AUTHORIZED SURGEONS.

Location of Stretchers—(S)

Dr. B. I. Derauf, Chief Surgeon.	St. Paul
Dr. J. W. Jesion, Dr. A. McEwan, Dr. C. H. Decker, Dr. J. A. Evert, (Army) Dr. LeRoy J. Fox, Dr. Richard Aronsohn.	Assistant Surgeons, N. P. B. A. Hospital, St. Paul (S)
Dr. R. R. Cranmer	Minneapolis
Dr. D. M. Thysell	Minneapolis
Dr. W. R. Humphrey	Stillwater (S)
Dr. T. S. McClanahan	White Bear Lake (8)

SPECIALISTS.

Dr. L. T. Simons
Dr. L. G. Edwards
Dr. Eugene L. Bauer, Ear, Nose &
Throat 521 Lowry Bldg., St. Pau
Dr. Robert H. Monahan, Oculist (Eve
Specialist)
Dr. Kenneth A. Phelps, Eye, Ear, Nose
& Throat
St. Paul, General Office Bldg. (S)*
St. Paul, Third Street, Car Foreman's Office (S)
St. Paul, Fourth Street, Yard Office (S)*
St. Paul, Mississippi Street, Round House (S)
St. Paul, Mississippi Street, Yard Office (S)*
St. Paul, Como Shops (S)*
Northtown, Yard Office (S)*
Northtown, Round House (S)*
Northtown, Tool Car No. 4 Steam Derrick (S)
N. P. Freight Yard, Yard Office (S)
*Litter—No equipment.
Divoci Tro equipment.

NOTE.

N. P. B. A. physicians and surgeons, when called upon, will attend to all cases of sickness and accident to employees, passengers and others. In a case of illness, or of injury unrelated to railway operation to other than N. P. B. A. members, surgeon should endeavor to collect a reasonable fee for service from person attended. If unable to collect, Chief Surgeon should be notified.

Where injuries, to other than N. P. B. A. members, are directly related to railway operation, charge for service should be sent to the General Claim Agent of the railway company.

In case of emergency, proper aid should be procured until arrival of local surgeon, when case must be placed in his hands.

NORTHERN PACIFIC RAILWAY COMPANY

AND

MINNEAPOLIS & ST. LOUIS RAILWAY

JOINT TERMINAL

TIME TABLE 297

In Effect at 12:01 A. M. Central Standard Time.

Sunday, September 12, 1954

For the Government of Employes only. The Company reserves the right to vary therefrom at pleasure. Be positive that you have the Current Time Table and destroy all previous numbers. Read carefully the Special Instructions and always carry for reference a copy of OPERATING RULES.

C. W. COIL, Superintendent. E. S. ULYATT, General Superintendent of Transportation.

> D. A. THOMSON, General Manager.

F. B. CLARK, General Superintendent, M. & St. L. RY.

J. W. DEVINS, President, M. & St. L. RY.

4	WEST	WARD		SEC	OND S	UB-DIV	VISION			
		SECOND		FIRST	CLASS		JUNE 1		Control of the last of the las	
Water, Fuel, Scales, Turn Tables, Wyes and Yard Limits.	-	167		315	325	317	309	319	Time Table No. 297	
	Station Numbers	M. & St. L.		800 13	Soo Chgo. Div.	500 8	500 62	500	September 12, 1954	Distance from
ater d Y	ation	Freight		Passenger	Passenger	Passenger	Passenger	Passenger		Pan
B48	8	Daily		Daily	Daily	Ex. Sat.	Daily	Ex. Sun.	STATIONS	Dia
TWY	8-142				L 6.30 PM	L 5.50 PM	L 1.40 PM		UDN (Union Depot)	0.0
BET	WEEN S	T. PAUL UN	N DEPOT AND THE	RD STRE	EET, TRA	INS ANI	ENGIN	ES WILL	BE GOVERNED BY ST. PAUL LINIO	N
			DEPOT R	ULES AN	D REGU	LATION	S. (East	Side Lir	10,6	
	L-181				L 6.33 PM	L 5.52 PM	L 1.43 PM		3RD STREET (East Side Line) 1.2 To Miss. St. Tower	0.
		L 7.00 PM							7TH STREET (West Side Line)	
CTW		7.05			6.37	5.56	1.46			1.
	8-142								MY. MISSISSIPPI ST. YARD PN	2
		7.07			A 6.38 PM	5.58	1.48		I I ROUI BROOK JUI	2.
		7.09				A 5.59 PM	A 1.49 PM		SOO LINE JCT	2.
w	8-137	7.17							COMO SHOPS. P	5.
									G. N. CROSSING.	6.
	8-1361/4	7.22							UNIONP	7.
Y	L-15614	7.24							O.5. ANTHONY PARK JCTP To Park Jct. 1.0 To Eustis St06	7.
	L-156								PARK JUNCTIONP	8.
	L-154								EAST MINNEAPOLISP	10.
CTWZ	8-128								NJDN	13.
	8-134	7.26							EUSTIS STREETP	8.
		7.31							SOT 18TH AVE. SOUTH EASTP	9.
		A 7.34 PM							THE26TH AVE. SOUTH	10.
BE	TWEEN	TWENTIET	AVENUE SOUTH A	ND THIR	D AVENU	UE NORT	H, MIN	NEAPOL	IS, TRAINS AND ENGINES WILL BE	
1		L 7.37 PM		1					0.8	10
		A 7.39 PM		L 8.56 PM 8.57				L 10.16AM	O.7-	11.
		A 1.397E		8.57 A 8.58 PM				10.17		12.
		Daily			D.II.	P 0		A 10.18 AM	FIRST STREET NORTHPJ	14.
		.89		Daily	Daily	Ex. Sat.	Daily	Ex. Sun.	There Ower State Distriction	
		17.4		.02	.08			.02	Time Over Sub-Division	
		17.0		24.0	18.8	19.3	19.8	24.0	Average Speed Per Hous	

EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN OPPOSITE DIRECTION.
SPECIAL INSTRUCTIONS, PAGES 7, 8, 9, 10, 11 and 12.

6	WEST	WARD			T	HIRD S	SUB-DI	VISIO	N				
Jee.	536	FIRST CLASS					1 ~	Time Table No. 297					
Water, Fuel, Scales Turn Tables, Wyes and Yard Limits	3	315	11	25	319	1	1		ber 12, 1		Distance from Minneapolis		
Yar Yar		Soo 13			800 5	_	-				ancone		
Turi	Passeng		Passenger	Passenger				STA	TION	S	Dist		
	Ex. Sa	. Daily	Daily	Daily	Ex. Sun.	Daily							
	L 10.15	PM	L 8.55 PM	L 7.00 PM		L 9.15A	8	MINN (Passeng	er Station) 0.3	D	N 0.0		
BET TRA	WEEN MINNEAR INS AND ENGIN	OLIS PAS ES WILL I	SENGER BE GOVE	STATIC RNED B	N AND Y GREA	FIRST S T NORTI	TREET HERN TI	NORTH ME TAB	MINNE/	POLIS, RULES.	13 40 10 71		
	L 10.17	PM L 8.58PM	L 8.56 PM	T. 701 pm	L 10.18A	L 9.17A	1		REET NOR	TH P)	U 0.3		
wz	10.18		8.57	7.02	10.19	9.18		.N. P. FRI		RDP	0.8 0.7		
	10.19			7.03	A 10.20 A			14th Al	E. NORTH		0.9		
Y	10.22		9.01	7.06		9.22	OT0	NOR	ERRY JCT	Р	2.1		
CTWZ	A 10.27	PM	A 9.10 PM	A 7.11 PM		A 9.27 M	NJ.	NOR	HTOWN.	DN	8 5.0		
	Ex. Sat	. Daily	Daily	Daily	Ex. Sun.	Daily				FOR STREET		1000	
	.12	.02	.15	.11	.02	.12	100000	Time Ove	r Sub-Divisi	on			
	25.0	18.0	20.0	27.3	18.0	25.0		Average 8	peed Per Ho	ur			
					TI	HIRD S	SUB-DI	VISIO	N		E	ASTWA	
		Tim	as Tabl	- N- 0	107				FIRST	CLASS			
	Distance from Northtown.		ne Tabl			26	12	4	304	302	2		
	nce								Soo 14	500 B			
	ista					Passenger	Passenger	Passenger	Passenger	Passenger	Passenger		
	AZ		STAT	IONS		Daily	Daily	Ex. Mon.	Daily	Ex. Sun.	Daily		
	5.0		(Passenger	APOLIS Station)	DN	A 6.10 AM	A 6.40 AM	A 6.50 AM			A 10.27PM		
	В	ETWEEN RAINS AN	FIRST S	TREET N	IORTH,	MINNEA	POLIS,	AND MIN	NEAPO	LIS PASS	ENGER S	TATION	
	4.7	C FI	THE RESIDENCE OF	ET NORT							ABLE ANI	DRULES	
	4.3	BLOCK	I. P. FREIC	4		A 6.07AM					A 10.24 PM		
	4.1	H		2	BLE		6.35	6.46	7.01	4.46	10.23		
	2.9	AUTO.	MULBER	.2	P	6.05	6.34	6.45	L 7.00 AM	L 4.45 PM			
	0.0	▼ NJ		9	DN C	6.02	6.30	6.42			10.19		
						L 5.58 AM	L 6.25 AM	L 6.38 AM			L 10.15PM		

Daily

25.0

.12

20.0

EASTWARD TRAINSARE SUPERIOR TO TRAINS OF THE SAME CLASS IN OPPOSITE DIRECTION.

Time Over Sub-Division

Average Speed Per Hour

Daily Ex. Mon. Daily

25.0

.12

Ex. Sun.

.02

18.0

.02

18.0

Daily

25.0

.12

SPECIAL INSTRUCTIONS

ALL SUBDIVISIONS.

CONTRACTO	DECEMBEANTAND
SPERID	RESTRICTIONS—

Maximum Speeds Permitted—		
	75	MPH.
		MPH.
The above speeds are subject to the restrictions of speeds as shown by zones under each subdivision.	f ma	ximum

Where automatic block and interlocking rules and signal indications require movement at restricted speed, such movement must be made prepared to stop short of train, obstruction or switch not properly lined and be on lookout for broken rail or anything that may require the speed of a train to be reduced, but a speed of 15 MPH must not be exceeded.

The definition of Restricted Speed, designated on page 8 of the 1945 Edition of the Consolidated Code of Operating Rules will continue to apply except where automatic block and interlocking rules and signals govern as specified above.

Reduce speed limits, within the zones listed, are designated by Advance-warning signs (diagonally upwards), Reduce speed signs (square with clipped corners) and Resume speed signs (vertical green).

The Advance-warning signs are, except as otherwise specified, located approximately 3000 feet in advance of the Reduce speed signs, and the numerals on both signs indicate in miles per hour the maximum speed permitted from the Reduce speed sign to another Reduce speed limit, or to a sign indicating a higher speed, or to a Resume speed sign.

If speeds authorized by zones or Reduce speed signs, are greater than that prescribed below for certain trains or engines, such trains or engines must not exceed the prescribed speeds.

Locations where reduced speeds are required, but not indicated by signs, are listed under the zones of maximum speeds permitted for each subdivision.

All trains and engines, except as otherwise specified

All trains and engines, except as oth		specified	:	
Through crossovers, turnouts and ga	intlets,			
except where fixed signals provide of	otherwise		15	MPH.
Handling steam wrecking cranes, pil	le driver	8,		
locomotive cranes and similar equip	ment		30	MPH.
Handling 4-wheel scale test cars—Ma	ain Line		35	MPH.
Bı	ranch Li	nes	25	MPH.
Picking up train orders from operate	ors		30	MPH.
Engines-	Ha	ndling	Rt	inning
Classes—	to	rains	1	ight.
All A and Q (except on passenger			60	MPH.
Classes— All A and Q (except on passenger trains where higher speed is authori	zed) 60	MPH.		
Z-6, Z-7 and Z-8	60	MPH.	50	MPH.
Z-5, Y, Y-1, Y-3	40	MPH	35	
Z-8. Z-4	25	MPH.	30	MPH
Z-3, Z-4 S-4, T, T-1, W to W-5 inc., Y-2	50	MPH.	45	MPH
Steam switch engines without engin	A			
Steam switch engines, without engin trucks, under all conditions	15	MPH	15	MPH
660 HP diesel-electric switch engine	9		10	DIL 11.
600 series	45	MPH.	45	MPH.
5400 HP and 6000 HP diesel-electric	road		-	WAL 21.
engines		MPH	65	MPH.
4500 HP diesel-electric passenger en		MIL II.	00	MAA 11.
6500 series	75 mes,	MDH	85	MDH
900 HP and 1000 HP diesel-electric		MIII.	00	MII II.
switch engines and combination				
road-switch engines	60	MDH	60	MDH
1500 HP dissal mand switch an aires	00	MII II.	00	MII II.
No 525	60	MDII	60	MDII
1500 HP diesel road-switch engines, No. 525 Nos. 550 and 551 Nos. 500, 501, 552, 553 and 554	00	MPH.	CE	MPH.
Nos. 500, 501, 552, 553 and 554	10	MPH.	00	MPH.
000, 001, 002, 000 and 004	00	MPH.	00	MPH.
Diesel-Electric Engines—				
560-569	65	MPH.	65	MPH.
6700	75	MPH.	65	MPH.
7000-7001	65	MPH.	65	MPH.
Coming from shops, under steam, to All A and Q and classes Z-6, Z- S-4, T, T-1, W to W-5 inc., Y-2,	prevent	running	hot:	
All A and Q and classes Z-6. Z-	7 and Z	8	50	MPH.
S-4, T, T-1, W to W-5 inc., Y-2.	Z-5		35	MPH.
Y. Y-1. Y-3			80	MPH

Z-3, Z-4

Main Line—With main and side rods removed:
All A and Q and classes Z-6, Z-7 and Z-830 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-3 inc25 MPH.
Z-8, Z-420 MPH.
With main rods removed and side rods in place:
All A and Q and classes Z-6, Z-7 and Z-835 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-3 inc30 MPH.
Z-3, Z-425 MPH.
Branch Lines—with either or both main and side rods removed:
All A and Q classes25 MPH.
All other classes20 MPH.
On building Will in 1 11

Dead engines going to shops or being transferred from one district to another with all rods up or in place, the piston rod parted from the crosshead and removed and the valve motion disconnected and blocked, may be moved in trains at not to exceed the permissible speed of freight trains operating in the territory over which the engines are to be moved, or the operating speed restriction for track or bridges for that class of engine, whichever is the lower.

Engines handled in this manner when coming from shops must not exceed the operating speeds specified for engines coming from shops under steam.

Diesel-electric engines may be handled dead in trains at not to exceed the authorized operating speed specified for such engines. Bridge or other restrictions must be observed for these engines the same as when in operating condition.

Single and Double Headers—operation—track and bridges—general.

Where there are no governing restrictions specified for doubleheaders in the special instructions for each subdivision, they will be governed by the most restrictive instructions applicable to a single engine when of the same class and to the heavier engine when of different classes.

Where doubleheader restrictions, are specified, doubleheaders of different classes of engines will be governed by the restrictions applicable to doubleheaders of the heavier class.

When necessary to doublehead a diesel-electric engine with a steam engine, except in case of emergency, the steam engine must be placed behind the diesel engine.

Diesel engines—Except as otherwise provided, diesel-electric engines of all classes may be operated over bridges under the same restrictions shown for Class T engines.

To avoid possibility of fire or damage to traction motors, dieselelectric engines must not be permitted to pass over or to stand on cinder pits containing live fire or hot cinders.

Under no circumstances should diesel-electric engines pass through water which is deep enough to touch the bottom of the traction motor frame. When passing through water, movement must always be at very slow speed (2 to 3 MPH).

Where multiple-unit diesel-electric engines are used in freight service, both the fireman and the head brakeman shall not be absent at the same time from the leading cab while the train is under way on main track between stations.

Wrecking cranes—250 tons, 45 to 48 inc. must not be coupled directly to engine or tender of engines Classes A-2 to A-5 inc. or Z-5 to Z-8 inc., but must be separated from them by at least two cars of not over 169,000 pounds total weight, for movement over bridges.

3. Use of Mars headlight on engines so equipped-

25 MPH.

The Mars headlight can be displayed with either stationary or oscillating white light at the same time that the standard headlight is in use, but cannot be displayed with either stationary or oscillating red light when the standard headlight is in use.

The Mars white light may be used in a stationary position as a substitute headlight in case of failure of the standard head-light, but will normally be used as an oscillating light during the time full display of standard headlight is required.

The Mars oscillating red light will be used when head end protection is required, either by day or by night by engineer control, if the train becomes disabled or is stopped suddenly due to unusual occurrence with the possibility of an adjacent track being obstructed, or if it overruns the clearance point at a meeting or waiting point, or at the end of double track or at a junction, or in any other emergency situation.

The engineer of an approaching train, finding oscillating red light displayed must stop and then be governed by conditions existing. If on an adjacent track which he finds unobstructed and safe for operation, he may proceed at restricted speed until the standing train displaying the oscillating red light has been

The Mars red light shall be displayed in stationary position when a train is occupying the main track at a meeting point with an opposing train until the headlight of the opposing train has been dimmed, per Rule 17(B), after which the red headlight shall be extinguished, and the standard white headlight turned on dim until opposing train is into clear on siding.

The use of the red headlight does not in any manner relieve the train or enginemen of responsibility for compliance with the provisions of Rules 99 and 102.

- 4. Rule D-97 applies to all divisions.
- Except in case of fog, storms, or otherwise bad weather, yellow signals may be used, without flagmen, when placed as prescribed by Rule 10(h) to indicate approach to a red signal on the Stillwater Branch and Fourth subdivision, and also in special cases authorized by the Superintendent and protected by train order.
- Rule 606: Emergency Signals are not used at interlockings or drawbridges operated by the Northern Pacific Railway.
- 7. Test of hand brakes of gas-electric or diesel-electric motor cars must be made once each trip. If crew has charge of moving car prior to leaving initial station, test will be made during such movement; otherwise, as soon as possible after leaving initial station. On cars equipped with "Deadman's Control" conductor and engineer will cooperate in making test.
- 8. Cars will not be handled behind light-weight observation cars except in emergency or when so authorized by the Superintendent. In such cases passengers shall not be permitted to pass between such cars while train is in motion due to the unprotected opening.

Gas-electric or diesel-electric motor cars, when handled dead in freight trains, must be behind caboose.

4-wheel scale test cars must be handled only in local freight trains. All scale test cars must be placed immediately ahead of caboose.

INSTRUCTIONS FOR HANDLING PILE DRIVERS, CRANES. DERRICKS, STEAM SHOVELS OR SIMILAR EQUIPMENT OF THE SWINGING OR PIVOTING TYPE.

- (a) When such equipment is moved on their own wheels, they shall be prepared and carded in accordance with current A.A.R. Loading Rules unless some condition exists which prevents those requirements being complied with.
- (b) Equipment properly prepared and carded may be moved at normal freight train speeds unless there is some condition that prevents it, and in that event, the maximum permitted speed shall be noted on the waybill.
- (c) Such equipment when not prepared and carded shall be handled at speeds not to exceed 30 miles per hour.
- (d) Such equipment that is geared for self-propulsion shall have the driving gears disconnected or removed.
- (e) Such equipment that is company-owned that requires speed to be restricted shall be covered by a message to the train crew stating the maximum speed permitted.

When handling pile driver 25, it must be coupled to either the regular tender or a flat or gondola car with open end next to cab end of pile driver to provide proper clearance.

- Open cars loaded with material which may shift, such as poles, pipe, timbers, etc., shall not be placed immediately next to diesel-electric engines nor to caboose in trains.
- 9. Precautions must be taken on double track to prevent accidents from swinging doors or other loose construction attached to cars or engines. Trains handling logs must stop when being met or passed by passenger trains.
- 10. Pusher engines must not push on cabooses not equipped with steel sill.
- 11. Within yard limits all second class and inferior trains and transfer runs occupying main tracks, must display a red flag by day and in addition a red light by night on the rear end of the rear car, except when caboose is used marker lamps displaying red lights to the rear must be used by day and night. The presence or absence of a red flag or a red light will not relieve the approaching train of responsibility for collision where limited to restricted speed, either by speed restrictions or Rule 93. In case of collision, the responsibility will ordinarily rest with the approaching train.
- 12. Passenger extras, transfers and light engine movements may run ahead of delayed first class trains without train order authority; conductors and switch foremen and engineers of light engines will inform themselves through Yard Master, or Train Dispatcher Minneapolis, as to how late first class trains will be and avoid delaying them.
- 18. In the Twin City Terminals, overhead bridges, protected by tell tales, will not clear man on tank of all A and Z classes engines.
- 14. The City ordinances of St. Paul and Minneapolis prohibit the unnecessary use of the engine whistle.
- 15. BULLETIN STATIONS-St. Paul, Telegraph Office, Union Depot. 4th Street, Yard Office.
 Mississippi Street, Round House and Yard Office. C.M.St.P.&P. New Yard, Round House & Yard Office. Northtown, Round House and Yard Office. N. P. Freight Yard, Yard Office. East Minneapolis, Yard Office.
- 16. STANDARD TIME CLOCKS-St. Paul, Telegraph Office, Union Depot. Mississippi Street, Round House and Yard Office. Minneapolis, Dispatcher's Office. Northtown, Telegraph Office. White Bear Lake, Telegraph Office.
- 17. WATCH INSPECTORS

 - " A. Lindahl, 910 Payne Ave.

 " C. J. & H. W. Anderson, 1573 University Ave.

 " Northern Watch Co., 342 Robert St.

 Minneapolis, Samuel H. Lindquist, 4171 Washington Ave. North. Emil Gustafson, 2201 Central Ave.
 - Buchkosky & Wikstrom, 1106 West Broadway St. Olson Jewelry Co., 211 East Hennepin Avenue.
 - Oscar P. Gustafson, 410 Nicollet Ave.

Stillwater, Peder Gaalaas.

FIRST SUBDIVISION.

BETWEEN 3RD STREET, ST. PAUL AND STILLWATER. 1 Speed Restriction

Speca Restrictions—		
Zone—Between White Bear Lake and St. Paul	Freight and mixed 50 MPH	Passenger 60 MPH
Between	Engines	Classes T Diesel or
White Bear Lake and	W	lighter
Stillwater	20 MPH	30 MPH
At St. Paul, between East 7th	Westward use	15 MP

At St. Paul Union Depot, through crossovers, turnouts and puzzle switches .. 10 MPH.

All back up movements.... 8 MPH.

At White Bear Lake, all movements over State

Highway No. 61 Approach and move over 4th St. crossing at Restricted Speed.

2. Bridge and Engine Restrictions At St. Paul Union Depot, all Classes A engines not permitted on tracks 1 to 5, inclusive, and tracks 6, 7 and 8 under concourse. The stack extension must not be used in terminals. Between White Bear Lake and Stillwater engines heavier than class W not permitted.

Bridge 11, North Broadway Street, Stillwater: Engine classes T, Q1, Y to Y3 and heavier and wrecking cranes 41 to 48 inc., not permitted.

Engine classes L9, Q and S4 8 MPH. Diesel engines ..

Heavy Car Restrictions-

Bridge 11-Cars with total weight exceeding 214,000 pounds not permitted except on authority of Superintendent.

Cars with total weight exceeding 169,000 pounds must be separated from each other and from engine or tender with a car 40 feet long with total weight not over 169,000 pounds; trains handling such cars

3. At 3rd Street, St. Paul, crossing with C. B. & Q. R. R. is single

The N. P. Ry. and C. B. & Q. R. R. joint tracks between 3rd Street and Division Street are operated under yard rules. All train and engine movements, including first class trains over these tracks are controlled by switchtenders at 3rd Street and Signalman at Division Street and no train or engine may move over these tracks except as controlled by switchtenders at 3rd Street and signalman at Division Street. Eastward movements will only be made on proceed signal from switchtenders at 3rd Street and westward movements will be governed by interlocking signals operated from Division Street.

- 4. East of 4th St. Bridge, all westward trains using crossover to eastward main track will stop and proceed upon signal from 8rd Street Switchtender. Trains moving against the current of traffic on eastward main track will approach crossover expecting to find it in use.
- Between 3rd Street and Claymont, trains running against the current of traffic, will approach Omaha Crossing at Forest Street prepared to stop and know that crossing is clear before proceeding.

Westward freight trains will be governed by the following instructions on the grade between Claymont and 3rd Street, St.

Engineer controlling train must adjust feed valve on engine to obtain 90 pounds brake pipe pressure following the stop for grade crossing at Gloster. Train to be stopped at Claymont for turning up retaining valves and making a brake pipe test. Engineer to sound one blast of steam whistle to advise trainmen that brakes are fully applied for test.

Retaining valve handles must be turned up to the low pressure position (horizontal) as follows:

Trains of 1000 tons or less, no retainers.

Trains of over 1000 tons and up to 4000 tons, use 15 retainers

and as many more as engineer requests.

Trains of over 4000 tons, use 15 retainers and 1 additional retainer for each 100 tons in excess of 4000 tons and as many more as engineer requests.

Retainers to be turned up on head portion of train beginning at the engine and not turned down until stop has been made at

8rd Street.

- At Claymont and East 7th Street, switch foremen and engineers of light engines must call operator Gloster or switch-tender 3rd Street and inform themselves as to first class trains before entering main track. Movement may then be made ahead of delayed first class trains without train orders. Care must be used not to delay them.
- 7. At Gloster, automatic crossing protection signals at Frost Avenue do not operate for reverse current traffic movements. Trains or engines moving against the current of traffic must move over the crossing under protection of flagman.

A "STOP" sign for westward trains via Soo Line is placed on the Northern Pacific-Soo Line connection 500 feet east of Soo Line main track switch. If train orders or clearance received when stop is made authorizes movement onto Soo Line main track, train may proceed.

8. At White Bear Lake, normal position of switch at end of double track west of passenger station is for westward trains. Switch will be handled by Operator who will give Signal 12C to eastward Lake Superior Division trains when he has information required by Rule S-83 and authority of Lake Superior Division train dispatcher.

Eastward trains making stop at passenger station must stop with engine or cars west of white post located on south side of

Eastward Extras picking up in New Yard will cut off far enough west of Ramaley Avenue so as not to foul the ringing section of the automatic crossing signals on that avenue.

At new yard, the normal position of west switch of crossover will be for the lead to the yard.

Cars must not be spotted on Bald Eagle lead within 800 feet of Fourth Street crossing.

- 9. From Summit to Stillwater, retaining valves must be used. Engineer will determine minimum, and Conductor will use any additional number that he considers necessary.
- 10. Yard Limits-3rd Street Yard St. Paul to yard limit sign east of Gloster.

11. Short Clearances-St. Paul Yard, overhead bridge at Omaha crossing, and tunnels under 7th Street, located 700 feet east of Third Street, will not clear a man on side of car. Minnehaha and Reanev Street bridges, opposite Hamm's Brewery, will not clear a man on top of car.

12. Register Stations-St. Paul, Telegraph Office Union Depot. Gloster. White Bear Lake. Stillwater. Mississippi Street Yard Office, for trains originating or terminating.

Register Exceptions-When no operator on duty at Mississippi St. Yard, check of the register shall be secured from Mississippi St. Tower.

At Gloster, trains will register by Form 608. Operators will deliver orders and clearances to trains passing through the wye at wye switch. Eastward trains passing through the wye will be given check of register on Form 602.

At White Bear Lake, westward second class trains and extras from the Lake Superior Division will register by Form 608 and will be given check of register on Form 602 and clearance by

At Stillwater, conductors of trains and enginemen of light engines will fill out register Form 608, covering their arrival and departure and will deliver to the operator at White Bear

14. Clearance Exceptions-At 3rd Street, C.M.St.P.&P. trains starting will be governed by clearance furnished at C.M.St.P.&P. yard.

At St. Paul, N. P. trains will be governed by clearance furnished at Union Depot.

At Mississippi St. Yard, when no operator on duty N. P. trains via Soo Line to Gloster will secure N. P. and Soo Line clearances at Mississippi St. Tower.

At Gloster, C.M.St.P.&P. helper engines must secure clearance. At White Bear Lake, no train order signal. All trains will secure

At Stillwater, clearance not required.

3rd Street, 4th Street, Claymont, Gloster, M. & D. Jct.

SECOND SUBDIVISION.

BETWEEN 3RD STREET, ST. PAUL AND 20TH AVE. SOUTH, MINNEAPOLIS AND

LINE B, BETWEEN ST. ANTHONY PK. JCT. AND NORTHTOWN

1.	Speed Restrictions— Zone—Between Mississippi St. Tower and 7th St.	Freight and mixed	Passenger
	(West Side line) and 3rd St. (East Side line)	15 MPH	20 MPH.
	Mississippi St. Tower and First St. North	35 MPH	35 MPH.
	Except: Lafayette Ave. and 7th St. Bridge (West Side line)		All Trains 8 MPH.
	28rd Ave. S. E. & 20th Ave So. (Minneapolis)		25 MPH. 12 MPH.
	At Mississippi Street Interlocking At Como Avenue and Como Place, At Snelling Avenue, over crossing	over crossings	35 MPH.

2. Bridge and Engine Restrictions-

At St. Paul Union Depot, all classes A engines not permitted on tracks 1 to 5, inclusive, and tracks 6, 7 and 8 under concourse. The stack extension must not be used in terminals. At 4th Street, on West Side Line, classes W and W-3 engines must not move on track six (6) beyond the west end of yard office account sharp curve. Lafayette Ave. Viaduct, on East Side Line, engines classes Z-5, Z-6, Z-7 and Z-8 will not pass under, on Eastward track. At Miss. St. Engines heavier than class W-5 not permitted on Storeroom Tracks 4 and 5. Bridge 4, Chatsworth Street, Bridge 7, Raymond Avenue, Bridge 7-1, Bayless Avenue, Line A, engine classes A-2, A-3, A-4, A-5, Z-5, Z-6, Z-7, Z-8 and CB&Q classes M-1, M-2, M-2A and O-5A Engine classes A, A-1, W-3, W-5 and CB&Q classes S-4 and S-4A Engines classes A, A-1, W-3, W-5 and CB&Q classes S-4 and S-4A ... Trains handling wrecking cranes 45, 46, 47 and 48.....15 MPH. At St. Anthony Park Jct., all engines classes A, CBQ M1, M2, M2A and 05A and heavier not permitted on west leg of wye. Line A, St. Anthony Park Jct. to First Street North, Minneapolis, all A classes and Classes Z-5, Z-6, Z-7, Z-8 and CBQ M1,

M2. M2A and 05A engines not permitted.

Como Yard, East End—Class W-3, W and G engines permitted only on passing, Scales, Store No. 1 and Scale pocket tracks also tracks 15 and 16, 300 feet beyond crossover. Class W-3, W and G engines also permitted on lead tracks to Koppers Coke Yard and all tracks in Koppers Coke Yard. West End—Class W and G engines permitted only on west lead as far as No. 9 switch and on House and Wheel tracks.

3. At 3rd Street, St. Paul, crossing with C. B. & Q. R. R. is single track. Westward second class and inferior trains may run ahead of delayed first class trains, when given the route by switchtenders. Double track switch on East Side Line is protected by a derail and color light signal on eastward main track. All eastward trains picking up or setting out cars must leave their train west of the derail.

leave their train west of the defail.

The N. P. Ry. and C. B. & Q. R. R. joint tracks between 3rd Street and Division Street are operated under yard rules. All trains and engine movements, including first class trains over these tracks are controlled by switchtenders at 3rd Street and Signalman at Division Street and no train or engine may move over these tracks except as controlled by switchtenders at 3rd Street and signalman at Division Street. Eastward movements will only be made on proceed signal from switchtenders at 3rd

Street and westward movements will be governed by interlocking signals operated from Division Street.

 At Mississippi Street Interlocking—(Connection East and West Side Lines).

The train order signal at Mississippi St. tower is to govern Soo Line, Chicago Division outgoing trains exclusively.

All movements approaching on main track will be governed by the interlocking color light signal located 100 feet west of the interlocking tower, governing routes as follows: Top light governs movements on eastward main track to 3rd Street. Bottom light governs movements over turn-out to 4th Street yard, via west side line, and movements over cross-over between the eastward and westward main tracks of east side line.

All movements approaching on east side line will be governed by the interlocking color light signal located 500 feet east of Mississippi Street Bridge. Top light governs movements on westward main track and bottom light governs movements to back lead of Mississippi Street yard.

Use whistle signals for routes as follows:

All movements approaching on west side line will be governed by the two armed semaphore located 500 feet east of Mississippi Street Bridge. Top arm governs movements for westward main track and bottom arm governs movements to back lead of Mississippi Street yard.

Use whistle signals for routes as follows:

Main Lines _____One long. Back Lead ____Two long.

All eastward movements out of east end of Mississippi Street yard will be governed by color light signal located 50 feet west of Mississippi Street Bridge.

Use whistle signals for routes as follows:

West Side Line _____Two long. East Side Line _____Three long.

- 5. At Soo Line Jct., Soo Line crews desiring to make reverse movements between Soo Line Jct. and switch of west leg of wye at Trout Brook Jct. before entering the main track will call signalman at Mississippi Street Tower and ascertain if all first class trains due have passed, or if any transfers are moving over westward track, between Mississippi Street Tower and Soo Line Jct. Movement must then be protected as per Rule 99.
- At Como Ave., Como Place and Snelling Ave. crossings, where automatic electric signals are installed, engine whistles must not be sounded except to prevent accidents.
- 7. At Snelling Ave., St. Paul, Line "A", Automatic crossing signals can be manually controlled. To clear or place signals at Stop for highway traffic, the following instructions will govern:

Eastward track—with train or cars standing on track east of crossing and sidewalks—push button #3 to clear highway signals. To put highway signals to stop,—hold switch #1 up. To clear highway signals when train or engine is not occupying crossing, hold switch #2 up.

Westward track—with train or cars standing on track outside of crossing and sidewalks, to put highway signals at stop, hold switch #5 up. To clear highway signals when train or engine is

not occupying crossing, hold switch #6 up.
The insulated joints outside the sidewalk line are painted yellow in order that trainmen will know when train and engine are

clear of insulated joints at the crossing.

During Manual operation, if the crossing signals do not give the proper indication, the crossing must be protected as per Operating Rule No. 103.

When westbound trains are to pick up cars at Como or Koppers Coke, trains must stop and cut off engine at Automatic Signal 55, located 1400 feet west of Como Shops. Conductors and switch foremen will be held responsible for

the above instructions being complied with.

8. At Union, all eastward and westward trains going to or com-

ing from Great Northern Yard, must call signalman St. Anthony Park Jct. on phone and obtain permission to cross over.

9. At St. Anthony Park Junction Interlocking— Enginemen will call for routes as follows:

Straight Main Line East or West (Line A)One long. Line A to Line B Westward trackTwo long. Line A to Eastward track Line BThree long. Line B to Line A Eastward trackOne long. Line A is 2nd and 3rd Subdivision.

- 10. At Eustis Street Yard, all trains must call St. Anthony Park Jct. signalman on phone located in Yard Office and obtain permission to cross over before fouling either the eastward or westward main track. In order to prevent cars running out over the derails at the west end of Eustis Street Yard, the hand brakes must in all cases be set with a club on the first six (6) cars from the west end of each track. Yard foremen will be held responsible for knowing this is done.
- 11. Between Eustis Street and 25th Avenue S.E. engine bell will be kept ringing while engine is in motion.
- 12. Line B, double track line, nonautomatic block, is a switching and alternate route between St. Anthony Park Jct. and Northtown, via East Minneapolis. All movements on these tracks are governed by the provisions of Rule 93. Transfer runs occupying main tracks must display a red flag by day and in addition a red light by night on the rear end of the rear car, except when caloose is used, marker lamps displaying red lights to the rear must be used by day and night. The presence or absence of a red flag or a red light will not relieve the approaching train of responsibility for collision where limited to restricted speed, either by speed restrictions, or Rule 93. In case of collision, the responsibility will ordinarily rest with the approaching train.
- 18. At Park Jct., when cars are set out in the Eastbound Yard, sufficient hand brakes must be set to prevent cars running out at west end. Also when trains or portions of trains are left standing on the main track while cars are being set out or picked up, air must first be set before cutting off engine or cars.

3rd Street, St. Paul to 20th Avenue South, Minneapolis, including 3rd and 4th Street Yard, St. Paul.

15. Short Clearances-

At St. Paul, short clearances for man on side of car: Lafayette Ave. bridge on East and West Side Lines, stone wall west of Lafayette Ave. bridge on East Side Line and stone wall along diagonal track, 4th Street Yard.

At St. Paul, tunnels on East and West Side Lines and 6th Street bridge in 4th Street Yard will not clear a man on side or

At St. Paul, doorway of Atlas Mfg. Company's building near Robbins and Eustis Streets will not clear a man on top or side of car and the picking up or setting out of cars must be done outside of building.

At Southeast Minneapolis, three overhead cranes are located on spur to Lewis Bolt and Nut Co. galvanizing plant. Employes must not ride on top of cars approaching or moving under the overhead trolley beams. Beams will not clear a man on top of box car or high load.

The following overhead bridges and structures will not clear a man standing on top of tender piled high with coal, of engines classes Z-5, Z-6, Z-7 and Z-8, and all A classes:

St. Paul Union Depot; 6th Street O. H. bridge, East and West Side Line; Lafayette Ave. O. H. bridge, West Side Line; Mississippi Street Tunnels, East and West Side Lines; Mississippi Street O. H. bridge. Mississippi Street O. H. bridge.

Minneapolis:

Minneapolis Passenger Station; First Street No. O. H. bridge; 4th Ave. No. O. H. bridge.

St. Anthony Blvd. O. H. bridge; Soc Line O. H. bridge; University Ave. N. E. O. H. bridge (Line B).

16. Register Stations-

St. Paul, Telegraph Office Union Depot. St. Paul, 4th Street Yard Office, for M. & St. L. freight trains. Mississippi Street Yard Office, for trains originating or termi-

17. Clearance Exceptions-

At 7th Street, Mississippi Street Yard, Soo Line Jct., 6th Ave. South, 3rd Ave. North and First Street North, clearance not required.

18. Crossovers-

3rd Street, Mississippi Street, Maryland Street, Soo Line Jct., Chatsworth Street, Snelling Ave., Union, St. Anthony Park Jct., Eustis Street, 27th Ave. South East, 18th Ave. South East, East end Mississippi River bridge, 19th Ave. South, 10th Ave. South, 8th Ave. South, 7th Ave. South, 6th Ave. South, 2nd Ave. North, 3rd Ave. North.

19. Derail Switches-

St. Paul, East Side line, eastward track near 4th Street Bridge.

FOLLOWING M.&ST.L.RY. SPECIAL RULES GOVERN MAIN TRACK MOVEMENTS BETWEEN 20TH AVE. SOUTH AND 3RD AVE. NORTH, MINNEAPOLIS.

These special rules govern main tracks of the Minneapolis & St. Louis Railroad Company between 3rd Avenue North and 20th Avenue South, Minneapolis, and they supersede all other rules and instructions inconsistent therewith.

Maximum speed limit for passenger trains, 20 miles per hour; for all other trains and light engines, 15 miles per hour.

Between 3rd Avenue North and 6th Avenue South, and between 18th and 20th Avenues South, maximum speed limit for passenger trains, 15 miles per hour; for all other trains and light engines, 10 miles per hour.

All trains and engines must move under control between 3rd

Avenue North and 20th Avenue South.
"Under Control" as used herein means being able to stop within the distance track is seen to be clear.

All trains, transfers and light engines will register by ticket at 3rd Avenue North.

Between 1st and 2nd Streets South, Minneapolis; 9:00 AM to 5:00 PM daily except Sundays and holidays, all trains and engines approaching the crossover will come to a stop unless proceed signal is received from the flagman on the ground at or near this crossover. Trains and engines on Minneapolis and St. Louis tracks be signaled with a green flag by day and a green light by night. Trains and engines on Minneapolis Eastern be signaled with a yellow flag by day and a yellow light

55:00 PM to 9:00 AM daily and 9:00 AM to 5:00 PM on Sundays and holidays, trains and engines using the Minneapolis Eastern tracks will proceed over crossover under flag protection. Other trains and engines must at all times approach this crossover under full control, expecting to find the crossover oc-

Proceed signals given by flagman on the ground at or near the crossover between 1st and 2nd Streets South, Minneapolis. only govern the crossover and must not be construed as indicating that main track beyond is clear.

Unless otherwise ordered train orders are not required between 3rd Avenue North and 20th Avenue South. Engines and trains must use right-hand track and move with the current of traffic. Switch engines may use the double track between these points on the time of all except first class trains, under protection, but be prepared to clear main track without delay to regular trains and transfers; and may use the track UNDER PROTECTION, on the time of first class trains after such trains are five minutes

Second and inferior class and extra trains and switch engines may run ahead of first class trains which are five minutes or more late when this can be done without delay to first class trains, and may be run ahead of each other, without orders. All trains, switch engines and light engines occupying main

tracks at any point between 3rd Avenue North and 20th Avenue South must be protected, but this rule will in no manner relieve enginemen of responsibility in case of collision, for failure to observe speed restrictions or for failure to move under control at any point, and in case of collision, responsibility will ordinarily rest with the approaching train.

Movements over crossovers must be protected in both directions. Movements between 3rd Ave. North and 1st Street South will be governed by automatic block signals; the end of track section governed by automatic block signals; the end of track section protected by automatic block signals is indicated by a sign post reading, "End Block." Lights will govern train movements by day as well as by night; one light only should appear at any one time. A green light indicates track clear, Proceed. A yellow light indicates Caution, that block in advance is occupied, approach next signal at end of block under control. A red light indicates Stop, block not clear, broken rail, open switch or other obstruction, and train must be brought to a full stop at least 20 fact back of signal and may then proceed under control ex-20 feet back of signal and may then proceed under control expecting to find the block obstructed and enginemen will be held responsible in case of accident caused by overtaking a preceding train. When signals are out of order, that is when two lights or more show at the same time, or when a white light is shown, or when no lights show, it will be considered a Stop Signal and trains will proceed accordingly; enginemen will report the signal that is out of order to Superintendent at first available telephone or telegraph office. It must be understood that automatic block signals in no way relieve men in charge of trains, switching transfers and light engines, of protecting whenever and wher-ever required by these special rules.

Switches at 3rd Avenue North will be handled by switch tenders. All trains and engines must approach these switches under control, prepared to stop, and must not proceed until it is known that the track is clear, switches are right, and a proceed signal has been received from the switch tender.

Dwarf signal located 626 feet west of Cedar Avenue Bridge is connected with main track switch to Wheat Yard, Railway

All eastward trains or engines will approach signal prepared to stop and will not pass the signal unless at proceed position. When signal is at stop position and when not on the time of first class trains and when weather conditions are favorable for vision, trains (except first class) and engines with or without cars may occupy the eastward main track between the signal and 20th Avenue South without flag protection.

Engine bell must be kept ringing when engine is moving at all points between 3rd Avenue North and 20th Avenue South. Cars must not be left on main track without an engine attached unless unavoidable in case of accident, in which event they must be protected by flagmen.

Between sunset and sunrise and at other times when day signals cannot be clearly seen, a red light must be displayed on the rear of all transfer trains; when such trains are provided with caboose, proper display of markers is required.

Between 3rd Avenue North and 20th Avenue South, passenger train flagmen must ride outside on rear platform to be in position to drop off immediately their train stops and protect it. Conductors will see that flagmen comply with this rule.

THIRD SUBDIVISION.

BETWEEN FIRST STREET NORTH AND NORTHTOWN, INCLUDING MULBERRY LINE.

1. Speed Restrictions-

Freight mixed and

12 minutes

Passenger

Zone-Between

other trains

Not exceed average of Schedule Speed

2. Bridge and Engine Restrictions-

First St. and Northtown Use not less than

At Minneapolis Passenger Station, all classes A engines not permitted on tracks 1 to 4, inclusive, tracks 12, 13 and 14. Elevator shaft on West End of track 7 will not clear these engines backing.

The stack extension must not be used in terminals.

At NP Freight Yards: Engines heavier than Class W not permitted on tracks in this yard, except Class W-5 permitted on transfer tracks 1, 2 and 3 and yard tracks 16, 17 and 18.

Engines Classes G-1 and heavier not permitted over the following tracks:

Bousfield Wooden Ware Co. tracks. Gluek Brewing Co. tracks. Track 6, 24th Avenue North Yard.

At Northtown: Engines heavier than Class W-5 not permitted on the following tracks:

Tracks leading to and including Republic Elevator tracks 1, 2, 3

Grove Yard: Tracks 1, 2, 3, 4 and 5.

D Yard: Repair track lead and rip pocket track. Tracks 16, 17, 18, 19 and House Lead.

West End D Yard: Engines heavier than Class W-5 permitted on tracks D-3 to D-12 inclusive, only as far as 33rd Avenue overhead bridge.

East End D Yard: Engines heavier than Class W-5 not permitted except on tracks D-1 and D-2.

Engines Classes W and heavier, except Class G, not permitted over Gould Elevator tracks.

At Northern States Power Co., Riverside Plant, engines Classes G-1, G-2 and T are permitted on track 5 only, and then only as far as the clearance post. Engines are not permitted on trestle bridges.

- At Minneapolis Passenger Station, when westward passenger trains are pushed, helper engine will be cut off at the stop board.
- 4. At First Street North, after stop is made, all eastward trains and light engines must receive proceed signal from G. N. switchtender before proceeding.
- 5. At Mulberry Jct., a telephone is located on pole adjacent to wye track. Conductors and switch foremen and engineers of light engines before entering Line A must call train dispatcher, Minneapolis, on telephone, and ascertain if all first-class trains due have passed.
- 6. At Northtown, switchtenders' territory extends from Soo Line overhead bridge to three hundred and ten (810) feet east of 33rd Ave. N. E. overhead bridge.

Eastward trains from eastward main line to Line A will not be governed by Stop Sign located east of Soo Line overhead bridge.

7. Yard Limits-First Street North, Minneapolis, to Yard Limit Sign west of Northtown.

8. Short Clearances

At Minneapolis Passenger Station, clearance between track and elevator shafts, tracks 3, 5, 7 and 11 at both ends is not sufficient to permit men riding on side or steps of engines. Enginemen must use care when passing.

At Minneapolis, between Plymouth Ave. North and Broadway Street North, the side clearance along the Omaha delivery track adjoining the main track and between the Omaha delivery and receiving tracks is not sufficient to permit men riding on side of cars at all points.

Northtown, east end D yard, short side clearance between tracks 2 and 3 for distance of two hundred (200) feet from lead. Cars must not be left standing on track 2 within the above distance from lead and all employes should avoid standing between tracks 2 and 3 at that point when cars are moving on both tracks.

9. Register Stations-Minneapolis passenger station. Northtown.

Register Exceptions-

At Northtown, first class trains and passenger extras will register by Form 608.

11. Clearance Exceptions Eastward trains will not require clearance at Northtown if train order signal is in proceed position.

Trains whose runs terminate at N. P. Freight Yard, Minneapolis. may leave Minneapolis passenger station without clearance. Passenger extras originating, must secure clearance at Minneapolis passenger station.

At First Street North, N. P. Freight Yard, and 15th Ave. North. clearance not required.

N. P. Freight Yard, 15th Ave. North, Broadway Street North, Grand Street, Mulberry Jct., Lowry Ave., Northtown.

FOURTH SUBDIVISION.

BETWEEN EAST MINNEAPOLIS AND M. & D. JCT.

1. Speed Restrictions-

Between

2. Bridge and Engine Restrictions-Engines heavier than Class W-5 not permitted.

- 3. At East Minneapolis, normal position of east wye switch, east of Broadway crossing, will be for the Minneapolis Branch main
- 4. At White Bear Lake, New Yard, Conductors on transfers moving via Minneapolis Branch will call train dispatcher Minneapolis, on telephone, immediately before departure and advise time train will depart.
- 5. Register Stations East Minneapolis.

6. Clearance Exceptions-

At M. & D. Jct. and East Minneapolis clearance not required.

SPECIAL INSTRUCTIONS FOR GREAT NORTHERN FAIR GROUNDS AUTOMATIC INTERLOCKING

Signals for train movements in either direction on either track will not indicate Proceed unless gates are set and properly locked against G. N. trains and the smash board on the route desired is in the Proceed position.

The derail on NP Industry Track is connected to and thrown by the switchstand.

When a train is stopped by a Home or Dwarf signal trainman will go to the crossing, unlock the release box and operate the release after making certain gates are set against G. N. trains.

SPECIAL INSTRUCTIONS FOR 18TH AVE. N. E. MINNEAPOLIS AUTOMATIC INTERLOCKING.

The signals for the G. N. tracks are color light type and for the N. P. track are semaphore type equipped with smashboards.

N. P. trains must Stop within one hundred (100) feet of the home signals and wait for two (2) minutes for time relay to operate before smashboards and signal will indicate Proceed.

If the smashboards do not clear and signal does not indicate proceed after two minutes have elapsed, and no train is approaching on an opposing line, trainman shall go to the crossing and operate the hand release. After operating release, wait two (2) minutes and if the automatic home signal does not indicate Proceed and no immediate crossing train movement is evident, the trainmen at the crossing, after placing themselves in position to flag any train movement on the conflicting line, may hand signal their train to proceed over the

SPEED TABLE

Time Per mile Minutes Seconds		Miles Per Hour	Per Minutes	Miles Per Hour	
0	45	80	1	12	50
0	46	78.8	1	15	48
0	47	76.6	1	20	45
0	48	75	1	25	42.8
0	49	78.5	1	80	40
0	50	72	1	40	36
0	51	70.6	1	45	84.8
0	52	69.2	1	60	82.7
0	58	67.9	2		80
0	54	66.6	2	10	27.6
0	55	65.4	2	15	26.6
0	56	64.2	2	20	25.7
0	57	63.1	2	80	24
0	58	62.0	2	40	22.5
0	59	61.0	2	45	21.8
1	-	60	2	50	21.2
1	1	59	8		20
1	2	58	3	9	19
1	1	57.1	1	20	18
1	4	56.2	1	81	17
1		55.8	8	45	16
1	6	54.5	4		15
1	7	58.7			12
1	8	52.9	6		10
1	9	52.1	7	80	8
1	10	51.4	10		6

RAILROAD CROSSINGS AND INTERLOCKINGS.

First Sub-Division

EAST 7TH STREET.

C. St. P. M. & O. Crossing-Interlocking. Operated by train-

GLOSTER. Soo Line Crossing (Gate). DULUTH JCT. Soo Line Crossing.

2nd Sub-Division

MISSISSIPPI STREET.

Junction East and West Side Lines-Interlocked.

G. N. CROSSING. Fair Grounds—Automatic interlocking. ST. ANTHONY PARK JUNCTION.

Junction Lines A and B—Interlocked. LINE B—PARK JCT.

Minn. Transfer Ry. Crossing—Interlocked. 18TH AVE. SOUTH EAST.

C. M. St. P. & P. Crossing-Interlocked.

3rd Sub-Division

FIRST STREET NORTH. G. N. Crossing.

15TH AVE. NORTH. Soo Line Jct.-Interlocked. 18TH AVE. NORTH EAST.

G. N. Crossing with Mulberry Line—Automatic Interlocking. NORTHTOWN. G. N. Crossing.

4th Sub-Division

BELT LINE CROSSING.

Belt Line Crossing-Automatic interlocking.

Limit of load measurements based on 52' cars with 42' truck centers.

Note—Heights and widths in table allow 6 inches

MAXIMUM CLEARANCES. Table is based on open car loading equally divided on either side of center line of car.

			LIMIT	T OF L	OAD-	-MEA	SURE	WENT	4 35 36	THE REAL PROPERTY AND ADDRESS OF THE PARTY O
				IGHT						GOVERNING STRUCTURE
Seast wells be feet with	The term that a stream of the party	1'0" Wide	2'0" Wide	3'0" Wide	4'0" Wide		Wide		Width	
1st Subdivision	White Bear Lake to 3rd Street Jct., St. Paul	17′ 1″	17′ 1″	17′ 1″	17′ 1″	17′ 1″	17′ 1′′	17′ 1″	11′ 0″	Seventh Street Tunnel and Minne haha Ave. Over Crossing, St. Paul.
1st Subdivision	Stillwater to White Bear Lake	20′ 6″	20′ 6″	20′ 6″	20′ 6″	20′ 6″	20′ 6″	20′ 6″	11' 6"	
2nd Subdivision	3rd St., St. Paul to 19th Ave. South, Minneapolis	19′ 3″ 19′ 6″	19′ 1″ 19′ 4″	18'10" 19' 2"	18′ 8″ 18′11″	18' 6" 18' 8"	18' 3'' 18' 6''	19′ 3″ 19′ 6″	11' 6" 11' 6"	Mississippi St. Over Crossing and Tunnels No. 1 and No. 2, St. Paul
2nd Subdivision	West Side Line, St. Paul	18′ 0″ 17′11″	17′10″ 17′ 9″	17' 8" 17' 8"	17' 5" 17' 5"	17' 2" 17' 3"	17' 0'' 17' 0''	18′ 0″ 17′11″	11' 6" 11' 6"	Westminster Street Tunnel.
2nd Subdivision	East Minneapolis to White Bear Lake via Gloster.	20′ 6″	20′ 6″	20′ 6″	20′ 6″	20′ 6″	20′ 6″	20′ 6″	11' 6"	Rice Street Over Crossing, St. Pau
2nd Subdivision	19th Ave. South to 1st Street North, Minneapolis.	16′ 3″	16′ 3″	16′ 3″	16′ 3″	16′ 3″	16′ 3″	16′ 3″	11′ 0′′	First Street So. & Hennepin Ave. Over Crossings.
3rd Subdivision	1st Street North, Minneapolis to Northtown	17'11"	17'11"	17'11"	17'11"	17'11"	17'11"	17'11"	11' 6"	Northtown-"Soo Line" Over Crss'
4th Subdivision	M. & D. Jet. to East Mpls. Jet	18'11"	18'11"	18'11"	18'11"	18'11"	18'11"	18'11"	11' 6"	Near M. P. 8-"Soo Line" Over Crs'
	tennes I are that The State of Act Shows into			r of I						
				IGHT						GOVERNING STRUCTURE
10 Tale 100		7'0" Wide	Wide		8'6" Wide		Wide		Width	and paint was allowed to the
1st Subdivision	White Bear Lake to 3rd Street Jct., St. Paul	17′ 1″	17′ 1″	17′ 1″	17′ 1″	17′ 1″	17′ 1″	17′ 1″	11′ 0″	Seventh Street Tunnel and Minne haha Ave. Over Crossing, St. Paul
1st Subdivision	Stillwater to White Bear Lake	The state of the state of	100 C 100 C	1000000			100000000			
2nd Subdivision	3rd St., St. Paul to 19th Ave. South, W. B. Minneapolis	18' 0" 18' 4"	17′11″ 18′ 3″	17′ 9″ 18′ 1″	17′ 7″ 17′10″	17′ 5″ 17′ 8″	17′ 3″ 17′ 6″	19′ 3″ 19′ 6″	11' 6" 11' 6"	Mississippi St. Over Crossing an Tunnels No. 1 and No. 2, St. Pau
2nd Subdivision	West Side Line, St. Paul	16' 9" 16' 9"	16' 7" 16' 6"	16' 6" 16' 3"	16' 3'' 15'10''	16' 1" 15' 6"	15' 9" 15' 0"	18′ 0″ 17′11″	11' 6" 11' 6"	Westminster Street Tunnel.
2nd Subdivision	East Minneapolis to White Bear Lake via Gloster.	20' 6"	20' 6"	20' 6"	20′ 6″	20' 6"	20' 6"	20' 6"	11' 6"	Rice Street Over Crossing, St. Pau
2nd Subdivision	19th Ave. South to 1st Street North, Minneapolis.	16′ 3″	16′ 3″	16′ 3″	16′ 3″	16′ 3′′	16′ 3″	16′ 3′′	11' 0"	First Street So. & Hennepin Ave. Over Crossings.
3rd Subdivision	1st Street North, Minneapolis to Northtown	17'11"	17'11"	17'11"	17'11"	17'11"	17'11"	17'11"	11' 6"	Northtown-"Soo Line" Over Crss
th Subdivision	M. & D. Jet. to East Mpls. Jet	18'11"	18'11"	18'11"	18'11"	18'11"	18'11"	18'11"	11' 6"	Near M. P. 8-"Soo Line" Over Crs
		LIMIT OF LOAD—MEASUREMENT								
				IGHT						GOVERNING STRUCTURE
		10'0" Wide	10'6" Wide	11'0" Wide	11'6" Wide	Max. Height	Max. Width			
1st Subdivision	White Bear Lake to 3rd Street Jct., St. Paul	16′ 9″	16' 2"	15' 6"		17′ 1″	11′ 0″			Seventh Street Tunnel and Minn haha Ave. Over Crossing, St. Pau
1st Subdivision	Stillwater to White Bear Lake	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	11' 6"			
2nd Subdivision	3rd St., St. Paul to 19th Ave. South, W. B. Minneapolis	16'10" 17' 4"	16′ 5″ 17′ 1″	15'10'' 16' 6''	15' 2" 16' 0"	19' 3" 19' 6"	11' 6" 11' 6"			Mississippi St. Over Crossing at Tunnels No. 1 and No. 2, St. Par
2nd Subdivision	West Side Line, St. Paul									Westminster Street Tunnel.
2nd Subdivision	East Minneapolis to White Bear Lake via Gloster.	20' 6"	20' 6"	20' 6"	20' 6"	20' 6"	11' 6"			Rice Street Over Crossing, St. Par
2nd Subdivision	19th Ave. South to 1st Street North, Minneapolis.									First Street So. & Hennepin Ave. Over Crossings.
3rd Subdivision	1st Street North, Minneapolis to Northtown	17'11"	17'11"	17'11"	17'11"	17'11"	11' 6"			Northtown-"Soo Line" Over Cree
4th Subdivision	M. & D. Jct. to East Mpls. Jct									Near M. P. 8-"Soo Line" Over Cr.

T. A. GREGORY, Asst. Supt.

R. H. ANDERSON, **Trainmaster**

R. W. HALL, E. A. LEE, Trainmaster **Trainmaster**

G. W. MINKEL, Trainmaster

J. A. SOVA, Chief Dispatcher

M. FLAHERTY, Trainmaster



