

# The study on Policy Framework after the Staggers Rail Act and Relationship between Railroads and Truck Freight Volumes

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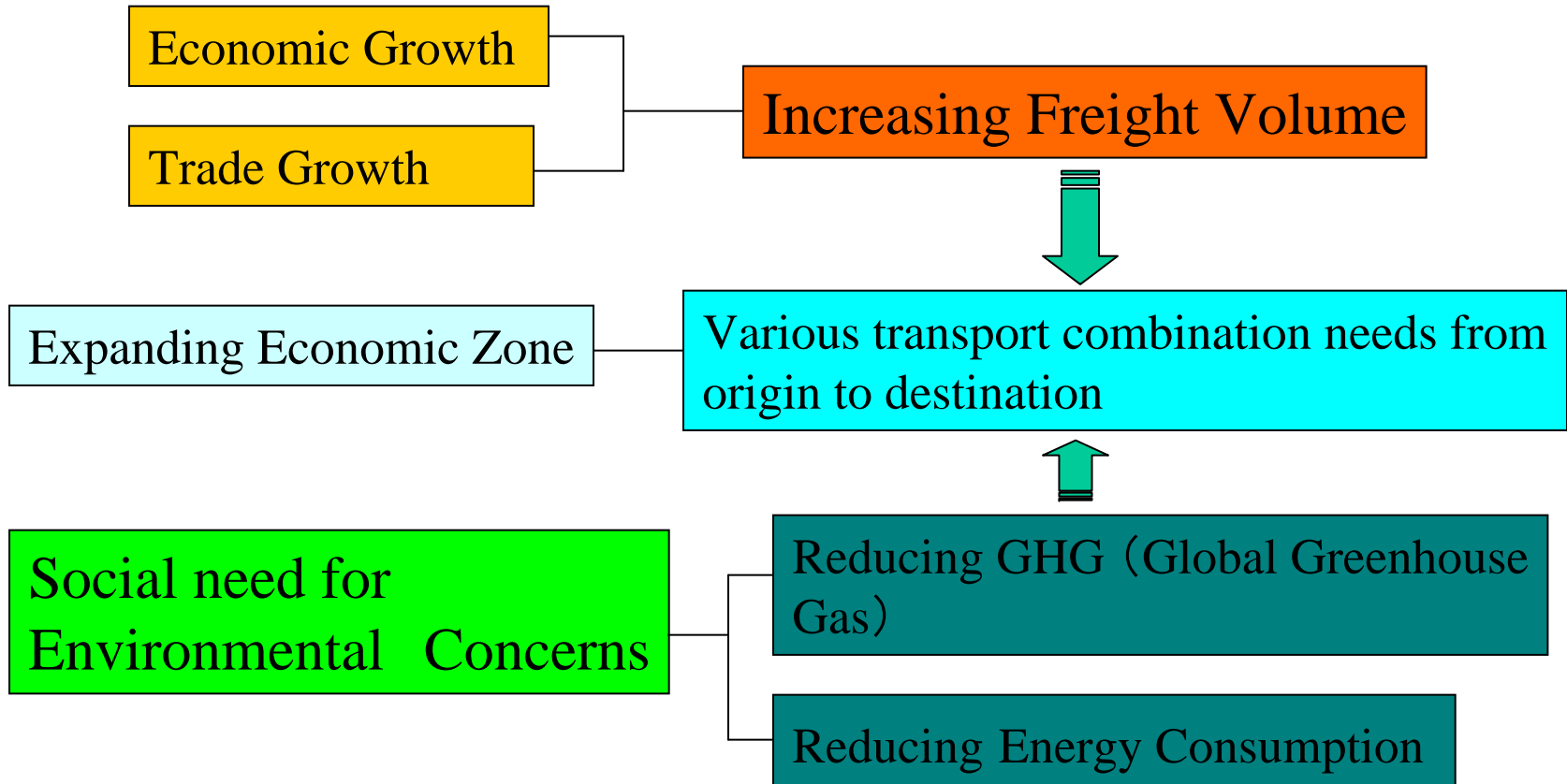
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# Outline of the presentation

1. Introduction
2. Objectives and Scope of this Study
3. The US Transport Policy Framework after the Staggers Rail Act
4. Relationship between Railroads Traffic Volume and Transport Policies
5. Conclusion

# 1. Introduction

## 1.1 Background



**Efficient utilization of railroad on freight transport is vital for the sustainable Economic growth in the world**

## 1.2 The Comparison of Rail Freight Share in 3 Regions

EU

TEN-T promotes Rail Freight Transport in EU

From 1995 to 2004, Rail freight share of all freight across the 25 European Union countries decreased from 12% to 10 % (ton-km)  
(European Commission 2006, European Union Energy & Transportation Figure 2005)

Japan

Comprehensive Logistics Policy promotes Modal Shift

Rail Freight share of all freight is only 4% (ton-km)

(Ministry of Land Infrastructure and Transport)

US

Intermodal Surface Transportation Efficiency Act

Rail freight share of all mode is more than **40%** (ton-mile)

**Intermodal** accounts for **22 %** of Rail Revenue

(AAR, Association of American Railroads)

## 2. Objectives and Scope of the Study

### 2.1 Objectives

- Study the US transport policy framework after the Staggers Rail Act
- Study the trend of rail intermodal traffic and the relationship between rail intermodal and transport policies

## 2.2 The Scope and Methodology of the Study

### ▪ The scope of this Study

- The US transport policies related to freight railroads after the Staggers Rail Act
- The US transport policies related to rail intermodal after the Staggers Rail Act
- The US rail intermodal traffic volume

### ▪ The methodology of this study

- Review the US transport policies related to freight railroads and rail intermodal under the Federal Law and legislations
- Analyze the intercity freight traffic volume and rail intermodal traffic volume using published data by AAR (Association of American Railroads) and USDOT

## 2.3 Definition of Intermodal Transport

### Definition of intermodal Transport on this study

- Intermodal transport means that freights are transported by more than two modes from the origin to the destination using unit load system (trailer, container, Pallet, etc.,)

- Intermodal Transport in the US  
TOFC(trailer on flatcar) and COFC(container on flatcar)  
(AAR, Association of American Railroads)

### Other Definitions

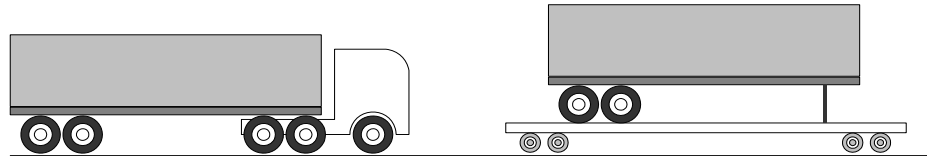
- ✓ Intermodal means transport of freight by two or modes of transportation.  
Examples are: ship-rail, rail-truck. (IANA, Intermodal Association of North America )

- ✓ Intermodal refer to the conveyance of goods in unitized loads, where the unit itself is transferred between modes, thus avoiding the direct handling of goods at the point of modal transfer.  
(Woodburn, Journal of Transport Geography 14(2006) pp.299-308)

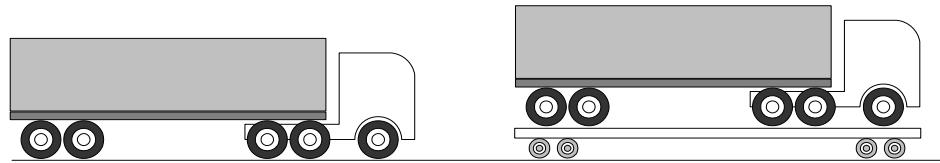
## 2.4 The Forms of TOFC & COFC in the US

### TOFC

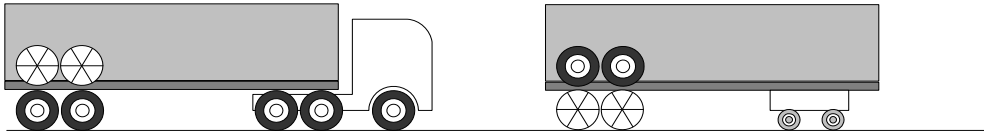
- Trailer on flatcar



- Trailer and tractor on flatcar

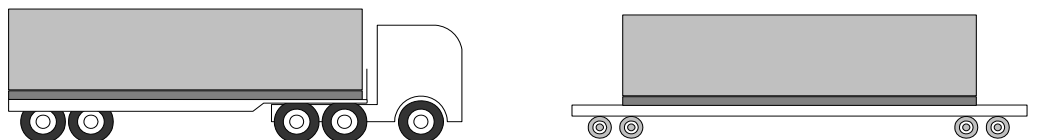


- Roadrailer



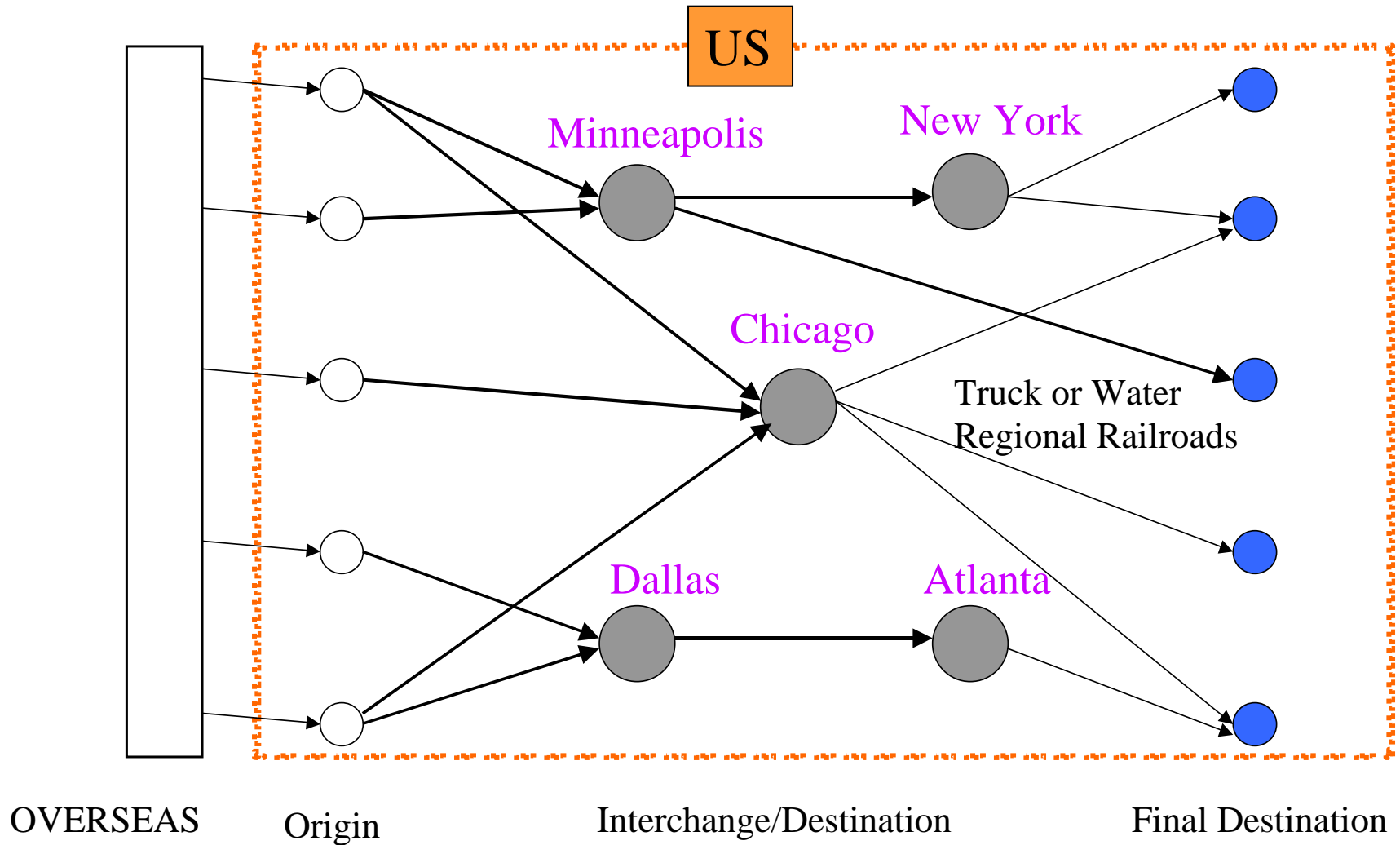
### COFC

- Container on flatcar



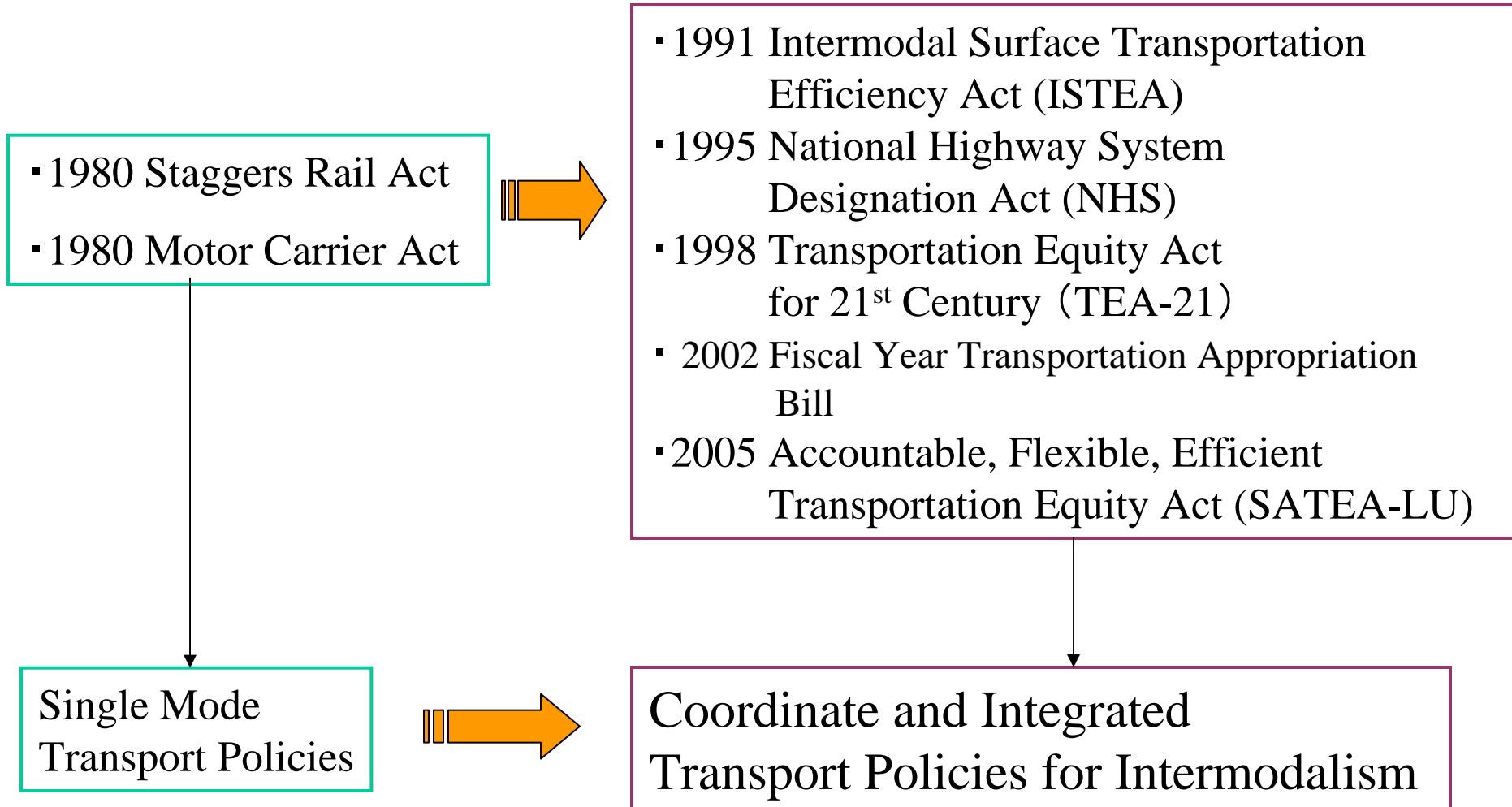


## 2.5 Freight Rail Movement in the US



# 3.The US Transport Framework after the Staggers Rail Act

## 3.1 The US Transport Policies after Staggers Rail Act



## 3.2 The Intermodal Surface Transportation Efficiency Act, ISTEA

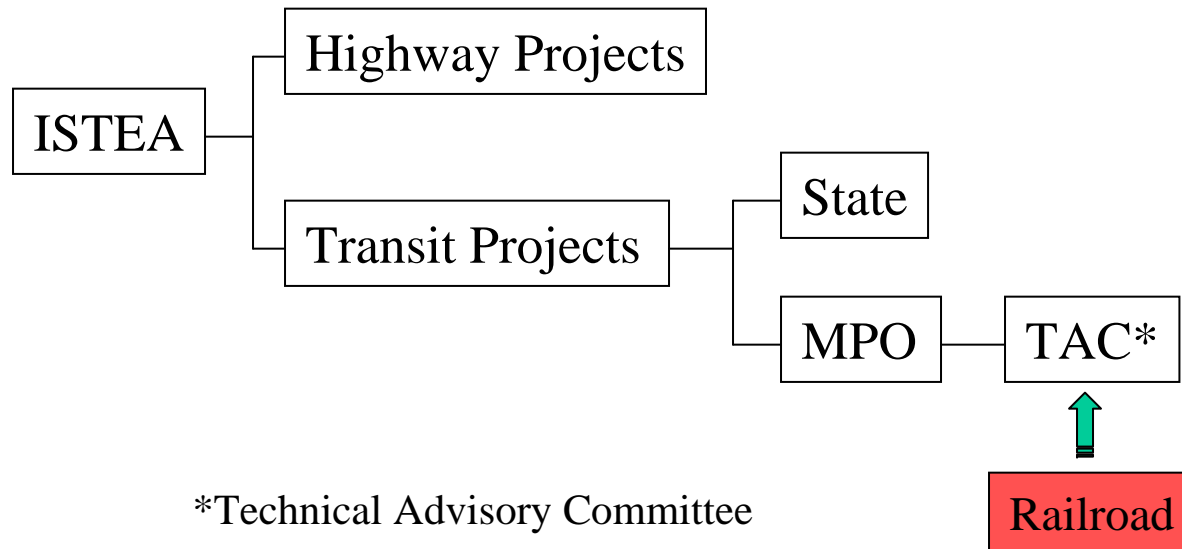
### Objectives

- To develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the Global economy and will move people and goods in an energy efficient manner.

- To provide Federal Funds for multimodal transportation planning from both the FHWA (Federal Highway Administration) and FTA (Federal Transit Administration) to MPOs (Metropolitan Planning Organization) and States.

### 3.3 Planning Process under the ISTEA

- ISTEA provides authority to State and MPOs (Metropolitan Planning Organization) in the transportation planning process.
- ISTEA mandates the development of state and metropolitan transportation plan that consider **freight movement** and **inetrmodal terminal access**.
- ISTEA provides enhanced opportunities for **railroads** to participate in the development of state and local transportation plan included freight and intermodal issues.



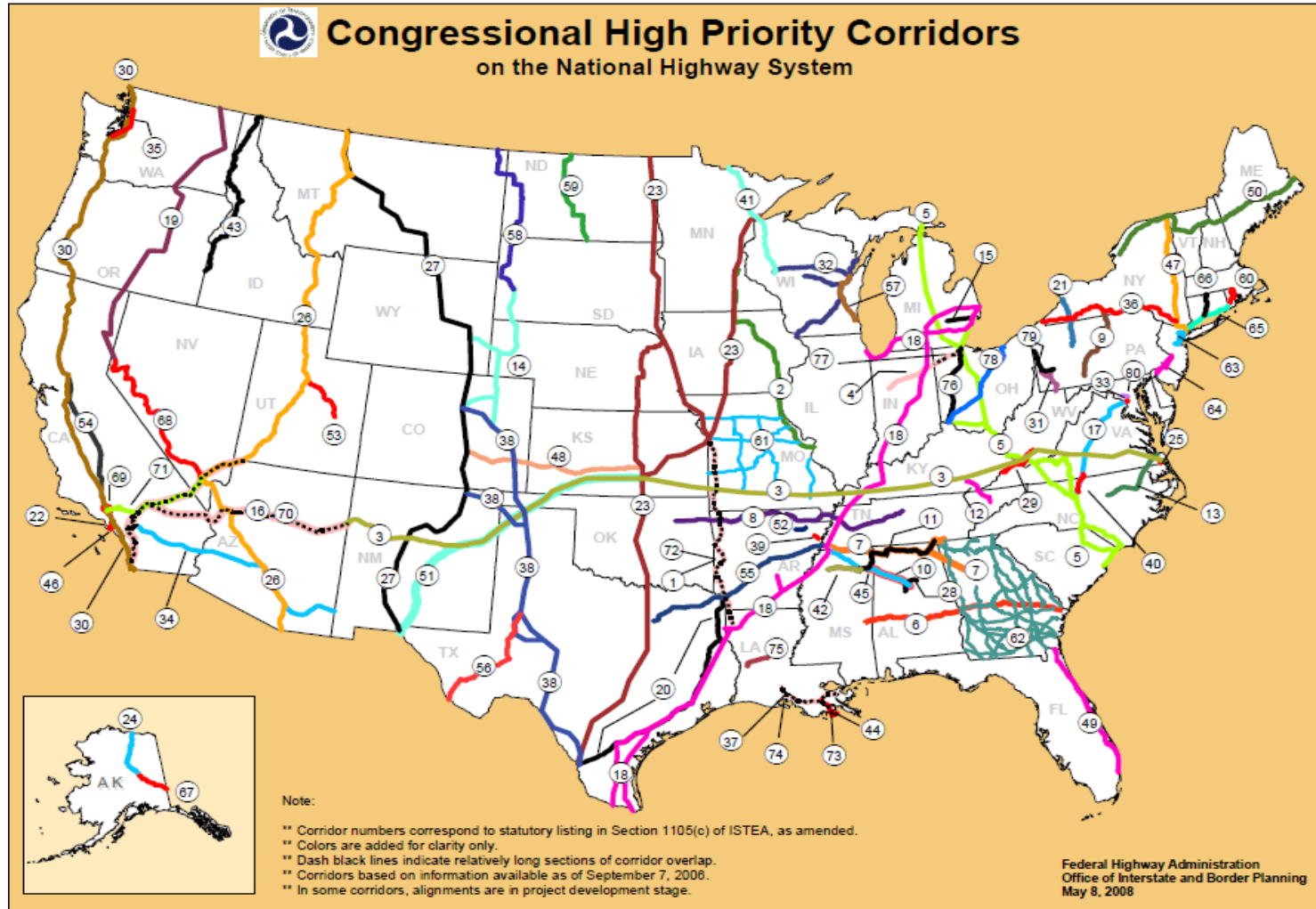
### 3.4 The US Transport Policy Framework related to Intermodal

Law	Year	Contents	Environmental Concerns	Priority Corridors
ISTEA	1991	<ul style="list-style-type: none"> <li>▪ Develop a National Intermodal Transportation System</li> <li>▪ Coordinate project planning process included states, MPOs and Technical Advisory Committee(TAC,railroad)</li> <li>▪ Intermodal Freight planning</li> </ul>	(CMQA)*	23
NHS	1995	<ul style="list-style-type: none"> <li>▪ Identify and improve the role of freight rail in a national transportation system</li> <li>▪ Expand the ability of railroads to divert more truck traffic to rail</li> </ul>	(CMQA)	12
TEA-21	1998	<ul style="list-style-type: none"> <li>▪ Continuation and Improvement of ISTEA</li> <li>▪ Surface Transportation Program (STP)</li> <li>▪ Corridors and Boarder Program (CORBOR)</li> </ul>	(CMQA)	18
Bill**	2002	<ul style="list-style-type: none"> <li>▪ A portion of federal funds for fiscal year 2002 moves to the TEA-21</li> </ul>		1
SAFE A-LU	2005	<ul style="list-style-type: none"> <li>▪ Coordinated Border Infrastructure Program</li> <li>▪ Freight Intermodal Distribution Pilot Program</li> <li>▪ National Corridor Infrastructure Improvement Program</li> </ul>	(CMQA)	26

\*Congestion Mitigation and Air Quality Program

\*\*the Fiscal Year 2002 Transportation Appropriations Bill

# 3.5 The 80 Priority Corridors from ISTEA to SAFETEA-LU



## 3.6 The US Railroad and Environmental Concerns

### Comparison of least Emissions by Modes

(Emissions Per Ton-Mile)

Rank (1=Most Desirable)	Oxides of Nitrogen	Volatile Organic Compounds	Particulate Matter	Carbon Monoxide	Carbon Dioxide
1	Rail	Rail	Air	Rail	Rail
2	Water	Water	Rail	Water	Water
3	Truck	Air	Water	Air	Truck
4	Air	Truck	Truck	Truck	Air

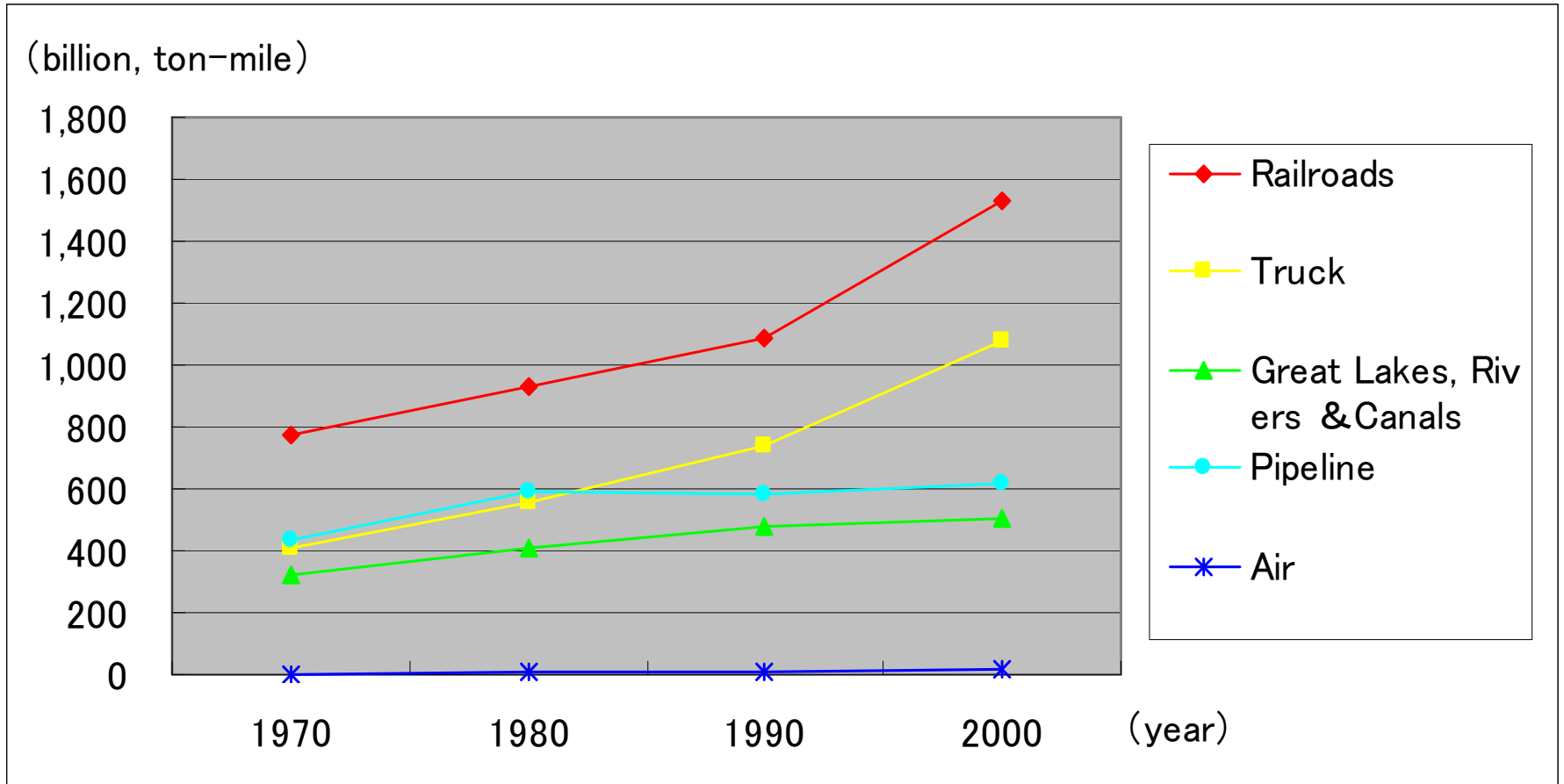
Source: Envirotrans

- ✧ Rail is the most environmentally friendly mode.
- ✧ Truck emits three times more nitrogen oxides and Particulatates than a locomotive.

## 4. Relationship between Railroads Traffic Volume and Transport Policies

### 4.1 Freight traffic Volume in the US

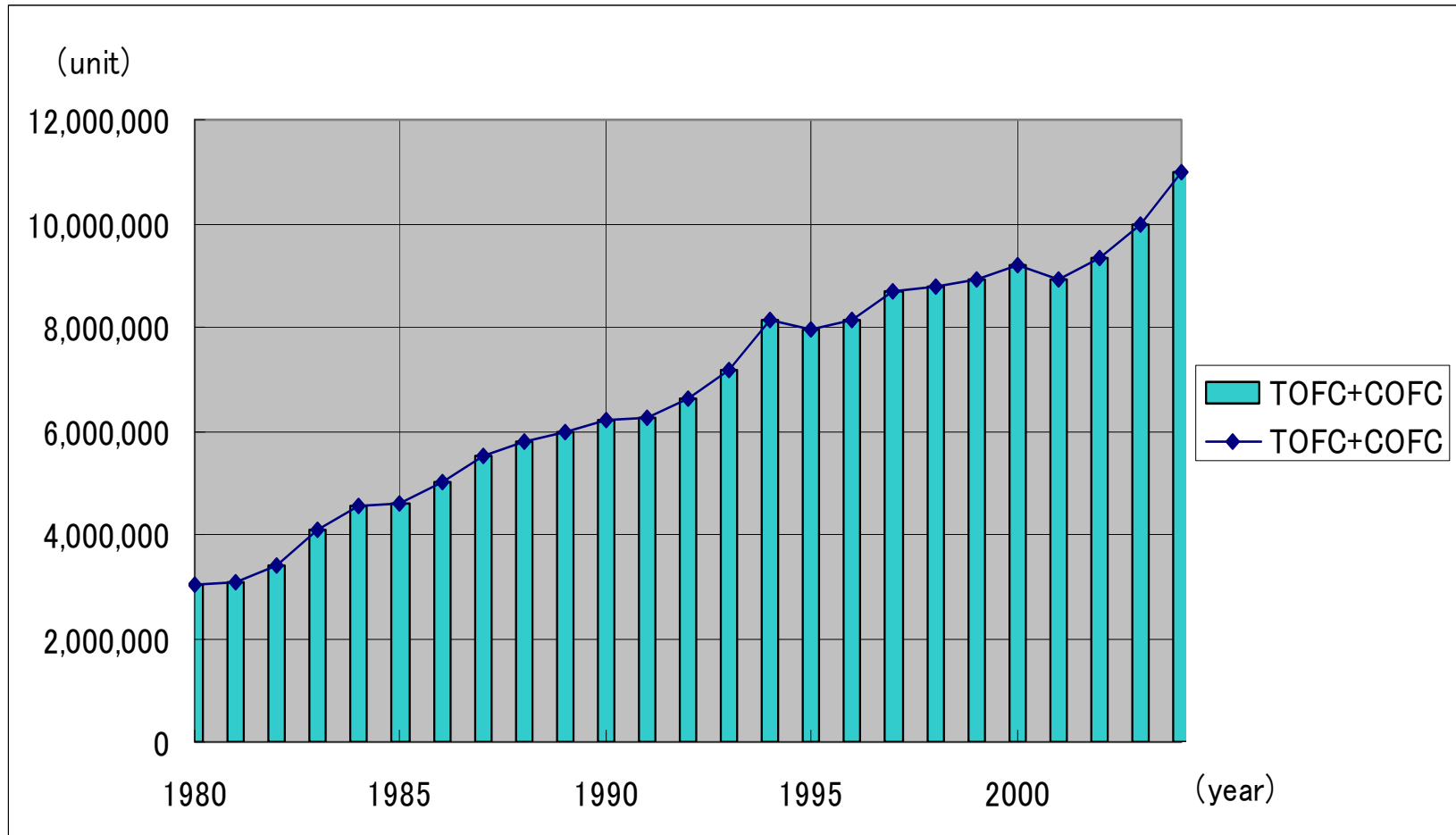
Intercity Freight Traffic Volume by Modes





## 4.2 Rail Intermodal Traffic Volume after Staggers Rail Act

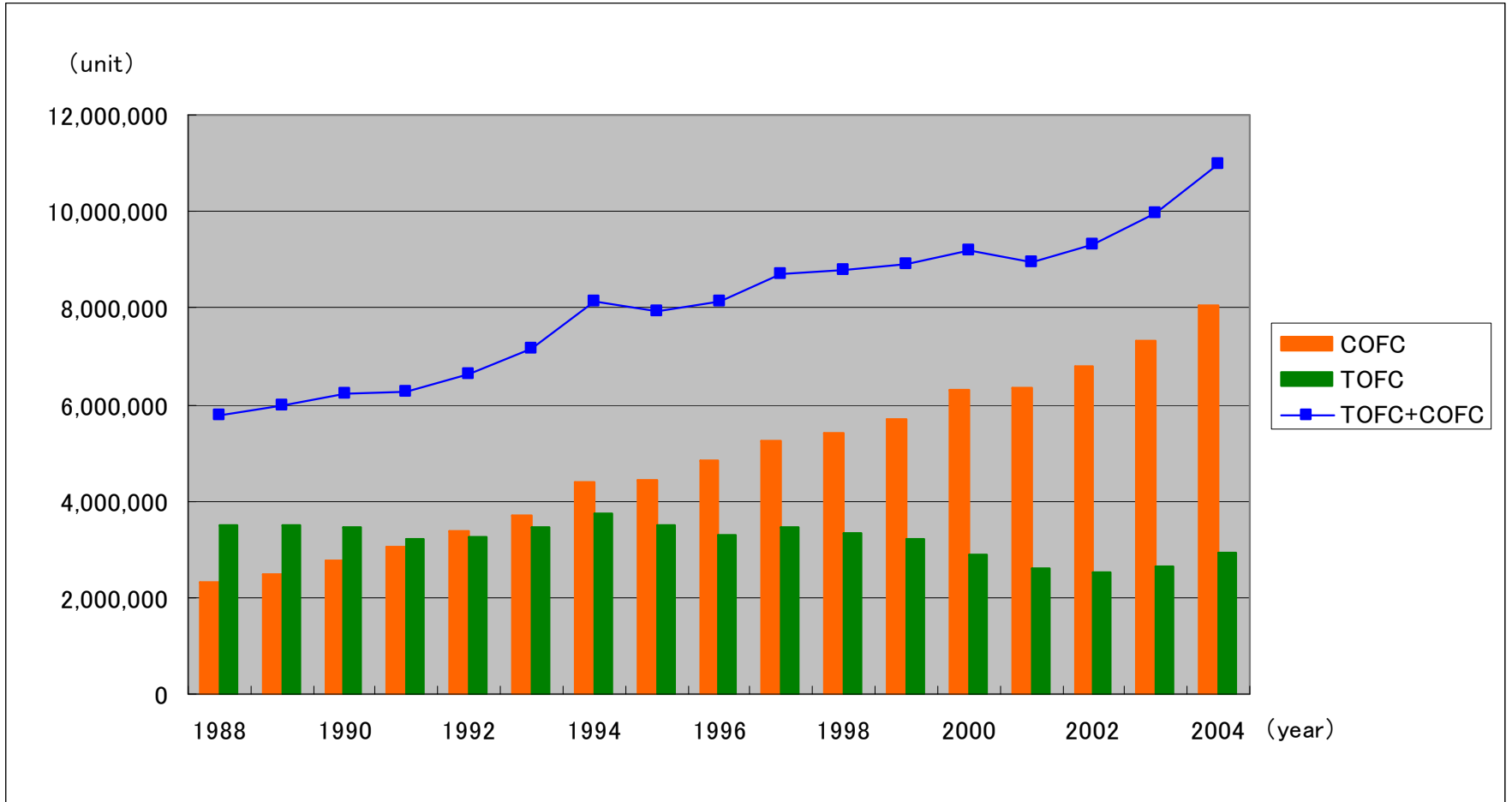
### Intermodal Traffic Volume in the US



**Rail Intermodal traffic has tripled in the last 20 years and is the fastest growing segment.**

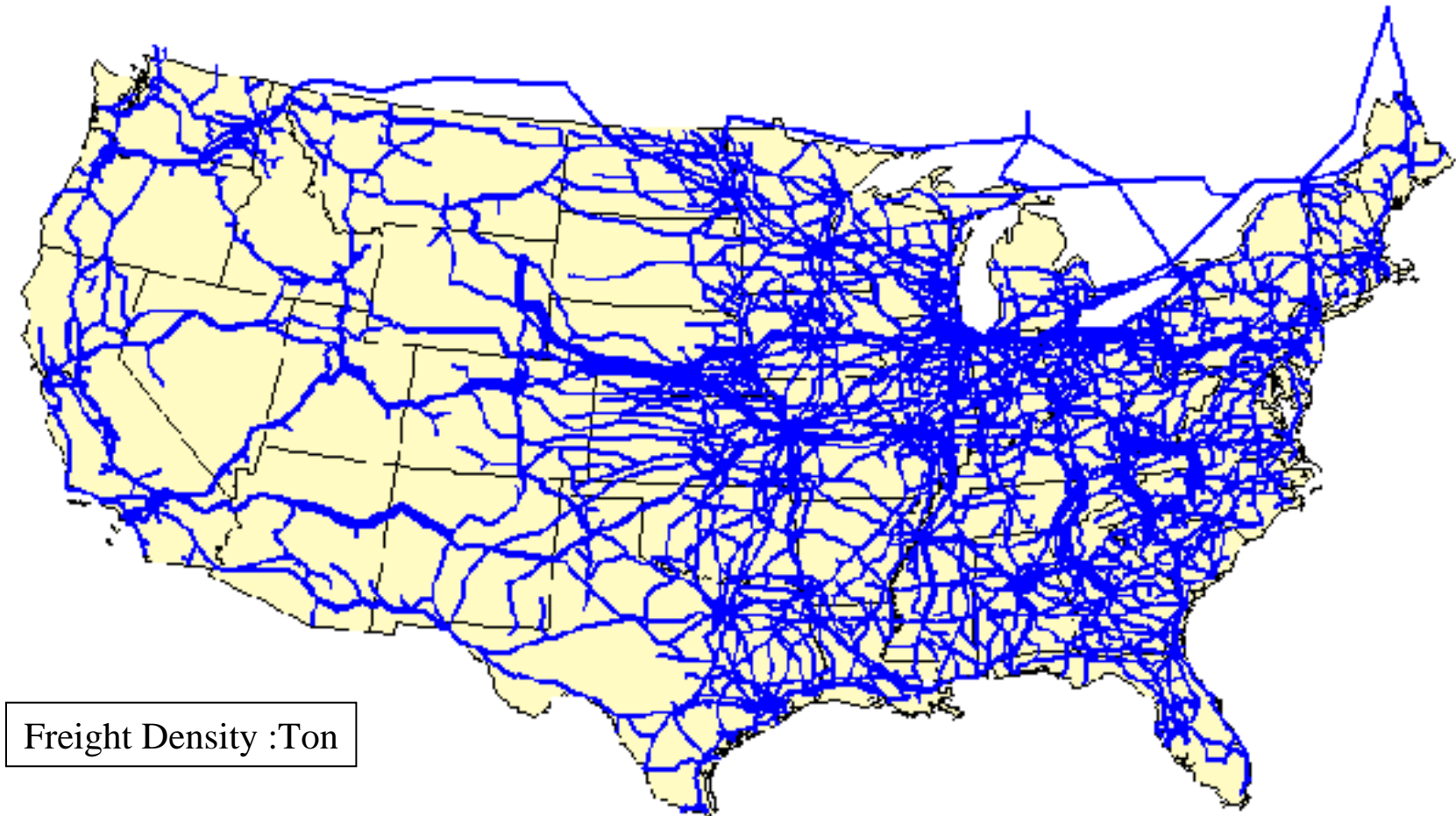
## 4.3 Traffic Volume of TOFC and COFC since 1988

Traffic Volume of TOFC & COFC in the US



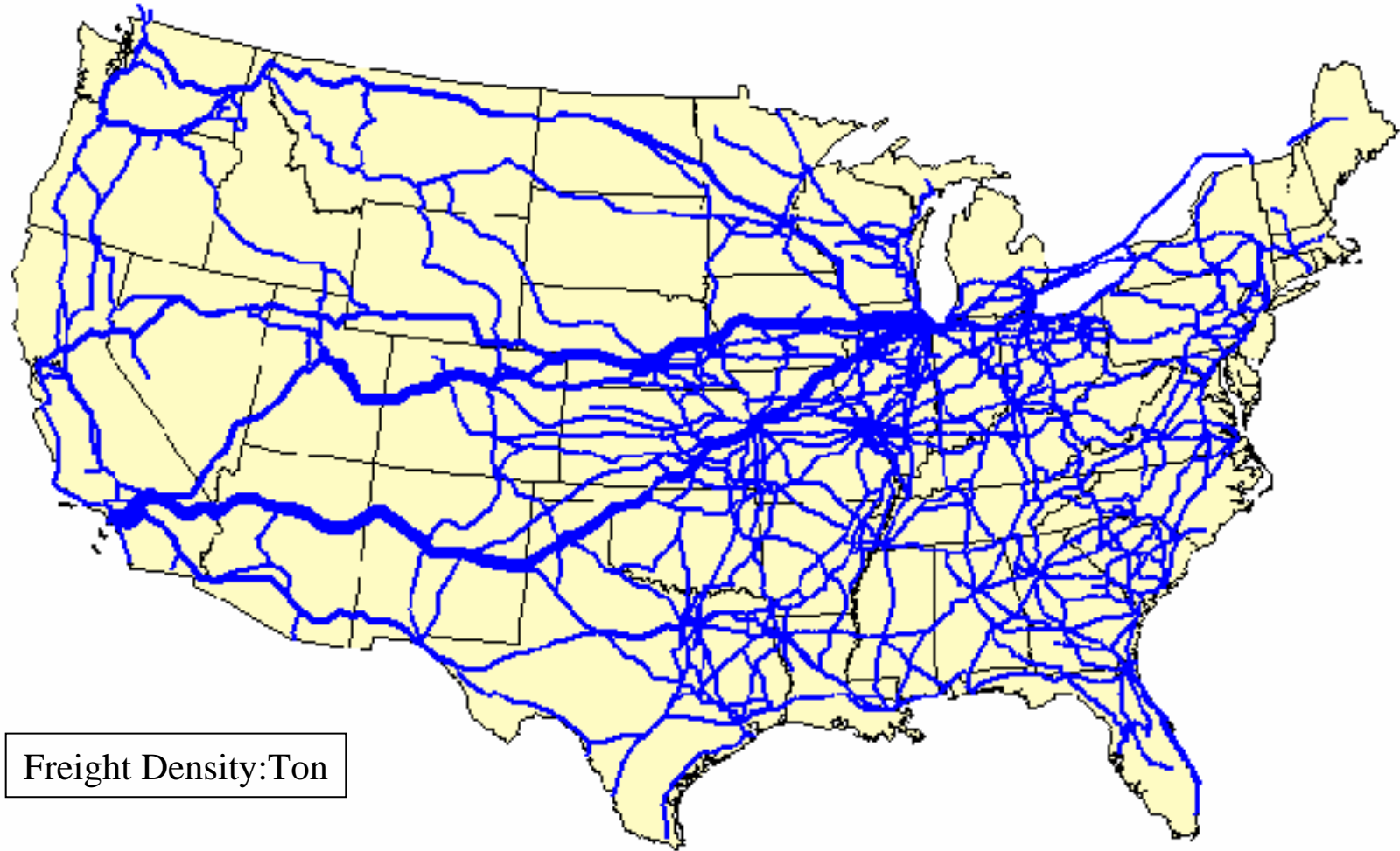
## 4.4 Rail Freight Movement and Route in the US

### **The US Rail Freight movement based carloads waybill**



## 4.5 Intermodal Freight Movement and Routes in the US

The US Intermodal Freight Movement based on Carloads waybills



Source:USDOT, Freight Management and Operation

## 5. Conclusions

- The US transportation policies after the Staggers Rail Act focus on to develop a nationwide and seamless transportation system.
- ISTEA is the first transport policy to establish a national framework for developing intermodal transportation system.
- Railroads(private sector) for the first time have opportunities to influence the public process in ways that will benefit themselves and their customers.
- The US policy framework for intermodal transport is followed a series of transport policy after the ISTEA.
- Rail freight volume is increasing after the transport policies.
- Rail intermodal freight traffic is increasing after transport policies, however TOFC decrease and COFC increase.
- It is important to promote a nationwide intermodal transportation system to establish the policy framework.