



Pedestrian Clearance

- (1) Calculate Clearance Interval according to Section 4E.06 of the 2009 MUTCD (Paragraph 07)  
 Length = Distance from curb to far edge of traveled way  
 Walking Speed = **3.5** feet/second
- (2) Check Walk + Clearance Interval according to Section 4E.06, Paragraph 14  
 Length = Distance from pushbutton to far edge of traveled way  
 Walking Speed = **3** feet/second  
 If (2) exceeds the Walk + Clearance Interval (CI) from (1), then (2) governs.

**Boston Road (Route 3A) at Good Street**

CW across north leg		Clearance Interval	W	FDW	DW/AR	
(1)	Clearance Interval	<b>69</b> feet	<b>20</b> seconds	7	16	4
(2)	Check	<b>84</b> feet	<b>28</b> seconds	W+CI 27	Governs? <b>YES</b>	
CW across south leg		Clearance Interval	W	FDW	DW/AR	
(1)	Clearance Interval	<b>66</b> feet	<b>19</b> seconds	7	15	4
(2)	Check	<b>84</b> feet	<b>28</b> seconds	W+CI 26	Governs? <b>YES</b>	
CW across west leg		Clearance Interval	W	FDW	DW/AR	
(1)	Clearance Interval	<b>69</b> feet	<b>20</b> seconds	7	16	4
(2)	Check	<b>92</b> feet	<b>31</b> seconds	W+CI 27	Governs? <b>YES</b>	

**Location 2: Boston Road (Sta 15+84)**

(1)	Clearance Interval	<b>51</b> feet	<b>15</b> seconds	7	Specified Clearance 11	4
(2)	Check	<b>60</b> feet	<b>20</b> seconds	W+CI 22	Governs? <b>NO</b>	

**Location 3: Boston Road (Sta 26+50)**

(1)	Clearance Interval	<b>44</b> feet	<b>13</b> seconds	7	Specified Clearance 9	4
(2)	Check	<b>62</b> feet	<b>21</b> seconds	W+CI 20	Governs? <b>YES</b>	

**RRFB Location 1: Heritage Road (Sta 59+16)**

(1)	Clearance Interval	<b>37</b> feet	<b>11</b> seconds		Specified Clearance <b>15</b> seconds	
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JOB  
CALCULATED BY  
CHECKED BY  
DESCRIPTION

Boston Road (Route 3A) No.	4722
JMC	DATE 5/18/2021
GL	DATE 5/21/2021
Clearance Intervals	SHEET NO. 1 of 1

Vehicle Clearance

Y= yellow interval (seconds), minimum 3.0 s  
 t= perception-reaction time (1 s)  
 V= 85th percentile approach speed (mph)  
 a= deceleration rate (10 ft/s<sup>2</sup>)  
 g= grade of approach (percent/100, downhill is negative grade)

$$Y = t + \frac{1.47V}{2a + 64.4g}$$

V is approximated as the posted speed limit plus 7 mph  
 V for left turns is approximated as the posted speed limit minus 5 mph

R= red interval (seconds), minimum 1.0 s  
 V= 85th percentile approach speed (mph)  
 W= intersection width (ft)  
 L= length of vehicle (20 ft)

$$R = \frac{W + L}{1.47V} - 1$$

V=20 mph when calculating the red interval for left turns, regardless of the posted limit

$$Y=t+(1.47V/2a+64.4g)$$

$$R=(W+L/1.47V)-1$$

\* = Longest length movement for shared lane use approach.

	Speed (mph)	Grade (%)	Width	Calculated		Use		
				Y	R	Y	R	
<b>Boston Road (Route 3A) at Good Street</b>								
NBL	=	30	-4%	80 feet	3.5 s	2.4 s	3.5 s	2.5 s
NBT	=	37	-4%	85 feet	4.1 s	1.0 s	4.0 s	1.0 s
SBT	=	37	4%	85 feet	3.4 s	1.0 s	4.0 s	1.0 s
EBL*	=	25	0%	90 feet	3.0 s	2.7 s	3.0 s	3.0 s