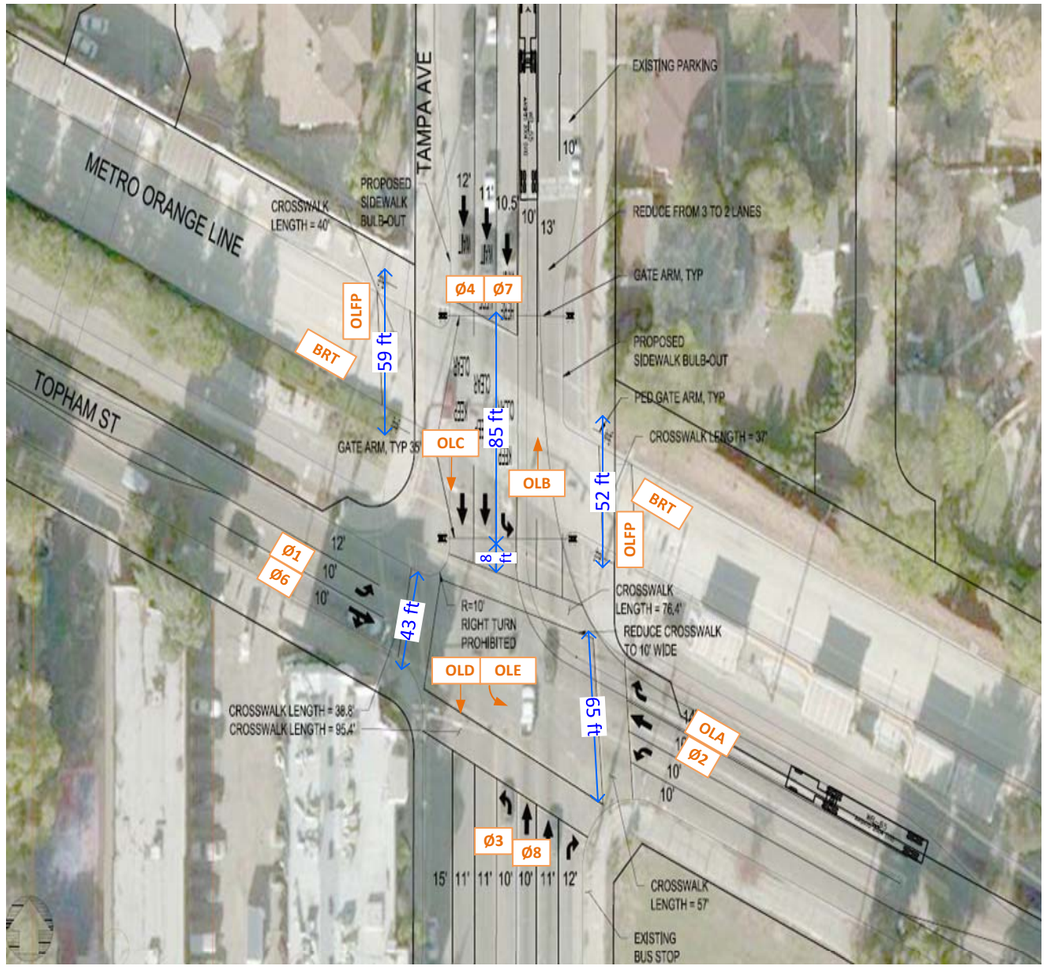
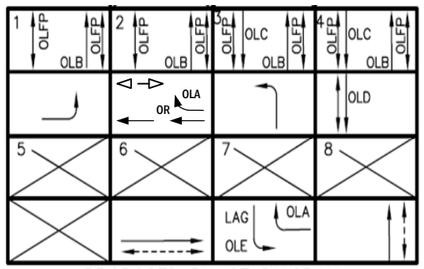
6) Preempt Inputs:



Gate Concept Design

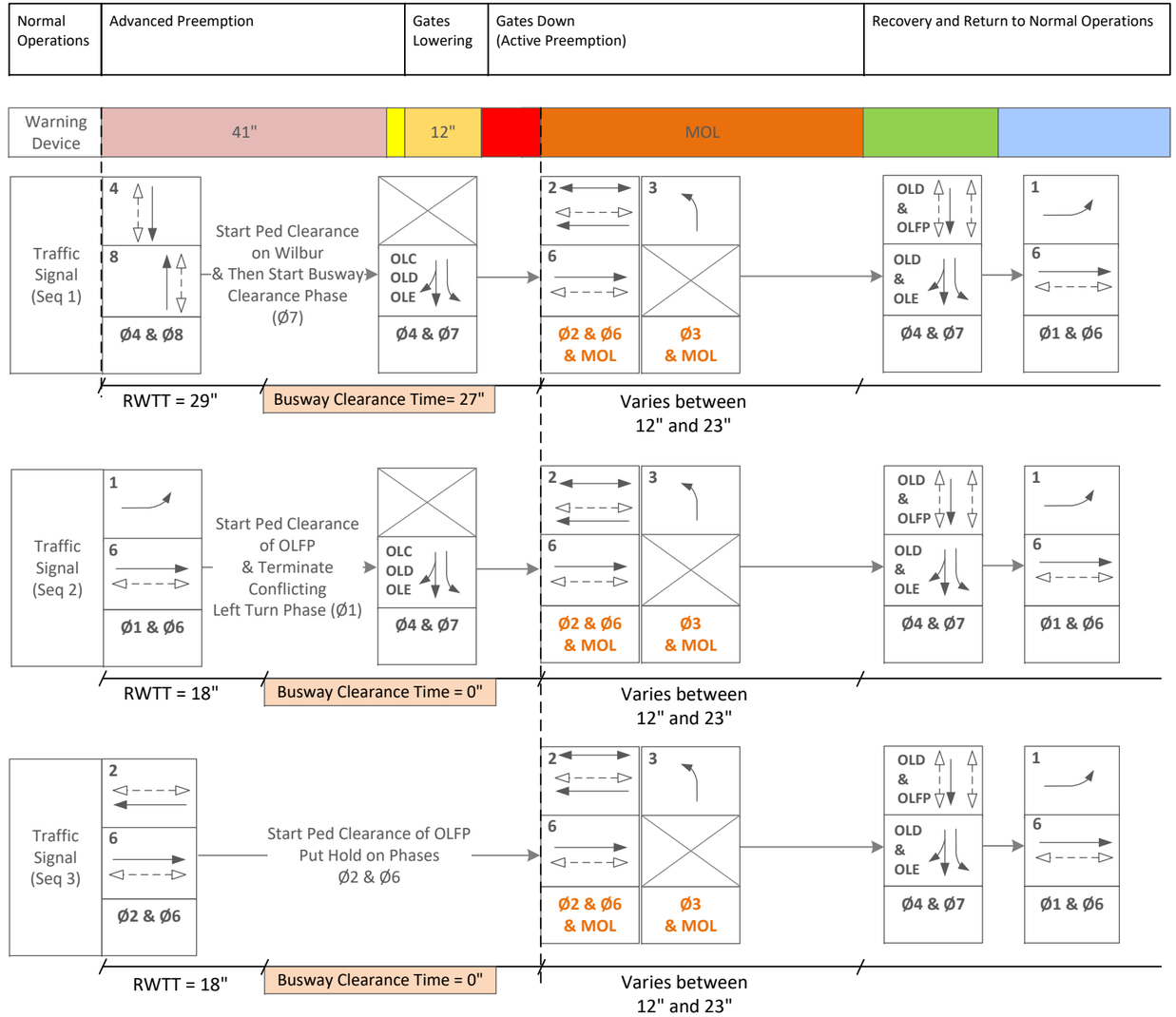


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 22
Tampa Avenue and Topham Street

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Tampa	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	85	ft	Grade	0.0 %
Clear Storage Distance, CSD	8	ft		
Length, L	**93**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	4	2	2	1	
Start moving last vehicle in L (sec)	**8.3**	**5.4**	**6.2**	**7.0**	**8**
Move front of vehicle thru L (sec)	6.5	7.2	6.0	13.2	13
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**6.8**	**8.1**	**7.1**	**16.9**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**27**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**25**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	17	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**29**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**66**	sec	*for actual Separation Time*

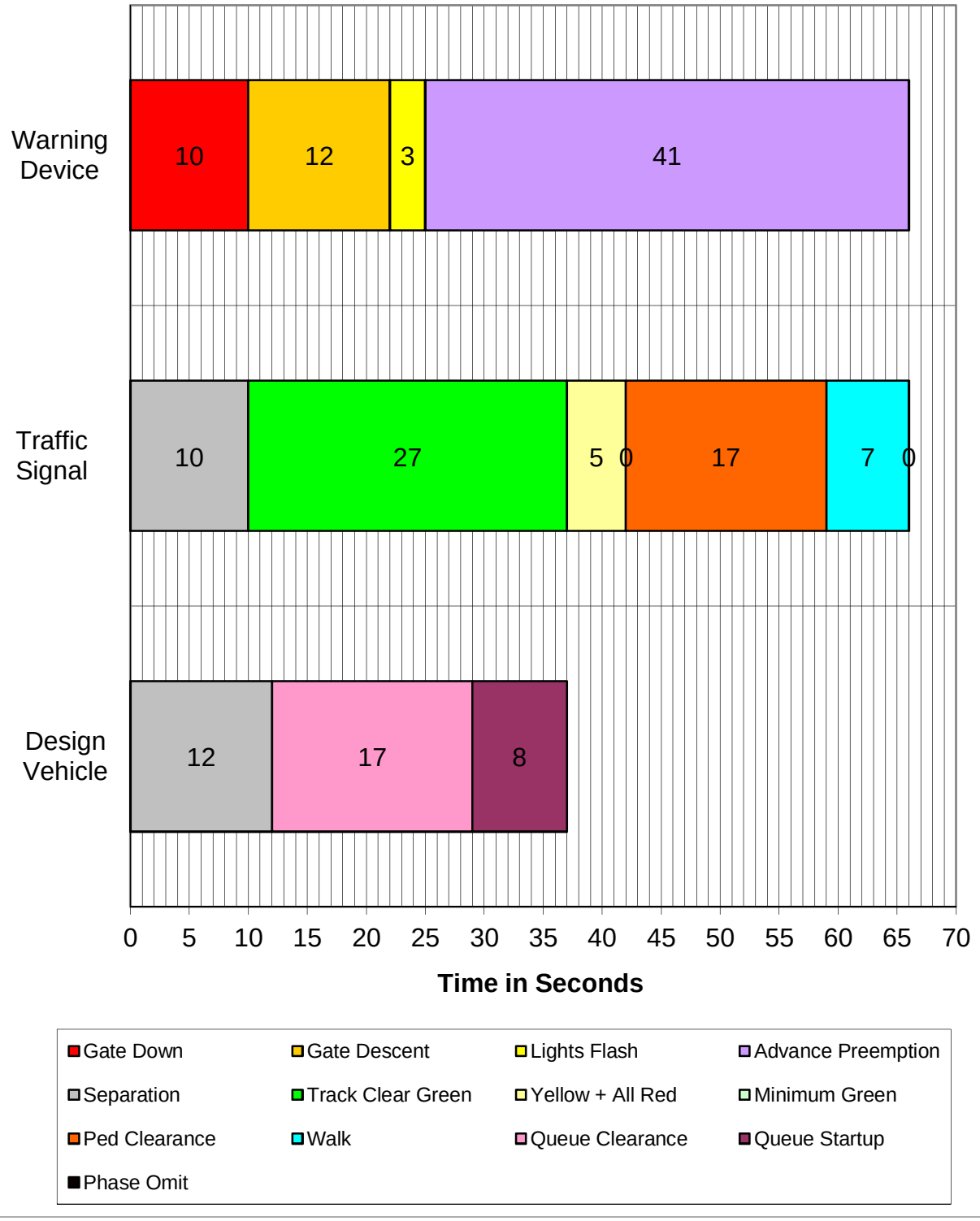
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	5	sec	5 sec minimum
Minimum Warning Time, MWT	**25**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**25**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**41**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**71**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4686**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Tampa	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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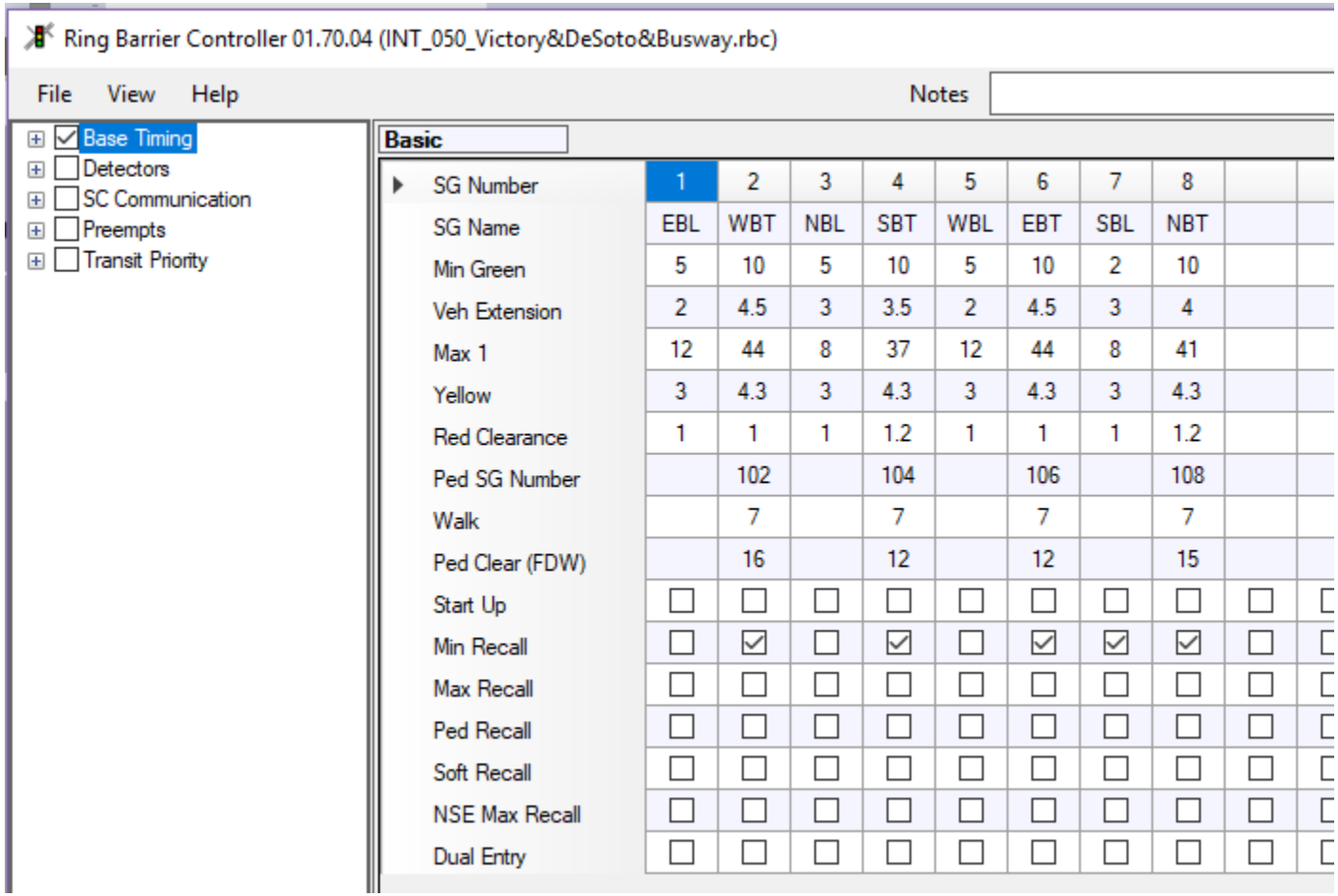
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 4: Victory/De Soto

1) Basic Timing Inputs:



SG Number	1	2	3	4	5	6	7	8		
SG Name	EBL	WBT	NBL	SBT	WBL	EBT	SBL	NBT		
Min Green	5	10	5	10	5	10	2	10		
Veh Extension	2	4.5	3	3.5	2	4.5	3	4		
Max 1	12	44	8	37	12	44	8	41		
Yellow	3	4.3	3	4.3	3	4.3	3	4.3		
Red Clearance	1	1	1	1.2	1	1	1	1.2		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		16		12		12		15		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Min Recall	☐	☑	☐	☑	☐	☑	☑	☑	☐	☐
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dual Entry	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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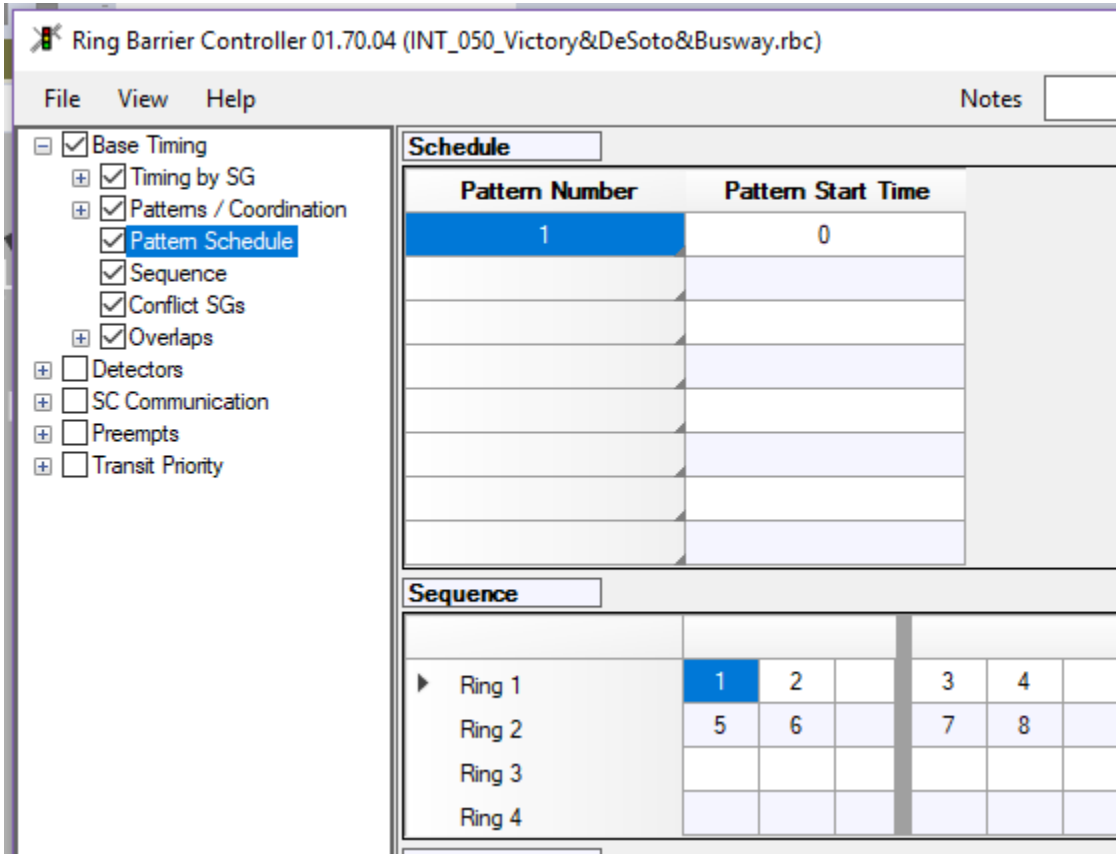
2) Pattern Number and Sequence Inputs:



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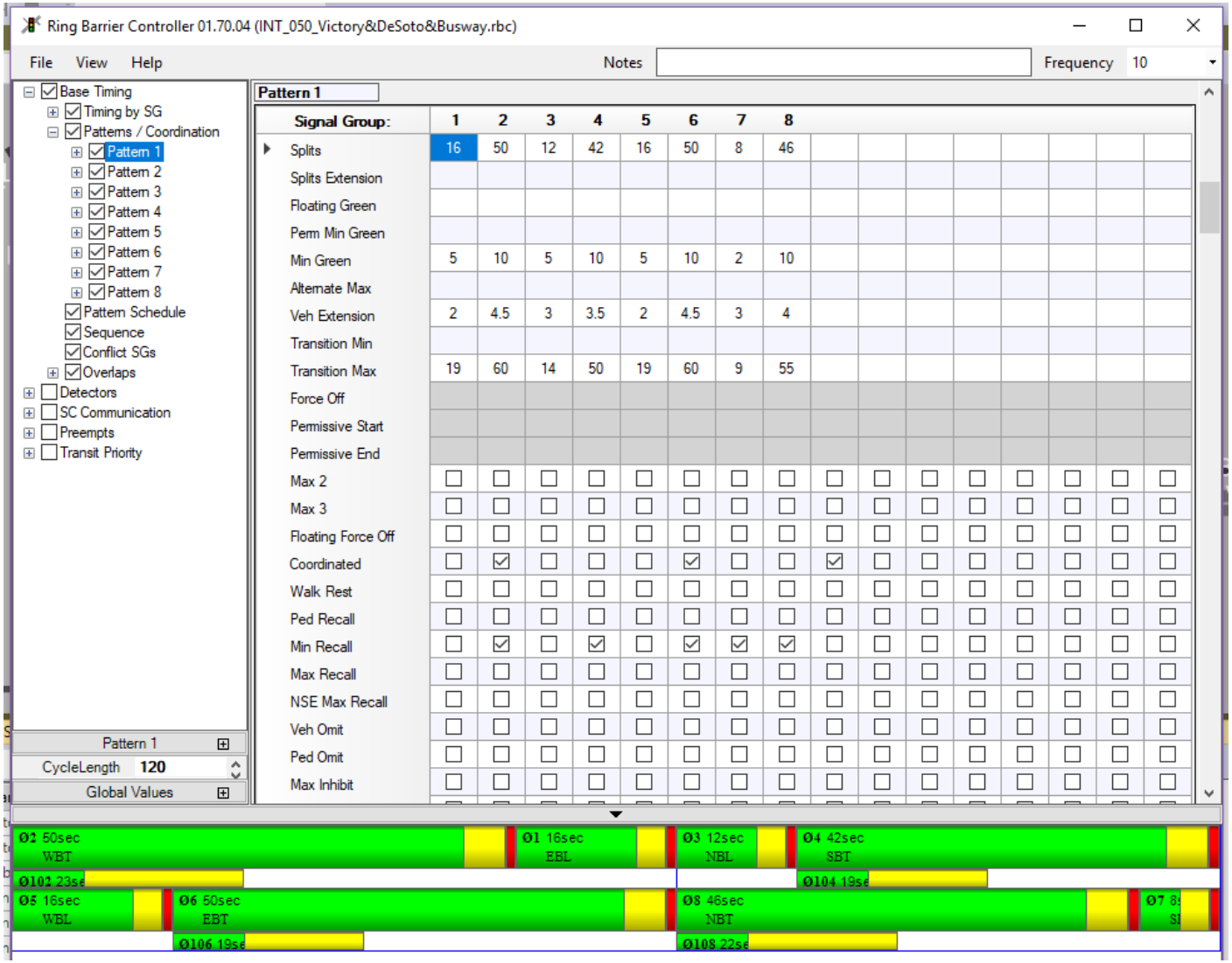
3) Pattern (Coordination Plan) Timing Inputs:



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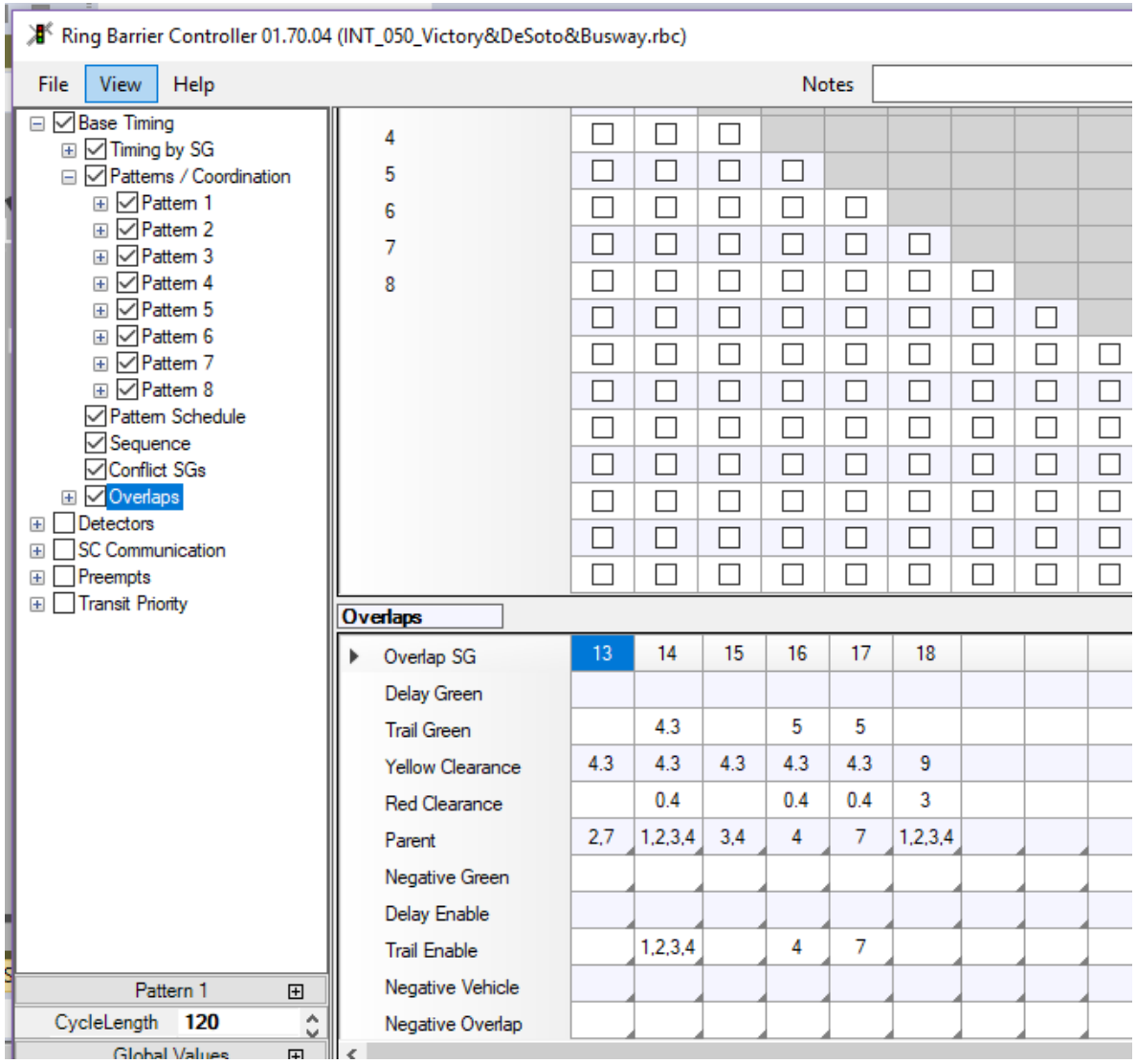
4) Overlap Inputs:



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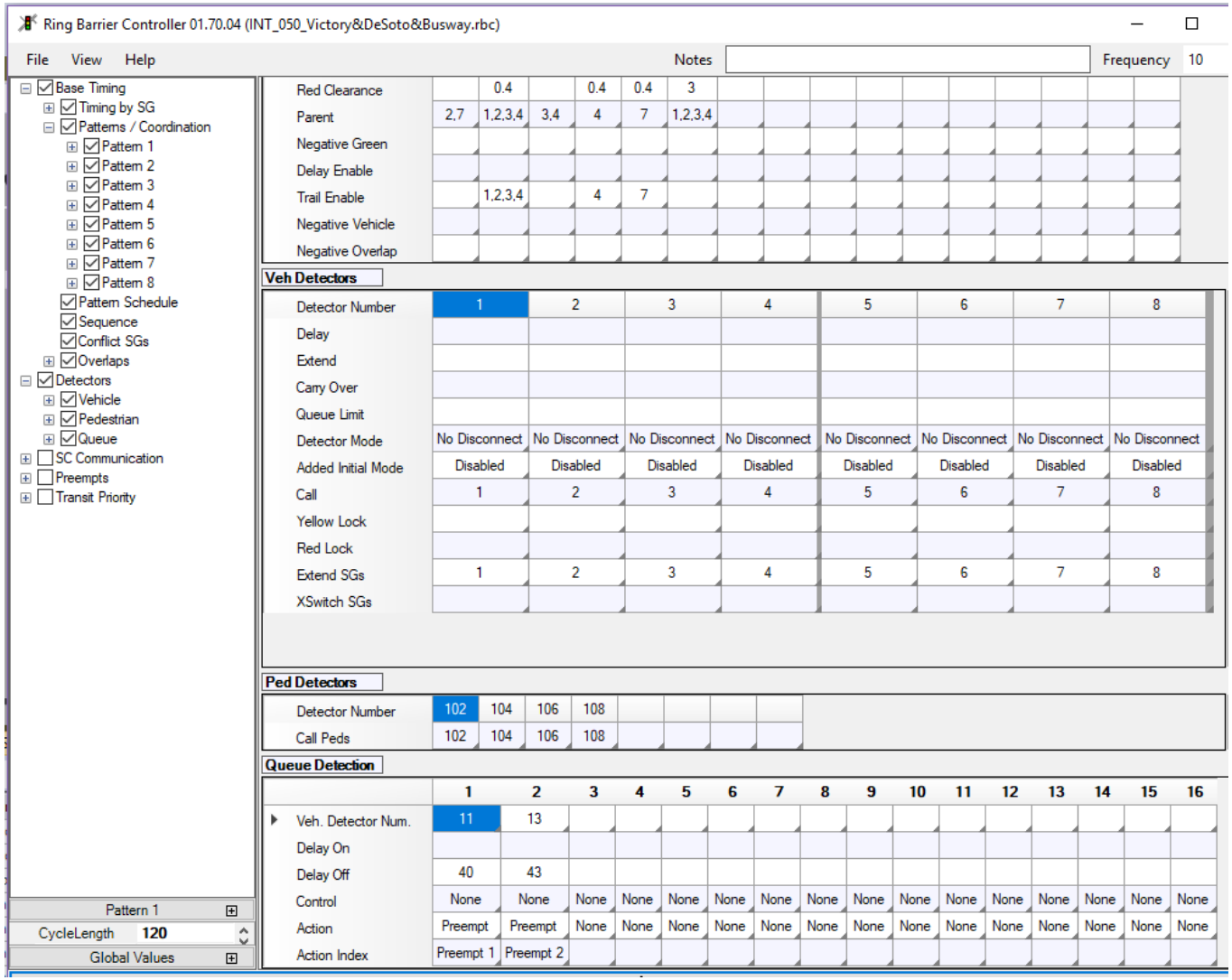
5) Detector Inputs:



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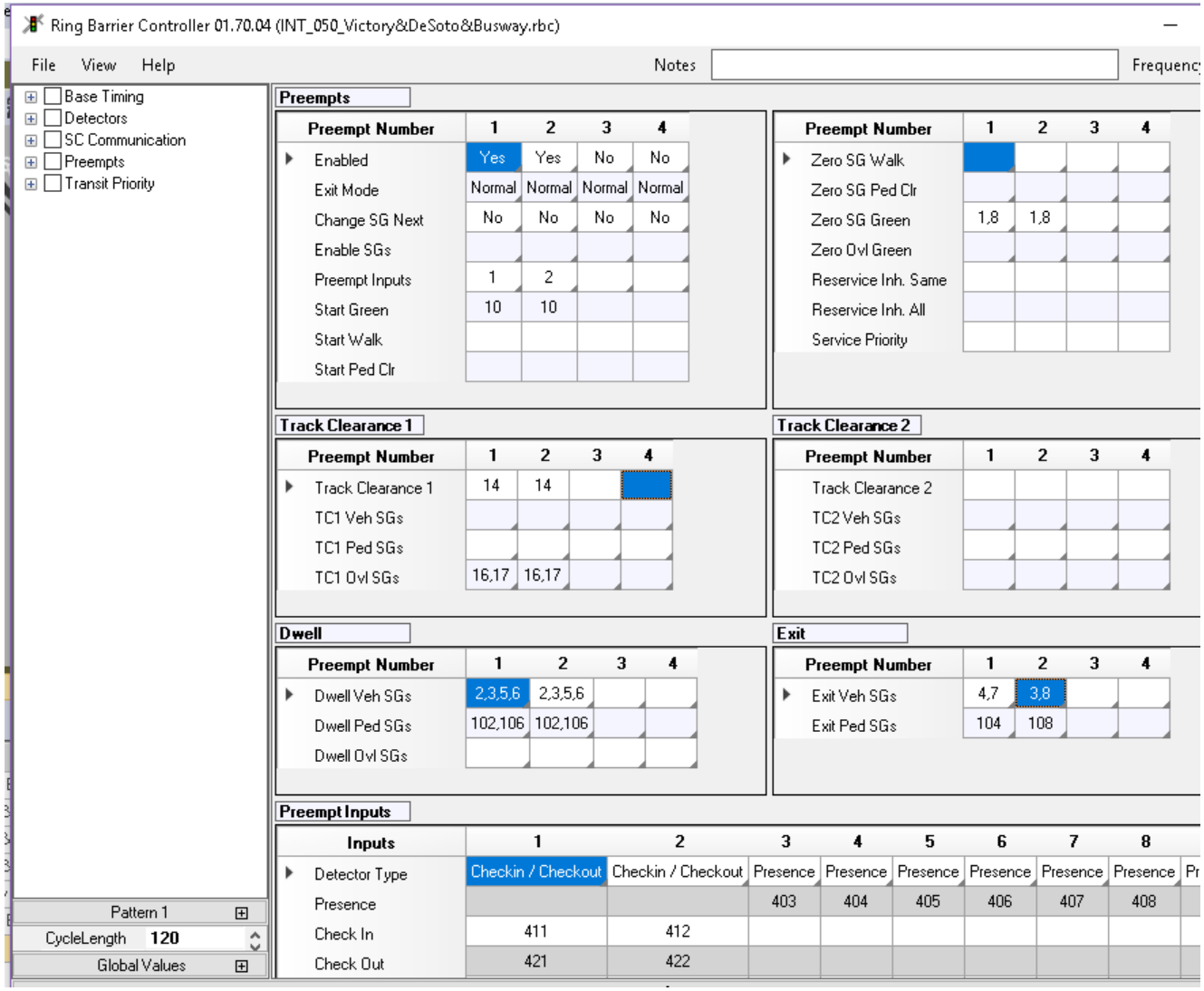
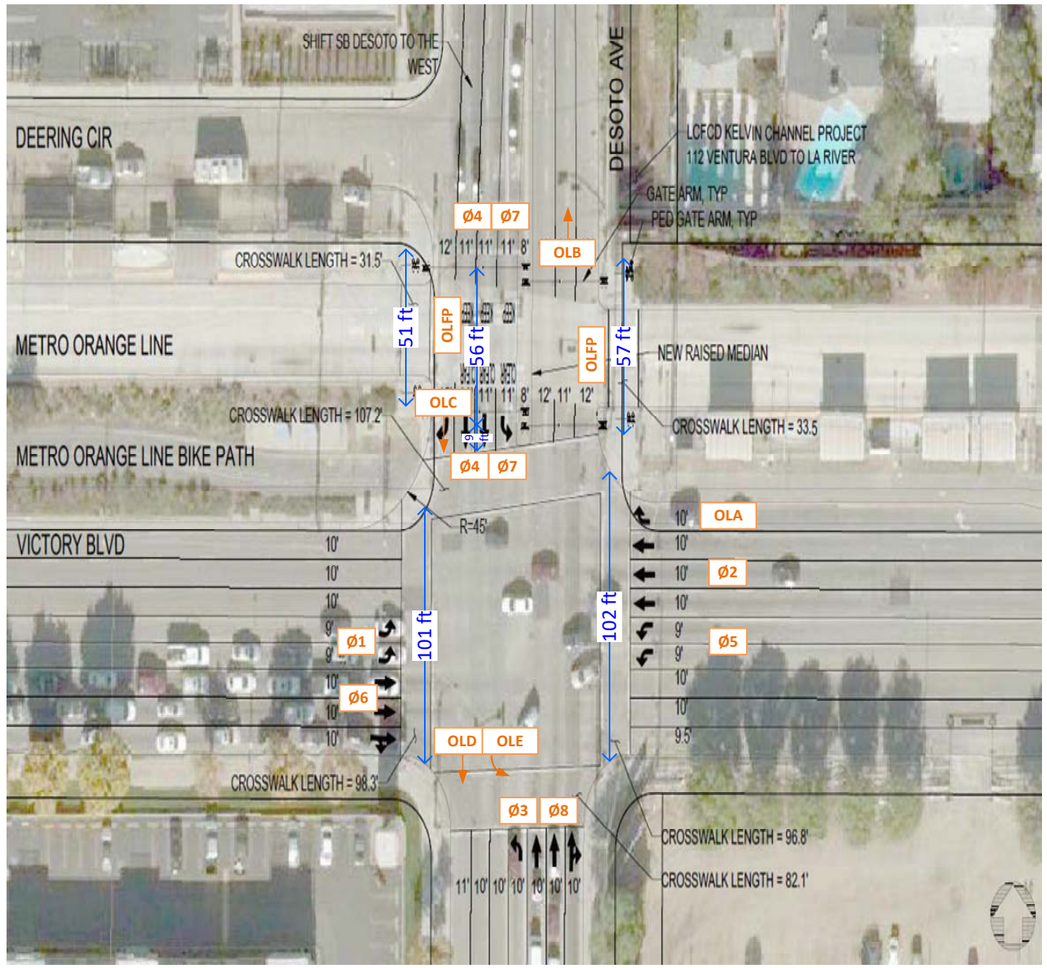
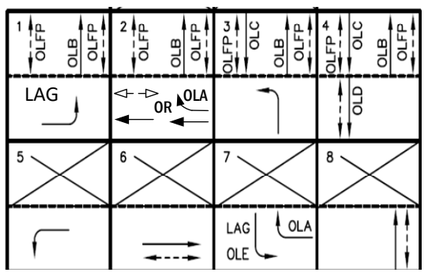
6) Preempt Inputs:



Gate Concept Design



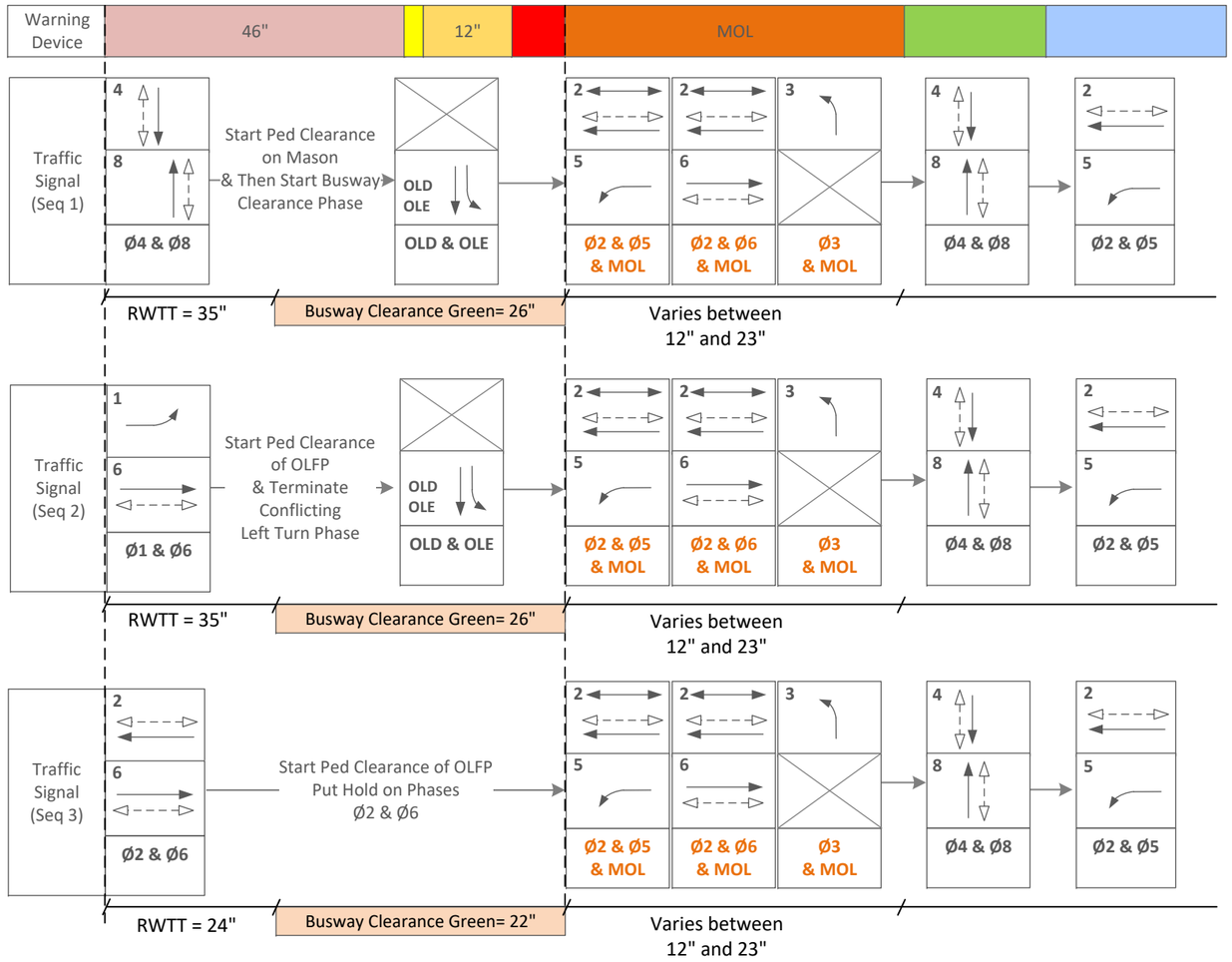
Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø3 & Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



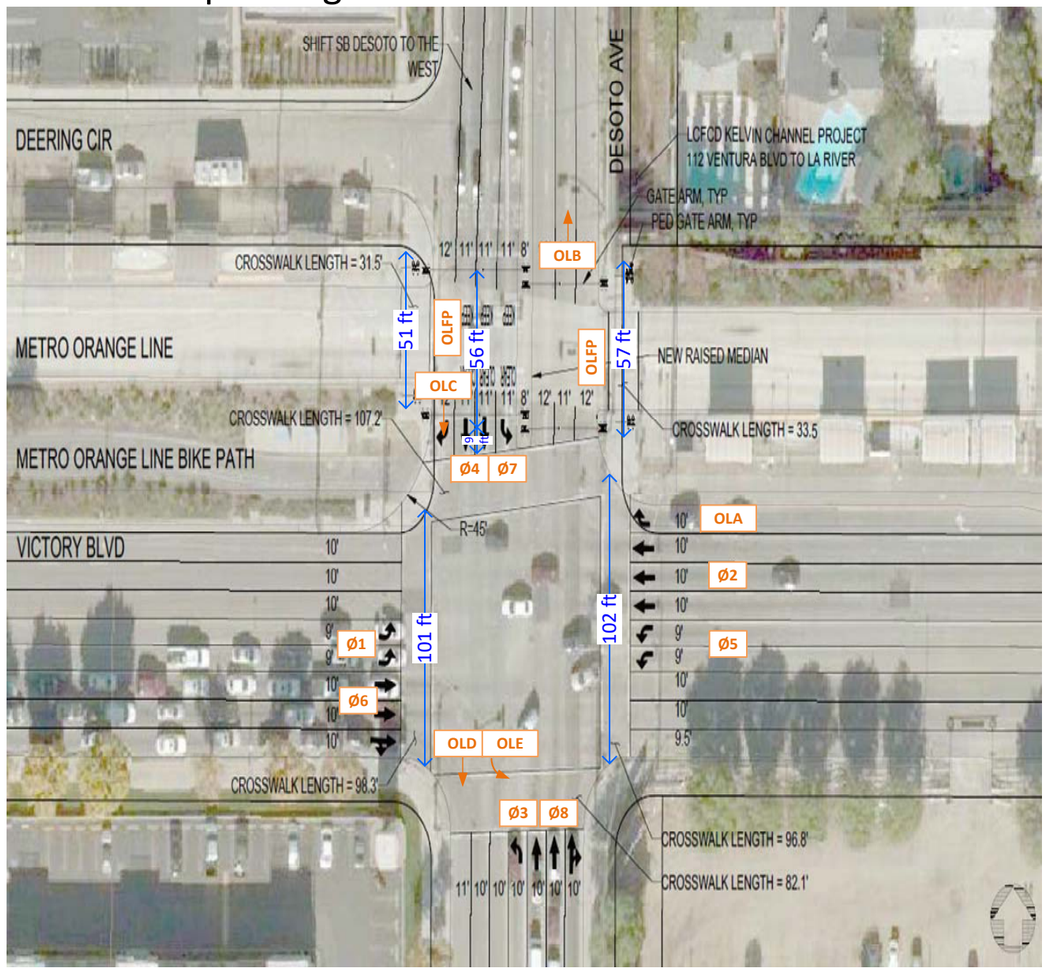
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

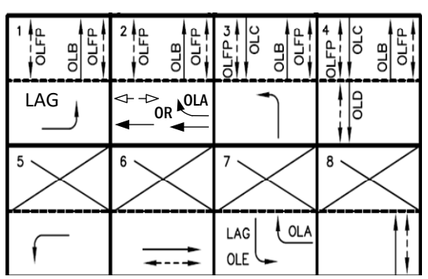
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 27
Victory Boulevard and Desoto Avenue

Gate Concept Design

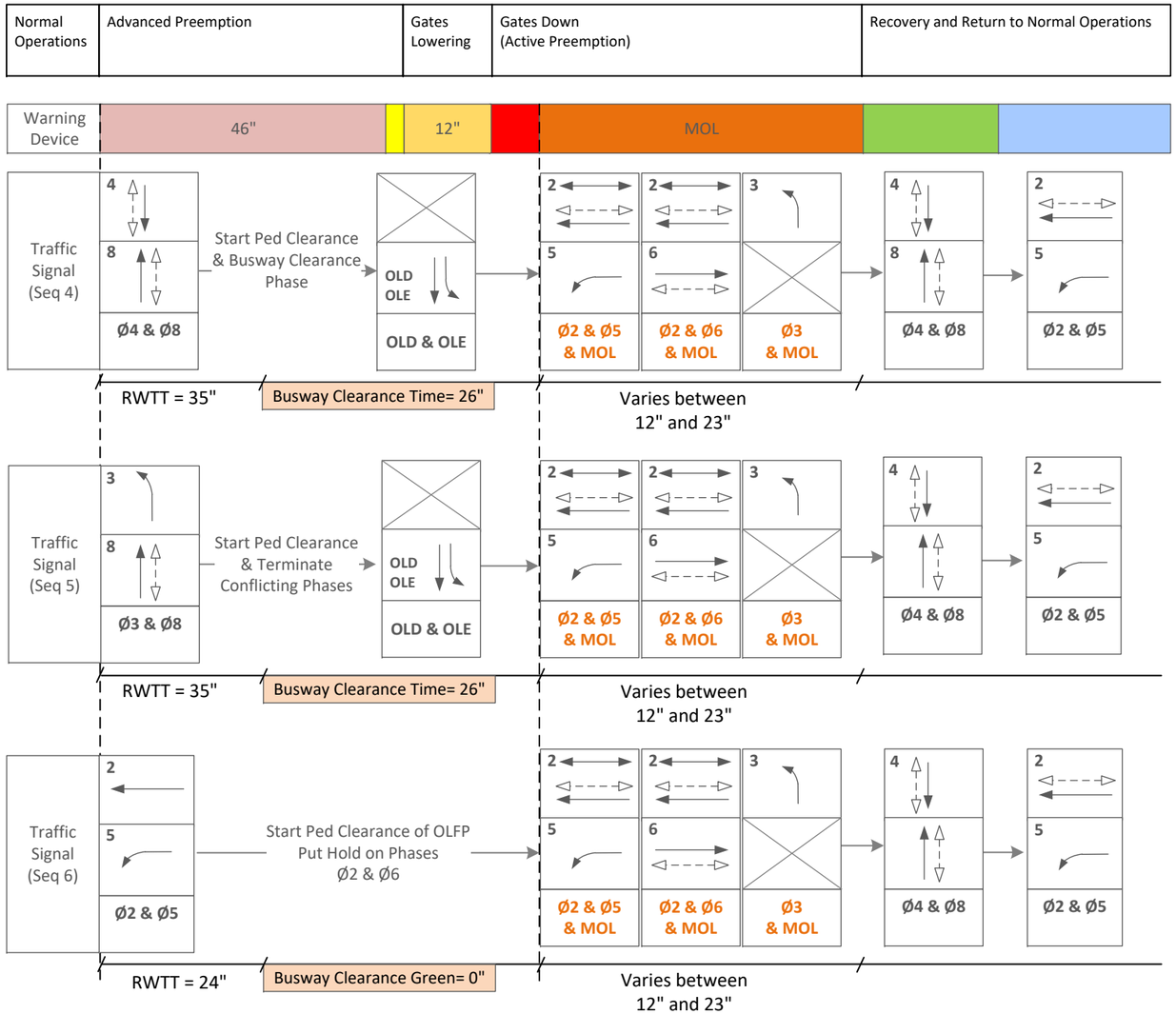


Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLB: Ø1, Ø2, Ø3, and Ø4
OLC: Ø3 & Ø4
OLD: Ø4
OLE: Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 27B
Victory Boulevard and Desoto Avenue

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@DeSoto	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	56	ft	Grade	0.0 %
Clear Storage Distance, CSD	9	ft		
Length, L	**65**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	0	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**4.0**	**7**
Move front of vehicle thru L (sec)	5.4	5.9	5.0	11.0	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.6**	**6.9**	**6.1**	**15.1**	**15**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**22**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.5	sec	
Maximum RWTT	**35**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**69**	sec	*for actual Separation Time*

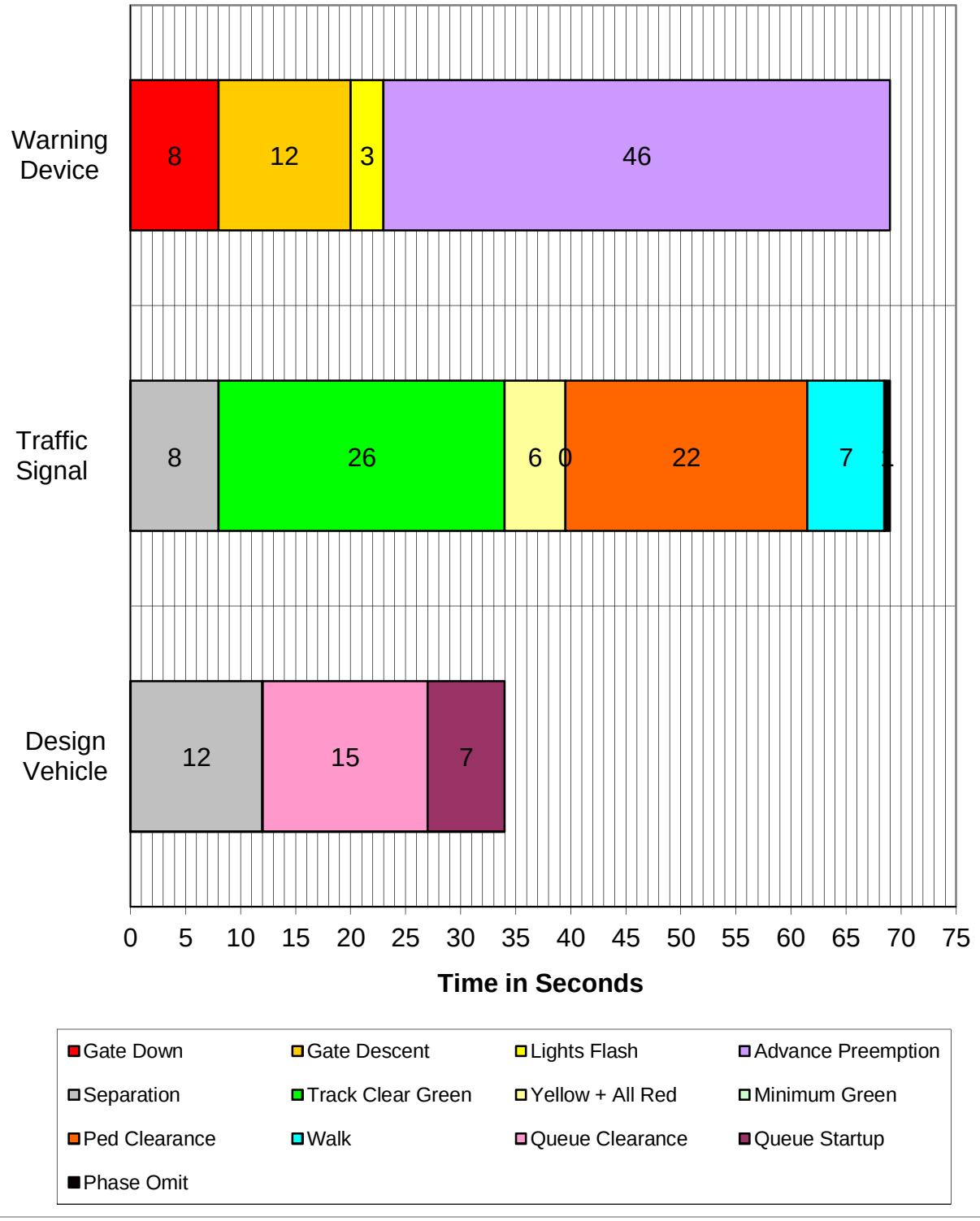
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	3	sec	3 sec minimum
Minimum Warning Time, MWT	**23**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**23**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**46**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**74**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4884**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@DeSoto	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

34-1: Canoga/Sherman Way

- Basic timing inputs:
  - Check minimum recall phase 4 & 8, not phase 2 & 6
- Pattern (coordination plan)
  - Phase 5 NBL is a lag phase
  - Phase 1 & 5 are restricted and cannot be served simultaneously
- Preempt inputs:
  - Comment: need to reflect railroad preemption form worksheet.
- Preemption form
  - Include vehicle-gate interaction check – change to YES

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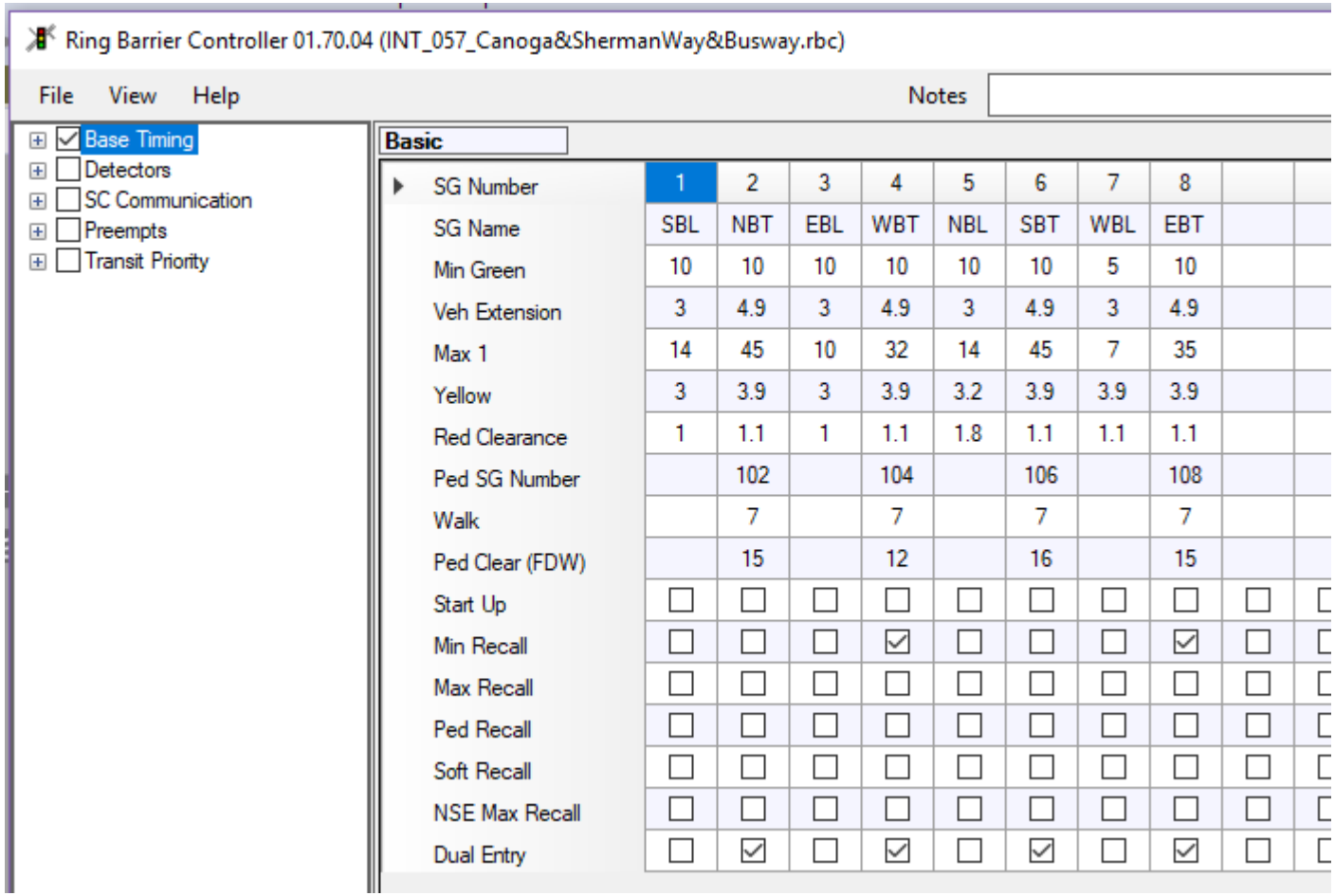
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 5: Canoga/Sherman Way

1) Basic Timing Inputs:



SG Number	1	2	3	4	5	6	7	8		
SG Name	SBL	NBT	EBL	WBT	NBL	SBT	WBL	EBT		
Min Green	10	10	10	10	10	10	5	10		
Veh Extension	3	4.9	3	4.9	3	4.9	3	4.9		
Max 1	14	45	10	32	14	45	7	35		
Yellow	3	3.9	3	3.9	3.2	3.9	3.9	3.9		
Red Clearance	1	1.1	1	1.1	1.8	1.1	1.1	1.1		
Ped SG Number		102		104		106		108		
Walk		7		7		7		7		
Ped Clear (FDW)		15		12		16		15		
Start Up	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Min Recall	☐	☐	☐	☑	☐	☐	☐	☑	☐	☐
Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ped Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Soft Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
NSE Max Recall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dual Entry	☐	☑	☐	☑	☐	☑	☐	☑	☐	☐

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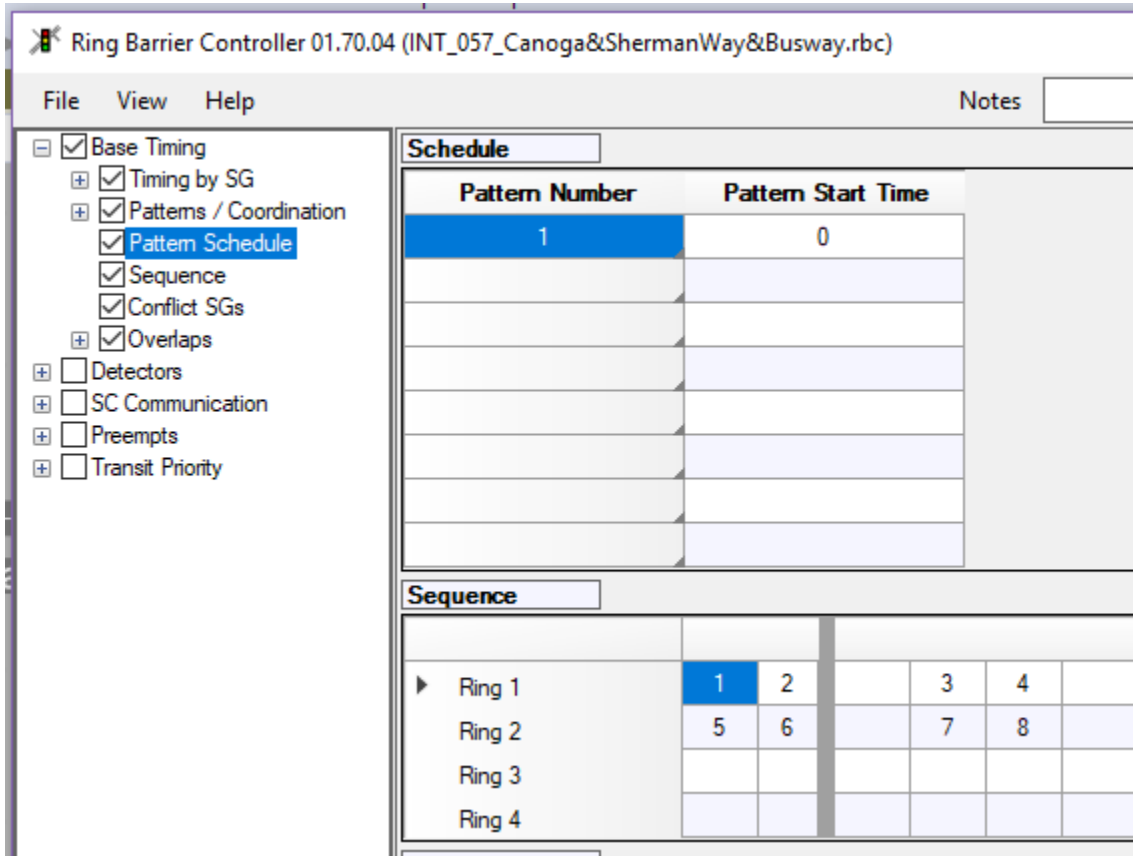
2) Pattern Number and Sequence Inputs:



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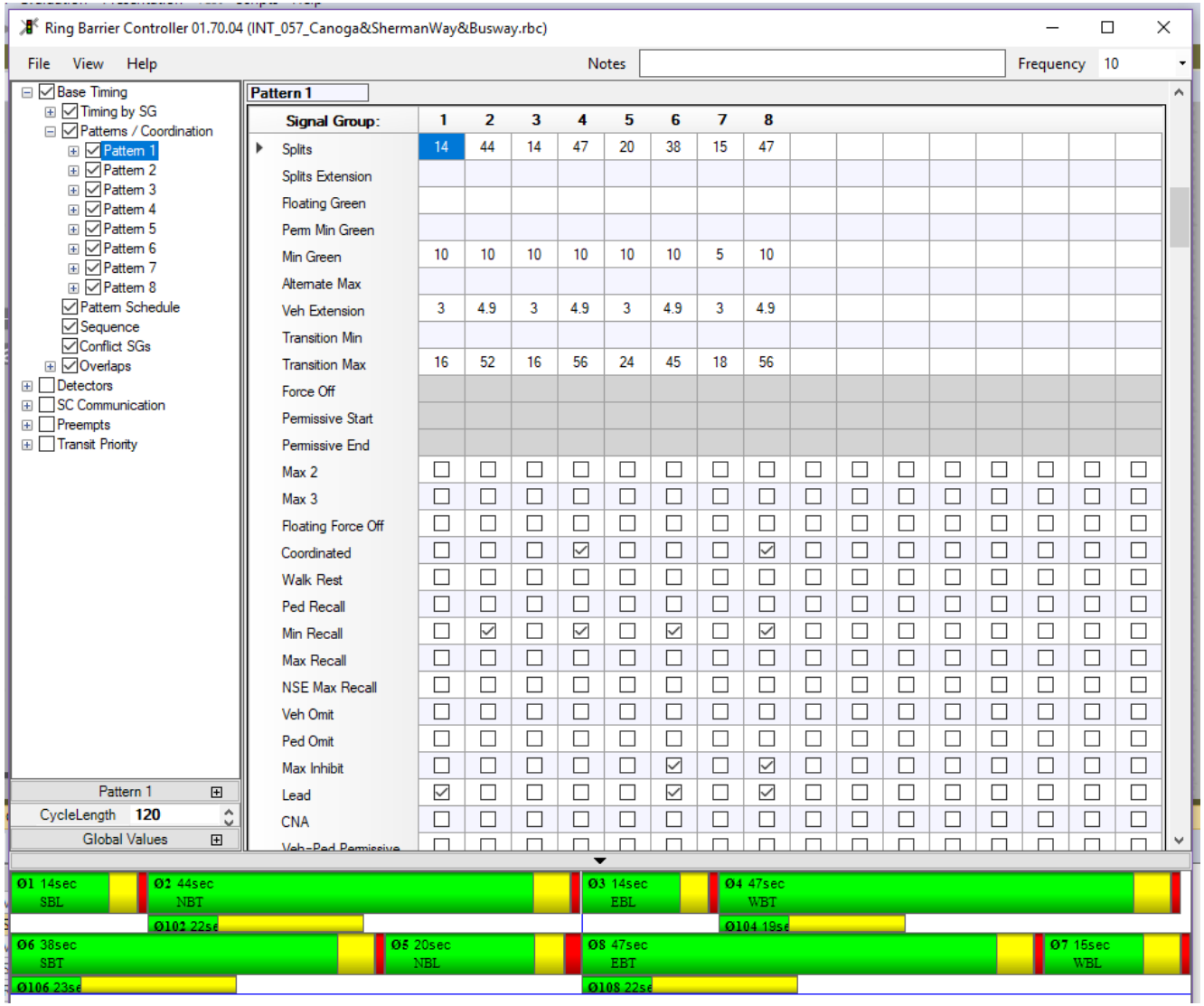
3) Pattern (Coordination Plan) Timing Inputs:



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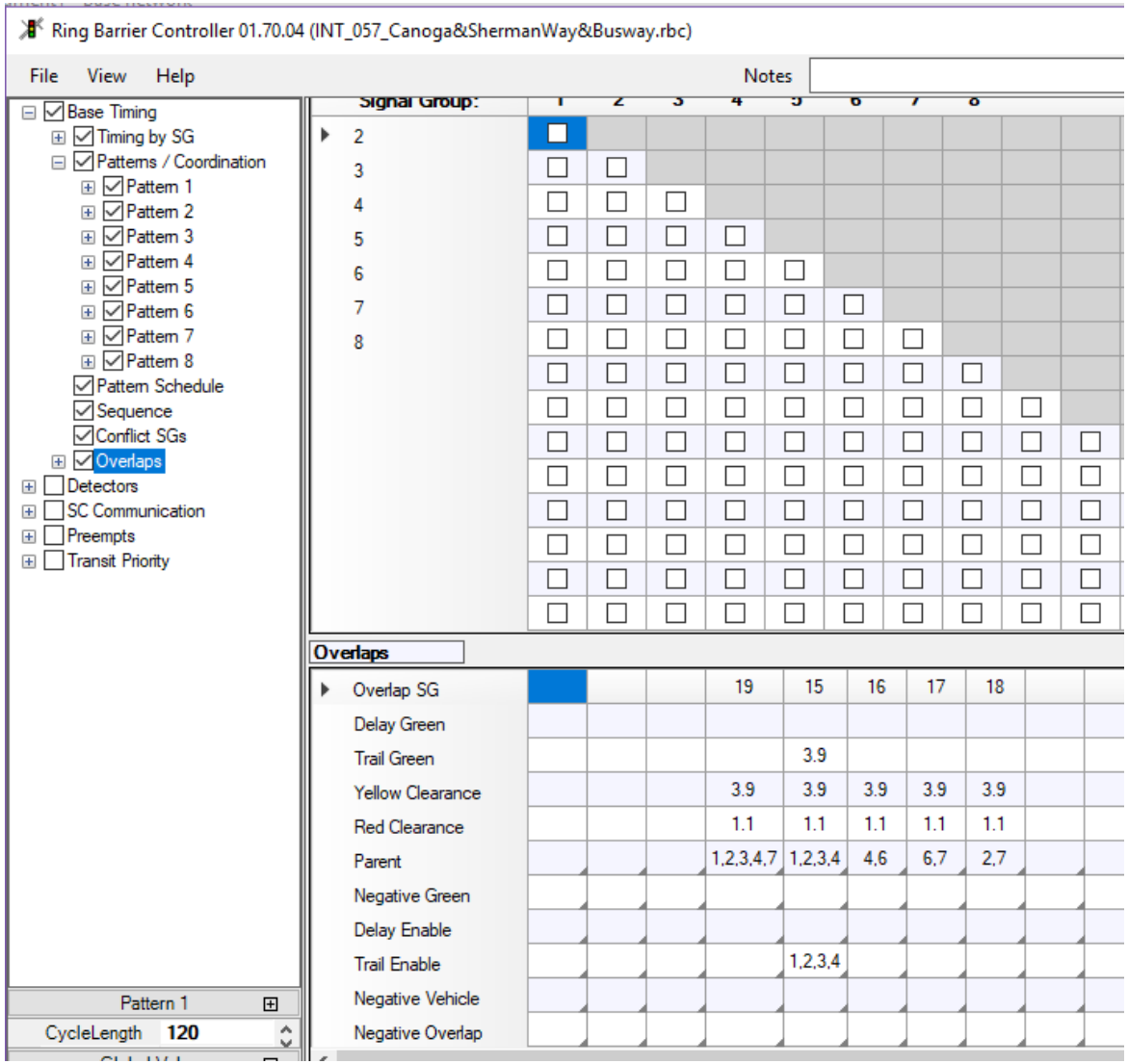
4) Overlap Inputs:



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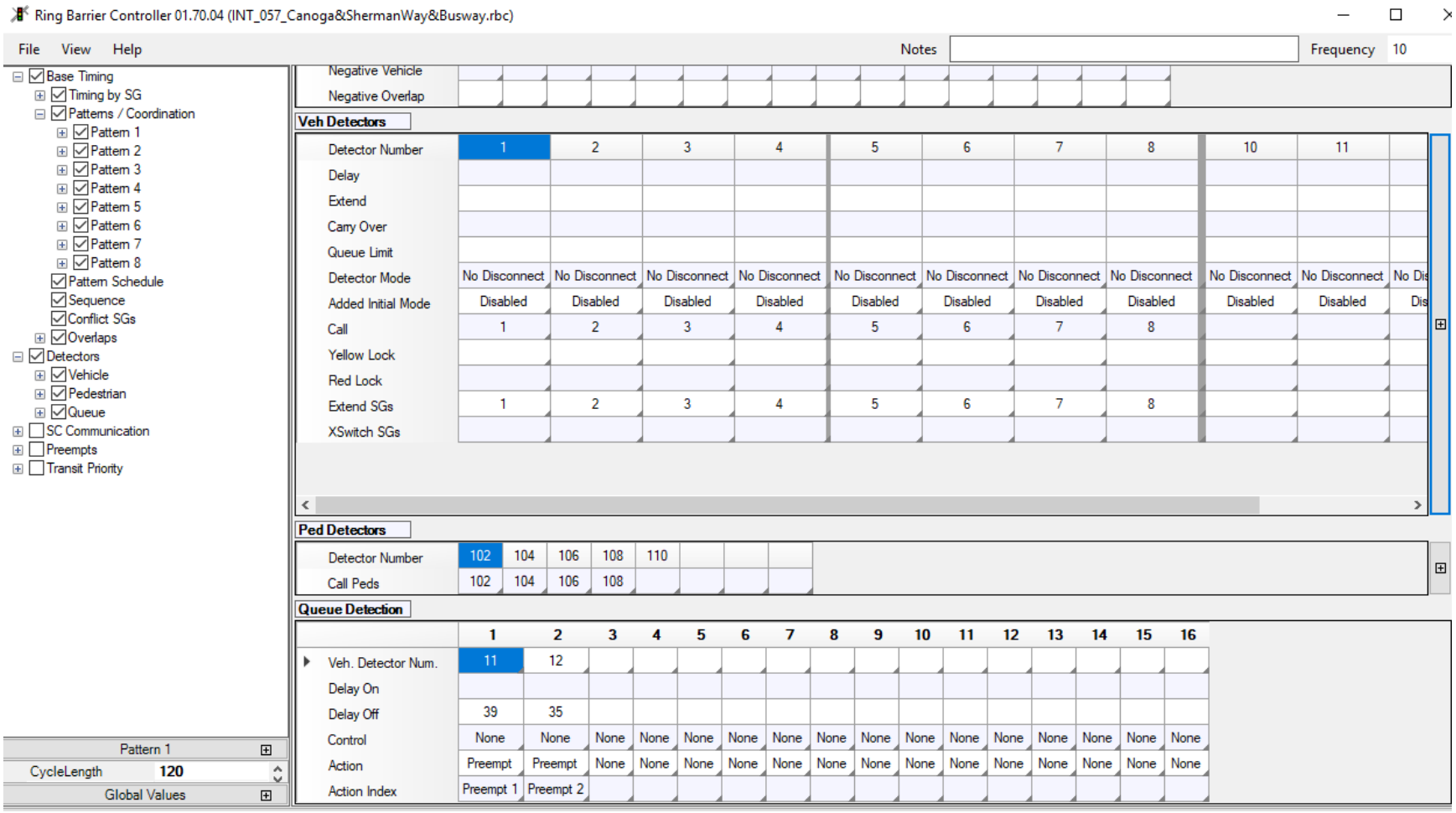
5) Detector Inputs:



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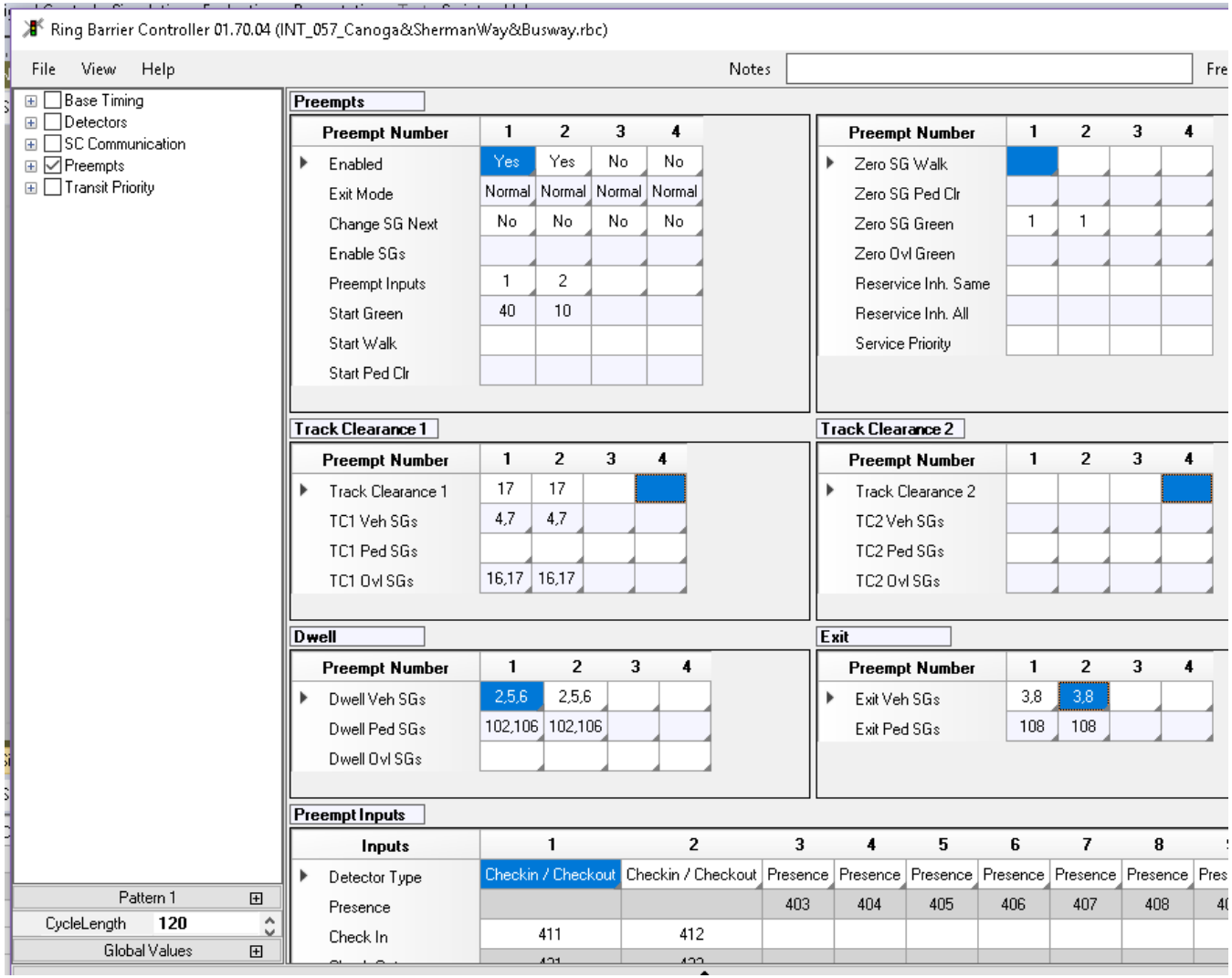
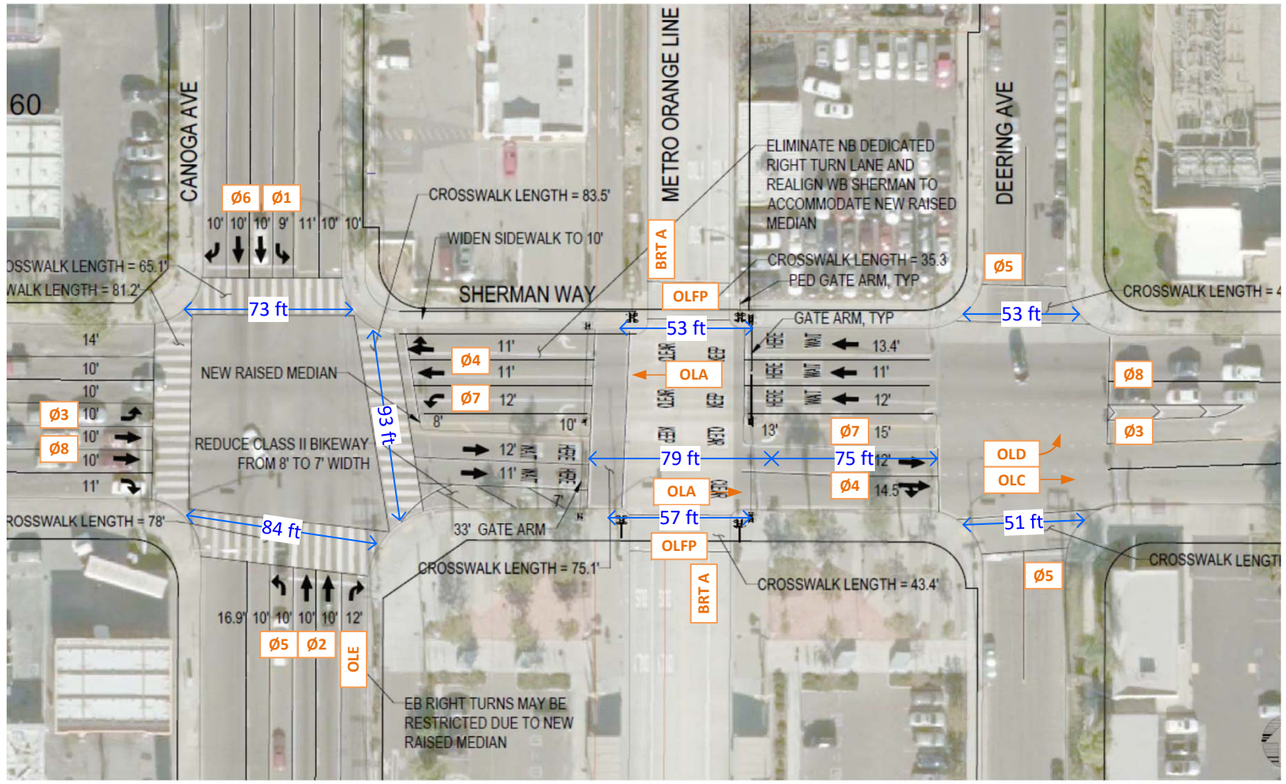
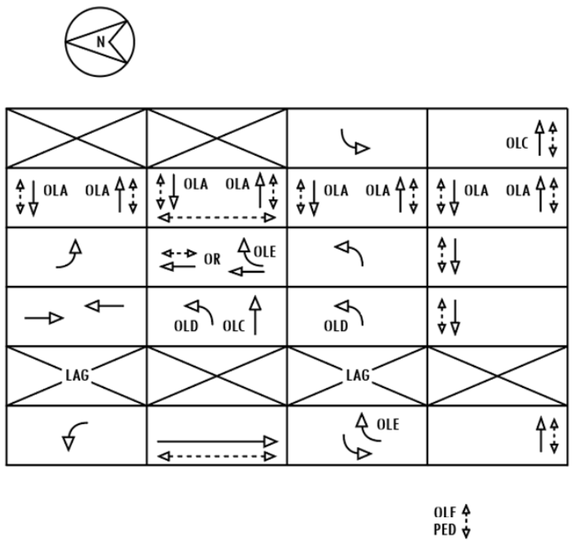
6) Preempt Inputs:



Gate Concept Design

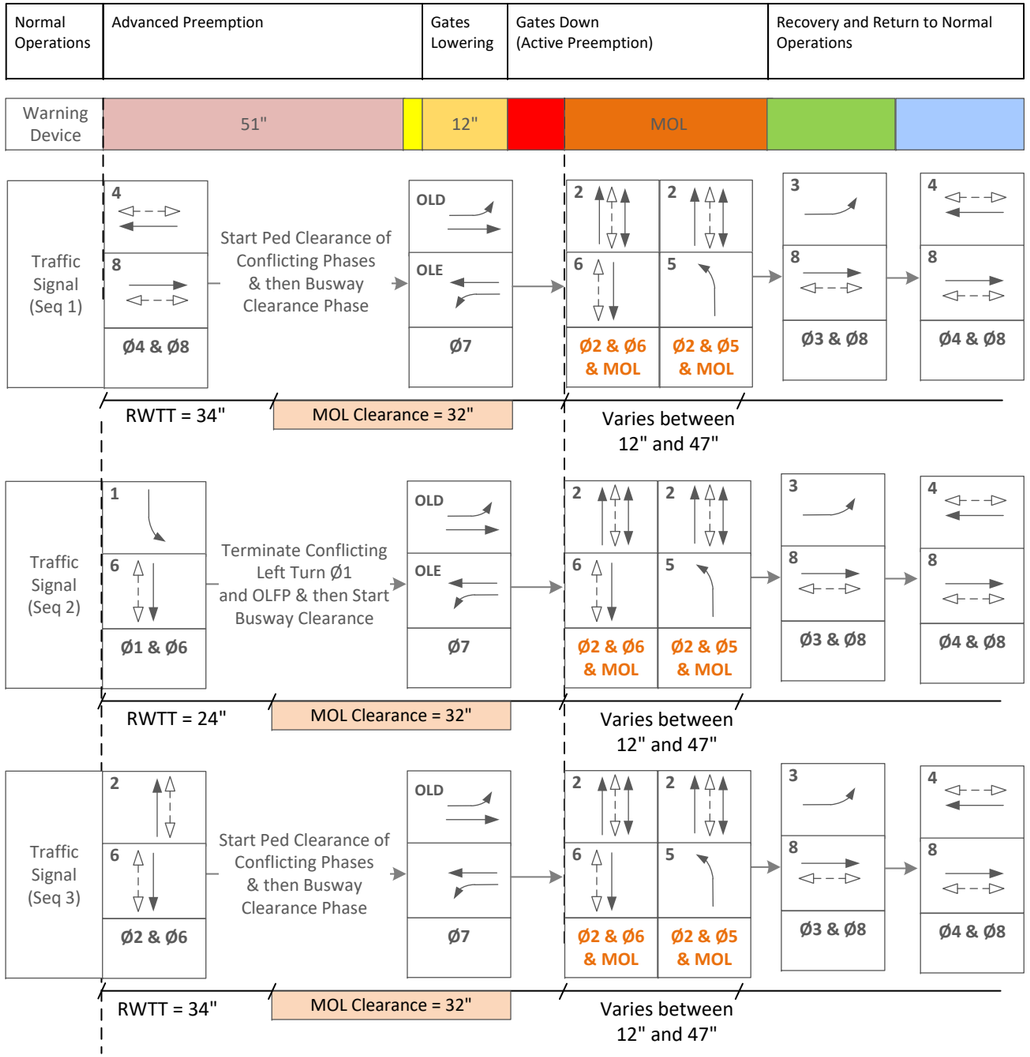


Future with Gates Phasing Diagram



OLA: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4 & Ø6
OLD: Ø6 & Ø7
OLE: Ø2, Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence



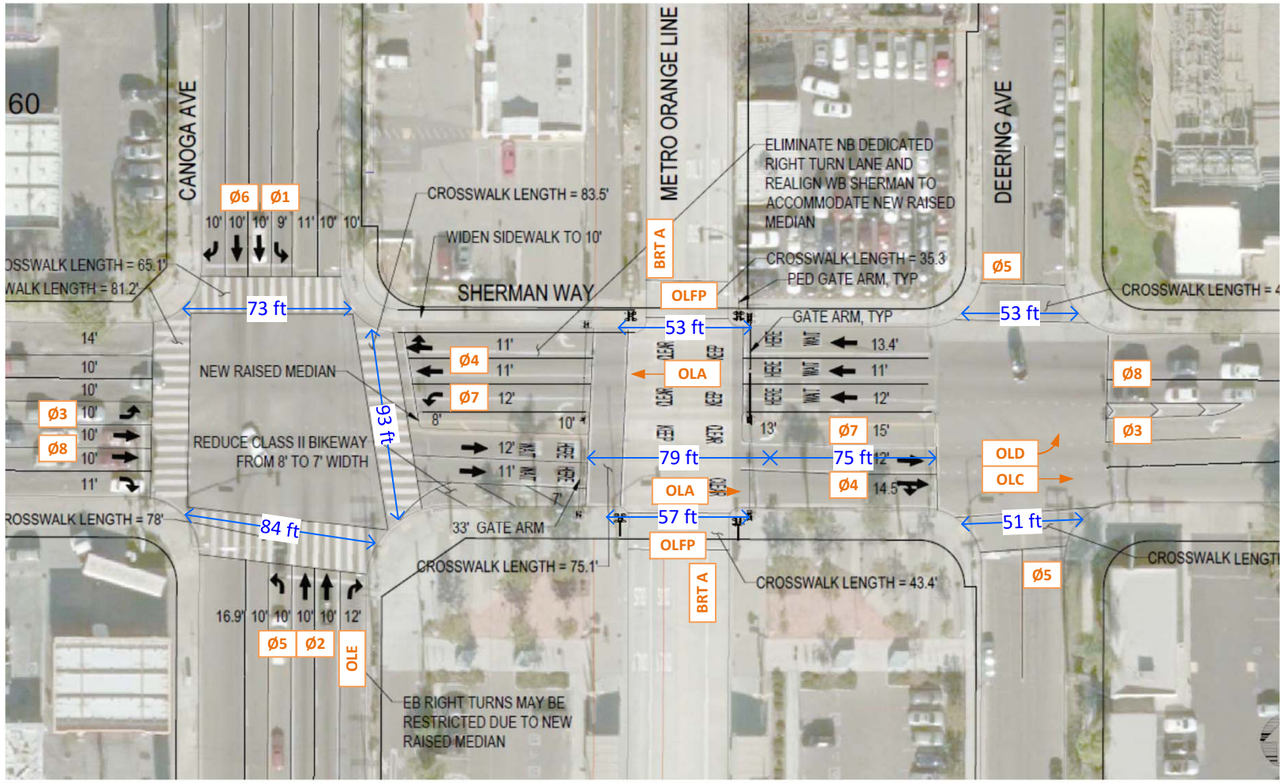
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

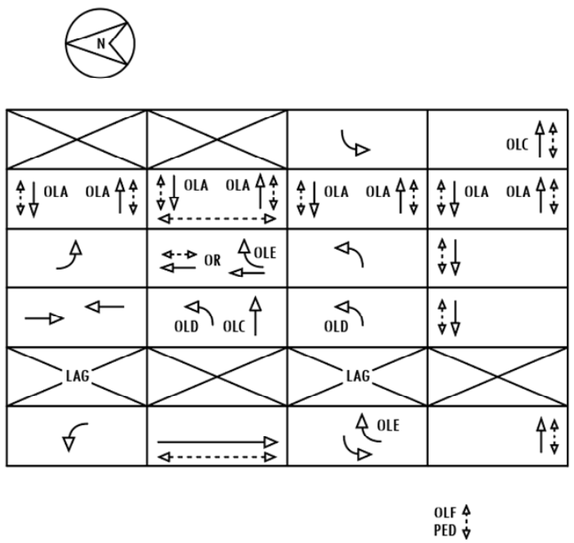
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 29A
Sherman Way and Canoga Avenue

Gate Concept Design



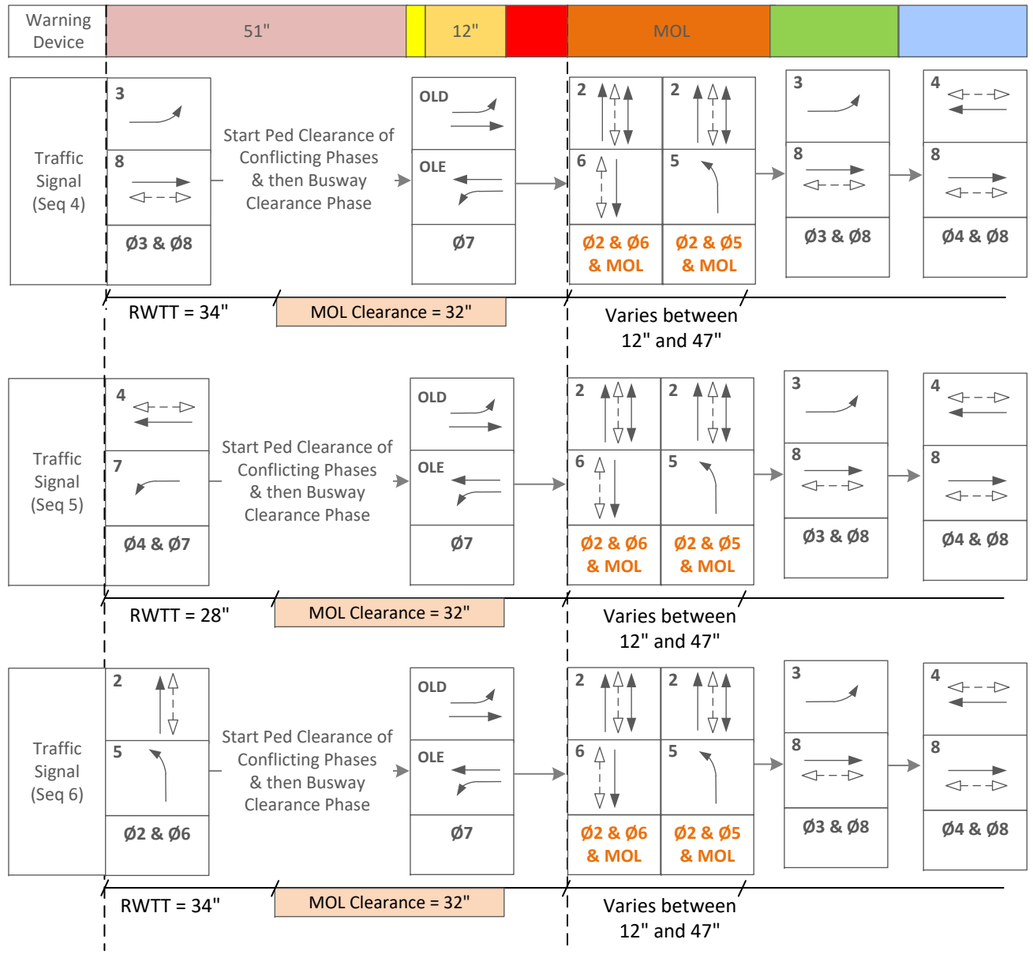
Future with Gates Phasing Diagram



OLA: Ø1, Ø2, Ø3, and Ø4
OLC: Ø4 & Ø6
OLD: Ø6 & Ø7
OLE: Ø2 & Ø7
OLF: Ø1, Ø2, Ø3, and Ø4
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 29B
Sherman Way and Canoga Avenue

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Sherman Way	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	92	ft	Grade	0.0 %
Clear Storage Distance, CSD	75	ft		
Length, L	**167**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	7	4	3	2	
Start moving last vehicle in L (sec)	**12.7**	**8.3**	**8.0**	**10.0**	**13**
Move front of vehicle thru L (sec)	9.0	9.9	8.2	17.9	18
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**7.0**	**8.4**	**7.3**	**17.3**	**17**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**32**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**30**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	22	sec	
Minimum Green	10	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**34**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**77**	sec	*for actual Separation Time*

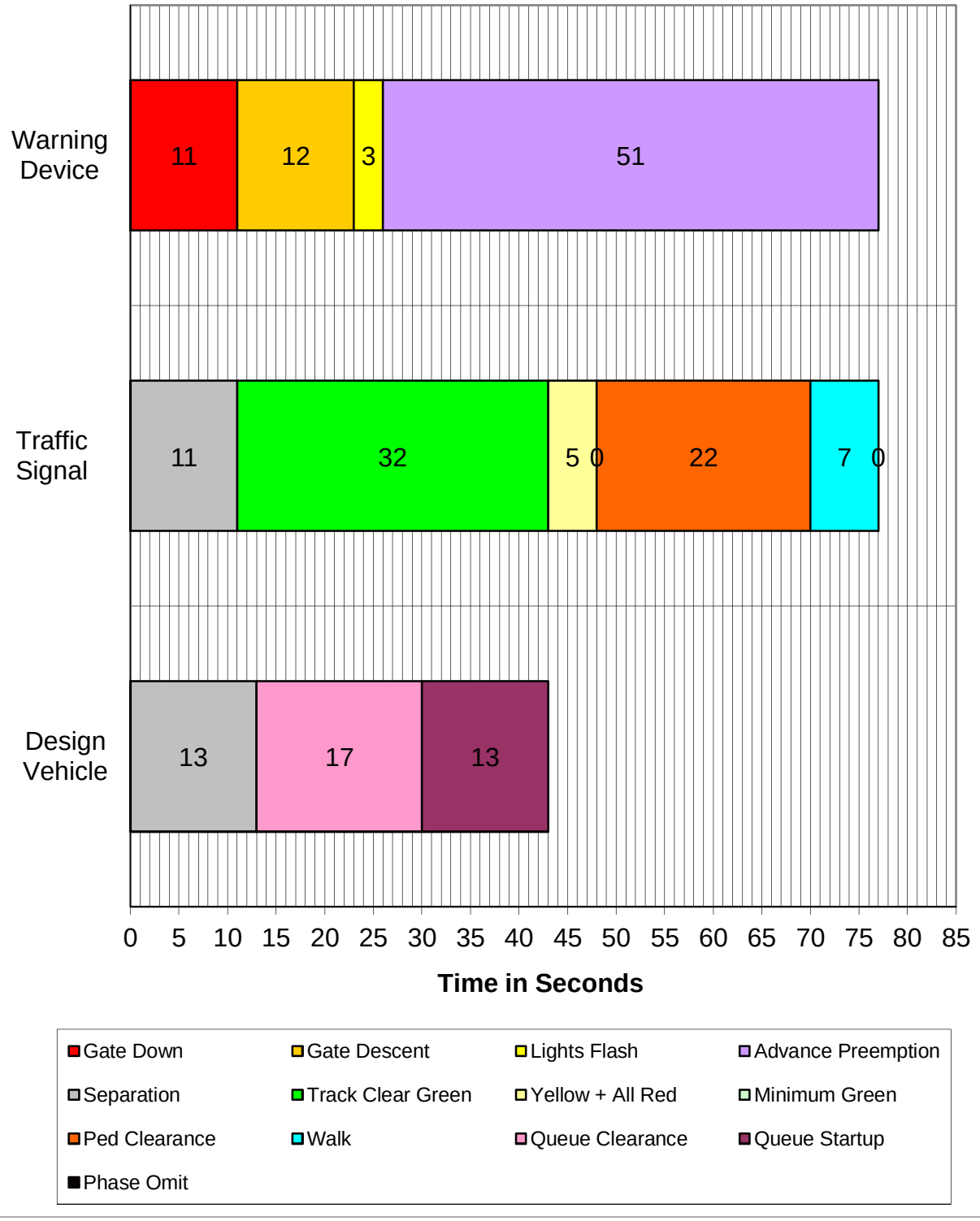
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	6	sec	6 sec minimum
Minimum Warning Time, MWT	**26**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**26**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**51**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**82**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5412**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Sherman Way	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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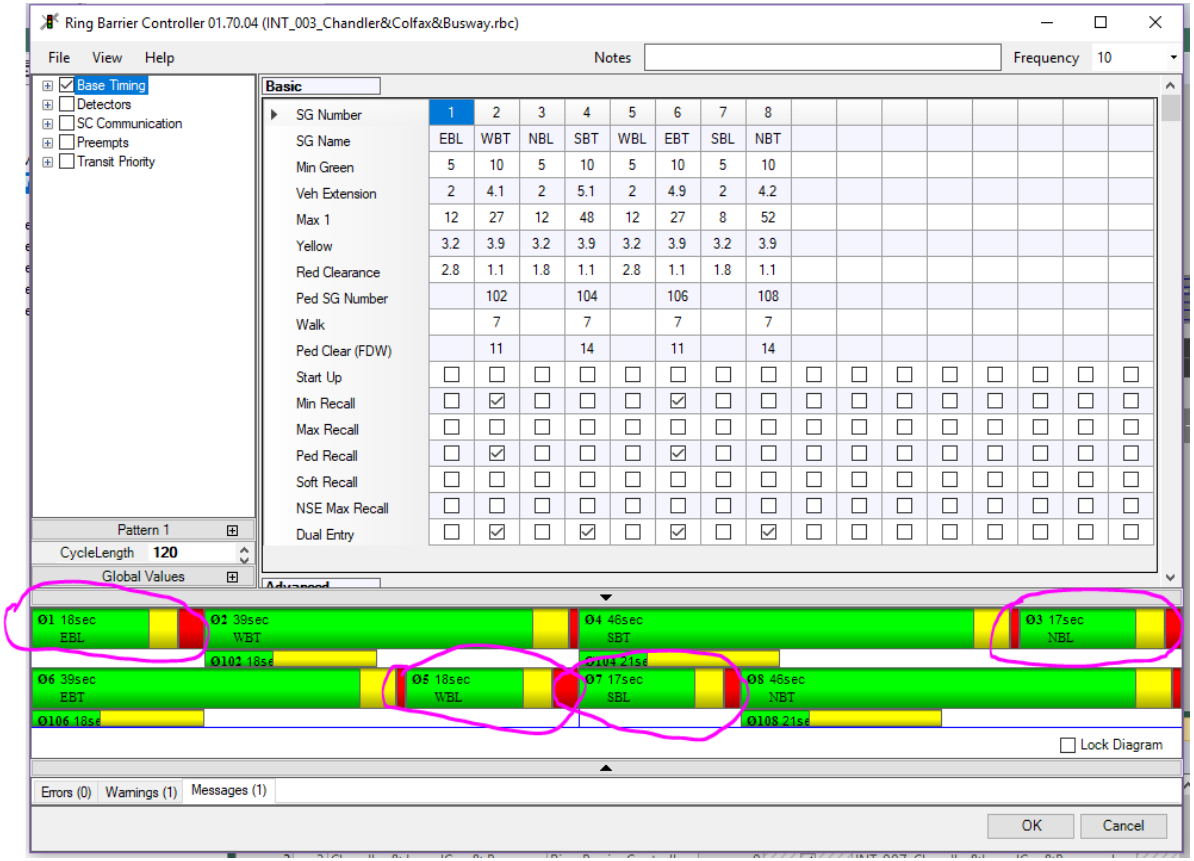
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 9: Chandler/Colfax

1) Basic Timing Inputs:

i. Northbound and southbound lead-lag left-turn phasing
ii. Eastbound and westbound lead-lag left-turn phasing



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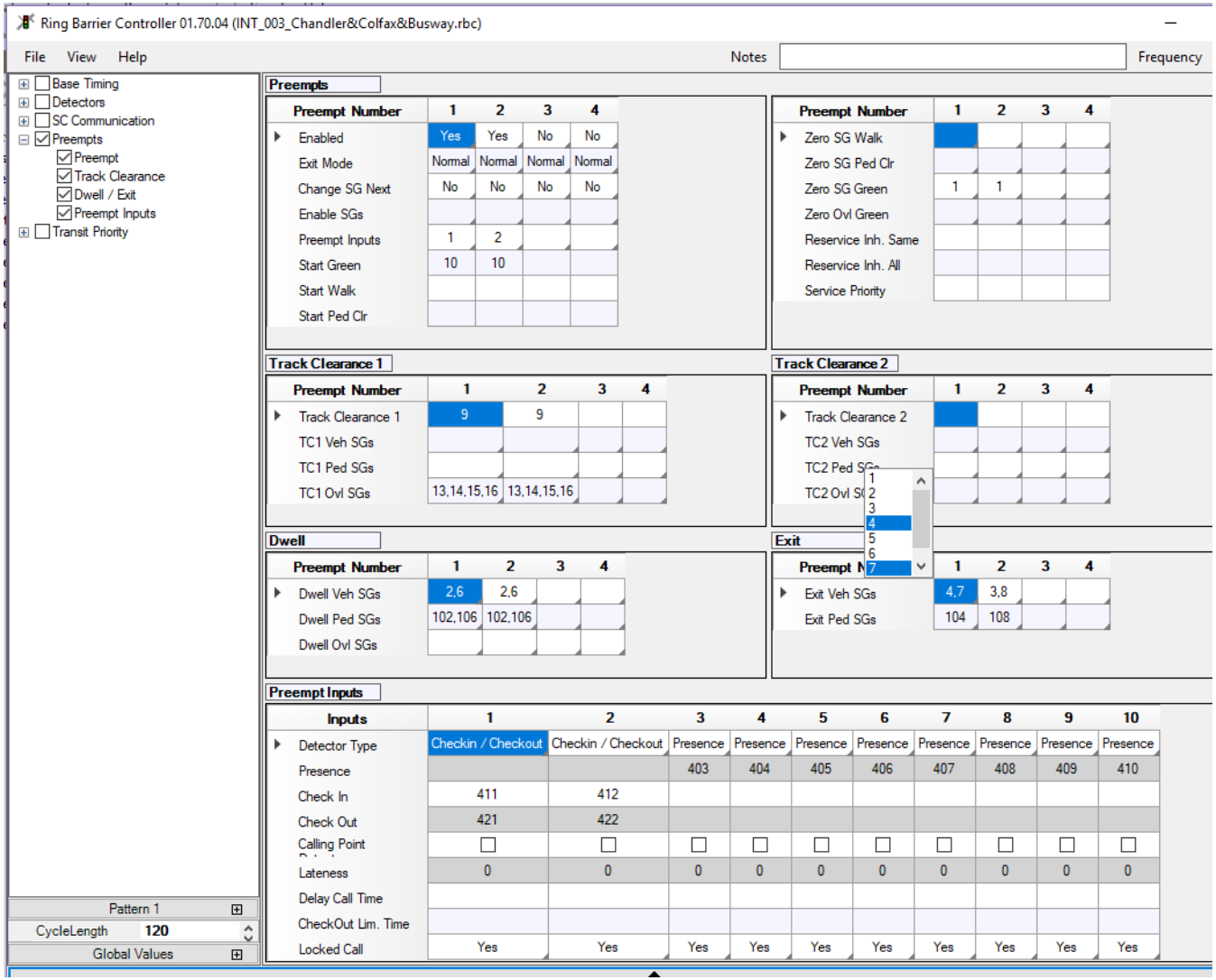
2) Preempt Inputs:



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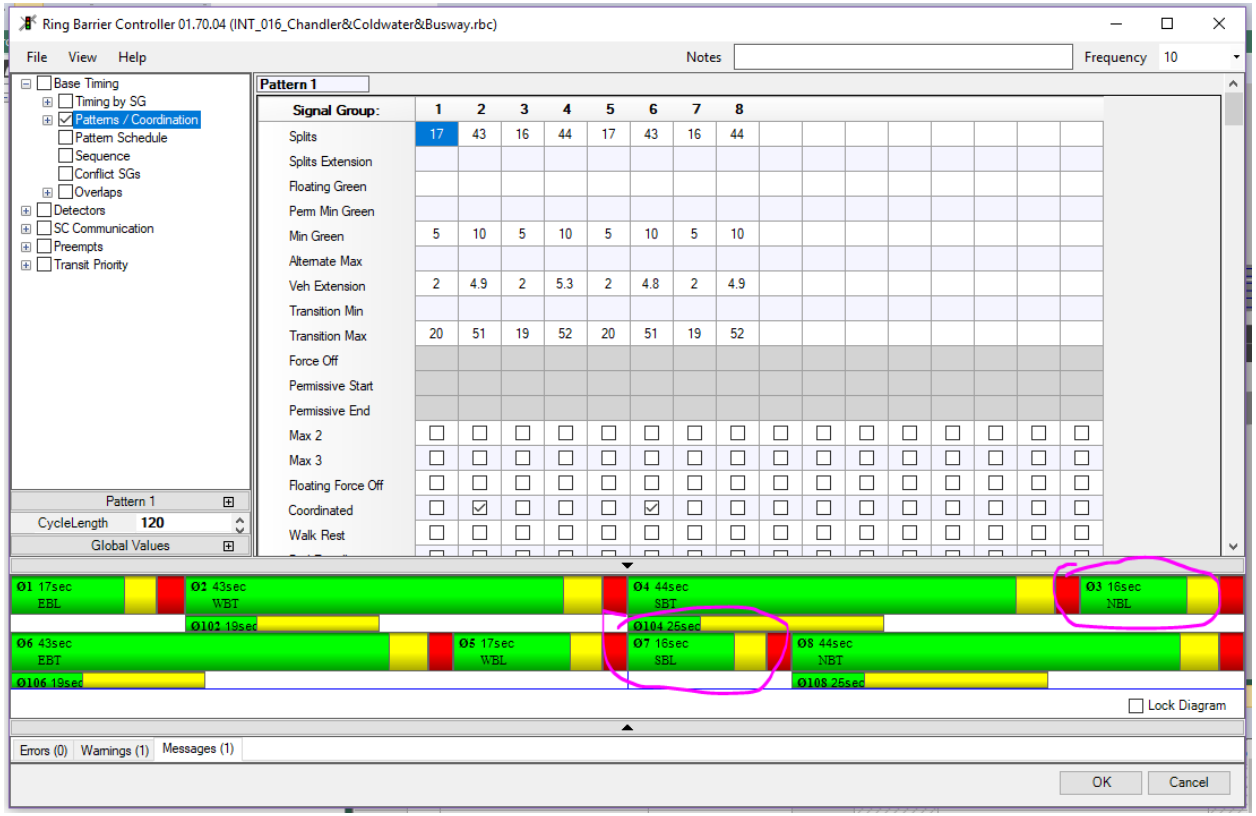
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 10: Chandler/Coldwater Canyon

1) Basic Timing Inputs:

Northbound and southbound lead-lag left-turn phasing



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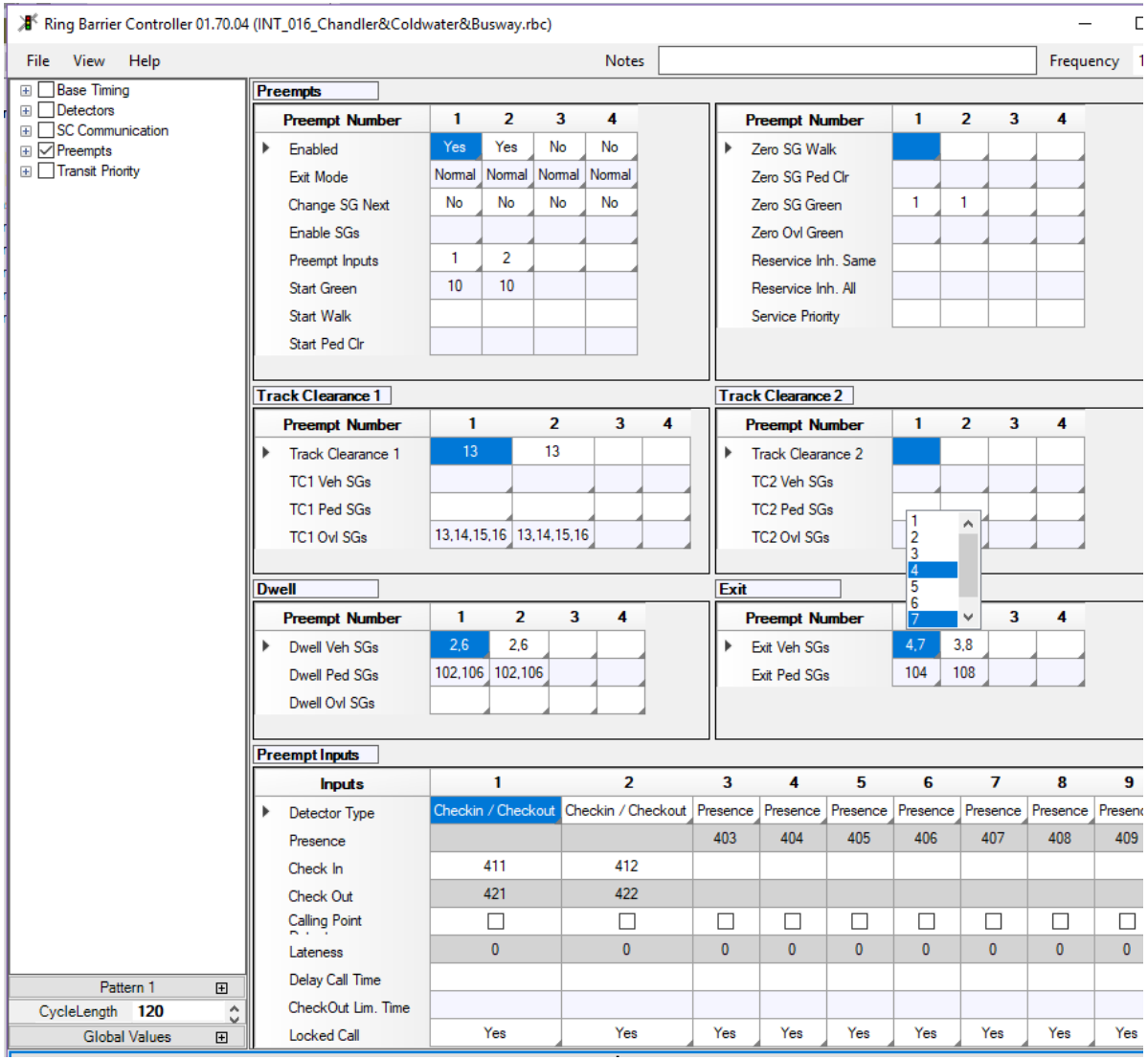
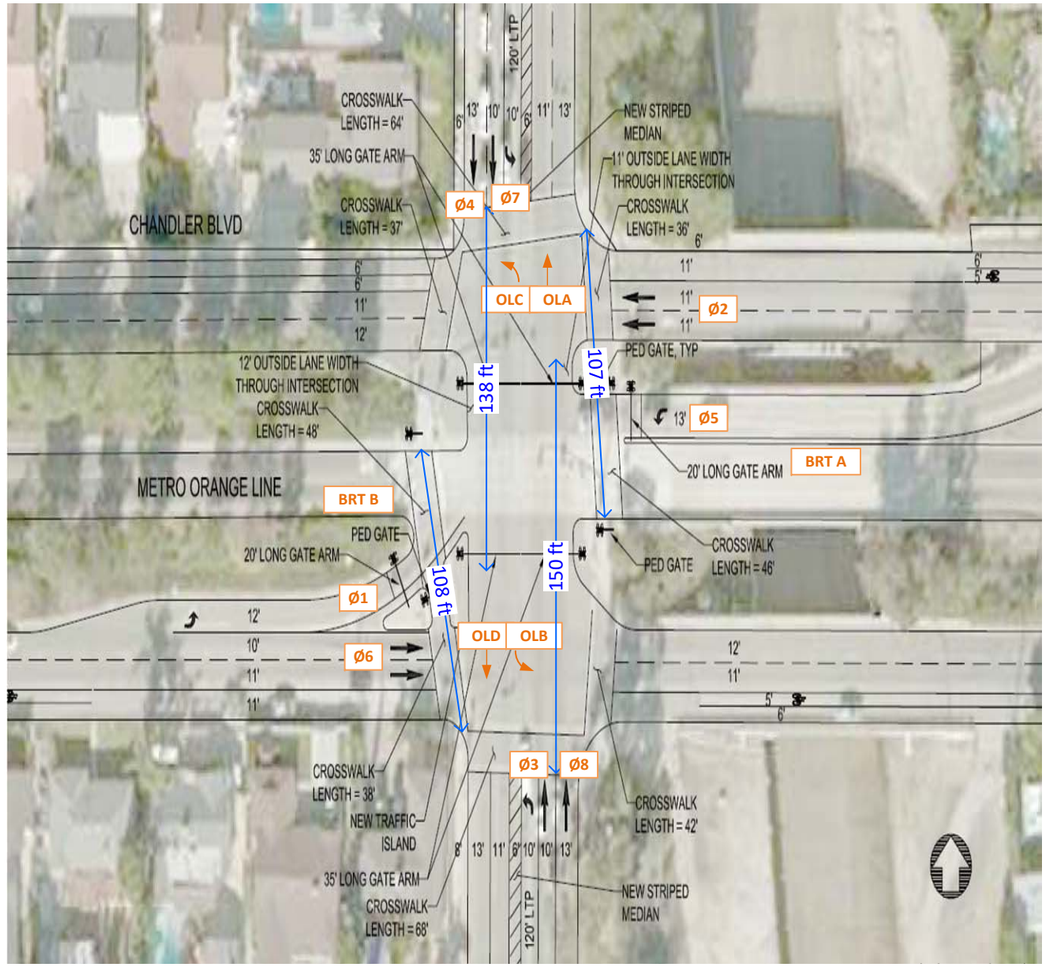
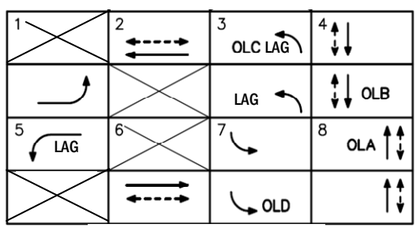
2) Preempt Inputs:



Gate Concept Design

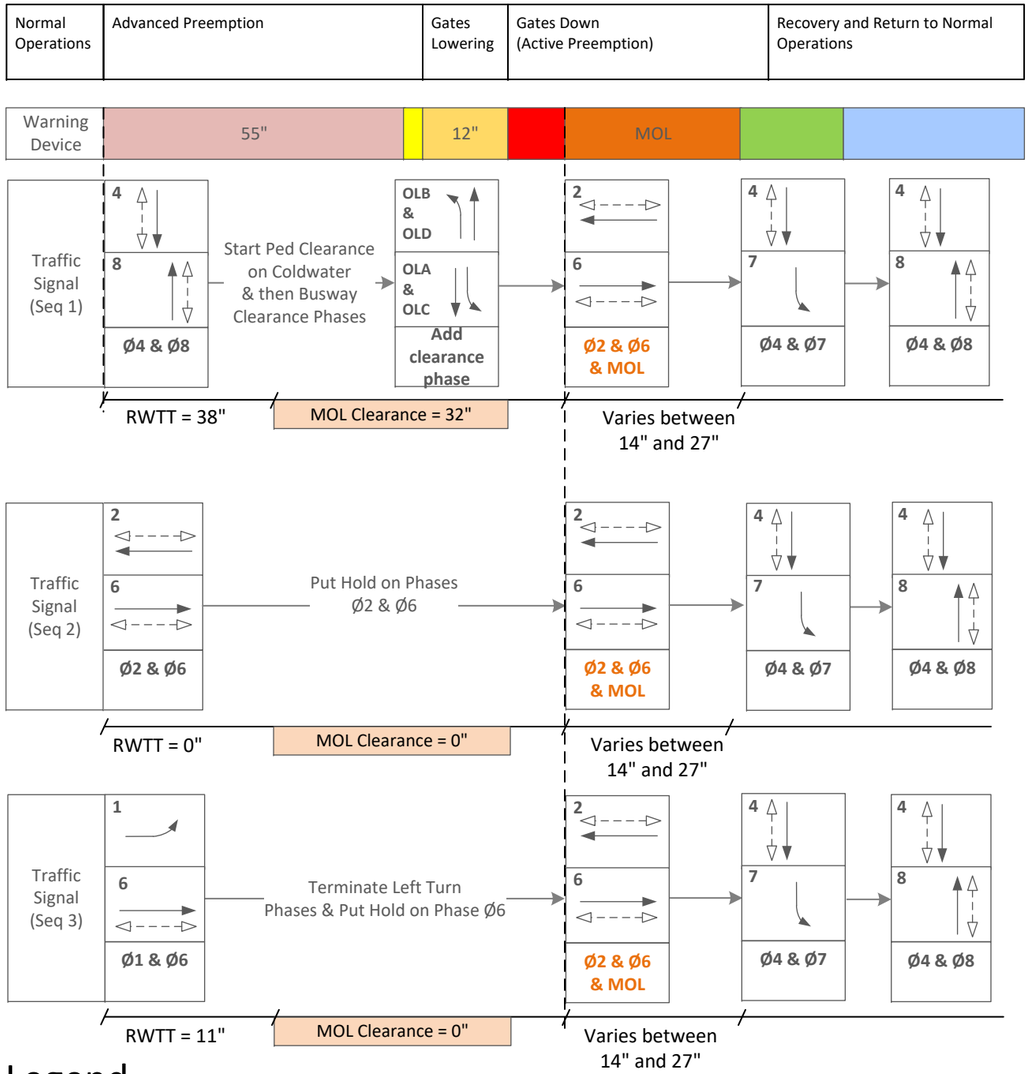


Future with Gates Phasing Diagram



OLA: Ø8
OLB: Ø4
OLC: Ø3
OLD: Ø7

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 7
Chandler Boulevard and Coldwater Canyon Avenue

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Coldwater	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0 ft	Grade	0.0	%
Maximum Conflicting Move Distance	0 ft	Grade	0.0	%
Minimum Track Clearance Dist, MTCD	150 ft	Grade	0.0	%
Clear Storage Distance, CSD	0 ft			
Length, L	**150** ft			

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	7	4	3	2	
Start moving last vehicle in L (sec)	**12.7**	**8.3**	**8.0**	**10.0**	**13**
Move front of vehicle thru L (sec)	8.5	9.4	7.8	16.9	17
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**8.9**	**10.3**	**8.8**	**20.4**	**20**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**32** sec	*Green Track Clearance*	
MTCD Queue Clearance Time	**33** sec	*extended to Gate Down*	
Minimum Walk	7 sec		
Maximum Ped Clearance	25 sec		
Minimum Green	10 sec		
Maximum Yellow + All Red	6.0 sec		
Maximum RWTT	**38** sec		
Separation Time, ST	5 sec	*See Preemption Timeline*	
Maximum Preemption Time, MPT	**87** sec	*for actual Separation Time*	

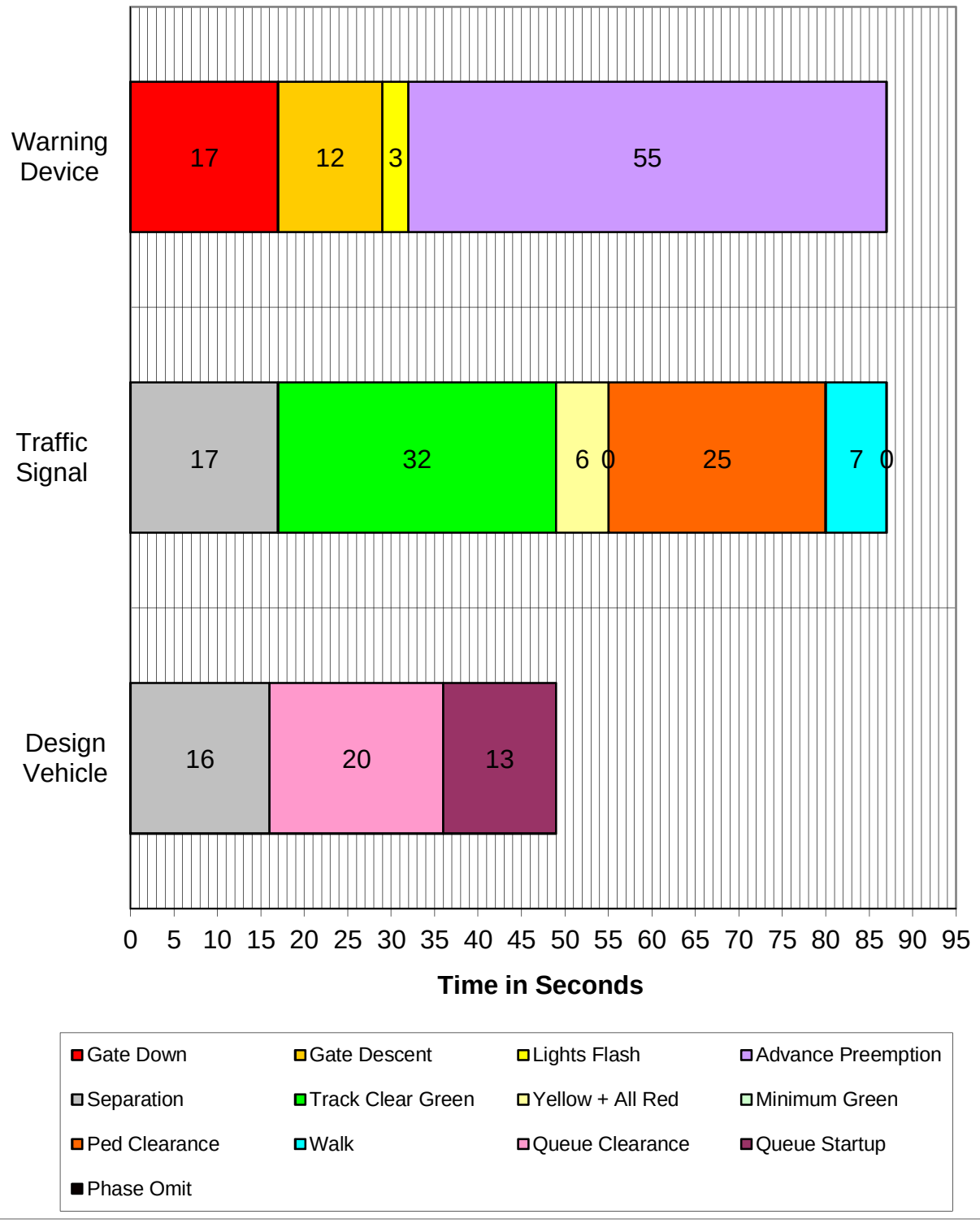
Section 2: Railroad Information

Lights Flash	3 sec	
Gate Descent	12 sec	
Minimum Time, MT	20 sec	
Clearance Time, CT	12 sec	12 sec minimum
Minimum Warning Time, MWT	**32** sec	
Buffer Time, BT	0 sec	
Total Warning Time, TWT	**32** sec	
Include vehicle-gate interaction check?	**Yes**	
Distance from gate to vehicle	6 ft	
Advance Preemption Time, APT	**55** sec	
Equipment Response Time, ERT	5 sec	
Total Approach Time, TAT	**92** sec	
Maximum Authorized Speed, MAS	45 mph	
Total Approach Distance, TAD	**6072** ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Coldwater	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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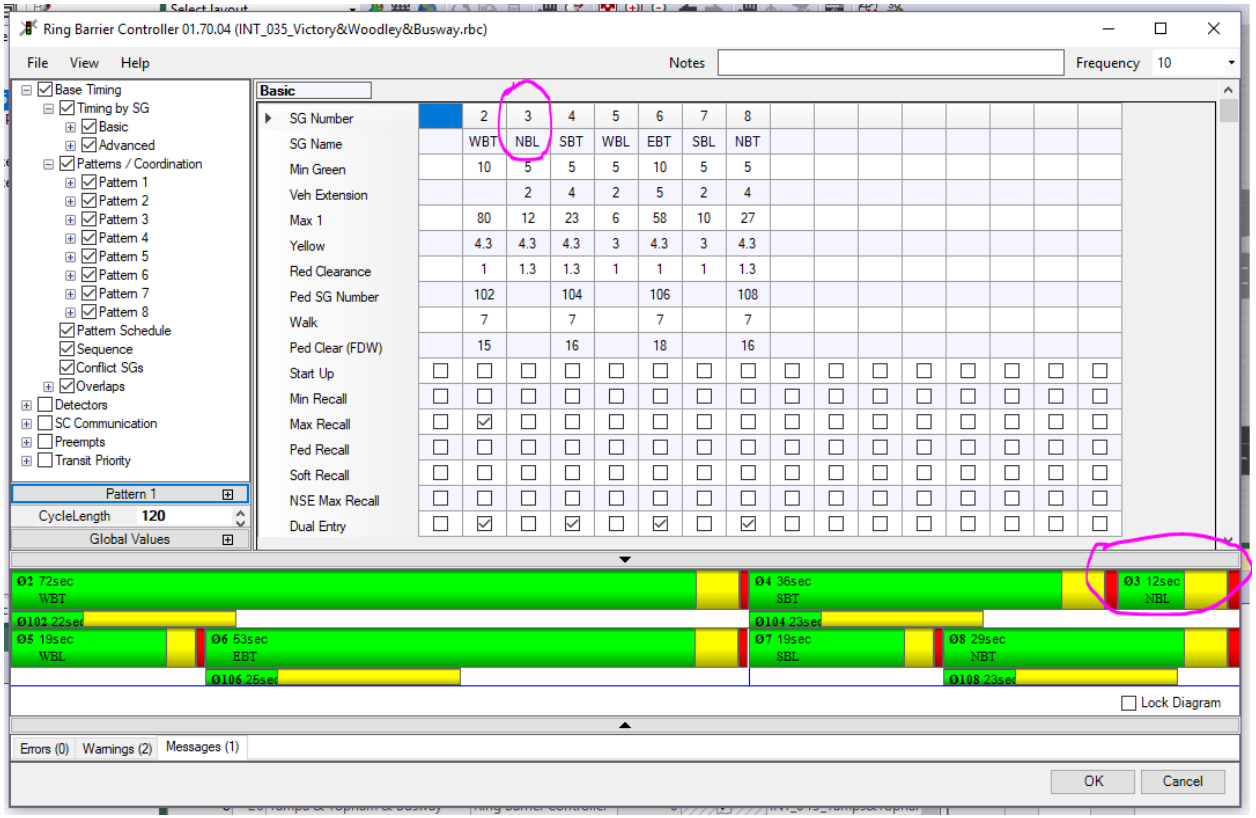
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 11: Woodley/Victory

1) Basic Timing Inputs:

Northbound protected left turn phase



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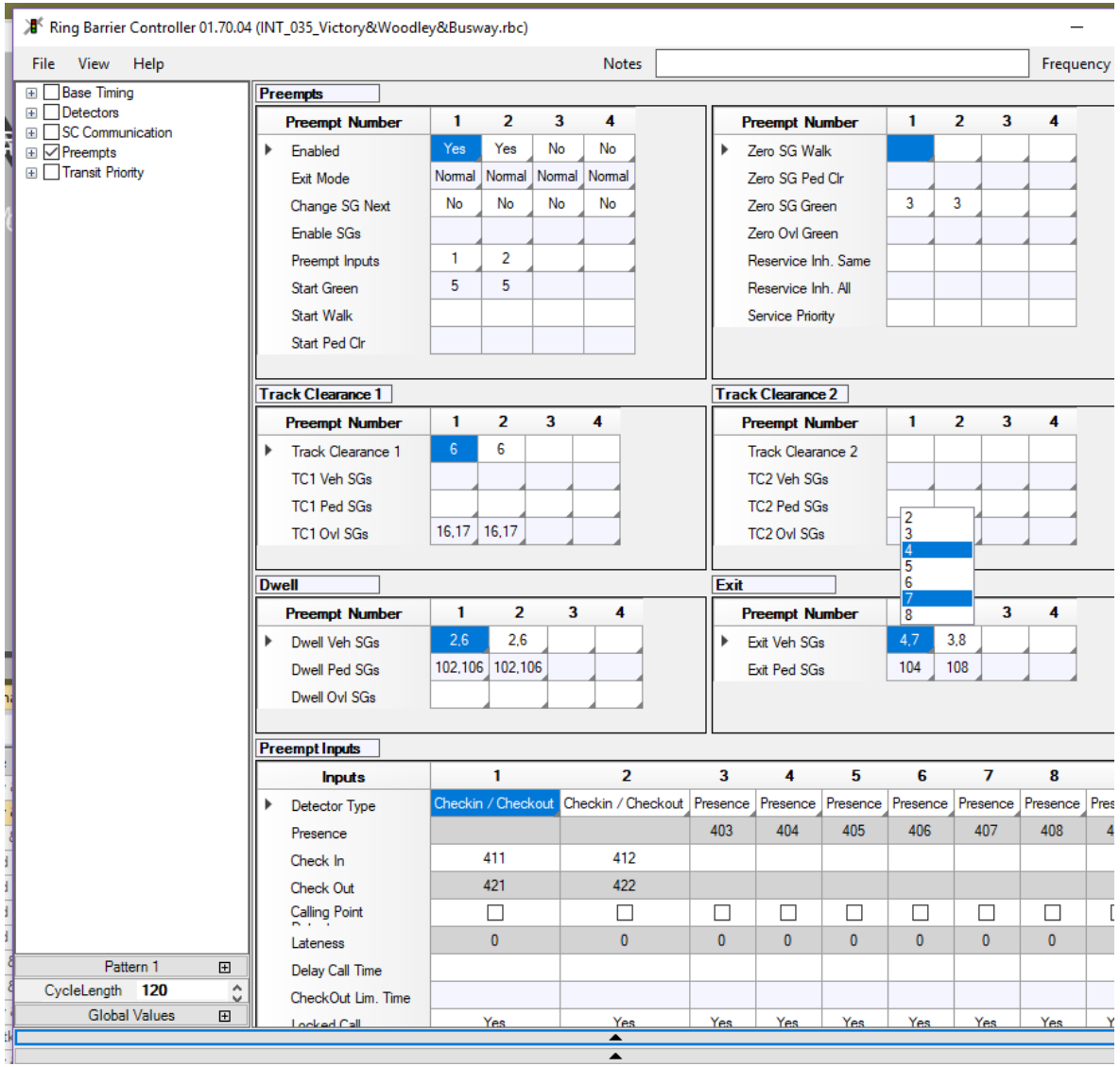
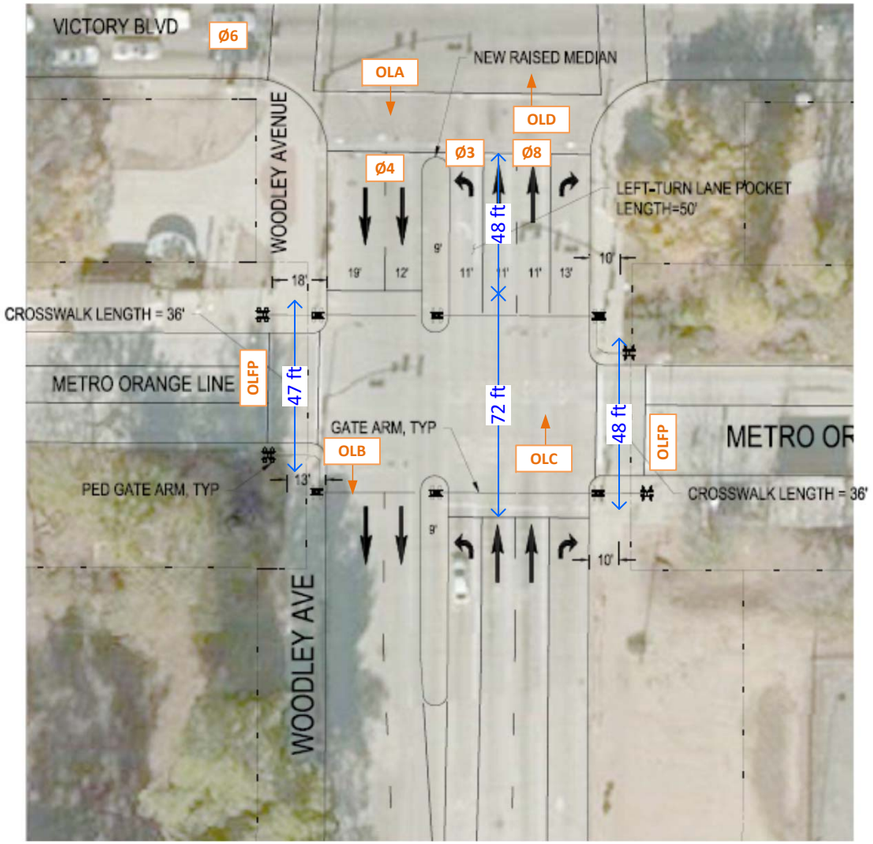
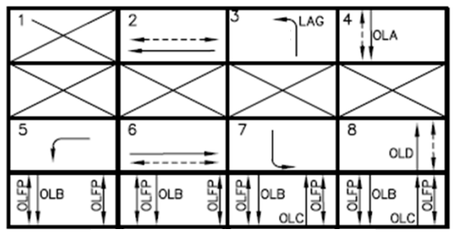
2) Preempt Inputs:



Gate Concept Design



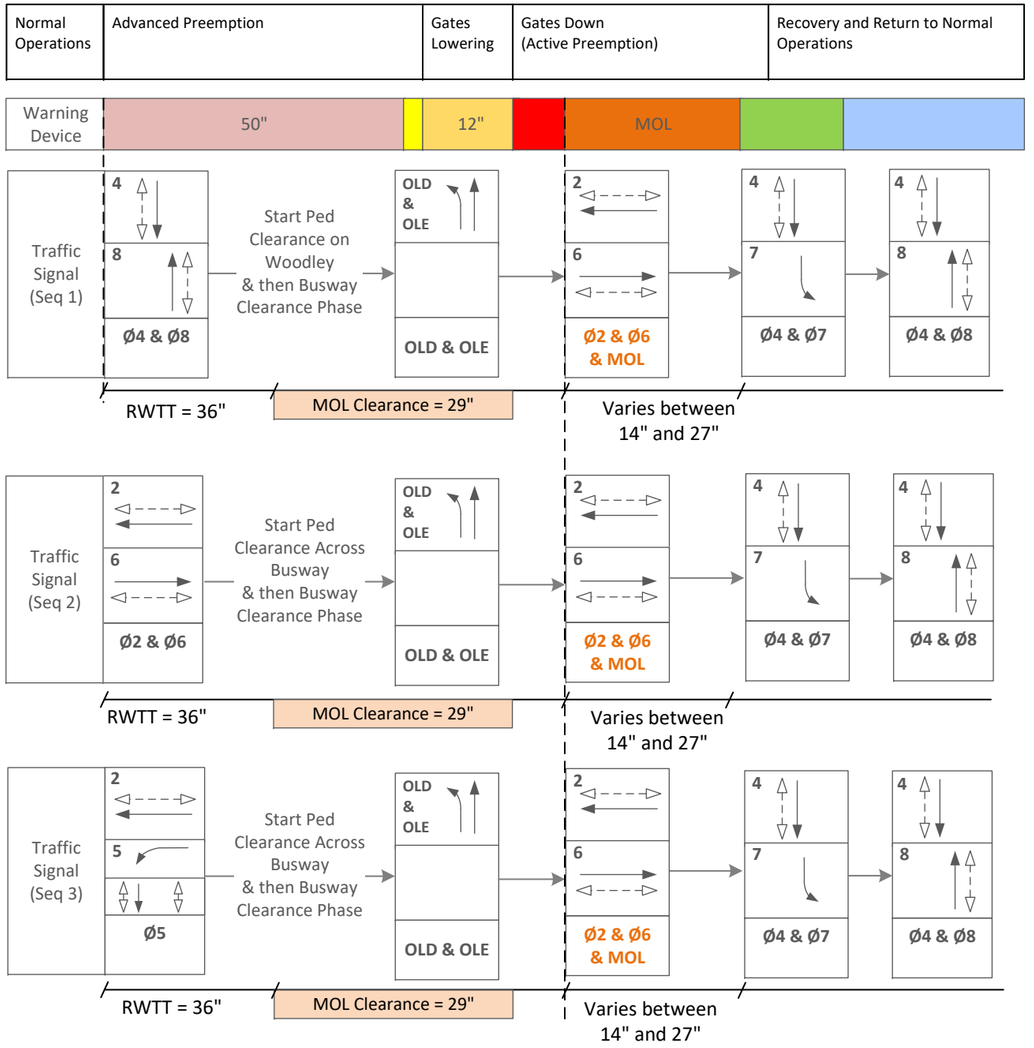
Future with Gates Phasing Diagram



OLA: Ø4
OLB: Ø5, Ø6, Ø7, and Ø8
OLC: Ø3 and Ø8
OLD: Ø8
OLE: Ø3
OLFP: Ø5, Ø6, Ø7 and Ø8

BRT: Busway
OLC terminates before OLD & OLE
BRT on or next will prevent or terminate OLB, OLC, and OLF PED

Preemption Sequence



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 16
Victory Boulevard and Woodley Avenue

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Woodley	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade 0.0	%
Maximum Conflicting Move Distance	0	ft	Grade 0.0	%
Minimum Track Clearance Dist, MTCD	72	ft	Grade 0.0	%
Clear Storage Distance, CSD	48	ft		
Length, L	**120**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	5	3	2	1	
Start moving last vehicle in L (sec)	**9.8**	**6.9**	**6.2**	**7.0**	**10**
Move front of vehicle thru L (sec)	7.5	8.3	6.9	15.1	15
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**6.3**	**7.6**	**6.7**	**16.1**	**16**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**29**	sec	*Green Track Clearance extended to Gate Down*
MTCD Queue Clearance Time	**26**	sec	
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	7	sec	
Maximum Yellow + All Red	6.0	sec	
Maximum RWTT	**36**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline for actual Separation Time*
Maximum Preemption Time, MPT	**74**	sec	

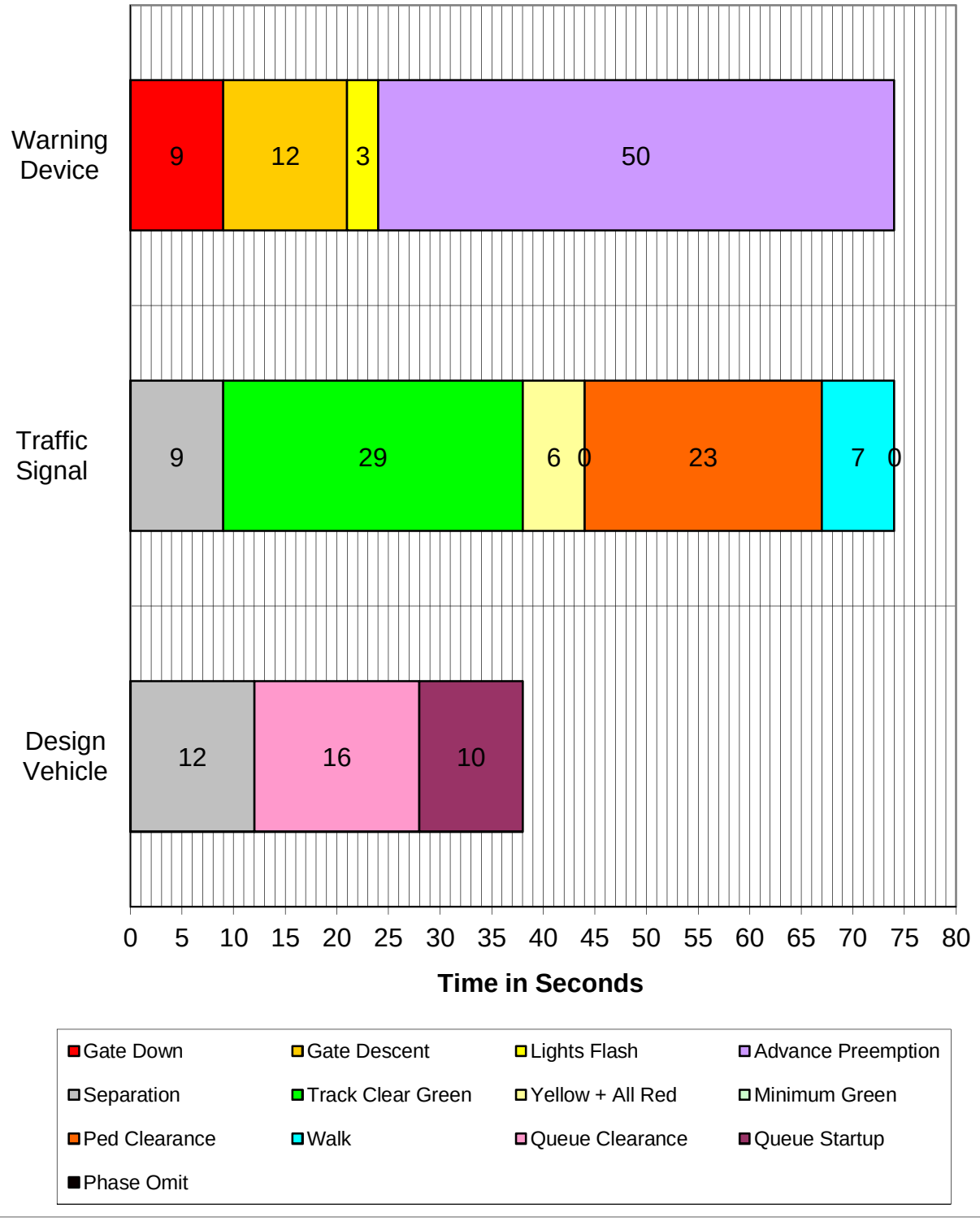
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	4	sec	4 sec minimum
Minimum Warning Time, MWT	**24**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**24**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**50**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**79**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**5214**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Woodley	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**

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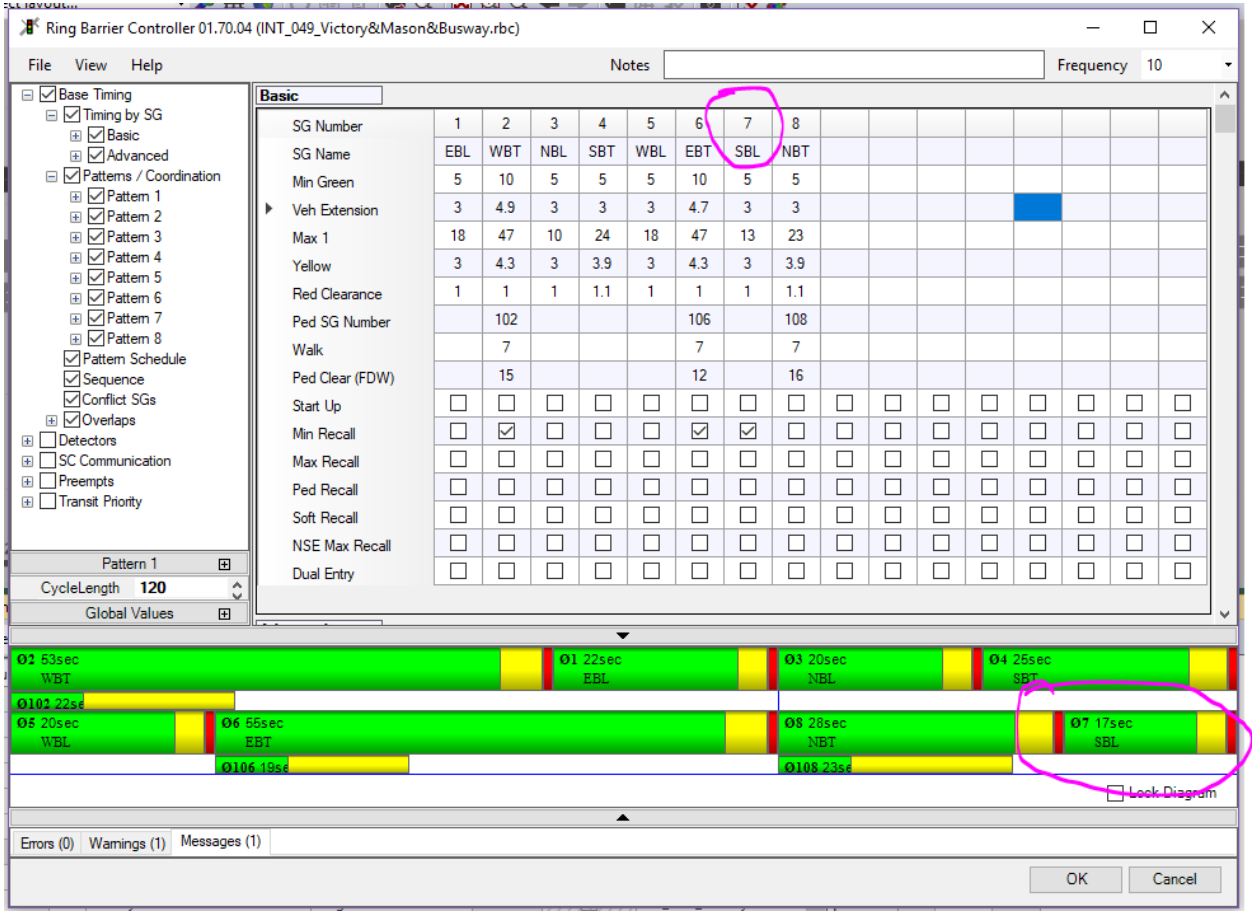
VISSIM Signal Controller Inputs for Future 2025 Scenarios

Signal Location 12: Mason/Victory

1) Basic Timing Inputs:

Southbound protected left turn phase



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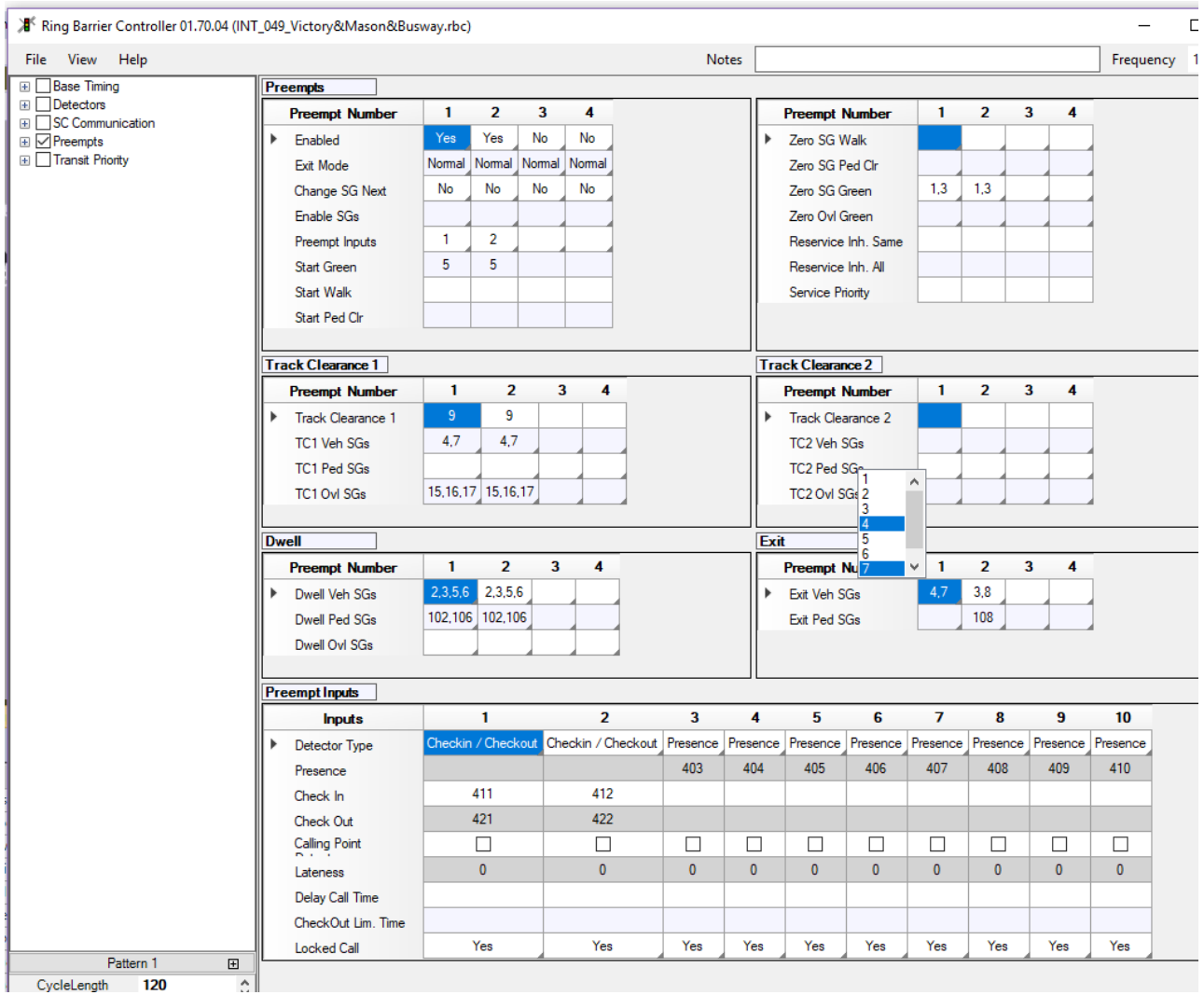
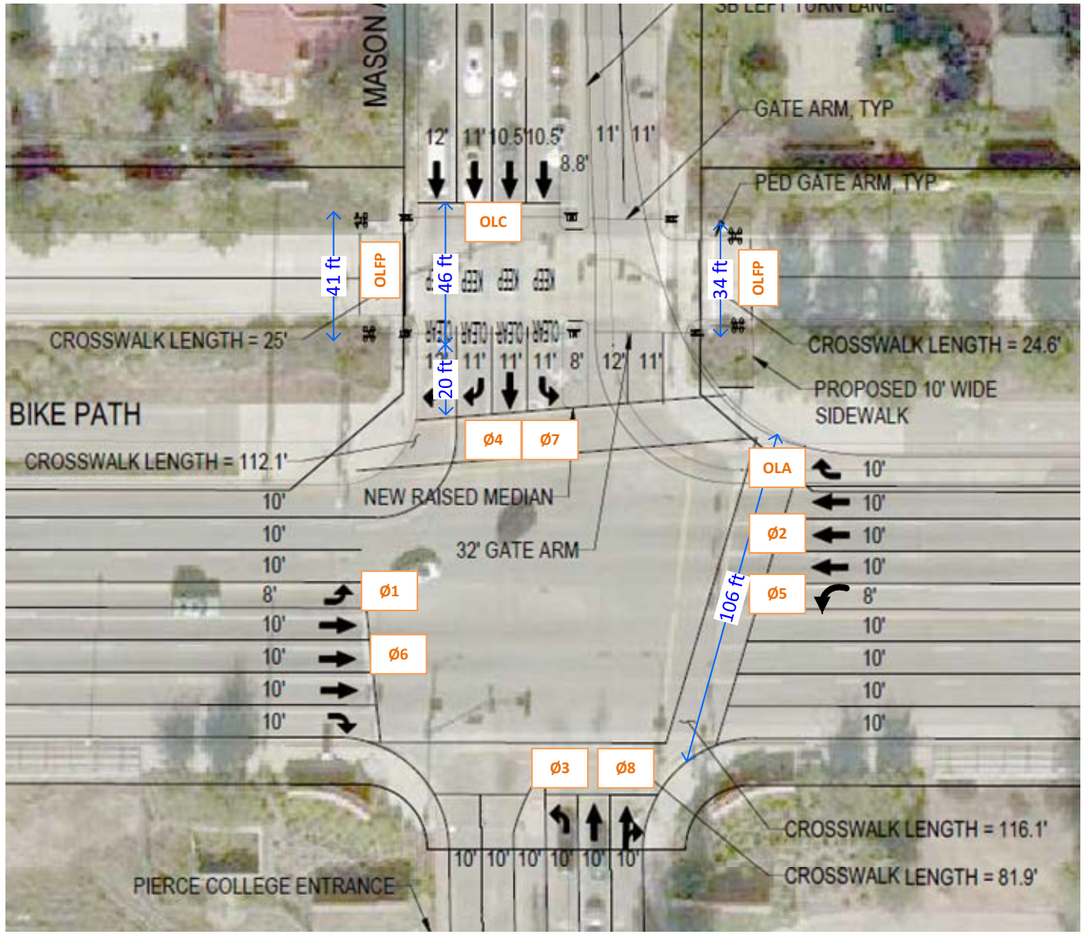
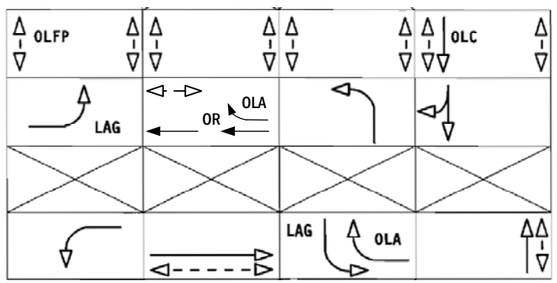
2) Preempt Inputs:



Gate Concept Design



Future with Gates Phasing Diagram

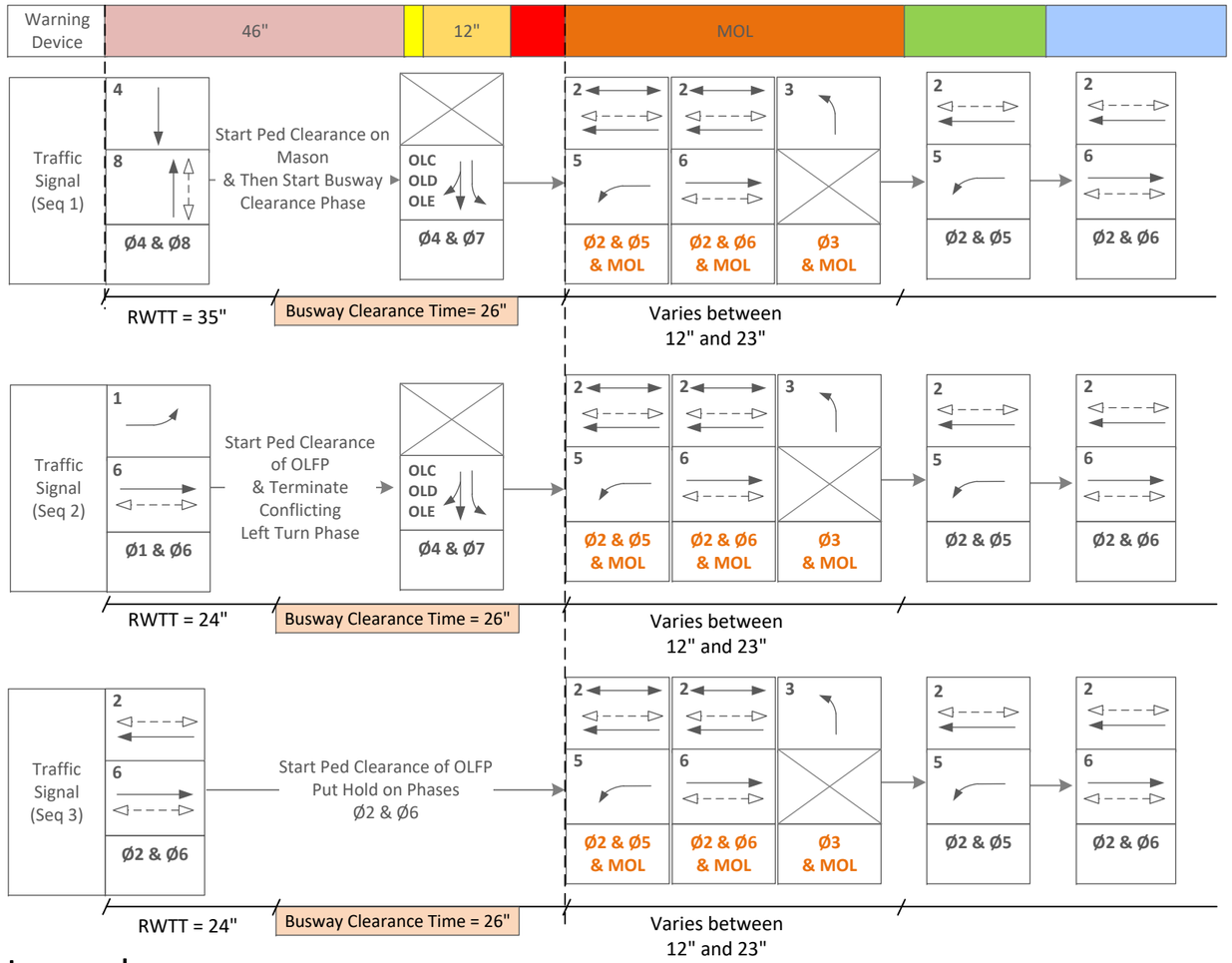


OLA: Ø2 & Ø7
OLC: Ø4 & Ø7
OLFP: Ø1, Ø2, Ø3, and Ø4

OLC Terminates Before OLD&OLE
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



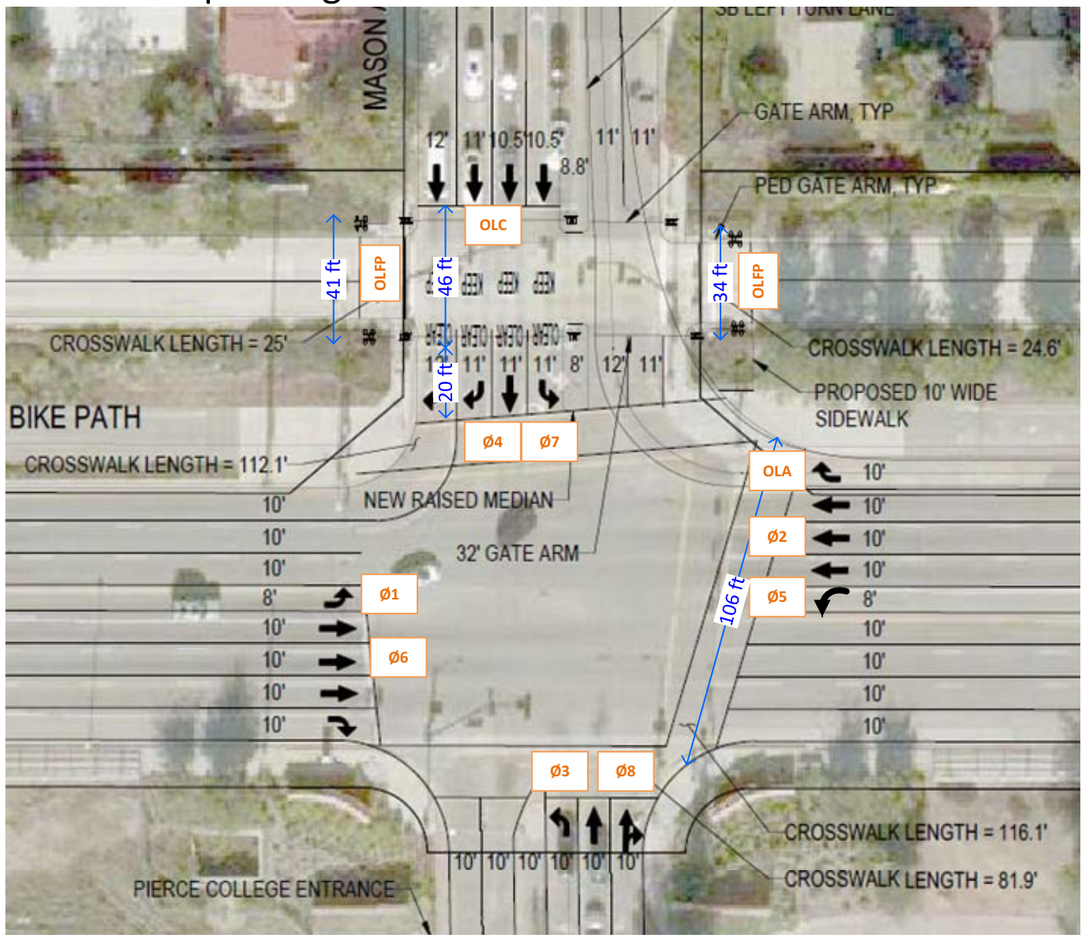
Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

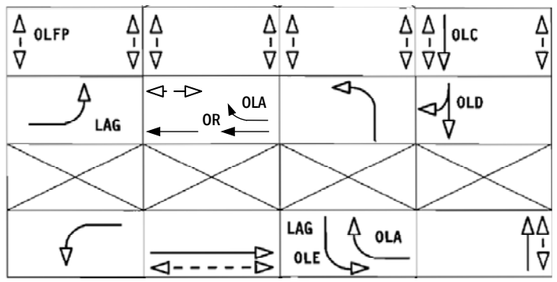
Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 26.A
Mason Avenue and Victory Boulevard

Gate Concept Design



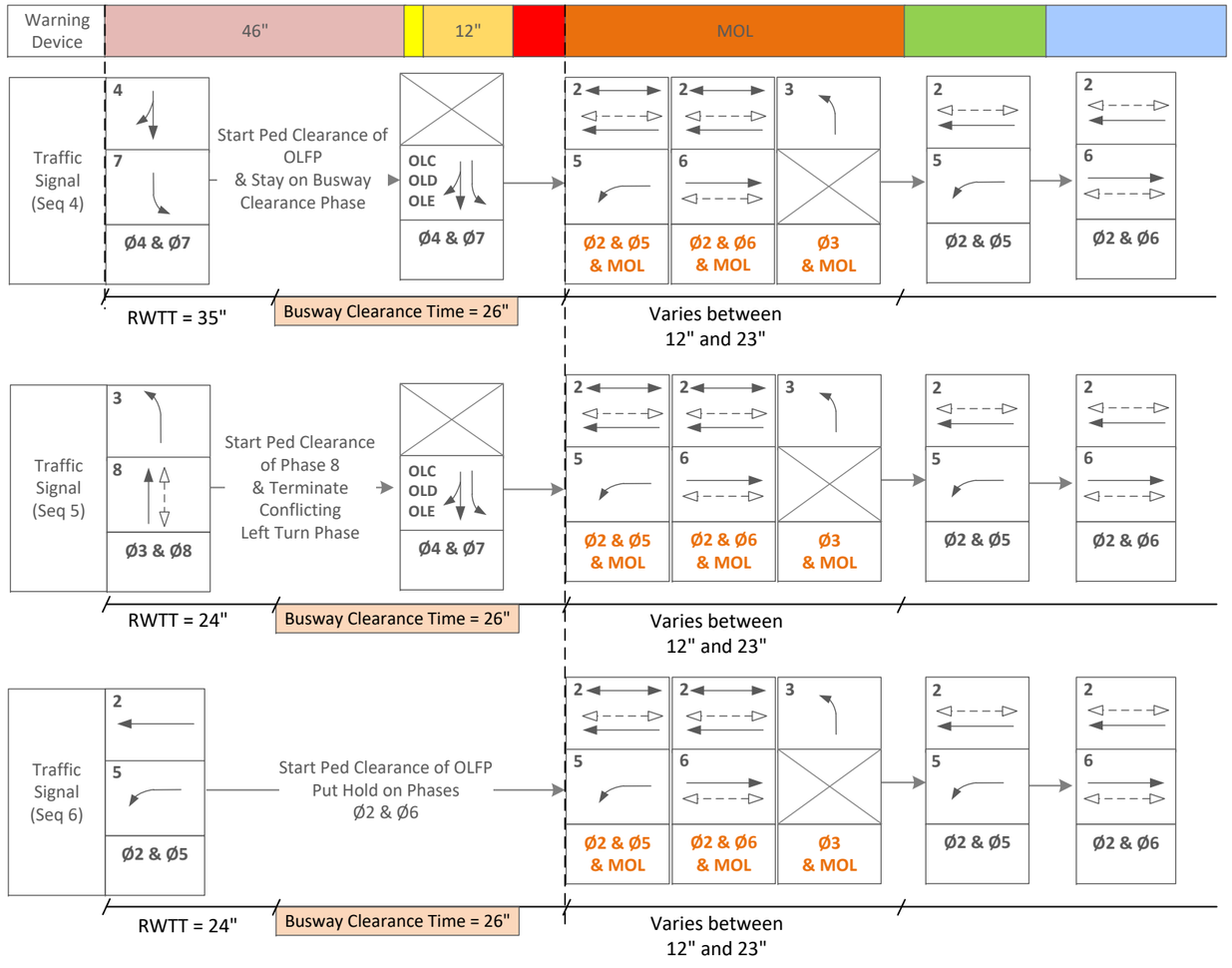
Future with Gates Phasing Diagram



OLA: Ø2 & Ø7
OLC: Ø4 & Ø7
OLFP: Ø1, Ø2, Ø3, and Ø4
OLC Terminates Before OLD&OLE
Update controller setting to call preemption

Preemption Sequence

Normal Operations	Advanced Preemption	Gates Lowering	Gates Down (Active Preemption)	Recovery and Return to Normal Operations



Legend

- Advance Preemption
- Lights Flash (3 seconds)
- Gate Descent (12 seconds)
- Gate Down
- MOL Phase
- Exit Phases
- Normal Operation

Metro Orange Line Grade Crossing
Four Quadrant Gate System Phasing Schematics

Figure 26.B
Mason Avenue and Victory Boulevard

LADOT Railroad Preemption Form

Revised 6/23/2008

Street Name:	MOL@Mason	Crossing No:	

Section 1: Highway and Traffic Information

Part 1:

Maximum Approach Move Distance	0	ft	Grade	0.0 %
Maximum Conflicting Move Distance	0	ft	Grade	0.0 %
Minimum Track Clearance Dist, MTCD	46	ft	Grade	0.0 %
Clear Storage Distance, CSD	20	ft		
Length, L	**66**	ft		

Part 2:

	Car	Truck	Bus	Semi	
Vehicle Length (ft)	15	30	40	65	
Vehicle Height (ft)	5	14	11	14	
Queue Space (ft/veh)	21	36	46	71	
Vehicles within L (veh)	3	1	1	0	
Start moving last vehicle in L (sec)	**6.8**	**3.9**	**4.5**	**4.0**	**7**
Move front of vehicle thru L (sec)	5.4	6.0	5.0	11.0	11
Move entire vehicle past gate (sec)	2.4	3.9	3.8	11.0	11
Move entire vehicle thru MTCD (sec)	**5.2**	**6.5**	**5.8**	**14.5**	**14**
Non-interaction gate descent time (sec)	10.7	4.1	5.4	4.1	4
Approach vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Conflicting vehicle clearance time (sec)	0.0	0.0	0.0	0.0	0
Include as Design Vehicle?	**Yes**	**Yes**	**Yes**	**Yes**	Use

Part 3:

Green Track Clearance Time	**26**	sec	*Green Track Clearance*
MTCD Queue Clearance Time	**21**	sec	*extended to Gate Down*
Minimum Walk	7	sec	
Maximum Ped Clearance	23	sec	
Minimum Green	5	sec	
Maximum Yellow + All Red	5.0	sec	
Maximum RWTT	**35**	sec	
Separation Time, ST	5	sec	*See Preemption Timeline*
Maximum Preemption Time, MPT	**68**	sec	*for actual Separation Time*

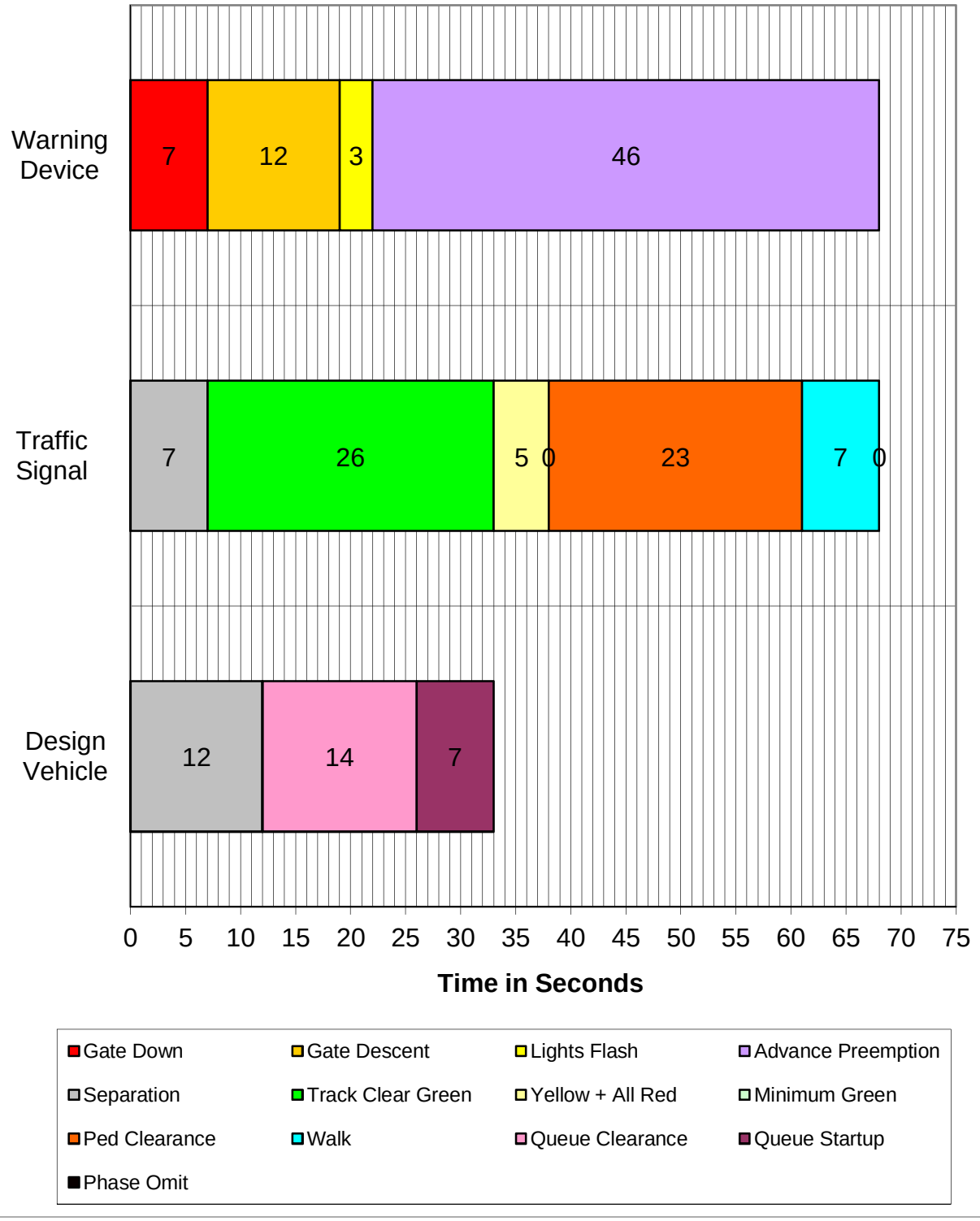
Section 2: Railroad Information

Lights Flash	3	sec	
Gate Descent	12	sec	
Minimum Time, MT	20	sec	
Clearance Time, CT	2	sec	2 sec minimum
Minimum Warning Time, MWT	**22**	sec	
Buffer Time, BT	0	sec	
Total Warning Time, TWT	**22**	sec	
Include vehicle-gate interaction check?	**Yes**		
Distance from gate to vehicle	6	ft	
Advance Preemption Time, APT	**46**	sec	
Equipment Response Time, ERT	5	sec	
Total Approach Time, TAT	**73**	sec	
Maximum Authorized Speed, MAS	45	mph	
Total Approach Distance, TAD	**4818**	ft	

LADOT Railroad Preemption Form Revised 6/23/2008

Street Name:	MOL@Mason	Crossing No:	

Preemption Timeline



Preemption Timeline Displays Minimum RWTT? **No**