# Starting at 9:30 A.M.

# **2024 State Assessed Property Fall Forum**





# **2024 State Assessed Property Fall Forum**

November 20, 2024

## Disclaimer

This presentation is for educational purposes only and does not provide tax advice. It is meant to accompany an oral presentation and not to be used as a standalone document.

This presentation is based on the facts and circumstances being discussed, and on the laws in effect when it is presented. It does not supersede or alter any provisions of Minnesota laws, administrative rules, court cases, or revenue notices.

If you have any questions, contact us at sa.property@state.mn.us or consult a tax professional.

# Agenda

- Department updates
- Minnesota Department of Transportation
- BNSF Railway
- Lunch
- Minnesota Geospatial Information Office (MNGEO)
- State Assessed Property GIS Resources
- Group Activity

Idea for a Gross
Operating
Revenues Tax



# Open Minnesota Tax Court Petitions

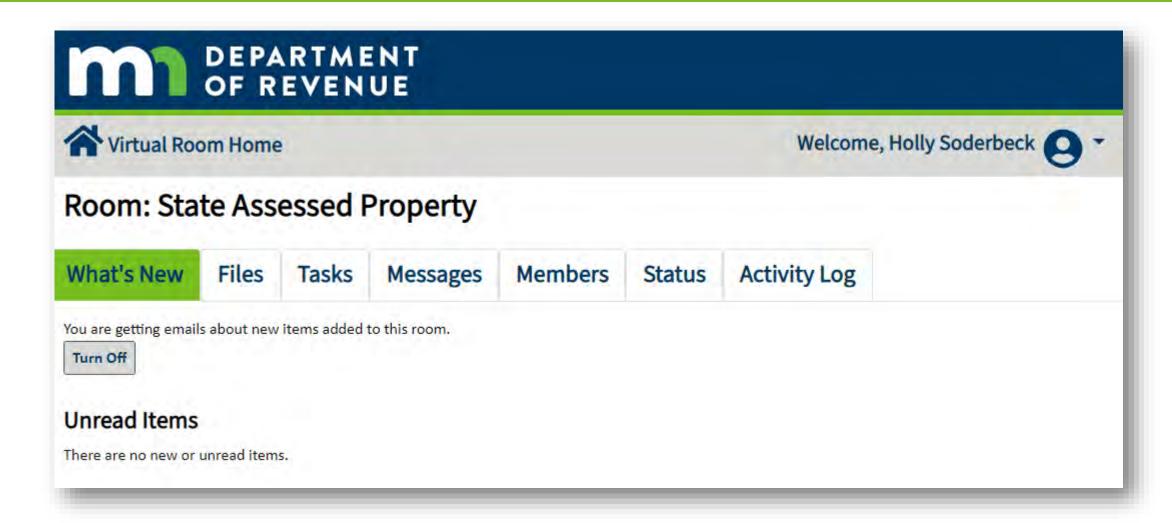
Company/Cooperative	Assessment Year
Blue Earth Nicollet-Faribault Coop. Assoc.	2023, 2024
Connexus Energy	2023, 2024
Dakota Electric Assoc.	2023, 2024
Mille Lacs Energy Coop.	2024
Minnesota Valley Electric Coop.	2023
People's Energy Coop.	2023
Stearns Cooperative Electric Assoc.	2023, 2024
Steele Waseca Coop.	2023, 2024
REMC Assets LP / Nexus Line LLC	2023, 2024
Minnesota Energy Resources Corp.	2024

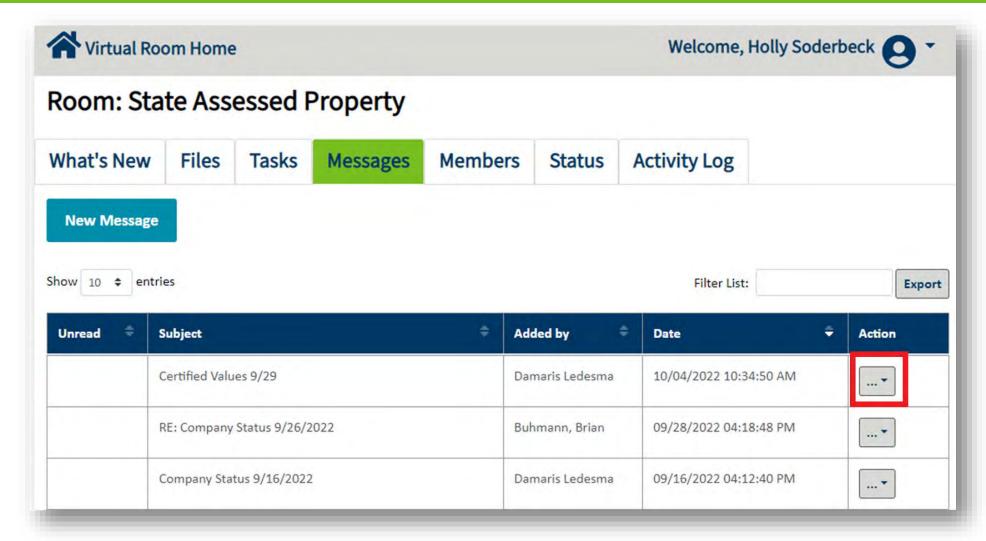


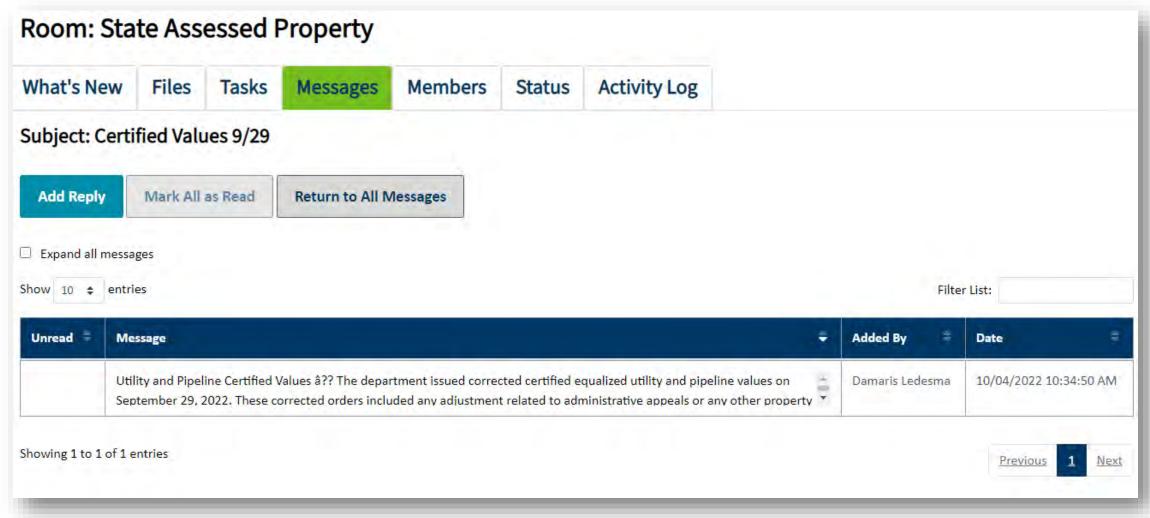


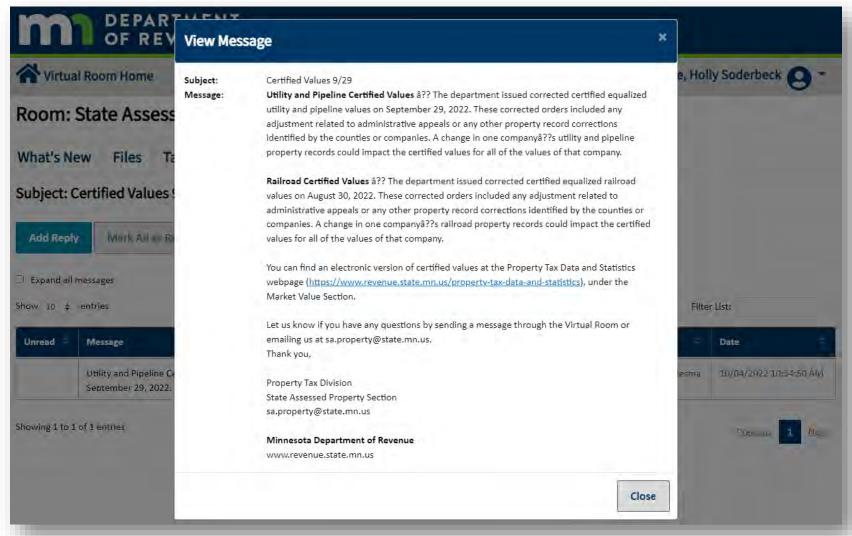
# **State Assessed Property Virtual Room (for Counties)**

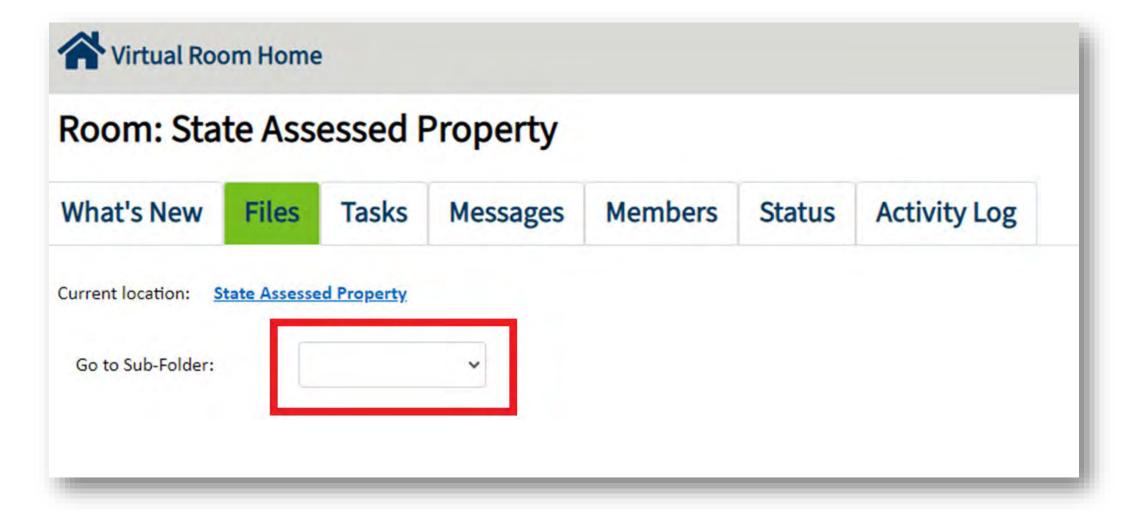
- Voluntary
- Provides timely information of the impact of administrative appeal settlements to the certified values

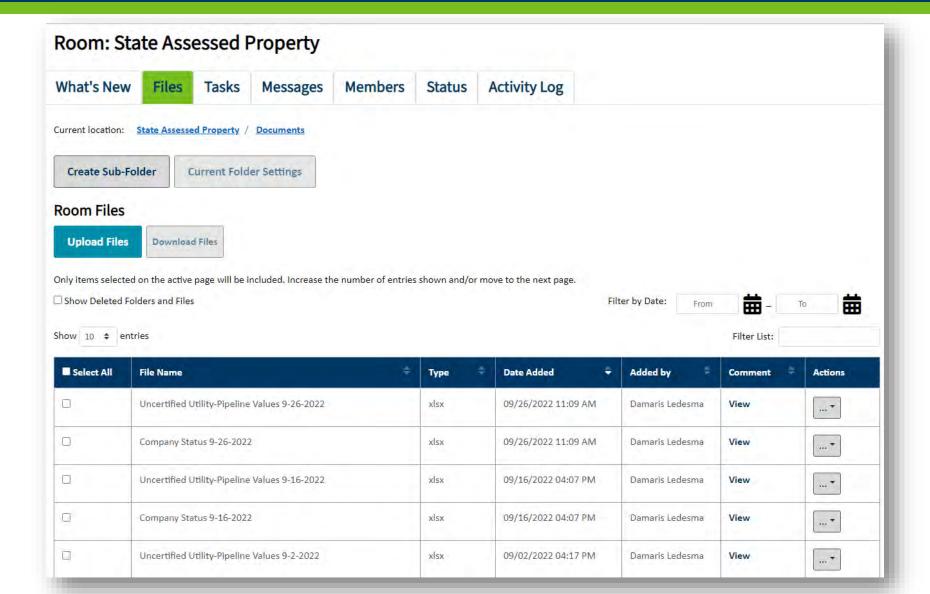












Railroad, Utility, and Pipeline 2022 Valuations DEPARTMENT OF REVENUE Company Status Appeal Date Latest Date for Appeal Deadline Date Admin Date of Conference Appeal Settlement or **Company Name** (w/o Appeal Valuation Scheduled Determination Determination Requested Extension) 20 days 30 days Date 30 days 7/5/2022 8/4/2022 7/22/2022 8/1/2022 8/31/2022 8/3/2022 6/30/2022 6/30/2022 7/18/2022 5/31/2022 7/13/2022 8/12/2022 5/31/2022 6/30/2022 6/30/2022 7/13/2022 8/12/2022 7/18/2022 5/31/2022 6/30/2022 6/27/2022 7/12/2022 8/11/2022 8/1/2022 6/22/2022 7/11/2022 5/26/2022 6/25/2022 8/10/2022 8/2/2022 6/25/2022 7/6/2022 7/28/2022 5/26/2022 6/22/2022 8/5/2022 5/26/2022 6/25/2022 6/22/2022 7/11/2022 8/10/2022 8/2/2022 5/27/2022 6/26/2022 6/15/2022 6/28/2022 7/28/2022 7/7/2022 5/26/2022 6/25/2022 6/6/2022 6/21/2022 7/21/2022 6/22/2022 8/4/2022 7/5/2022 8/4/2022 7/5/2022 8/4/2022 8/4/2022 7/5/2022 8/4/2022 8/3/2022 8/4/2022 7/5/2022 8/3/2022 6/15/2022 7/30/2022 7/29/2022 8/18/2022 9/17/2022 7/5/2022 8/4/2022 7/28/2022 9/16/2022 8/17/2022 7/1/2022 7/31/2022 7/27/2022 8/15/2022 9/14/2022 7/1/2022 7/31/2022 7/27/2022 8/4/2022 9/3/2022 6/28/2022 7/28/2022 7/27/2022 8/16/2022 9/15/2022 7/20/2022 7/27/2022 9/15/2022 Working together to fund Minnesota's future www.revenue.state.mn.us

Uncertifie	d Sta	ate Assessed Util	lity and Pip	eline Market	Values (Asse	ssment Year 2022)							
This spreadsheet is intended to be an unofficial copy of the utility and pipeline operating property values. These are not ceritified equalized values. The department will issue corrections to the certified equalized utility and pipeline values										es by			
You can filte	You can filter and sort by each column.												
Dated: 9/2	Dated: 9/26/2022												
County	-1	Company	COMP	DOR ID	Parcel II	City/Township	Property Name	New Or Retired	Property Type	County	Prior Year	Current Year	C
Name	ш	Name 🔻	ID 🔻	DOTTID -	1 dicerii	Name	Troperty Name	Property	Description	Notes 🐣	Cost	Additions	Re
AITKIN		ALLETE INC	049	0001	01-6-000400	AITKINTOWNOF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 331,749	\$ -	\$
AITKIN		ALLETE INC	049	0001	01-6-000401	AITKINTOWNOF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 247,383	\$ -	\$
AITKIN		ALLETE INC	049	0002	12-6-000100	HILL LAKE TOWN OF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 304,491	\$ 1,03	1 \$
AITKIN		ALLETE INC		0002	12-6-000101	HILL LAKE TOWN OF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 233,831	\$ -	\$
AITKIN		ALLETE INC		0003	15-6-000100	KIMBERLY TOWN OF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 337,225	\$ -	\$
AITKIN		ALLETE INC	049	0003	15-6-000100	KIMBERLY TOWN OF	TRANSMISSION LINES (roads, trails	Pre-Existing	Structure, Leased Land	none	\$ 209	\$ -	\$
AITKIN		ALLETE INC	049	0003	15-6-000101	KIMBERLY TOWN OF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 260,947	\$ -	\$
AITKIN		ALLETE INC	049	0004	20-6-000300	MACVILLE TOWN OF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 1,323,890	\$ 1,086	\$
AITKIN		ALLETE INC	049	0004	20-6-000301	MACVILLE TOWN OF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 451,642	\$ -	\$
AITKIN		ALLETE INC	049	0005	27-6-000100	SALO TOWN OF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 328,906	\$ -	\$
AITKIN		ALLETE INC	049	0005	27-6-000101	SALO TOWN OF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 259,483	\$ -	\$
AITKIN		ALLETE INC		0006	30-6-000100	SPALDING TOWN OF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 340,387	\$ -	\$
AITKIN		ALLETE INC	049	0006	30-6-000101	SPALDING TOWN OF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 261,879	\$ -	\$
AITKIN		ALLETE INC	049	0007	31-6-000800	SPENCER TOWN OF	none	Pre-Existing	Elec Trnsm > or = 69kV C	none	\$ 345,346	\$ -	\$
AITKIN		ALLETE INC	049	0007	31-6-000801	SPENCER TOWN OF	DISTRIBUTION	Pre-Existing	Elec Dist Lines Twp	none	\$ 262,545	\$ -	\$

DEPARTMENT OF REVENUE

049

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ALLETE INC

ALLETE INC.

ALLETE INC

EAST CENTRAL ENFO70

EAST CENTRAL ENFO70

ENBRIDGE ENERGY 044

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69-0-001000 NONE

69-0-001000 NONE

33-6-000700

34-6-013102

06-6-000400 | CORNISH TOWN OF

33-6-000800 VERDONTOWN OF

33-6-000900 VERDONTOWN OF

20-6-000600 MACVILLE TOWN OF

57-6-029600 HILL CITY CITY OF

20-6-050400 MACVILLE TOWN OF

58-6-000100 MCGRATH CITY OF

42-6-039300 Township 51, Range 22

| 06-6-042400 | Township 51, Range 23 (| none

33-6-041200 McGregor School District none

33-6-045100 | Aitkin School District and none

43-6-000300 UNORG 52-22

69-0-002000 UNORG TWP

VERDON TOWN OF

WAGNER TOWN OF

н

Pre-Existing

New

New

New

New

New

Elec Dist Lines Twp

Elec Trnsm > or = 69kV Ul none

Elec Trnsm > or = 200kV ( none)

Elec Trnsm > or = 200kV ( none

Elec Trnsm > or = 69kV C none

Structure, Owned Land Inone

Structure, Owned Land Inone

Elec Dist Lines City

Trans Pipeline

Trans Pipeline

Trans Pipeline

Trans Pipeline

Trans Pipeline

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none

- \$

75,532 \$

9,101 \$

5,409 | \$

3,477 | \$

33,191 \$

70,451 \$

28,755 \$

62,279,256 \$

24,503,314 \$

37,775,942 \$

16 63,300,228 \$

82 \$

- \$

995 \$

364 \$

1,074,836 | \$

1,305,775 \$

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\$

330,099 \$

196,179 \$

13,200 \$

126,118 \$

324,702 \$

850,014 \$

23,581 \$

2,463 \$

38,890 \$

9,590,933 \$

\$

RURAL DISTRIBUTION LINES

250KV LINE MNDC

RADIO TOWER

DISTRIBUTION LINES

SWATARA TAP to Enbridge

none

none

none

RURAL TRANSMISSION LINES

#### Become a member of the State Assessed Property Virtual Room

Email <a href="mailto:sa.property@state.mn.us">sa.property@state.mn.us</a> with your:

- Name
- Email
- Phone Number
- Position
- Jurisdiction (county/city/etc.)



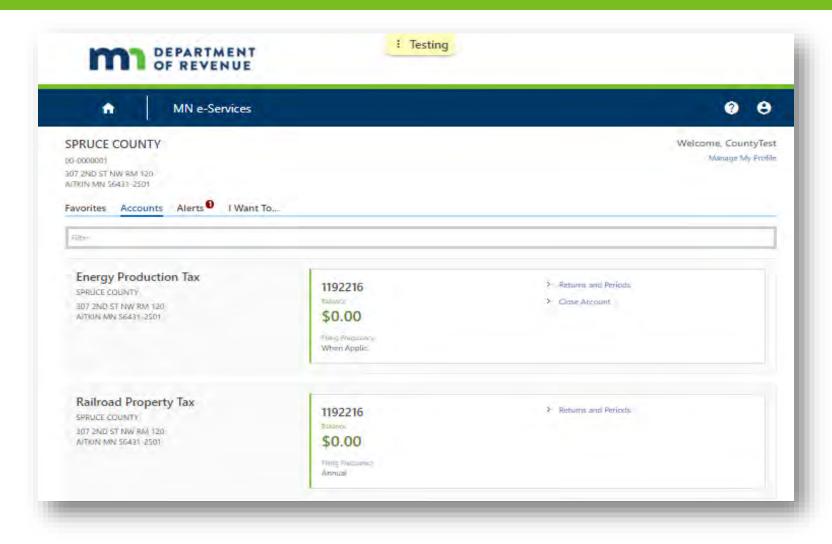


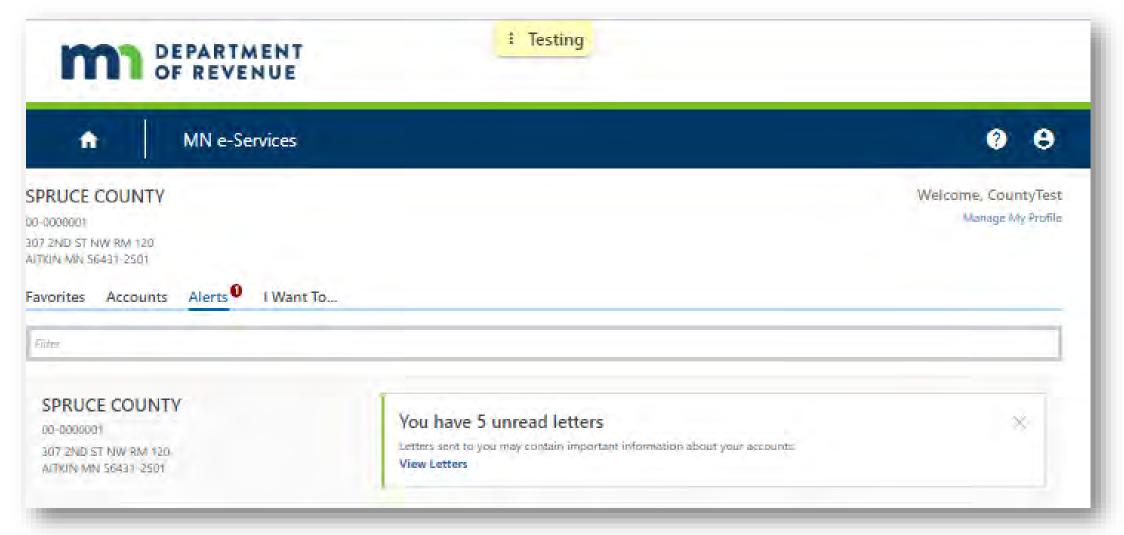
Every county and state assessed company has an e-Services account, with multiple "tax type" accounts linked.

Examples include:

Statewide Property Tax, Railroad, Utility and Pipeline, Solar Energy Production Taxes, etc.

Counties and companies can add multiple users and limit access based on user needs.









#### SPRUCE COUNTY

Not all littress mailed to you are available for viewing in e-Services.

Letters will not be available online until five business days after they have been mailed.

#### Letters

Letters older than 36 months can be found using the search.

SPRUCE COUNTY

00-0000001

Printed Labor.

#### Inbox Archived Search

Letters Aronye All Const					
Sent	Туря	Account	Account (D	Perfied	
01-May-2022	County Final Apportionment	SA Property	1192216		Archive
01-May-2022	County Railroad Values	Railroad Property Tax	1192216		Archive
10-Feb-2022	Wind Energy Notice to County	Energy Production Tax	1192216	31-Dec-2021	Archive
10-Feb-2022	Solar Energy Notice to County	Energy Production Tax	1192216	31-Dec 2021	Archive
10-Feb-2022	Property Tax Free Form	Energy Production Tax	1192216		Archive 22

#### **Access Types:**

- e-Services Master: can view, file, and/or pay one or more accounts. They can add, delete, and change security levels for all users.
- Account Manager: can view, file and/or pay for one or more accounts.
- **User access:** determined by the e-Services Master. Can allow users All Access, file only, pay only, or view only.





# **Utility and Pipeline Reports in e-Services**

# **Utility & Pipeline in e-Services**

#### **Utility & Pipeline Reports in e-Services:**

- Added efficiency and security to our report filing process
- Greatly decreased the amount of email communication

# **Utility & Pipeline in e-Services**

### Planned improvements to the e-Services filing system:

- Attachment screen for Property Record Report filing
- Allow importing the Property Record Report on amends
- Display in e-Services the attachments that were submitted by a company
- Valuation letter updates

# **Utility & Pipeline in e-Services**

Other feedback or ideas on the e-Services Filing System?

Email us at sa.property@state.mn.us





# **Construction Work in Progress (CWIP)**

#### What is Construction Work in Progress (CWIP)?

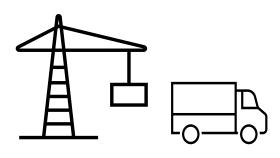
• Costs associated with construction of plant that is not yet complete.

#### **CWIP** is **not** taxable if:

- 1.) It is locally assessed property (i.e. Office Buildings)
- 2.) Property that will not be taxable when it is placed in its permanent location (i.e. Solar Energy Generating System)
- 3.) CWIP not yet placed in its permanent location.

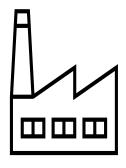
#### **Example of non-taxable Construction Work in Progress**

Property not installed at permanent location



Non-taxable

Property placed in its permanent location



**Taxable** 

#### How to report CWIP on the Property Record and Market Value Report?

- Taxable CWIP must be reported on Property Record and Market Value Report.
- Non-taxable and locally assessed CWIP should be listed as excludable on the Market Value Report, and omitted on the Property Record Report.
- You must state why it is non-taxable or locally assessed on the Market Value Report.

\* See Market Value Report instructions for more detail.



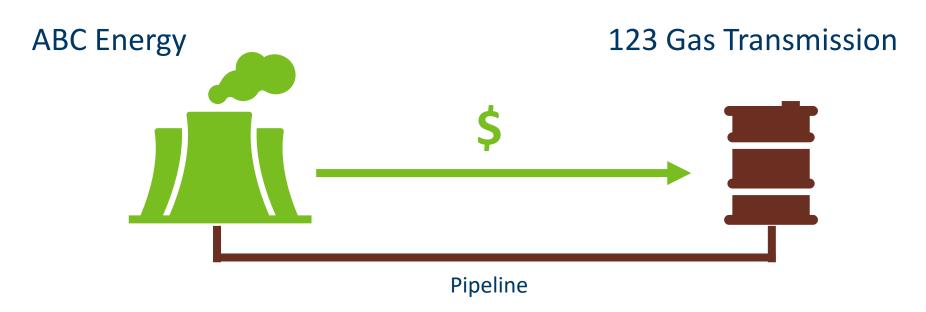


#### What is Contributions in Aid of Construction (CIAC)?

Money paid to a company to be used directly or indirectly for the construction or acquisition of property.

#### **Contributions in Aid of Construction (CIAC)**

#### **Example:**



#### How to report CIAC on the Property Record and Market Value Report?

- CIAC paid to others
  - Considered non-operating, if it is not associated with property that is part of the company's operations. Should be excluded, if it is included in company's system plant costs reported to the State.
- CIAC received from others
  - Considered operating, if the CIAC is associated with property that is part of your operations. Must be included in your system plant costs in the Market Value Report and accounted for in your Property Record Report. Not excludable unless it is associated with property that would otherwise be excludable.





### **PRISM & Assessment Codes, and Tax Rates**

### **PRISM Review**

### **PRISM Review of State Assessed Records**

### **Assessment Codes Tables**

### **Example:**

		Assessment Codes	
Distribution Line in City K50, D04	200	)	

# **Assessment Codes Tables**

Property Type Description	Property Type (Abbreviated)	PRISM - Property Type	PRISM - Property Subtype
Structure on Leased or Unowned Land	Structure, Leased Land	K10	D04
Structure on Owned Land	Structure, Owned Land	K10	D02
Electric Generating Machinery	Elec Gen Machinery	K20	D04
Other Machinery	Other Machinery	K30	D04
Electric Transmission Lines under 69 kilovolts	Elec Trnsm < 69kV	K41	D03
Electric Transmission Lines 69 kilovolts or more Inside a City or Organized Township	Elec Trnsm > or = 69kV Cty Org	K42	D04
Electric Transmission Lines 69 kilovolts or more in an Unorganized Twp	Elec Trnsm > or = 69kV Unorg	K42	D03
High Voltage Transmission Lines (100- 200 kilovolts) in an Unorganized Township, built after 7/1/1974	Elec Trnsm 100-200kV Unorg Blt	K43	D03
High Voltage Transmission Lines (200 kilovolts or more) in a City or Organized Township, built after 7/1/1974	Elec Trnsm > or = 200kV CtyOr	K44	D04
High Voltage Transmission Lines (200 kilovolts or more) in an Unorganized Township, built after 7/1/1974	Elec Trnsm > or = 200kV Unorg	K44	D03
Electric Distribution Lines Outside of a City	Elec Dist Lines Twp	K50	D03
Electric Distribution Lines in a City	Elec Dist Lines City	K50	D04
Personal Property of a Gas Distribution Utility	Gas Distrib Utility	K60	D04
Personal Property of a Water Utility	Water Utility	K70	D04
Personal Property of a Transportation Pipeline	Trans Pipeline	K75	D03
Railroad	Railroad	L00	D01

### **Assessment Codes Tables**

### What next?

- Work with vendors to help clean up the assessment codes used for state assessed property
- Cleaner PRISM submissions, and internal state assessed property records

# Tax Rate Application for State Assessed Property

### **Common Questions**

Are all electric distribution lines taxed at the countywide average tax rate?

Yes. Electric distribution line in the city, and electric distribution line outside of a city are both subject to the county wide average tax rate.

Can a company get multiple preferred rate applications in a county?

No. A company receives one preferred rate per county. Meaning all of a company's property should be linked for purposes of applying the preferred rate.

# **Tax Rate Application**

### **Tax Rate Application to Utility & Pipeline Property**

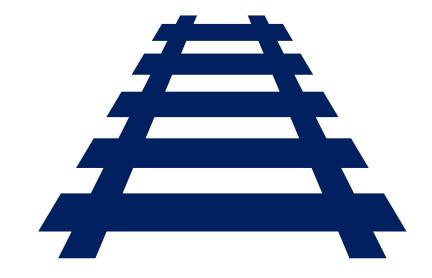
https://www.revenue.state.mn.us/tax-rates-utility-and-pipeline-property





### Railroad "Ties"

### What connects us?





# **Minnesota Department of Transportation**



# Railway Highway Crossing Program

### **State Assessed Property Fall Forum**

11/20/2024



# **Railway Highway Crossing Program Overview**

### Section 130 Program

- Elimination of hazards at public crossings
- Correlated with a significant decrease in fatalities Nationally
  - 41% from 2000 to 2023
- Overall reductions despite an increase in vehicle miles traveled

12/26/2024

# Program Funding Priorities – Program-wide



### Federal Section 130 funds - \$6,000,000 Annually

- 1. Program support:
  - Annual Inventory data collection \$200,000/year
- 2. Closures/Consolidations of crossings
- 3. Installation of active warning devices (risk-based selection process)
- 4. Replace malfunctioning, obsolete or antiquated systems

12/26/2024

# Minnesota Grade Crossing Facts

- There are approximately 4,000 at-grade public crossings
- Of the 4,000 public crossings over a third have active warning devices (Gates, Flashers).
- Over 85% of trips (AADT) and 60% of trains cross at active crossings







U.S. Department of Transportation Federal Railroad Administration

### FRA District 4 Grade Crossing and Trespasser Outreach Information

Illinois\*, Indiana, Michigan, Minnesota, and Wisconsin \*D4 & D6 data included for Illinois.

### District 4 Railroad System

124 Railroads

37,903 At-Grade Railroad Crossings (*Public, Private, and Pedestrian*)

### 5-Year Grade Crossing Trends

(2019-2023 and includes Public and Private Grade Crossings)

**Fatalities** 45

(2019)

(2023)

### 5-Year Trespassing Trends (2019-2023, suicide fatalities NOT included)

**Fatalities** 

(2019)

(2023)



### **Grade Crossing Fatalities**

(2019-2023 and includes Public and Private Grade Crossings)











### **Trespassing Fatalities**

(2019-2023, suicide fatalities NOT included)











### Nationwide Public At-Grade Crossings

56%

Active

(with gates, bells, and/or flashing lights) Passive

44%

(with signs and markings, but not active warning devices)

### **Nationwide Incident Statistics**

people or vehicles are hit by a train daily.

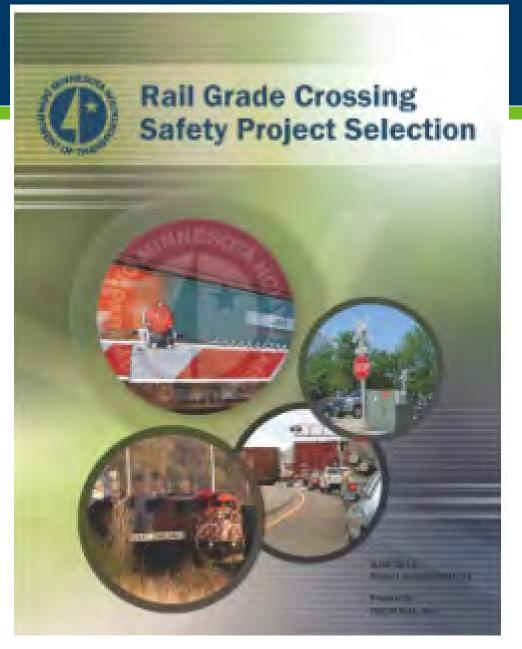


96%

of rail-related fatalities over past 10 years are due to railroad grade crossing and trespassing incidents.

# Risk Rankings

- 2016 Rail Grade Crossing Safety Project Selection
- Each Crossing is assigned a risk ranking based on existing conditions at the crossing
  - Roadway Volume
  - Number of Trains
  - Speed
  - Distance to nearest Intersection
  - Clearing Sight Distance
  - Approaching Sight Distance



### SELECTED RISK FACTORS

Risk Factors	Active		Passive		
NISK FACIOIS	Minimum	Maximum	Minimum	Maximum	
Volumes					
Roadway AADT*	2500	Unlimited	150	Unlimited	
Total Trains per Day *	10	Unlimited	4	Unlimited	
Volume Cross Product *	20,000	Unlimited	750	Unlimited	
Speeds					
Roadway Speed Limit	45	Unlimited			
Maximum Timetable Speed *	31	Unlimited	36	Unlimited	
Design					
Number of Mainline Tracks *	2	Unlimited			
Skew	≥15°		≥15°		
Surroundings					
Distance to Nearby Intersection	1 foot	99 feet	40 feet	160 feet	
Distance to Nearest Crossing	0.5 mile	1 mile	0.5 mile	1 mile	
Clearing Sight Distance	Any Quadrant Fails		Any Quadrant Fails		
Approaching Sight Distance			Any Quadrant Fails		

<sup>\*</sup> Data is also an input in the USDOT Accident Prediction Model

# Solicitation Steps

- 1. OFCVO prescreens list of eligible projects (Grade Crossing Control Locations)
  - 1. Risk factors
  - 2. Preliminary site review
- 2. Complete list of Grade Crossings Control Locations posted on MnDOT website
  - 1. List indicates which crossings are eligible
- 3. RDCs, MPOs, Counties, Cities, Townships, Railroads and MnDOT districts notified they have an eligible crossing
- 4. LRA & RR submits prioritized list of project locations
- 5. Solicitation Closes
- 6. Project selection begins
  - 1. Projects ranked
  - 2. Site Visits if needed
- 7. RDCs, MPOs, Counties, Cities, Townships, Railroads and MnDOT districts notified what projects have been selected

12/26/2024

### St. Louis TWO HARBORS MINNESOTA DULUTH SUPERIOR BOYLSTON Canton Luke SANDSTONE Mille Lacs HINCKLEY Kanabec WISCONSIN CAMBRIDGE **ANDOVER** COON RAPIDS ST. PAUL CITIES MINNEAPOLIS **INCKLEY CORRIDOR** OTHER RAIL

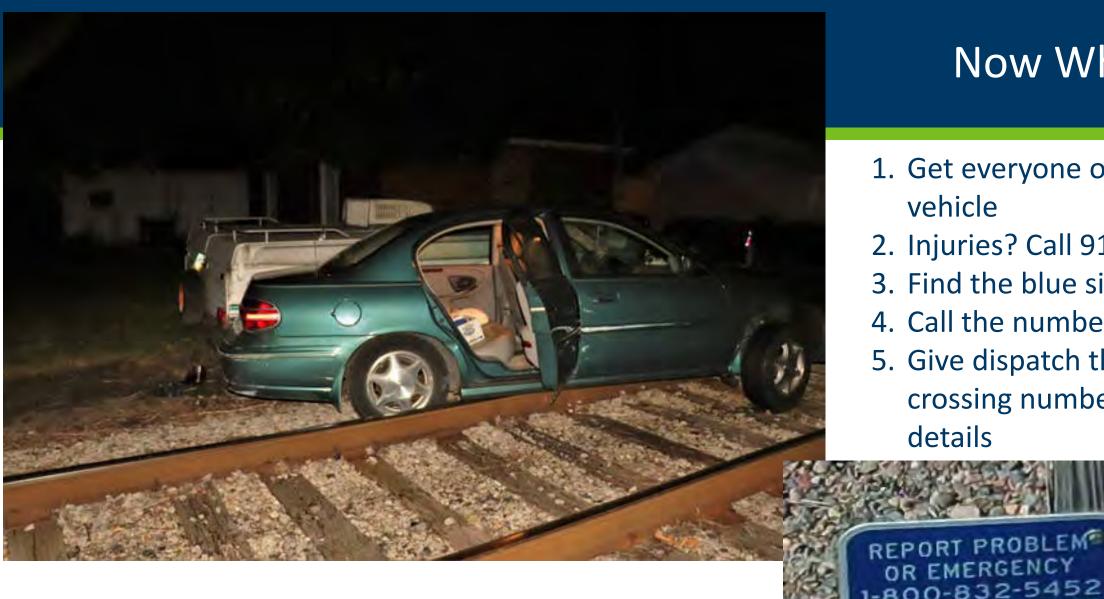
### The Future of Rail Safety in Minnesota

### **Railroad Crossing Elimination Grant Program** (RCE)

### 2022 RCE grant for Hinckley Corridor Study

Data-driven analysis to identify and prioritize projects that will drive a measurable improvement in safety outcomes for motorists and pedestrians along the corridor.

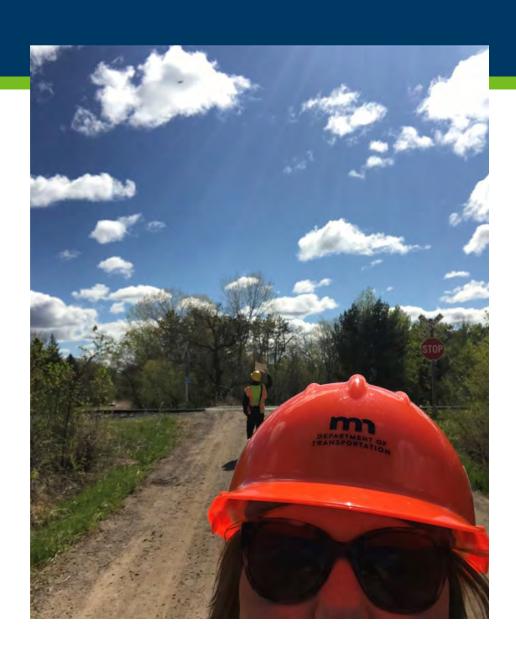
mndot.gov



### Now What?

- 1. Get everyone out of the vehicle
- 2. Injuries? Call 911
- 3. Find the blue sign
- 4. Call the number
- 5. Give dispatch the US DOT crossing number and the details

### Contacts



Julie M. Whitcher, P.E., PTOE

State Rail Safety Engineer 612-518-2817
<a href="mailto:Julie.Whitcher@state.mn.us">Julie.Whitcher@state.mn.us</a>

mndot.gov 11

### Freight, Railroads & Waterways







# State Assessed Property Fall Forum at the Department of Revenue

Presented by: Freight, Rail and Waterways Unit |
Office of Freight & Commercial Vehicle Operations
November 20, 2024



# Agenda

Time

**Topic** 

Rail Safety Inspection Program & Minnesota Rail Improvement Program Kelly Christenson

Positive Train Control Brent Lunde

Grade Crossing Program
Julie Whitcher

# Office of Freight and Commercial Vehicle Operations

Freight, Railroads & Waterway (Torey Hunkus)

Rail Safety Coordination & Weigh Stations (Julie Whitcher)

Freight & Rail Program (Kelly Christenson)

Freight and Rail Planning (Andrew Andrusko)

<sup>\*</sup>Passenger Rail Unit

<sup>\*</sup>Commercial Vehicle Operations



### FREIGHT AND RAIL PROGRAMS

- ➤ 6 State Safety Rail Inspectors
- ➤ 2 Grant Program Coordinators

# Kelly Christenson, Freight and Rail Supervisor

# State Rail Safety Inspectors

Mn Statute Section §219.015 (subd. 1 & subd. 2b)

- The commissioner of transportation must establish a state rail safety inspection program that includes up to six state rail safety inspectors. (subd 1 and subd. 2b).
- The commissioner shall apply to and enter into agreement with the Federal Railroad Administration (FRA) to participate in the federal State Rail Safety Participation program to train and certify inspectors under CFR, title 49 part 212.



# State Rail Safety Inspectors

- ➤ Track & Structures (2)
- ➤ Motive Power & Equipment (1)
- ➤ Signal & Train Control (1)
- ➤ Operating Practices (1)
- ➤ Hazardous Materials (1)



# State Rail Safety Inspectors

### Information on Rail Inspectors

- Experience with Class I railroads.
- ➤ In addition, some inspectors also have Class III railroad experience.
- > Hazardous Materials Inspector had many years of experience in Commercial Trucking.
- ➤ 2 Trainings a year Recurrency to get Recertified & an annual Training.
- > Federal Rail Administration Local/Regional contacts for each inspector.
- ➤ Monthly Team Meetings, Coordinate with MnDOT Legal and other FRW members.

# More information on Inspectors

- ➤ Cover the state/year round
- ➤ Coordinate with each other/FRA.
- ➤ Observe and Interview Rail Employees.



- ➤ Verify information, answer questions of Rail Employees
- ➤ Write reports that are submitted to FRA on defects, violations.

# Railroad Safety State Participation Grant Program



- ≥33 states currently participate
- >Covers cost of computers for inspectors
- ➤ Travel costs for Inspectors to attend FRA Trainings
- ➤ Grant Based, Application to apply, Submit for Reimbursements





# Minnesota Rail Service Improvement Program (MRSI)

Program Coordinator: Meredith Alt (Meredith.Alt@state.mn.us)

# Rail Service Improvement Program

Established in 1976, strengthens Minnesota's shipping economy by providing financial assistance to improve rail service and support economic development in the state.

### Loan Program

- Provides no-interest loans to railroads and shippers for rail projects that increase freight rail use
- Maximum loan amount is \$200K

### Grant Program

 MnDOT issue grants for "freight rail service improvements that support economic development"



# Purpose & Eligibility

- The MRSI Program provides grants and loans for freight rail service improvement projects that support economic development in accordance with Minnesota Statutes §222.50, Subdivision 6.
- Eligible Applicants include:
  - Railroads
  - Rail users
  - Local units of government



# MRSI Funding

### Funding available: General Funds and/or General Obligation Bond Funds

- State general funds come from the state's primary cash revenue source (taxes, etc.)
- Funding with general obligation bonds which is debt-based funding.
- Applicants are not required to provide a funding match. However, applicants are encouraged to pursue funding from a variety of sources. This application requests information on non-MRSI funding sources and MnDOT does consider this information in the application scoring.
- Most recently 2023 MN Legislature appropriated \$9.6 million in GO Bonds to the MRSI program.

mndot.gov 13

# Eligible Projects

- A project must be for a major rail service improvement that supports economic development.
- Grant funds can only be used for direct railroad-related "fixed assets" on railroad right-of-way or railroad facilities.
  - Fixed assets are items that cannot easily be moved from one site to another.
- Examples: Railroad tracks and turnouts, fixed loading and unloading facilities, Railroad components of intermodal facilities (etc.)

# Most recent projects (sampling) awarded grants

https://www.dot.state.mn.us/ofrw/railroad/MRSI.html Past Grants Grants/Awarded Projects

➤ Minnesota Northern Railroad Company \$1,565,451 Crookston Industrial Park and Innovation Center

➤ Louisiana Pacific Corporation \$1,500,000 Louisiana – Pacific Watkins Rail Improvements

➤ Nexus Cooperative:

Phase 2 Rail Loader & Storage: \$1,900,000

➤ Meadowlands Farmers Co-op: Echo Agronomy Siding Track Construction: \$1,106,942

➤ American Crystal Sugar Company \$960,000 Crookston Packaged Product Rail Transportation Capacity Increase

### Challenges and Opportunities

- ➤G.O. Bond Funds has many requirements
- ➤ State Rules are added
- ➤ Projects Change
- ➤ General Funds don't expire Bond Funds expire.



### Thank you

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### PTC Positive Train Control

# Positive Train Control

What's being covered

- What PTC is at its core
- Why PTC was mandated
- How PTC works
- What the future of PTC possibly looks like

# >\$780 Billion Dollars

 The total cost spent to date to implement Positive Train Control by the government, railroads, and private businesses has exceeded \$780 billion dollars to date.

### What is Positive Train Control?

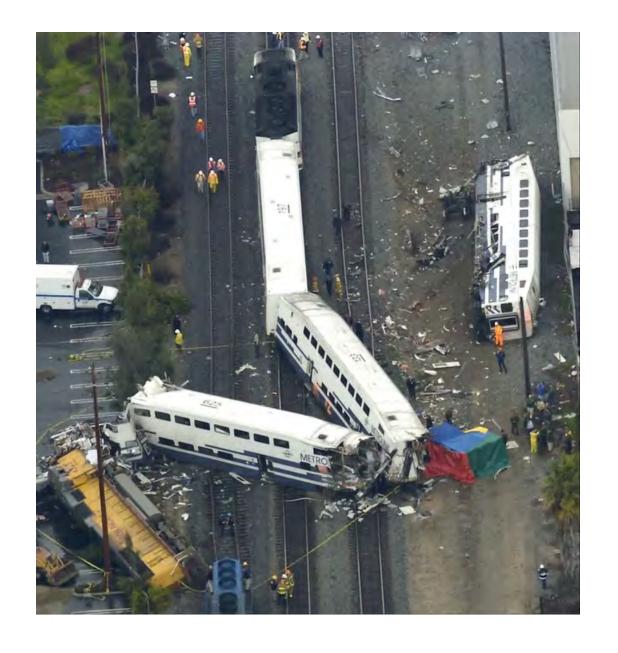
- Positive Train Control (PTC) is a safety system that uses GPS, wireless radio, and computing technology to prevent:
  - Train-to-train collisions
  - Derailments
  - Incursions into established work zone limits
  - Movement of a train through a switch left in the wrong position

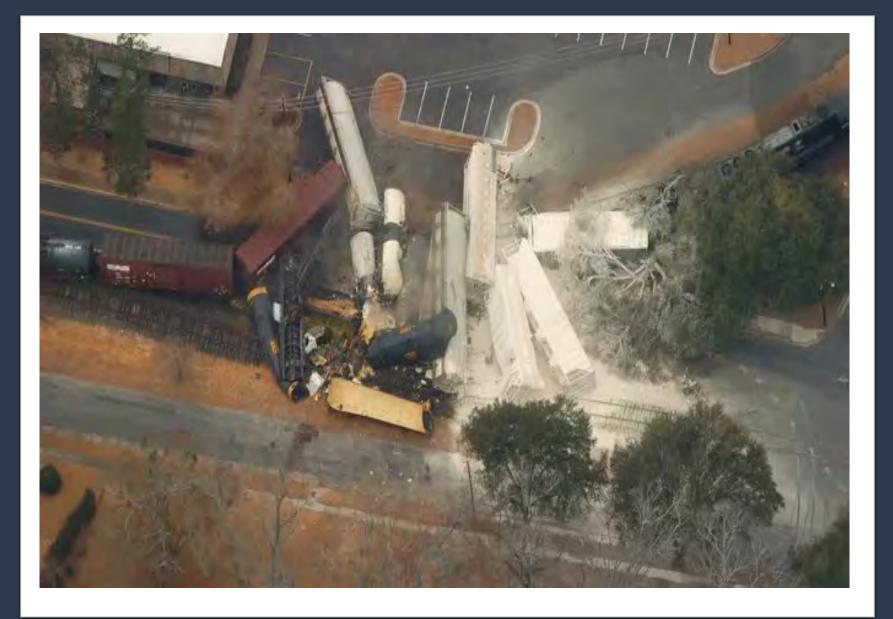
### What is Positive Train Control?

### PTC must also include safetycritical integration of:

- All track authorities
- Indications of wayside or cab signal systems
- Other similar appliance, method, device, or system of equivalent safety
- Must provide an appropriate warning or enforcement when:
  - A derail or switch protecting access to the main line is not in its derailing position
  - A mandatory directive is issued associated with a highway-rail grade crossing warning system malfunction
  - An after-arrival mandatory directive has been issued and the train or trains to be waited on has not yet passed the location of the receiving train
  - Any movable bridge within the route ahead is not in a position to allow permissive indication for a train movement
  - A hazard detector integrated into the PTC system that is required by regulation

Why was
Positive
Train
Control
Mandated?





The Graniteville train crash was an American rail disaster that occurred on January 6, 2005, in Graniteville, South Carolina. At roughly 2:40 am EST, two freight trains collided near the Avondale Mills plant in Graniteville.

The consequences of the Graniteville, South Carolina train collision were avoidable.

- 9 Deaths
- •250 people were treated for toxic chlorine exposure
- •5,400 people had to be evacuated
- The cause of the incident was found to be a misaligned switch



On September 12<sup>th</sup> 2008 at 4:22 PM a commuter passenger train collided head on with a freight train in Chatsworth Illinois.

The consequences of the Chatsworth train collision were devastating, and avoidable.

- 25 Deaths
- 135 people injured
- NTSB found that a Positive Train Control system would have prevented the incident.

# What caused the Chatsworth Collision?

 The 2008 Chatsworth train collision was caused by a commuter train engineer who was texting while on duty, which led to the train passing a red signal and colliding with an oncoming freight train:

#### Texting

- The engineer was texting a message at 4:22:01 PM and received one at 4:21:03 PM, and the accident occurred at 4:22:23 PM.
- Positive train control (PTC) system
- The NTSB found that a PTC system could have likely prevented the accident by automatically braking the commuter train prior to it passing the red signal.

### New Legislation RSIA 2008

 34 days after the Chatsworth train collision, on October 16, 2008, the President of the United States signed into law the Rail Safety Improvement Act of 2008.

### RSIA 2008

• The Rail Safety Improvement Act of 2008 (RSIA) is a federal law that was passed by Congress to improve railroad safety. The act was a response to several fatal train accidents that occurred between 2002 and 2008. The RSIA's main provisions include:

#### Positive Train Control (PTC)

• The act mandated that PTC technology be installed on most of the US railroad network by 2015. The deadline was extended multiple times and was finally met on May 1, 2021.

#### • New safety regulations

 The act authorized the Federal Railroad Administration (FRA) to create new safety regulations for railroad safety. These regulations cover a range of topics, including a change in the hours of service for railroad workers, track inspections, and locomotive conductor certification.

#### Fatigue management plans

• The act emphasized the importance of fatigue management plans for train and engine workers.

### PTC RSIA Legislation

- The Rail Safety Improvement Act 2008 (RSIA'08) requires
  - Railroads to install PTC on all lines carrying passenger and Toxic-by-Inhalation Hazmat goods
- About 2/3 of all Class I US lines, ~60,000 route miles
- Per RSIA '08, PTC is defined as a system designed to prevent:
  - Train-to-train collisions,
  - · Derailments,
  - Incursions into established work zone limits,
  - Movement of a train through a switch left in the wrong position
  - Other functions are applicable within the requirements as specific conditions warrant.
- PTC is designed to provide protection against human error

### Sohow does PTC work?

PTC systems use communication-based and processor-based train control technology to reliably and functionally prevent train-to-train collisions, overspeed derailments, incursions into established work zone limits, and movements of trains through switches in the wrong position.

#### Location and speed

 PTC determines the train's consist and tonnage, location, direction, and speed.

#### Movement authorities

PTC provides information about where the train is allowed to travel safely.

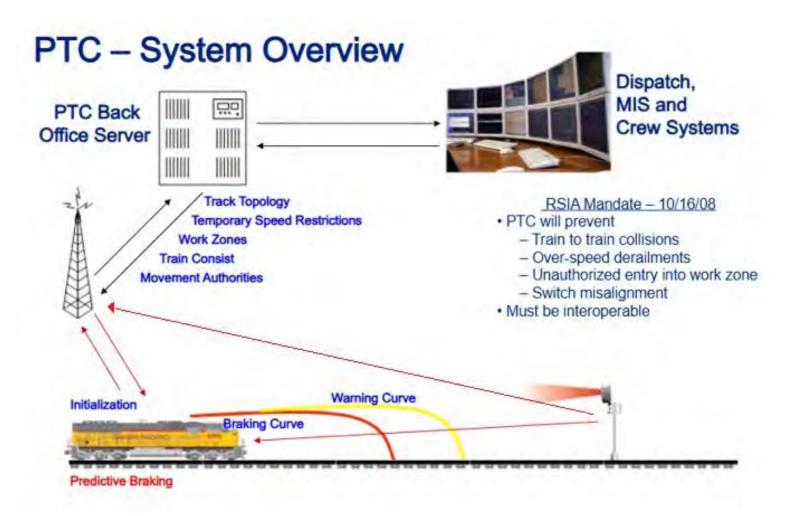
#### Warnings

• PTC sends visual and audible warnings to the train crew if the train is at risk.

#### Braking

• If the train crew doesn't respond to the warning, PTC automatically applies the brakes to stop the train.

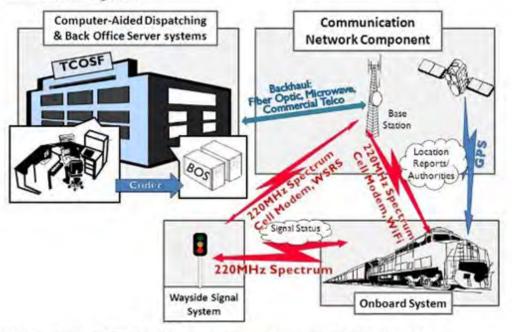
### So how does PTC work?



### So how does PTC work?

PTC generally consists of the following four segments, as shown in the general schematic in Figure 1:

- 1. Onboard segment
- 2. Communications segment
- Wayside segment
- 4. Back office segment

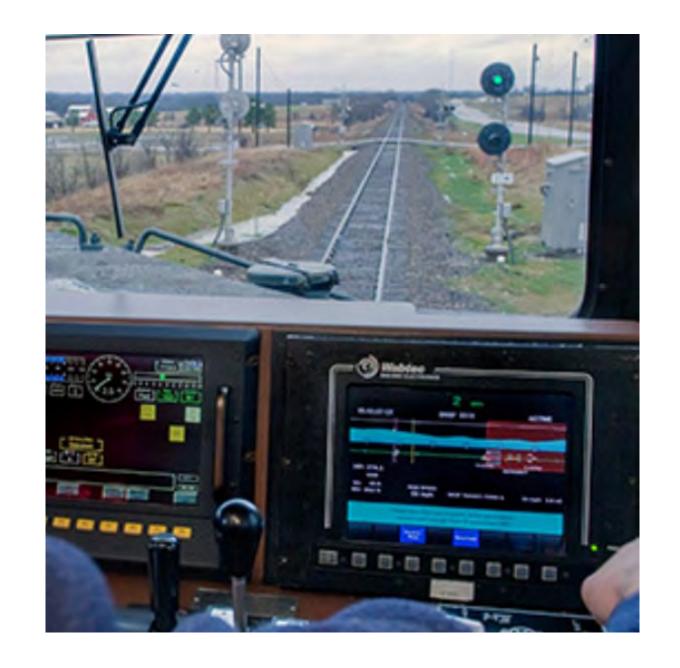


The underlying concept of PTC is that the locomotive knows the following:

- Where it is (critical asset database)
- The train's braking characteristics (e.g., how long it will take to stop).
- Where, how far, and how fast it can go (movement authority and speed restrictions).

Using knowledge of these three items, PTC enforces limits to prevent violations without the ability to override.

As a train moves, the onboard computer constantly calculates a warning and braking distance based on the train's speed, speed limits, signals, switch positions, grade and work zones. PTC gives an onboard warning if the train moves within the warning curve of a potential violation. If the locomotive engineer doesn't respond before the train reaches the calculated braking distance, PTC will stop the train.



A short video overview explaining the operation of PTC.

How Does Positive Train Control (PTC) Work
 - AAR Video



## Where do we go from here?

### The future of Positive Train Control (PTC) looks promising, with the potential to improve safety, efficiency, and sustainability:

#### Safety

 PTC can help prevent accidents like train-to-train collisions and over-speed derailments. The NTSB has called for the development of new technologies to enhance PTC's capabilities, such as identifying the end of a train and relaying that information to other trains.

#### Efficiency

 PTC can help railroads improve efficiency and reduce congestion. For example, railroads can use PTC to allow trains to operate closer together and more efficiently.

#### Sustainability

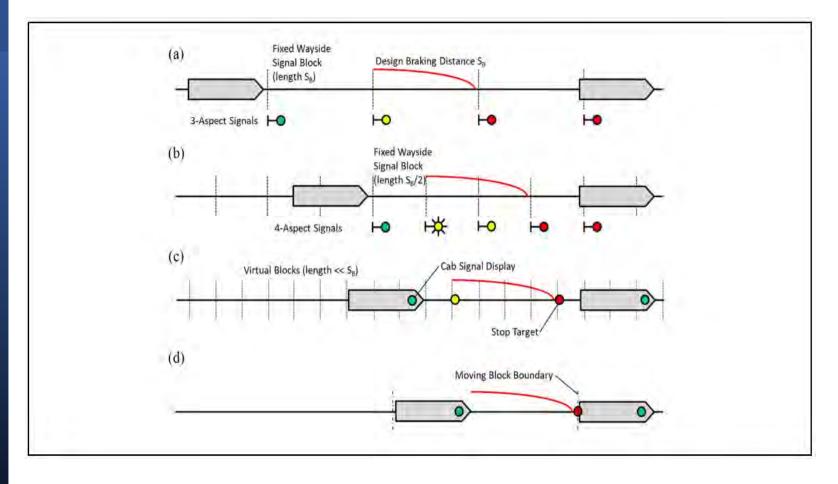
• PTC can help railroads reduce their environmental impact. For example, railroads can use PTC to optimize fuel use by adjusting train speeds and braking curves.

#### Innovation

• PTC can provide the foundation for future innovations in the rail industry. For example, railroads can use PTC to develop advanced communications systems and upgraded locomotive hardware.

### Moving Block Signaling

A moving-block system maintains safe train separation by continually comparing the calculated braking distance of a train to the distance to the next train ahead of it or other speed reduction and stop targets. The block of track occupied by each train is customized to the length of each train and is constantly updated as it travels along the mainline; effectively the occupied block moves along with the train, hence the term "moving block".



Questions?



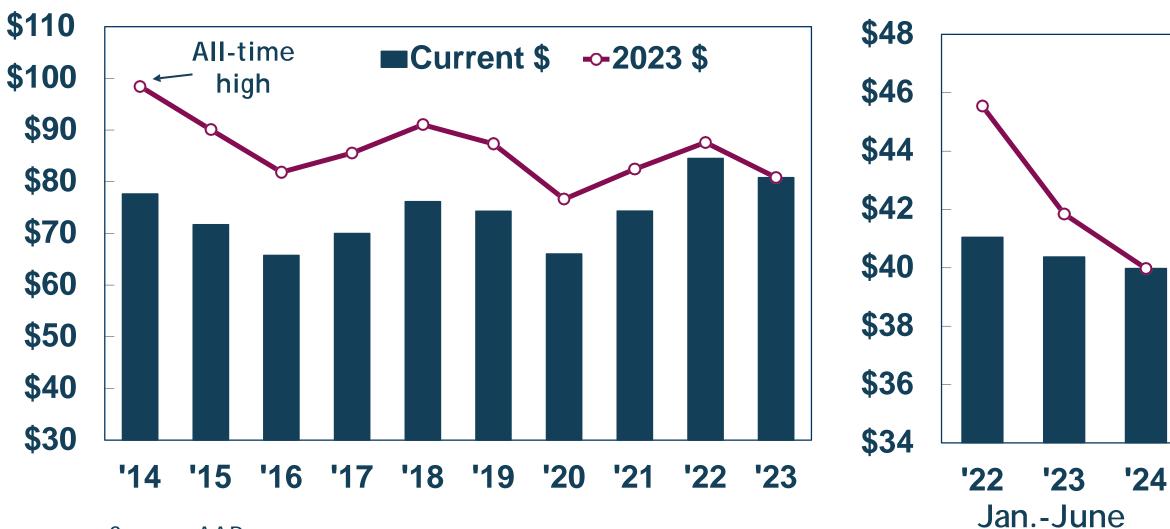
### **BNSF Railway**







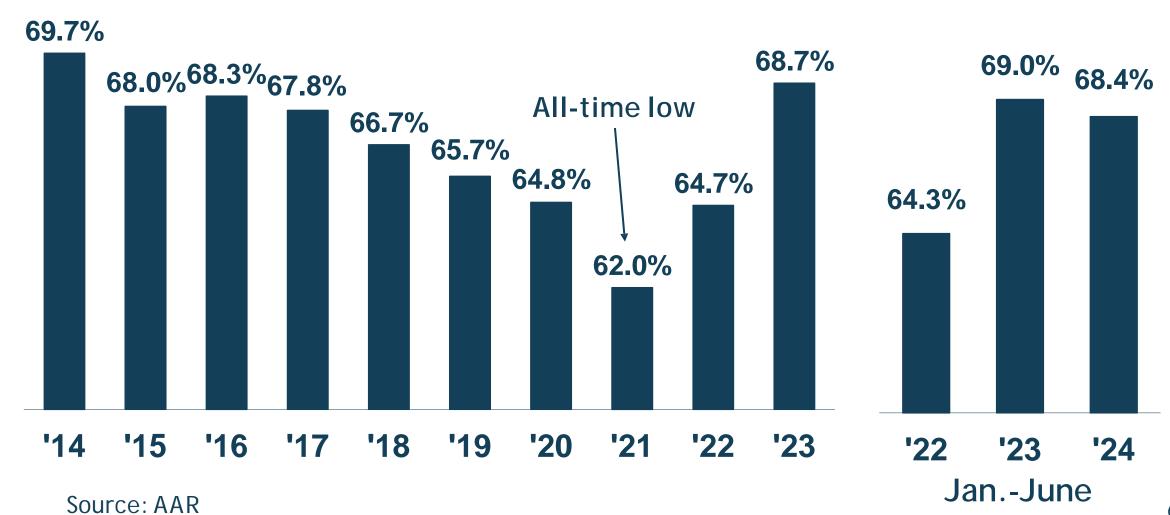
### **Class I Operating Revenue**



Source: AAR



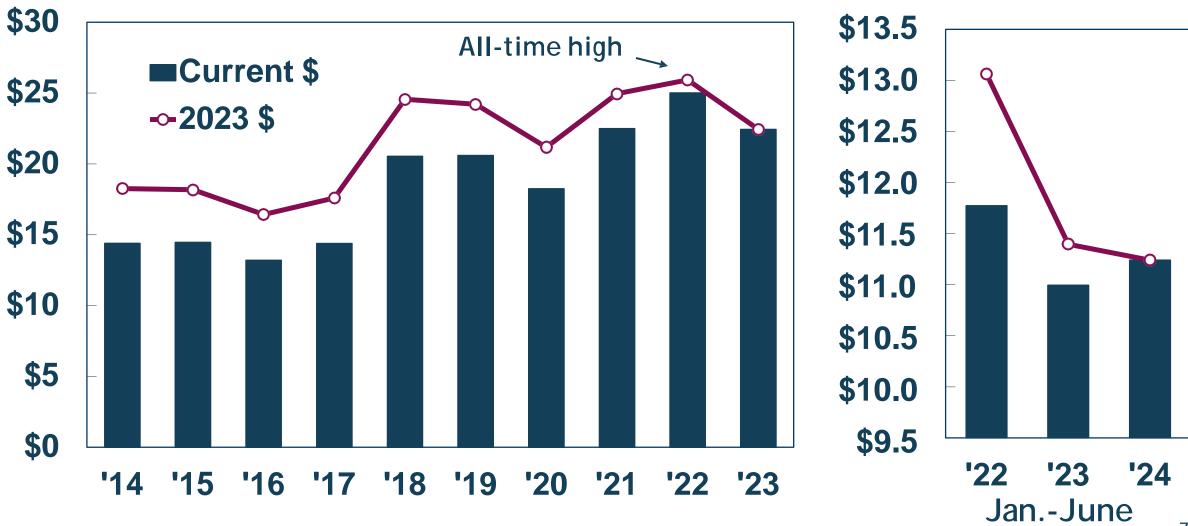
### **Class I Operating Ratio**



6



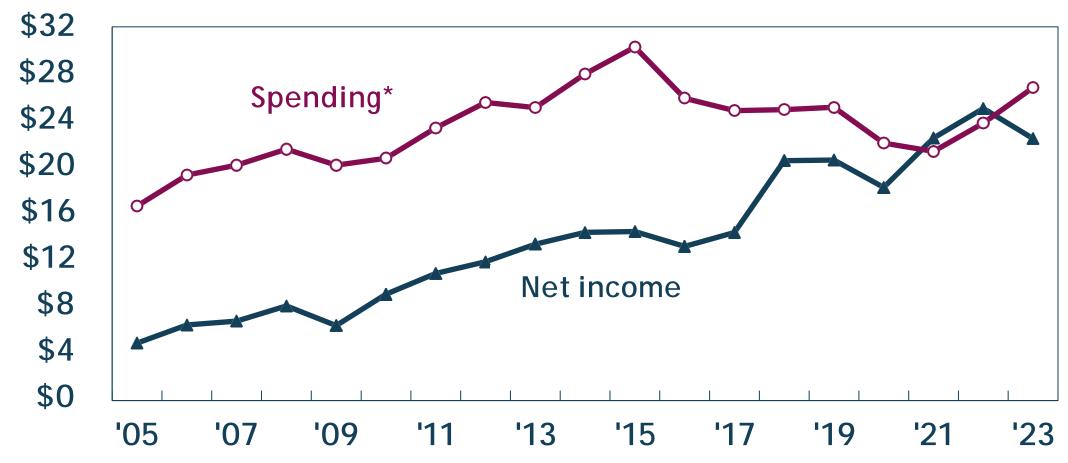
### Class I Net Income



Source: AAR



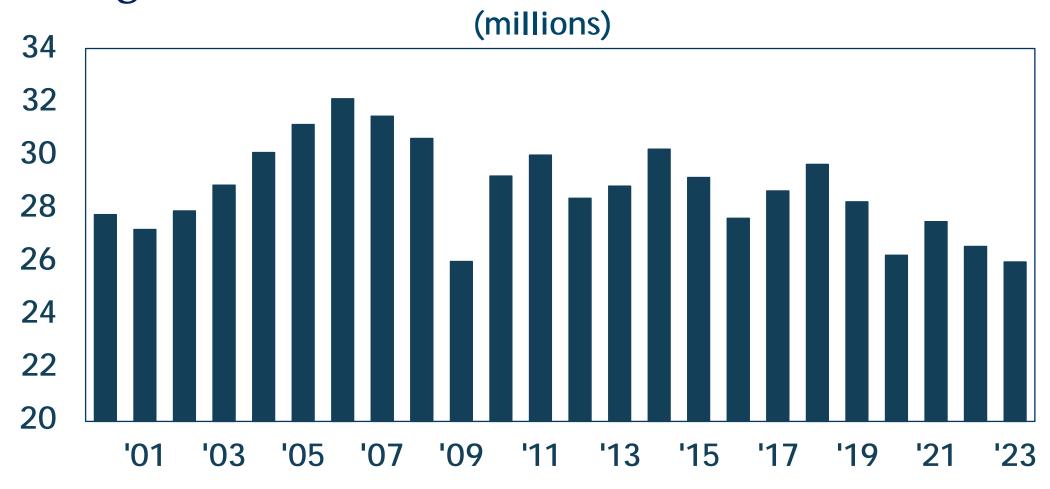
### Today's Earnings PayFor Tomorrow's Railroads \$\\$\\$billions



\*Capital spending +maintenance expenses. Data are current dollars and are for Class I railroads. Source: AAR



### **Total Originated Rail Units**

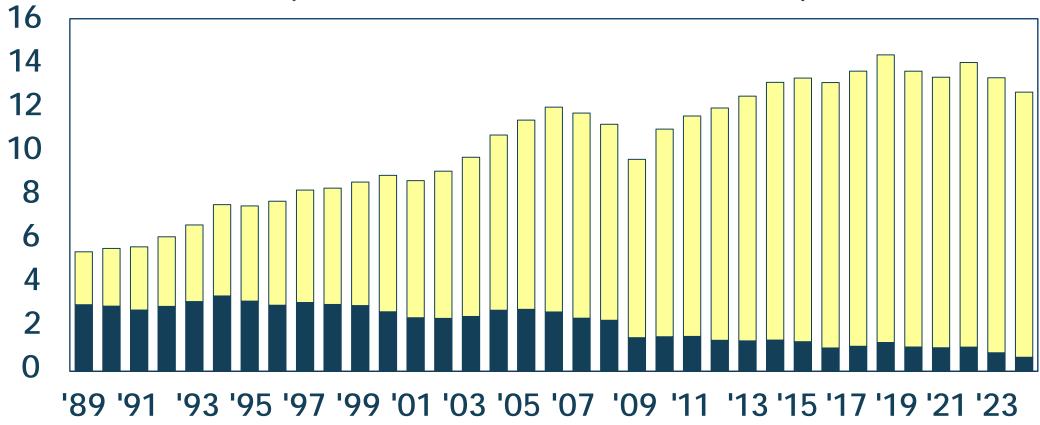


Data are for U.S. Class I railroads. Source: AAR Freight Commodity Statistics



### **Huge Intermodal Growth**

(millions of containers and trailers)

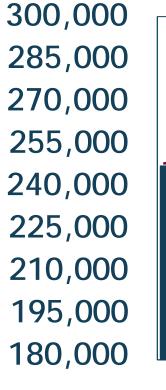


Data are originations and do not include the U.S. operations of CN, CPKC, and GMXT. Source: AAR *Rail Time Indicators* 



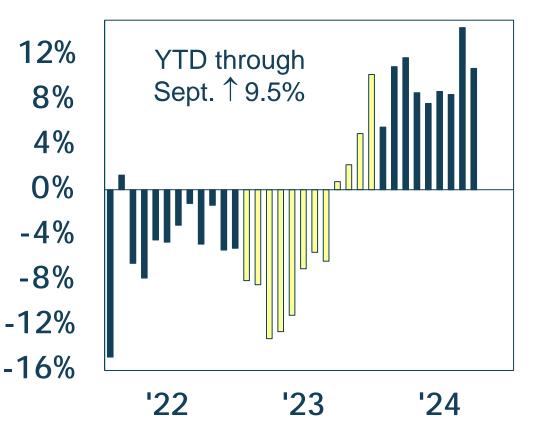
### U.S. Rail Intermodal

(avg. weekly originated units by month)





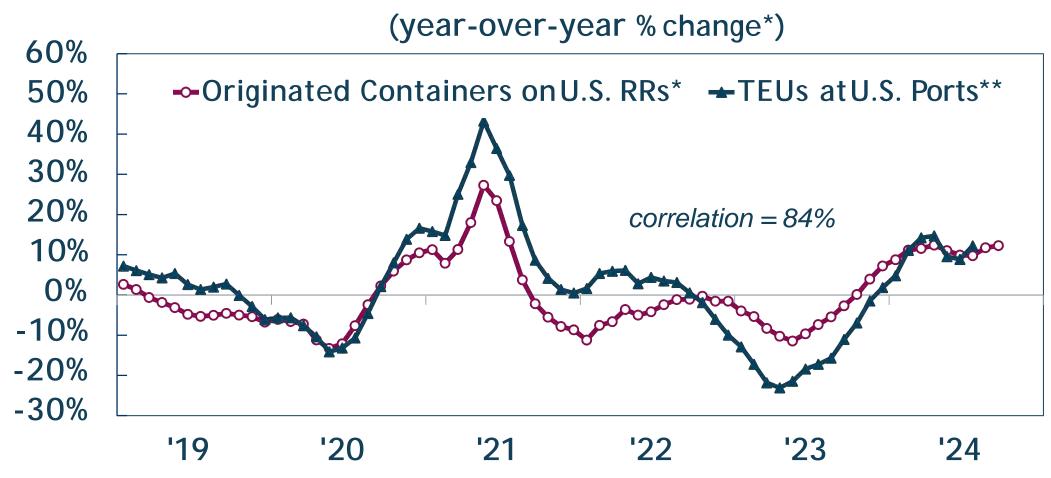
### (year-over-year % change)



Data are not seasonally adjusted and do not include the U.S. operations of CN, CPKC, and GMXT. Source: AAR *Rail Time Indicators* 



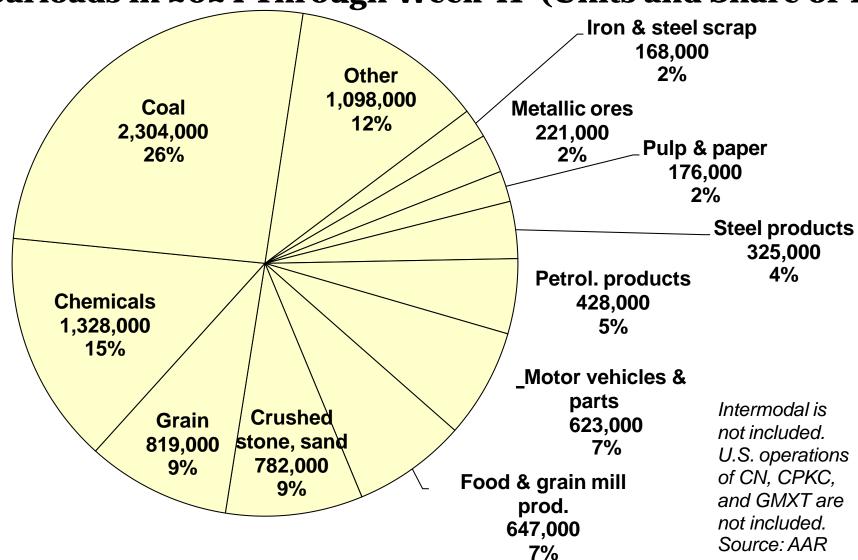
### As Ports Go, So Goes Intermodal



\*BNSF, CSX, NS and UP combined. \*\*Combined loaded + empty TEUs at Baltimore, Charleston, Houston, Long Beach, Los Angeles, New York/New Jersey, Oakland, and Savannah, Seattle/Tacoma, and Virginia. Data are based on 3-month averages. Source: AAR, individual ports

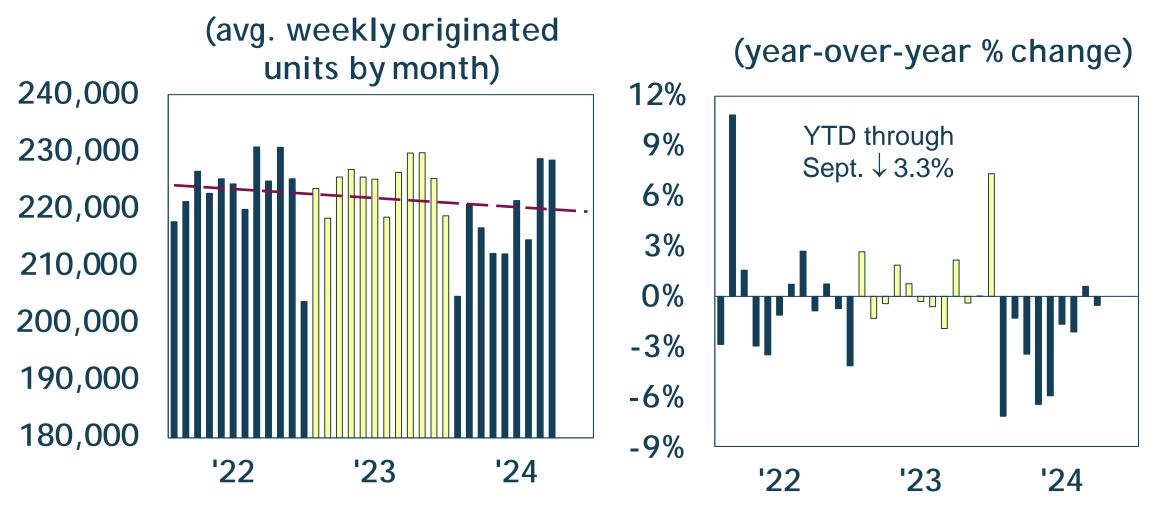


U.S. Rail Carloads in 2024 Through Week 41 (Units and Share of Total)





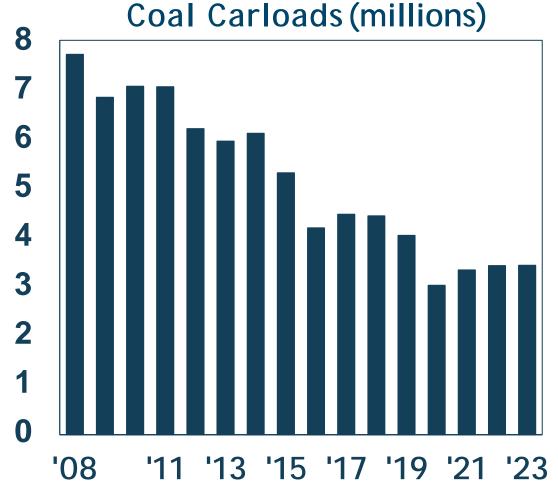
### **U.S.** Total Carloads



Data are not seasonally adjusted and do not include the U.S. operations of CN, CPKC, and GMXT. Source: AAR *Rail Time Indicators* 

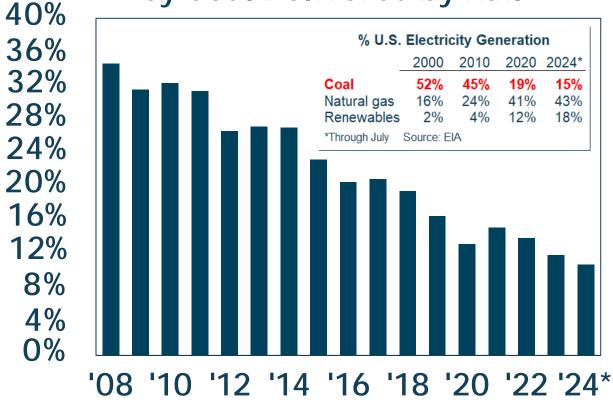


### Coal is Holding Rail Volumes Back



Data are originations for Class I railroads.

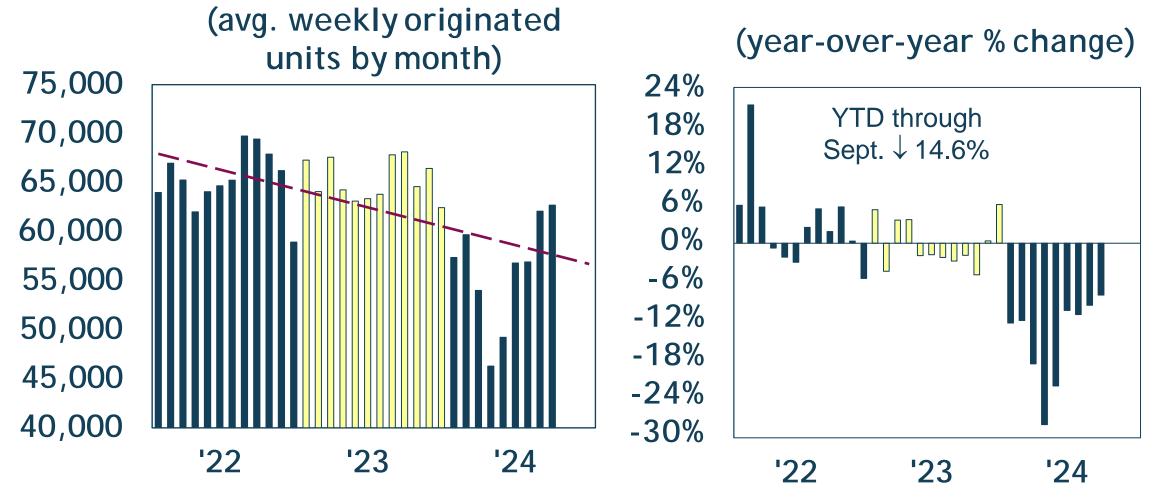
Share of U.S. Electricity Generated by Coal Delivered by Rail



\*Based on Jan.-July. Figures are estimates based on AAR analysis of EIA data.



### **U.S.** Coal Carloads

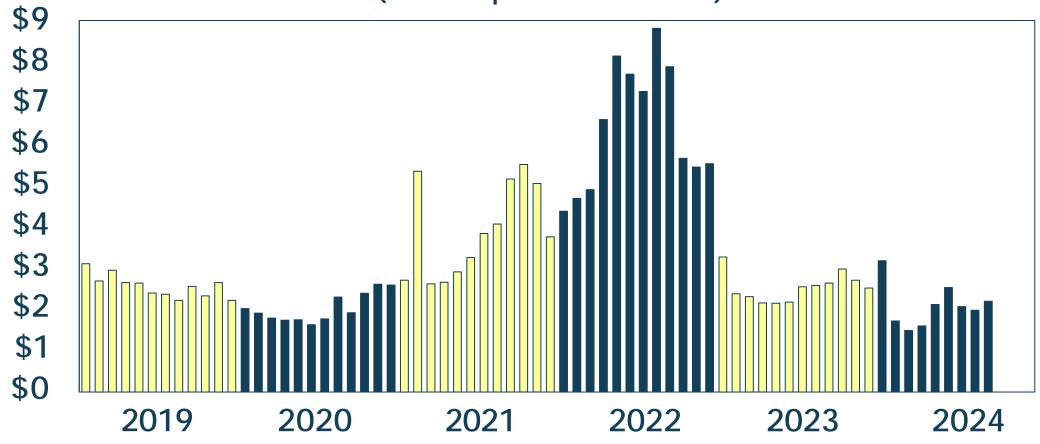


Data are not seasonally adjusted and do not include the U.S. operations of CN, CPKC, and GMXT. Source: AAR *Rail Time Indicators* 



### **Extremely Low Recent Natural Gas Prices**

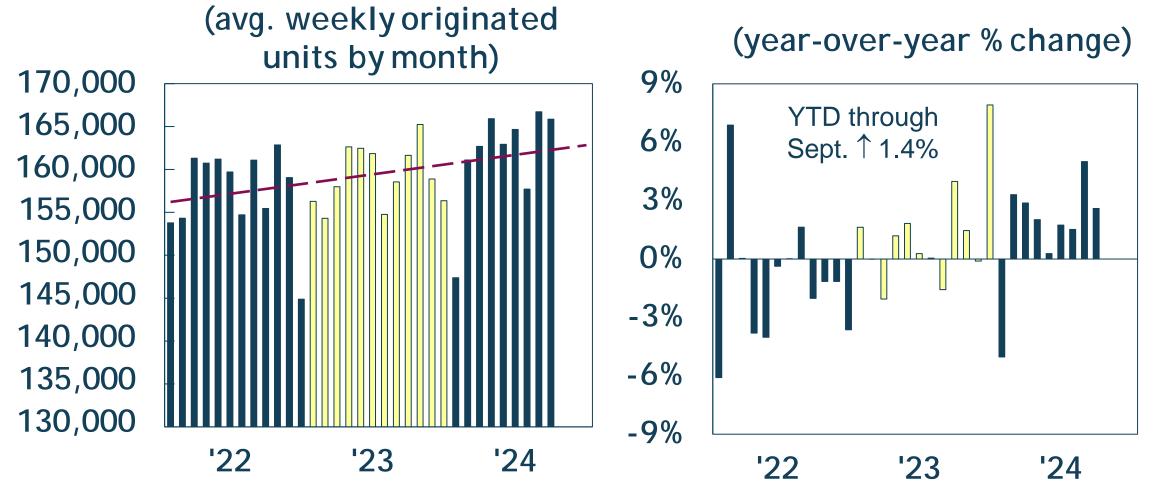
(dollars per millionBTU\*)



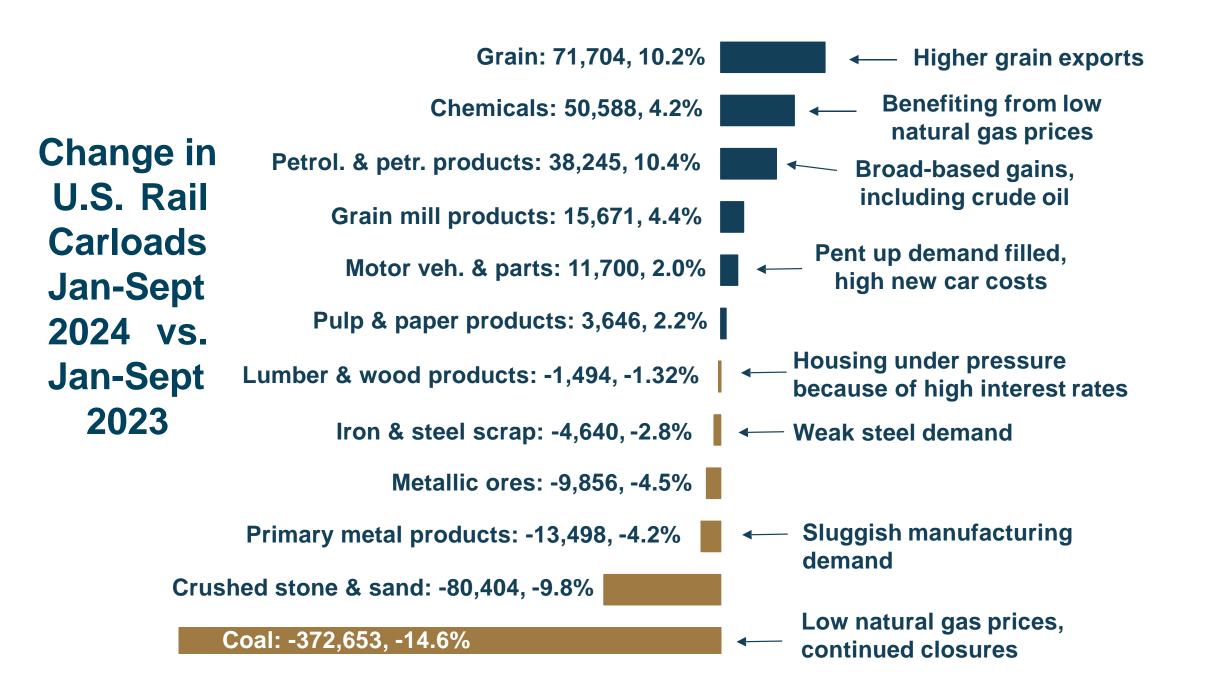
<sup>\*</sup>Henry Hubspot price. Source: Energy InformationAdministration



### U.S. Carloads Excluding Coal



Data are not seasonally adjusted and do not include the U.S. operations of CN, CPKC, and GMXT. Source: AAR *Rail Time Indicators* 







### **BNSF** Railway

BNSF Railway is committed to serving our customers today and investing to accommodate their growth tomorrow.

28 States Served +3 Canadian Provinces



............

26
Intermodal Facilities



~35,000 Employees

............



**32,500**Route Miles



~7,500 Locomotives



............

10.1M Carloads Shipped in 2021



~415
Transload Facilities on Network



**40+** Ports Served



\$42B+
Invested Since 2012

............









### **BNSF** Railway

- 32,500 route miles in 28 states and three Canadian provinces
- 13,000 bridges and 89 tunnels
- Serves +40 ports
- 26 intermodal facilities

A Berkshire Hathaway company

- ~35,000 employees
- ~ 8,000 locomotives

Operates an average of 1,200 trains/day

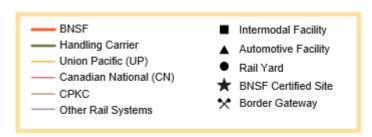




### BNSF Railway - Minnesota



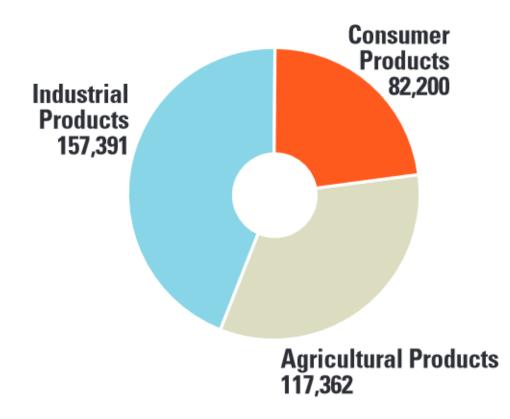
- 1,851 employees with payroll of over \$190 million.
- 1,489 route miles with 222 miles of trackage rights
- 356,953 carloads originating in Minnesota
- Rail yards include Dilworth,
   Minneapolis, Saint Paul, Willmar
- Saint Paul intermodal facility





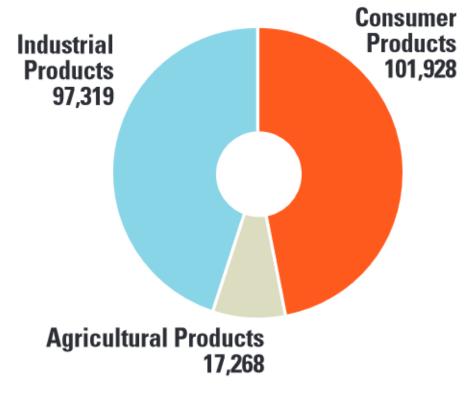
### BNSF 2023 Volume - Minnesota

### **Products Shipped from Minnesota**



356,953 Carloads and Intermodal Units

### **Products Shipped to Minnesota**



216,515 Carloads and Intermodal Units





### BNSF – A Culture Focused on Safety

### SAFETY VISION: To operate free of accidents and injuries



**EMPLOYEE** 



**OPERATIONAL** 



**COMMUNITY** 

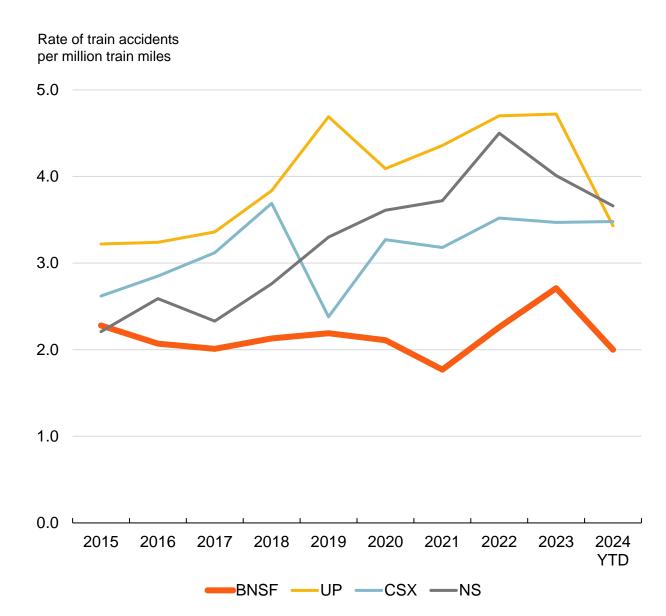


## BNSF's Strong Safety Record

- Led the industry with the lowest reportable train accident rate for the past 9 years
- Reduced mainline train accidents 63% since 2000

FRA Train Accident Definition: A safety-related event involving on-track rail equipment which includes derailments, collisions and other events involving the operation of on-track equipment.

#### **U.S. Class I Train Accidents**



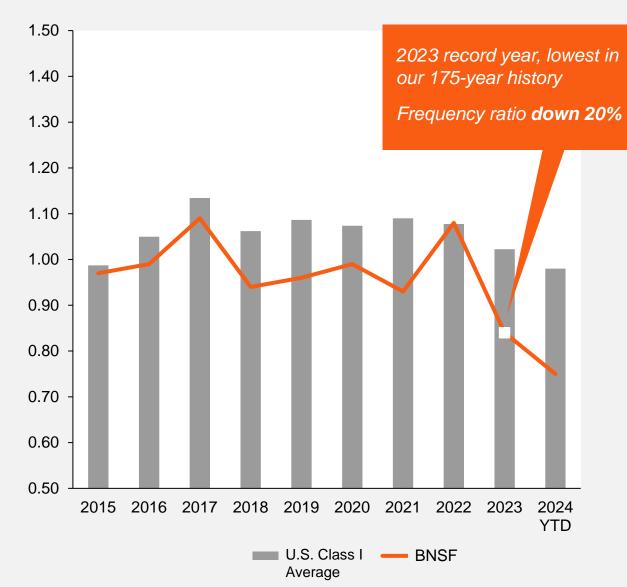


# Strive to Continuously Improve Safety



### **Reportable Injury Rates**

Per 200,000 Workhours





# Rail Transports Hazardous Materials Safely

- Since 2000, the train accident rate is down 28% and hazmat accident rates are down 78%
- 99.99% of all BNSF hazmat shipments reach their destination without a derailment caused release.



### **BNSF's Safety Overview**

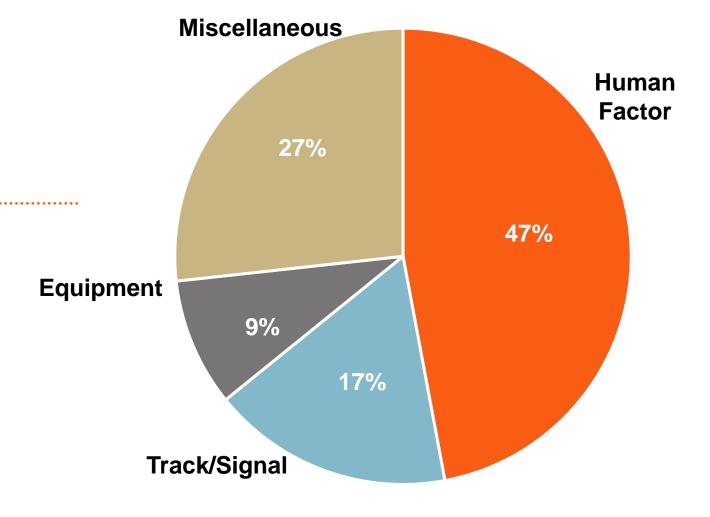
- Rail is the safest mode of land transportation.
- BNSF's safety vision is to prevent accidents in the first place.
- BNSF has a broad-based risk reduction program.





### **Prevention:**

### Causes for Train Accidents



BNSF REPORTABLE TRAIN ACCIDENT CAUSES - 2023

Source: FRA reporting through December 31, 2023



### **Prevention:** Reducing Risk

### **Human Factor**

- Training
- Remote monitoring
- Positive Train Control
- Self reporting protocol

### **Equipment/Mechanical**

- Mechanical inspection per AAR, FRA guidelines/rules
- Detector network dragging equipment, Acoustic, Thermal, Vision

# Our ongoing focus is on instilling a culture of commitment and compliance – a culture that is sensitive to exposure and risk.

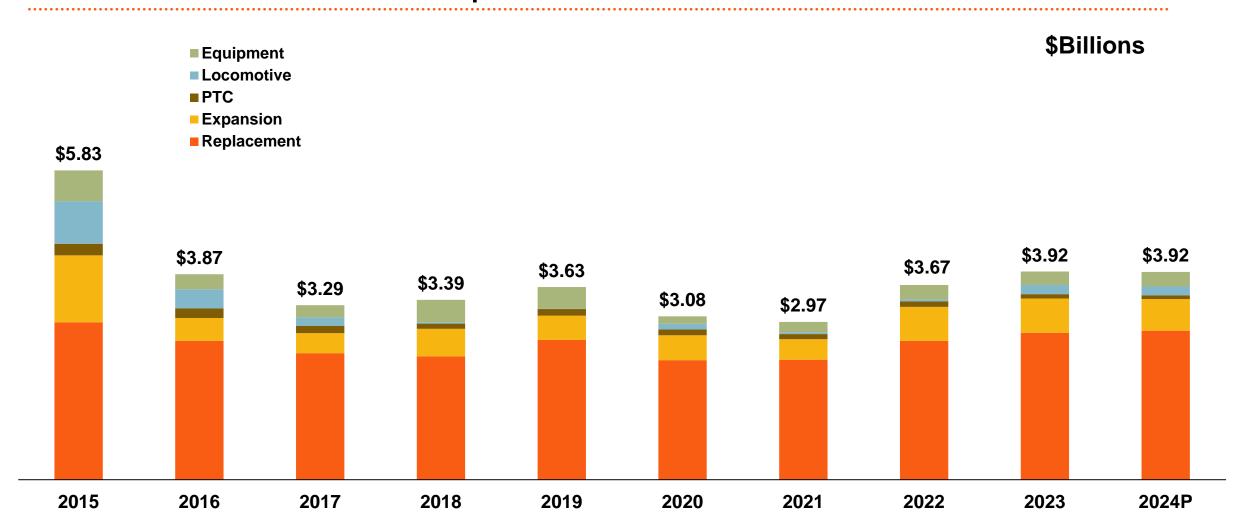
### Track/Signal

- Enhanced track inspection training
- Continued elimination of jointed rail
- Strong capital program for tie renewal
- Technology ground penetrating radar and enhanced geometry testing





### Prevention: BNSF's Capital Investments



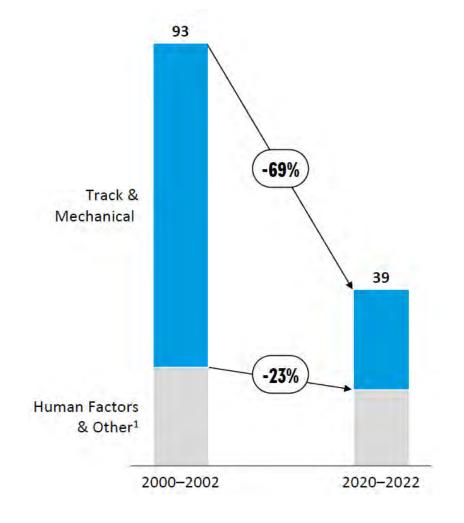


### **BNSF Railway Safety Leadership – Technology Investments**

Continuous railroad investments and advancements in technology:

- Wayside detectors
- Track geometry cars
- Automated inspection portals
- UAVs/drones.

Number of Class I mainline hazardous materials derailments by primary cause Annual average for 2000-2002 and 2020-2022





### **Prevention:** Technology Enhances Safety and Efficiency



PTC covers
94 percent of our freight volume



Autonomous
Track Geometry
Cars increase the
number of miles
inspected



Wayside
Detectors take
+35 million
readings daily



Utilizing Big
Data Analytics
for a
comprehensive
view



### Leveraging Advanced Technology: Automated Track Inspections



(under load)

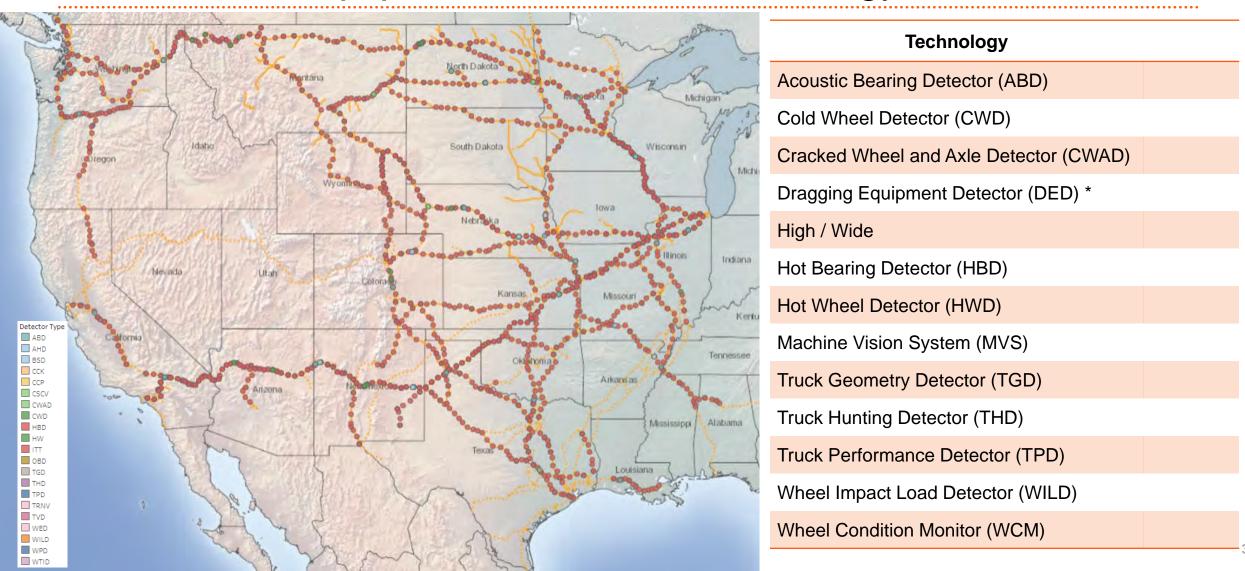








### Prevention: Equipment Detection Technology





### Prevention: Rail Equipment Detector Examples



### Acoustic Bearing Detector (ABD) -

Microphone-based systems used to evaluate sounds generated by specific bearing component defects



### Hot Box Detector (HBD) -

Pyrometer-based system that evaluates bearing temperature history for statistical outliers; brake issues, burned off journals



### Wheel Tread Inspection Detector (WTID) -

Camera-based system that is capable of performing a visual inspection of the entire wheel plate and tread surface, identifying cracks, breaks and missing pieces



### First Responder Training

BNSF and the railroad industry train first responders in their communities under a longstanding program called "TRANSCAER" (Transportation Community Awareness and Emergency Response)

- Hands-on equipment in field Instructor lead
- Train list/shipping papers
- Placards
- Equipment
- Incident assessment

BNSF trained more than 4,000 local first responders in 2022.

More than 128,000 emergency responders trained by BNSF since 1996.



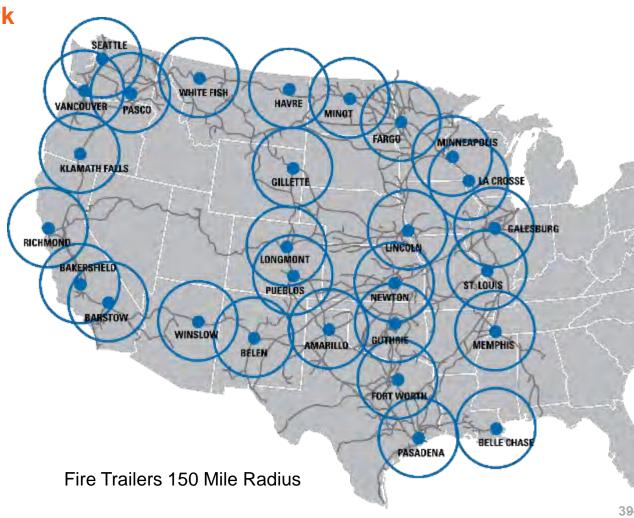


### Response: Incident Mobilization

**BNSF** pre-positions equipment across its network

- Industrial fire-fighting foam trailers
- Emergency breathing air trailers
- Chlorine kits
- Midland kits
- Air monitoring assets

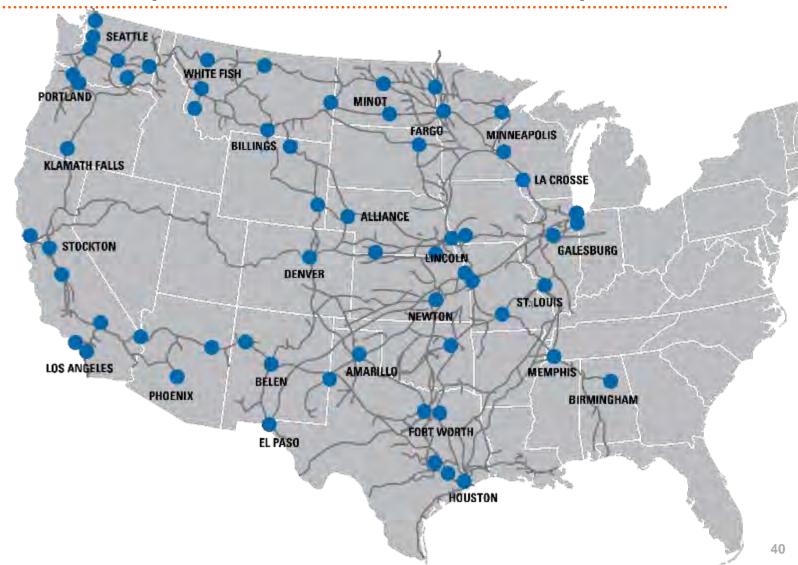






### Response: Mobilization of Prepositioned Hazmat Responders

More than
140 hazmat
responders and
40 advisors at
60 locations







### Rail is the Most Environmentally Efficient Mode of Surface Transportation





In 2021, customers **reduced total carbon emissions by 21 million metric tons** by shipping with BNSF. That's the equivalent of taking 4.4 million vehicles off the road.



On average, BNSF trains move one ton of freight **nearly 500 miles on just one gallon** of diesel fuel.



On average, trains are three to four times more fuel efficient than their highway counterparts and lower greenhouse gas emissions by more than 75%.\*



If 25% of truck traffic moving at least 750 miles went by rail instead, annual greenhouse gas emissions would fall by 13.1 million tons.\*



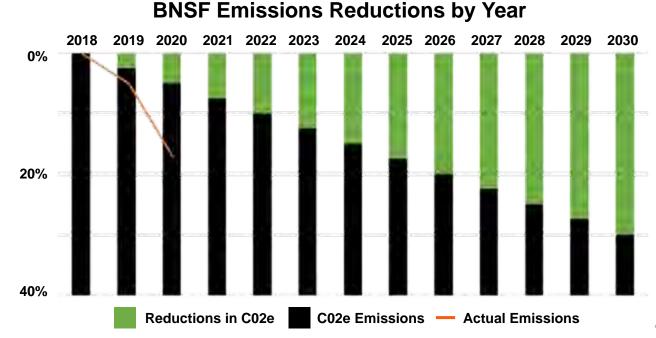
### We Care



### **Leading the Way:**

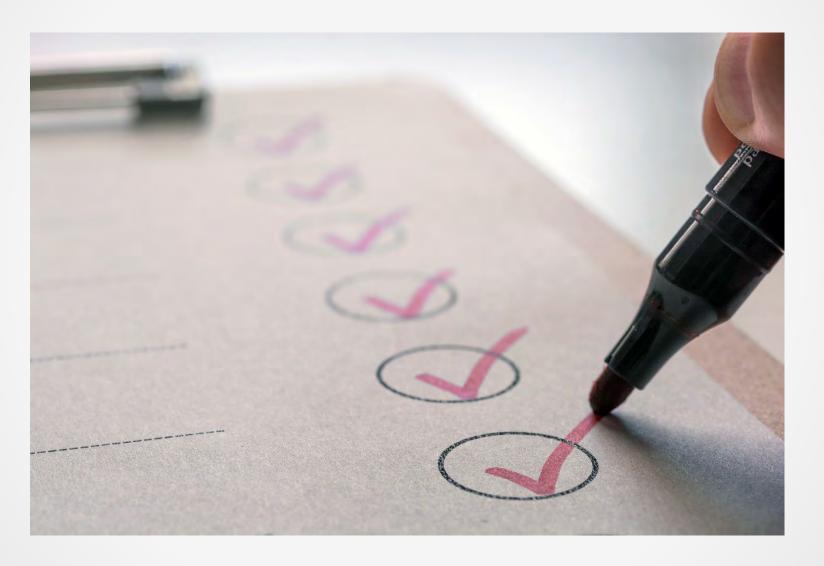
- Sustainable practices
- Next generation of locomotives
- Testing new technologies

With these efforts and many more, BNSF is committed to reduce our emissions by 30% by 2030.





### **Check-In for MN Assessor Continuing Education**







### **Lunch Break**

### **Minnesota Geospatial Office**



#### MnGeo and GIS at the State of Minnesota

Alison Slaats | Minnesota GIO & Director, MnGeo Sally Wakefield | Program Manager, MnGeo

# Topics

- About MnGeo
- About GIS
- GIS Data
- Applications of GIS
- Questions and discussion



#### About MnGeo



By <u>statute</u> MnGeo provides coordination, guidance, and leadership for the state's use of geographic information systems (GIS)

- MnGeo is the Minnesota Geospatial Information Office and is an office within the State of Minnesota IT Services (MNIT) agency
- MnGeo is led by MnGeo's director and Minnesota Chief Geospatial Information Officer (GIO), 2 supervisors and has 18 staff members
- MnGeo is guided by the Geospatial Advisory Council (GAC) that is representative of the Minnesota geospatial community
- Being part of MNIT, MnGeo also provides IT geospatial services to state agencies through a service bureau model
- As GIO, my role is to help coordinate the use of GIS and geospatial data in Minnesota!

### MnGeo - key points of legislation

- The office has authority to provide coordination, guidance, and leadership, and to plan the implementation of Minnesota's geospatial ... technology.
- coordinate and guide the efficient and effective use of available federal, state, local, and public-private resources to develop statewide geospatial information technology, data, and services;
- ...avoid or eliminate unnecessary duplication of existing GIS technology services and systems
- Electronic geospatial government data must be shared at no cost with government entities .. and federal and tribal government agencies.
- Geospatial Advisory Council. The chief information officer
  must utilize a governance structure that includes an advisory
  council to provide recommendations for improving the
  operations and management of geospatial technology within
  state government and also on issues of importance to users
  of geospatial technology throughout the state.



#### Geospatial Advisory Council (GAC)

"The Geospatial Advisory Council must advise the Minnesota Geospatial Information Office regarding the improvement of services statewide through the coordinated, affordable, reliable, and effective use of geospatial technology."

- The GAC has 23 voting members who are representative of geospatial community
- GAC positions are appointed for 2 years
- GAC meets quarterly, meetings open to all

Sector	Number of members
At-large	3
Business	2
City, Greater Minnesota	1
City, Twin Cities Metro	1
County, Greater Minnesota	1
County, Twin Cities metro	1
Federal Government	2
Higher Education	2
K-12 Education	1
MN GIS/LIS Consortium	1
Nonprofit	1
Regional Government, Greater Minnesota	1
Regional Government, Twin Cities metro	1
Regional, MetroGIS	1
State Government	2
Surveyor	1
Tribal Government	1
MnGeo (ex-officio)	1

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# How do we get started with GIS or take it to the next level?

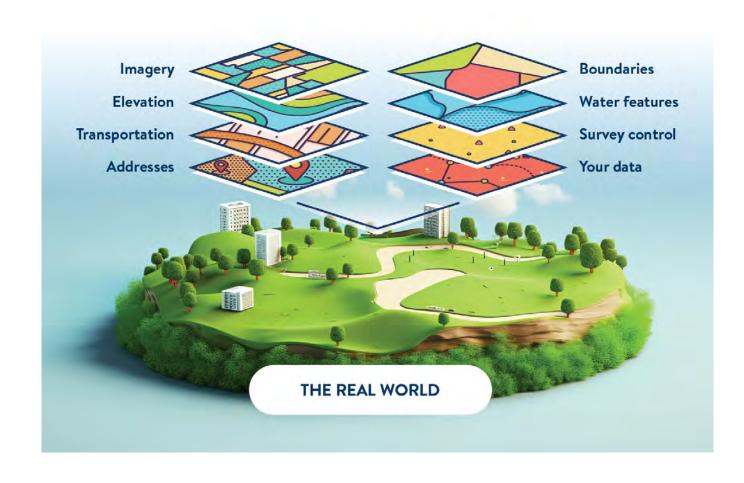


### The geographic approach and GIS

The geographic approach is using to create, manage, map, and analyze geospatial data to make data-driven decisions and improve outcomes.

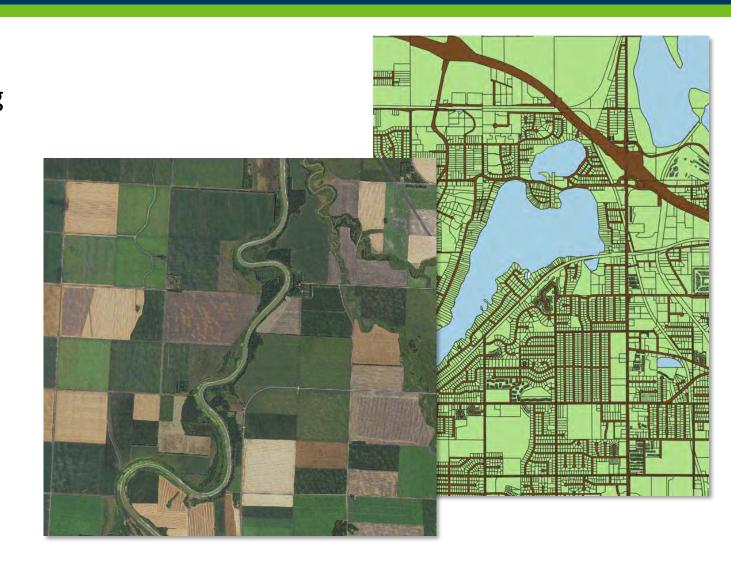
#### How?

- Make location part of your data
- Share your location data
- Use location data for analysis and decision making



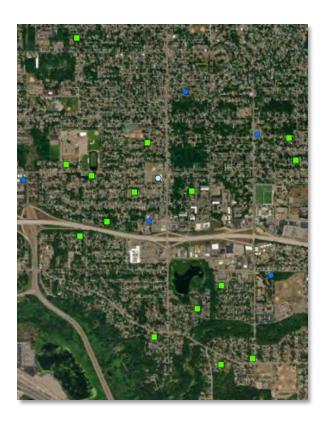
#### MnGeo works on statewide geospatial data foundations

- Statewide geospatial foundations are key datasets useful to many, including
  - Parcel data
  - Addresses and geocoding
  - Imagery data
  - Critical infrastructure
  - Boundaries
- MnGeo's goal is to have foundational data ready for use, when you need it for the questions you have



## Add location to your data

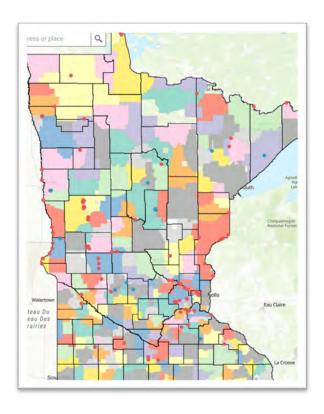
#### Childcare centers



#### Wind farm and solar projects

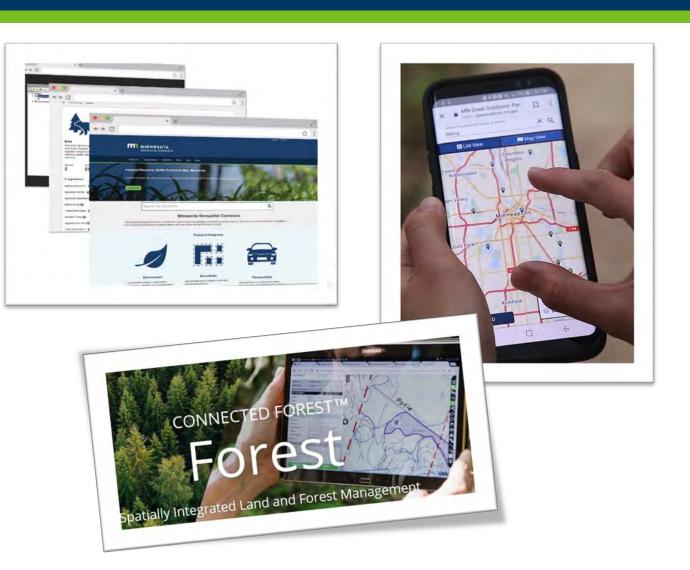


#### Emergency service zones



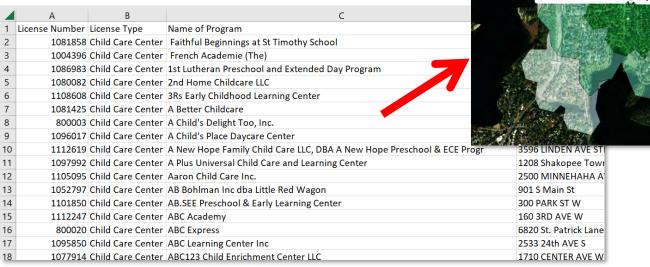
### Data sharing

- MnGeo can help you share your geospatial data
  - Within your agency
  - With other state agencies
  - With the public on the Geospatial Commons
- Sharing data enables others to use data for other data-driven analysis
  - Web maps, desktop tools and mobile apps



### Making location enables analysis

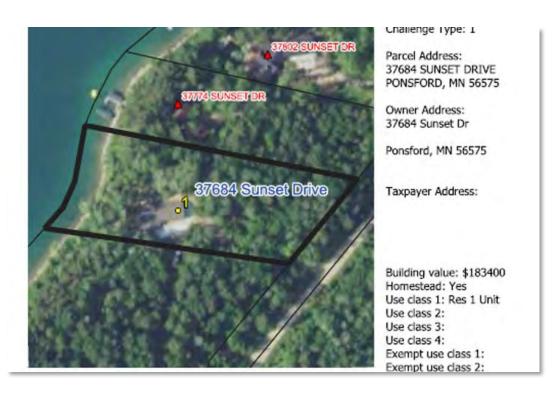
- By adding location to tabular lists, we can map the locations, and analyze the relationships with other data
- What if we developed a walk score for neighborhoods to childcare locations?



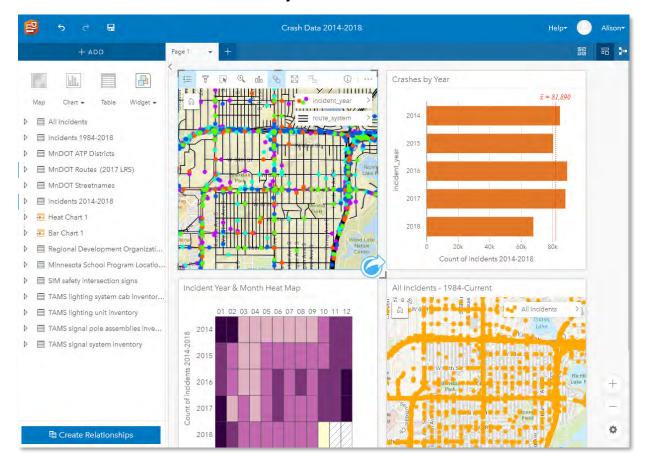


### Guide decision making through GIS Analysis

#### **DEED OBD Broadband Work**



#### **MnDOT Crash Analysis**

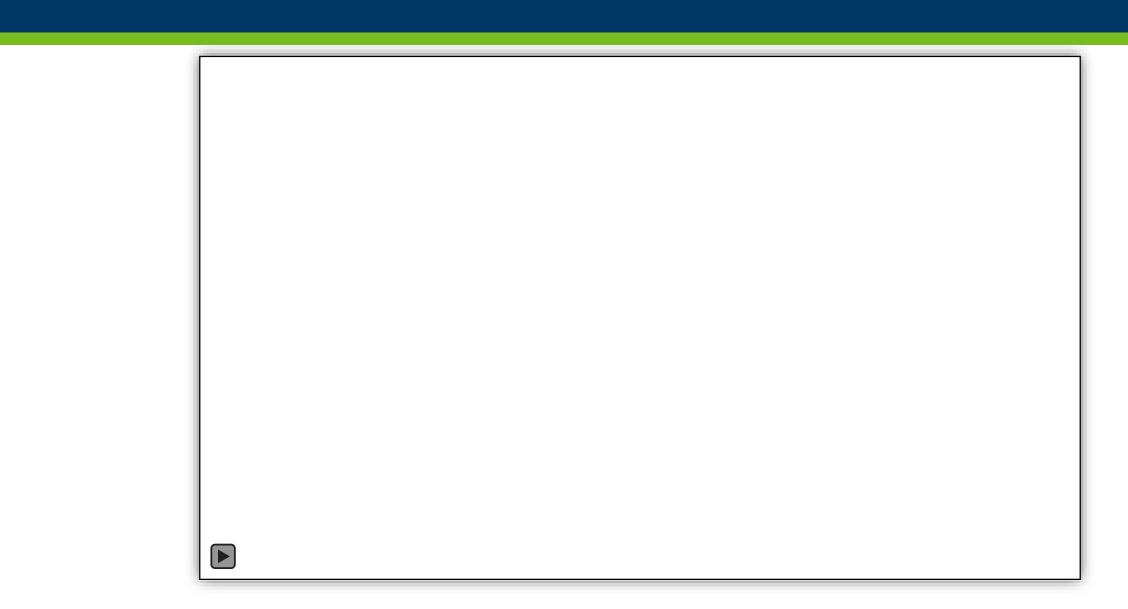


### Sharing State of Minnesota Agencies' work through maps





# Example analysis: Free school meals





Minnesota Governor Walz demos Executive Portfolio at Esri conference in July 2024



WHEREAS:

Minnesota's geographic landscape and data play a crucial role in the history and cultural heritage of all people in Minnesota, and Geographic Information Systems (GIS) serve as a framework for guthering, managing, analyzing, and displaying location-based

information; and

WHEREAS:

An understanding of geography and its applications in GIS provides critical information for community leaders and government officials in making data-driven decisions around education, health care, public safety, transportation planning, preservation of natural

resources, employment opportunities, and more, and

WHEREAS:

The Minnesota geospatial community coordinates these efforts to minimize duplication, reduce costs, develop standards, influence outcomes, measure results, and facilitate the

sharing and interchange of GIS data and knowledge, and

WHEREAS:

Geospatial professionals support state, local, regional, and federal governments, Tribal

Nations, academia, and nonprofit and private organizations; and

WHEREAS:

It is necessary to promote GIS awareness, education, and technical training throughout the state and encourage the understanding of how leveraging GIS data enhances the lives

of all people living in and visiting Minnesota.

NOW, THEREFORE, I, TIM WALZ, Governor of Minnesota, do hereby proclaim Wednesday, November 20, 2024, as:

#### GEOGRAPHIC INFORMATION SYSTEMS DAY

in the State of Minnesota.



IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Minnesota to be affixed at the State Capitol this 18th day of November.

3 2. WW

Oteve Vimm

#### **GIS Day**

# Today is GIS day!



### Finding Data: Minnesota Geospatial Commons

- Geospatial Commons is a collaborative site for users and publishers of geospatial resources
- Over 1000 geospatial resources
- 48 publishers
- MnGeo hosts this site, and supports users and publishers
- New modernization project to have more map services to load data directly, instead of downloading files



### Other helpful Information from MnGeo



Detailed information for each topic area

#### Public Utilities and Telecommunication Infrastructure Information for Minnesota

Use this site to find GIS data, maps and statistics that show information about Minnesota's public utilities and telecommunications infrastructure.

#### Utilities

- Electric power
  - o Energy sources
  - Transmission lines and substations
  - Service areas
  - Additional resources
- Natural gas
  - o Pipelines
- Water and sewer

#### Telecommunication

- Service areas
- Broadband maps
- Transmission towers

#### Public Utilities Infrastructure Information for Minnesota

Use this site to find GIS data, maps and statistics that show information about Minnesota's public utilities infrastructure

- Data and map collections
- · Electric power
  - energy sources
    - transmission lines and substations
  - service areas
  - service areas
- Natural gas, oil and ethanol
- Water and sewer
- · Additional resources

If you are seeking data for excavation purposes, please see contact Gopher State One Call for location of local infrastructure

#### Data and Map Collections

- . U.S. Energy Information Administration
  - O Data Maps, Tools, Browsers and Dashboards
    - Documentation and shapefile download: More than 50 national energy data layers plus additional reference layers
  - o U.S. Energy Atlas: A comprehensive reference for data and interactive maps of energy infrastructure and resources in the U.S.

#### Electric Power

#### **Energy sources**

- Wind
  - Featured Data Source
    - U.S. Wind Turbine Database: Map viewer with analysis tools, web services and downloadable data. Includes turbines from the FAA database described below. Extensive help and docume
    - Minnesota wind turbines: selected from the U.S. Wind Turbine Database
  - Minnesota
    - nnesoca

      2006: Wind speed, capacity factor and energy production maps and wind speed GIS data

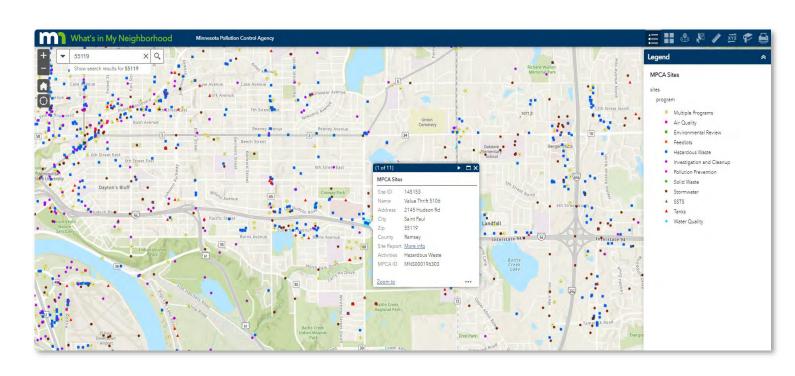




#### Geospatial resources: More than just data

#### Types of Resources available on the Commons

- **Traditional GIS files** contain location information that a desktop GIS program can read to place features and boundaries
- Data services files to bring data into a web-based GIS
- Pre-built web-based applications (What's in my Neighborhood)
- KMZ files that can be used in Google Earth
- Imagery, tables, maps and more!



### Finding Data: Minnesota Geospatial Commons

#### Data types available on the Commons

Resources are organized into 18 categories – Biota to Utilities



#### **Boundaries**

Legal land descriptions. Examples: political and administrative boundaries

139 Resources



#### Imagery + Basemaps

Base maps. Examples: land cover, topographic maps, imagery, unclassified...

127 Resources



## Planning + Cadastre

Information used for appropriate actions for future use of the land....

99 Resources



#### Transportation

Means and aids for conveying persons and/or goods.
Examples: roads,...

124 Resources

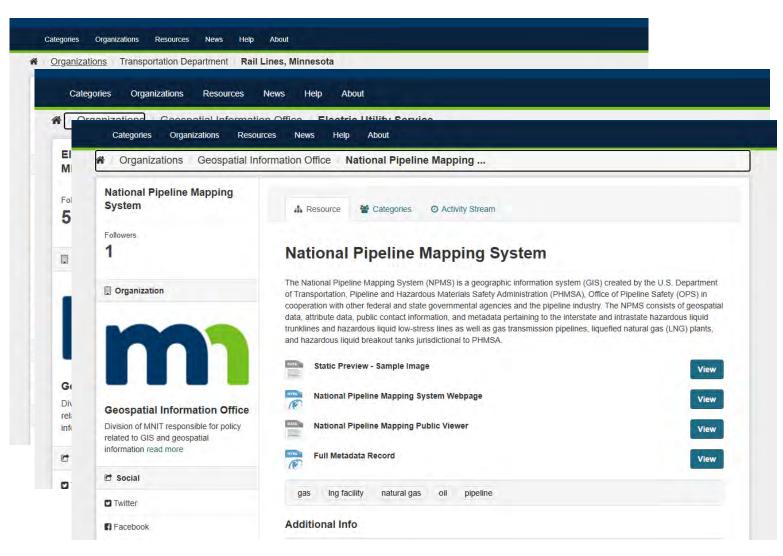


### Utilities + Communication

Energy, water and waste systems and communications infrastructure and...

20 Resources

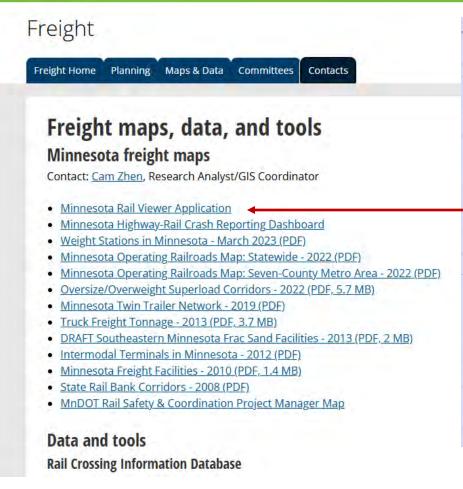
### Finding Data: Relevant Resources

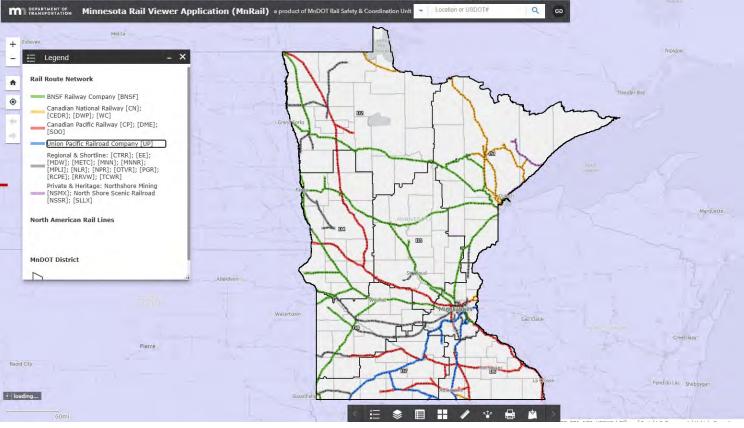


- Rail Lines
- Electric Utility Service Areas (EUSA)
- Pipelines (national scope)

### Finding Data: Relevant Resources





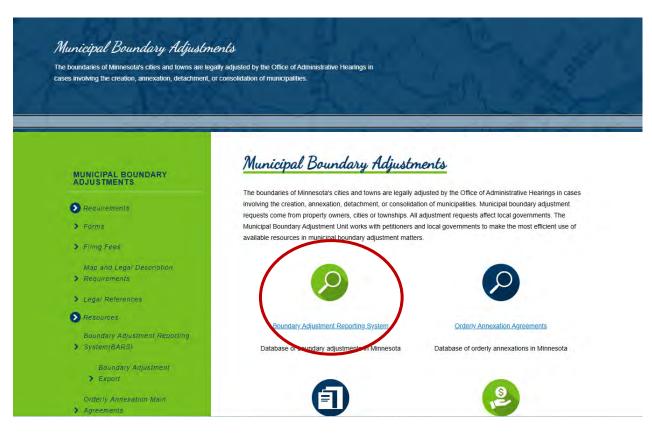


#### Finding Data: Uniquely Minnesota

# Jurisdictional Boundaries - CTU Cities, Townships and Unorganized Territories

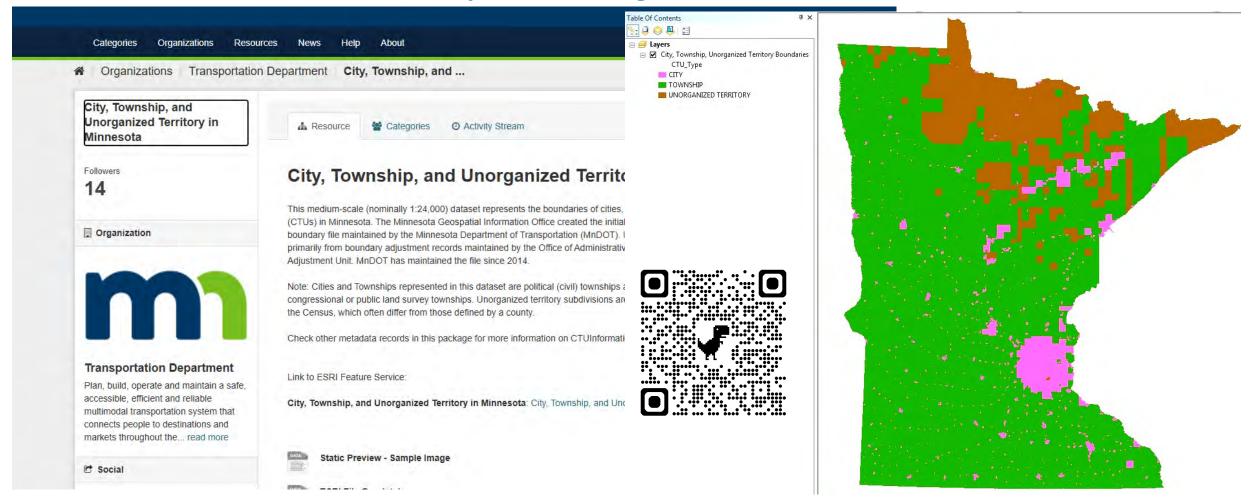
- Change is initiated by the local jurisdiction
- Formal review process
- GIS file maintained by the Department of Transportation
- Updated weekly!





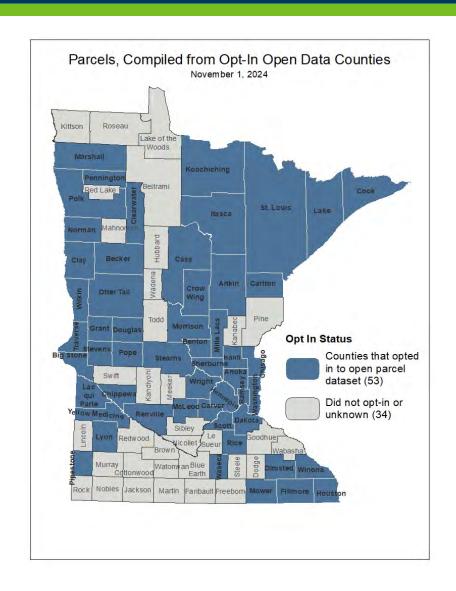
#### Finding Data: Uniquely Minnesota

# Jurisdictional Boundaries - CTU Cities, Townships and Unorganized Territories



### Parcel data priority: Uniquely Minnesota

- Priority: Statewide publicly available parcel data
- Quarterly process
  - Request parcel data each quarter from county partners
  - Aggregate into Minnesota parcel data standard
  - Share statewide data with state agencies/government partners
  - Publish data on the <u>Geospatial Commons</u> for "optin" counties



### Statewide land ownership/tax parcels

#### Section 16E.30

...Electronic geospatial government data must be shared at no cost with government entities, the notification center established under section <u>216D.03</u>, and federal and tribal government agencies. Data received under this subdivision may be reproduced or shared with other government entities or agencies....



# Broadband Service Mapping

MnGeo is supporting the Office of Broadband Development (OBD) to validate broadband serviceable locations including houses, apartments and farms

MnGeo uses parcel data to determine if the FCC data is accurate and submit challenges, as needed

#### Required attributes include:

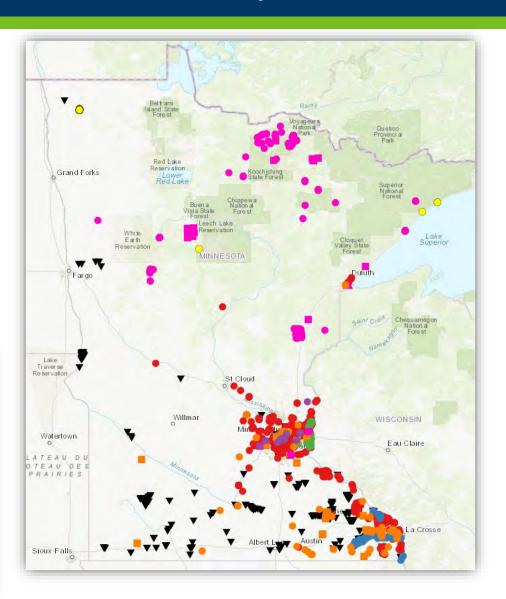
- homestead
- estimated building value
- land use class



# Department of Agriculture Invasive Species and Noxious Weeds Control





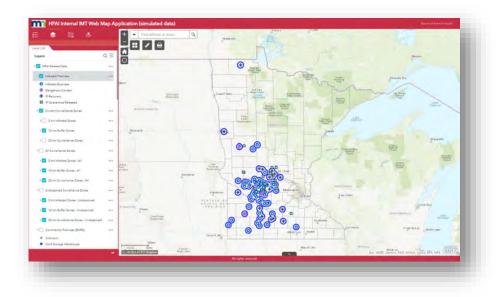


- Minnesota Department of Agriculture deals with invasive noxious weeds such as Oriental Bittersweet and Palmer Amaranth and has a goal to reduce their spread in Minnesota
- Parcel data is essential to working with property owners to coordinate control of invasive species and noxious weeds

### Board of Animal Health for HPAI response



- Avian Influenza impacted Minnesota in 2015 and 2022
- Over 100 premises were affected
- Parcel data was used to identify farms, owners and enable local, national, federal agencies and industry partners to be on the same page



#### Minnesota Pollution Control Agency Remediation

The Minnesota Pollution
Control Agency (MPCA)'s
Remediation Division staff use
the parcel data to ensure the
safety and wellbeing of
Minnesota's residents

"We use parcel data to identify property owners near potential or known contaminated sites



#### Minnesota Forestry Association

Geospatial information is an essential tool to build woodland stewardship plans for woodland owners to visualize and monitor their forests through time.

Woodland owners need to know where their parcels lie on the landscape, as well as their neighbors, in order to better manage their forests across the watersheds.





#### **State Assessed Property GIS Resources**

#### **State Assessed Property Section using GIS**

- Reports/Presentations
- Auditing Property Record Data

#### **Property Tax Mapping Website**

https://www.revenue.state.mn.us/property-tax-mapping

## **Ask Away Activity**



### Ask Away Activity

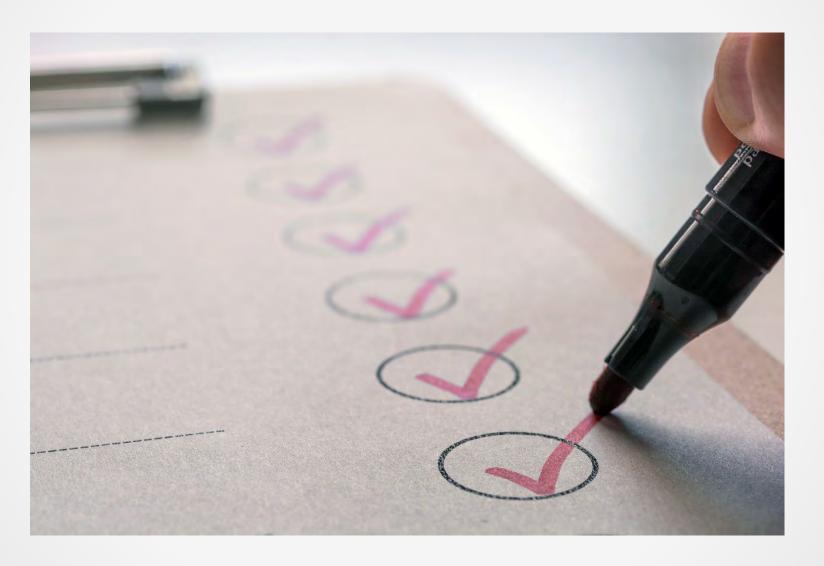




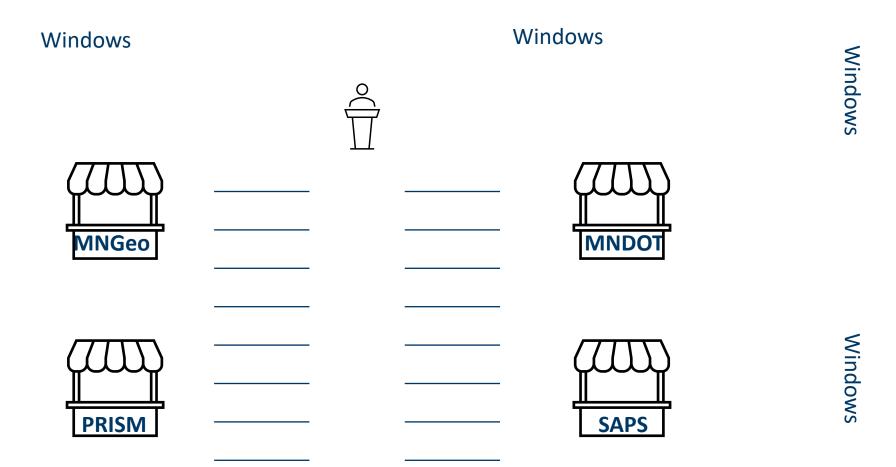




# **Check-In for MN Assessor Continuing Education**



# Fair Map





# Thank You!

#### **State Assessed Property Section**

sa.property@state.mn.us

November 20, 2024