

### COMPANY SURGEONS

\*Dr. Abbott Skinner, Chief Medical Officer.....St. Paul, Minn.  
\*Dr. Hugo F. Schroeckenstein  
Asst. to the Chief Medical Officer .....St. Paul, Minn.  
\*Dr. F. K. Remington .....Seattle, Wash.  
Dr. Chester A. Regan .....Seattle, Wash.  
\*Dr. I. W. Varley.....Everett, Wash.  
\*Dr. Chas. E. Conner .....Cashmere, Wash.  
\*Dr. Thomas B. Dodgson .....Stanwood, Wash.  
\*Dr. Ross Wright .....Tacoma, Wash.  
\*Dr. G. H. Clement .....Vancouver, B. C.  
\*Dr. E. W. Powers .....Burlington, Wash.  
\*Dr. D. H. Boettner .....Bellingham, Wash.  
Dr. Roy F. West .....Seattle, Wash.  
Dr. Albert Ehrlich .....Tacoma, Wash.  
Dr. G. F. Parks .....Centralia, Wash.  
Dr. Henry M. Wiswall .....Vancouver, Wash.  
\*Dr. E. B. Coulter .....Spokane, Wash.  
Dr. Robert J. Albi .....Hillyard, Wash.  
\*Dr. G. R. Kingston .....Wenatchee, Wash.  
\*Dr. Wayne L. Piper .....Ephrata, Wash.  
\*Dr. L. F. Wagner .....Harrington, Wash.  
\*Dr. C. O. Mansfield .....Okanogan, Wash.  
Dr. R. V. Kinzie .....Tonasket, Wash.  
Dr. H. B. Stout .....Brewster, Wash.

\*Designates also Examining Surgeons.

### OPHTHALMIC SURGEONS

(Eye Doctors)

Dr. Philip B. Greene .....Spokane, Wash.  
Dr. C. K. Miller .....Wenatchee, Wash.  
Dr. Robert C. Laughlin .....Seattle, Wash.

W. B. JONES, Chief Dispatcher.  
J. H. WOOLFORD, Asst. Trainmaster.  
A. W. FOOTE, Trainmaster.  
J. W. WICKS, Trainmaster.  
W. L. SOLGA, Trainmaster.  
R. C. TANGUY, Trainmaster.  
D. L. LAMBERT, Asst. Superintendent.  
T. J. BRENNAN, Asst. Superintendent.

# GREAT NORTHERN RAILWAY COMPANY

## CASCADE DIVISION

# TIME TABLE 94

Effective 12:01 A. M. Pacific Time

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Sunday, April 29, 1962

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R. H. SHOBER, Superintendent.

C. M. RASMUSSEN, General Manager.

A. W. CAMPBELL,  
General Superintendent Transportation.

Printed in U.S.A.

2 WESTWARD

FIRST SUBDIVISION

EASTWARD

Station Numbers	Car Capacity		FIRST CLASS			Distance from Spokane	Time Table No. 94 Effective April 29, 1962 STATIONS	Telegraph Calls	Distance from Wenatchee	SIGNS	FIRST CLASS		SECOND CLASS		
	Sidings	Other Tracks	31	5	27						28	32	492	494	
				TOFC											
			Daily	Daily Ex. Sat.	Daily						Daily	Daily	Daily	Daily	Daily
1478	609		L 11.45Pm	L 8.15Pm	L 3.30Pm	0.00	.....SPOKANE.....★)	Q	174.39	BDNPR VXZ	A 5.45Am	A 10.40Pm	.....	.....	
<b>TRAINS BETWEEN FORT WRIGHT AND SPOKANE WILL BE GOVERNED BY KALISPELL DIVISION TIME TABLE</b>															
1477	69	65	L 11.50Pm	L 8.20Pm	L 3.35Pm	2.74	.....FORT WRIGHT.....★	FW	171.65	DINPRVXY	A 5.40Am	A 10.35Pm	A 9.30Am	A 2.00Pm	
1481	69	6	12.01Am	8.30	3.45	9.10	.....HIGHLAND.....	.....	185.29	P	5.30	10.21	9.17	1.47	
1486	130	15	12.06	8.35	3.50	12.39	.....LYONS.....	.....	182.00	P	5.23	10.13	9.11	1.41	
1493	129	75	12.13	8.40	3.55	17.74	.....FAIRCHILD.....★	NA	166.65	DNPV	5.17	10.04	9.04	1.34	
1496	130	39	12.18	8.48	3.59	21.84	.....ESPANOLA.....	.....	152.55	P	5.12	9.58	8.58	1.28	
1508	132	85	12.31	9.00	4.10	34.06	.....EDWALL.....★	WH	140.33	DPW	5.01	9.46	8.42	1.12	
1517	70	52	12.41	9.10	4.20	43.28	.....BLUESTEM.....	.....	131.11	IP	4.52	9.36	8.24	12.54	
1524	W 69	34	12.48	9.17	4.29	50.67	.....HARRINGTON.....★	HR	123.72	DNPW	4.44	9.28	8.10	12.40	
1539	126	38	1.03	9.32	4.45	65.76	.....LAMBDA.....	.....	108.63	IP	4.28	9.12	7.45	12.15Pm	
1550	135	115	1.14	9.42	4.55	75.98	.....ODESSA.....★	SA	98.41	DNPW	4.17	9.02	7.25	11.55	
1558	113	25	1.24	9.51	5.04	84.90	.....IRBY.....	.....	89.49	P	4.08	8.53	7.10	11.40	
1573	160	70	1.38	10.05	5.18	98.98	.....WILSON CREEK.....★	WK	75.41	DPW	3.53	8.39	6.50	11.20	
1580	139	29	1.45	10.12	5.25	106.80	.....STRATFORD.....	.....	67.59	P	3.46	8.32	6.36	11.06	
1588	141	104	1.50	10.17	5.30	112.12	.....ADRIAN.....	.....	62.27	PV	3.41	8.27	6.28	10.58	
1596	129	133	s 2.01	10.28	s 5.44	122.12	.....EPHRATA.....★	FR	52.27	DNPW	s 3.30	s 8.17	6.14	10.44	
1601	70	15	2.06	10.33	5.49	127.27	.....NAYLOR.....	.....	47.12	P	3.19	8.12	6.06	10.36	
1606	69	99	2.11	10.38	5.54	132.35	.....WINCHESTER.....	.....	42.04	P	3.14	8.07	5.58	10.28	
1612	114	331	2.17	10.44	s 6.02	138.48	.....QUINCY.....★	QN	36.91	DNPXWB	s 3.08	8.00	5.50	10.20	
1623	162	19	2.30	10.57	6.16	149.21	.....TRINIDAD.....	.....	25.18	P	2.53	7.47	5.20	9.50	
1632	70	52	2.41	11.08	6.26	158.53	.....COLUMBIA RIVER.....	.....	15.86	JP	2.41	7.35	5.00	9.30	
1637	114	53	2.47	11.13	6.31	161.74	.....VOLTAGE.....	.....	12.65	P	2.29	7.32	4.55	9.25	
1638	.....	42	.....	.....	.....	164.23	.....ROCK ISLAND.....	RI	10.16	DP	.....	.....	.....	.....	
1641	100	68	2.55	11.22	6.40	167.49	.....MALAGA.....	MA	6.90	DNP	2.22	7.26	4.45	9.15	
1645	.....	1252	3.01	11.27	6.45	172.21	.....APPLEYARD.....	.....	2.18	OPTWXX BDJK NPRWX	2.16	7.21	4.35	9.05	
1648	.....	1312	A 3.10Am	A 11.30Pm	A 6.50Pm	174.39	.....WENATCHEE.....★	WC	0.00	L 2.10Am	L 7.18Pm	L 4.30Am	L 9.00Am		
			3.20 51.50	3.10 54.21	3.15 52.81	Time Over Subdivision Average Speed Per Hour						3.30 49.04	3.17 52.28	5.00 34.33	5.00 34.33

Westward trains are superior to eastward trains of the same class.

SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 14.

**WESTWARD**

**SECOND SUBDIVISION**

**EASTWARD 3**

Station Numbers	Car Capacity		FIRST CLASS					Distance from Wenatchee	Time Table No. 94 Effective April 29, 1962 STATIONS	Telegraph Calls	Distance from Seattle	SIGNS	FIRST CLASS			
	Sidings	Other Tracks	5	27	359	357	31						358	360	32	28
			TOFC Daily Ex. Sat.	Daily	Daily	Daily	Daily						Daily	Daily	Daily	Daily
1648		1312	L 11.45 <sup>39</sup> pm	L 7.05 <sup>39</sup> pm			L 3.20am	0.00	WENATCHEE★	WC	165.60	BDJKN PRWX			A 7.10 <sup>27</sup> pm	A 1.50am
1655	70	65	11.57	7.16			3.34	7.38	MONITOR	MR	148.22	DP			6.59	1.39
1659	116	426	12.03am	7.21			3.40	11.00	CASHMERE★	OM	144.60	DNPWX			6.54	1.34
1664	64	35	12.09	7.27			3.48	15.63	DRYDEN	DN	139.97	DP			6.46	1.28
1667		137	12.15	7.32			3.54	18.76	PESHASTIN	PN	136.84	DP			6.40	1.24
1671	112	18	12.21	7.37			4.00	22.04	LEAVENWORTH★	CH	133.56	DP			6.34	1.20
1676	25		12.29	7.45			4.08	27.90	CHUMSTICK		127.70	P			6.26	1.12
1684	109	28	12.40	7.55			4.19	35.59	WINTON		120.01	P			6.15	1.02
1691	135		12.54 <sup>28</sup>	8.04			4.28	42.15	MERRITT★	CK	113.45	DNPWY			6.06	12.54
1699	E104		1.10	8.19			4.42	49.12	BERNE		106.48	IP			5.51	12.40
1716	129	11	1.28	8.37			5.00	58.13	SCENIC	SN	97.47	DNP BDKNO			5.33	12.22am
1728	189	226	1.56	9.05			5.26	70.89	SKYKOMISH★	KY	84.71	BDKNO FPWY			5.04	11.53
1732		162	2.01	9.10			5.31	74.71	GROTTO	GO	80.89	DP			4.59	11.48
1736	135	19	2.06	9.15			5.36	78.58	BARING		77.02	P			4.54	11.42
1747	100	58	2.29	9.38			5.59	90.08	REITER		65.52	P			4.34	11.23
1751	149		2.35	9.44			6.06	94.44	GOLD BAR		61.16	P BDJ NPRV			4.29	11.17
1764	145	112	2.48	9.58			6.18	107.31	MONROE★	RO	48.29	DPR			4.16	11.04
1771	137	80	2.55	10.05			6.25	114.30	SNOHMISH	SH	41.30	DPR			4.09	10.56
1777		121	3.01	10.11			6.31	120.13	SNOHMISH JCT.		40.64	JV			4.03	10.50
1779	127	119	3.03	10.13	L 3.39 <sup>360</sup> pm	L 10.04am	6.33	121.54	P. A. JCT.	D	34.06	DIPXJ	A 8.56am	A 3.39 <sup>359</sup> pm	4.00	10.48
1779		703	A 3.05	A 10.15	s 3.45	s 10.10	A 6.35	122.80	EVERETT★	JN	32.80	DIN PWX	s 8.53	s 3.36	s 3.58	L 10.46
1780		94	3.17	10.29 <sup>36</sup>	3.47	10.12	6.47	123.61	EVERETT JCT.		31.99	IJPX	8.48	3.32	3.47 <sup>359</sup>	L 10.29
1784		75	3.22	10.35	3.54	10.17	6.52	127.36	MUKILTEO		28.24	PI	8.43	3.28	3.43	10.23
1795		121	3.36	10.53	s 4.12	10.30	7.10	138.21	EDMONDS★	DR	17.39	DPN	s 8.30	3.15	3.31	10.08
1807		252	3.50	11.09	4.25	10.44	7.25	149.16	BALLARD		6.44	PXI BDKNOP	8.14	3.00	3.15	9.50
1808		1695	A 4.00am	11.15	4.30	10.47	7.30	150.65	INTERBAY★	RB	4.95	RTVWXZ	8.12	2.57	3.12	9.47
								151.68	N. P. RY. CROSS.		3.97	I	8.10	2.55	3.10	9.45
								154.47	NO. PORTAL★		1.13	DNI				

**BETWEEN NORTH PORTAL AND SOUTH PORTAL INTERLOCKING RULES AND KING STREET PASSENGER STATION TUNNEL RULES GOVERN**

1813	1095		A 11.30pm	A 4.45pm	A 11.00am	A 7.45am	155.45	Double Track	SO. PORTAL		0.15	I BDKNP RVXZ				
							155.60		(SEATTLE★)	UD	0.00		L 8.00am	L 2.45pm	L 3.00pm	L 9.30pm
			4.15 35.45	4.25 35.23	1.06 30.97	.56 36.49	4.25 35.23		Time Over Subdivision Average Speed Per Hour				.56 36.49	.54 37.84	4.10 37.84	4.20 35.91

Westward trains are superior to eastward trains of the same class.

**CONDITIONAL FLAG STOPS**

Nos. 27 and 28 stop at any station between Wenatchee and Winton, and between Monroe and Seattle except Mukilteo and Interbay to pick up or discharge revenue passengers from or to points Havre and east where Nos. 27 and 28 are scheduled to stop.

Eastward First Class Trains will stop at Edmonds to Pick-Up Revenue Passengers.  
Westward First Class Trains will stop at Edmonds to Discharge Revenue Passengers.

SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 14.

4 SOUTHWARD				THIRD SUBDIVISION				NORTHWARD								
Station Numbers	Car Capacity		FIRST CLASS				Distance from Vancouver	Time Table No. 94 Effective April 29, 1962	STATIONS	Telegraph Calls	Distance from Everett Junction	SIGNS	FIRST CLASS			
	Sidings	Other Tracks	103 C. N. 4 Daily	101 C. N. 2 Daily	359 Daily	357 Daily							102 C. N. 3 Daily	104 C. N. 1 Daily	358 Daily	360 Daily
CL 125	828		L 12.45Pm	L 7.00Am	0.00	VANCOUVER	★	VN	122.38	BKNOV WXPYZ		A 11.59Am	A 6.40Pm			
<b>BETWEEN VANCOUVER AND VANCOUVER JCT. CANADIAN NATIONAL RY. TIME TABLE &amp; SPECIAL INSTRUCTIONS WILL GOVERN</b>																
			L 7.02Pm	L 4.02Pm	L 12.46Pm	L 7.02Am	0.71	VANCOUVER JCT.	ABS	121.67	JVX	A 7.35Am	A 10.20Am	A 11.55Am	A 6.35Pm	
			7.05	4.05	12.47	7.04	1.25	C. N. RY. JCT.		121.13	IJVX	7.32	10.17	11.54	6.34	
CL 122			7.08	4.08	12.49	7.06	2.74	...STILL CREEK...		119.64	IPX	7.28	10.13	11.49	6.32	
CL 115			7.20	4.20	12.58	7.17	9.71	...BURNABY...		112.67	P	7.17	10.03	11.41	6.22	
CL 107	314		7.35	4.30	s 1.05	s 7.24	11.68	NEW WESTMINSTER	★	MN	110.70	YDINZ KPRVX	7.10	9.57	s 11.38	s 6.18
			A 7.45Pm	A 4.38Pm	1.13	7.31	13.53	FRASER RIVER JCT.		108.85	IJV	L 6.58Am	L 9.44Am	11.24	6.07	
CL 105	60	20			1.15	7.33	14.95	BROWNSVILLE		107.43	VP			11.22	6.05	
CL 103					1.17	7.36	17.52	TOWNSEND		104.86	VP			11.19	6.02	
CL 98	46	47			1.24	7.43	24.04	COLEBROOK		98.34	P			11.13	5.55	
CL 92					1.28	7.47	27.72	CRESCENT BEACH		94.66	P			f 11.08	5.51	
CL 87	57	10			s 1.36	s 7.55	32.75	WHITE ROCK		WR	89.63	DNPX		s 11.01	s 5.46	
CL 84	50	88			s 1.46	s 8.05	35.89	BLAINE		BN	86.49	DNPX		s 10.51	s 5.38	
CL 71	60	84			1.59	8.17	49.00	FERNDALE		FD	73.38	DNP		s 10.38	5.22	
CL 62	312				s 2.16	s 8.31	58.03	BELLINGHAM	★	HM	64.35	BKNOV TVWXX		s 10.25	s 5.10	
CL 60	87	80			2.22	8.36	61.20	SOUTH BELLINGHAM			61.18	PX		10.15	5.01	
CL 50	61				2.36	8.50	70.83	SAMISH			51.55	P		10.01	4.47	
CL 46	93	8			2.40	8.54	74.62	BOW			47.76	P		9.57	4.42	
CL 39	75	255			2.47	s 9.04	82.01	BURLINGTON	★	BU	40.37	BDJKMN OPWXYZ		s 9.49	4.34	
CL 35	104	166			s 2.55	s 9.12	85.98	MT. VERNON	ABS	NR	36.40	DNPX		s 9.41	s 4.28	
CL 30	22	17			3.01	9.19	91.31	FIR			31.07	P		9.34	4.19	
CL 23	103	94			3.07	s 9.27	98.41	STANWOOD		B	23.97	DP		f 9.27	4.12	
CL 17	11	6			3.12	9.35	103.99	SILVANA			18.39	P		9.20	4.07	
CL 13	50	15			3.16	9.40	108.04	ENGLISH			14.34	P		9.16	4.03	
					3.19	9.44	111.60	KRUSE JCT.			10.69	PJ		9.11	3.58	
CL 6	50	85			3.23	f 9.49	115.10	MARYSVILLE		MS	7.28	DP DJNP		9.08	3.55	
CL 3					A 3.28Pm	A 9.55Am	117.71	DELTA JCT.		WY	4.67	VXY		L 9.03Am	L 3.50Pm	
	73	79					118.83	LONG SIDING			3.55	PX				
1779		703					121.57	EVERETT	★	JN	0.81	DNPWX				
1780		94					122.38	EVERETT JCT.			0.00	LJPX				
			.43 17.89	.36 21.37	9.43 43.33	2.55 40.86		Time Over Subdivision Average Speed Per Hour				.87 20.79	.80 21.87	2.50 40.18	2.50 41.54	

SOUTHWARD				FOURTH SUBDIVISION				NORTHWARD							
Station Numbers	Car Capacity		FIRST CLASS				Distance from Delta Jct.	Time Table No. 94 Effective April 29, 1962	STATIONS	Telegraph Calls	SIGNS	FIRST CLASS			
	Sidings	Other Tracks	359 Daily	357 Daily	358 Daily	360 Daily						358 Daily	360 Daily		
CL 3			L 3.28Pm	L 9.55Am	0.00	DELTA JCT.	WY	DNIJP VXY PJX	A 9.03Am	A 3.50Pm					
			A 3.32Pm	A 9.59Am	1.73	G. N. JCT.			L 9.01Am	L 3.46Pm					
<b>BETWEEN G.N. JCT. AND SEALINE JCT. NORTHERN PACIFIC RY. TIME TABLE AND RULES WILL GOVERN</b>															
			L 3.35Pm	L 10.02Am	2.84	SEALINE JCT.		PJX	A 8.58Am	A 3.42Pm					
			A 3.39Pm	A 10.04Am	3.5	P. A. JCT.		PJXIM	L 8.56Am	L 3.39Pm					
			.11 19.47	.09 24.91		Time Over Subdivision Average Speed Per Hour			.07 32.03	.11 19.47					

Southward trains are superior to Northward trains of the same class on Third and Fourth Subdivisions.  
SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 14.

FIFTH SUBDIVISION

SOUTHWARD

NORTHWARD

SIXTH SUBDIVISION

5

SOUTHWARD

NORTHWARD

Station Numbers	Car Capacity		SECOND CLASS <b>697</b> Daily Ex. Sun.	Time Table No. 94 Effective April 29, 1962	STATIONS	Telegraph Calls	Distance from Wenatchee	SIGNS	SECOND CLASS <b>698</b> Daily Ex. Sat.
	Sidings	Other Tracks							
SG 110	83				KEREMEOS	K	176.12	D	
	22				4.08 CAWSTON, B. C.		172.04		
SG 98	21				12.91 CHOPAKA, WASH.		159.13		
SG 83	5				9.89 NIGHTHAWK		149.24		
SG 71	67	256	L 3.30pm		11.38 OROVILLE	VR	137.88	RKDY BPKOW	A 11.30pm
WO 132	34		3.40		5.67 CORDELL		132.21		11.10
WO 126	33		3.50		5.37 ELLISFORDE		126.84		10.55
WO 120	73		4.00		5.93 TONASKET	ON	120.91	DP	10.40
WO 115	33		4.10		4.83 JANIS		116.08		10.20
WO 110	33		4.20		5.37 BARKER		110.71		10.05
WO 105	35		4.30		5.36 RIVERSIDE		105.36		9.50
WO 96	66	255	5.20		9.01 OMAK	MK	96.34	DPXW	9.20
WO 92	58	91	5.55		4.20 OKANOGAN	KN	92.14	DPX	8.55
WO 87	35		6.10		4.90 CHILLOWIST		87.24		8.30
WO 83	34		6.25		3.97 MALOTT		83.27	P	8.15
WO 76	34		6.40		6.17 WAKEFIELD		77.10		8.00
WO 72	33		6.50		4.80 MONSE		72.30	P	7.45
WO 68	37		7.00		3.97 CHIEF JOSEPH		68.33	P	7.30
WO 65	52	77	7.10		2.71 BREWSTER	BR	65.62	DPX	7.10
WO 59	127	238	7.50		6.08 PATEROS	RS	59.54	DPXW	6.50
WO 53	33		8.00		5.46 STARR		54.08	P	6.25
WO 50	33		8.20		3.87 AZWELL		50.41	P	6.10
WO 44	33		8.35		5.68 HUGO		44.73		5.55
WO 39	126	126	9.00		5.16 CHELAN	HN	39.57	DPXW	5.40
		82	9.25		1.16 CHELAN FALLS		38.41	X	5.25
WO 32	38		9.40		5.78 STAYMAN		32.63	P	5.05
WO 26	36		9.55		5.70 WINESAP		26.93		4.45
WO 19	97	148	10.20		5.92 ENTIAT	NI	21.01	DPXW	4.25
WO 14	63		10.40		7.02 WAGNERSBURG		13.99		4.05
WO 3	63		11.15		10.63 OLDS		3.36		3.40
1648	65	1812	A 11.30pm		3.36 WENATCHEE ★	WC	0.00	RKDNP BXJW	L 3.30pm
			8.00 17.15		Time Over Subdivision Average Speed Per Hour				8.00 17.15

Northward trains are superior to southward trains of the same class.

Station Numbers	Capacity of Tracks	Time Table No. 94 Effective April 29, 1962	STATIONS	Distance from Columbia River	SIGNS
CR 60	95		MANSFIELD	60.44	PXYW
CR 55	30		5.50 TOUHEY	54.94	P
CR 49	60		5.89 WITHROW	49.06	
CR 44	30		5.55 SUPPLEE	43.50	P
CR 36	62		8.99 DOUGLAS	36.51	PD
CR 31	30		5.28 ALSTOWN	31.23	P
CR 16	35		15.45 PALISADES	15.78	PW
CR 5	230		10.33 BON SPUR	5.45	
1632	52		5.45 COLUMBIA RIVER	0.00	PJ
			Time Over Subdivision Average Speed Per Hour		

Northward trains are superior to southward trains of the same class.

SEVENTH SUBDIVISION  
WESTWARD EASTWARD

Station Numbers	Capacity of Tracks	SECOND CLASS <b>277</b> Daily Except Sat. & Sun.	Distance from Rockport	Time Table No. 94 Effective April 29, 1962	STATIONS	Telegraph Calls	SIGNS	SECOND CLASS <b>278</b> Daily Except Sat. & Sun.
CN53	98		0.00		ROCKPORT		X	
CN44	193	L 1.30pm	9.03		9.03 CONCRETE	BA	DX	A 7.15Am
CN43	28	1.45	10.19		GRASSMERE		X	6.45
CN38	42	2.15	15.47		5.23 BIRDSVIEW			6.30
CN33	30	2.35	20.67		5.20 HAMILTON			6.10
		2.36	21.21		0.54 HAMILTON JCT.	H	BVJ	6.07
CN20	85	3.30	32.37		11.16 SEDRO-WOOLLEY	SW	DX	5.20
			32.47		0.19 N. P. RY. CROSSING		U	
CL89	306	A 3.45pm	37.12		4.85 BURLINGTON ★	BU	MJRDNO ZPKXYW	L 5.00Am
CN 9	15		44.03		6.91 WHITNEY			
			47.20		3.17 WHITMARSH JCT.		VJ	
CN 6	24		47.37		0.17 WHITMARSH			
CN 4	28		49.52		2.15 FIDALGO			
CN 0	265		53.31		3.70 ANACORTES	AC	DX	
			2.15 12.48		Time Over Subdivision Average Speed Per Hour			2.15 12.48

Westward trains are superior to eastward trains of the same class except No. 278 is superior to No. 277.

SEE ADDITIONAL SPECIAL INSTRUCTIONS PAGES 6 THROUGH 14.

## SPECIAL INSTRUCTIONS

## ALL SUBDIVISIONS

## 1. SPEED RESTRICTIONS GENERAL.

The following speed limits apply to trains and engines operating under the conditions outlined, unless rules or conditions require a further reduction.

50 MPH—Diesel engines light or with caboose only.

35 MPH—Trains or engines on main routes, actuating the points of spring switches; trains or engines thru No. 20 turnouts at following locations.

Both siding switches at:

Edwall	Malaga	Scenic
Wilson Creek	Leavenworth	Stanwood
Stratford	Winton	Bow
Adrian	Merritt	Samish
Quincy	Berne	So. Bellingham

East siding switch at Voltage, Cashmere, Skykomish, Gold Bar.

West siding switch at P.A. Jct.

South siding switch at Mt. Vernon.

Fort Wright, SP&S Jct.

Appleyard, #1 switch East lead and #2 crossover switch.

Interbay, yard lead at 23rd Ave. overhead bridge.

30 MPH—On Main lines, when handling following equipment in trains not in actual service but on own wheels, derricks, cranes, pile drivers, Jordan spreaders, shovels, wedge plows, scale test car, also ore cars series 80000 thru 94250 and air dump cars X-2000 thru X-2096, X-7000 thru X-7049 when such cars are loaded with ore or gravel.

25 MPH—Trains handling logs; trains or engines moving in facing point direction at spring switches without facing point lock; trains or engines thru No. 15 turnouts at following locations.

Both siding switches at:

Lyons	Baring
Odessa	Monroe
Ephrata	Snohomish
Trinidad	

West siding switch at Voltage.

East and West crossover switch West end of yard Wenatchee.

20 MPH—Trains handling the following equipment on Branch Lines or on 6 degree or sharper curves of Main Lines, scale test car, ore cars series 80000 thru 94250, air dump cars X-2000 thru X-2096, X-7000 thru X-7049 when such cars are loaded with ore or gravel.

15 MPH—Trains handling the following equipment on Branch Lines or on 6 degree or sharper curves of Main Lines, derricks, cranes, pile drivers, Jordan spreaders, shovels and wedge plows.

Trains or engines moving thru interlockings against the current of traffic on double track; trains or engines thru all other turnouts, except at ends of double track, and turnouts shown previously in this item.

1(a). Rule 240 W of the Consolidated Code of Operating Rules is modified to permit handling Great Northern cars 60276 through 60279, 61500 through 61524 and 61000 through 61009 in passenger trains at passenger train speeds.

## 2. MOVEMENT OF ENGINES DEAD IN TRAINS.

Engine 2350 must be handled on rear of freight and mixed trains. Diesel engines 1 thru 196 or any road switcher unit not equipped with alignment control couplers must be towed as single units. On engines 550 thru 599, coupler alignment control lock blocks must be "DOWN" when coupled in multiple unit operation.

Following road switchers are equipped with alignment control couplers: 200 thru 218; 220 thru 230; 550 thru 599 (lock blocks); 600 thru 699; 700 thru 734; 900 thru 915 and 2000 thru 2035.

Single unit diesel engines, or multiple unit groups (When such groups consist of road freight, road passenger, or engines with alignment control couplers), when towed dead in freight trains, are to be handled not less than five (5) cars nor more than fifteen (15) cars behind the road engine. There should not be more than five (5) units in a group. Additional such units or groups of units must be separated by not less than five (5) cars.

**NOTE: EXCEPTION:** On Second Sub-Division between Wenatchee and Cashmere and between Skykomish and Interbay it is permissible for helper engines only to be coupled to road engine.

When towing diesel engines dead in trains the following speeds must not be exceeded:

MAXIMUM SPEED	ENGINE NUMBER
50 MPH	1 thru 10, 14 thru 16, 24 thru 28, 75 thru 162, 165 thru 170.
79 MPH	350 thru 375, 500 thru 512, 679, 680, 2350.
65 MPH	All other diesel engine units.

3. Except at points where it is necessary to classify trains, open cars loaded with poles, piling, lumber, timber, pipe, or other lading which might shift, should be placed as close as possible to the head end of train, but not next to engine, caboose, occupied outfit car or passenger car. Loaded trailer-on-flat cars are not included in this category. In double track territory, trains handling such cars must use extreme care to avoid slack running in or out when passing or being passed by other trains. In single track territory, trains handling such cars must be at stop when on siding or other track to meet or be passed by other trains, except when have more cars than siding will hold, it is permissible for such trains to pull by each other at restricted speed.

Loaded dump cars should not be handled on double track after dark, but if necessary to do so, close watch must be maintained by members of the crew, and if a car dumps its load, train must be stopped at once and protection provided as prescribed by the rules.

3(a). Trains handling flat or skeleton cars loaded with logs will not exceed 10 MPH passing over through-truss bridges, or through tunnels. Thorough inspection of all cars of logs in train must be made at appropriate locations when train is stopped for meeting trains and other purposes, making certain train and lading are in safe condition before proceeding. Extra stops enroute will be made for this purpose when in the judgement of the conductor it is necessary. Members of the crew must maintain a watch for logs that may have rolled off cars and if a track is fouled, take prompt action to protect trains.

On double track, conductors must notify train dispatcher when logs are to be handled and the log train must be at stop when being passed by other trains, except when both trains are handling logs, either one should be at stop until the other train pulls by, whether on siding or double track.

On single track, trains handling logs must be at stop when meeting or being passed by other trains, except when there are more cars than siding will hold, it is permissible for log train to pull by other train at restricted speed.

In double track territory, logs must be secured to cars by chains or cables.

4. Brakemen with less than one year of experience should not be used as flagman except in emergency, and then Superintendent will be notified by wire.

5. Due to limited overhead clearance at tunnels and structures, employes are warned to keep off top of cars of extreme height and width when handled in trains and yards, except in emergency. In absence of previous advice on such cars, wire proper officer for instructions.

- 6. Placarded loaded tank cars handled in through freight or mixed trains shall not be nearer than 6th car from engine, occupied caboose or passenger car.

Cars placarded "Explosives", "Flammable", "Corrosive Liquids", or "Poison Gas" handled in through freight trains, local and mixed trains, shall not be nearer than 16th car from engine, occupied caboose or passenger car.

When length of train will not permit handling of cars as prescribed above—ANY PLACARDED CAR, loaded with above commodities—shall be placed near middle of train, but not nearer than 2nd car from engine, occupied caboose or passenger car.

When switching such cars in terminal yards they must be separated from engine by at least one non-placarded car.

When placarded cars described above are handled in freight trains made up in "blocks" or classifications, placarded car or cars shall be placed near middle of the "block" or classification, but not nearer than 6th car from engine, occupied caboose or passenger car.

When such placarded cars are placed in trains they must not be placed next to each other, next to refrigerators equipped with gas-burning heaters, stoves or lanterns, or next to loaded flat cars, or gondola cars containing lading higher than ends of car that is liable to shift.

Carload express shipments of explosives, sealed and placarded, may be handled on passenger trains; LCL shipments may be made in so-called peddler car with messenger in charge when such car is assigned to the handling of express and baggage exclusively.

Terminal or pick-up points enroute must furnish conductor and engineer Form 250 showing consecutively location in train of all cars placarded "Explosives". At points other than terminals where crews change, notice will be transferred from crew to crew.

Employes will be guided by further instructions governing handling of loaded tank cars, Explosives, Flammables, Corrosive Liquids, and Poison Gas found in I.C.C. Regulations and Consolidated Code Rules 727 and 811.

- 7. Trains departing from stations, either from siding or main track in trailing point movement actuating points of spring switches, a member of crew must observe indication of governing signal in opposite direction after rear end of train has passed thru switch to ascertain if switch points return to normal position. If this signal indicates Stop and no immediate train movement or other cause is evident report the fact to Superintendent from first available point of communication.

During and immediately following snow storms or violent wind storms, spring switches must be operated by hand and relined to normal position before heading out through switch in trailing point movement, actuating switch points, to insure switch is in proper operating condition.

- 8. Facing point locks on hand operated switches are indicated by a six inch yellow stripe painted on target staff. Be positive locking device is restored to normal position after using. A running switch must not be made thru this type switch.
- 9. Rule 2 of the Consolidated Code of Operating Rules is modified to the extent that it is not necessary to renew the watch certificate and file it with watch inspector during month of August each year. Inspection of watches will be made by officers of the company.

Rule 3 (C) of the Consolidated Code of Operating Rules is amended as follows: Employes governed by time service rules must not wear wrist watches while on duty unless such watches are of an approved type. The approved type wrist watches are Elgin, B. W. Raymond model, 13/0 size, 23 jewels and Ball Official Standard 1604B, 13/0 Ligne, 21 jewels.

- 10. Regarding Consolidated Code Rule 103. In addition to complying with the provisions of this rule, members of a crew will be governed by the following:

When an engine with or without cars is about to move over a public crossing not protected by a watchman, by gates or by crossing signals in operation, a member of the crew must be on the ground at the crossing to provide protection.

Except for through yard transfer movement or light engine movement being handled only by hostlers.

- 11. The following Rules of the Uniform Code of Operating Rules apply in Canada:

**ENGINE WHISTLE SIGNALS**

Rule 14. (k-a) o o —

Answer to 14k

Rule 98. Trains or engines must approach the end of double, three or more tracks, junctions, interlocked railway crossings at grade and interlocked drawbridges prepared to stop unless the switches are properly lined, signals indicate proceed and track is clear.

Trains or engines must stop at the stop signs at non-interlocked railway crossings at grade and at non-interlocked drawbridges and not proceed until the proper signal has been given for that purpose.

When clear signals are given at interlocked railway crossings at grade, unless otherwise provided, the speed of any train must not exceed thirty-five miles per hour until the entire train has passed the crossing.

When clear signals are given at interlocked drawbridges the speed of a passenger train must not exceed twenty-five miles per hour, and of any other train or engine fifteen miles per hour, until the entire train has passed the drawbridge.

Rule 99. When train is moving under circumstances in which it may be overtaken by another train, lighted fuseses must be dropped off at proper intervals and such other action taken as may be necessary to ensure full protection.

When a train stops under circumstances in which it may be overtaken by another train, a flagman must go back immediately with flagman's signals a sufficient distance to ensure full protection, at least:

In daytime, if there is no down grade toward train within one mile of its rear and there is a clear view of its rear of 2000 yards from an approaching train .....1000 yards

At other times and places, if there is no down grade toward train within one mile of its rear .....1500 yards

If there is a down grade toward train within one mile of its rear .....2000 yards

When a train stops under circumstances in which it may be overtaken by another train the engineman will immediately signal the flagman to protect the rear. When ready to proceed he will recall the flagman.

The flagman must, after going back a sufficient distance from the train to ensure full protection, take up a position where there will be an unobstructed view of him from an approaching train of, if possible, 500 yards, first placing torpedoes not more than 100 nor less than 50 yards apart to cause two explosions at least 200 yards beyond such position and, when necessary, in addition, displaying lighted fuseses, and must not return until recalled or relieved and safety of the train will permit. If necessary to go beyond the required distance he will leave the torpedoes at the required distance as an indication of the location of his train, but must, under such conditions, also place torpedoes at the point at which an approaching train is flagged.

If recalled before another train arrives he must, in addition to the torpedoes, leave a fusee burning red at the point from which he returns and while returning to his train a fusee burning red must be placed at such points or times as may be necessary to ensure full protection. When curvature, weather or other conditions require, or when snow plows or flangers may be running, extra precaution must be taken.

To maintain the proper interval between trains a fusee burning red must be left by the protected train at the point from which it moves.

Flagman must always on the approach of a train display stop signals.

The front of a train must be protected in the same manner when necessary.

Flagmen must each be equipped for daytime with,

- A red flag on a staff,
- At least eight torpedoes and five red fuses.

For nighttime and when weather or other conditions obscure day signals,

- A red light,
- A white light,
- A supply of matches,
- At least eight torpedoes and five red fuses.

A train should not stop between stations at a place where the view from the following trains is obstructed if it can be avoided.

Conductors and enginemen are responsible for the protection of their trains.

40. (a) Before undertaking any work which may render the main track unsafe for movements at normal speed, or if rendered unsafe from any cause, trackmen, bridgemen, or other employees must provide protection by sending out a flagman with flagman's signals in each direction at least 2000 yards from the defective or working point.

(b) After going out the required distance, flagman must take up a position where there will be a clear view of him from an approaching train of, if possible, 500 yards, first placing torpedoes not more than 100 nor less than 50 yards apart to cause two explosions at least 200 yards beyond such position.

(c) Flagman must not return until recalled or relieved.

(d) If necessary to go beyond the required distance, flagman will leave the torpedoes at the required distance, but under such conditions must also place torpedoes at the point at which an approaching train is flagged.

(e) On the approach of a train flagman must display stop signals, using lighted fuses at night or in obscure weather.

(f) Trains stopped by a flagman will be governed by his instructions, and on reaching the defective or working point will there be governed by instructions of the foreman in charge.

(g) Flagmen must each be equipped for daytime with,

- A red flag on a staff,
- At least eight torpedoes and five red fuses.

For nighttime and when weather or other conditions obscure day signals,

- A red light,
- A white light,
- A supply of matches,
- At least eight torpedoes and five red fuses.

41. On subdivisions or portions thereof specified in the time table or special instructions, Rule 40 may be modified as follows:

(a) By day place a red flag and, in addition, by night a red light between the rails 200 yards in each direction from the defective or working point, and place torpedoes on each rail to cause one explosion 200 yards beyond the red signals, also:

(b) By day place a yellow over red flag and, in addition, by night a yellow light and a red light at least 2000 yards in each direction from the defective or working point on the same side of the track as the engineman of an approaching train, and place torpedoes not more than 100 nor less than 50 yards apart to cause two explosions 200 yards beyond these signals.

(c) Trains approaching the signals prescribed by clause (b) must stop, replace the torpedoes and proceed to the red signal prescribed by clause (a) and there be governed by instructions of the foreman in charge, and must not proceed until the red signal has been removed by the foreman.

(d) When weather or other conditions obscure day signals night signals must be used in addition.

42. When the main track is impassable, and after train order protection has been provided and the foreman so advised, Rules 40 and 41 may be modified as follows:

(a) By day place a red flag and, in addition, by night a red light between the rails 200 yards in each direction from the defective or working point, also:

(b) By day place a yellow flag and, in addition, by night a yellow light at least 2000 yards in each direction from the defective or working point on the same side of the track as the engineman of an approaching train, where there is a clear view of the signal of, if possible, 500 yards.

(c) Trains stopped by the red signal prescribed by clause (a) must be governed by instructions of the foreman in charge, and must not proceed until the red signal has been removed by the foreman.

(d) When weather or other conditions obscure day signals night signals must be used in addition.

43. When the nature of the defect does not require stop to be made, and after speed restriction has been placed by train order and the foreman so advised, Rules 40 and 41 may be modified as follows:

(a) By day place a yellow flag and, in addition, by night a yellow light at least 2000 yards in each direction from the defective point on the same side of the track as the engineman of an approaching train, also:

(b) By day place a green flag and, in addition, by night a green light in each direction immediately beyond the defective point.

(c) Trains must reduce speed to comply with requirements of the train order, and must not increase speed until the entire train has passed the green signal.

(d) When weather or other conditions obscure day signals night signals must be used in addition.

44. On subdivisions or portions thereof specified in the time table or special instructions, when the main track is found to be unsafe for movements at normal speed but safe for speed of ten miles per hour or more, Rule 41 may be modified as follows:

(a) By day place a yellow flag and, in addition, by night a yellow light 200 yards in each direction from the defective point on the same side of the track as the engineman of an approaching train, also:

(b) By day place a yellow over red flag and, in addition, by night a yellow light and a red light at least 2000 yards in each direction from the defective point on the same side of the track as the engineman of an approaching train, and place torpedoes not more than 100 nor less than 50 yards apart to cause two explosions 200 yards beyond these signals, also:

(c) By day place a green flag and, in addition, by night a green light in each direction immediately beyond the defective point.

(d) Trains must stop and replace torpedoes on each side of the defective point, and must reduce speed to ten miles per hour before passing the yellow signal and must not increase speed until the entire train has passed the green signal.

(e) When weather or other conditions obscure day signals night signals must be used in addition.

(f) The foreman must report the condition to the train dispatcher as soon as practicable, and when advised that speed restriction has been placed by train order must mark the defective point as prescribed by Rule 43.

45. In providing protection each main track must be regarded as a track upon which trains may run in either direction. Where two main tracks are on the same roadbed, flags and lights required to be placed on the same side of the track as the engine-



man of an approaching train under Rules 41-44 inclusive must be placed to the outside of the track affected and not between the two main tracks. Under this rule, when the two main tracks on the same roadbed are for single track operation their location will be shown in the time table.

46. When flags or lights are placed as set forth in Rules 41-45 inclusive they will be mounted on staffs and elevated so as to be clearly in view of the engineman of an approaching train.

47. Where the use of torpedoes is required, duplicates should be placed on the opposite rail to explode simultaneously.

48. Torpedoes must not be placed near stations nor on public crossings at grade.

49. A sign bearing figures indicating permissible speeds, or the word SLOW, placed at the side of the track will indicate a permanent slow order; its location and speeds permitted will be specified in the time table or special instructions.

7. MANUAL INTERLOCKING.

Fort Wright .....End of double track and SP&S Ry Jct.  
Whistle signals for routes:  
Fort Wright:  
Main Track GN Ry .....1 short, 1 long.  
Main Track SP&S Ry .....1 long, 1 short.  
Siding GN Ry .....2 long, 1 short.

8. AUTOMATIC INTERLOCKINGS.

Bluestem ..... dual control switch end of double track.  
Lamona ..... dual control switch end of double track.  
Interlockings operate automatically for all movements with following exceptions:  
Lamona, when movement is to be made from double track to siding, siding switch must not be lined until engine is within home signal limits.  
Lamona, eastward train moving out of siding immediately after westward train has passed, must operate switch release push button located on eastward home signal to line route for eastward main track.  
Bluestem, westward train moving out of siding immediately after eastward train has passed, must operate switch release push button located opposite switch to line route for westward main track.

FIRST SUBDIVISION

(Main Line)

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	Passenger	Freight
Fort Wright and Wenatchee .....	79 MPH	60 MPH

2. SPEED RESTRICTIONS.

Between Fairchild and Geiger Field:  
All trains on straight track..... 15 MPH  
on curves and public crossings..... 8 MPH  
Ephrata, 2.2 miles east of, Air Base Washington spur.. 8 MPH

3. At Fairchild Air Force Base, where Great Northern Railway spur track crosses the approach of the NE-SW airplane runway, two-color light signals, one each direction, displaying red above red for "Stop", and yellow above red for "Proceed", are under the control of operator at Air Base Tower, governing train and engine movements across runway approach.

If signal indicates "Stop" and does not change to "Proceed" within reasonable length of time and no evidence that runway is to be used by planes, trainmen will use air police telephone located at Gates 21 and 22 on the East fence of Fairchild Air Force Base to call air police telephone switchboard and ask for base operations dispatcher, who, in turn, will secure information and advise train crew members whether or not they are to proceed on a "Stop" signal.

Fairchild Air Base Hospital crossing must not be blocked in excess of ten minutes.

4. TRAIN REGISTER EXCEPTIONS.

Fort Wright, all trains register by ticket.

5. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

Cascade Division clearance received by first class trains and passenger extras at Spokane, and by other trains at Hillyard, will clear train at Fort Wright when train order signal indicates proceed.

6. CROSSOVERS ON DOUBLE TRACK.

Facing point.	Trailing point.
350' east of depot, Harrington.	MP 1535.6—7.31 miles west of Harrington.
	MP 1539—4.38 miles east of Lamona.

SECOND SUBDIVISION

(Main Line)

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	Passenger	Freight
Wenatchee and Seattle .....	79 MPH	60 MPH

2. SPEED RESTRICTIONS.

Interbay, over NP Ry crossing..... 30 MPH  
Seattle, thru turnouts South Portal..... 10 MPH  
Seattle, over public crossings..... 20 MPH  
Cascade Tunnel No. 15, Eastward trains handling more than 75 cars ..... 17 MPH  
Eastward passenger trains from the West Portal to Refuge Bay No. 4 1.0 mile west of East Portal..... 40 MPH

3. TRAIN REGISTER EXCEPTIONS.

Monroe, register only for CMStP&P RR trains.  
Snohomish, register only for NP Ry trains and eastward NP Ry trains register by ticket.  
Interbay, first class trains register by ticket.  
Interbay, engineers and conductors of trains originating which operate over joint track south of Seattle must register at yard office and show number of last bulletin issued by NP and GN.

4. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).

At Everett Jct. and P.A. Jct. Rule 83(B) does not apply.

5. East switch Berne to west switch Scenic.

Signal transmission line carries 13,200 volts.  
All wires must be considered energized unless a clearance has been obtained from the Train Dispatcher.  
Telegraph and telephone wires are not located along right-of-way. Never attempt to connect field telephone apparatus to any wires located along right-of-way in this zone.

6. Chumstick, Scenic and Berne, two rail clamps provided for emergency use. When necessary to set out bad order car on siding see clamps are properly secured and blocked to rail on east end of car. Crew picking up car see clamps removed and replaced in depot.

7. Skykomish, unless otherwise directed, extension on east end of siding for use only by eastward trains and in no case will train or cars be left on this extension without engine coupled and air brakes operative.

8. Double track extends between Seattle and Everett Jct. except between N.P. Ry. crossing and M.P. 5.4 Interbay, CTC district Edmonds and automatic interlockings Ballard and Mukilteo.

Westward track is signalled for traffic in both directions between M.P. 5.4 Interbay and Everett Jct., signals governing eastward movements on westward track are located to the left of the westward track as viewed from approaching eastward trains.

9. INTERBAY, when an eastward movement is to be made from yard lead to main track, trainmen shall operate push button "R" at signal 4.8. If no conflicting movement is being made on main track and spring switch is in proper operating condition, signal 4.8 will indicate proceed after a time interval of three minutes. After push button "R" is operated a white light will be displayed if operation is effective.

Westward freight trains will enter yard at the connection from westward main track at east end of yard unless otherwise instructed by yardmaster. Trains or engines must stop east of signal 5.3 and not proceed until trainmen have lined switch to enter yard.

Interbay-Westward Dwarf Signal 5.5, of color light type located between Eastward and Westward main tracks East End Interbay Yard governing Westward train and engine movements is controlled from Interlocking Bridge No. 4, Ballard, Washington.

When train or engine is stopped by the Stop Indication of this signal, a member of the crew must operate push button located on a cable post south side of Eastward track opposite the dwarf signal. This operation will inform Signalman on Bridge 4, and automatically clear signal 5.5 if there are no conflicting train movements.

10. SEATTLE, KING STREET PASSENGER STATION TUNNEL RULES.

King Street Passenger Station Tunnel Rules shall consist of Great Northern Block and Interlocking Rules as set forth in the Consolidated Code of Operating Rules, supplemented by the following special instructions, and will govern train and engine movements between North Portal and South Portal.

A positive block is maintained in both directions between these stations. Trains and engines may make a forward or backward movement within these limits without flag protection, observing governing signal indications.

No train or engine will make a complete through movement between North Portal and South Portal against the current of traffic, or pass the governing home signal at the immediate entrance to the tunnel on either track displaying a "Stop" indication, except on the authority of a "Tunnel Card" properly completed by operator in charge and OK'd by the operator at opposite station. When this governing home signal indicates "Stop", trains and engines, after stopping, must proceed at restricted speed to the next signal and be governed by its indication.

Tunnel Cards shall be used as required: Form 26 for train and engine movements from North Portal to South Portal, and Form 26-A for train and engine movements from South Portal to North Portal.

"Tunnel Card" does not dispense with the observance of or compliance with the indications of southward home signals at the South end of the tunnel governing entrance to the South Portal Interlocking or the northward home signals governing entrance to the North Portal Interlocking.

At South Portal, trains and engines may enter the tunnel on either track for short switching movements if required. If the governing home signal at the immediate entrance to the tunnel displays a Stop-indication, a Tunnel Card must first be secured.

Special Indication "Yellow over Red" displayed indicates route through South Portal Interlocking to Southward main track (Tunnel Track 4) properly lined but that Track 4 southward from the Interlocking limits is occupied and every precaution consistent with safety must be taken in emerging from the Tunnel to avoid accidents.

The maximum permissible speeds between North Portal and South Portal for all trains and engines are: 20 MPH moving with the current of traffic, and 10 MPH moving against the current of traffic.

Operating directions are: "North" from south end of King Street Station through South Portal to North Portal, and "South" from North Portal through South Portal to south end of King Street Station.

When a train or engine is stopped by Stop-indication of dwarf signal located between northward and southward main tracks, south end of King Street Station governing northward train and engine movements on southward main track (Tunnel track 4), operator must be informed of desire to make the northward movement on southward main track (Tunnel track 4) by four operations of the push button located on top of the signal.

11. Seattle, train, yard and engine movements between GN freight yard and 5th Avenue tracks will be made via NP and UP main track Oregon Street connection and their time-tables and Special Instructions will govern.

12. CROSSOVERS ON DOUBLE TRACK.

Facing Point.	Trailing Point.
MP 28.5 west end Mukilteo.	MP 14.1, 3.4 miles west of Edmonds.
MP 15, Standard Oil spur 3 miles west of Edmonds.	MP 24.29 between Edmonds and Mukilteo.
	MP 29.21 east end Mukilteo.
	MP 31.33, 1 mile west of Everett Jct.
	MP 30.6, 1½ miles west of Everett Jct.

13. Swing brakeman will be required to ride on head end of Eastward train out of Skykomish and get off at the depot, Scenic, and engineer will pull by slowly so he can look over entire train. If anything is found wrong he can open the light control switch located in depot and engineer will stop the train and not move until he gets proper signal from the train man.

Westward movements, swing brakeman will arrange to ride head end of train out of Merritt, get off at depot Berne, and inspect train as it pulls by slowly. The light control switch, located in depot, can be opened and train stopped at the signals.

Special Red slide fence light is placed 40 feet from the West Portal of Cascade tunnel, Scenic, to give indication for Westward trains when necessary. This signal will not show light unless there is slide-fence operation between West Portal of the tunnel and East siding switch.

If this signal shows Red indication, trains must stop and not pass until they send flagman ahead to see whether or not main track is blocked by slide, and make report promptly of the condition.

14. MANUAL INTERLOCKINGS.

Ballard, Br. 4.....Salmon Bay drawbridge.

15. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

North Portal-South Portal ....King Street Tunnel and terminal tracks.

Interbay .....East Roundhouse lead switch.

Everett-P.A. Jct. ....West siding switch.

Everett Jct. ....End of double track and Junction with 3rd Subdivision.

P.A. Jct. ....Junction and crossover switches.

Everett, interlocking electrically controlled by operator at depot. The Home Signal Limits (Rule 605) of this interlocking extend from westward home signal for west siding switch at P.A. Jct. to Eastward home signals for end of double track and junction switches Everett Jct. Trains and engines may make forward or backward movements within these home signal limits without flag protection, observing all governing signal indications.

Trains or engines must not foul or enter P.A. Jct. siding at or between the interlocking at P.A. Jct. and the interlocking at the west siding switch unless directed by signal indication or authorized by operator Everett.

**16. AUTOMATIC INTERLOCKINGS.**

Interbay .....NP Ry crossing.  
 Berne .....East siding switch.  
 Mukilteo, between MP 27 and 28..... } Automatic interlocking  
 Ballard, between MP 7 and 8..... }  
 with spring switches. Instructions posted on interlocking signal masts. When a train or engine is stopped by an interlocking stop indication it will be governed by Rule 509.

**17. INSTRUCTIONS GOVERNING OPERATION OF TRAINS SKYKOMISH TO WENATCHEE.**

When necessary to make a backup movement on ascending mountain grade sufficient hand brakes must be set on rear end to hold up the slack; then when ready to proceed ahead, hand brakes must be released starting from the rear car first and working toward the head end of train so the slack will run out gradually and avoid break-in-two.

Diesel engines operated on freight trains thru Cascade tunnel will be governed as follows:

Hot engine alarms are set at 195 degrees and should the hot engine alarm sound, isolate the unit if temperature exceeds 205 degrees. Place the unit back on the line after water temperature is reduced to normal and check has been made of water level in engine cooling water tanks. Should the water level fall below minimum level shut engine down.

If, for any reason, eastward trains stop in tunnel, members of crew on both head end and rear end of train must communicate with each other on telephone located in each bay of the tunnel and have a thorough understanding with entire crew whether train will be backed out of tunnel or doubled out to Berne. If backed out to Scenic, train must be stopped before passing east siding switch and not back down main track unless protected by train order or flagman, or backing in siding, it must be known siding is clear. In making these moves definite understanding must be had with all members of the crew as to what is to be done to avoid accident.

Crew of eastward or westward trains stopped in Cascade tunnel must communicate by telephone, located in each bay of tunnel, with operator at Scenic to have tunnel ventilating fans operating and tunnel closure door at Berne closed during time train is standing.

In case of emergency, a train in the tunnel may make a forward or backward movement to Scenic or Berne without flag protection and may pass signals indicating stop and proceed at restricted speed without stopping except signal 1700.3 and 1700.4. Train or Engine crew will contact Scenic operator by tunnel phone to advise the operator the movement they are to make.

Westward trains encountering signal 1707.9 inside West Portal displaying stop indication must not pass West Portal until it is known track is clear to east switch Scenic.

At Scenic, home signal governing eastward movements on main track at east siding switch is located to left of main track. Home signal governing westward movements from siding to main track at west siding is located to left of siding.

At Scenic, two white lights flashing alternately mounted in a vertical position on a bracket attached to the power pole just east of home signal east of station on left side of main track to

indicate ventilating system functioning. Eastward trains must not pass Scenic unless alternate flashing white lights are operating unless directed by operator to do so.

Ventilating fans and tunnel door located at the East Portal of Cascade Tunnel No. 15, Westward signal 1700.3 located 65 feet east of tunnel door, and Eastward signal 1700.4 located 100 feet west of tunnel door. When a train or engine is stopped by either of these signals, in addition to the usual observance of Rules, contact by phone to Scenic operator must be made and great care must be taken before proceeding to see that the tunnel door is not closed, or in a partially open position.

In the event ventilating door, Cascade tunnel, is closed, denying movement, crew must first contact Scenic operator who will take proper action. A hand-hoist at the East portal is provided for hand operation of the door in event of power failure. In any event be guided by instructions of Scenic operator who has remote control of door operation. Further, see instructions relative to operation of hand hoist mounted adjacent to tunnel door.

Four Scott Air Packs have been placed in each bay of Tunnel 15 except only 3 packs in Bay 1. Whenever one of these air packs are used, advise the Superintendent and Terminal trainmaster by wire the number of the air pack used so that it can be recharged at once.

Eastbound freight train enginemen handling helper engines thru Cascade tunnel will operate in throttle 8 position and head engineer will control speed of train. Helper engine will reduce to throttle 6 at Bay 4.

18. Skykomish, Spring switch indicator located at clearance point of east switch of extension to eastward siding is connected with a repeat indicator at crossover near signal 1731.4. These indicators govern train and engine movements through spring switch at east end of siding extension.

This repeat indicator must not be operated, except when train rights and operating rules permit movement through eastward siding extension without stopping at clearance point of east switch. A yellow light displayed on repeat indicator does not authorize movement beyond switch indicator at clearance point of east switch which indicator must also display yellow light for continuous movement.

19. Berne, eastward trains must use siding unless otherwise directed by train dispatcher.

**THIRD SUBDIVISION  
(Vancouver Line)**

1. **MAXIMUM PERMISSIBLE SPEED FOR TRAINS.**

Between	Passenger	Freight
Everett Jct. and Vancouver .....	79 MPH	60 MPH
2. **SPEED RESTRICTIONS.**

Everett, over street crossings.....	25 MPH
South Bellingham, NP Ry. Crossing.....	20 MPH
Bellingham, over street crossings .....	10 MPH
Bellingham, over CMStP&P RR Crossings.....	20 MPH
New Westminster, Fraser River Bridge.....	10 MPH
Over Front St. Crossing .....	10 MPH
Vancouver, Burrard Inlet, CPR Crossing, Powell St.....	8 MPH
Vancouver Jct., through turn-out when entering or leaving CNR Passenger Station lead.....	10 MPH
3. **TRAIN REGISTER EXCEPTIONS.**

Vancouver, Vancouver Jct., C.N. Jct., trains arriving will register in G. N. train order office at Vancouver.  
 New Westminster, all trains register by ticket.
4. **CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).**

At Everett Jct., Brownsville and Townsend, Rule 83(B) does not apply.

At Delta Jct., Rule 83(B) does not apply if train order signal indicates proceed.

Canadian National northward trains may enter CTC limits at the north end of Fraser River Bridge when the governing signal indicates proceed, obtaining clearance Form A at New Westminster station.

**5. RESTRICTED CLEARANCES.**

The following overhead wires crossing our track do not have standard clearance of 27 ft. from top of rail:

Delta, south wye switch .....	25'
Marysville, industry track .....	23'
Stanwood, house track and industry track.....	24'
Fir, English Lumber Co. spur 1.3 miles south.....	25'
Mt. Vernon, Union Oil Co. spur.....	25' 10"
Burlington, Carnation Milk Co. spur.....	25' 6"
Vancouver, Hastings St. viaduct.....	19' 8"

High voltage electric wires at Stillcreek and Vancouver, B. C. will not clear man on top of cars. Train and engine men must keep off top of cars and engines while passing under these wires except in emergency and then use extreme caution. Clearance from top of rail as follows:

Powell St.—Vancouver, B. C. BI Line.....	20' 5"
Main St., Vancouver, B. C.....	19' 6"
Renfrew St.—Stillcreek .....	21' 0"

New Westminster, retaining wall Front Street crossing in front of penitentiary will not clear man on side of car or engine.

6. Bellingham, northward freight trains leave train south of Pine Street near old Bloedel-Donovan Mill site, bring their set-out to yard and move pick-up back to train. Southward freight trains leave train north of "F" Street crossing. When necessary to take siding at Bellingham, crossing at "C" and "F" Street will have to be cut. Under no circumstances will any crossing be blocked for more than five minutes.
7. Blaine-White Rock, trains will not pass International Border without permission of Customs and Immigration Inspectors.
8. White Rock, between 2 miles south of Ocean Park, from May 15 to September 15, engineers will sound engine whistle frequently and bell must be rung continuously.
9. Still Creek, northward trains having wait or meet orders to fulfill at this point, or when governing home signal indicates "stop", train will stand south of Renfrew Street Crossing until through movement can be made to clear Grandview Highway, 13th Avenue to avoid circuit operating signals at this crossing.
10. Vancouver, Canadian National Railway operate jointly with GN Ry over Great Northern tracks between Water Front and connection with GN main track north of CN Jct.; also between north leg of wye from main track switch and connection with Canadian National Railway in the Great Northern South Yard, all of which is located within yard limits of Vancouver. Telephones for City and train dispatcher are located in booth near Great Northern main track connection. There is also a City Telephone and train register in yard office near G.N. Dock. Movements in both directions over the Burrard Inlet Line must be recorded in train register. Before movement is made over Burrard Inlet Line in either direction, yard foreman or engineer will communicate with the yard office near G.N. Dock to ascertain if it is safe to proceed; air brakes must be cut in and operative on all engines and cars; the engine must be on the leading end of the cars at all times in making this movement.

**Speed restrictions:**

- 8 MPH over Georgia, Keefer, Pender and Cordova Streets.
- 10 MPH over Union Street on northward movements; southward movements must stop before passing over Union Street and a member of the crew must be on ground at crossing to protect traffic.

11. The Board of Railway Commissioners for Canada, General Order 571, forbids the handling of freight cars in main line passenger trains.

**12. CROSSOVERS ON DOUBLE TRACK.**

**Trailing point.**

At MP 152.4—1.4 miles south of Still Creek. Dominion Bridge Co. spur.

At Vancouver Steel Co. spur, 2.5 miles South of Still Creek.

MP 147.8—1 mile north of Burnaby.

**13. MANUAL INTERLOCKINGS.**

- Marysville, 1.25 miles south of.....drawbridge 11.
- 0.50 miles south of.....drawbridge 12.
- Fraser River Jct. ....drawbridge and junction with CN and BCE Rys.

Following instructions will govern operation over Fraser River Bridge:

Southward Great Northern Trains and Engines approaching Fraser River Bridge Signal 4 short blasts of whistle for line up from Bridge to Southward Great Northern Main track.

Explosion of one torpedo indicates stop. No steam or electric locomotive, or train operated by steam, electricity, or other power, no hand or push car or speeder shall cross the bridge in either direction at speeds greater than 10 miles an hour on approaching Home Signals and move between Home Signals at speed not exceeding 10 miles an hour.

No train shall move forward against a stop signal (red indication or no indication) unless the engineman or motorman has been handed a clearance form provided by the Department of Public Works by the Bridge Superintendent or a person authorized by him to do so. No hand flag or lamp signal or verbal instructions are to be accepted as a clearance to cross the bridge.

All entering home signals to Fraser River Interlocking are under full control of bridge operator.

The top indication of Northward and Southward leaving Home Signals Fraser River Bridge govern entrance to CTC territory on Great Northern main tracks and are jointly controlled by bridge operator and CTC control operator New Westminster, B. C. station.

**14. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.**

Delta Jct. ....Drawbridge 10 and NP Ry crossing.

These switches are electrically controlled by operator at Delta Jct.

Whistle signals for routes:

- Main track ..... 1 long.
- From North to Delta Yard ..... 1 long, 1 short.
- From South to Delta Yard..... 2 long, 1 short.
- From Delta Yard to North..... 2 long.
- From Delta Yard to South ..... 3 long, 1 short.
- From NP Ry connection to North..... 1 long, 1 short, 1 long.
- From North to NP Ry connection..... 1 long, 1 short, 2 long.

**15. AUTOMATIC INTERLOCKINGS.**

Still Creek .....End of double track.

C. N. Ry. Jct.

To obtain proceed indication on signal to enter main track, trainmen shall operate switch key controller located on signal mast.

A positive block is maintained in both directions between the southward interlocking signal, C.N. Junction, and the northward

interlocking signal, Still Creek. When a train or engine is stopped by a stop indication of these signals it will be governed by Rule 509.

Between Still Creek and C.N. Junction extra trains will be governed with respect to opposing extra trains by signal indication; this does not modify the provisions of Rule 93.

16. SEMI-AUTOMATIC INTERLOCKINGS.

New Westminster, 0.88 miles south  
CPR crossing.....Crossover to Waterfront track.

Both switches of crossover are lined by operation of main track switch.

New Westminster, 0.38 miles south .....Fraser Mill Spur.  
CPR crossing.

Normal position of gates is stop for Great Northern.

Vancouver .....CPR crossing at Burrard Inlet.

Normal position of gates is stop for Great Northern.

GN trains or engines shall stop clear of Powell Street until gates are opened and the way is clear for movement across CPR tracks to avoid blocking traffic on Powell Street. Wigwag type crossing signals governing traffic on Powell Street are manually controlled by handle of electric gate lock.

17. RAILROAD CROSSINGS PROTECTED BY GATES.

Burlington .....Seventh Subdivision crossing.  
Normal position is for Third Subdivision.

South Bellingham, 1.14 miles north of.....NP Ry crossing.  
Normal position is for Great Northern.

Bellingham .....CMStP&P RR crossings.  
1 at Army Street, 1 at Commercial Street, 2 at Pine Street.  
Normal position is for Great Northern.

18. New Westminster, radio call is CJN 253, Vancouver, CJN 282, and station name must not be used.

19. Canadian National train and engine movements between Tilbury Island and Townsend must receive authority from train dispatcher or control operator, New Westminster before making move from Dow Chemical Spur to Townsend. At Brownsville C.N. train and engine movements must receive authority from train dispatcher before fouling or entering controlled siding through cross-over switches between interchange track and siding. Northward C.N. train and engine movements entering Brownsville Siding must notify control operator when clear of controlled siding and switch is properly relined for siding.

FOURTH SUBDIVISION

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	
Bridge 10 Delta Jct. and overhead bridge 200 feet south of interlocked switch Delta Jct.....	15 MPH
Overhead bridge 200 feet south of interlocked switch Delta Jct. and G.N. Jct.....	40 MPH
Through No. 11 turnouts at G.N. Jct. and Sealine Jct...	15 MPH
Sealine Jct. and NP Ry Crossing.....	30 MPH
From NP Ry Crossing through interlocking P.A. Jct...	15 MPH

2. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).  
At P.A. Jct. Rule 83(B) does not apply.

At Delta Jct. Rule 83(B) does not apply if train order signal indicates proceed.

3. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

P.A. Jct. ....Junction and crossover switches controlled by operator Everett.

Delta Jct. ....Drawbridge 10 and NP Ry crossing.

4. NP Ry crossing 300 feet north of P.A. Jct., crossing gates electrically locked. Normal position of gates "Stop" for NP Ry., Northward interlocking signals and southward approach signal P.A. Jct. are operated in conjunction with gates and when these signals do not indicate proceed Rule 98A must be compiled with.

FIFTH, SIXTH AND SEVENTH SUBDIVISIONS

1. MAXIMUM PERMISSIBLE SPEED FOR TRAINS.

Between	
Wenatchee and Keremeos .....	45 MPH
Columbia River and Mansfield .....	30 MPH
Anacortes and Rockport .....	35 MPH

2. SPEED RESTRICTIONS.

Bridge 12, Whitney .....	10 MPH
Bridge 52, Concrete .....	25 MPH
Trains handling loaded log cars or high fuel racks on 7th Subdivision .....	20 MPH

3. CLEARANCE PROVISIONS AND EXCEPTIONS RULE 83(B).  
Burlington, Seventh Subdivision trains must secure clearance.

4. MANUAL INTERLOCKINGS.

Whitney, one mile west of .....Drawbridge 12

5. Nighthawk-Keremeos, trains will not pass International Border without permission of Customs and Immigration Inspectors at Oroville.

6. Rocky Reach spur, air must be used on all cars.

7. Concrete, manually operated highway gates at private crossing Superior Portland Cement Co. will be operated by Superior Portland Cement Co. employee. When gates not in stop position movement will be governed by Rule 103.

8. Unless otherwise instructed, protection against following trains, as required by Consolidated Code Rule 99, is not necessary on:

- Fifth Subdivision between Wenatchee and Keremeos.
- Sixth Subdivision between Columbia River and Mansfield.
- Seventh Subdivision between Anacortes and Rockport.

Form Z train order is not required on these subdivisions. If it becomes necessary to operate a following train when there is still a train on the subdivision, the train ahead must be notified to protect against the following train. If this is not practical, the following train must be notified to protect against the train ahead.

**BUSINESS TRACKS NOT SHOWN AS STATIONS ON TIME TABLE**

Name	Location	Capacity Cars	Switch Opens
<b>First Subdivision</b>			
Highland Rock Quarry.....	1.0 mile east of Highland.....	72	East
Geiger Field.....	9.3 miles off east end siding Fairchild.....	Yard	West
Waukon.....	5.73 miles east of Edwall.....	52	West
Canby.....	3.69 miles west of Edwall.....	27	Both
Mohler.....	6.71 miles west of Harrington.....	32	Both
Downs.....	4.67 miles east of Lamona.....	49	Both
Nemo.....	4.62 miles east of Odessa.....	18	Both
Marlin.....	6.61 miles east of Wilson Creek.....	40	Both
Soap Lake.....	4.59 miles west of Adrian.....	20	Both
Air Base, Washington.....	2.2 miles east of Ephrata.....	Yard	East
Olson Spur.....	1.8 miles west of Ephrata.....	22	Both
Crater Spur.....	5.13 miles west of Quincy.....	36	East
Gravel Spur.....	3.0 miles west of Trinidad.....	53	West
Alcoa Spur.....	1.2 miles west of Rock Island 6,954 feet long and yard.....		West
Peshastin Lbr. & Box, Inc.....	2.2 miles east of Appleyard.....	10	West
<b>Second Subdivision</b>			
Old Leavenworth.....	0.53 mile east of Leavenworth.....	67	East
Everett Pulp & Paper.....	2.6 miles east of Merritt.....	16	East
Northwestern Portland Cement Co.....	2.4 miles east of Merritt.....	40	Both
Index.....	4.91 miles east of Reiter.....	55	Both
Manufacturers Mineral Spur.....	3.91 miles east of Reiter.....	8	West
Startup Spur.....	2.0 miles west of Gold Bar.....	22	West
Sultan.....	5.42 miles west of Goldbar.....	15	East
Robinson Lettuce Spur.....	2.0 miles west of Monroe.....	30	East
McKinnon Spur.....	2.48 miles west of Monroe.....	4	East
Standard Oil Co's Trks.....	3.0 miles west of Edmonds.....	90	Both
Richmond Beach.....	3.09 miles west of Edmonds.....	109	Both
<b>Third Subdivision</b>			
Dominion Bridge Co. Spur.....	1.4 miles south of Still Creek.....	65	South
Vancouver Steel Co., Ltd.....	2.3 miles south of Still Creek.....	9	South
Commercial Steel.....	2.2 miles south of Still Creek.....	5	South
Northern Asbestos Spur.....	1.5 miles north of Burnaby.....	12	North
Continental Can Co. Spur.....	0.8 mile north of Burnaby.....	55	Both
Tilbury Island.....	4.1 miles west of Townsend.....	Yard	North
B. C. Peat Products Industry.....	0.42 miles south of Townsend.....	12	Both
Industrial Peat Co., Ltd.....	4.02 miles north of Colebrook.....	29	Both
Custer.....	5.51 miles north of Ferndale.....	49	Both
Olympic Portland Cement Co. Spur.....	2.0 miles south of Ferndale.....	27	North
Belleville Pit Tracks.....	4.3 miles north of Burlington.....	102	North
English Lumber Co.....	1.4 miles south of Fir.....	2	South
Tulalip Army Wye.....	0.28 mile south of Kruse Jct.....	50	North South
<b>Fifth Subdivision</b>			
Abernathy Spur.....	0.27 mile north of Keremeos.....	4	South
Luttin Spur.....	1.81 miles north of Cawston.....	4	North
Dwinnell Industry.....	1.3 miles south of Cordell.....	19	Both
Larrabee Industry.....	0.8 mile north of Ellisforde.....	9	Both
Howard Appel Spur.....	0.96 mile south of Ellisforde.....	1	South
Thornton Spur.....	3.48 miles north of Tonasket.....	8	Both
Tunk Creek Spur.....	1.04 miles south of Barker.....	8	Both
Springland Orchard Spur.....	2.45 miles south of Wagnersburg.....	3	South
Rocky Reach.....	4.35 miles north of Olds.....	46	South
Olds Pit.....	2.13 miles north of Olds.....	64	Both
Welch Spur (Friday Pack Co.).....	1.6 miles north of Olds.....	14	North
Wenatchee Gas Co.....	1.8 miles north of Olds.....	4	North
Columbia Tractor Spur.....	1.4 miles north of Olds.....	5	North

Name	Location	Capacity Cars	Switch Opens
<b>Seventh Subdivision</b>			
Puget Sound Saw Mill Co. Trackage.....	6.7 miles west of Rockport.....	28	West
Cokedale Spur.....	3.12 miles east of Sedro-Wolley.....	5	West
Hanson Peterson Spur.....	3 miles west of Burlington.....	3	West

**SPEED TABLE**

Time Per Mile			Miles			
Min.	Sec.	Per Hour	Min.	Sec.	Per Hour	
		46	78.3	1	18	46.2
		47	76.6	1	20	45.0
		48	75.0	1	22	43.9
		49	73.5	1	24	42.9
		50	72.0	1	26	41.9
		51	70.6	1	28	40.9
		52	69.2	1	30	40.0
		53	67.9	1	33	38.7
		54	66.7	1	36	37.5
		55	65.5	1	39	36.4
		56	64.3	1	42	35.3
		57	63.2	1	45	34.3
		58	62.1	1	50	32.7
		59	61.0	1	55	31.3
1			60.0	2		30.0
1	1		59.0	2	10	27.7
1	2		58.1	2	20	25.7
1	3		57.1	2	30	24.0
1	4		56.3	2	40	22.5
1	5		55.4	3		20.0
1	6		54.5	3	30	17.1
1	7		53.7	4		15.0
1	8		52.9	5		12.0
1	9		52.2	6		10.0
1	10		51.4	7		8.6
1	12		50.0	8		7.5
1	14		48.6	9		6.7
1	16		47.4	10		6.0

