BROTHERHOOD OF LOCOMOTIVE ENGINEERS AND TRAINMEN

A DIVISION OF THE RAIL CONFERENCE

INTERNATIONAL BROTHERHOOD OF TEAMSTERS

BEFORE THE NATIONAL TRANSPORTATION SAFETY BOARD

NTSB Accident Number RRD22MR010

Class: Major

June 27, 2022

Proposed findings, probable cause, and safety recommendations in connection with the highway/grade crossing collision and subsequent derailment of Amtrak Passenger Train No. 4-25A near Mendon, Missouri

L.R. Fannon, BLET Safety Task Force, National Chairman
S.D. Facklam, BLET Safety Task Force, Party Spokesman

Final Submission

The Brotherhood of Locomotive Engineers and Trainmen ("BLET"), a division of the International Brotherhood of Teamsters ("IBT"), was granted party status by the Board in the above-referenced investigation. BLET respectfully submits these proposed findings, probable cause, and safety recommendations to the Board for consideration.

Accident Synopsis

On June 27, 2022, at approximately 12:42 p.m. Central Daylight-Saving Time ("CDT")[1], eastbound National Railroad Passenger Corporation ("Amtrak") Train No. 4 (Amtrak 4-25A) derailed near Mendon, Missouri, after colliding with a commercial dump truck that was not clear of the mainline railroad tracks as Amtrak 4-25A approached, and entered, the highway/railroad grade crossing. The train consisted of two (2) locomotives and eight (8) cars. All eight (8) railcars and both locomotives were derailed as result of the collision. There were 270 passengers and twelve (12) crew members, for a total of 283 people on the train. Three (3) passengers riding in the dining car were fatally injured, in addition to the driver of the commercial dump truck.

Figure 1 – Photo showing damage to lead locomotive ATK No. 133 (*Photo courtesy of NTSB Highway Factual Report)*

[1] All times throughout this report will be Central Daylight-Saving Time

Accident Narrative

Train Information:

Amtrak Train No. 4-25A consisted in the order of two (2) locomotives, one (1) baggage car, one (1) sleeper/transition car, one (1) sleeper car, one (1) dining car, one (1) lounge car, and three (3) coach cars. Amtrak ("ATK") No. 133 was the lead locomotive of the train and was occupied and operated by the lone Locomotive Engineer. The total length of the train was 818 feet, and weighed 956 tons.

Amtrak Train No. 4-25A operates between Los Angeles, California, and Chicago, Illinois, predominantly on the Burlington Northern Santa Fe ("BNSF") Railway transportation network. The operating crew consisted of a Locomotive Engineer, a Conductor, and an Assistant Conductor. The Locomotive Engineer was operating the controls of the lead locomotive with the Conductor and Assistant Conductor working from the passenger cars.

Method of Operation:

Amtrak Train No. 4-25A was operating eastward on the BNSF Marceline Subdivision[2] near Mendon, Missouri, at the time of the accident. The Marceline Subdivision extends from milepost ("MP") 444.2 near Congo, MO, to MP 234.3 in Fort Madison, IA, in an east-west direction. The subdivision primarily consists of two (2) main tracks. Maximum authorized speed ("MAS") is 90 miles per hour ("MPH") for passenger trains. The method of train control movement is centralized traffic control ("CTC"),[3] and movements are coordinated by BNSF train dispatchers located in Fort Worth, TX. The entire Marceline Subdivision has Positive Train Control ("PTC") [4] that assists in the movement of train traffic.

[2] *See* Appendix A at the end of this report for the relevant portions of the BNSF Timetable.
[3] "Centralized Traffic Control" is a signaling system that uses block signal systems to authorize train movements.
[4] "Positive Train Control" is a system of functional requirements for monitoring and controlling train movements and is a type of train protection system.

Amtrak and BNSF Railway Documents for TY & E [5] Employees:

Below is the list of the documents governing TY & E employees provided by BNSF and Amtrak for this accident investigation:

- General Code of Operating Rules ("GCOR") - 8th Edition - *effective April 1, 2020*
- BNSF System Safety Instructions - *effective August 4, 2021*
- BNSF Chicago Division Timetable No.2 – *effective October 6, 2021*
- Amtrak Service Standards Train Service and Onboard Service Employees – *effective January 10, 2022*
- Amtrak Employee Safety Rules - *effective September 1, 2020*
- General Track Bulletins
- General Notices and Orders

No additional information was provided regarding the documentation and/or rules in effect at the time of this accident.

Crew Information:

Locomotive Engineer:

The Locomotive Engineer began his employment with Amtrak on January 2, 1992. He had 27 years of experience as a Locomotive Engineer for Amtrak. Amtrak training records reflected that he had completed his last Federal Railroad Administration ("FRA") mandated Locomotive Engineer Re-Certification on January 7th, 2021, and the last Engineer Certification General Knowledge Exam on May 19, 2022. He had no medical condition that would affect his performance and was deemed fit for duty.

Conductor:

The Conductor began his employment with Amtrak on September 30th, 2018. Amtrak training records reflected that he had completed his last FRA mandated re-certification on November 17th, 2020, and the last General Code of Operating Rules Recurrent Exam on

[5] Train, Yard and Engine

January 5th, 2021. He had no medical condition that would affect his performance, and was deemed fit for duty.

Assistant Conductor:

The Assistant Conductor began his employment with Amtrak on April 18th, 2016. Amtrak training records reflected that he had completed his last FRA mandated re-certification on February 11th, 2020, and the last General Code of Operating Rules Recurrent Exam on November 8th, 2021. He had no medical condition that would affect his performance, and was deemed fit for duty.

Movements of Amtrak Train No. 4-25A:

On June 27, 2022, the crew for Amtrak Train No. 4-25A reported for duty at 9:00 a.m. at Union Station in Kansas City, MO. The train crew consisted of a Locomotive Engineer, Conductor, and an Assistant Conductor. Upon arriving at the station, the operating crew gathered their paperwork and had a job safety briefing with the inbound crew. At 11:09 a.m., Amtrak Train No. 4-25A departed Kansas City, MO, carrying 270 passengers and twelve (12) crew members. In interviews, the Locomotive Engineer stated that prior to the incident, it was a busy but normal trip.

While enroute to the first scheduled stop in La Plata, MO, Amtrak Train No. 4-25A was operating on Main Track No. 2 as they were approaching a rural, passive highway/railroad grade crossing [6] on County Road 113, also known as Porsche Prairie Avenue. The Locomotive Engineer observed a vehicle approaching from the south, traveling on County Road 113. A post-accident review of the lead locomotive's **(**ATK No. 133**)** Track Image Recorder ("TIR") revealed that as the vehicle approached from the highway/railroad grade crossing on County Road 113, a dust cloud was observed behind the vehicle. The dust cloud remained behind the vehicle the entire time and at no point appeared to obstruct the driver's view. From the TIR, it was also noted that as Amtrak 4-25A approached the whistle board, [7] the vehicle was observed approaching the highway/railroad grade crossing, as the locomotive horn can be heard distinctly on the TIR's recording.

[6] A "passive highway/railroad grade crossing" is one which is absent of the warning gates and illuminating signals (both audible and visual).
[7] "Whistle boards" are signs placed at the side of railroad tracks to inform train crews when they should blow their whistle (or horn) to warn the public and railway workers of an approaching train.

Figure 2 – Still image from the outward facing camera (a k.a. a TIR) from ATK 133 prior to impact (*Photo courtesy of NTSB*)

At 12:42:36 p.m., the Locomotive Engineer sounded the horn while traveling at 89 MPH. The whistle continued for approximately 2.7 seconds as Train No. 4-25A traveled approximately 353 feet. The Locomotive Engineer sounded the whistle again approximately one (1) second later while still traveling at 89 MPH as Train No. 4-25A traveled an additional 391 feet. Locomotive event recorder data indicates the two (2) horn warnings were sounded at identical lengths and spacing. The locomotive event recorder revealed that after the second whistle warning was sounded, the Locomotive Engineer attempted to further warn the approaching vehicle by sounding a succession of short whistle blasts. In the review of the TIR, the vehicle was observed proceeding through the crossing without stopping.

The locomotive event recorder data from the lead locomotive (ATK No. 133) indicated that at 12:42:44 p.m., the Locomotive Engineer initiated an emergency brake application [8] while still traveling 89 MPH, with the throttle in notch No. one (1) [9]. A study of the locomotive event recorder indicated that only eight (8) seconds had elapsed from the time the horn was first sounded to when an emergency application of the train's brakes was initiated. During post-accident interviews, the Locomotive Engineer told investigators that he placed the train into emergency as soon as he felt the potential for danger.

When it became apparent that a collision with the commercial dump truck was unavoidable, the Locomotive Engineer dropped to the floor of the locomotive cab just prior to impact. Impact

[8] "Emergency brake application" refers to the emergency application of a train's air brakes. Emergency application of the brakes is caused by the rapid exhaust of the trains brake pipe air system. This action results in maximum braking effort on a train.

[9] "Notch" in railroad locomotive vernacular which represents there are eight settings (1-8) for manually/physically requested/initiated horsepower. Notch No. 1 is the least amount of horsepower that can be requested. Once an emergency brake application occurs, all horsepower requests are deemed useless.

occurred at 12:42:46 p.m. while Amtrak 4-25A was travelling at a speed of 87 MPH. At 12:42:51 p.m., the Locomotive Engineer called out an "emergency" broadcast over the radio.

Figure 3 – Post accident aerial view of Amtrak Train No. 4-25A *(Photo courtesy of Missouri Highway Patrol with graphics added by BLET)*

Post-accident actions by Amtrak Train No. 4-25A's Crew:

After impact, Amtrak Train No. 4-25A traveled an additional 1,111 feet in approximately 16 seconds before coming to rest at 12:43:02 p.m. A review of the BNSF Train Dispatcher recordings revealed that at 12:43:35 p.m. the Locomotive Engineer provided the Train Dispatcher the details of the accident location. The Locomotive Engineer then exited the locomotive and observed that all of the train's passenger cars were derailed with many on their sides. He returned to the locomotive and informed the Train Dispatcher to send as many emergency response personnel as possible.

Immediately following that conversation with the Train Dispatcher, the Locomotive Engineer returned to assist the rest of the train crew in evacuating the passengers. The Locomotive Engineer entered the railcars through the bottom and sides and assisted passengers who were attempting to exit the train cars.

The Locomotive Engineer periodically returned to the locomotive to communicate with the Train Dispatcher regarding the location. When interviewed about the emergency response, the operating

crew stated that it went well. They stated that they had sufficient help assisting passengers. The crew also thought local emergency responders arrived at the accident scene relatively quickly and seemed organized.

Post-accident actions at site:

In the post-accident investigation performed by the Missouri State Highway Patrol, the crash reconstruction team took measurements of Porsche Prairie Avenue grade crossing in the northward direction of travel (direction of travel of the struck vehicle). The team used drone measurements and smart level. The measurements revealed a slope in grade of 15.8%, 11 ½ feet south of the crossing, northward to the center of the Main Track No.2. This 15.8% grade was leveled out 4.3% soon after the measurements were taken for rescue and recovery equipment to be able to safely cross the trackage without damage to vehicles and trackage.

Figure 4- View of stop sign, crossbucks, and grade at Porsche Prairie crossing *(Photos courtesy of Missouri Highway Patrol and NTSB Highway Factual report)*

The crossing was equipped with passive traffic control devices, consisting of stop signs and crossbucks, located on the right side of the road in direction of travel. The signage was approximately fourteen (14) feet from the roadway edge. The crossing of Porsche Prairie Avenue over BNSF trackage is on a right skew of approximately 45°.

Early recommendations of the American Association of State Highway and Transportation Officials ("AASHTO") manual recommended that intersection of no less than 60°. An AASHTO manual revision in 2018 recommends crossing angles be as close to 90° as practical and no less than 75°. The AASHTO manual describes "skew" intersections as anything less than 90°. The

manual further describes skewed intersections as undesirable because they can result in a driver having to turn their head at a larger angle to see, with components within the vehicle potentially obstructing or restricting drivers view. The current AASHTO policy recommends roadway approach surface not slope down more than 3 inches in 30 feet from the nearside rail.

Probable Cause

The Brotherhood of Locomotive Engineers and Trainmen concludes that the probable cause of the June 27, 2022, accident was the vehicle's failure to stop for the highway/railroad grade crossing signage (railroad crossbucks and stop sign) at County Road 113 (Porsche Prairie Avenue) and yield for Amtrak Train No. 4-25A.

None of the actions taken by the train crew of Amtrak Train No. 4-25A contributed to the accident.

There was one (1) significant contributing factor to this accident.

- The highway grade crossing at County Road 113 (Porsche Prairie Avenue) was of such a severe grade and angle it hindered driver visibility and navigation.

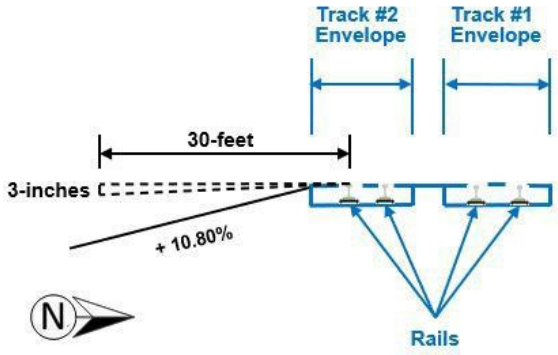

Figure 5 – Diagram showing the AASHTO standard related to the actual grade crossing approach measurements. (Graphic courtesy NTSB Highway Factual Report)

Proposed Recommendations

To Amtrak:

1. Enhance the training program to include the post-accident actions of the crew of Amtrak Train No. 4-25A. Use the train crew's post-accident actions as a template to train all employees on steps to be taken in emergency situations.

2. Develop and implement a program to ensure all emergency features of equipment are functioning properly before departure from initial terminal (to include emergency lighting, etc.). This program should include all emergency equipment in case of failure (glow sticks, etc.).

3. Develop and implement a program to ensure all emergency medical equipment (rubber medical gloves, gauze, etc.) is supplied in sufficient quantities to treat multiple passengers in case of emergency.

4. Develop and implement a program to ensure the use of a two (2) person crew on the controlling locomotive of all passenger trains.

5. Review and improve accurate tracking of the number of actual passengers onboard between stations stops.

To BNSF Railway:

1. Assist Federal, State, and Local Highway Transportation Departments in identifying grade-crossings along trackage where the grade-crossings have fallen out of AASHTO standardization.

To Missouri Department of Transportation:

1. Commence audit to identify grade-crossings along trackage where the grade-crossings have fallen out of AASHTO standardization and close or bring identified grade-crossing up the current AASHTO standards.

2. Immediately bring County Road 113 (Porsche Prairie Avenue) up to AASHTO standards, or permanently close the grade-crossing if the crossing cannot be brought up to the standards.

CERTIFICATE OF SERVICE

I certify that on February 2, 2023, I have electronically served upon Mr. Don Rhine [redacted] Investigator in Charge, National Transportation Safety Board, a complete and accurate copy of these proposed findings regarding the June 27, 2022 derailment of Amtrak Train No.4-25A near Mendon, MO (NTSB Docket No. RRD22MR010). An electronic copy of same was also forwarded to the individuals listed below in this certificate of service, as required by49 CFR § 845.27 (Proposed Findings)

Mr. Don (Joey) Rhine
Investigator-in-Charge, RRD22MR010
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594
Email: [redacted]

Chris Groom, FRA
Operating Practices - Safety
Email: [redacted]

Joe Morris, Amtrak
Superintendent – Road Operations
Email: [redacted]

Michael Cook. BNSF
Director of Safety
Email: [redacted]

Dan Bonawitz, SMART-TD
Investigator – SMART-TD National Safety Team
Email: [redacted]

Very truly yours,

[redacted]

L. Randy Fannon
National Vice President
Safety Task Force National Chairmen
Brotherhood of Locomotive Engineers & Trainmen
7061 East Pleasant Valley Road
Independence, OH 44131

Appendix A

TOC Home

WESTWARD ↓	Length of Siding (Feet)	Station Nos.	Mile Post	Siding Switch	Marceline Subdivision MAIN LINE STATIONS	Rule 4.3	Type of Oper.	Line Seg.	Miles to Next Stn.	↑ EASTWARD
End Marceline Sub MT, MP 234.3 / Begin Chillicothe Sub MT, MP 234.3 Information for Ft Madison is located in the Chillicothe sub timetable.										
	10,203 (MT1)	63500	234.3	234.2 236.2	FT. MADISON Hannibal Sub, HLA via GCOR 6.28, MP 236.2	BPT	CTC 2MT	7000	2.8	
			237.1		ORTHO	X(2)			9.1	
		63475	246.2		ARGYLE	X(2)			16.9	
			263.1		EAST MEDILL	X			1.7	
			264.8		WEST MEDILL	X			11.9	
		63455	276.7		GORIN	X(2)			13.3	
			290.0		EAST BARING	X			2.4	
			292.4		WEST BARING	X			7.9	
			300.3		HURDLAND	X(2)			12.9	
		63430	313.2		LA PLATA	X(2)			16.1	
			329.3		EAST ETHEL	X			1.6	
			330.9		WEST ETHEL Brookfield Sub via GCOR 6.28, MP 341.5	X			16.0	
			346.9		EAST MARCELINE	X			0.4	
		63400	347.3		MARCELINE	T			2.0	
			349.3		WEST MARCELINE	X			11.6	
		63350	360.9		MENDON	X(2)			13.4	
		63325	374.3		BOSWORTH	X(2)			12.2	
		63300	386.5		CARROLLTON				2.3	
			388.8		W.B. JCT Adj RR: NS, MP 388.8	JX(2)			7.8	
		63290	396.6		NORBORNE				8.9	
		63280	405.5		HARDIN	X(2)			5.8	
		63240	411.3		HENRIETTA		CTC 3MT		6.7	
			418.0		C.A. JCT Adj. RR: NS, MP 418.1	JX(2)	CTC 2MT		6.9	
			424.9		EAST SIBLEY		CTC		1.5	
			426.4		WEST SIBLEY	X	CTC 2MT		10.2	
		63219	436.6		ETON Adj RR: UP, MP 436.5	JX(2)			4.1	
			440.7		CEMENT CITY	X(2)	CTC 3MT		3.5	
		63175	444.2		CONGO	X(2)			210.0	
End Marceline Sub MT, MP 444.3 Adjoining RR: KCT & UP, MP 444.3										

From MP 444.2 to Kansas City, Missouri, is under the jurisdiction of the Kansas Division.

Central Continental Time in effect on Marceline Subdivision

Radio Call-in		
Radio Channel 018 in service Ft. Madison to Hurdland		
Ft. Madison - 33(X)	Argyle - 34(X)	Medill - 35(X)
Baring - 40(X)	La Plata - 41(X)	
Radio Channel 030 in service Hurdland to Congo Argentine Diesel Servicing Facility X=6		
Baring - 40(X)	La Plata - 41(X)	Ethel - 42(X)
Marceline - 43(X)	Carrollton - 45(X)	Hardin - 49(X)
Henrietta - 50(X)	Atherton - 48(X)	Congo - 51(X)
BNSF DS from NS Railway - Channel 022		
Carrollton - 450	Henrietta - 500	
Emergency - Call 911		
Dispatcher X=0, RFE Desk X=1, Mechanical Desk X=2, Customer Support X=3, RailRoad Police X=4, Detector Desk X=5, PTC Desk X=9		

Dispatcher Information
Ft. Madison to Hurdland—817-867-7126, Fax 817-352-7054
Hurdland to Congo—817-867-7002, Fax 817-352-7043

1. Speed Regulations

See Item 1 of the System Special Instructions for additional speed restrictions.

1(A). Speed—Maximum

Main Track	Psgr	Frt	
		Under 100 TOB	100 TOB & Over
MP 234.3 to MP 388.7	90	55*	55*
MP 388.7 to MP 418.2, MT1	79	55*	55*
MP 388.7 to MP 405.4, MT2	60	55*	55*
MP 405.4 to MP 418.2, MT2	79	55*	55*
MP 405.4 to MP 418.2, MT3	50	50	45
MP 405.4 to MP 418.2, MT3, locomotive cranes/pile drivers, AT 199454 through AT 199468 and Jordan spreaders		20	20
MP 418.2 to MP 425.0	90	55*	55*
MP 425.0 to MP 444.3	79	55*	55*

* Unless otherwise restricted, the maximum speed for freight trains is 70 MPH (from Hardin to W.B. Jct, Main 2 is 60 MPH) provided:

1. Train does not contain empty car(s). Refer to SSI 1(C) for determining speed for multi-platform, intermodal equipment.
2. Train does not exceed 8,500 feet.
   Exceptions:
   a. Trains operating with distributed power equipment with remote DP automatic brake valve cut in may operate at 70 MPH up to 10,000 feet in length.
   b. Solid intermodal trains containing no auto racks operating with distributed power on the rear of the train with the automatic brake valve cut in may operate at 70 MPH up to 12,000 feet in length. Lead locomotive and DP remote unit must be equipped with LXA.
   c. Trains operating with a distributed power remote consist cut-in (mid train) and equipped with ETD repeater with remote DP automatic brake valve cut in may operate at 70 MPH up to 16,000 feet in length.
   d. Trains operating with two distributed power remote consists (mid train and at the rear) and both DP remote automatic brake valve(s) cut in may operate at 70 MPH up to 16,000 feet in length.
3. Train does not average more than 80 TOB.
   Exceptions:
   a. Trains consisting entirely of intermodal equipment (all equipment listed under BNSF Timetable, System Special Instruction 1C), including equipment designed to carry automobiles/trucks (auto racks), must not average more than 90 tons per operative brake.
   b. Trains consisting entirely of double stack equipment and spine car equipment (car kind codes beginning QU, QK, QV, QW, QT, QX, QY, QM, QC, QO, Q5, QE) must not average more than 105 tons per operative brake.
   In addition, the intermodal trains described above may also handle as many as 15 refrigerated box cars identified as "Super Reefers" - BNSF 793110 thru BNSF 794112, provided train does not exceed 90 TOB.
4. Engineer can control speed to 70 MPH without use of air brakes. (If unable to control speed to 70 MPH on long descending grades, two additional attempts are allowed to control speed with dynamic brake at slower speeds before speed must be reduced to 55 MPH while negotiating descending grade.)

TOC Home

See ABTH 103.2.1 Dynamic Brake Limitations, regarding when 32 axles of dynamic brakes may be used on lead consist.

1(B). Speed—Permanent Restrictions

	Psgr	Frt
MP 242.1 to MP 242.8	85	70
MP 250.3 to MP 256.0	50	45
MP 269.0 to MP 270.5	85	70
MP 277.2 to MP 288.7	85	70
MP 293.7 to MP 303.1	85	70
MP 309.2 to MP 316.9	85	70
MP 331.0 to MP 334.0	55	55
MP 334.0 to MP 335.6	55	45
MP 335.6 to MP 339.2	50	45
MP 339.2 to MP 339.7	70	65
MP 347.5 to MP 348.9, MT1	60	55
MP 347.5 to MP 347.8, MT2	50	45
MP 352.6 to MP 354.0	70	65
MP 372.0 to MP 372.9	70	70
MP 376.2 to MP 376.8	75	70
MP 382.4 to MP 384.5, MT2	70	70
MP 384.3 to MP 384.5, MT1	80	70
MP 388.5 to MP 388.8, MT2	40	40
MP 405.6 to MP 406.0, MT3	25	25
MP 416.7 to MP 419.2	55	55
MP 416.4 to MP 417.5, MT3	40	40
MP 425.0 to MP 426.7	35	35
MP 426.7 to MP 427.7	55	50
MP 434.9 to MP 436.9	75	70
MP 436.4 to MP 436.9, MT3	40	40
MP 437.5 to MP 438.7	70	70
MP 438.7 to MP 438.9	65	60
MP 442.3 to MP 443.7	60	40
MP 443.7 to MP 444.3	40	40

Key Trains Maximum speed within the following municipal area limits unless otherwise restricted:	Frt
MP 417.0 to MP 444.3	35

1(C). Speed—Sidings and Main Track Switches and Turnouts

Trains and engines must not exceed 10 MPH through turnouts unless otherwise indicated. Trains and engines using sidings must not exceed the siding turnout speed unless otherwise indicated.

	Psgr	Frt	
		Under 100 TOB	100 TOB & Over
MP 236.2, West Ft. Madison, siding turnout	30	30	30
MP 236.2, West Ft. Madison, yard lead turnout	30	30	30
MP 237.1, Ortho, crossovers	40	40	40
MP 246.2, Argyle, crossovers	50	50	50
MP 263.1, East Medill, crossovers	50	50	50
MP 264.8, West Medill, crossovers	50	50	50
MP 276.7, Gorin, crossovers	50	50	50
MP 290.0, East Baring, crossovers	50	50	50
MP 292.4, West Baring, crossovers	50	50	50
MP 300.3, Hurdland, crossovers	50	50	50
MP 313.2, La Plata, crossovers	50	50	50
MP 329.3, East Ethel, crossovers	50	50	50
MP 330.9, West Ethel, crossovers	50	50	50
MP 346.9, East Marceline, crossovers	50	50	50
MP 349.3, West Marceline, crossovers	50	50	50
MP 349.3, West Marceline, yard lead turnouts	20	20	20
MP 360.9, Mendon, crossovers	50	50	50
MP 374.3, Bosworth, crossovers	50	50	50
MP 388.8, W.B. Jct, crossovers and MT2 to MT2 turnout	40	40	40
MP 405.5, Hardin, crossovers	50	50	50
MP 405.5, Hardin, MT3 turnout	25	25	25
MP 418.0, C.A. Jct, crossovers	40	40	40
MP 418.0, C.A. Jct, NS turnout	30	30	30
MP 424.9, East Sibley, MT2 turnout	35	35	35
MP 426.4, West Sibley, crossovers	35	35	35
MP 436.6, Eton, crossovers	40	40	40
MP 436.6, Eton, UP connection	40	40	40
MP 440.7, Cement City, crossovers	40	40	40
MP 444.2, Congo, crossovers	40	40	40

1(D). Speed—Other

Trains and engines must not exceed 10 MPH through turnouts unless otherwise indicated. Trains and engines must not exceed 10 MPH on other than Main Track (GCOR/MWOR 6.28) unless otherwise indicated.

Carrollton, track 8702	5	5	5
Sibley, track 2603	5	5	5
Climax Industry Molybdenum, over scale	5	5	5
Ft. Madison wye (Ft. Madison Yard), Cars must not exceed 85 ft.	5	5	5

2. Bridge and Equipment Weight Restrictions

Maximum Gross Weight of Cars

Ft. Madison to Kansas City ..... 143 tons, Restrictions B

Location	Track Name	Track No.
Six-axle locomotives are not permitted on:		
Wyaconda	House track	1102
	Elevator track	1103
Baring		9002
La Plata	(6-axle allowed on E 760 feet - sign is posted)	9307
Bosworth	Elevator track	7403
Carrollton	Runaround track	8709
Henrietta	Yard tracks	9801 - 9803
Floyd	House track	2102
Sibley	House track	2601

3. Type of Operation

Main Track

MP 234.3 to MP 405.6	CTC, 2 MT
MP 405.6 to MP 418.2	CTC, 3 MT
MP 418.2 to MP 424.9	CTC, 2 MT
MP 424.9 to MP 426.3	CTC
MP 426.3 to MP 436.3	CTC, 2 MT
MP 436.3 to MP 444.3	CTC, 3 MT