

**From:** Armstrong, Kyle D <Kyle.Armstrong@illinois.gov>  
**Sent:** Friday, May 6, 2022 2:22 PM  
**To:** ceccareb@talussoftware.com  
**Cc:** Czuprynski, Victoria A.; Schatteman, Joe; DOT.Policy  
**Subject:** Web Email from Brian Ceccarelli - #145239

Mr. Ceccarelli,

Thank you for your inquiry regarding IDOT's practices for determining yellow change intervals. Below please find the section from the Bureau of Operations Traffic Policies and Procedures Manual pertaining specifically to yellow change intervals and all red clearance intervals as it currently stands. Please note that we are continuously looking to update our policies and procedures as needed which includes the below section. Potential updates may be based on the most recent ITE recommendations for calculating change and clearance intervals, the proposed 11<sup>th</sup> Edition of the MUTCD, and the ongoing Traffic Signal Change and Clearance Interval Pooled Fund Study being led by FHWA. Please let me know if you have further questions.

4B-15 Vehicle Change (Clearance) Interval In determining the duration of a yellow clearance interval, the following formula should be used.

$$Y + AR = t + \frac{v}{2a} + \frac{w+l}{v}$$

Where Y= length of yellow in seconds

AR= length of all-red in seconds

t= perception – reaction time of driver in seconds; the standard value is 1 second

v= approach speed in feet per second

a= deceleration rate in feet per second; the value 10 feet per second should be used

w= width of intersection in feet

l= length of vehicle in feet; the standard value is 20 feet

The final determination of the appropriateness of any yellow/all-red ratio should be determined by field observation. However, consideration should be given to making the initial yellow setting equal to the time obtained from the first two terms of the above equation rounded up to the next 0.5 second with the all-red setting equal to the remainder of the time. Yellow intervals less than 3 seconds or more than 5 seconds in length should normally not be used. Clearance intervals computed to be in excess of 5 seconds should have 5 seconds of the yellow and the remainder of the time as an all-red interval.

This formula does not take into consideration the effect of grades on stopping distances. Adjustments should be made if field observation indicates a change is needed.

***Kyle D. Armstrong, P.E., PTOE***

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-----Original Message-----

From: [ceccareb@talussoftware.com](mailto:ceccareb@talussoftware.com)  
Sent: Tuesday, May 3, 2022 4:01 PM  
Subject: Web Mail from Brian Ceccarelli

Web Page: IDOT Home Page  
Name: Brian Ceccarelli  
Address: 4605 Woodmill Run  
Apex, NC 27539  
Work #: 919-815-0126

Question:

I am looking for Illinois DOT's specs on the traffic signal timing, specifically the yellow change interval practice including computation. This info is not on your website. The BDE Manual says this information is in the "Bureau of Operations Traffic Policies and Procedures Manual." This manual does not exist at your website either, and I cannot order it either. Please help.