



Wisconsin Freight Railroad Conference
Madison, WI
November 12, 2019

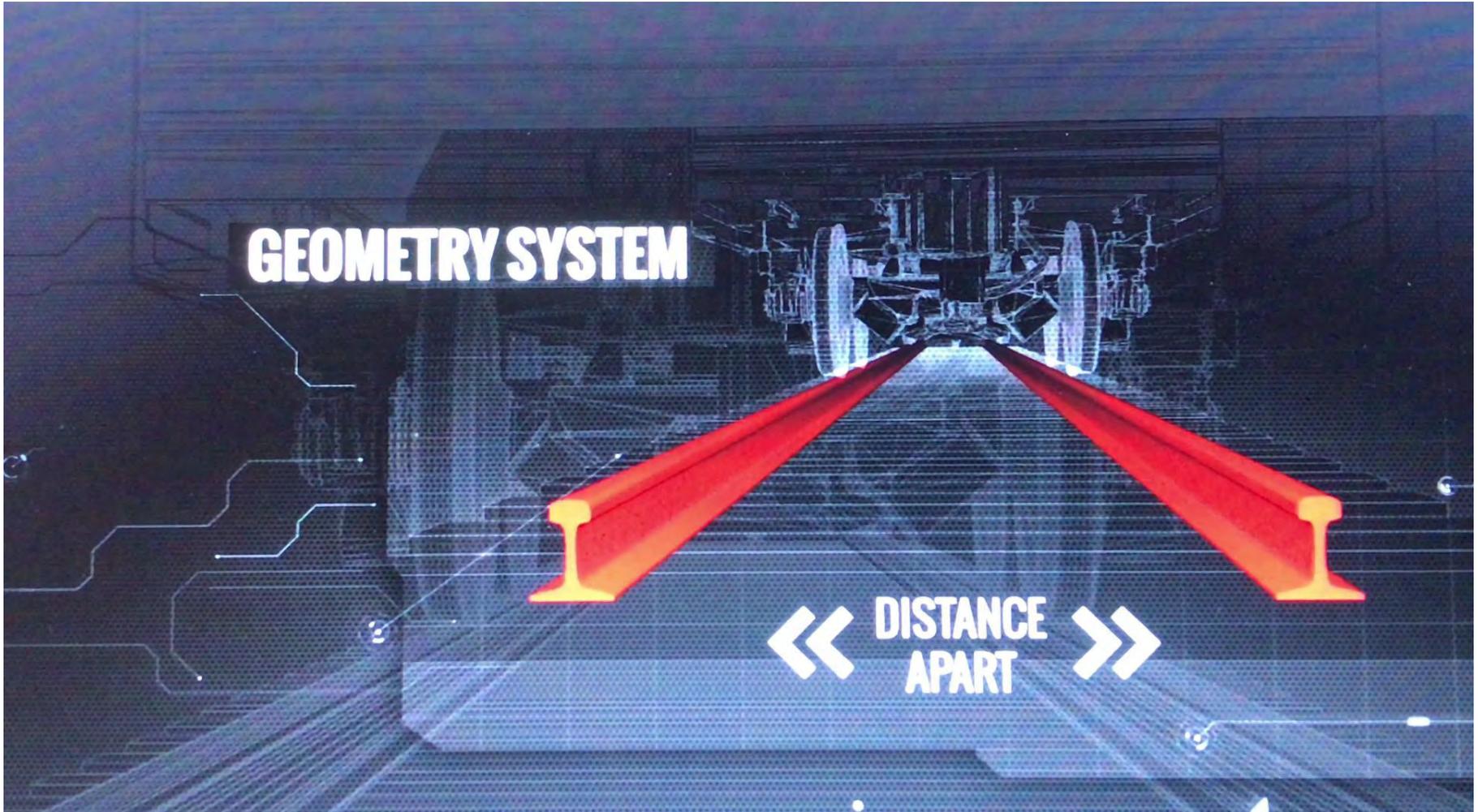
SAFETY



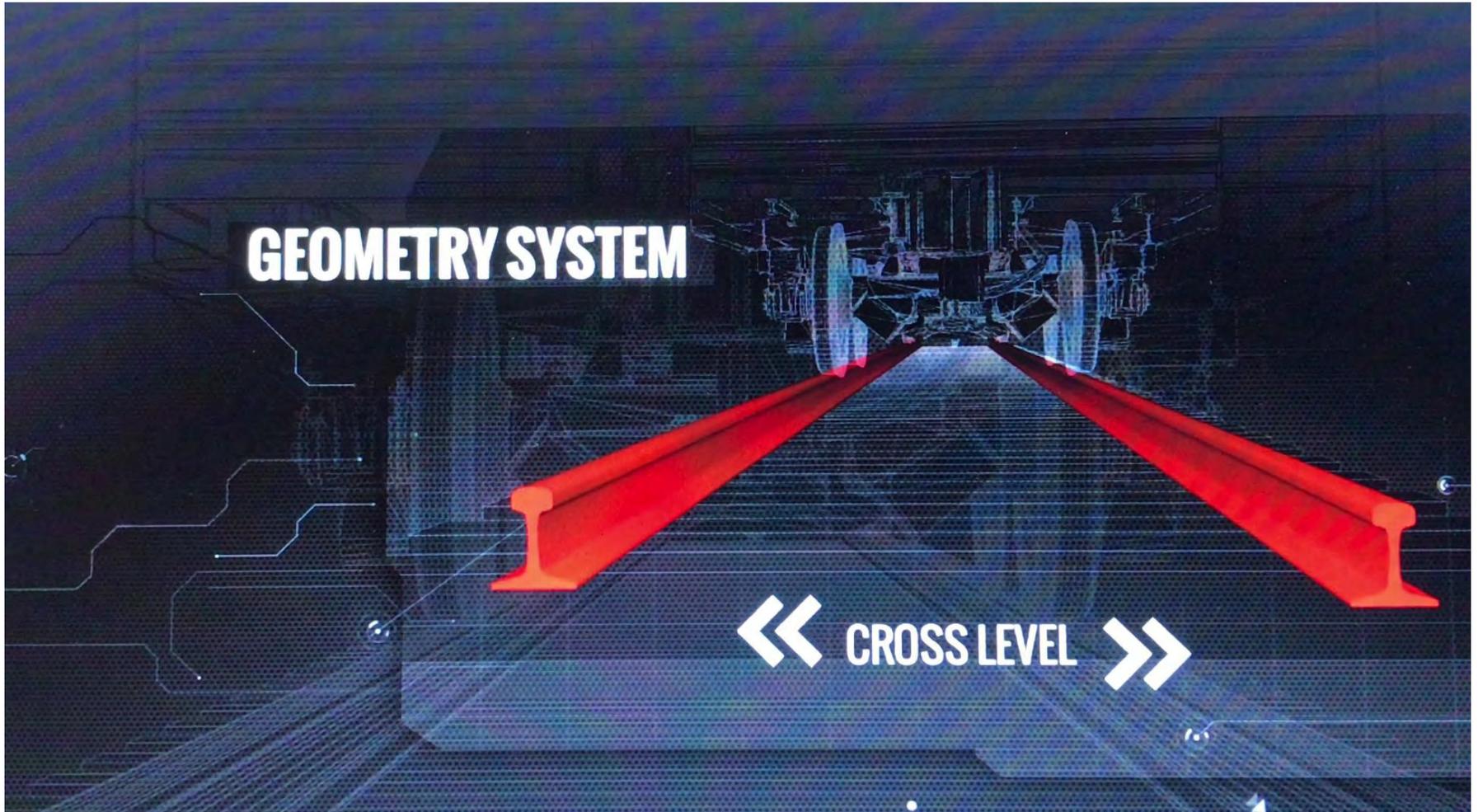
RAIL PROFILE
MEASURING RAIL SHAPE
FOR OPTIMUM PROFILE



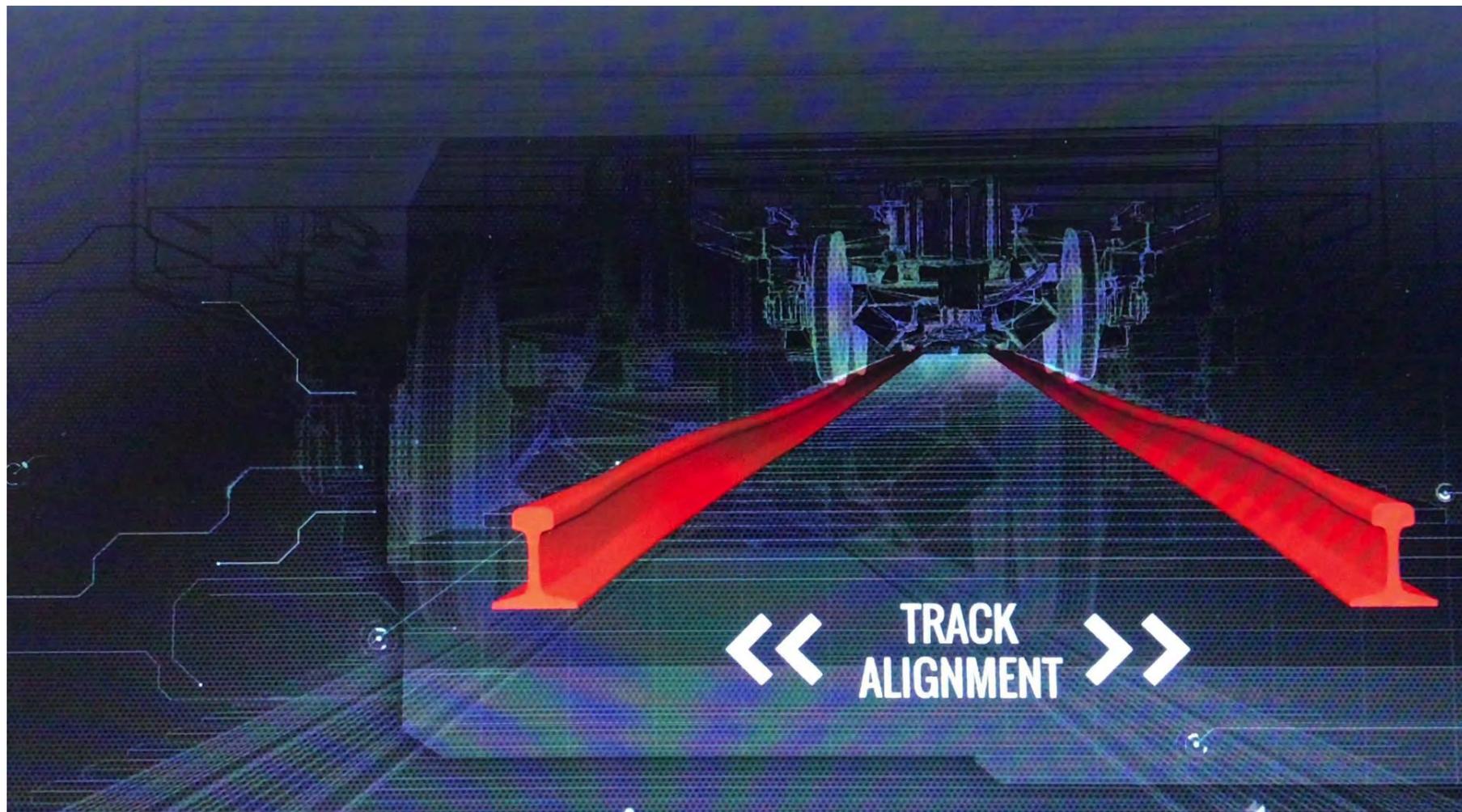
SAFETY



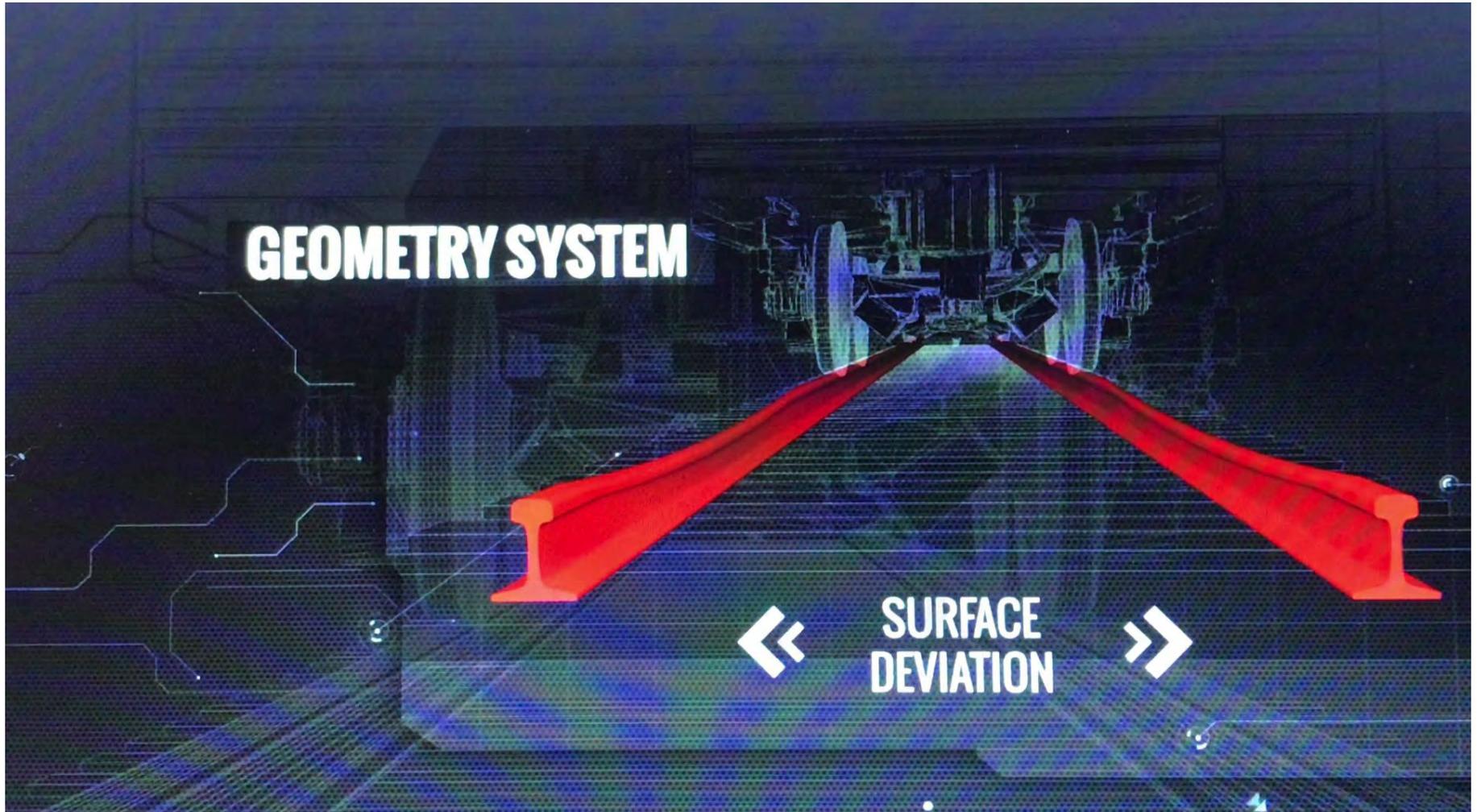
SAFETY



SAFETY

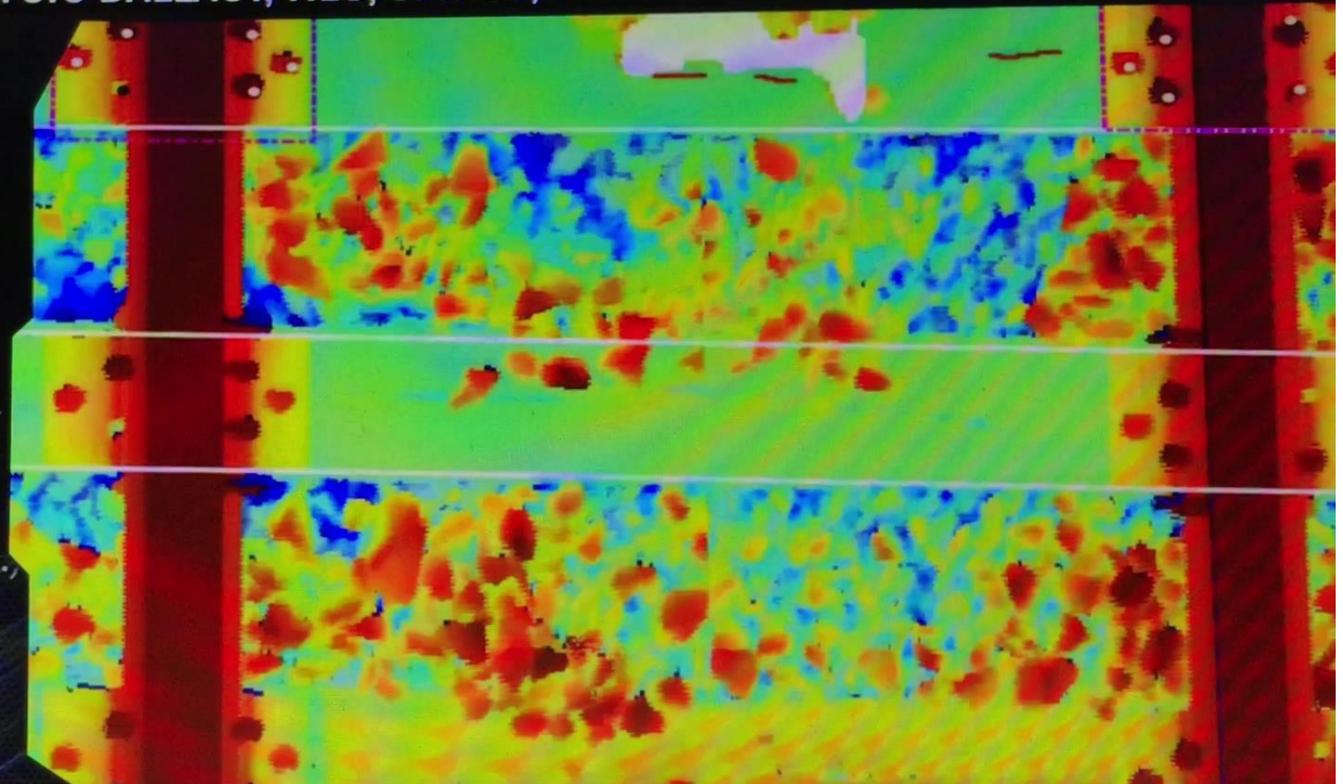


SAFETY



3D TRACK ASSESSMENT SYSTEM

COMPONENT ANALYSIS: BALLAST, TIES, SPIKES, PLATES.



HOW MANY ENGINES ARE NEEDED TO MOVE A TRAIN?



HOW MANY ENGINES ARE NEEDED TO MOVE A TRAIN?

“In the old days....”

		EASTWARD						HORSEPOWER							
				2250						2250					
		SD40	GP40	2400	GP38					2400	GP38	1750	1500		
From	To	3000	3000	2500	2000	1750	1500			2500	2000	1750	1500		
Ladysmith	Rhineland	4600	3795	3450	2953	2700	2300			2700	2300	2000	1800		
Withrow	CF Yard	6800	5675	4250	4250	3950	3400			3950	3400	3000	2800		
C.F. Yard	Boyd	3400	2805	2550	2182	1825	1700			2182	1825	1700	1500		
Boyd	Owen	3600	2970	2700	2311	2100	1800			2311	2100	1800	1500		
Ladysmith	Owen-Spencer	6800	5610	5100	4365	3950	3400			4365	3950	3400	2800		
Spencer	Stevens Point	7000	5775	5250	4494	4200	3500			4494	4200	3500	2800		
Stevens Point	Weyauwega	5600	4620	4800	3595	3250	2800			3595	3250	2800	2400		
Weyauwega	Neenah	4800	3960	3600	3081	2800	2400			3081	2800	2400	2000		
Neenah	Shops Yard	6600	5445	4950	4237	3550	3300			4237	3550	3300	2800		
Shops Yard	Bryon	2900	2390	2175	1861	1675	1450			1861	1675	1450	1200		
Byron	Honey Creek	4400	3630	3300	2824	2550	2200			2824	2550	2200	1800		
Honey Creek	Lake Villa	5000	4125	3750	3210	3300	2500			3210	3300	2500	2000		
Lake Villa	Schiller Park	6000	4950	4500	3852	3500	3000			3852	3500	3000	2500		
Rugby Jct.	Milwaukee	7200	5940	5400	4622	4200	3600			4622	4200	3600	3000		
Neenah	Manitowoc	4040	3675	3145	2850	2450				3145	2850	2450	2000		
Superior	Hillcrest	3250	2530	2300	2086	1900	1625			2086	1900	1625	1400		
Hillcrest	Ladysmith	6600	5445	4950	4237	3850	3300			4237	3850	3300	2800		
Ashland	Morse	2900	2390	2175	1861	1675	1450			1861	1675	1450	1200		
Morse	Prentice	4300	3550	3225	2760	2500	2150			2760	2500	2150	1800		
Prentice	Chelsea	4600	3795	3450	2953	2675	2300			2953	2675	2300	2000		
Chelsea	Spencer	5600	4620	4200	3595	3250	2800			3595	3250	2800	2400		
Eau Claire	C.F. Yard	5300	4370	3975	3402	3075	2650			3402	3075	2650	2200		
Withrow	C.F. Yard	6800	5675	4250	4250	1500	1350			4250	1500	1350	1200		

		WESTWARD						HORSEPOWER							
				2250						2250					
		SD40	GP40	2400	GP38					2400	GP38	1750	1500		
From	To	3000	3000	2500	2000	1750	1500			2500	2000	1750	1500		
Schiller Park	Rugby Jct.	4200	3465	3150	2696	2350	2100			2696	2350	2100	1800		
Milwaukee	Rugby Jct.	3300	2720	2475	2118	2000	1650			2118	2000	1650	1400		
Rugby Jct.	Shops Yard	3600	2970	2700	2311	2100	1800			2311	2100	1800	1500		
Shops Yard	Neenah	4800	3960	3600	3081	2800	2400			3081	2800	2400	2000		
Neenah	Anton	4200	3465	3150	2696	2450	2100			2696	2450	2100	1800		
Anton	Stevens Point	5500	4535	4125	3531	3200	2750			3531	3200	2750	2400		
Stevens Point	Marshfield	3800	3135	2850	2439	2200	1900			2439	2200	1900	1600		
Marshfield	C.F. Yard	4000	3300	3000	2568	2350	2000			2568	2350	2000	1700		
CF Yard	Howard	2800	2300	2100	2100	1600	1400			2100	1600	1400	1200		
Howard	Withrow	4000	3300	3000	3000	2350	2000			3000	2350	2000	1700		
Rhineland	Brantwood	4700	3875	3525	3017	2750	2350			3017	2750	2350	2000		
Brantwood	Ladysmith	7000	5775	5250	4494	4100	3500			4494	4100	3500	3000		
Manitowoc	Valders		3050	2775	1605	1350	1250			1605	1350	1250	1000		
Valders	Neenah		3630	3300	2311	2000	1800			2311	2000	1800	1500		
Owen	Superior	5000	4125	3750	3210	2900	2500			3210	2900	2500	2200		
Spencer	Morse	4000	3300	3000	2568	2350	2000			2568	2350	2000	1700		
Morse	Ashland		6185	5625	4815	4400	3750			4815	4400	3750	3200		
C.F. Yard	Eau Claire	3200	2640	2400	2054	1875	1600			2054	1875	1600	1400		
C.F. Yard	Howard	2800	2300	2100	2100	1600	1400			2100	1600	1400	1200		
Howard	Withrow	4000	3300	3000	3000	2350	2000			3000	2350	2000	1700		

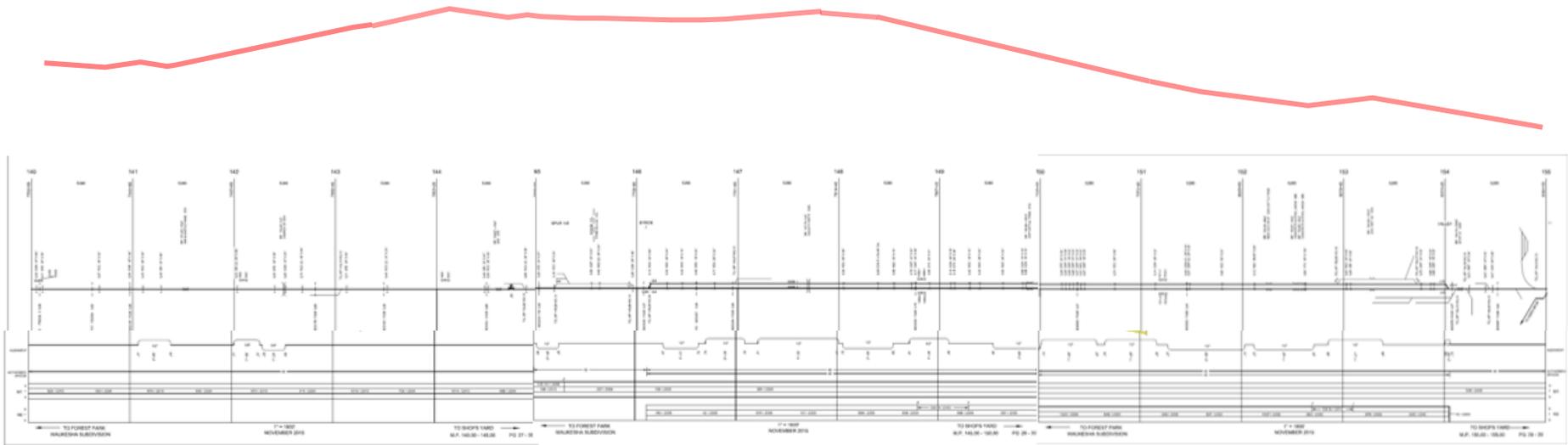
HOW MANY ENGINES ARE NEEDED TO MOVE A TRAIN?

EASTWARD		HORSEPOWER					
From	To	SD40		GP40		2250	
		3000	3000	2500	2000	1750	1500
Ladysmith	Rhineland	4600	3795	3450	2953	2700	2300
Withrow	CF Yard	6800	5675	4250	4250	3950	3400
C.F. Yard	Boyd	3400	2805	2550	2182	1825	1700
Boyd	Owen	3600	2970	2700	2311	2100	1800
Ladysmith	Owen-Spencer	6800	5610	5100	4365	3950	3400
Spencer	Stevens Point	7000	5775	5250	4494	4200	3500
Stevens Point	Weyauwega	5600	4620	4800	3595	3250	2800
Weyauwega	Neenah	4800	3960	3600	3081	2800	2400
Neenah	Shops Yard	6600	5445	4950	4237	3550	3300
Shops Yard	Bryon	2900	2390	2175	1861	1675	1450
Byron	Honey Creek	4400	3630	3300	2824	2550	2200
Honey Creek	Lake Villa	5000	4125	3750	3210	3300	2500
Lake Villa	Schiller Park	6000	4950	4500	3852	3500	3000
Rugby Jct.	Milwaukee	7200	5940	5400	4622	4200	3600
Neenah	Manitowoc	4040	3675	3145	2850	2450	
Superior	Hillcrest	3250	2530	2300	2086	1900	1625
Hillcrest	Ladysmith	6600	5445	4950	4237	3850	3300
Ashland	Morse	2900	2390	2175	1861	1675	1450
Morse	Prentice	4300	3550	3225	2760	2500	2150
Prentice	Chelsea	4600	3795	3450	2953	2675	2300
Chelsea	Spencer	5600	4620	4200	3595	3250	2800
Eau Claire	C.F. Yard	5300	4370	3975	3402	3075	2650
Withrow	C.F. Yard	6800	5675	4250	4250	1500	1350

WESTWARD		HORSEPOWER					
From	To	SD40		GP40		2250	
		3000	3000	2500	2000	1750	1500
Schiller Park	Rugby Jct.	4200	3465	3150	2696	2350	2100
Milwaukee	Rugby Jct.	3300	2720	2475	2118	2000	1650
Rugby Jct.	Shops Yard	3600	2970	2700	2311	2100	1800
Shops Yard	Neenah	4800	3960	3600	3081	2800	2400
Neenah	Anton	4200	3465	3150	2696	2450	2100
Anton	Stevens Point	5500	4535	4125	3531	3200	2750
Stevens Point	Marshfield	3800	3135	2850	2439	2200	1900
Marshfield	C.F. Yard	4000	3300	3000	2568	2350	2000
CF Yard	Howard	2800	2300	2100	2100	1600	1400
Howard	Withrow	4000	3300	3000	3000	2350	2000
Rhineland	Brantwood	4700	3875	3525	3017	2750	2350
Brantwood	Ladysmith	7000	5775	5250	4494	4100	3500
Manitowoc	Valders		3050	2775	1605	1350	1250
Valders	Neenah		3630	3300	2311	2000	1800
Owen	Superior	5000	4125	3750	3210	2900	2500
Spencer	Morse	4000	3300	3000	2568	2350	2000
Morse	Ashland		6185	5625	4815	4400	3750
C.F. Yard	Eau Claire	3200	2640	2400	2054	1875	1600
C.F. Yard	Howard	2800	2300	2100	2100	1600	1400
Howard	Withrow	4000	3300	3000	3000	2350	2000

HOW MANY ENGINES ARE NEEDED TO MOVE A TRAIN?





Chicago
←

Lomira

Byron

Fond du Lac

HOW MANY ENGINES ARE NEEDED TO MOVE A TRAIN?



HOW MANY ENGINES ARE NEEDED TO MOVE A TRAIN?

HPT RATIO

Take the horsepower of the proposed locomotives

8,800 h.p.

Divide by the weight of the train (in tons)

9,560 tons

Result is Horsepower per Ton Ratio

.92

Compare to requirement for that train for the line segment it is running over

WHY DO I SEE UP TRAINS ON CN?



Run thru trains - Westin coal
Paying off h.p. hours
Just hanging onto them....

WHY DO I SEE XX ENGINES ON XX?



CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?

CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?



CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?



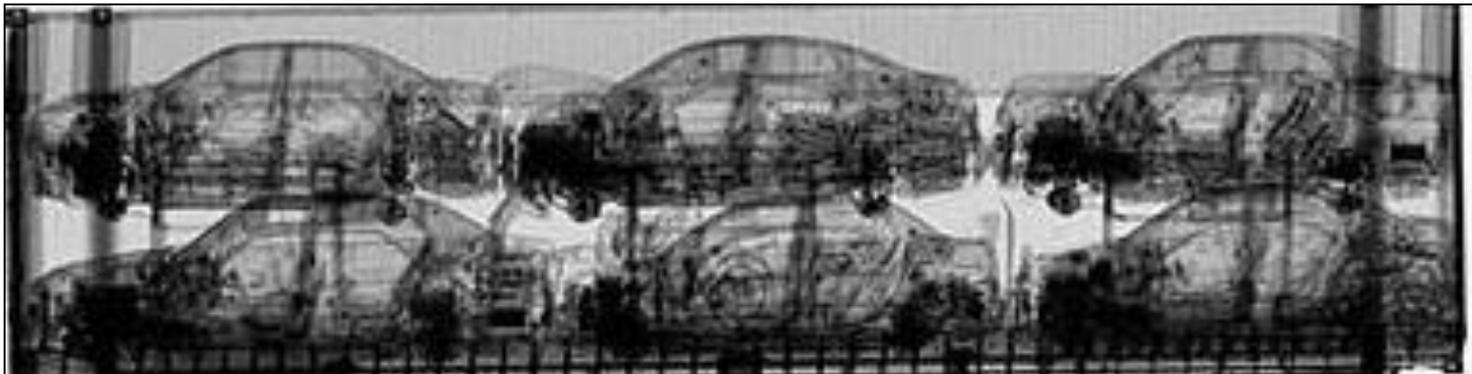
CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?



1. SS line transmits EDI rail data to CN 72 hrs prior to vessel arrival
2. CN transmits EDI cargo manifest to CBP prior to vessel unloading
3. CN transmits en-route train data to CBP
4. CBP performs pre-arrival risk assessment (ACE, ATS, document review)
5. Entire train is VACIS scanned and compared to train data
6. CBP officers meet train on arrival for Live Lift inspection
7. If no secondary exam needed container returned to original train slot

CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?

VACIS-Vehicle &
Cargo Inspection
System



CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?

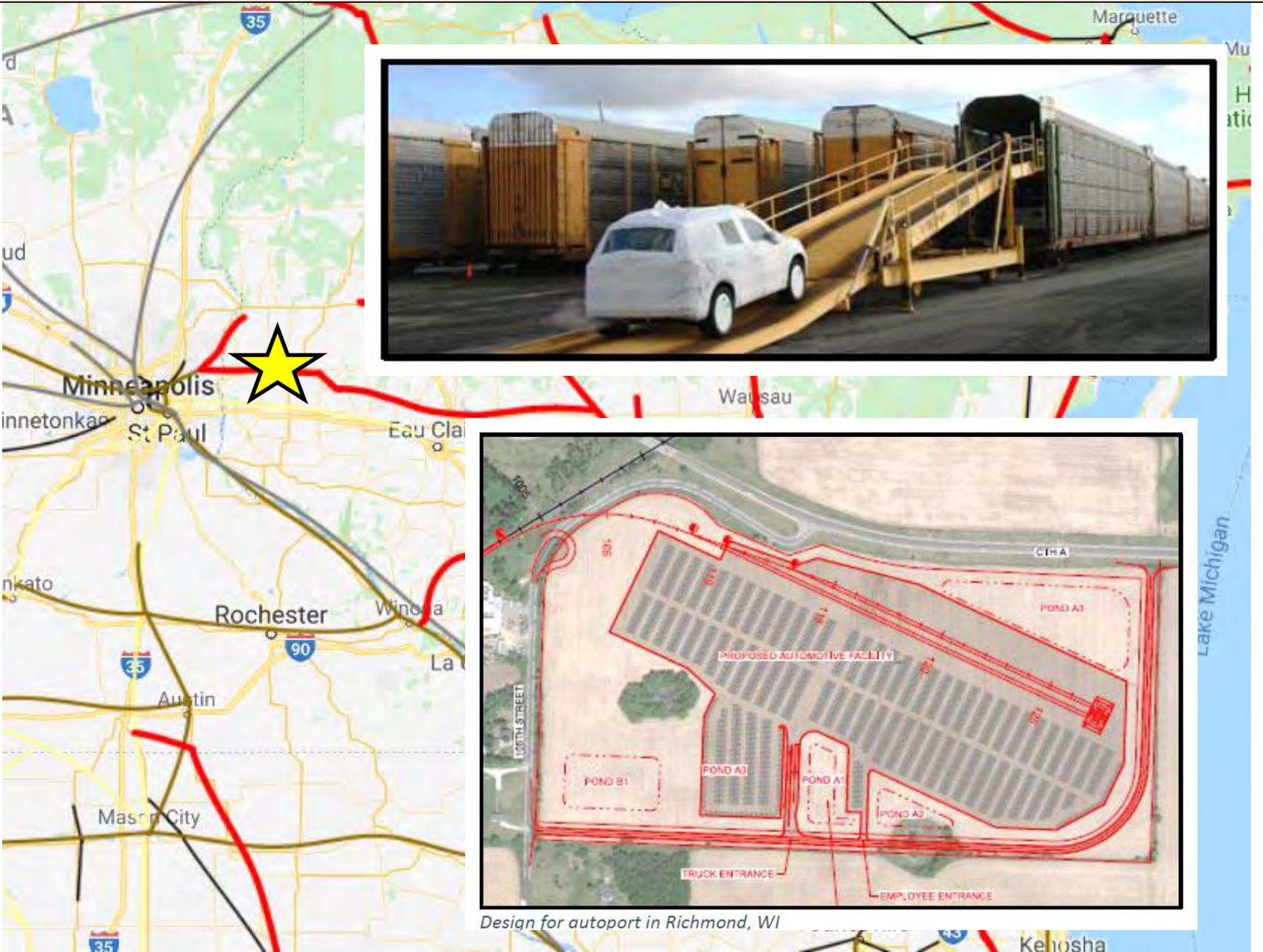


CROSS BORDER OPERATIONS – AND WHAT ARE ALL THESE BOXES?



NEW RICHMOND

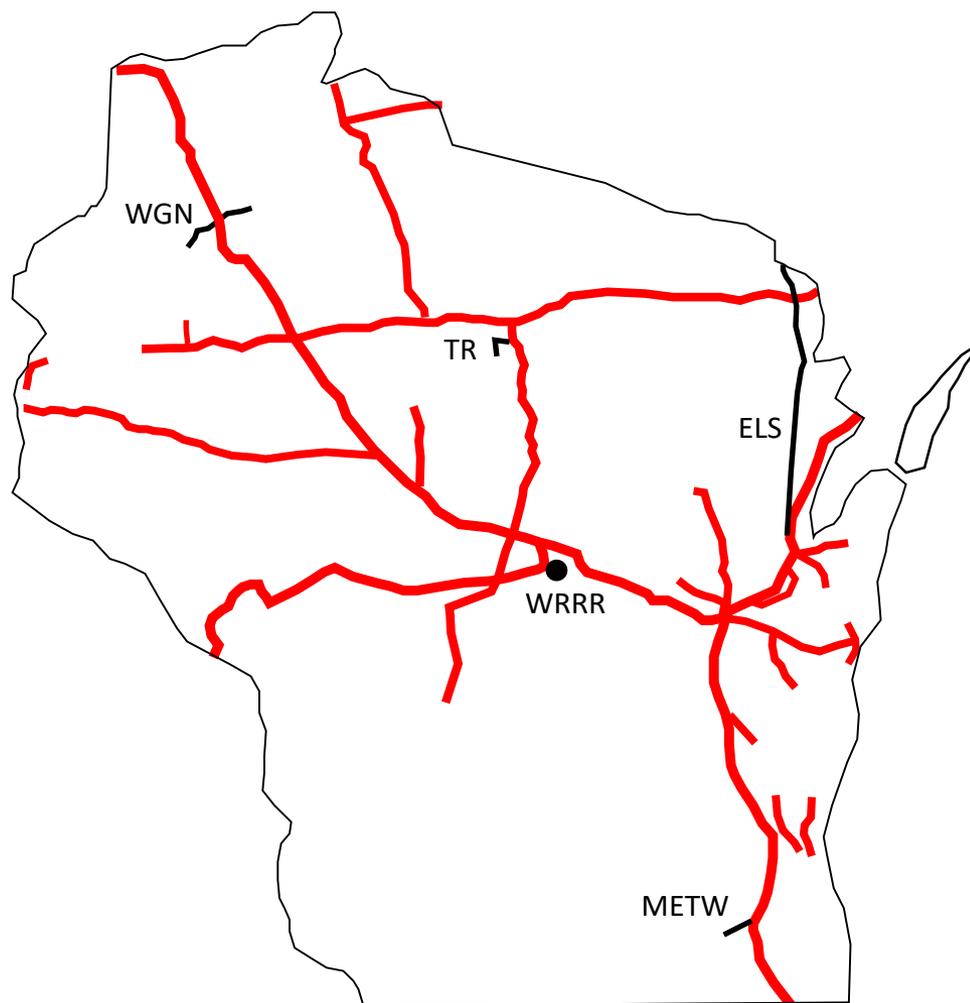
NEW RICHMOND



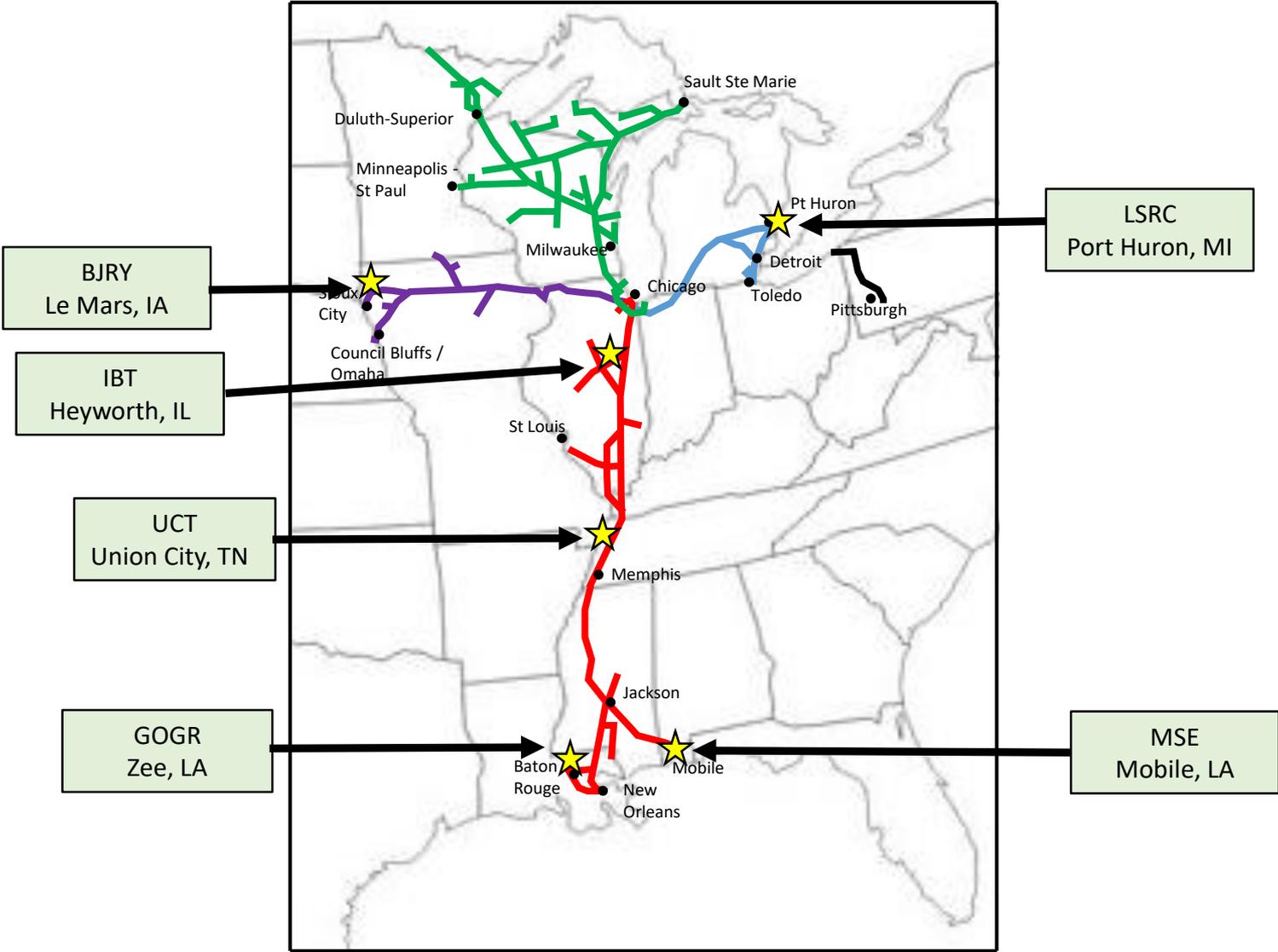
Design for autoport in Richmond, WI

SHORTLINE INTERACTION

SHORTLINE INTERACTION



SHORTLINE INTERACTION – RAILROAD TO RAILROAD



Either RR initiates
SL is a RR
CN's track

SHORTLINE INTERACTION – INDUSTRY TO RAILROAD



Transportation

CSX is selling 650 miles of track



CSX
COURTESY OF CSX



By Will Robinson – Reporter, Jacksonville Business Journal



- Not cost reduction exercise
- Not just to change operators
- They can do something better than CN can
 - more service (LSRC)
 - different service (UCT)
- Load the train (IBT)
- They are bringing an idle line back to life (ITB, GOCR)
- Like short lines already in the area
- Customer initiates (WRRR)
 - reduce OS
 - Better switching

SHORTLINE INTERACTION



SHORTLINE INTERACTION

WGN story



SHORTLINE INTERACTION



SHORTLINE INTERACTION



SHORTLINE INTERACTION



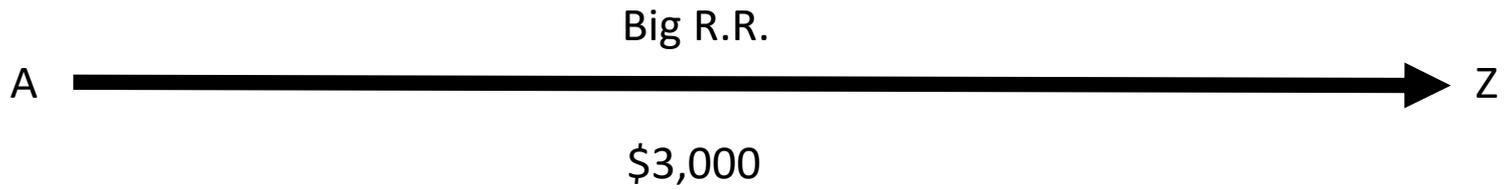
SHORTLINE INTERACTION

Next....

Who Pays ???

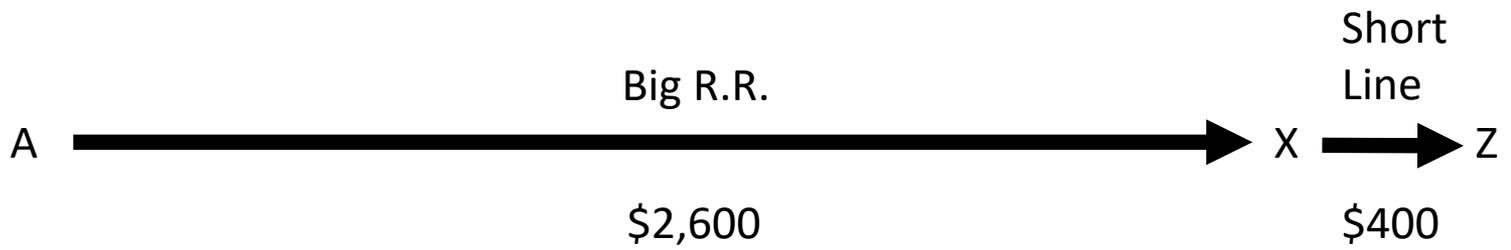


SHORTLINE INTERACTION



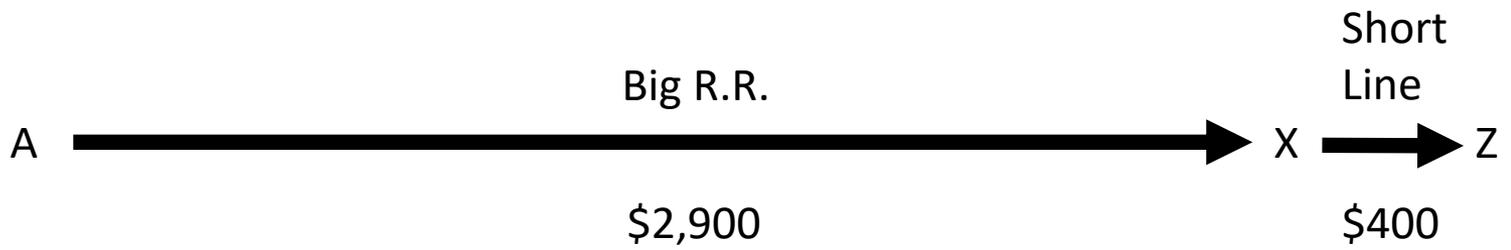
Total Rate = \$3,000

SHORTLINE INTERACTION



Total Rate = \$3,000

SHORTLINE INTERACTION



Total Rate = \$3,300

Thank you !

