

Railroad Preemption Worksheet

MUTCD/AREMA Method

Revised 11/3/2006

Definitions

- Point A: RR Limit Line or Gate
- Point B: First RR Track Centerline
- Point C: 6 ft from Far Rail of Last Track
- Point D: Limit Line of Furthest I/S Approach Lane

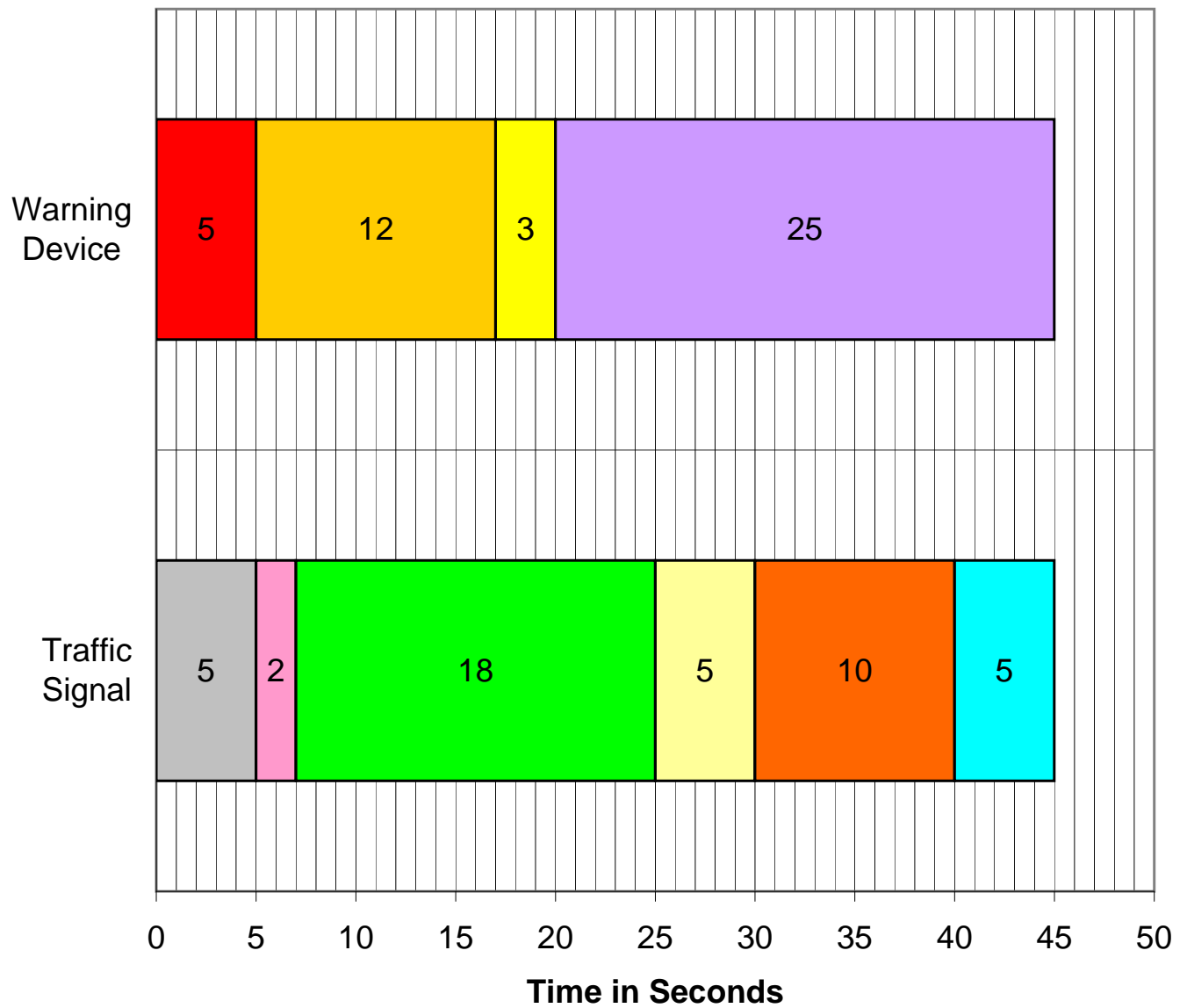
Point A to B	12	ft	(min 12 ft)
Point B to C	23	ft	
Point C to D	35	ft	
Min Track Clearance Dist, MTCD	35	ft	
Clear Storage Dist, CSD	35	ft	
Length, L	70	ft	

	Car	Truck	Bus	Semi
Vehicle Length (ft)	15	30	40	55
Queue Space (ft/veh)	21	36	46	61
Vehicles within L (veh)	3.3	1.9	1.5	1.1
Vehicles entirely within L (veh)	3	1	1	1
Start moving last vehicle in L (sec)	6.8	3.9	4.5	7.0
Move front of vehicle thru L (sec)	5.6	6.2	5.2	11.1
Move entire vehicle thru MTCD (sec)	4.6	5.9	5.4	12.6

Green Track Clearance Time	18	sec
MTCD Queue Clearance Time	20	sec
Min Walk	5	sec
Max Ped Clearance	10	sec
Max RWTT	5	sec
Separation Time	5	sec
Maximum Preemption Time	45	sec

Lights Flash	3	sec
Gate Descent	12	sec
Minimum Time, MT	20	sec
Clearance Time, CT	0	sec
Minimum Warning Time, MWT	20	sec
Buffer Time, BT	5	sec
Total Warning Time, TWT	25	sec
Equipment Response Time, ERT	5	sec
Advance Preemption Time, APT	25	sec
Total Approach Time, TAT	55	sec

Preemption Timeline



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|--------------------|--------------|----------------------|
| Gate Down | Gate Descent | Lights Flash |
| Advance Preemption | Separation | MTCD Queue Clearance |
| Track Clear Green | Max RWTT | Ped Clear |
| Walk | | |