

Hot Spot Committee

Summary



Original 2009

Reformatted August, 2018

The recommendations made in this manual to the number of watchmen required are to be used as a guide and are not to be considered as minimum or maximum requirements. They represent the number of watchmen that the Hot Spot Committee agreed were appropriate should Train Approach Warning be used for on-track safety.

The number of watchmen required will be determined by the Roadway Worker in Charge (RWIC), with participation from everyone at the job briefing. The number of watchmen required can change each time a job is set up and/or as conditions change. Due to conditions that can change at any moment.

The Minimum Sight Distance must always be met or exceeded.

Minimum Sight Distance Calculation: $MSD = FPS \times (15 + SCO)$

Feet Per Second (FPS)

Maximum Authorized Speed (MAS)

Minimum Sight Distance in Feet (MSD)

Seconds to Clear and occupy the Pre-determined Place of Safety (SCO)

*Simple FPS Calculation: $(MAS/2) \times 3 = FPS$

Example: 100 MPH Track and it would take 5 seconds to clear the track and occupy the PPOS

$MSD = ((100/2) \times 3) \times (15 + 5)$

$MSD = (50 \times 3) \times (20)$

$MSD = 150 \times 20$

$MSD = 3000 \text{ Feet}$

*Calculation may be off by as much as +5% to the exact FPS, erring on the side of safety. For exact FPS see Minimum Sight Distance Chart on page 3

Each roadway worker is responsible to ascertain that the correct on-track safety is being provided before fouling a track. A roadway worker must refuse any directive to violate Amtrak's On-Track Safety.

Minimum Sight Distance Chart

Maximum Authorized Speed (MPH)	Feet Per Second	Minimum of 15 Seconds in the PPOS (Feet)	5 Seconds to clear plus 15 Seconds in the PPOS (Feet)	10 Seconds to clear plus 15 Seconds in the PPOS (Feet)	15 Seconds to clear plus 15 Seconds in the PPOS (Feet)	20 Seconds to clear plus 15 Seconds in the PPOS (Feet)	25 Seconds to clear plus 15 Seconds in the PPOS (Feet)
5	7.3	110	147	183	220	257	293
10	14.6	220	293	337	440	513	587
15	22	330	440	550	660	770	880
20	29.3	440	587	733	880	1027	1173
25	36.6	550	733	917	1100	1283	1467
30	44	660	880	1100	1320	1540	1760
35	51.3	770	1027	1283	1540	1797	2053
40	58.6	880	1173	1467	1760	2053	2347
45	66	990	1320	1650	1980	2310	2640
50	73.3	1100	1467	1833	2200	2567	2933
55	80.6	1210	1613	2017	2420	2823	3227
60	88	1320	1760	2200	2640	3080	3520
65	95.3	1430	1907	2383	2860	3337	3813
70	102.6	1540	2053	2567	3080	3593	4107
75	110	1650	2200	2750	3300	3850	4400
80	117.3	1760	2347	2933	3520	4107	4693
85	124.6	1870	2493	3117	3740	4363	4987
90	132	1980	2640	3300	3960	5280	5280
95	139.3	2090	2787	3484	4180	4877	5573
100	146.6	2200	2933	3667	4400	5133	5867
105	154	2310	3080	3850	4620	5390	6160
110	161.3	2420	3227	4033	4840	5647	6453
115	168.6	2530	3373	4217	5060	5903	6747
120	176	2640	3520	4400	5280	6160	7040
125	183.3	2750	3667	4583	5500	6417	7333
130	190.6	2860	3813	4767	5720	6673	7627
135	198	2970	3960	4950	5940	6930	7920
140	205.3	3080	4107	5133	6160	7187	8213
145	212.6	3190	4253	5317	6380	7443	8507
150	220	3300	4400	5500	6600	7700	8800

Catenary Pole Chart

New York To Washington = Approximately 265 Feet

New England Division = Approximately 175 Feet

Feet	No. of Catenary Poles (NY to WAS)
265	1
530	2
795	3
1060	4
1325	5
1590	6
1855	7
2120	8
2385	9
2650	10
2915	11
3180	12
3445	13
3710	14
3975	15
4240	16
4505	17
4770	18
5035	19
5300	20
5565	21
5830	22
6095	23
6360	24
6625	25
6890	26
7155	27
7420	28
7685	29
7950	30
8215	31
8480	32
8745	33

Feet	No. of Catenary Poles (New England)	Feet	No. of Catenary Poles (New England)
175	1	5950	34
350	2	6125	35
525	3	6300	36
700	4	6475	37
875	5	6650	38
1050	6	6825	39
1225	7	7000	40
1400	8	7175	41
1575	9	7350	42
1750	10	7525	43
1925	11	7700	44
2100	12	7875	45
2275	13	8050	46
2450	14	8225	47
2625	15	8400	48
2800	16	8575	49
2975	17	8750	50
3150	18		
3325	19		
3500	20		
3675	21		
3850	22		
4025	23		
4200	24		
4375	25		
4550	26		
4725	27		
4900	28		
5075	29		
5250	30		
5425	31		
5600	32		
5775	33		

HOT SPOTS

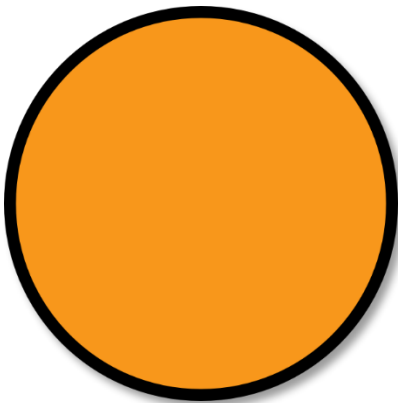
Definition: Hot spots are locations where if Train Approach Warning is being used to provide on track safety, extra precaution must be taken due to physical locations that include a variety of conditions such as.

1. Curves with limited visibility.
2. Tunnels with limited and close clearance.
3. Track locations with heavy outside noise.
4. Track locations with limited or no clearance.
5. Bridge locations with limited or no clearance.
6. Track locations with limited or no visibility due to obstructions.

Potential Hot Spots:

1. Bridges—overhead, under grade and movable—walkways, hand railings, and clearing bays.
2. Curves—simple (sharp/high degree of curvature), reverse, compound, broken back, and vertical (grades).
3. Roadbed—fill section (elevated) and cut section (rock cut).
4. Tunnels—manholes (cut outs) and bench walls (ladders and handholds).
5. Fencing—right of way, intertrack and high-level platforms.
6. Overbuilds—manholes (cut outs) and clearing bays.

Hot Spot Sticker:



These charts were originally published in 2009 and reformatted August, 2018.

All of the data in the charts below is from 2009, except Morris Interlocking-Tower

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
I-95 Bridge	76 - 75.5	East & West	1	2	1	Noise under bridge Limited Visibility 125 MPH	Yes	NYD West Adams
West end of Torresdale Curve	75 - 75.5	S' Curve	1	3	3	Limited Visibility S curves east & west Traffic noise from I-95 105 MPH	Yes	NYD West Adams
East end of Torresdale Curve	74.4	S' Curve	1	5	1	Limited Visibility S curves Traffic Noise from I-95 105 MPH	Yes	NYD West Adams
Torresdale Station	74.5	S' Curves	1	3	2	2 'S' curves I-95 noise Traffic noise from I-95 105 MPH	No	NYD West Adams
Cornwells Heights	72.5	From the East	1	0	* 2 ** 1	* When working on 3 & 4 track ** When working on 1 & 2 track Noise from I-95 Limited Visibility Intertrack Fencing Speed 110 MPH	Yes	NYD West Adams
Neshaminy Bridge & Curve	70.5 - 71	From the East	1	0	3	Traffic noise from I-95 Curve from the East Limited Visibility Speed 120 MPH	Yes	NYD West Adams
Neshaminy Bridge & Curve	70 - 70.5	In the Curve	1	1	1	Traffic noise from I-95 Curve Limited Visibility Advance position (east & west), but not amount, will change with gang movement. Speed 120 MPH	Yes	NYD West Adams
Croydon Station & West	69.2 - 69.5	West	1	2	0	Traffic Noise Limited Visibility Curve from the West Intertrack Fencing Speed 120 MPH	Yes	NYD West Adams
West of Bristol Station. Access from Stairs on 4 track	67.2	East & West	1	1	2	Limited Visibility Location is an S curves Traffic Noise from Rt. 13 125 MPH	Yes	NYD West Adams
Bristol Station	66.5	East & West	1	2	3	Limited Visibility Curves East & West 125 MPH	Yes	NYD West Adams
Curve West of Grundy (East bound home board)	65.6	West	1	5	0	Limited Visibility Curve West 125 MPH ***Note: With 4 advanced watchmen the train was at our location in 15 seconds.	Yes	NYD West Adams

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Grundy Interlocking - Tower	65.4	East & West	1	3	3	Limited Visibility Curves East & West 125 MPH Noise from turnpike traffic overhead Factory noise for east advanced watchman	Yes	NYD West Adams
Curve East of Grundy (West bound home board)	64.5 - 65	East	1	0	2	Limited Visibility Curve 125 MPH	Yes	NYD West Adams
Levittown Station	63.2	No	1	0		Intertrack fencing Close Clearance (fence)	Yes	NYD West Adams
Morris Interlocking - Tower	58.5	West	1	5	2	Limited Visibility 3 & 4 track curve through a tunnel. Must protect 3 track for eastbound moves. 5 advanced along 2 track from Thoroughfare Signal Bridge west through curve until visual is made of 3 & 4 track, past split on west end. This will protect all eastbound moves on all tracks. Noise from roadway 100 MPH	Yes	NYD West Adams
Delaware River Bridge	57.5	No	1	0		Close Clearance Clear into cutouts Foul time	No	NYD West Adams
Fair West End	56.7	West	1	1	1	Close Clearance (Walls on both sides) Limited Visibility Protect Septa moves as well as moves from 1 track to the High. 110 MPH	No	NYD West Adams
West of Platform	56.5	West	1	3	0	Close Clearance Limited Visibility 110 MPH	No	NYD West Adams
West End of Platform	56.4	West	1	2	0	Foul time needed on 1 or 2 track when working in platform area and a ladder to clear onto platforms. Close Clearance Limited Visibility 110 MPH	No	NYD West Adams
Middle of Platform	56.3	West	1	3	0	Foul time needed on 1 or 2 track when working in platform area and a ladder to clear onto platforms. Close Clearance Limited Visibility 110 MPH	No	NYD West Adams
East end of Platform	56.2	West & East	1	3	1	Foul time needed on 1 or 2 track when working in platform area and a ladder to clear onto platforms. Close Clearance Limited Visibility 110 MPH	No	NYD West Adams
Hamilton Station	53	No	1	0		Foul time required or a ladder, so workers can climb onto the platform. Close Clearance Intertrack Fencing	Yes	NYD West Adams

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Princeton Station	47	No	1			Foul time required or a ladder, so workers can climb onto the platform. Close Clearance Intertrack Fencing	Yes	NYD West Adams
S' Curve east of Midway Curves #275 & #276	39 - 41	Yes	1	** 4		** 1 watchman and 4 advanced watchmen are needed anywhere is this 'S' curve due to visibility & speeds. 130 MPH Limited visibility	Yes	NYD West Adams
Curve East of Adams Curve #274	33.8- 34.2	Yes	1	** 1		** Minimum of 2 watchmen needed Limited Visibility 135 MPH	No	NYD West Adams
N. Brunswick Elevated section	31 - 31.25	No	1	0	0	Limited Clearance Foul time required with SSD 125 MPH	No	NYD West Adams
New Brunswick Station	31.25	Yes	1	1	0	Limited Visibility 125 MPH	Yes	NYD West Adams
Raritan River Bridge	31	Yes	1	2	0	West end of bridge Limited Visibility Close Clearance Foul Time Need due to close clearance, with SSD 125 MPH	No	NYD West Adams
	30.9 - 30.8	Yes	1	3	3	Middle & East end of bridge Limited Visibility Curves East & West 125 MPH	No	NYD West Adams
Edison Station	29	No	1	0		Foul time required or a ladder, so workers can climb onto the platform. Close Clearance 125 MPH	Yes	NYD West Adams
Curve 270	27.66	Yes	1	0	1	Limited Visibility 110 MPH	On 4 track side	NYD West Adams
Curves 269 - 268	27-26.7	Yes	1	** 5		** 5 advanced watchmen needed (total of 6 watchmen) anywhere is this 'S' curve due to visibility & speeds. Limited Visibility Triple curve - Curve 268 east, curve 269 in the middle & curve 270 west Highway noise (Rt. 287) on curve 269 95 MPH	On 4 track side	NYD West Adams
Lincoln	26	West	1	3	0	Curve West of location Limited Visibility 110 MPH	No	NYD West Adams
Metuchen Station	25.8	East	**1	0	**5	** Foul time, or track out of service, needed when working in station limits Limited Visibility 'S' curve to the east 110 MPH	No	NYD West Adams
Curve 267	24.6 to 25.5	S' Curve	1	** 4		** A total of 5 watchmen are needed in this curve Limited visibility 110 MPH	No	NYD West Adams
Menlo	23.7	East & West	1	2	5	Limited visibility in both directions Traffic noise all around 110 MPH	No	NYD West Adams

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Metropark	23.2	East & West	1	4	4	Limited visibility in both directions Traffic noise Close clearance 110 MPH Foul time with SSD recommended	No	NYD West Adams
Iselin	22.8	East & West	1	5	3	Limited visibility in both directions Traffic noise 110 MPH	No	NYD West Adams
Union 19.3 - 20.6	20.6 Inman Ave.	West	1	4	0	Limited Visibility Close Clearance 110 MPH	No	NYD West Adams
Union	20	Vertical curve	1	1		Limited Visibility	No	NYD West Adams
Union	Union - Overall & Station	None	1**	0		** Foul time is recommended due to; Close Clearance Tunnel traffic Lack of proper clearing space 110 MPH Cat pole clearing bays are recommended	No	NYD West Adams
Linden	17.3	None	1	0		Close Clearance Foul time when working in station limits	No	NYD West Adams
Elmora	15	East	1	1*	2	*Vertical Curve, on west end, limits visibility. Close Clearance Limited Visibility 60 MPH	No	NYD West Adams
Curves #252 & 253	14 - 15	S curve East & West	1	* 2		* 3 watchmen are needed when working in the curves to protect east & west movements Limited visibility Traffic and airplane (Newark airport) noise 55 MPH	No	NYD West Adams
Elizabeth Station	14	West	1	* 2		* 3 watchmen are needed when working in the curves to protect east & west movements Limited visibility Traffic and airplane (Newark airport) noise 55 MPH	No	NYD West Adams
Airport	12	No	1	0		Close Clearance	No	NY East Hunter-MP3
Viaduct	8.95 - Hunter EB HB	None	* 1	0		* Foul time recommended at close clearance locations in conjunction w/watchmen Close Clearance Noise Limited Clearing 70 MPH	No	NY East Hunter-MP3
Dock West	8.8 - 8.95	West	* 1	** 1		* Foul time recommended at close clearance locations in conjunction w/ watchmen ** Advanced watchman location TBD by EIC Limited Visibility Noise Close Clearance 35 MPH	No	NY East Hunter-MP3

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Newark Station	8.8	East	1	* 1		* Advanced watchman location TBD by EIC Limited Visibility Noise 35 MPH	No	NY East Hunter-MP3
Dock Bridge	8.5 - 8.45 2, 3 & 4 Tracks	East & West	1	2	1	Close Clearance Noise limited Visibility 45 MPH	No	NY East Hunter-MP3
Dock Bridge	1 Track	East & West	1	1	0	Noise Limited Visibility 35 MPH	No	NY East Hunter-MP3
Middle of Dock East	8.4 2, 3, & 4 Track	East & West	1	0	2	Noise Limited Visibility 45 MPH	No	NY East Hunter-MP3
Middle of Dock East	1 Track		1	0		45 MPH	No	NY East Hunter-MP3
Dock East WB Home Board & Harrison Curve #244 & #243	8.3 - 7.8	Yes	1	* 2		** 2 Advanced watchman needed. Location TBD by EIC 60 MPH	No	NY East Hunter-MP3
Turnpike Bridge	7.5 - Swift WB HB	Yes	2	0		Limited Visibility Noise 90 MPH	No	NY East Hunter-MP3
Swift WB HB - Middle of interlocking	7.2	Yes	1	* 4	0	* Advanced watchmen need on 6 tracks to protect move from Dover Line Limited Visibility Noise 90 MPH	No	NY East Hunter-MP3
Portal Bridge	5.7	East	1	0	1	Limited Visibility Noise 60 MPH	No	NY East Hunter-MP3
Portal - WB HB Bergen	5.7 - 3.5	Yes	1	* 1		* Advanced watchman location TBD by EIC Limited Visibility Limited Clearing Noise 90 MPH	No	NY East Hunter-MP3
Bergen	3.7 - 3	Yes	* 1	** 2		* Foul time needed ** More advanced watchmen required during summer months due to foliage Limited Visibility Must protect moves out of the tunnel 90 MPH	No	NY East Hunter-MP3
Penn Station North & South Tubes Lines 1,2,3,4	0	Yes	1	0		It is recommended that foul time be used in the tunnels. 60 MPH	No	New York
Penn Station 'A' & 'KN' interlocking	0	No	1	0		1 watchman When anything other than inspection is to be done, foul time is recommended	No	New York

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Penn Station 'JO', 'KN', Interlockings All 'Body' tracks	0	Yes	* 1	0		1 watchman * Foul Time is required when working in any of these areas.	No	New York
Penn Station 'A', 'C', 'D' & 'E' yard	0	Yes	1	0			No	New York
Sunnyside Lines '1', '2', '3', '4'	3.0 - 2.9	Line 2 & 4	1	0		Foul time to LIC Curve 60 MPH	No	Sunnyside
Sunnyside Sub 1 & 2	3.2 - 3.1	Jump Over	* 1	0		* Foul Time Required with at least one watchman Limited visibility Close clearance	No	Sunnyside
Sunny Side Loop 'A', '1', '2'	Car Wash	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited Visibility	No	Sunnyside
Sunnyside 5 - Lead	Yard	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited Visibility	No	Sunnyside
Sunnyside Yard Body Tracks 1 thru 36	Yard	Yes	1	* 1		* Advanced watchmen location TBD by EIC Close Clearance 2 watchmen to protect adjacent tracks. Limited Visibility	No	Sunnyside
Gate Interlocking	4.4	East & West	1	* 3		* Advanced watchmen location TBD by EIC Limited Visibility both ways Limited clearance due to steep embankment 60 MPH	No	Hellgate
Curve-East end of Gate	4.3	East	1	* 3		* Advanced watchmen location TBD by EIC Limited visibility due to curve 60 MPH	No	Hellgate
Gate	4.3 - 4.5	Yes	1	* 3		* Advanced watchmen location TBD by EIC Limited visibility Limited clearance due to embankment 60 MPH	No	Hellgate
Oak Point	9.9 - 10.5 Working between curves	Yes	1	4	4	Limited Visibility Noise 60 MPH	No	Hellgate
Oak Point	9.9 Working in Curve	Yes	1	* 2		* Advanced watchmen location TBD by EIC Limited Visibility Noise 60 MPH	No	Hellgate
Oak Point	10.5 Working in Curve	Yes	1	* 3		* Advanced watchmen location TBD by EIC Limited Visibility Noise 60 MPH	No	Hellgate
Hunts Point	10.5 - 11.2	East & West	1	4	2	Limited Visibility Noise 55 MPH	No	Hellgate
West of Pelham Int.	14- 14.3	Yes	1	* 3		* Advanced watchmen location TBD by EIC Limited visibility Long curve 60 MPH	No	Hellgate

NYD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Pelham Bridge & Interlocking	15 - 16	Yes	1	* 3		* Advanced watchmen location TBD by EIC Limited visibility Close clearance on bridge Foul time when working on bridge 45 MPH	No	Hellgate
1st 3 UG bridges east of MP 17	17 - 17.6	Yes	1	* 3		* Advanced watchmen location TBD by EIC Limited Visibility 80 MPH	No	Hellgate
Manor Int.	18.2	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited Visibility Noise 70 MPH	No	Hellgate
A to Empire (Tunnel)	0 - 1	Yes	1	0	0	Foul time or track out of service in tunnel Close clearance Limited visibility 25 MPH	No	Empire Line
Jervis to Trump Overbuild	2	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited Visibility 35 MPH + I76	No	Empire Line
Salt Pile	.7- 8	Yes	1	* 3		* Advanced watchmen location TBD by EIC Limited Visibility 3 curves 55 MPH	No	Empire Line
Empire - Curve #240 Rock Cut section	7.4 - 8.3	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited Visibility 55 to 15 MPH Foul time required	No	Empire Line
Empire	8.3 - 9	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited Visibility 55 MPH	No	Empire Line
Bridge	11.5 - 12	Yes	1	* 1		* Advanced watchmen location TBD by EIC Limited visibility 15 MPH	No	Empire Line

Mid-Atlantic Division

Broken down by line

New York to Philadelphia (NYP)

MAD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	NYP
				West	East			
Prison Curve	76-77	294	1		2	Limited Visibility	No	NYP
Tacony Curve	78-79	295	1		1	Long sweeping curve. Noise from I-95	No	NYP
Ford Curve	81-82	298	1		3	Limited Visibility	No	NYP
N. Penn Curve	83-84	299	1		2	Limited Visibility	No	NYP
N. Phila. Int. Clearfield	84.5	300	1		1	Limited Visibility	No	NYP
N. Phila. Int. Lehigh	85.1	302	1		1	Limited Visibility	No	NYP
Diamond St. Curve	86-87	303	1		1	Limited Visibility	No	NYP
Zoo-Girard Ave. Bridge	87.7	303.4	1		1	Limited Visibility	No	NYP
Zoo-Divider Switch (between 4w to 4e)	87.5	303.5				Fouls only; Close Clearance	No	NYP
River Line between 4E at Girard and 34th St. overhead bridge	88	303.6	1		1	Limited Visibility	No	NYP

Philadelphia to Washington (PW)

MAD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	PW
				West	East			
River Line between Zoo (34th St.) and Penn (Spring Garden St.)	0.5	303.6	1	2		Limited Visibility	No	PW
S. Penn	1.5	304.2	1	2		Limited Visibility; Noise	No	PW
Arsenal Curve	2- 3.2	306- 307	1	4		Limited Visibility	No	PW
Darby Curve to Sharon Hill Station	5 - 7.6	308- 309- 311	1	6		Limited Visibility	No	PW
Ridley Park Station to Crum Lynne Station	10.4 - 11.2	313	1	3		Limited Visibility	No	PW
N.B.H.S. Baldwin to MP 12.7	11.8 - 12.7	314	1	4		Limited Visibility	No	PW
Chester Station to Concord Ave.	13.4 - 14.1	315	1	1		Fouls only on Viaduct; Close Clearance	No	PW
Naaman's Curve	17.9 - 183	319	1	1		Limited Visibility	No	PW
Claymont Curve	19.1 - 19.6	320	1	1		Limited Visibility	No	PW
Jump Over - 1F 2F	21.3 - 22.1	323	1	2		Limited Visibility	No	PW
1st Curve south of Bell	22.1 - 23.7	324	1	4		Limited Visibility	No	PW
2nd Curve South of Bell	24.4 - 25.2	326	1	2		Limited Visibility	No	PW
S.B.H.S. Landlith to 26.3	25.5 - 26.3	none	1			Fouls only; Close Clearance	No	PW
S.B.H.S. Brandy to S.B.H.S. Yard	26.9 - 28.2	327 - 328	1			Fouls only; Close Clearance	No	PW
N.B.H.S. Yard to S.B.H.S. Ragan	28.3 - 29.7	329	1	2		Limited Visibility	No	PW
Curve 330	30.1 - 30.4	330	1	1		Limited Visibility	No	PW
Curve 331	30.9 - 31.4	331	1	1		Limited Visibility	No	PW
Curve 332	32.8 - 33.1	332	1	3		Limited Visibility	No	PW
Curve 333	33.3 - 33.7	333	1	1		Limited Visibility	No	PW
Curve 334	34.5 - 34.7	334	1	2		Limited Visibility	No	PW
Curve 335	35.8 - 35.9	335	1	1		Limited Visibility	No	PW
Curve 336	39.4 - 40.5	336	1	3		Limited Visibility	No	PW
Curve 337	41.7 - 41.9	337	1	2		Limited Visibility	No	PW
Curve 338	43.6 - 44.8	338	1	2		Limited Visibility	No	PW
Curve 339	45.3 - 45.8	339	1	2		Limited Visibility	No	PW
Curve 340	46.9 - 47.2	340	1	2		Limited Visibility	No	PW
Curve 341	48.7 - 49.2	341	1	1		Limited Visibility	No	PW
Curve 342	50.0 - 50.65	342	1	5		Limited Visibility	No	PW
Curve 343	51.2 - 51.85	343	1	2		Limited Visibility	No	PW
Curve 344,345	53.3 - 54.35	344 - 345	1	4		Limited Visibility	No	PW

MAD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	PW
				West	East			
Curve 346	54.35 - 55.7	346	1	2		Limited Visibility	No	PW
Curve 347	56.75 - 57.2	347	1	4		Limited Visibility	No	PW
Curve 348	57.6 - 57.98	348	1	3		Limited Visibility	No	PW
Curve 349	60.4 - 61.3	349	1	5		Limited Visibility	No	PW
Curve 362	88.2	362	1	4	4	695 Traffic noise	No	PW
Curve 361	87	361	1	5	5	Two Highways of noise	Yes	PW
Curve 361	86.7	361	1 gang	5	5	Traffic/ Lumber	Yes	PW
Curve 360	86.4	360	1	5	5	Noisy Plant Compressor	Yes	PW
Bay	86	360	1 North	0	7	2035/ Traffic Noise	Yes	PW
Curve 359	85.8	359	1 North	1	3	Acela 2027	Yes	PW
River	82.07	358	1	2	3	2008	Yes	PW
Curve 357M	79.8	357 M	1	3	3	Traffic Noise/ Lumber Yard	Yes	PW
Gunpow	79.53	357 M	1 North/1 South	0	2	Limited Visibility	No	PW
Curve	108.42	392	1	2	2	Train 655 - Siding	No	PW
Curve 391	106.88	391	1	1	4	Airplane noise all day 2113 Acela	No	PW
Curve 390	106	390	1	NEC 5	SEC/N B 4/4 Both Dir.	NEC- North End Curve-Sec- South End Curve/NB- North Bound- This Curve is very and long--- Could use Permanent Whistle Boards on cat pole for safety. Near BWI Station/Very Frequent train travel.	No	PW
Curve 389	104.75	389	1	1	4	Grade- Highway noise	No	PW
Curve 388	104.1	388	1	5	5	Marc Train 54/ Acela 2028 Rear 2027	No	PW
Curve 387	103.7	387	1	5	2	Highway Noise	No	PW
WINANS	103	386	1	1	1	Noise around Station/ Marc Loc. 7757	Yes	PW
Landover MD	128.95	411	1	2	2	Landover Tower/ Noisy Metro trains upper level/ Radio Dead sections/ while in this area we timed Acela, Metro and Marc trains.	Hot spot Stickers where up	PW
Curve 410	127.7	410	1	4	3	Train 953 East Train 609 West Good Visibility	No	PW
Carroll Interlocking	127.4	409.1	1	2	1	Good Visibility	No	PW
Carroll	126.8	409	1	4	3	High Way Noise	No	PW
Curve 408	126.2	408	1	3	3	Good Visibility	No	PW
Curve 407	125.5	407	1	2	2	Good Visibility	No	PW
Curve 406	122	406	1	1	1	Good Visibility in both directions	No	PW
Bowie	120.3	405	1	1	3	Train Test/ Fair Visibility	No	PW
Jericho Park	119.7	404	1	3	2	2 trains Tested for time	No	PW
Curve 403	118.4	403	1	1	3	Train Time TEST	No	PW
Curve 402	117.7	402	1	3	4	Two Acela Trains	No	PW
Curve 401	117.5	401	1	4	1	Long Curve		PW
Landover MD	128.95	411	1	2	2	Landover Tower/ Noisy Metro trains upper level/ Radio Dead sections/while in this area we timed Acela, Metro and Marc trains	Hot spot Stickers where up	PW
Curve 410	127.8	410	1	4	8	Train 953 East Train 609 West Good Visibility	No	PW
Carroll Interlocking	127.4	409.1	1	2	4	Limited Visibility	No	PW
Carroll	126.8	409	1	4	3	High Way Noise	No	PW
Curve 408	126.2	408	1	3	3	High Way Noise	No	PW
Curve 407	125.5	407	1	2	2	Limited Visibility	No	PW

MAD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	PW
				West	East			
Curve 406	122	406	1	1	1	Good Visibility in both directions	No	PW
Bowie	120.3	405	1	1	3	Train/ Time Test	No	PW
Jericho Park	119.7	404	1	3	2	2 trains Tested for time	No	PW
Curve 403	118.4	403	1	1	3	Train Time Test	No	PW
Curve 402	117.7	402	1	3	4	Two Acela Trains	No	PW
Curve 401	117.5	401	1	4	1	Long Curve	No	PW
South of Landover	129.5	412	1	1	1	Metro behind us - noise	No	PW
Cheverly	130	413	1	1	1	Highway 50 noise/ B&O Trains in this area	No	PW
	133.2	414	1 gang	2	2	Fair Visibility	No	PW

Philadelphia to Harrisburg (PH)

MAD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	PH
				West	East			
Harrisburg Line 44th sty Zoo / JO	3.25	608	1	1		Limited Visibility	No	PH
Valley Curve	4.0 - 4.2	609	1	1		Limited Visibility	No	PH
Viaduct	4.0 - 4.2	none				Fouls only; Close Clearance	No	PH
Merion Curve	5-6	611	1	3		Limited Visibility	No	PH
Narberth Curve	6 - 7		1	3		Limited Visibility	No	PH
Curve 613	7.4 - 8.1	613	1	3		Limited Visibility	No	PH
Curve 614	8.8 - 9.1	614	1	1		Limited Visibility	No	PH
Curve 615	9.4 - 9.6	615	1	1		Limited Visibility	No	PH
Curve 616-617	10.6 - 11.4	616-617	1	2		Limited Visibility	No	PH
Curve 618 Villa Nova	11.8 - 11.9	618	1	1		Limited Visibility	No	PH
Curve 619A Blue Route-Radnor	12.5 - 13	619A	1	3		Limited Visibility	No	PH
Curve 619B Radnor Station	13-13.3	619B	1	3		Limited Visibility	No	PH
Curve 620 St David Sta	13.4 - 13.7	620	1	2		Limited Visibility	No	PH
Curve 621 Wayne Sta	14.5 - 14.7	621	1	1		Limited Visibility	No	PH
Curve 622A Wayne sta -15.2	14.9 - 15.25	622A	1	2		Limited Visibility	No	PH
Curve 622B Strafford sta- 15.6	15.4 - 15.6	622B	1	3		Limited Visibility	No	PH
Curve 622C	15.8 - 16	622C	1	1		Limited Visibility	No	PH
Curve 6203 Devon -mp17	16.7 - 17	623	1	3		Limited Visibility	No	PH
Curve 624 Berwyn sta - 17.6	17.3 - 17.6	624	1	3		Limited Visibility	No	PH
Curve 625 17.9 - Daylesford sta.	17.9 - 18.6	625	1	2		Limited Visibility	No	PH
Curve 626 east end Paoli int.	19.2- 19.4	626	1	0		Limited Visibility	No	PH
Curve 627west of Paoli -20.5	20 - 20.5	627	1	1		Limited Visibility	No	PH
Sugar Town East end	22	Hot Spot	1	2	1	4 Watchman in the middle of the curve Signal East - Train 9651 on the rear	No	PH
Sugar Town West end	23-22	Hot Spot	1	1	1	Good Visibility	No	PH
Quarry & Bradford Hills	30.5	Hot Spot	1	1	3	5 Watchmen in the Curve/ Bradford Hills Noise Two Curves the same number of employees	No	PH
Gallagherville Tunnel	34	Hot Spot	1	2	1	Short Tunnel/ no Clearance	No	PH

MAD Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	PH
				West	East			
Stone Bridge Curve Coatesville West	39.2	Hot Spot	1	1	1	Noisy Traffic	No	PH
Christiana	48.1-47.6	Hot Spot	1	1	3	Possible 7 in Curve	No	PH
West Christiana 49	49	Hot Spot	1	1	1	Good Visibility	No	PH
West Gap	51	No Number	1	2	2	Route 741 Noise - Lots of it. Train 644	No	PH
West Gap	52	No Number/ Cap Curve	1	1	2	Traffic Noise - Vegetation - 5 Watchmen in the curve	No	PH
MP 53	53	No Number/Gap Curve	1	1	2	Train 933 East- Traffic Noise Corn Field	No	PH
Kinzer Boat	54	yes	1	1	2	Route 30 noise	No	PH
Stock Lumber West	56.63	yes	1	1	2	Good Visibility in both directions	No	PH
Mount Joy Curve	80	yes	1	1	2	Signal West Bound Pulled	No	PH
West of Mount Joy Curve	81	not listed	1	1	2	Train 646 East Train 641 West Based on 10 cat poles with a watchman @ 2.5 cat poles of visibility and train speed.	No	PH
81.3 Florin Bell	81.3	Hot Spot	1	1	2	Feed mill noise	No	PH
82.5 West to RHEEMS	82.5	New Interlocking / High Speed	1	1	3	Train 953 East Train 609 West Good Visibility	No	PH
83.7 Substation	83.7	No Number	1	1	2	Good Visibility	No old one faded	PH
Elizabethtown Curve East	86	No Number	1	1	2	Signal East Pulled Feed Mill - In the middle of the Curve requires 2 additional watchmen Train 650	Faded	PH

North East Division

NED Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Tower 1	228.6-229.1	Multiple	1	0		Limited Visibility/Close Clearance Watchmen in conjunction w/Foul Time	N	NED
Southwest Corridor	227.7 – 223.5		foul time only			Foul Time ONLY/Limited Clearance	N	NED
Hyde Park	220.6 – 220.9	15	1	1		Limited Visibility	N	NED
Hyde Park Station	220.5 – 220.7		1	2		Limited Clearing Intertrack - Fence	N	NED
128 Industrial Park	215.7 – 216.1	16	1	3		Close Clearance/Limited Visibility	Y	NED
Canton Station	213.9 – 213.6		1	5		Limited Clearing/Intertrack Fence/Watchmen to be placed on Viaduct	Y	NED
Canton Viaduct	213.0 – 213.8		1	3		Limited Visibility/Close Clearance on Viaduct	Y	NED
High St. Curve	213.0 – 212.5	18	1	1		Limited Visibility	Y	NED
Sharon Station	210.6 – 210.7	20	1	2		Intertrack Fence/Limited Visibility	Y	NED
Sharon Curve	209.6 – 210.2	21	1	3		Limited Clearing/Partial Intertrack Fence	Y	NED
Mansfield Station	204.1 – 203.9		1	1		Limited Clearing/Intertrack Fence	Y	NED
Attleboro Station	197.6 – 197.1		1	1		Limited Clearing/Intertrack Fence	Y	NED
Hebronville curve	193.8 – 194.5	24	1	6		Limited Visibility	Y	NED
Tin Bridge	189.9 – 190.5	26	1	3		Limited Visibility/watchman placed on bridge	Y	NED
Pawtucket Station	190.0 – 189.6	27	1	3		Close Clearance/Limited Visibility	Y	NED
Conant St.	188.9 – 189.3	28	1	1		Limited Visibility/Highway Noise	Y	NED
Branch Ave.	186.5 – 186.6	35	1	4		Limited Visibility/Highway Noise	Y	NED
West River	186.4 – 186.5	36	1	3		Limited Visibility	Y	NED
Charles St	186.4 – 186.2	37	1	2		Limited Visibility/Highway Noise	Y	NED
Orms St	185.5 – 185.6	38	1	1		Limited Visibility/Highway Noise	Y	NED
Orms Interlocking	185.7-186.0		1	3		Close Clearance/Limited Visibility/Noise	Y	NED
Providence Station	184.9 – 185.5	39	1	6		Close Clearance/Limited Visibility/Noise	Y	NED
Providence Station	184.8 – 184.9	40	1	1		Limited Visibility	Y	NED
Providence Station	184.5 – 184.6	41	1	2		Limited Visibility	Y	NED
Providence Station	184.4 – 184.5	42	1	1		Limited Visibility	Y	NED
Atwells	184.2 – 183.7	43	1	4		Limited Visibility	Y	NED
Broadway	183.5 – 183.6	44	1	1		Close Clearance/Limited Visibility/Noise	Y	NED
Cranston St	182.9 – 182.4	45	1	5		Close Clearance/Limited Visibility/Noise	Y	NED
Cranston St	181.8 – 182.0	46	1	1		Limited Visibility	Y	NED
Roger Williams Ave.	180.5 – 181.1	47	1	6		Limited Visibility	Y	NED
Apponaug Cove	173.8 – 174.4	50	1	4		Close Clearance/Limited Visibility	Y	NED
Masthead	173.0 – 173.4	51	1	2		Limited Visibility	Y	NED
King St	171.6 – 172.3	52	1	5		Limited Visibility	Y	NED
Forge Rd	170.5 – 170.9	53	1	1		Limited Visibility	Y	NED
Wolf Rock Rd	159.7 – 160.5	58	1	5		Limited Visibility	Y	NED
Miantonomi Rd	153.9 – 154.3	61	1	4		Limited Visibility	Y	NED

NED Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Hoxies Rd	153.1 – 153.6	62	1	5		Limited Visibility/Highway Noise	Y	NED
Carolina Curve	151.9 – 152.5	63	1	5		Close Clearance/Limited Visibility	Y	NED
Carolina Curve	150.8 – 151.0	64	1	2		Limited Visibility	Y	NED
Pawcatuck River	148.6 – 149.4	65	1	6		Limited Visibility	Y	NED
Burdickville Rd	147.3 – 148.1	66	1	6		Limited Visibility	Y	NED
Burdickville Rd	145.2 – 145.4	67	1	4		Limited Visibility	Y	NED
Dixons swamp	144.1 – 144.6	68	1	5		Limited Visibility	Y	NED
High St	142.4 – 142.6	69	1	1		Close Clearance/Limited Visibility	Y	NED
Cement plant	141.7 – 142.1	70	1	2		Limited Visibility	Y	NED
Westerly Station	141.2-141.3	71	1	5		Close Clearance/Limited Visibility Intertrack Fence	Y	NED
Palmer St	139.4 – 140.2	72	1	5		Limited Visibility	Y	NED
Greenhaven Rd	138.5 – 139.0	73	1	4		Limited Visibility	Y	NED
Greenhaven Rd	138.3 – 138.4	74	1	3		Limited Visibility	Y	NED
Elm St Footbridge	136.1 – 136.5	75	1	3		Limited Visibility	Y	NED
East Harbor	135.5 – 135.7	76	1	2		Limited Visibility	Y	NED
West Harbor	134.9 – 135.6	77	1	3		Limited Visibility	Y	NED
Lords Point	134.5 – 134.7	78	1	2		Limited Visibility	Y	NED
Wilcox Cove	133.4 – 133.8	79	1	3		Limited Visibility	Y	NED
Latimer Point rd	133.3 – 133.4	80	1	3		Limited Visibility/Road Crossing	Y	NED
Mystic Curve	132.7 – 132.2	81	1	3		Limited Visibility/Road Crossing	Y	NED
School St	131.4 – 131.9	82	1	3		Limited Visibility/Road Crossing	Y	NED
Noank Cove	130.6 – 131.3	83	1	2		Limited Visibility/Limited Clearance	Y	NED
Moser Ave	130.0 – 130.3	84	1	3		Limited Visibility/Limited Clearance	Y	NED
Brook St.	129.4 – 129.7	85	1	3		Limited Visibility/Limited Clearance	Y	NED
Palmers Cove	129.4 – 129.0	86	1	3		Limited Visibility	Y	NED
Gardiners Rd	127.2 – 127.6	87	1	1		Limited Visibility	Y	NED
Pequonnock Rd	126.4 – 126.6	88	1	2		Limited Visibility	Y	NED
Pequonnock Rd	125.8 – 126.1	89	1	2		Limited Visibility	Y	NED
Buddington Rd	125.5 – 125.9	90	1	3		Limited Visibility	Y	NED
Sharp Highway	125.5 – 124.6	91	1	4		Limited Visibility	Y	NED
Fairview Ave.	124.5 – 124.3	92	1	2		Limited Visibility	Y	NED
New London Station	123.8 – 123.1	93	1	4		Station/Crossings-2/Limited Visibility	Y	NED
State St.	123.1 – 122.5	94	1	4		Road Crossing/Limited Visibility	Y	NED
Shaws Cove MVB	122.5 – 122.6	95	1	2		Moveable bridge/Limited Clearance	Y	NED
Ocean Ave.	121.5 – 120.6	98	1	4		Limited Visibility/Limited Clearance	Y	NED
Great Neck Rd	120.1 – 119.8	99	1	3		Limited Visibility/Limited Clearance	Y	NED
Great Neck Rd	119.5 – 119.0	100	1	3		Limited Visibility/Limited Clearance	Y	NED
Jordan's Cove	118.9 – 119.0	101	1	2		Limited Visibility/Limited Clearance	Y	NED
Gardiner's Wood Rd	118.5 – 118.1	102	1	3		Limited Visibility/Limited Clearance	Y	NED
Millstone	117.6 – 117.3	103	1	5		Limited Visibility/Limited Clearance	Y	NED
Niantic Draw Bridge	117.3 – 116.7	104	1	5		Limited Visibility/Limited Clearance Draw Bridge	Y	NED
Nan Curve	116.7 – 115.8	105	1	5		Limited Clearance	Y	NED
Black Point Rd	114.6 – 114.3	106	1	1		Limited Visibility/Limited Clearance	Y	NED
Giants Neck Rd	114.1 – 113.2	107	1	5		Limited Visibility/Limited Clearance	Y	NED

NED Name of Location	MP	Curves	# of Gang Watchmen	# of Advanced Watchmen		Comments	Hot Spot Stickers Applied	Sub Division
				West	East			
Rocky Neck Pass	112.6 – 112.8	108	1	2		Limited Visibility/Limited Clearance	Y	NED
Rocky Neck Ftbdg.	112.6 – 112.4	109	1	2		Limited Visibility/Limited Clearance	Y	NED
Four Mile River	112.3 – 112.1	110	1	2		Limited Visibility/Limited Clearance	Y	NED
Four Mile River	111.2 – 110.9	111	1	2		Limited Visibility/Limited Clearance	Y	NED
Cross Lane	110.7 – 110.1	112	1	3		Limited Visibility/Limited Clearance	Y	NED
Cross Lane	110.0 – 109.6	113	1	3		Limited Visibility/Limited Clearance	Y	NED
Mile Creek Rd	109.2 – 108.4	114	1	3		Limited Visibility/Limited Clearance	Y	NED
Lieutenant River	107.4 – 107.1	115	1	2		Limited Visibility/Limited Clearance	Y	NED
Conn River Draw	106.6 – 106.8		1	1		Limited Visibility/Limited Clearance	Y	NED
View Int.	106.7 – 106.4	116	1	1		Limited Visibility/Limited Clearance	Y	NED
US 1	105.3 – 105.2	117	1	1		Limited Visibility/Limited Clearance	Y	NED
Ingram Hill Rd	104.2 – 104.4	118	1	2		Limited Visibility/Limited Clearance	Y	NED
Schoolhouse Rd	103.4 – 103.4	119	1	1		Limited Visibility/Limited Clearance	Y	NED
Schoolhouse Rd	101.9 - 102.2	120	1	2		Limited Visibility/Limited Clearance	Y	NED
Westbrook	100.0 – 101.0	121	1	5		Limited Visibility	Y	NED
Westbrook	100.0 – 99.8	122	1	2		Limited Visibility	Y	NED
Westbrook	99.0 – 98.0	123	1	5		Limited Visibility/Limited Clearance	Y	NED
Clinton	97.5 – 97.9	124	1	1		Limited Visibility/Limited Clearance	Y	NED
Cow Hill Rd	97.0 – 96.6	125	1	2		Limited Visibility/Limited Clearance	Y	NED
Hammonasset River	94.21 – 94.9	126	1	4		Limited Visibility/Limited Clearance	Y	NED
Madison	93.0 – 93.4	127	1	1		Limited Visibility	Y	NED
Madison	91.5 – 91.8	128	1	2		Limited Visibility/Limited Clearance	Y	NED
Guilford Int.	91.0 – 90.0	129	1	2		Limited Visibility	Y	NED
Guilford Station	88.6 – 893	130	1	2		Limited Visibility/close clearance	Y	NED
Island Creek	87.3 – 87.5	131	1	2		Limited Visibility/Limited Clearance	Y	NED
Moose Hill Rd	86.6 – 86.4	136	1	1		Limited Visibility	Y	NED
Stoney Creek	86.1 – 86.5	137	1	1		Limited Visibility	Y	NED
Rte 146	83.9 – 83.2	138	1	1		Limited Visibility	Y	NED
Pine Orchard Rd	82.5 – 82.7	139	1	1		Limited Visibility	Y	NED
Pine Orchard Rd	82.5 – 82.0	140	1	2		Limited Visibility	Y	NED
Montwese St	81.8 – 81.5	141	1	2		Limited Visibility/Limited Clearance	Y	NED
Branford Int.	81.4 – 81.2	142	1	2		Limited Visibility/Limited Clearance	Y	NED
Branford Station	80.9 – 80.6	143	1	2		Limited Visibility/Limited Clearance	Y	NED
Branford Station	80.3 – 80.0	144	1	2		Limited Visibility/Limited Clearance	Y	NED
West Main St	80.0 – 79.3	144.1	1	7		Limited Visibility/Limited Clearance	N	NED
Lake Saltonstall	78.8 – 78.4	145	1	6		Limited Visibility/Limited Clearance	N	NED
High St.	78.3 – 78.1	146	1	6		Limited Visibility/Limited Clearance	N	NED
High St.	77.5 – 76.9	147	1	6		Limited Visibility/Limited Clearance	N	NED
Hemmingway St	75.9 – 74.4	148	1	10		Limited Visibility/Limited Clearance	N	NED
I-91	74.2 – 74.1	149	1	2		Limited Visibility/Limited Clearance	N	NED
James St	73.9 – 73.8	150	1	2		Limited Visibility/Limited Clearance	N	NED
Mill River Int.	73.7 – 73.5	151	1	2		Limited Visibility/Limited Clearance	N	NED
East St	73.4 – 73.1	152	1	4		Limited Visibility/Limited Clearance	N	NED