

# American Association of Port Authorities Joint Port Operations and Information Technology Seminar

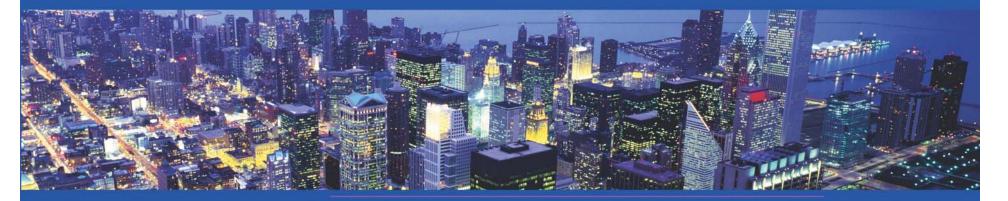
## Improving the Chicago Rail Gateway

**Luann Hamilton - Chicago Department of Transportation Chuck Allen - Norfolk Southern Corporation Robert Marros - HNTB** 

### ILLINOIS DEPARTMENT OF TRANSPORTATION CHICAGO DEPARTMENT OF TRANSPORTATION NORTH AMERICA'S FREIGHT RAILROADS

#### CREATE

Chicago Region Environmental and Transportation Efficiency Program



#### KEEPING THE GO IN CHICAGO



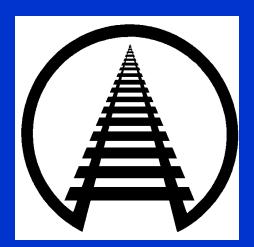












ASSOCIATION OF AMERICAN RAILROADS











#### **Chicago Rail Infrastructure**

- 16,000 acres, twice the area of O'Hare
- 78 yards, including 21 intermodal (rail-truck)
- 2,800 route-miles of track
- 12 commuter rail routes
- 1,100 viaducts and bridges

#### Daily Activity:

- 1,200 trains (500 freight, 700 passenger)
- 37,500 rail cars processed
- 20,000 truck moves through intermodal gates





#### Chicago: The Nation's Transportation Hub

- World's 3rd busiest intermodal hub.
- One third of all freight rail traffic converges on Chicago daily.
- Chicago's rail network is a key part of national, regional and local economy.
- Over the next 20 years, freight rail volume in Chicago will increase 80%.
- If rail capacity is not addressed, Chicago will lose \$2 billion in production over the next two decades.



"Unless we do something, Chicago is in danger of becoming a bottleneck in the nation's rail transportation system. And that would have serious consequences not just for the city but for the nation as a whole. If we don't make improvements, we can expect even worse congestion."

— Mayor Richard M. Daley





#### **MANAGEMENT OF INDUSTRY ISSUES**

**MANAGEMENT OF INDIVIDUAL ISSUES** 

**Association of American** Railroads **Board of Directors** 

(Railroad CEOs)

**Safety & Operations Management Comm.** (Chief Operating Officers)

**Chicago Planning Group** 

(Local and System Operating Personnel)

Chicago Transp. **Coordination Office**  **Service Design Team** 

**Intermodal Team** 

Metra Amtrak **BNSF CN CP CSXT** UP NS

IHB

**BRC** 























**Process Improvements** 

**Terminal Integration** 

**Coordination** 



**Planning** 

**Communication** 

**Discipline & Control** 



**Accomplishments** 

**Communication Efforts** 

**Maintenance of Way Weekly Plan** 

**Chicago Terminal Alert Plan** 

**Task Improvements** 

**Integrated Train Lineup System** 

**Measurement and Control Indicators** 



**Accomplishments** 

**Communication Efforts** 

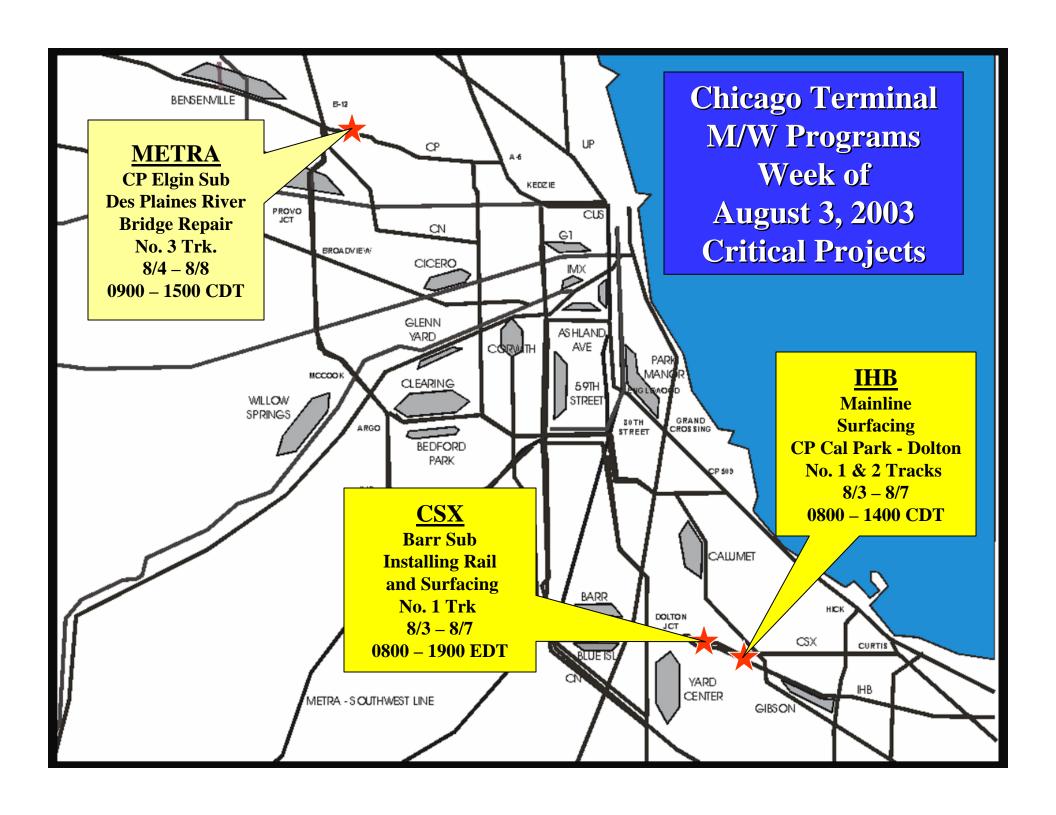
**Maintenance of Way Weekly Plan** 

**Chicago Terminal Alert Plan** 

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#### **Chicago Terminal Alert Plan**

As of 11/2/2004

Chicago Terminal / Intermediate And Class One Carriers



Level 1

**Conditions:** 2-6" of Snow in 24 Hours, Subfreezing Temp.

**Action:** No Transportation Plan Change;

Implement Local Winter Operating Plans

Level 2

Conditions: 7-10" of Snow in 24 Hours, Temp. 0 to -19,

Winds 15-20 Mph

**Action:** Increased Communication Between Railroads;

Possible staging or alternate flow of trains

Level 3

Conditions: Over 10" Snow in 24 Hours, Temp. Under -20,

Winds Over 20 mph

**Action:** 20% Quota Reduction of Traffic Through Chicago





**Accomplishments** 

**Communication Efforts** 

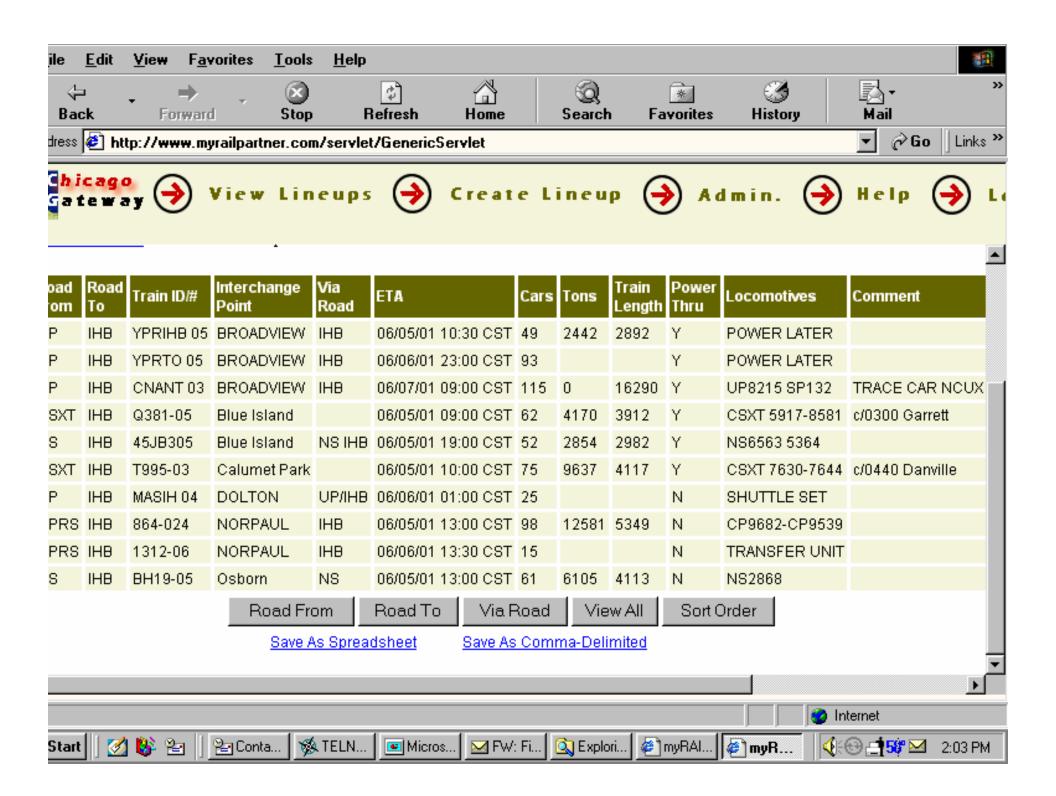
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### CHICAGO TRANSPORTATION COORDINATION OFFICE

#### Intermodal Report

CHICAGO DAILY UPDATE - 04-04-02 - 1200

CURRENT STATUS:	TODAY	7-Day <u>Average</u>	Fluid <u>Capacity</u>	Level Three	Inbound Limitations (if any)
Yard Inventories(footage)	457,700	407,276	690,480		
Corwith (BN)	97,153	97,318	123,580	133,560	
Cicero (BN)	77,055	69,122	78,200	85,100	
59th Street (CSX)	30,300	21,185	80,000	101,000	
Bedford Park (CSX)	58,500	46,186	105,000	130,000	
Markham (CNIC)	24,905	24,905	57,000	68,400	
Bensenville (CP)	5,610	7,664	16,700	22,700	
Schiller Park (CP)	18,679	15,768	24,000	30,000	
47th Street (NS)	39,734	22,756	70,000	75,000	
Landers (NS)	10,064	18,244	31,000	40,000	
Global One (UP)	34,500	43,243	45,000	58,250	
Global Two (UP)	61,200	40,886	60,000	75,550	



### CHICAGO TRANSPORTATION COORDINATION OFFICE

#### Manifest Report

CHICAGO DAILY UPDATE - 04-04-02 - 1200

	TODAY	AVG 7-DY	FLUID GOAL	Level Three	Inbound Limitations (if any)
CURRENT STATUS:	<u></u>	·		_ <u></u>	
Yard Inventories(cars)	11,972	12,207	<14,000		
Clearing (BRC)	1,997	1,817	3,000	3,800	
Blue Island (IHB)	1,991	1,733	1,800	2,000	
Markham (CN/IC)	1,429	1,585	1,600	2,100	
Bensenville (CP)	1,973	1,993	2,250	2,600	
Barr (CSX)	1,659	1,688	2,000	2,500	
Calumet (NS)	640	741	1,100	1,400	
Proviso (UP)	2,283	2,649	3,200	3,800	
Trains Staged for VC	0	0	<12	<24	
Outbound BRC/IHB trains available > 9hrs	0	0.0			



**Accomplishments** 

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### **Chicago Simulation Project**

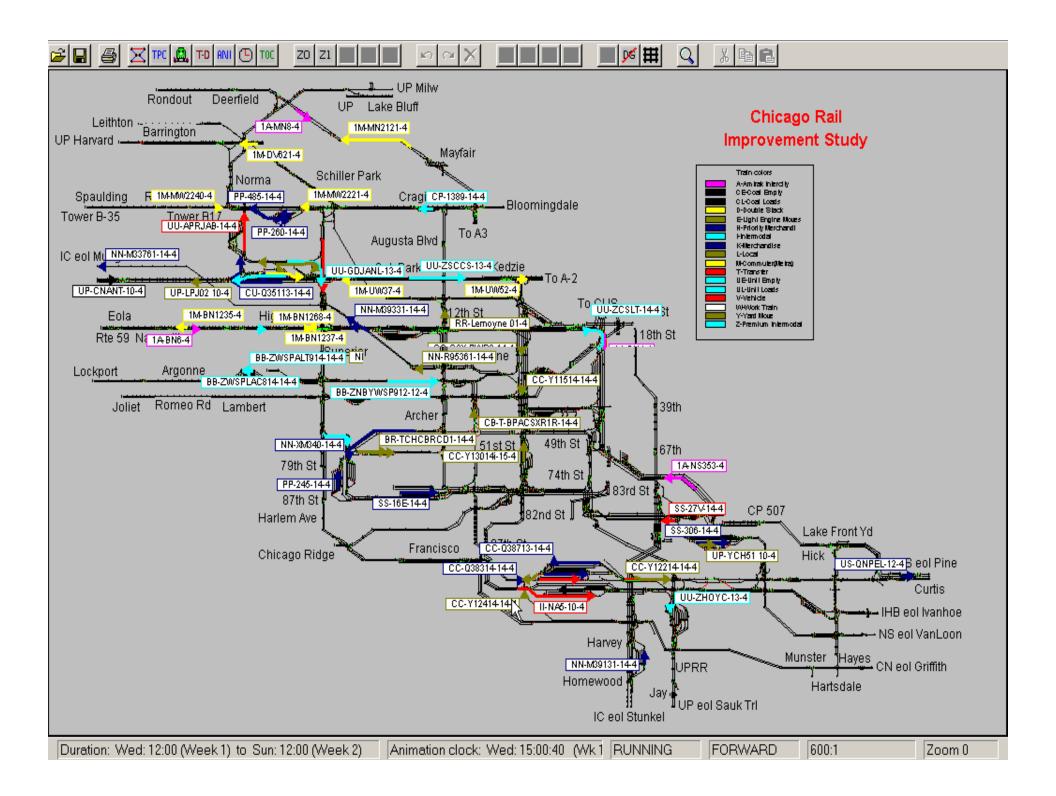
A Computer Simulation of the Chicago Switching District:

- 893 Miles of Mainline Track
- 119 Interlocking Plants
- 1,800+ Total Freight Trains
- 1,114 Passenger Trains
- 61 Freight Yards
- 4,698 Control Points



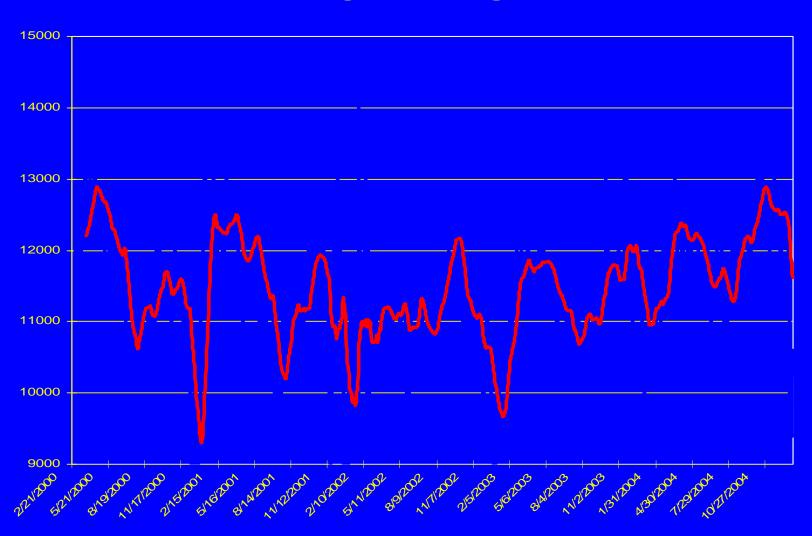
### Chicago Improvement Rail Traffic Controller (RTC)

- \* Developed by Berkeley Simulation
- \* RTC is a software package that dispatches trains using the same elements as a human dispatcher.
- \* RTC solves the dispatching problem on a much larger scale: greater distances and longer periods of time.
- \* RTC accounts for different equipment types, train consists, train handling characteristics, terrain and track conditions.
- \* RTC has been used in 31 major modeling exercises across the US, and is being developed for "real time" applications





#### **Chicago Interchange**





The coordinated, cooperative efforts between the carriers have resulted in improvements in the Chicago Terminal for the benefit of the railroads, shippers, stockholders and the citizens of Chicago

Further improvements require improved infrastructure!



### Chicago's Path Forward

- Continue with Process Improvements that produce:
  - The Safest Transportation Operations
  - Improved Train Throughput
  - Reduced Rail Traffic Dwell
- Facilitate Increased Governmental and Civic Partnership with Rail Process Improvements
- Development of the CREATE Program as a result of the partnership with Chicago and Illinois



### Development of the

### CREATE Program

to improve rail flow through the Chicago Terminal



### trategic Objectives

nhance Capacity and Operations

ocus on Service Reliability and Operational Efficiencies

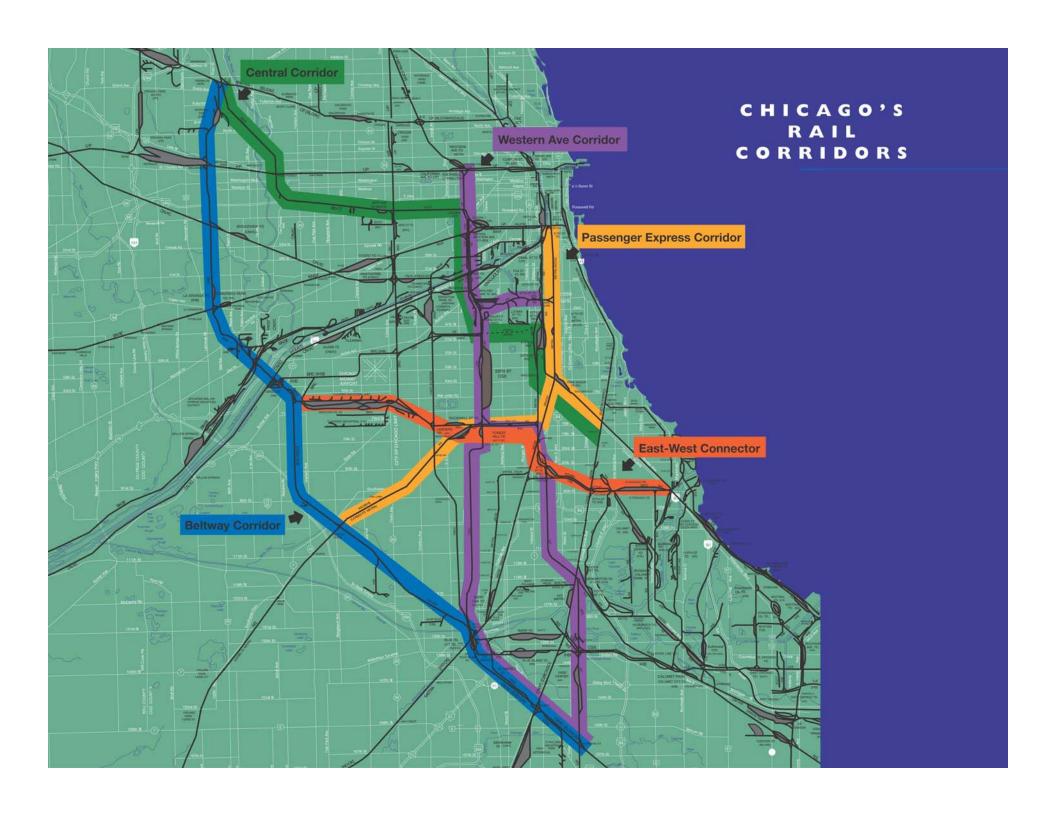
evelop Alternate Route Strategies

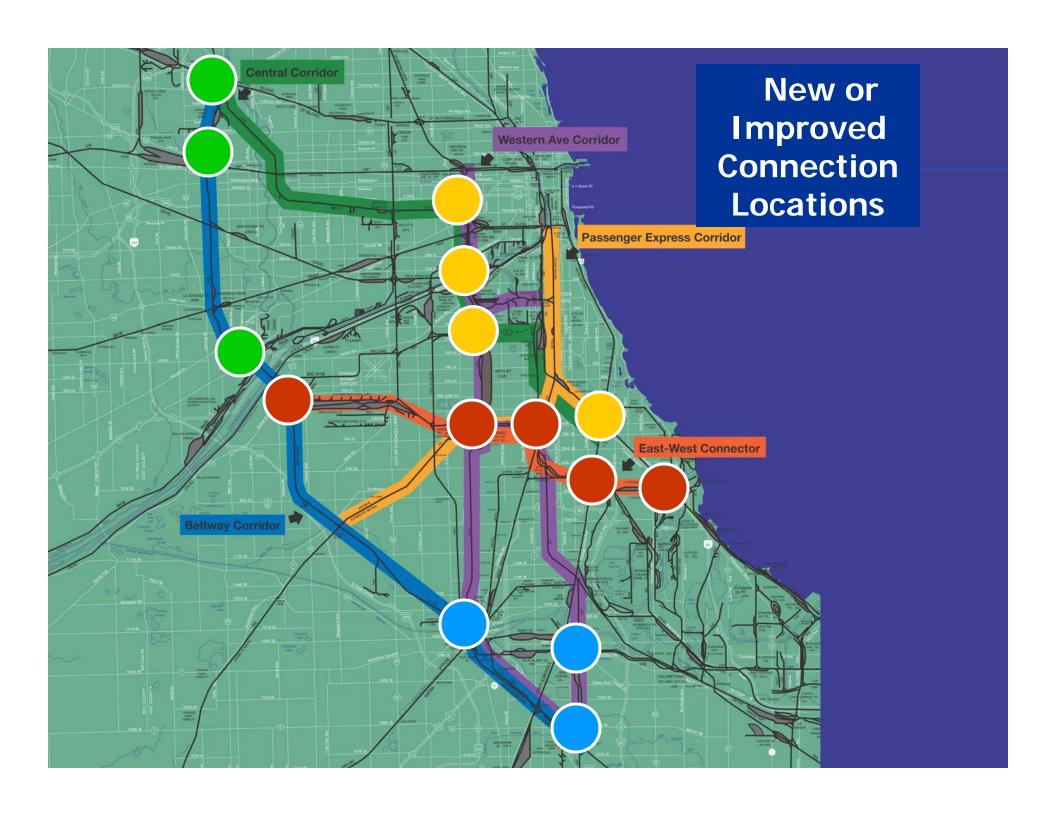
eparate Freight and Passenger

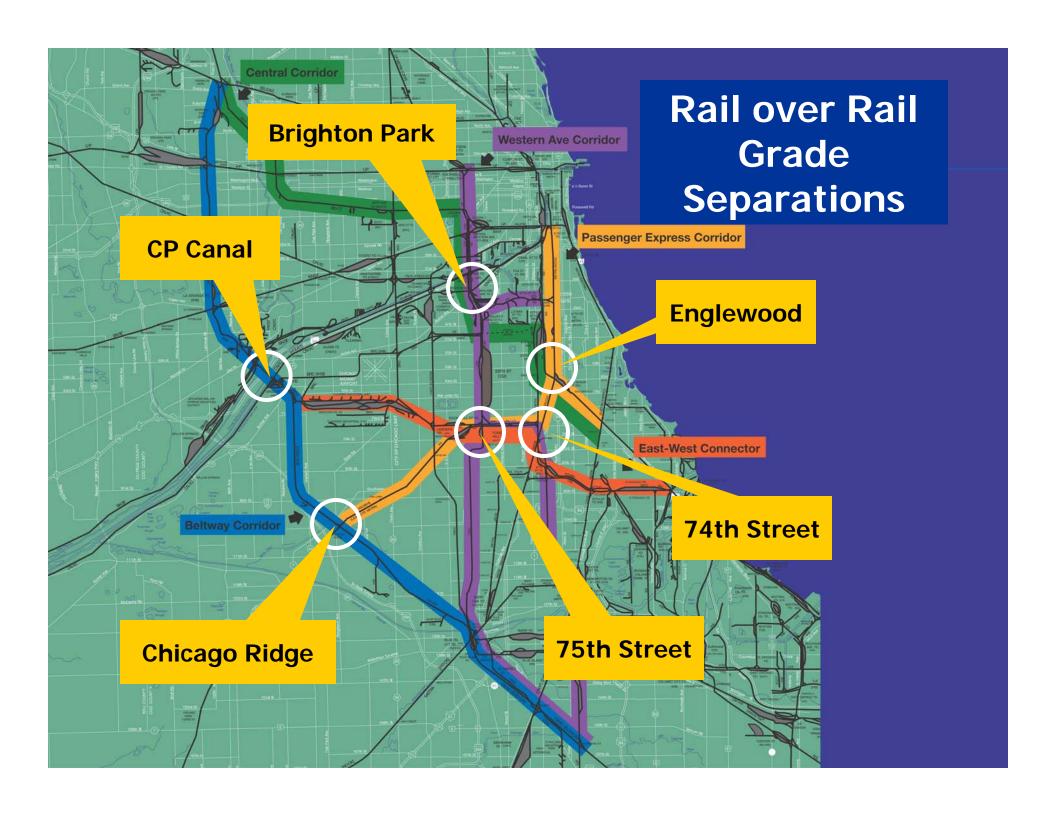


#### **Proposed Chicago Rail Plan CREATE**

- Focus operations on 4 key freight corridors and one passenger corridor
- Build 25 highway / rail grade crossing separations
- Build 6 rail / rail "flyovers"
- Extensive track and switch replacement
- Improve train control systems













#### **Local and Regional Benefits**

The CREATE Program will bring the Chicago region billions of dollars in societal, economic and job-related benefits.

- Less Congestion, fewer delays
- Increased safety
- Improved commuter rail service
- Cleaner air
- A stronger economy
- Increased lakefront land use



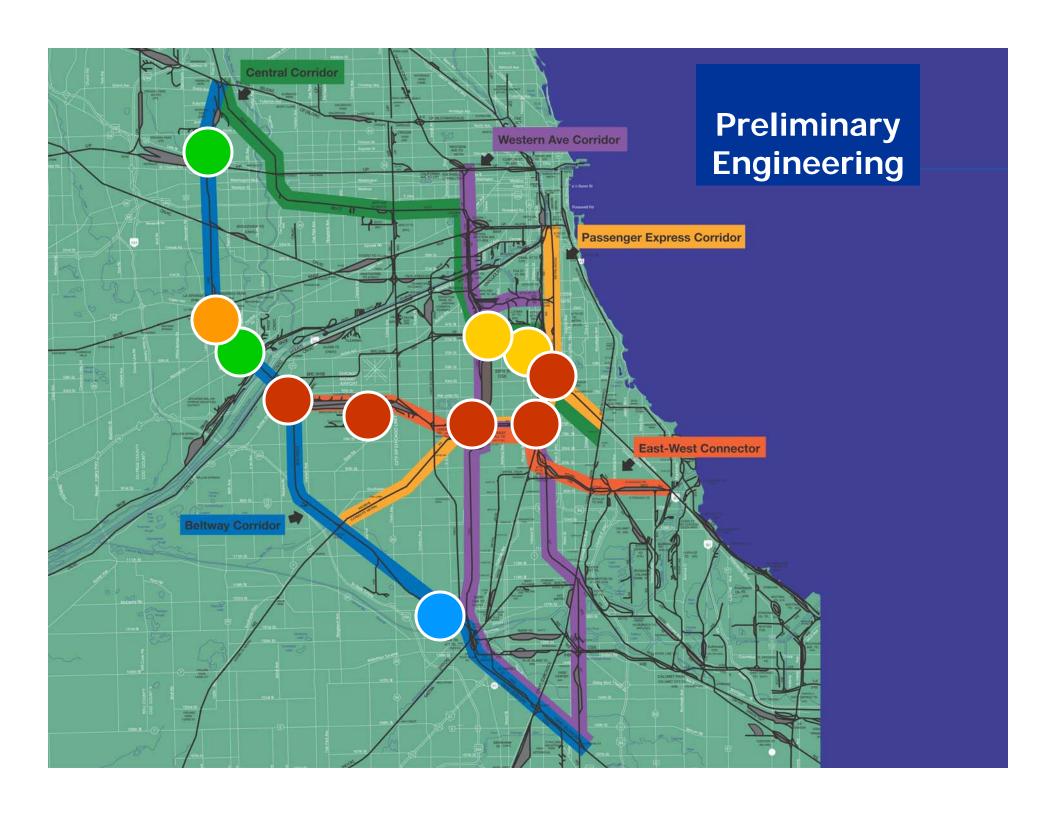
#### **National Benefits**

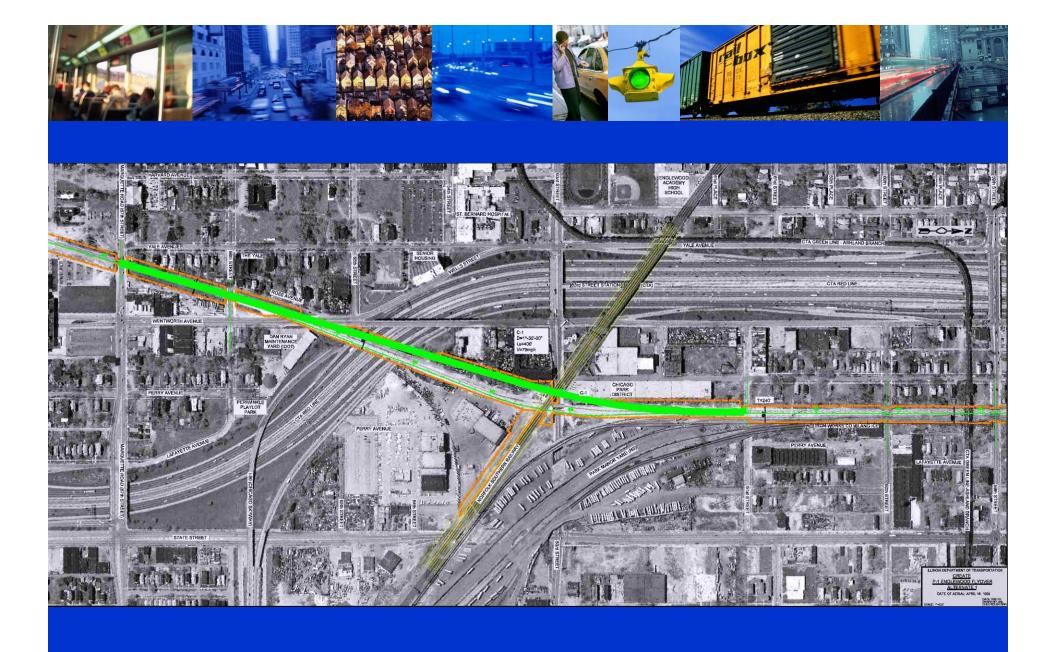
- Improvements in Chicago's rail network will benefit the rest of the Midwest and the rest of the country.
- 5 million jobs nationwide, \$782 billion in output and \$217 billion in wages.
- After Illinois, the 4 states most economically dependant on Chicago's rail are California, Texas, Ohio and New Jersey.
- Businesses demand "Just In Time" precision.



#### **Next Steps**

- Information dissemination and feedback
- Secure public funds from state and federal sources (Railroad industry funds already secured)
- Begin design engineering
  - IDOT contribution \$10M
  - Railroad contribution \$2.5M
  - FRA contribution \$0.5





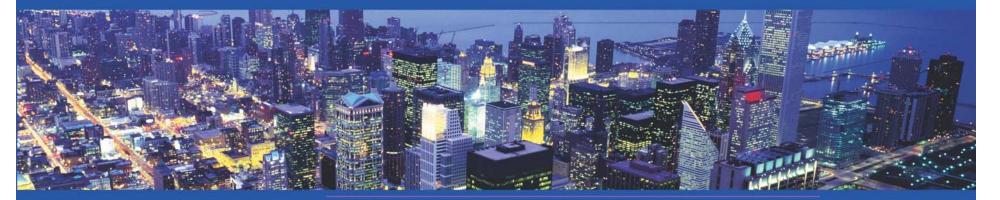


- Mayor Daley 6/16/03 Press statement
  - "If you don't make these improvements, we can expect even worse traffic congestion as companies ship more freight by truck and less by rail. There is also the danger that shippers will try to bypass Chicago to avoid these bottlenecks at great cost to the Chicago economy."
  - "Chicago and Northeastern Illinois have been the railroad hub of the nation for more than 150 years. This plan will serve as a blueprint for continued investment in and operation of the railroads"

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