



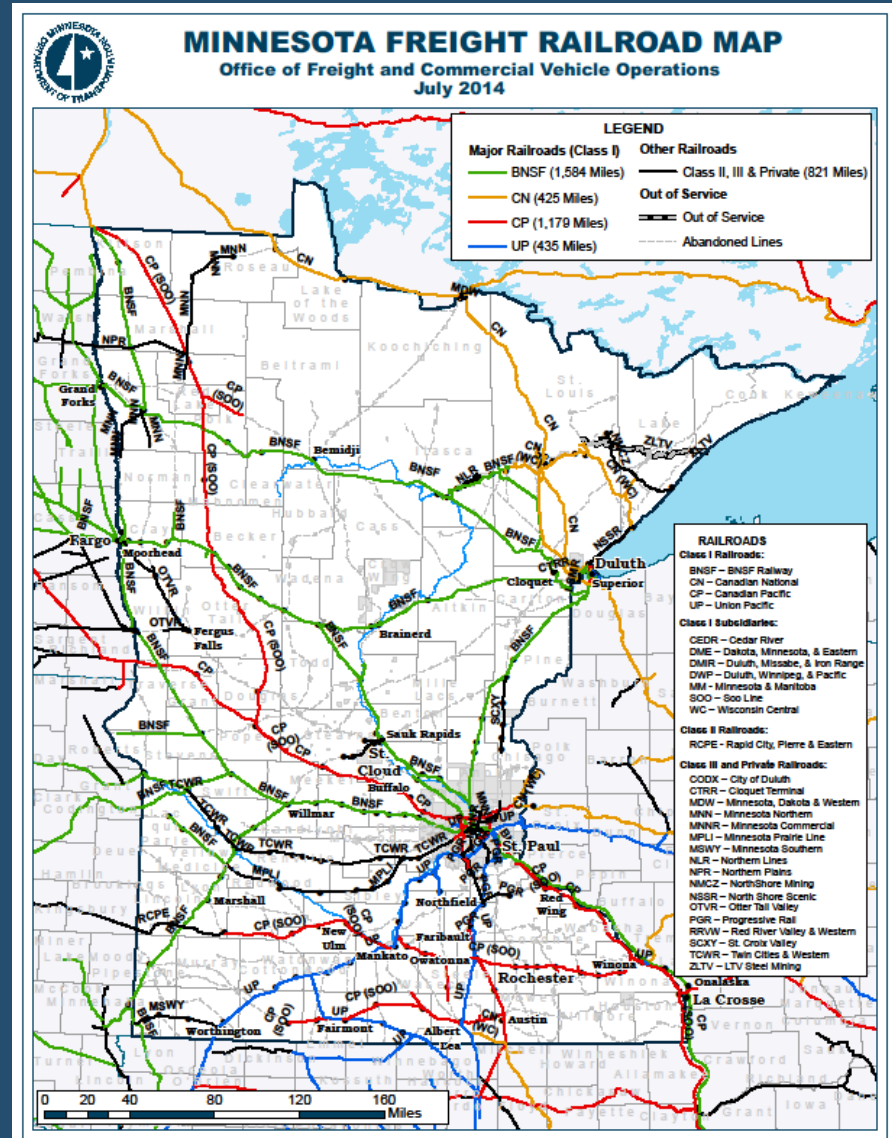
Railroad Safety in Minnesota:

Transportation Advisory Board
February 17, 2015



Current Rail System

- 4 Class I Railroads
- 1 Class II Railroad
- 16 Short Line Railroads
- 4500 Route Miles
- 250 Million tons/year
- Rail moved 38% by weight, 14% by value of all freight in MN – 3X US average
- 8th Largest system in Nation
- 25-40% growth by 2030 (7% growth, 2008-2013)





Relative Modal Contributions (US)

- 5.9 Trillion US Ton-miles, all modes
- 2.6 Trillion Ton-miles, truck
- 1.7 Trillion Ton-miles, rail
- 1.0 Trillion Ton-miles, pipeline
- 0.5 Trillion Ton-miles, waterways
- Average Haul; 917 miles, rail; 26 miles, truck
(80% of all freight trips are by truck)

2011 Statistics, USBTS



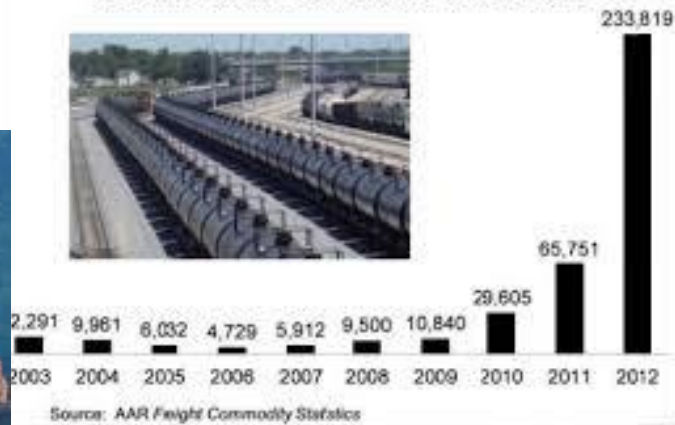


Revolution in Rail Industry

- Return to Profitability, traffic growth
- Rationalized system to 7 Class 1's in N.A.
- Track miles reduced to half of 1970's routes
- Contracted high-utilization unit trains (coal, grain shuttles, double-stack, crude oil)



Originated Rail Carloads of Crude Petroleum on U.S. Class I Railroads: 2003-2012





Rail Regulatory Structure

- Interstate Commerce – reserved to Federal Regulation, pre-empts local control
- Railroad powers of Eminent Domain included
- Common Carrier status, must accept shipper's tendered cargo without restriction
- Local 'police powers' apply if they do not hinder Interstate Commerce functions
- State manages grade crossing safety, partners in federal programs, rail development





Federal Agencies

- **FRA** (Federal Railroad Administration): rail safety, signals, standards, Amtrak and passenger rail funding and administration
- **STB** (Surface Transportation Board): rate and service dispute resolution (contract shipments exempt from regulation); construction, mergers, acquisitions, abandonments
- **PHMSA** (Pipeline and Hazardous Materials Safety Administration): tank car & hazmat standards and regulations





Bakken Shale Oil and Gas

- First commercial Bakken well; 2000
- Large-scale drilling, 2005; 1 Million B/D 2014
- Production (and oil trains) double by 2023
- First rail loading terminal (EOG); 2009
- Next large scale rail terminals; 2011
- Traffic today: 10 trains per day, 7 thru Fargo
- 40+ life to oil field, only 1/5 developed to date







Crude-by-Rail issues

- Only enough pipeline capacity for 1/3-1/2 of production over next ten years
- Rail flexibility to multiple Gulf, West, and East Coast refineries a major incentive to refiners
- Bakken crude sweet, light, extremely volatile; Low flash point & boiling point like gasoline or diesel
- Tank car designs, track capacity, rail operations, EMS coordination need upgrades







Oil Train State Actions

- Study Crude-By-Rail routes: crossing safety on 700 miles of main lines (out of 4400 miles in MN)
- Determine high priority grade crossing upgrades
Schedule \$2 Million of identified projects, 2015
- Hire additional Track Inspectors, Hazmat Inspector
- DPS: Coordinate Improved Emergency Training, Planning, Resources & Response
- PCA: Improve Rail Spill Response, Planning





Findings of Study

- **10 Projects to upgrade safety with \$2Million**
- **Medium-long term at-grade projects, \$20-30M**
- **15 key grade separations, \$243 M**
- **High risk identified from two sources: one-time catastrophic event (derailment / rupture / fire) and daily delay or blockage of community circulation and emergency response**





Other Corrective Actions

- **Federal: New Tank Car & Operating Standards; Jan-May, 2015**
- **State: DPS Gap Analysis, Jan., 2015**
Legislative Follow-up
- **Railroads: Install improved signals, increased track capacity, work rules, safety regimens**





Thank You.

Charley Zelle, Commissioner of MnDOT
Dave Christianson, MnDOT Freight & Rail

