

FEB 6 2020



MEMORANDUM

**Highway
Department**

Jason Benson, P.E.
County Engineer

Thomas B. Soucy, P.E.
Deputy County Engineer

Blaine Laaveg
Superintendent

TO: Cass County Commission
FROM: Jason Benson, County Engineer *JMB*
DATE: February 7, 2020
SUBJECT: Consent Agenda Topic for February 18, 2020 Meeting:
Spring Load Restrictions on County Highways

I would like to impose spring weight restrictions on Cass County Highways on, or after March 1, 2020, depending on the weather. I've enclosed a resolution and map with the proposed spring load restriction postings. The criteria used for pavements was the pavement condition and area served. Most small towns have one unrestricted road access.

Gravel roads are posted at a 6 Ton restriction. The exception is a section of County 11 west of Grandin.

SUGGESTED MOTION: Adopt resolution implementing spring load restrictions on or after March 1, 2020, as determined by the county engineer.

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1201 Main Avenue West
West Fargo, North Dakota
58078-1301

701-298-2370
Fax: 701-298-2395

RESOLUTION #2020-3
IMPLEMENT SPRING LOAD RESTRICTIONS
ON COUNTY HIGHWAYS

WHEREAS: Soft base conditions experienced during spring thaw reduce the load carrying capacity of County Highways;

WHEREAS: The Cass County Board of Commissioners desires to prevent serious damage to County Highways;

WHEREAS: 39-12-03 of the North Dakota Century Code authorizes local authorities to impose vehicle weight restrictions on County Highways;

NOW THEREFORE: Be it resolved by the Cass County Board of Commissioners that spring load restrictions will be imposed upon Cass County Highways in the following manner: All County Highways to be posted in accordance with the Cass County 2020 Spring Load Restriction Map dated February 7, 2020. Spring load restrictions will be effective at 12:01 AM on or after March 1, 2020, as determined by the County Engineer.

Dated this 18th day of February, 2020.

APPROVED:

Chad Peterson, Chairman
Cass County Commission

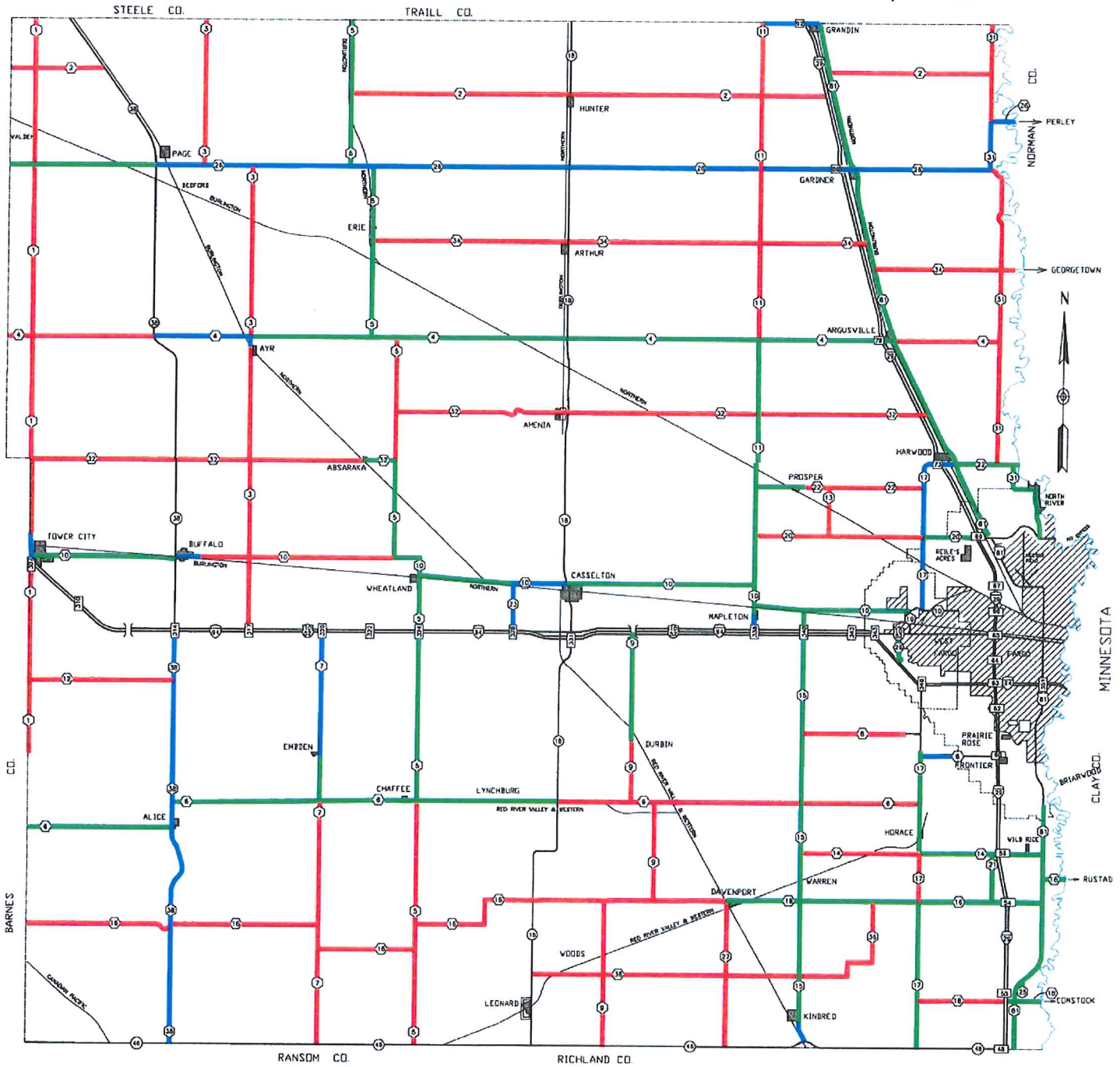
ATTEST:

Michael Montplaisir
Cass County Auditor

2020 SPRING LOAD RESTRICTIONS CASS COUNTY

NORTH DAKOTA

February 7, 2020



BY LEGAL WEIGHT

SINGLE AXLE	20,000 LBS.
TANDEM AXLE	34,000 LBS.
3 AXLES OR MORE	17,000 LBS./AXLE
MAX AXLE GROUP	48,000 LBS.
GROSS VEHICLE WEIGHT	105,500 LBS.

8-TON

16,000 LBS.
32,000 LBS.
14,000 LBS./AXLE
42,000 LBS.
105,500 LBS.

7-TON

14,000 LBS.
28,000 LBS.
12,000 LBS./AXLE
36,000 LBS.
105,500 LBS.

6-TON

12,000 LBS.
24,000 LBS.
10,000 LBS./AXLE
30,000 LBS.
80,000 LBS.

CASS COUNTY SPRING LOAD RESTRICTIONS

Cass County will impose Load Restrictions on all Highways effective on or after March 1, 2020, as determined by the County Engineer. Restrictions shall remain in effect until pavement subgrade conditions warrant removal, generally about the 15th of May.

Additional information is available at www.casscountynd.gov or at the Cass County Highway Department at 298-2370.

CASS COUNTY HIGHWAY DEPARTMENT SPRING LOAD RESTRICTION POLICY

Under authority of NDCC §39-12-03, local authorities may restrict loads on their highways. The purpose of the load restrictions is to protect the highways from break-up during the spring thaw. Restrictions may be placed at other times during the year to protect highways with weak surfaces from load damage. The following tables list the Cass County Spring Load Restrictions. These restrictions are subject to change as conditions warrant. Actual load restriction postings take precedence over those listed here and are in effect when the load restriction signing is in place.

It is the Department's position to not implement Spring Load Restrictions any earlier than necessary. The Department monitors the daily high/low temperatures, which are used to calculate accumulated Freeze and Thaw Indexes. From these indexes, highway engineers can determine when to implement and remove load restrictions.

Be aware that this method is only one decision tool the Department uses to determine when to implement and remove load restrictions. The Department still relies heavily on the existing highway conditions and past experience of its field personnel when making the final decision of when to implement and remove load restrictions.

Implementation and removal of Spring Load Limit Restrictions is highly dependent on weather. It is the Department's desire to protect its roads while minimizing the period the roads are restricted. The implementation and removal dates for the Spring Load Limit Restrictions are determined based on recommendations from field personnel and the Thaw Index. The Thaw Index is the average daily temperature as compared to a temperature of 29 degrees F. Anytime the average daily temperature exceeds 29 degrees F, we feel we have a thawing day. For example, if a day's high and low temperatures are 42 degrees F. and 20 degrees F. respectively, then the average temperature for the day is 31 degrees F ($(20+42)/2=31$). When we compare the day's average temperature of 31 to the previous referenced 29 we find we have 2 degree days of thawing taking place for that day. We monitor these temperatures daily and accumulate the amount of thawing degree days taking place. When the amount of accumulated thawing degree days approaches 25 to 50 degree days, we feel enough thawing has taken place to warrant implementing the spring load restrictions.

	<u>By Legal Weight:</u>	<u>8 TON:</u>	<u>7 TON:</u>	<u>6 TON:</u>
Single Axle	20,000 lbs	16,000 lbs	14,000 lbs	12,000 lbs
Tandem Axle	34,000 lbs	32,000 lbs	28,000 lbs	24,000 lbs
3 Axles or more	17,000 lbs/axle	14,000 lbs/axle	12,000 lbs/axle	10,000 lbs/axle
Max Axle Group	48,000 lbs	42,000 lbs	36,000 lbs	30,000 lbs
Gross Vehicle Weight	105,500 lbs	105,500 lbs	105,500 lbs	80,000 lbs

**CASS COUNTY LOAD RESTRICTION
TABLE**

<i>Highway Number</i>	<i>Location</i>	<i>Approximate Length</i>	<i>Posting Status</i>
1	Steele Co. Line to 1/2 mile N. of Cass 10	21.5	6 Ton
1	Cass 10 to 1/2 mile N.	0.5	Legal Wt.
1	I-94 to 3 miles S. of Cass 12	8	6 Ton
2	Barnes Co. Line to State 38	4	6 Ton
2	Cass 5 to Cass 81	20	6 Ton
2	Cass 81 to Cass 31	7	6 Ton
3	Steele Co. Line to Cass 26	6	6 Ton
3	Cass 26 to Cass 4	7	6 Ton
3	Cass 4 to Ayr	0.5	Legal Wt.
3	Ayr to I-94	11.5	6 Ton
4	Barnes Co. Line to State 38	6	6 Ton
4	State 38 to Cass 3	4	Legal Wt.
4	Cass 3 to Cass 81	26.5	8 Ton
4	Cass 81 to Cass 31	4.5	6 Ton
5	Trall Co. Line to Cass 26	6	8 Ton
5	Cass 26 to Cass 4	7	8 Ton
5	Cass 4 to Cass 32 S. Jct.	5	6 Ton
5	Cass 32 S. Jct. to Cass 10	4	8 Ton
5	Cass 10 to I-94	2	8 Ton
5	I-94 to Cass 6	7	8 Ton
5	Cass 6 to State 46	10	6 Ton
6	Barnes Co. Line to Cass 38	6	8 Ton
6	Cass 38 to State 18	16	8 Ton
6	State 18 to Cass 17	15	6 Ton
6	Cass 17 to Fargo City Limits	1	Legal Wt.
7	I-94 to 42 nd Street SE	5	Legal Wt.
7	42 nd Street SE to Cass 6	2	8 Ton
7	Cass 6 to State 46	10	6 Ton
8	Cass 15 to 1 mile W. of Cass 17	4	6 Ton
9	I-94 to Durbin	4.5	8 Ton
9	Durbin to Cass 16	6.5	6 Ton
9	Cass 16 to State 46	6	6 Ton
10	Cass 1 to State 38	6	8 Ton
10	State 38 thru Buffalo	1	Legal Wt.
10	Buffalo to Cass 5 W. Jct.	8	6 Ton
10	Cass 5 W. Jct. to Cass 23	6	8 Ton
10	Cass 23 to State 18	2	Legal Wt.
10	State 18 to Sheyenne Diversion Bridge	14	8 Ton
11	Hwy 81 to I-29 (Grandin)	0.5	Legal Wt.
11	I-29 (Grandin) to 1.8 miles W.	1.8	7 Ton
11	1.8 miles W. of I-29 to Cass 4	13.0	6 Ton
11	Cass 4 to 1/2 mile N. of I-94	11.5	8 Ton

<i>Highway Number</i>	<i>Location</i>	<i>Approximate Length</i>	<i>Posting Status</i>
11	I-94 to ½ mile N.	0.5	Legal Wt.
12	Cass 1 to Cass 38	6	6 Ton
13	Cass 22 to Cass 20	2	6 Ton
14	Cass 15 to Cass 17	5	6 Ton
14	Cass 17 to Cass 81	5	8 Ton
15	Cass 10 to I-94	1	8 Ton
15	I-94 to Kindred	16	8 Ton
15	Kindred to State 46	1	Legal Wt.
16	Barnes Co. Line to Cass 27	30	6 Ton
16	Cass 27 to Minnesota Line	14	8 Ton
17	I-29 to Cass 10	6	Legal Wt.
17	Cass 6 to Cass 14	4	8 Ton
17	Cass 14 to Cass 16	2	6 Ton
17	Cass 16 to State 46	6	8 Ton
18	Cass 17 to I-29	3.5	6 Ton
18	I-29 to Minnesota Line	2	8 Ton
20	Cass 11 to Cass 17	7	6 Ton
20	Cass 17 to I-29	2.3	8 Ton
21	Cass 14 to Cass 16	2	8 Ton
22	Cass 11 to 2 miles E.	2	8 Ton
22	2 mile E. of Cass 11 to Cass 17	5	6 Ton
22	Cass 81 to Minnesota Line	3	8 Ton
23	Cass 10 to I-94	2	Legal Wt.
25	Cass 81 to 0.4 mile S.	0.4	8 Ton
26	Barnes Co. Line to State 38	6	8 Ton
26	State 38 to Minnesota Line	36	Legal Wt.
27	Cass 16 to State 46	6	6 Ton
28	Main Ave. to Drain 21	1	8 Ton
31	Trails Co. Line to Cass 26 N. Jct.	4	6 Ton
31	Cass 26 N. Jct. to Cass 26 S. Jct.	2	Legal Wt.
31	Cass 26 S. Jct. to Cass 22	12	6 Ton
31	Cass 22 to Cass 20	4	8 Ton
32	Cass 1 to Absaraka	13.5	6 Ton
32	Absaraka to Cass 5	1.5	8 Ton
32	Cass 5 to Cass 81	22	6 Ton
34	Cass 5 to Minnesota Line	27	6 Ton
36	State 18 to Cass 16	17	6 Ton
38	I-94 to State 46	17	Legal Wt.
81	Trails Co. Line to Cass 20	21	8 Ton
81	76th Ave. S. to State 46	10	8 Ton