Appendix C1: FIELD DATA FORMS

Passive Crossings

Date of Assessment:

Assessment Team Members & Affiliations:

Reason for Assessment:

___ periodic assessment	___ significant change in infrastructure	___ significant change in road or rail volumes
___ cessation of whistling	___ significant change in train operations	___ significant change in road or rail speeds
___ change in vehicle types	___ 2+ fatal collisions in 5yr. period	___ other collision experience (see below)

Railway Authority:

Crossing Location:

Location Number:

Municipality:

Railway: **Mile:**

Sub-division: **Spur:**

Type of Grade Crossing: [SRCS, FLB, FLBG]

Track Type: [mainline, etc.]

Road Authority:

Road Name / Number:

Province:

Location Reference (control section, etc.):

Road Classification
(freeway/expressway arterial, collector, local, etc.):

Collision History (5-year period):

Property Damage collisions: _____

+ Personal Injury collisions: _____ **Number of Persons Injured:** _____

+ Fatal Injury Collisions: _____ **Number of Persons Killed:** _____

= Total Collisions in last 5 year period: _____

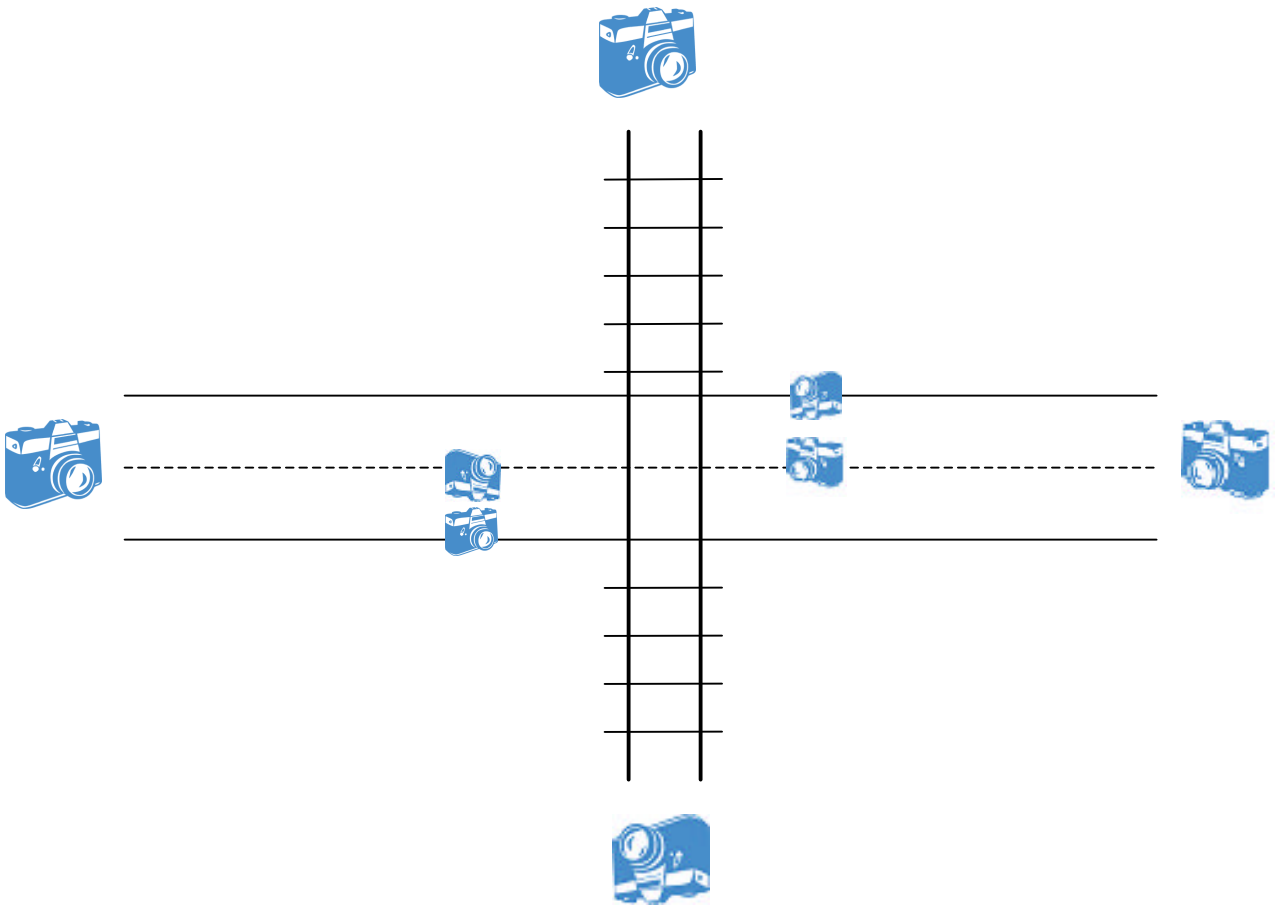
Provide Details of the collisions and any remedial measures taken if available:

- identify main contributing factors -attach collision diagrams if available

SCENE PHOTOGRAPHS

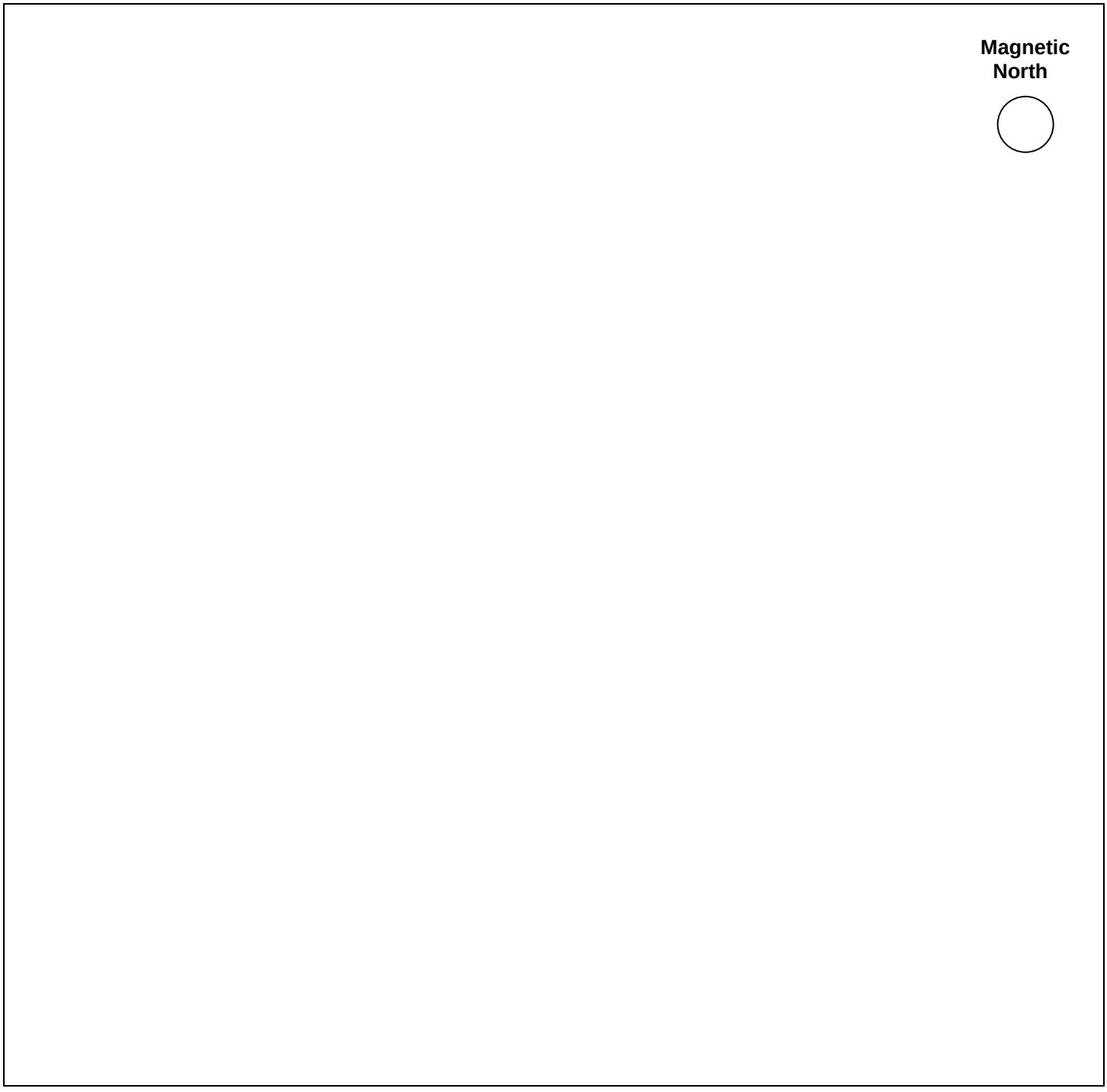
- as a minimum, take pictures all road/rail approaches and each quadrant

- key the orientation of pictures to the scene sketch (Sheet 2a)



Sheet 2 **SCENE SKETCH**

NOTE: All references to direction in this safety review are keyed to this diagram.



Include:

-directions to nearby municipalities for both road & rail approaches (use arrows)
-adjacent intersections -landmarks -geographical features
-relevant road signs/signals -crosswalks/paths -bus stops, etc.

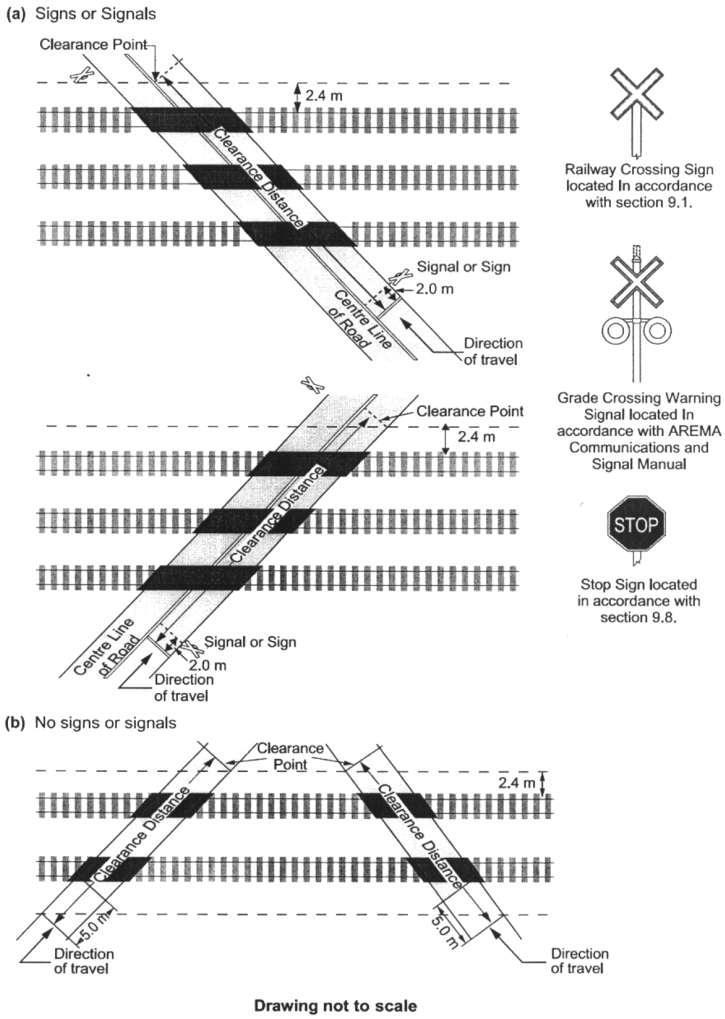
Sheet 3 **GENERAL INFORMATION**

Source	Item	Reference
Rail	Maximum Railway Operating Speed, V_T = (mph)	Sect. 2.1
Rail	Daily Train Volume: = (freight trains/day) = (passenger trains/day)	
Rail	Switching during daytime? Y/N nighttime? Y/N	
Road	Avg. Annual Daily Traffic, AADT = (vpd) Year of count:_____	
Road	High seasonal fluctuation in volumes?	
Road	Pedestrian Volumes = (ped./day)	
Road ✓	Is crossing on a School Bus route?	
Road ✓	Do Dangerous Goods trucks use this roadway?	
Road	Cyclist Volumes = (cyclists/day)	
Road ✓	Regular use of crossing by persons with Assistive Devices ?	
Road ✓	Other special road users? type_____ daily volume_____	
Road	Forecasted AADT[2] = (vpd) Forecast Year: _____	
Road ✓	Design Speed: _____km/h Posted Speed: _____ km/h Maximum Operating Speed: _____ km/h note: provide details if all approaches are not the same	Sect. 2.1
Road ✓	Road Surface Type (asphalt, concrete, gravel, etc.):	
observe	Surrounding Land Use: Urban / rural?	
observe	Any schools, retirement homes, etc. nearby ?	

Notes:
✓ indicates information should be confirmed by field observation

1. Road Authority should provide plans if available.
2. Forecast AADT until next assessment if significant developments are expected or if a planned bypass may reduce volumes.

Figure 4-1: Clearance Distance for Grade Crossings



Drawing not to scale

Figure 4-2 Assumed Acceleration Curves - General Design Vehicles
(Geometric Design Guide)

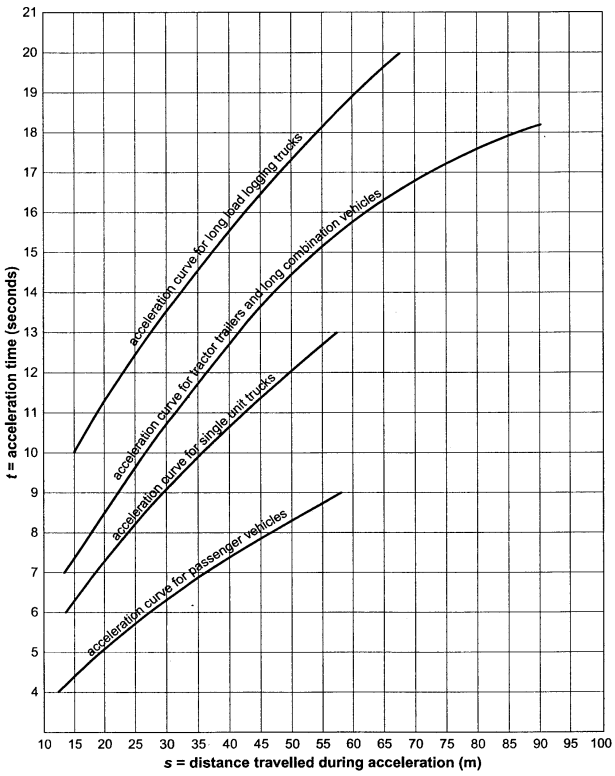


Table 4-6: Ratios of Acceleration Times on Grades

Design Vehicle	***Road Grade %***				
	-4	***-2***	***0***	***+2***	***+4***
Passenger Car	0.7	0.9	1.0	1.1	1.3
Single Unit Truck and Buses	0.8	0.9	1.0	1.1	1.3
Tractor- Semitrailer	0.8	0.9	1.0	1.2	1.7

Source	Item	Reference
	Design Vehicle	
Road	Type:	T 4-1
look-up	Length, **L** = m	T 4-1
look-up	**Stopping Sight Distance, SSD** = m (required)	T 4-5
measure	**Clearance Distance, cd** = m	Fig 4-1
calculate	**Vehicle Travel Distance:** **S** = L+cd = m	Sect. 4.6
look-up	**Vehicle Departure Time, t** = sec	Fig 4-2
	Road Grade Effect:	
Road ✓	maximum approach grade within 'S': = ± %	
look-up	grade adjustment factor =	T4-6
calculate	**T**= t x adjustment factor = sec	
calculate	**Design Vehicle Departure Time, Td** = J + T + K	
	where J = 2 sec perception & reaction	Sect. 4.7
	where K = additional time due to crossing conditions	
calculate	**Td** = = sec	
observe	Do field acceleration times exceed Td?	
look-up	**Pedestrian, cyclist & Assistive Devices Departure Time** **Tp** = sec	T 4-7

✓ indicates information should be confirmed by field observation

Table 4-1: General Vehicles

Class	*General Vehicle Descriptions*	*Length (m)*
Passenger Car	1. Passenger Cars, Vans, and Pickups (P)	5.6
Trucks		
Single-Unit Trucks	2. Light Single-Unit Trucks	6.4
	3. Medium Single-Unit Trucks	10.0
	4. Heavy Single-Unit Trucks	11.5
Tractor Trailers	5. WB-19 Tractor-Semitrailers	20.7
	6. WB-20 Tractor-Semitrailers	22.7
Combination Vehicles	7. A-Train Doubles (ATD)	24.5
	8. B-Train Doubles (BTD)	25.0
Buses		
	9. Standard Single-Unit Buses (B-12)	12.2
	10. Articulated Buses (A-BUS)	18.3
	11. Intercity Buses (I-BUS)	14.0

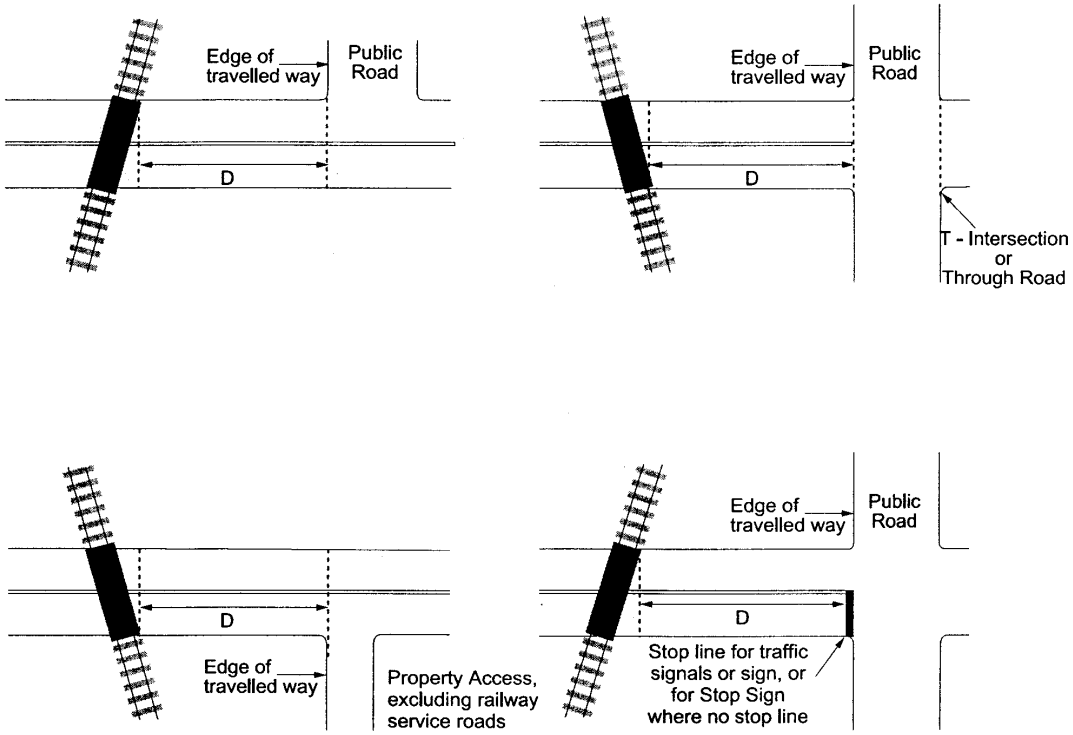
Table 4-5: Stopping Sight Distances *(level grade, on wet pavement and gravel surfaces)*

Stopping Sight Distances (SSD)		
Maximum Road Operating Speed (km/h)	*Passenger Car Class (m)*	*Truck Class (m)*
40	45	70
50	65	110
60	85	130
70	110	180
80	140	210
90	170	265
100	210	330
110	250	360

Table 4-7: Departure Time - Pedestrians, Cyclists, Persons Using Assistive Devices

Clearance Distance (m)	*Departure Time (s)*
9	7.4
14	12
18	15
22	18
26	22
30	25

Figure 5-1: Restrictions on the Proximity of Intersections and Entranceways to Unrestricted Grade Crossing



Drawing not to scale

NOTE:

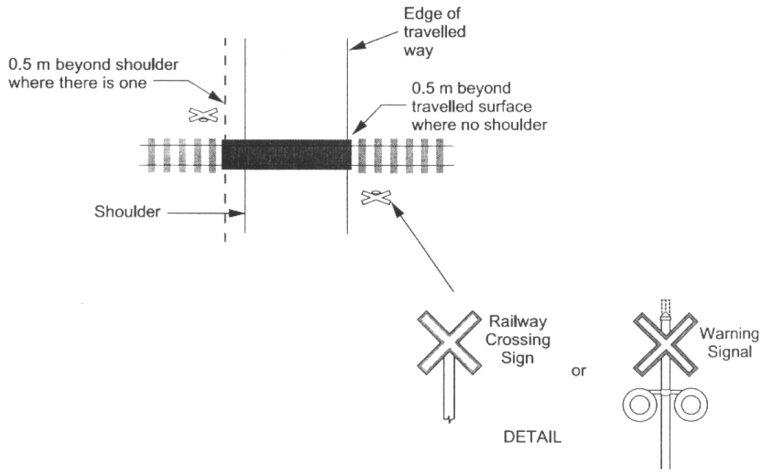
D not less than 30 m where the maximum railway operating speed exceeds 15 mph.

Source	Item	Reference
observe	"**D**" should not be less than 30m for either approach if the train speed exceeds 15 mph.	Fig 5-1
observe	Are there pedestrian crossings on either road approach that could cause vehicles to queue back to the tracks?	
observe	Is "D" insufficient such that road vehicles might queue onto the rail tracks? Is "D" insufficient such that road vehicles turning from a side street might not see warning devices for the crossing? -comment below	

Comments Following Site Visit:

Figure 6-1: Grade Crossing Surface - Plan View

a) ROAD, INCLUDING A PATH OR TRAIL



b) SIDEWALK, PATH, OR TRAIL ALONGSIDE A ROAD

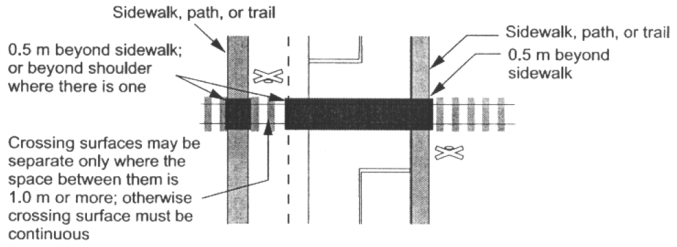
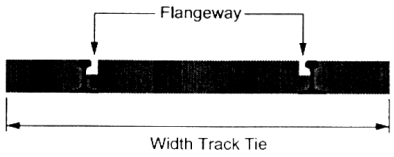


Figure 6-2: Grade Crossing Surface - Cross Section



a) Flangeway:		
Width:	Installation all grade crossings	65-76 mm
	Maximum wear limit Grade crossings regularly used by a person using an assistive device	76 mm
	All other grade crossings	100 mm
Depth:	Minimum	50 mm
	Maximum: Urban areas and any other grade crossing regularly used by a person using an assistive device	76 mm
	All other grade crossings	none
b) Space for Field Side Rail Grinding: A space is permitted on the outer side of the rail at locations where there is frequent rail grinding, except for grade crossings regularly used by a person using an assistive device.		
	Maximum width:	50 mm
	Minimum depth:	38 mm
c) Elevation of Top of Rail with respect to the Crossing Surface: The top of rail shall be installed as close as possible to the crossing surface, with the exception of a grade crossing regularly used by a person using an assistive device, where the top of rail may be installed above the crossing surface within the wear limit.		
Wear limits:	Any route identified for regular use by a person using an assistive device	
	Maximum distance above crossing surface	+13 mm
	Minimum distance below crossing surface	-7 mm
	Unrestricted grade crossings for vehicle use, and other grade crossings if used regularly by passenger cars, trucks other than off-road trucks, and recreational vehicles.	± 25 mm
	All other grade crossings	± 50 mm

Source	Item	Reference
observe	**Is the crossing smooth enough to allow road vehicles, pedestrians, cyclists, and other road users to cross at their normal speed without consequence? -comments below**	
observe	**Grade Crossing Surface Material**: (e.g., asphalt, wood, concrete, rubber, etc.)	
observe	Approach Road Surface Type: Approach Road Surface Condition: Roadway Illumination?:	
measure	**Road Surface crossing width** = m (note: min. = 8m) note: measured at right angle to roadway centre line	Fig 6-1
measure	**Road Surface extension beyond travel lanes** (note: min. = 0.5m) = _____ m N / E approach = _____ m S / W approach	Fig 6-1
measure	**Sidewalk/Path/Trail crossing width** = m (note: min. = 1.5m)	Fig 6-1
measure	Sidewalk/Path/Trail extension beyond sidewalk (note: min. = 0.5m) = _____ m N / E approach = _____ m S / W approach	Fig 6-1
measure	Distance Between Travel Lane and Sidewalk = m	
	Cross-Section:	
measure	Flangeway width = mm (note: max. = 76 or 100mm)	Fig 6-2
measure	Flangeway depth = mm (note: min. = 50mm/ max.=76mm or none)	Fig 6-2
measure	Side Grinding width = mm (note: max. = 50mm or 0[1])	Fig 6-2
measure	Side Grinding depth = mm (note: min.= 38mm)	Fig 6-2
measure	Elevation of Top Rail above road surface = mm (note: max. = 13mm[1], 25mm, or 50mm)	Fig 6-2
measure	Elevation of Top Rail below road surface = mm (note: min. = -7mm[1], -25mm, or –50mm)	Fig 6-2

1. if frequent use by persons using assistive devices

Comments Following Site Visit:

-rough crossing surface, loose timbers, etc. -surface distress of roadway approaches -photos

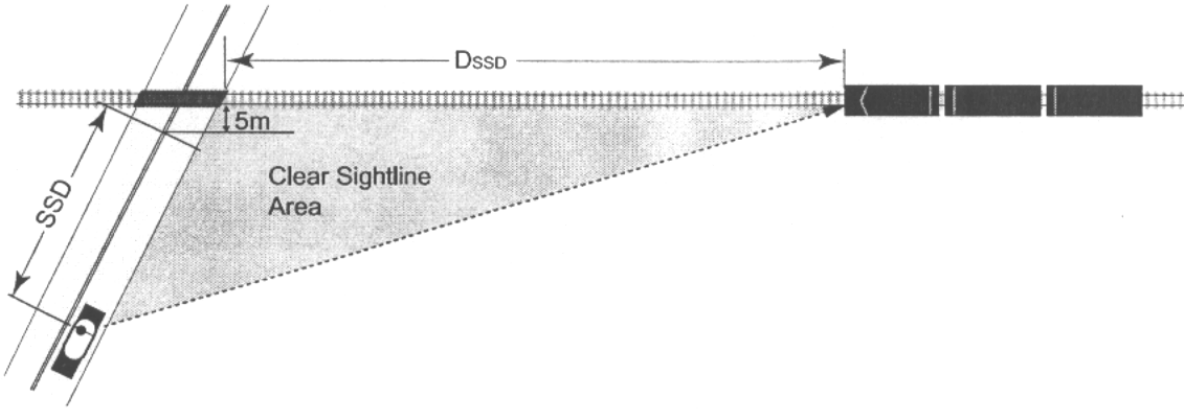
Source	Item	Reference
observe	Are horizontal and vertical alignments smooth and continuous throughout SSD? N / E Approach: S / W Approach:	Sect. 7-1
observe	Is horizontal alignment straight beyond rails for a distance ≥ design vehicle length, L (see form 4)? N / E Approach: S / W Approach:	Sect. 7-1
observe	Are the road lanes at least the same width on the crossing as on the road approaches? N / E Approach: S / W Approach:	Sect. 7-5
	Grades	
measure	Slope within 8m of nearest rail = % (on N / E approach) (max. = 2%)	Sect. 7-1
measure	Slope within 8m of nearest rail = % (on S / W approach) (max. = 2%)	Sect. 7-1
measure	Slope between 8m & 18m of nearest rail = % (on N / E approach) (max. = 5 or 10%)	Sect. 7-1
measure	Slope between 8m & 18m of nearest rail = % (on S / W approach) (max. = 5 or 10%)	Sect.7-1
measure	If crossing is only for pedestrians, cyclists, or persons using assistive devices: slope within 5m of nearest rail = % (max. = 1 or 2%)	Sect. 7-1
Road ✓	General approach grade = % N / E (max. = ± 5%) = % S / W (max. = ± 5%)	Sect.7-1
Rail ✓	Are rail tracks super-elevated? Y / N Rate of s-e: _____ m/m	Sect. 7.4
Road ✓	If train speeds exceed 15mph: - what is the angle between the crossing and the roadway? =_____degrees (70° minimum w/o warning system; 45° minimum with warning system)	Sect.7.6
observe	**Condition of Road Approaches:** (e.g., anything that might affect stopping or acceleration)	
observe	Is there any evidence that "low bed" trucks have difficulty negotiating the crossing (i.e., might they bottom-out or get stuck)? 	

✓ indicates information should be confirmed by field observation

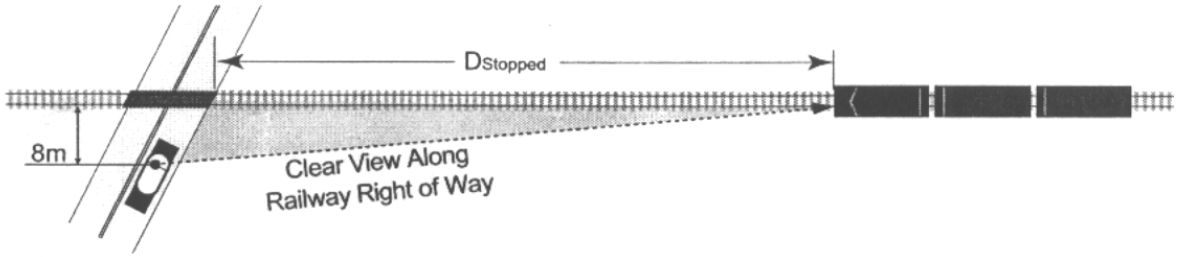
Comments Following Site Visit:

Figure 8-1: Minimum Sightlines - Grade Crossings Without A Grade Crossing Warning System

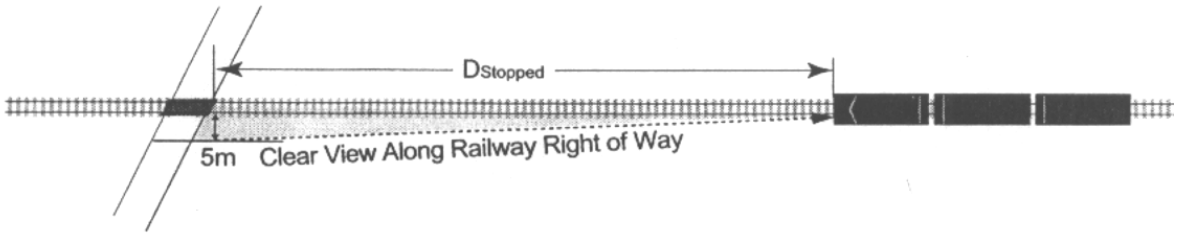
(A) Minimum Sightlines for Drivers Approaching a Grade Crossing



(B) Minimum Sightlines for Drivers Stopped at the Grade Crossing



(C) Minimum Sightlines for Pedestrians and Cyclists Stopped at the Grade Crossing



Driver Eye Height	=	1.05m	passenger vehicles, pedestrians, cyclists & assistive devices
	=	1.80m	buses & straight trucks
	=	2.10m	large trucks & tractor-trailers
Target Height	=	1.20m above rails	

Source	Item	Reference
observe	Are sightlines within the rail R.O.W. clear of bushes/vegetation; 15 m on each side of the track and, 30 m along the track, on each side of the crossing? -if no, detail the location	Sect. 8-1
observe	Are sightlines on the road R.O.W. within 15m of the rail crossing clear of bushes/vegetation? -if no, detail the location	Sect.8-1
look up	**SSD** minimum = m (from sheet #4)	
measure	**SSD** actual: N / E approach = m S / W approach = m	Sect. 8.5
	Warning: some formulae are based on Imperial units while others are Metric	
calculate	$\mathbf{D_{SSD}}$ minimum (ft) = $\mathbf{1.47V_T \times T_{SSD}}$ where V_T is from sheet #4	Sect. 8-5
	T_{SSD} is the greater of: [(SSD+cd+L)/0.28V] →V=max. road operating speed in km/h or 10 seconds	
	ˆ $\mathbf{D_{SSD}}$ minimum = ft. m (calculate or use Table 8-1)	T 8-1
measure	$\mathbf{D_{SSD}}$ actual: N / E approach = m (to driver's left); = m (to driver's right) S / W approach = m (to driver's left); = m (to driver's right)	Fig 8-1
calculate	$\mathbf{D_{STOPPED}}$ minimum (ft) **= 1.47Vt x Td** with Td from sheet #4	Sect. 8.5
	$\mathbf{D_{STOPPED}}$ minimum = ft. m (calculate or use Table 8-1)	T 8-1
measure	$\mathbf{D_{STOPPED}}$ actual: N / E approach = m (to driver's left); = m (to driver's right) S / W approach = m (to driver's left); = m (to driver's right)	Fig 8-1
look up	**Ped./Cyclist** $\mathbf{D_{STOPPED}}$ (m) using Table 8-1 and Tp (from sheet #4)	T 4-7
measure	**Ped./Cyclist** $\mathbf{D_{STOPPED}}$ **Actual:** N / E approach = m (to cyclist's left); = m (to cyclist's right) S / W approach = m (to cyclist's left); = m (to cyclist's right)	Fig 8-1
observe	**Are there any obstacles within the sight triangles (Figure 8-1) other than traffic signs/utility poles that might affect visibility?**	Fig 8-1
	Consideration should be given to also utilizing the newer methodologies for determining sight distances and clearance times developed by M. Gou, 2003 http://www.tc.gc.ca/tdc/summary/14100/14172e.htm	[TP14172E]

Comments Following Site Visit:

-visibility along the track impaired due to the angle of crossing?
-special considerations for large trucks?
-can sightlines be maintained on an ongoing basis? (snow)
-check visibility at all pedestrian crossing points
-special design vehicle?
-photos

Figure 9-2: Retroreflective Material on the Back of the Railway Crossing Sign and on the Post (unrestricted grade crossing without grade crossing warning system)

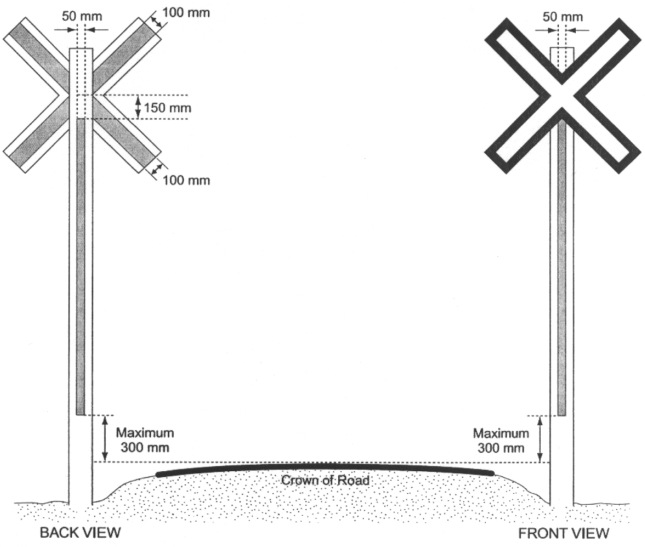
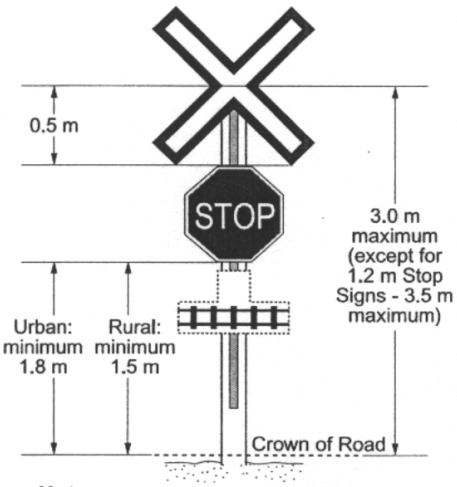
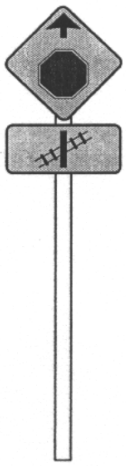


Figure 9-4: Stop Signs and Stop Ahead Signs

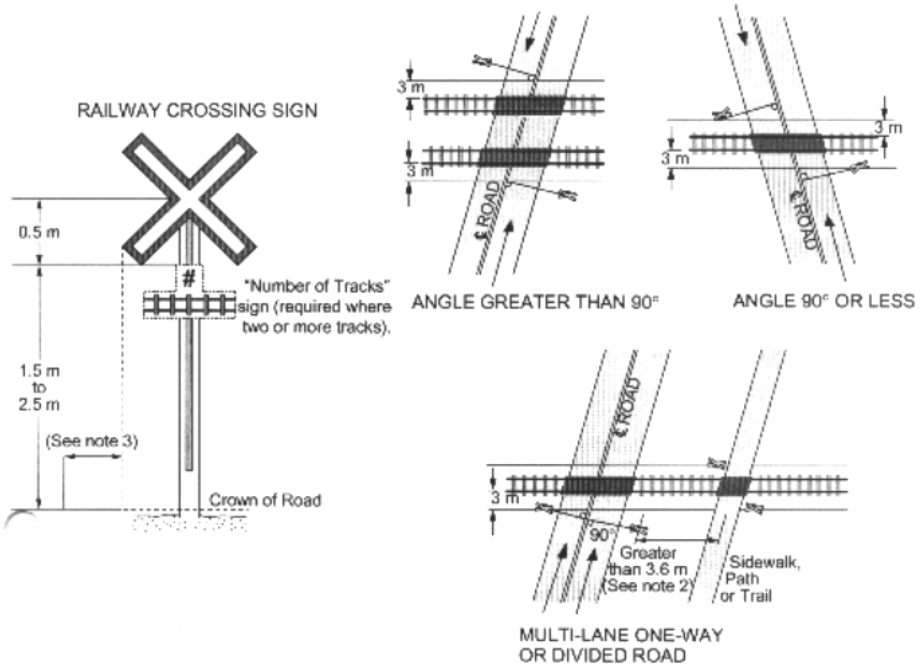




Note:

1) Top of stop sign should be at the elevation of the lowest points of crossing sign.

Figure 9-3: Location of Railway Crossing Signs and Number of Tracks Signs (unrestricted grade crossings without grade crossing warning systems)



Drawing Not To Scale

NOTES:

1. Where a road crosses adjacent tracks and the minimum distance between track centre lines, measured along the travelled surface parallel to the axis of the road, is more than 30 m, each track or set of tracks so separated shall have separate Railway Crossing Signs.
2. A sidewalk, pedestrian or bicycle path, or trail with its centreline more than 3.6 m (12 ft.) from a Railway Crossing Sign supporting post beside a road for vehicle traffic shall have separate Railway Crossing Signs.
3. Signs shall be located between 0.75 m and 1.25 m from the face of curb, or outer edge of road shoulder; or, where there is no curb or shoulder, 2.0 m to 2.5 m from the edge of travelled way.
4. Railway Crossing Signs shall be located as close as possible to the travelled way of the road, within the limits shown, to be clearly visible to all persons approaching the grade crossing on the grade crossing road or intersecting roads. Location outside the limits specified is permissible to the extent necessary to make the sign visible to approaching drivers, pedestrians, cyclists and persons using assistive devices.

Source	Item	Reference
	Railway Crossing Sign 	Sect. A2.2.4 MUTCD
	--comment on the following in the field:	
observe	location:	Fig 9-2/9-3
observe	height:	Fig 9-3
observe	retroreflective material on back of crossing signs?: front & back of posts?	Fig 9-2
measure	retroreflectivity readings: N / E approach: sign = cd/lux/m^2 post = cd/lux/m^2 S / W approach: sign = cd/lux/m^2 post = cd/lux/m^2	Fig 9-2
observe	Number of Tracks sign?	Fig 9-3

Comments Following Site Visit:

-general condition -clear sightlines to the sign -posts -photos

Source	Item	Reference
	DO NOT STOP ON TRACK 	U.S. MUTCD
Road ✓	Does queued traffic routinely encroach closer than 5m from the crossing surface?	Sect. 9.5
observe	Are these signs present on either approach?	Sect. 9.5

✓ indicates information should be confirmed by field observation

Comments Following Site Visit:

general condition -clear sightlines to the sign -posts -photos

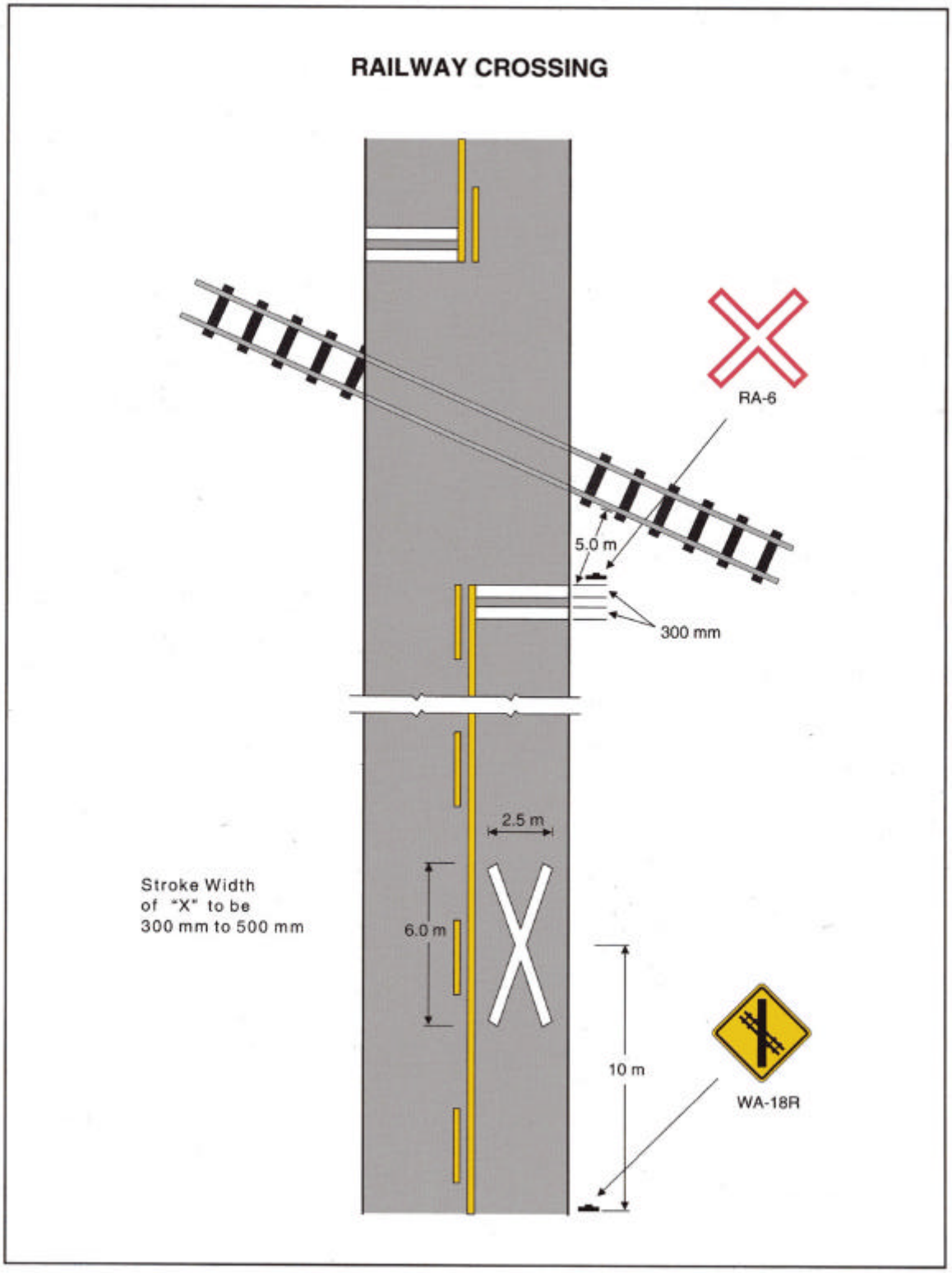


FIGURE C1-5

JUNE 2001

Source	Item	Reference
	Railway Crossing Ahead Sign (WA18-20) 	Sect. 3.4.2 MUTCD
look-up	Is AADT > 100? (see sheet #3)	
observe	Is area urban such that WA18-20 is <u>not</u> required?	Sect. 9.3b
measure	Distance from nearest rail to sign = m N / E approach = m S/ W approach	Fig C1-5
	--comment on the following in the field:	
observe	location:	Fig C1-5
observe	height:	
observe	appropriate orientation of symbol	Fig C1-5

Comments Following Site Visit:

-general condition -clear sightlines to the sign -posts -aligned to the driver -photos

Source	Item	Reference
	ADVISORY SPEED SIGN  **normally used in conjunction with WA18-20 signs if reduced speeds are necessary to provide adequate sight distance.**	Sect. A3.2.5 MUTCD
observe	Are they present on both approaches? Posted speed limit?	
look-up	Are they required on either approach?	check SSD (sheet 8)

Comments Following Site Visit:

-general condition -clear sightlines to the sign -posts -photos

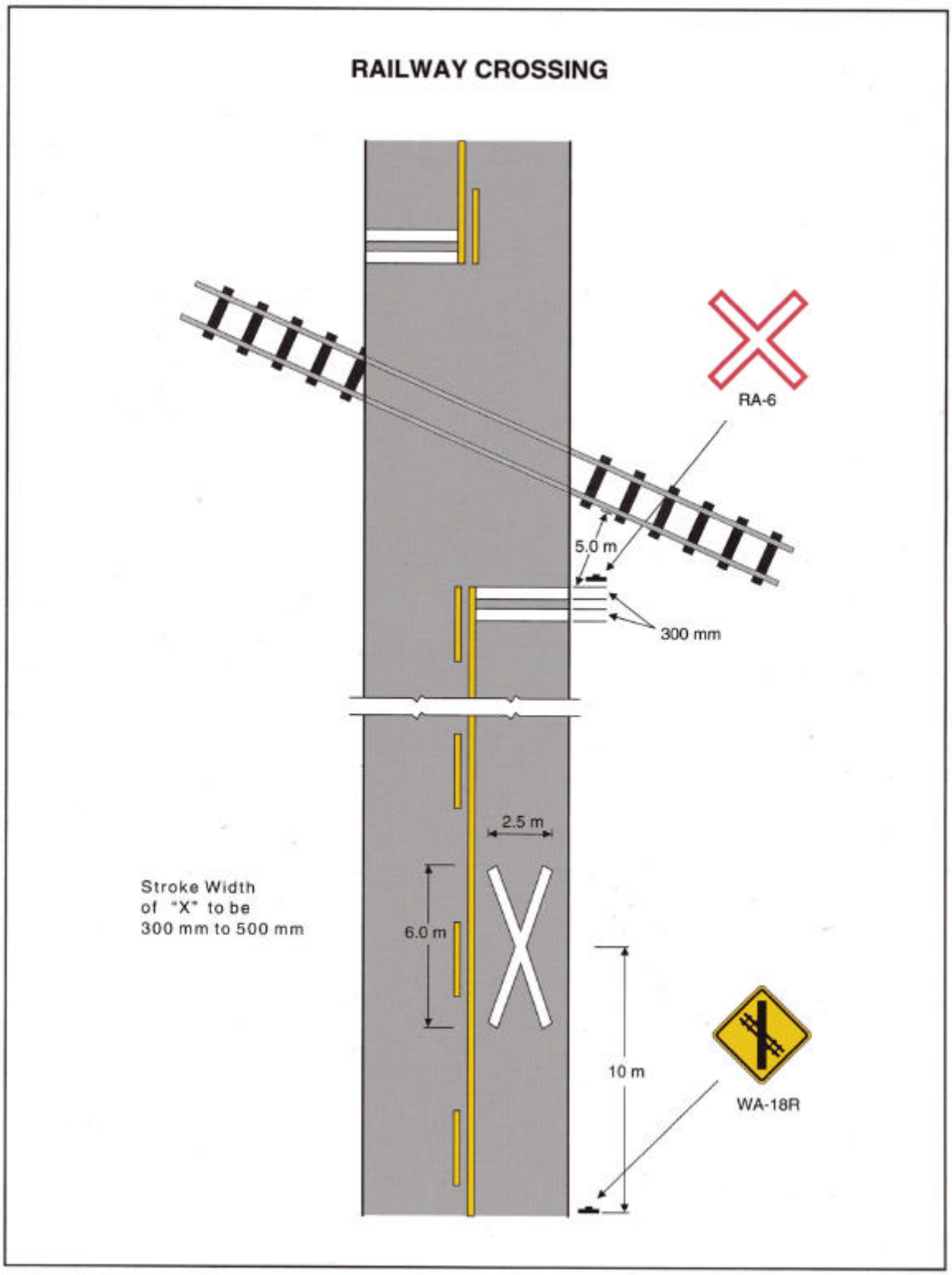


FIGURE C1-5

JUNE 2001

Source	Item	Reference
	STOP SIGN AHEAD 	Sect. A3.6.1 MUTCD
observe	Is sign present on either approach?	
look-up	Is sign required on either approach?	check SSD
observe	Is there an advisory tab with a track symbol present?	
measure	What is the distance from the nearest rail to the sign? = m N / E approach = m S / W approach	

Comments Following Site Visit:

-general condition -clear sightlines to the sign -posts -aligned to the driver -photos

Source	Item	Reference
	STOP SIGN 	Sect. A2.2.1 MUTCD
observe	Is sign present on either approach?	
look-up	Is sign required on either approach?	check $D_{STOPPED}$
observe	Are signs mounted on same post as Railway Crossing Signs?	Fig 9-4
measure	What is the distance from the nearest rail to the sign? = m N / E approach = m S / W approach	Fig C1-5

Comments Following Site Visit:

-general condition -clear sightlines to the sign -position -posts -aligned to the driver -photos

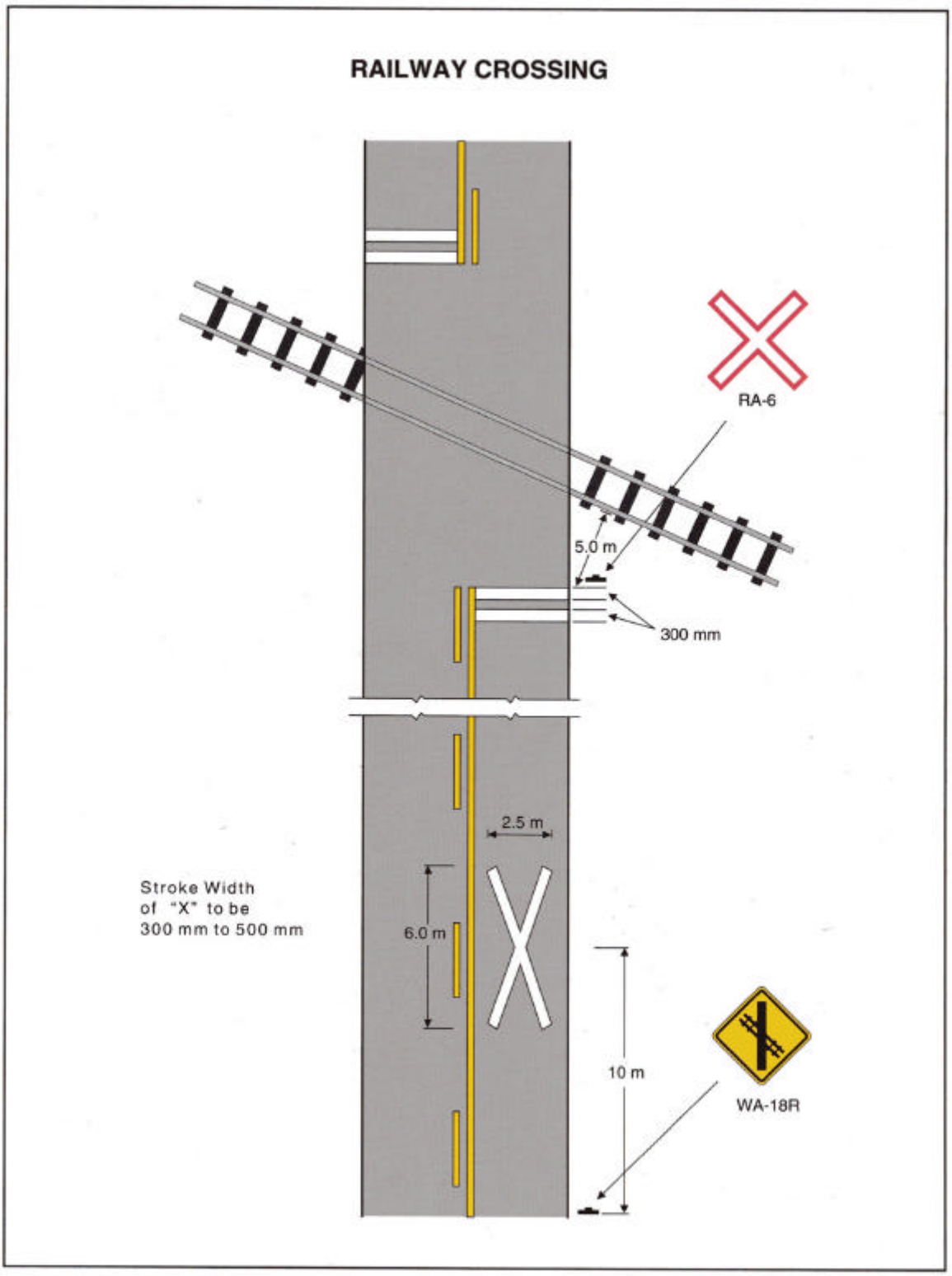


FIGURE C1-5

JUNE 2001

Source	Item	Reference
	PAVEMENT MARKINGS	
observe	Are pavement markings consistent with those from the MUTCD Manual?	Fig C1-5 MUTCD
observe	Are there lines to delineate sidewalks/paths?	Sect. 9.7

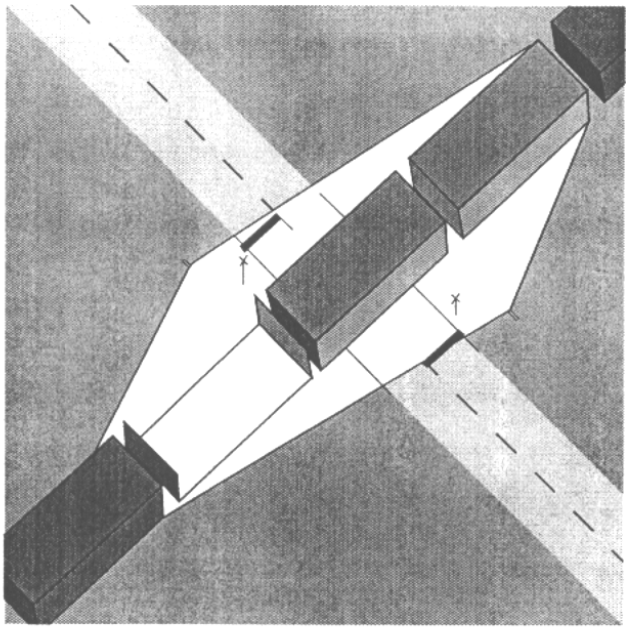
Comments Following Site Visit:

-general condition of markings -are centerlines or stop lines present? -width of markings? -provincial practice not to use *X* ?

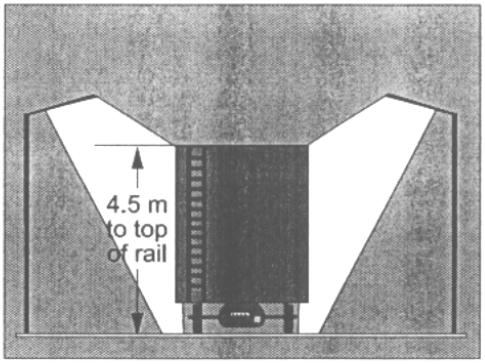
General Comments Regarding Signs & Pavement Markings:

-special sign required? -missing signs -visual clutter -obscured view / sightlines -retroreflectivty levels at night

Figure 10-1: Train Illumination:
Grade Crossings without Grade Crossing Warning Systems



Plan View



Height to be covered by luminaire

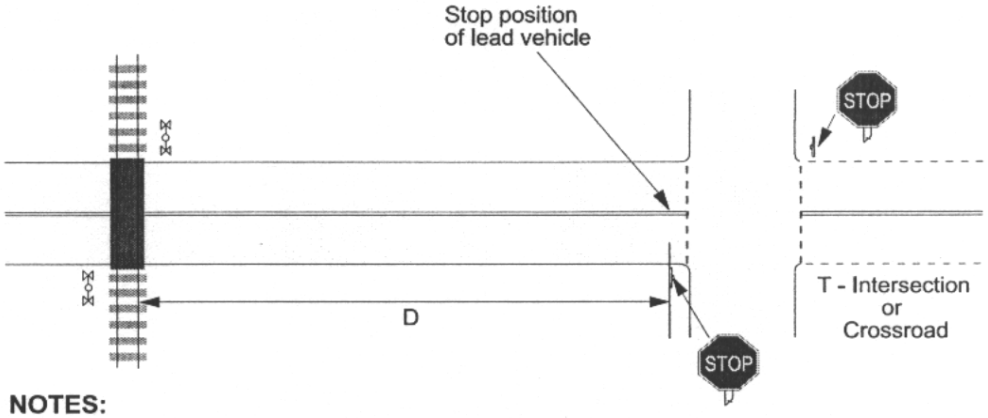
Source	Item	Reference
	Flood lighting is required if **all** of the following exist: -unrestricted grade crossing -road speed limit is ≥ 50 km/h -routinely equipment on rails after dark is either stopped or traveling # 15mph	sec 10.1
Rail	Are luminaires required?	
observe	Are luminaires present on both approaches?	Fig 10-1

Comments Following Site Visit:

-general condition of luminaires -visibility at night -adjacent commercial lighting? -appropriate orientation of lights?

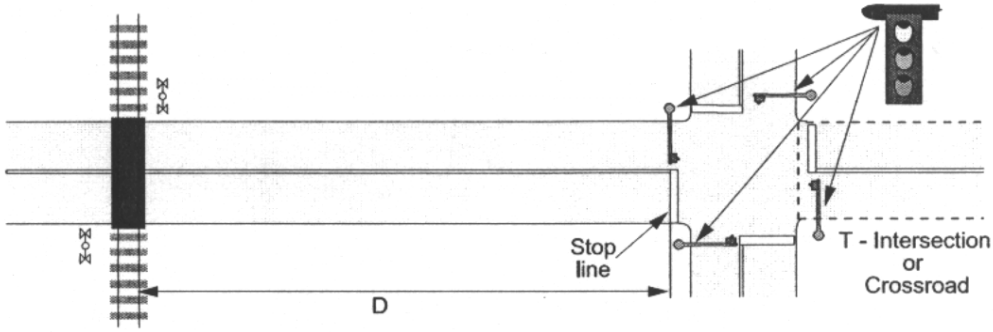
Figure 11-1: Proximity of Grade Crossing Warning Systems to Stop Signs and Traffic Signals

a) NEAR STOP SIGNS



NOTES:
Where the maximum railway operating speed exceeds 15 mph:
- if D is less than 30 m, a grade crossing warning system including gates is required;
- if D is 30 m or greater, a grade crossing warning system including gates is required unless a traffic study indicates that traffic will not normally queue to within 2.4 m of the rail nearest the road intersection. For grade crossings or road intersections nearby an existing grade crossing, where the maximum railway operating speed exceeds 15 mph:

b) NEAR TRAFFIC SIGNALS



NOTES:
For grade crossings or road intersections nearby an existing grade crossing, where the maximum railway operating speed exceeds 15 mph:
- if D is less than 60 m, a grade crossing warning system including gates is required;
- if D is 60 m or greater, a grade crossing warning system including gates is required unless a traffic study shows that traffic will not queue to within 2.4 m of the rail nearest the road intersection.

Source	Item	Reference
	Warning System Warrants -if any of A through E below are met, then a warning system is warranted	Sect. 11.1 & 11.2
look-up	Existing AADT = Forecast AADT = (if available)	sheet 3
look-up	Daily Train Volume =	sheet 3
calculate	**A. Cross-Product =** _____ (1,000 min.)	Sect. 11.1
look-up	**B. Maximum Rail Operating Speed =** _____mph (max = 80mph or 60 mph with crosswalk)	sheet 3
Rail ✓	**C. Number of Tracks =** _____ ……..if ≥ 2, can trains pass one another?	Sect. 11.1
look up	**D. Are Sightlines obscured?** (see form 8)	Sect. 8.3
observe	**E. Is at least one of the proximity conditions met to warrant a warning system?**	Fig. 11-1

✓ indicates information should be confirmed by field observation

Comments Following Site Visit:

-extraordinary conditions why warning system should be installed -on a school bus route?

Table 16-1: Requirements for Public Grade Crossings Within an Area Without Train Whistling

Maximum Railway Operating Speed	Grade Crossings for Vehicle Use		Grade Crossings Exclusively for Pedestrians, Cyclists or Assistive Devices; and Sidewalks, Paths, or Trails with the centreline no closer than 3.6 m (12 ft) to a warning signal for vehicles (Refer to Figure 13-5)	
	No. of Tracks		No. of Tracks	
	1	2 or more	1	2 or more
Stop & proceed	Manual protection or FLB	Manual protection or FLB	----------	----------
Up to 15 mph	FLB	FLB or FLB & G (Note 1)	'Z' barriers & guide fencing (Note 3)	'Z' barriers & guide fencing (Note 3)
16 - 49 mph	FLB or FLB & G (Note 2)	FLB & G	FLB, 'Z' barriers & guide fencing (Note 3)	FLB & G
50 mph or more	FLB & G	FLB & G	FLB & G	FLB & G

Where:

Manual protection is by a member of the train crew in accordance with the Canadian Rail Operating Rules.

FLB is a grade crossing warning system consisting of flashing lights and a bell.

FLB & G is a grade crossing warning system consisting of flashing lights, gates, and a bell.

Source	Item	Reference
Rail	**Is train whistling prohibited at this crossing? 24 hours?**	sec 16.1
Observe	Is there evidence of routine unauthorized access (trespassing) on the rail line in the area of the crossing?	sec 16.7
Observe	Are the requirements of Table 16-1 met?	sec 16.2

Comments Following Site Visit:

Additional Prompt Lists

Human Factors:

° Control device visibility / background visual clutter.
° Driver workload through this area (i.e., are there numerous factors that simultaneously require the driver's attention such as traffic lights, pedestrian activity, merging/entering traffic, commercial signing, etc.).
° Driver expectancy of the environment (i.e., are the control measures in keeping with the design levels of the road system and adjacent environment).
° Need for positive guidance.
° Conflicts between road and railway signs and signals.

Environmental Factors:

° Extreme weather conditions.
° Lighting issues (night, dawn/dusk, tunnels, adjacent facilities, headlight or sunlight glare, etc.)
° Landscaping or vegetation.
° Integration w/ surrounding land use (e.g., parked vehicles blocking sightlines, merging traffic lanes, etc.)

All Road Users:

° Have needs of the following been met:
-pedestrians (including strollers, baby carriages, and blind persons)
-children / elderly
-assistive devices (wheelchairs, scooters, walkers, etc)
-bicyclists
-motorcyclists
-over-sized trucks
-buses
-recreational vehicles
-golfcarts
-hazardous materials

° Significant volume of pedestrians requiring special safety measures:
(maze barriers/guide fencing, sign indicating potential presence of 2nd train at a multi track crossing, etc)

Other:

° Should closure of the crossing be considered due to inactivity, presence of nearby adjacent crossings, etc.

Comments Following Site Visit: