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Subject: Understanding Yellow Light Phasing

The topic of yellow light phasing has always been controversial as it pertains to the use of red light cameras. Since the inception of automated enforcement, there has been an abundance of accusations hurled towards municipalities, alleging that the yellow light phasing's having been altered for the sake of profits. In part, as the result of public skepticism, State Legislators finally stepped in and mandated that Table 4D-102 of the CalTrans manual be followed per 21455.7 CVC.

Currently, most jurisdictions are, in my opinion, in compliance with the law. However, some have chosen to interpret current law differently than others. There is a growing consensus who believe that protected left and right turns are exempt from following the below chart. (Protected turns are turns controlled by an arrow). The purpose of this commentary is to challenge this interpretation. But to truly understand 21455.7 CVC, it is important to first examine its historic growth.

Early on, there were no laws governing yellow light phasing. Traffic engineers relied upon minimum yellow time recommendations set forth in Table 4D-102 in the traffic manual published by Caltrans as follows:

POSTED SPEED or PRIMA FACIE SPEED		MINIMUM YELLOW INTERVAL
mph	km/h	Seconds
25 or less	40 or less	3.0
30	48	3.2
35	56	3.6
40	64	3.9
45	72	4.3
50	80	4.7
55	89	5.0
60	97	5.4
65	105	5.8

As you can see, the above table recommends a minimum yellow time based on the posted speed limit. Traffic Engineers followed these recommendations but they were not required to do so. Most Engineers applied the above table to thru traffic only and there was an unwritten understanding that protected left turns and right turns would be controlled by yellow times of only 3.0 seconds. If the yellow times were below the recommendations, this was simply the prerogative of the respective municipality. Furthermore, the discretionary powers municipalities have over their yellow light phasing are confirmed in a 1998 published Appellate Court decision *People vs. Oster*.

Legislative attention was finally given to yellow light phasing following a 2001 class action lawsuit against the city of San Diego's red light camera program. Either during or following the trial, it was revealed that a protected left turn, monitored by a red light camera, was controlled by a yellow phasing that was below the CalTrans minimum yellow time recommendations.

California law makers were quick to support and pass SB 667 (Peace) which resulted in 21455.7 CVC. Providing the respective traffic signal was monitored by a red light camera, this new Vehicle Code section mandated the minimum yellow time recommendations set forth in the CalTrans manual table 4D-102.

Once 21455.7 CVC was chaptered into law, it read as follows:

*"21455.7. At each intersection at which there is an automated enforcement system in operation, the minimum yellow light change interval shall be established in accordance with the Traffic Manual of the Department of Transportation."*

Unbeknownst, to our State Legislators, this version of 21455.7 CVC would not be the final version.

As written, the law was very vague and created quite a bit of confusion. Some interpreted this law as non applicable to turning movements, while others believed it only applied to turning movements. Some believed that a yellow light phase could be set to any time length so long as it never dropped below the absolute minimum listed on the table which is 3.0 seconds. And finally there were those who believed that table 4D-102 was to be applied to all directions of travel with the yellow times corresponding with the posted speed limit. In my opinion, the latter interpretation was and still is the correct interpretation.

To help clarify the interpretation, it's necessary to turn to the legislative history of SB 667. But first I think it's important to inform you of the importance of legislative history as it pertains to enacted law: Legislative history includes legislative documents such as bills, adopted amendments, defeated amendments, conference committee reports, etc. In the event that the interpretation of a particular law is not apparent, and the opposing

parties can not agree, the court (usually the appellate court) can review the legislative history to help clarify the legislative intent. With that said, the following are excerpts from the Senate and Assembly Hearing Committee as SB 667 was discussed in 2001:

**As the Bill pertained to left-turns**

*“The author indicates that amendments will be offered in Committee to correct a drafting error. The bill's current language refers only to left-turn yellow lights but was intended to apply to all yellow signal lights.”*

**As 21455.7 was originally drafted prior to amendment**

*“21455.7. At each intersection at which there is an automated enforcement system in operation, the left-turn yellow light change interval shall be based on the posted speed limit of miles per hour (mph) at that intersection as follows:*

- (a) For 25 mph or less, the interval shall be 3.0 seconds.*
- (b) For 30 mph, the interval shall be 3.2 seconds.*
- (c) For 35 mph, the interval shall be 3.6 seconds.*
- (d) For 40 mph, the interval shall be 3.9 seconds.*
- (e) For 45 mph, the interval shall be 4.3 seconds.*
- (f) For 50 mph, the interval shall be 4.7 seconds.*
- (g) For 55 mph, the interval shall be 5.0 seconds.*
- (h) For 60 mph, the interval shall be 5.4 seconds.*
- (i) For 65 mph, the interval shall be 5.8 seconds.”*

**AS the Bill pertains to the CalTrans Traffic Manual**

*“This bill requires that the yellow signal on a traffic light in an intersection with automated enforcement systems be regulated according to the Caltrans Traffic Manual. The manual requires that the yellow signal be lit for specified intervals depending on the posted speed limit - e.g., at 25 mph, the yellow signal must be illuminated for 3 seconds, at 45 mph, the interval must be 4.3 seconds.”*

*“ This bill would establish specific change intervals for*

*yellow lights, based on the posted speed limit at intersections. The standards would be applicable, however, only at those intersections at which automated enforcement systems (red light traffic camera) are in operation. The specified yellow light intervals would be:*

*Posted Speed Limit / Time Interval*

*25 mph or less, 3.0 seconds  
30 mph, 3.2 seconds  
35 mph, 3.6 seconds  
40 mph, 3.9 seconds  
45 mph, 4.3 seconds  
50 mph, 4.7 seconds  
55 mph, 5.0 seconds  
60 mph, 5.4 seconds  
65 mph, 5.8 seconds”*

Of course there is more history than that which I have provided, but the gist of AB 667 is well established here and its essence does not change. As illustrated, the legislators mandate that Table 4D-102 is mandatory and intends the legislation for all directions of travel including turning movements.

In 2003, as the result of a well publicized trial that I handled, the State Legislators became aware of the confusion created by 21455.7 CVC. This awareness led to an additional amendment that was fostered by AB 1022. The purpose of the amendment was to emphasize that the Caltrans minimum yellow times are mandatory and varies depending on the posted speed limit. With the addition of subsection (b) and (c), 21455.7 CVC now reads:

*“21455.7. (a) At an intersection at which there is an automated enforcement system in operation, the minimum yellow light change interval shall be established in accordance with the Traffic Manual of the Department of Transportation.*

***(b) For purposes of subdivision (a), the minimum yellow light change intervals relating to designated approach speeds provided in the Traffic Manual of the Department of Transportation are mandatory minimum yellow light intervals.***

*(c) A yellow light change interval may exceed the minimum interval established pursuant to subdivision (a).”*

By now municipalities understood that the Table 4D-102 was mandatory and applied to turns as well as thru traffic. But the flaw in this legislation is obvious. The Legislators

intentions were to ensure that motorists have a fair amount of time to clear an intersection. However, if Caltrans decided to alter Table 4D-102 and lower the minimum yellow times, cities would then be allowed to do the same i.e. if the minimum time recommendation for a 35mph zone was changed from 3.6 seconds to 3.2 seconds. The way the law is written, it would be perfectly legal for municipalities to lower their yellow light times.

In 2004, an attempt to alter the minimum requirements was made. At the behest of traffic engineers, whose cities deployed red light cameras, Caltrans produced an amendment to their manual that was directed towards turns. The amendment is as follows:

*"...The minimum yellow light change interval for a protected left-turn or protected right-turn phase shall be 3.0 seconds...."*

**---It should also be noted that the speeds listed in Table 4D-102 were originally labeled as "approach speed" which is why subsection (b) of 21455.7 refers to approach speeds. The 2004 amendments changed the language to "Posted Speed". in any instant, the legislators are referring to Table 4D-102 ---**

The reason for this manipulation is obvious. Having to increase those yellow time by 0.5 or 0.6 seconds would obviously cut into the revenues generated by the cameras. As a result, many refused to accept that 21455.7 CVC is intended for left and right turns.

Because of this amendment, the law has been reinterpreted by many municipalities. They now think that this amendment allows them the option of lowering their yellow times to 3.0 seconds if a camera is monitoring a protected left or right turn.

This interpretation is not accurate. Even though the traffic manual changed, the Vehicle Code did not. It is the Vehicle code that we must follow. The Vehicle Code does not direct us to abide by the traffic manual. It directs us to a particular table within the manual and mandates how we will use it. The traffic manual is not law and can not be used in lieu of the Vehicle Code. This is where I believe municipalities have erred; they have tossed aside the Vehicle Code and have considered the traffic manual as if it were the Vehicle Code. But I believe it's very difficult to ignore the legislative history, which is inclusive of turns, and the addition of subsection (b) of 21455.7 as the emphases are on Table 4D-102 and the posted speed limits therein. If the above amendment referenced a minimum approach speed, albeit a stretch, the newer interpretation might have credibility.

One of the problems is that many agencies have allowed their respective Traffic Engineers to interpret 21455.7 CVC on their behalf. Traffic Engineers interpret the traffic manual, not the Vehicle Code and it is the Vehicle Code that has precedence. When discussing this issue with Traffic Engineers their focus is on what is determined by the manual not the Vehicle Code. My advice would be to obtain a legal opinion from your City Attorney. Traffic Engineers are not qualified to make legal interpretations. In the event that a city is forced to reimburse monies, only the PD can be blamed if they have

acted on a law based upon the interpretation of a non-qualified profession such as Traffic Engineer.

The rationale that Traffic Engineers use for keeping their yellow lights at three seconds is that protected turns do not have an approach speed because they are usually stopped as thru traffic proceeds. This might make sense from an engineering point of view, but from an enforcement and fairness point of view, it's pure nonsense. All traffic starts from a "0" approach speed. The concern is not those who are stopped and waiting, but rather those traveling at the tail end of the yellow phase. I will concede that the approach speed for those turning right or left will probably be lower than that of thru traffic, nevertheless, they do have an approach speed. The question is: how fast are they traveling? Just like thru traffic, it will probably depend on the amount of traffic congestion.

In any event, the rationale used by traffic engineers is irrelevant and have only created confusion. The Vehicle Code mandates are still in effect: yellow times must be based on the posted speed limit as displayed in Table 4D-102.

Providing that my interpretation is correct, then not only have yellow light times been unlawfully shortened, consideration should be given to the fact that these traffic signals are controlling movements that are known to be high volume. If I am incorrect, it is still not advisable for municipalities to acknowledge the 2004 amendments. Considering that the Caltrans manual has been manipulated is very suspicious and can be perceived to be very antagonistic towards our State Legislators. Seeing that the issue of yellow light phasing's have been addressed by the State Legislators several times, this could be the issue that will make some call for further restrictions on municipalities if not a complete ban.