

# Restructuring of China Railways: Implications for India?

Louis S. Thompson  
Railways Adviser  
The World Bank  
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# Restructuring of Ministry of Railways of China: Implications for India?

- ◆ General railway restructuring trends and issues
- ◆ Current thinking in China – implications for India?
- ◆ Restructuring in Indian Railways:
  - Is the Chinese experience useful?
  - Is Indian restructuring necessary?
  - Options and choices
  - Getting started



# General railway restructuring trends and issues (1)

- ◆ Separation of “Government” from Enterprise: MOT, not MOR
- ◆ Spinoff of non-core activities
- ◆ Encouragement of competition
- ◆ Shifting the public/private balance: the public plans, provides social resources, private sector operates, sometimes under contract with public



# General railway restructuring trends and issues (2)

- ◆ Clear separation of rail commercial functions – accounting and/or institutional
  - US and Canada: formation of Amtrak/VIA, deregulation, restructuring of Conrail
  - EU: separation of infrastructure from services, separation of services (freight, intercity passenger, “social passenger”), required contracts for social services, competition for contracts, removal of old debts
  - Japan: separation of JR freight, creation of 6 passenger companies
  - Similar process nearly everywhere



# Directions of Railway Change

## Private Involvement



Structural Change



	Public Ownership	Partnerships: Concessions or Franchises Awarded	Private Ownership
<b>Integral</b>	China, Russia and India (ministries), MAV, SRT, MZ, others, (SOE's)	Argentina (13), Brazil (9), Mexico (5), Peru (3), Guatemala, Bolivia (2), Panama, Cote d'Ivoire/Burkina Faso, Cameroon, Congo (Brazzaville), Malawi, Madagascar, Jordan	New Zealand, Ferronor (Chile), CVRD (Brazil), A&B (Chile)
<b>Dominant Integral, Separated Minority Operators</b>	Amtrak, VIA, Japan Freight	Mexico City suburban, CONCOR (India)	US Class I, CN and CP, East/West/Central Japan Railways
<b>Separation</b>	E.U. and Chile passenger	Swedish suburban, FEPASA (Chile), LHS line (Poland)	U.K. franchises and EWS, Polish and Romanian freight

**Mixtures and partnerships are possible!**



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# Current railway thinking in China – implications for

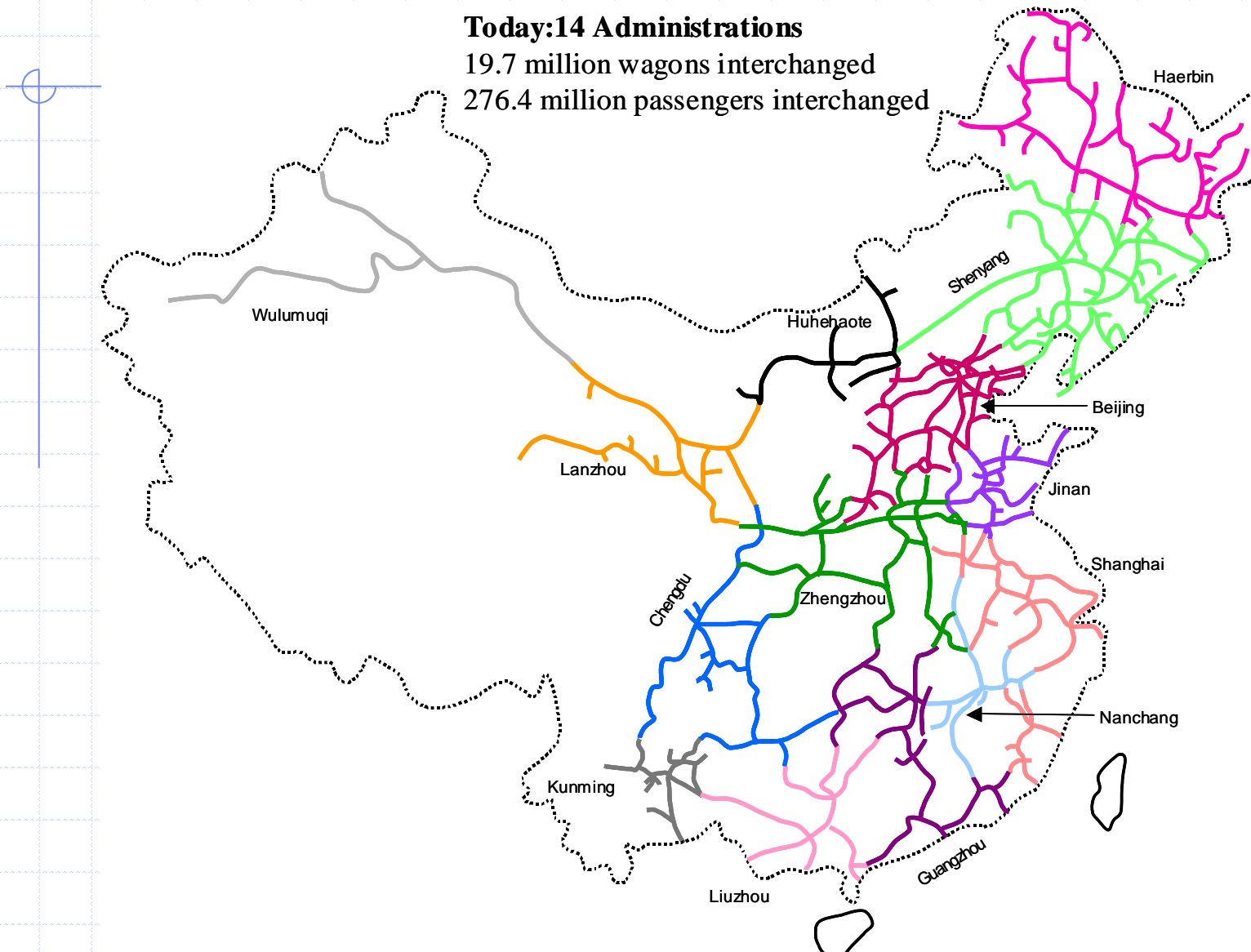
## India: MOR's Problems

- ◆ Confusion of government and enterprise roles
- ◆ Geographic organization causes
  - fragmentation of traffic and decisions (but ~60 percent of freight moves inter Administration)
  - bureaucratic decisions (revenue distribution, wagon allocation) made at the center
  - 14+ points of management
  - no competition in rail transport (>70% of freight)
- ◆ Organization for production, not market
  - no Lines Of Business, no costing information
  - “command and control” mentality
  - no price mechanism (flat tariff structure)
- ◆ Non-core distractions (e.g. factories, restaurants)
- ◆ Imposed social role (e.g. schools, hospitals)



# Organization of MOR today

**Today: 14 Administrations**  
19.7 million wagons interchanged  
276.4 million passengers interchanged



# Broad change themes in China

- ◆ Separate MOR's enterprise functions from its Government functions – eventual creation of an MOT
- ◆ Restructure the enterprises
- ◆ Make the enterprises commercial
- ◆ Spin off all non-rail activities (manufacturing as well as social) and make them independent





# Separating enterprise from Government

- ◆ Today's MOR becomes “ministry” eventually combined with other transport functions
- ◆ Ministry will plan national investment strategy, oversee infrastructure dispatching and scheduling, regulate tariffs and safety, oversee revenue divisions
- ◆ Today's Administrations will become enterprises, wholly owned by Government
- ◆ All non-rail commercial spun off from MOR (**Done**) and eventually some from Government as well
- ◆ All social transferred to appropriate Government
- ◆ These are **agreed and committed** in principle



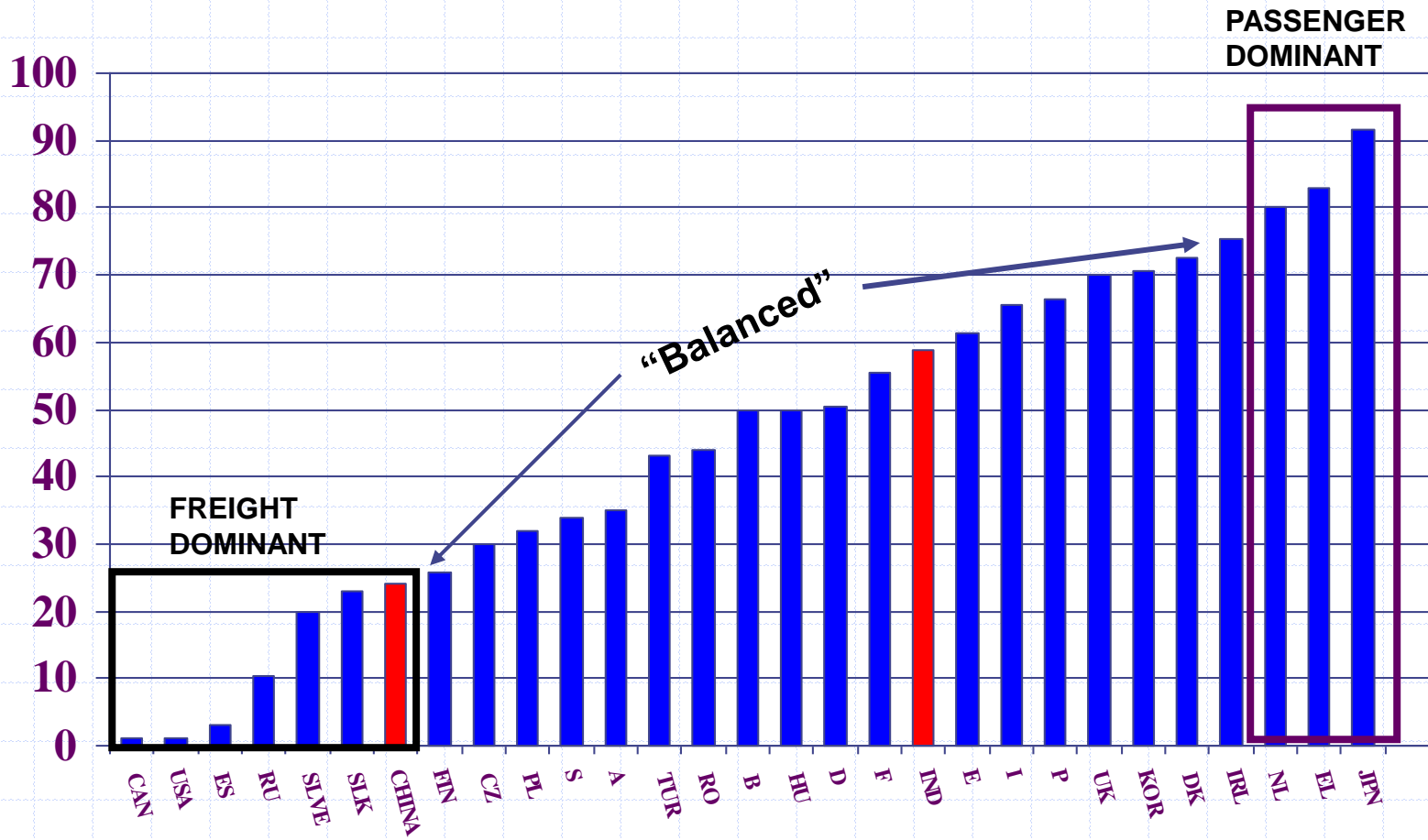
# Restructuring the enterprises and making them commercial (1)

- ◆ First step: Administrations will become enterprises, with separate **profit** centers for passengers (PTEs), freight (FTEs) and cost center for infrastructure
- ◆ Second step: existing 14 enterprises will likely be combined into 4 or 5 (still under study)
- ◆ Third step (alternatives under study): institutional separation of PTEs and FTEs (less likely) from infrastructure
- ◆ Fourth step: redrawing the boundaries of PTEs or FTEs to reflect the market for transport



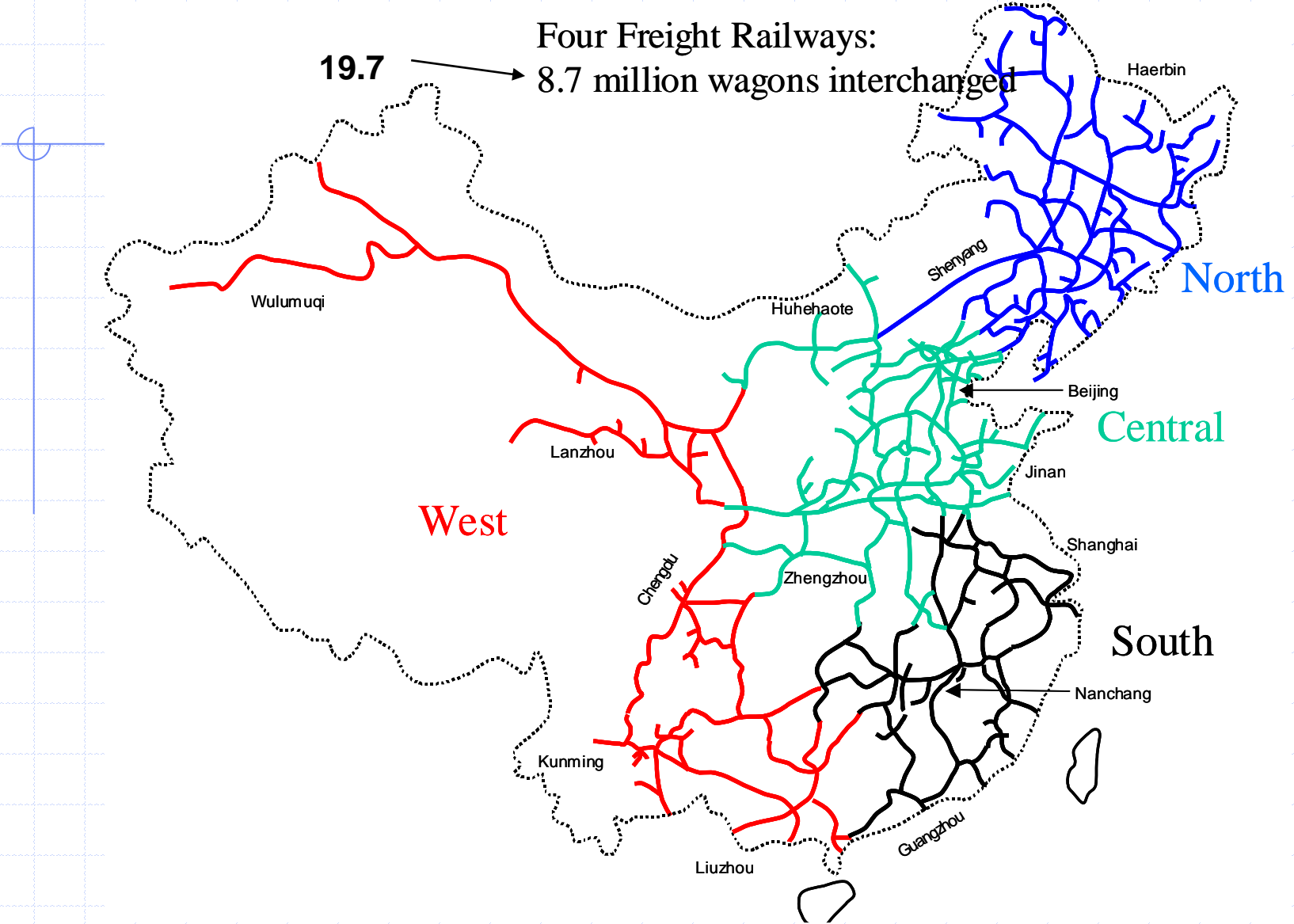
# Percent of Rail Passenger Traffic to Total Rail Traffic

$P\text{-Km}/(P\text{-km}+T\text{-Km})$



19.7

Four Freight Railways:  
8.7 million wagons interchanged

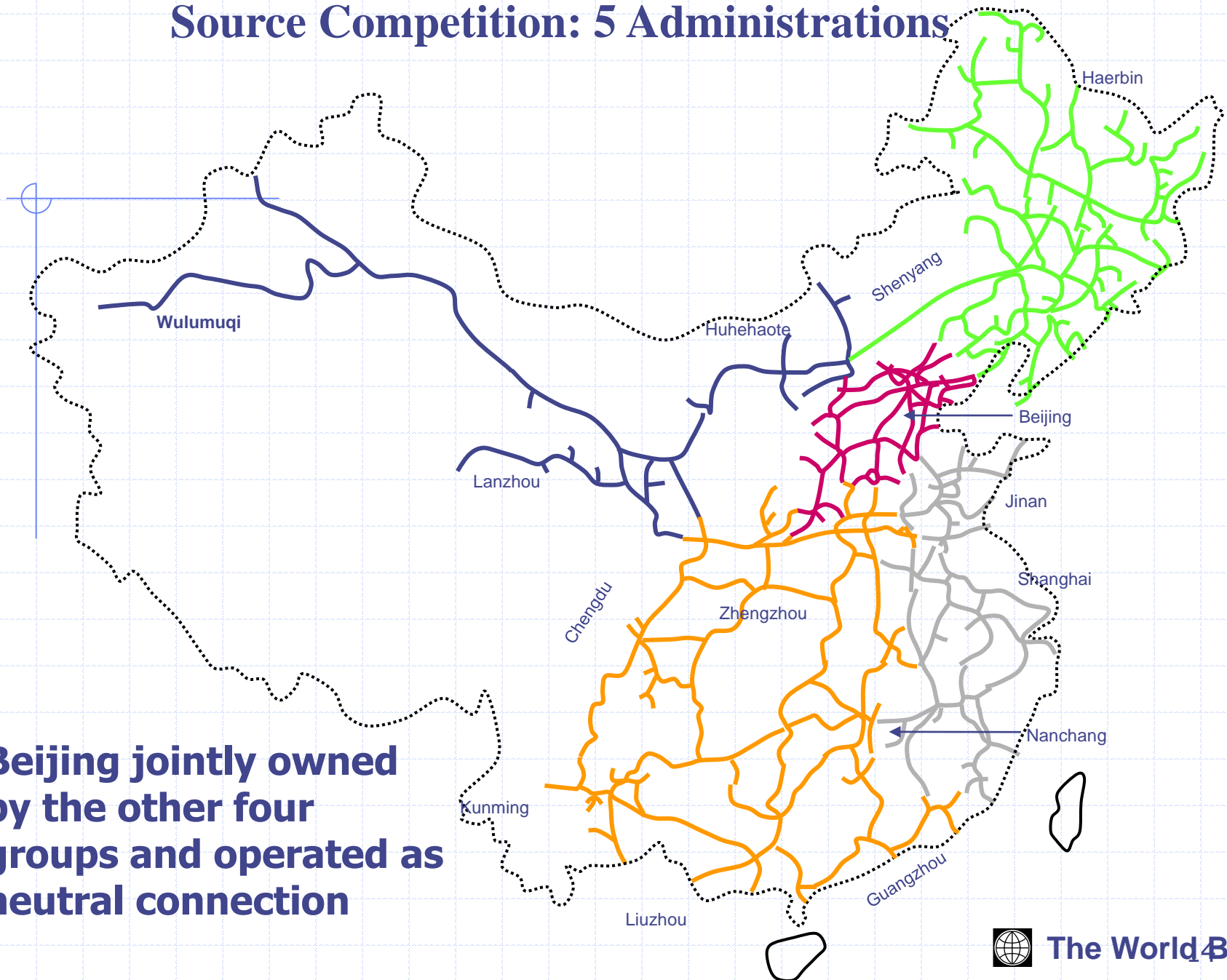


# Restructuring the enterprises and making them commercial (2)

- ◆ Create rail/rail competition by:
  - Trackage access rights
  - Redesign of service territory
  - Creating parallel tracks in selected markets
  - Creating source competition
  - There is debate on this
- ◆ Involve private sector by: (agreed measures)
  - Branch line ownership and operation (many)
  - Focused market operations (Guangshen) or containers
  - Wagon ownership and leasing



# Source Competition: 5 Administrations



**Beijing jointly owned  
by the other four  
groups and operated as  
neutral connection**

# MOR's Restructuring: Issues and Approaches

- ◆ **Separation of enterprise and government** -- establish an MOT, set up railways as enterprises, initially at Administration level
- ◆ **Commercial approach** -- Line Of Business (LOB) organizations at all levels -- freight, passenger companies, and related infrastructure
- ◆ **Rail enterprise structure** -- full separation versus freight integral and passenger separation (US model) or fully integral models on 14 Administration or regrouped (5 Administration) basis
- ◆ **Market structure organization** -- mergers of PTE's and possibly FTE's across Administration boundaries (infrastructure likely set up at Administration level, though other structures are possible)
- ◆ **Competition** -- could have parallel/competitive infrastructure, but more likely will be competitive trackage rights or source competition, if any
- ◆ **Private sector involvement** -- non-core and local lines may be sold (Guangshen), private equipment ownership probable, specialized operators possible, generalized privatization not on the horizon (if ever)
- ◆ **Transition** -- holding companies at the regrouped Administration level
- ◆ **Overall** -- cautious, "experiment"-based approach, with many compromises and mixes (as always) – **committed and unstoppable**



# MOR Restructuring: Analytical Tools for Evaluating Options

- ◆ **TMIS** -- traffic, routing operating and revenue data (**operational**)
- ◆ **Traffic costing models** -- use basic data to estimate cost and “contribution” of traffic on shipment, commodity, line segment and area basis (**operational**)
- ◆ **PC-based network models** -- for traffic flow analysis (**initial version operational**)
- ◆ **Next challenge**: integrating TMIS data with costing and network models for rapid and accurate system analysis
- ◆ **PC-based financial planning models** -- to permit rapid analysis of cost and revenue scenarios



# Restructuring IR: is the Chinese approach relevant?

## ◆ Similarities with China

- Enterprise/Government role confusion -- politics
- Regional monopoly structure, not market driven
- Imposed social functions, large non-core activities

## ◆ In other ways, India is different

- Variations in Zonal characteristics
- Three gauges in India, one in China
- Suburban operations (2000 trains daily)
- Destructive freight-to-passenger cross subsidies
- Much greater deferred maintenance, especially wagons

## ◆ Clearly, India will need its own mix of ideas



# Is Indian Railway restructuring necessary? **The Mohan Report**

- ◆ Financial Crisis is looming -- need to act sooner rather than later
- ◆ Lack of clear purpose and autonomy (government agency, not commercial agency)
- ◆ Lack of Customer focus -- IR has three markets (freight, intercity passengers and suburban passengers) and needs differentiated organization
- ◆ Outdated business structure : confusion of government and commercial, too much vertical integration, large inefficiencies
- ◆ Freight market share is down and falling (low quality, overpriced caused by freight cross subsidy to passengers)
- ◆ Large backlog of investments which cannot be funded under the current setup (government has no money)
- ◆ Missing: Clear **Indian** Objectives



# Mohan Report: Principles of Restructuring

## ◆ Broad changes:

- separate railway from government (create MOT and regulator), Separate policy, regulatory, management
- manage railway commercially (LOB organization)
- Focus on core, spin off non-core (no mention of privatization) businesses and social activities
- Bring in some outside skills and management

## ◆ Marketing:

- Freight -- better quality of service, lower tariffs, competition
- Passenger -- rebalance passenger tariffs

## ◆ Improve efficiency (accelerated reduction in manpower (25 percent) with safety net

## ◆ Financing including private sector

## ◆ Recast accounts in structure and with Indian GAAP

# Places to start: where the World Bank could help

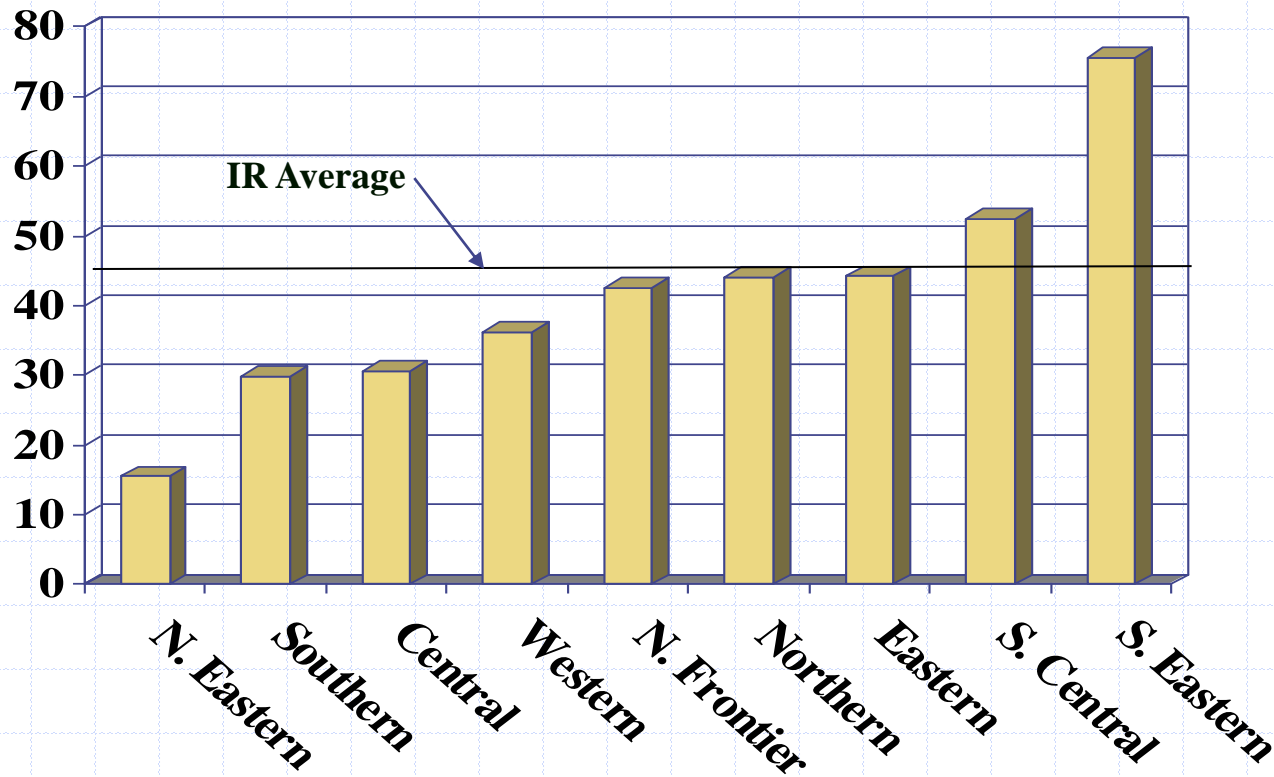
- ◆ Overall policy framework is good
- ◆ Accounting work to install GAAP, construct LOB accounts and define PSO payments
- ◆ Investments in IT hardware and systems needed
- ◆ Formulation of Government and Regulatory functions and agencies
- ◆ Analytical assistance in structure of new organizations (traffic flow studies to analyze need to redraw zonal boundaries, set up specialized companies, establish competition, etc)
  - Separate suburban operations
  - Assess current Zonal and operating enterprise structure
- ◆ Support in valuation and spin off of non-core (commercial and social)
- ◆ Labor analyses and safety net programs
- ◆ Assistance in spin off of branch lines
- ◆ Appropriate physical investments identified during restructuring analyses

# What Has the World Bank Done?

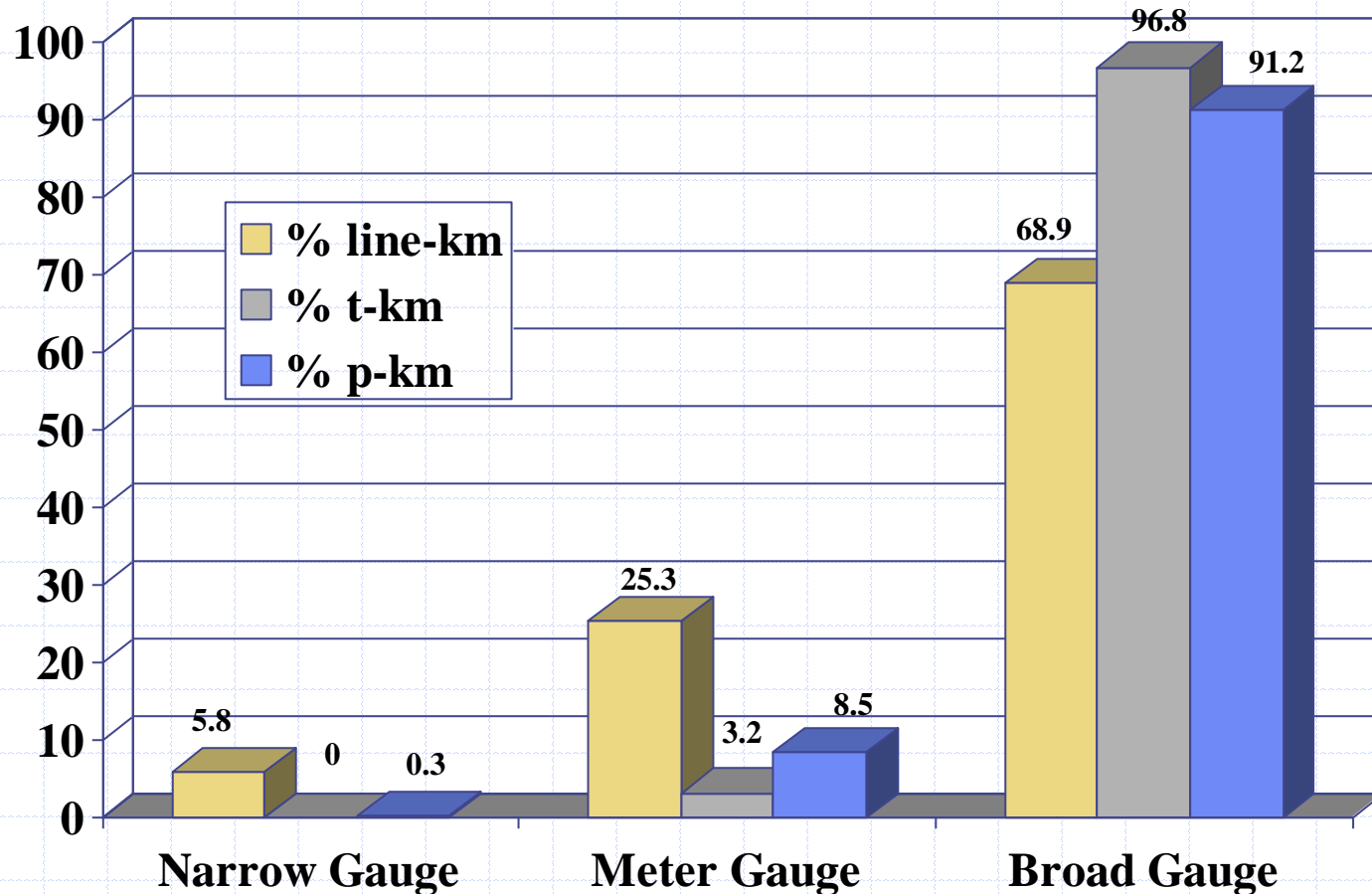
- ◆ Restructuring analyses, analytical tools and TA
- ◆ Asset rehabilitation to support new structure
- ◆ Labor transitions and retraining
- ◆ Resettlement
- ◆ Environmental cleanup
- ◆ Support changes in structure (suburban devolution, creation of management and accounting systems)
- ◆ Investment in appropriate private operators (Concor)



# Zonal Railways Are Different: Freight Ton-Km as Percent of Total Traffic



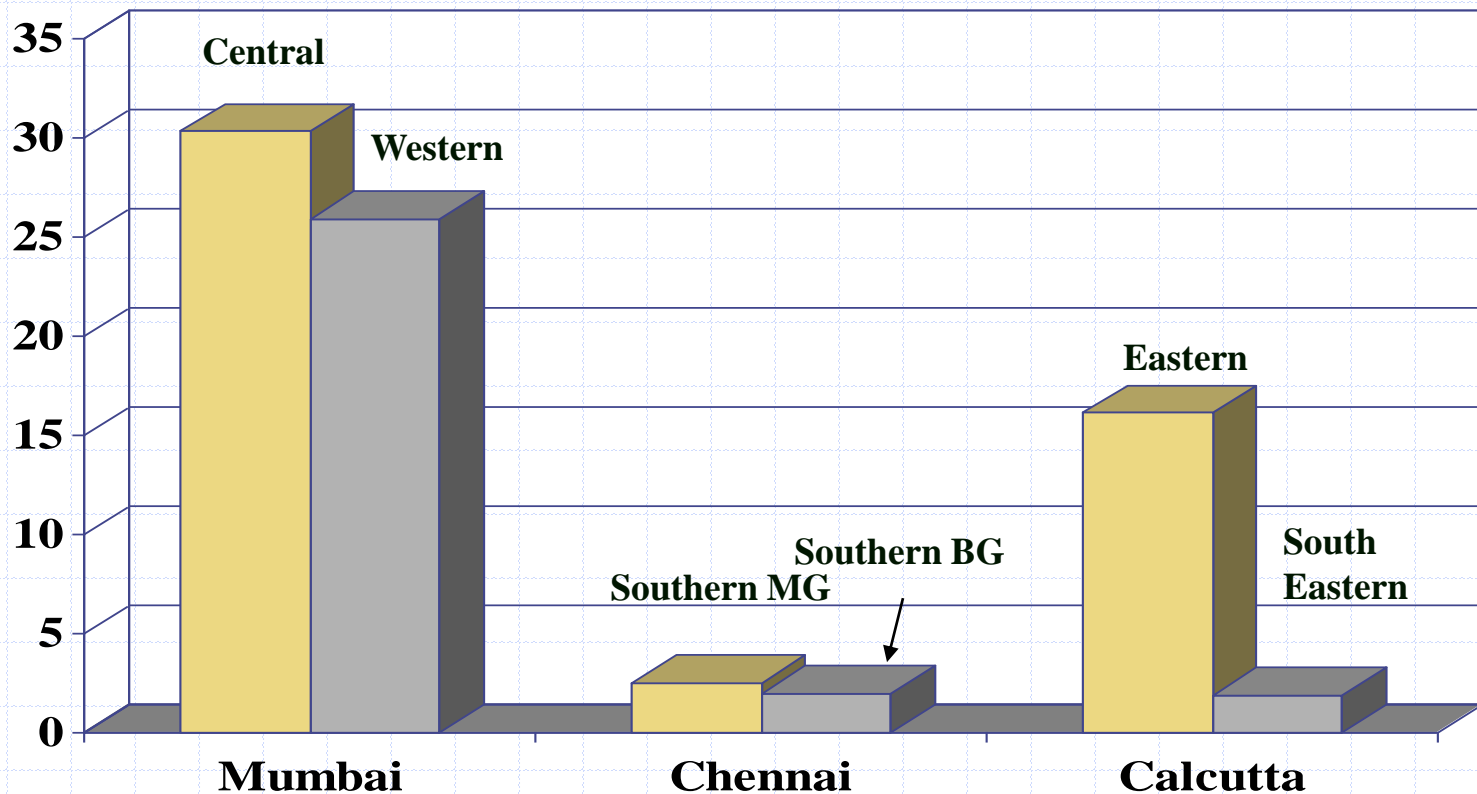
# The Gauge Effect: India's Three Separate Railways



# IR's Suburban Activities

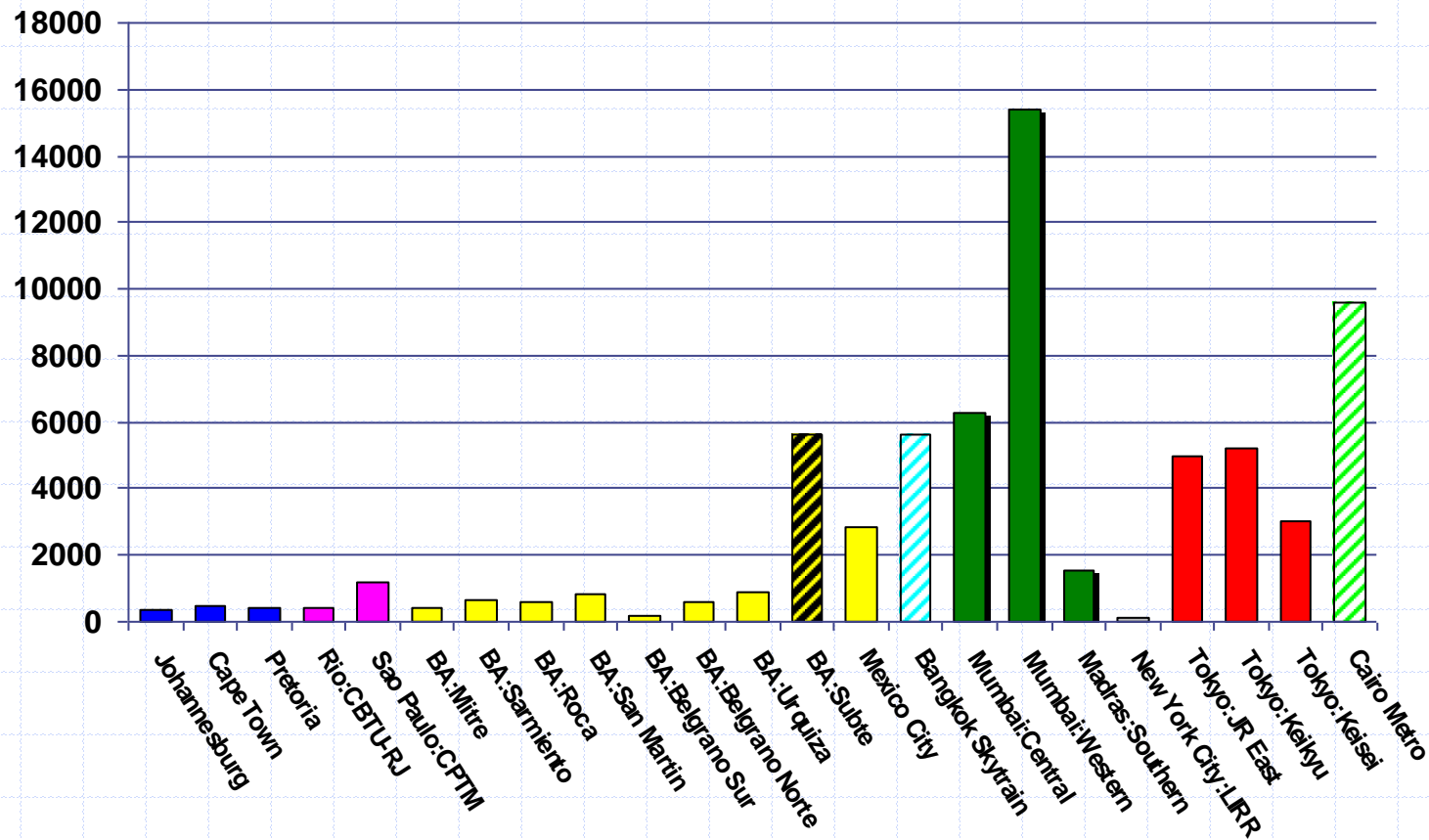
(Passenger-Km in 000,000)

2000 trains daily



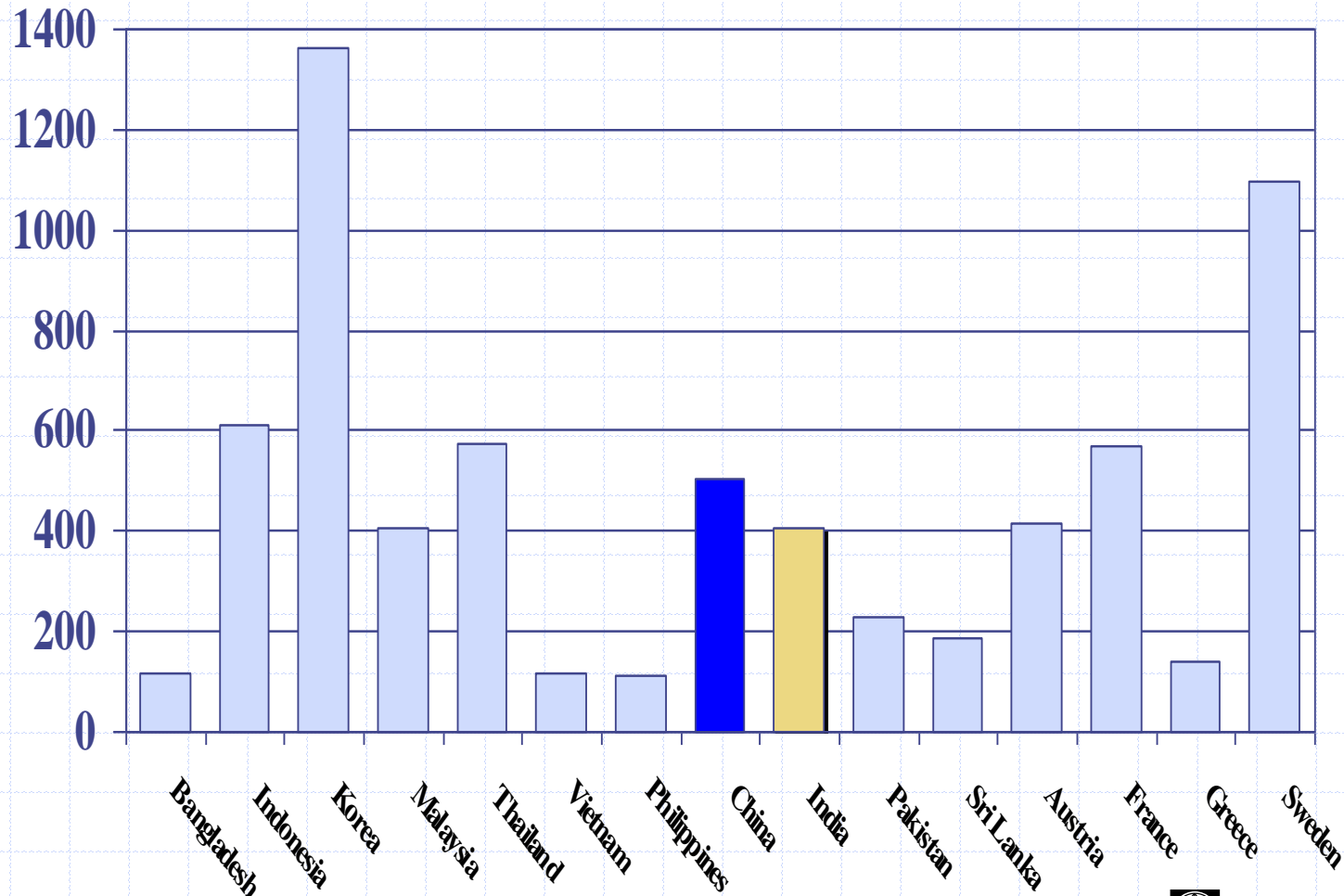


# Suburban Rail Systems: Annual Passengers Per Km of Line



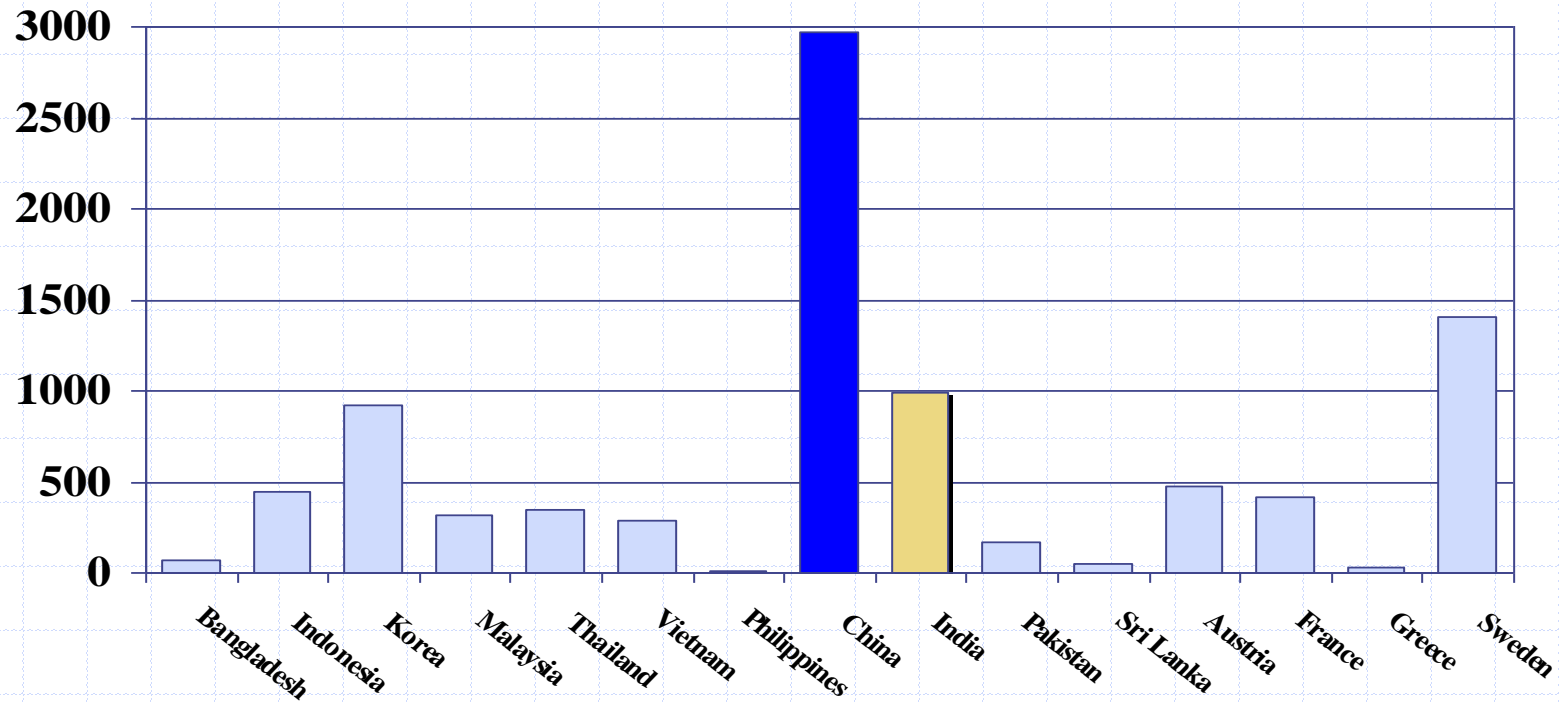
# Employee Productivity is Relatively Low

(000 Pkm+000 Tkm/Employee)

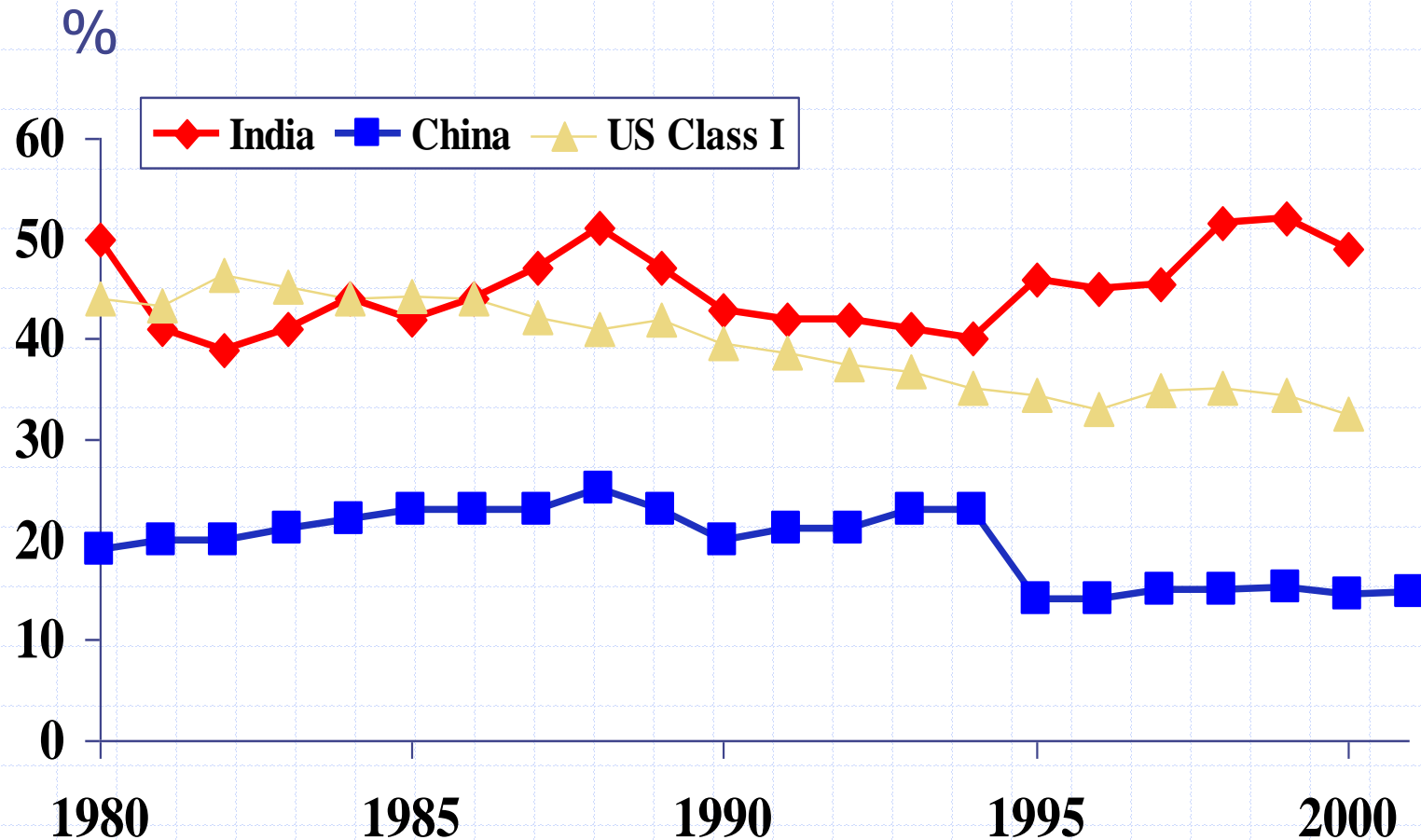


# Average Annual Output per Freight Wagon is Not High

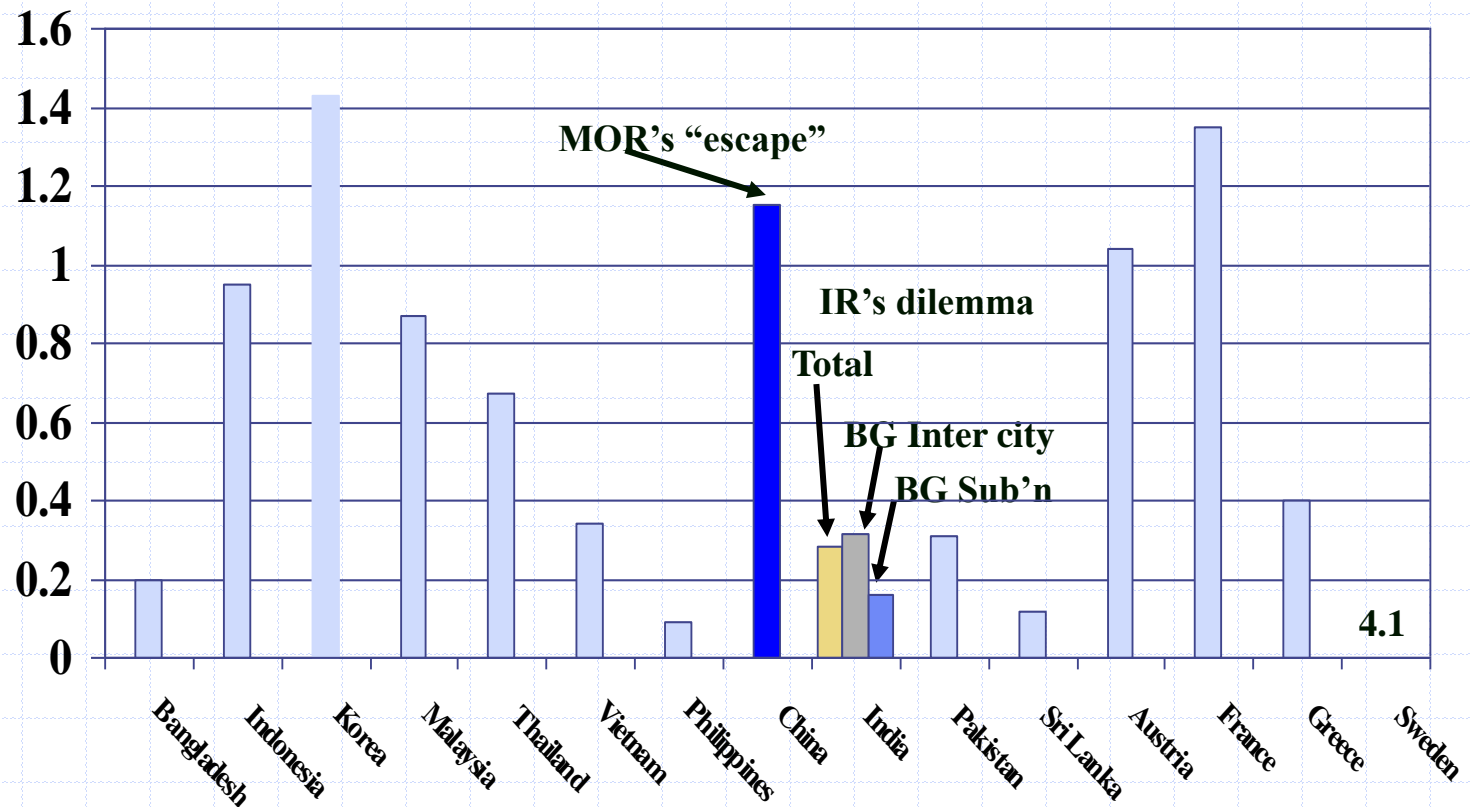
(000 Tkm per Wagon)



# Ratio of Wage Costs to Revenues



# IR Ratio of Average Passenger Fare to Average Freight Tariff Is **Very Low**: IR's Destructive Linkage With High Passenger Share



# IR's Program: Initial Actions

- ◆ IR as enterprise separated from government -- enterprise under commercial rules (profit motive, business Board with outside involvement and private sector personnel rules)
- ◆ Existing Zonal Railways adopt LOB organization on an accounting basis
- ◆ Separate and localize suburban operations -- accounting first, then institutional
- ◆ Spin off social, non-rail activities
- ◆ Make manufacturing activities independent and competitive, then privatize (if and when)



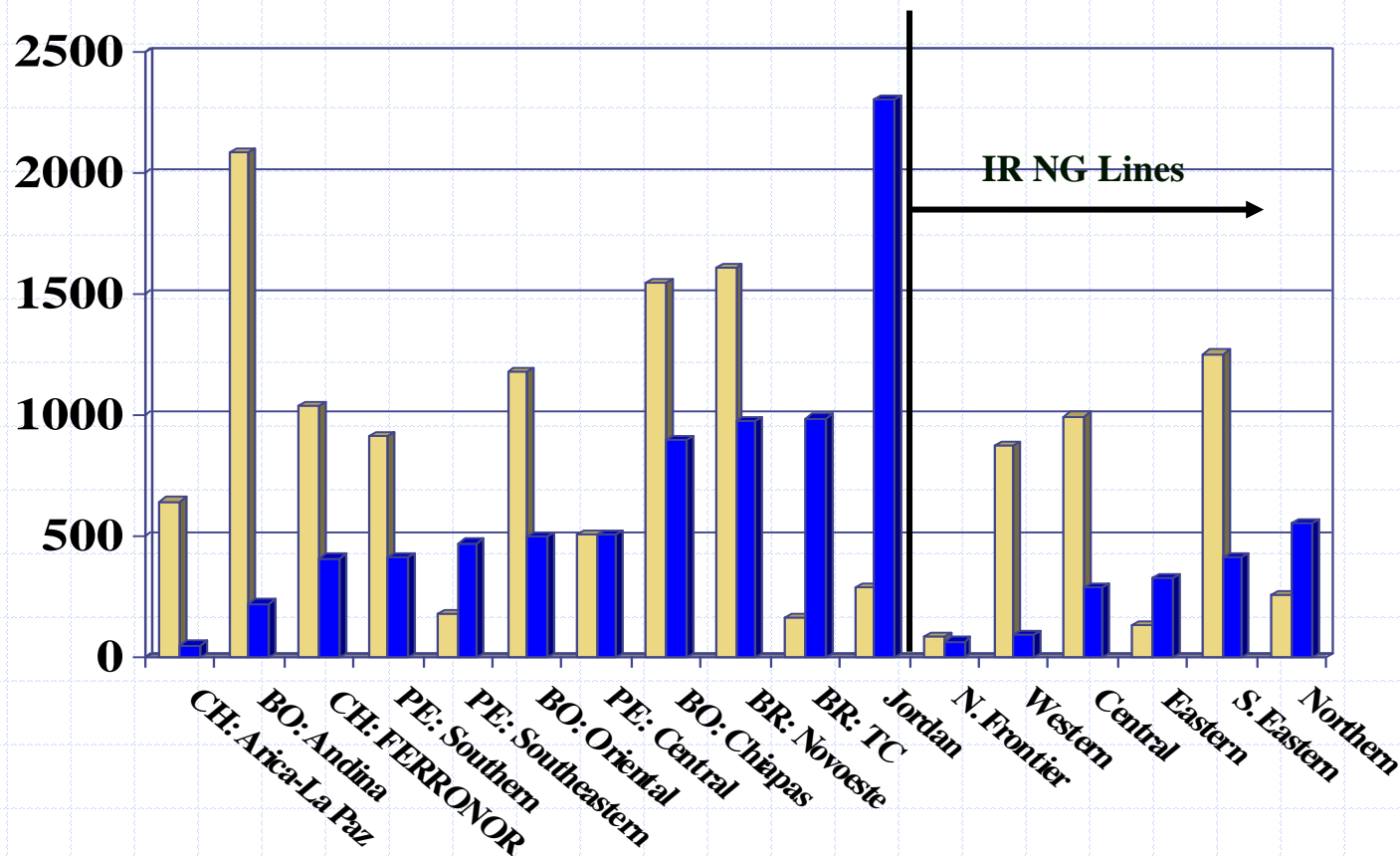
# IR Restructuring: Medium Term Actions

- ◆ **Separate out NG and localize, concession or privatize the pieces**
- ◆ **Finish high MG priority pieces, localize, concession or privatize the unconverted pieces**
- ◆ **Localize, concession or privatize BG “bits and pieces”**
- ◆ **Create local (accounting separation at first) companies to operate local, short haul passenger companies (4800 trains daily). Mumbai, Kolkata, Chennai**
- ◆ **Create accounting-based LOB’s at national level for freight and long-haul passengers (1200 trains daily)**
- ◆ **Consider more specialized companies like CONCOR (commodities, value-added services) with private involvement**



# IR Narrow Gauge Lines Compared With Smaller Operating Concessions

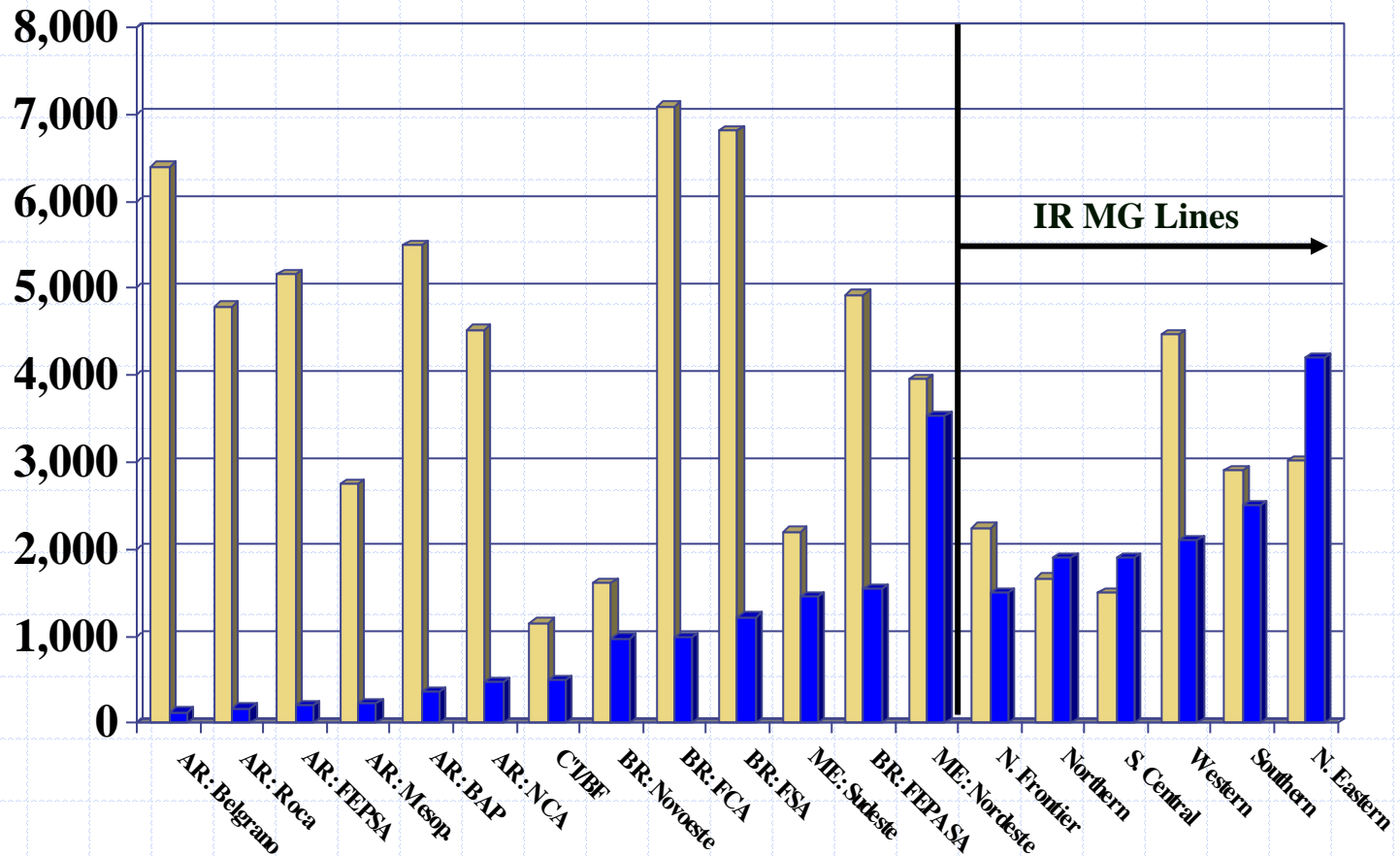
(gold = line-km, blue = traffic density in TU/km)





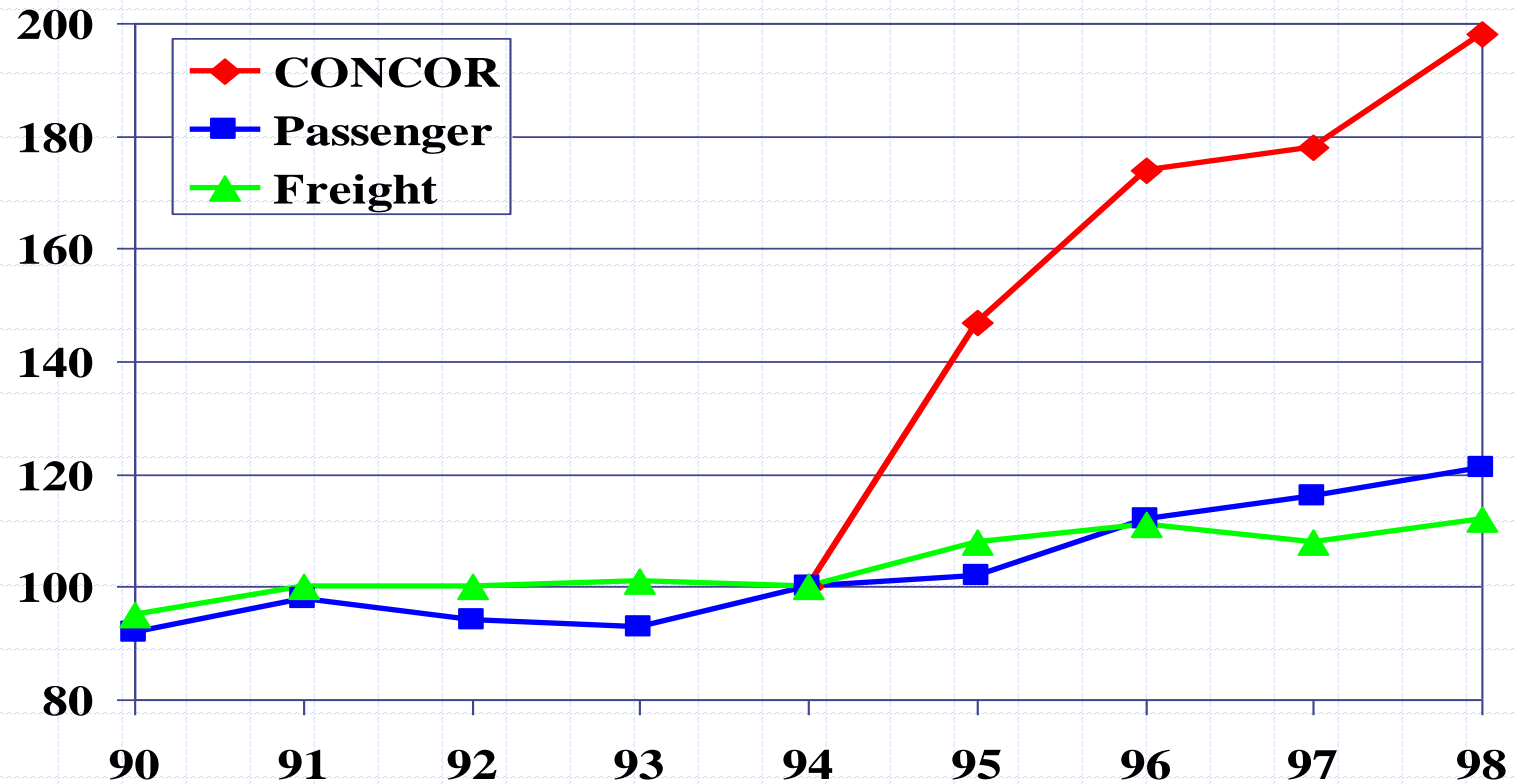
# IR Meter Gauge Lines Compared with Middle-Sized Operating Concessions

(gold = line-km, blue = traffic density in TU/km)

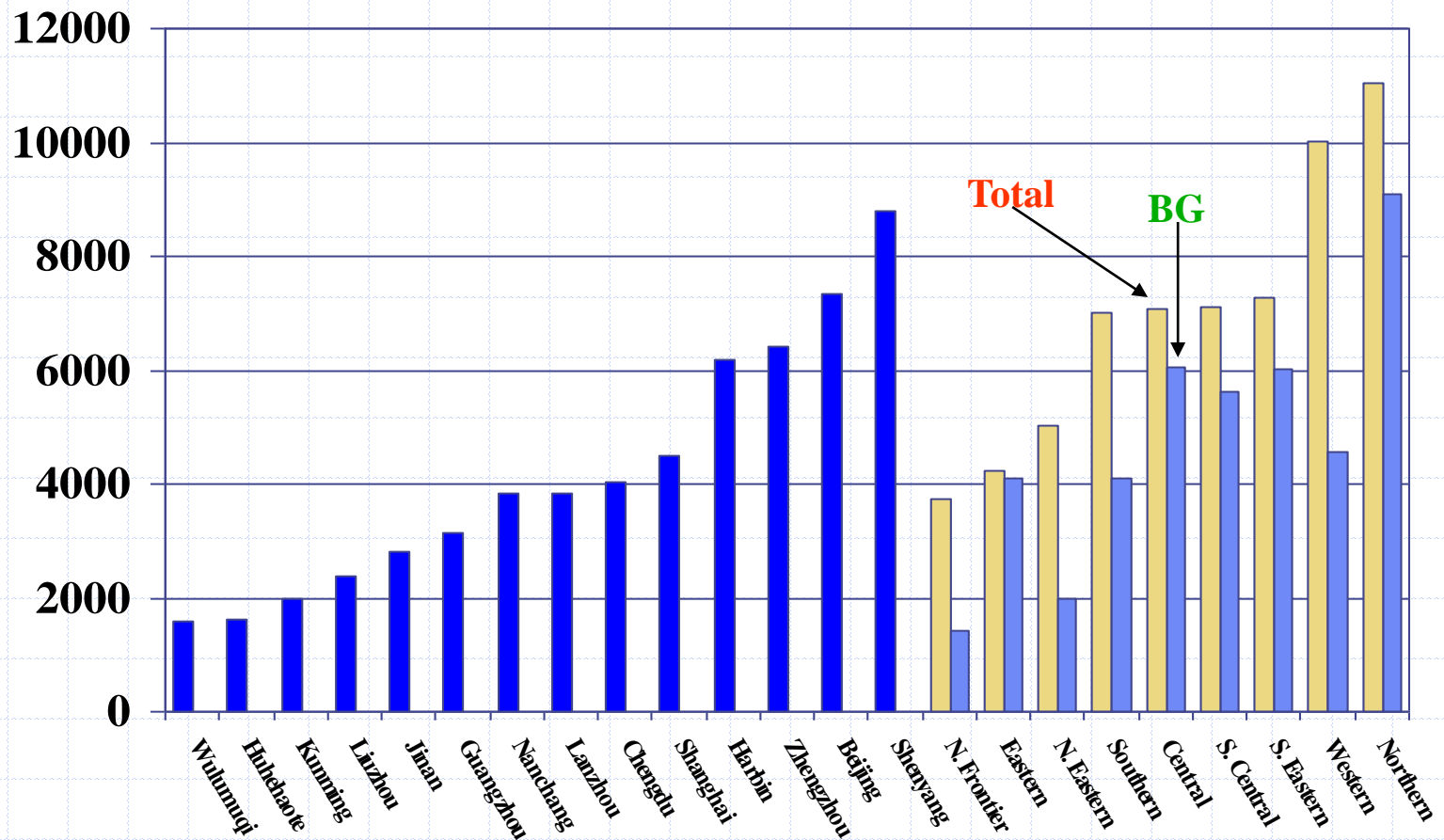


# Three IR Markets: the Impact of LOB Focus and Private Involvement

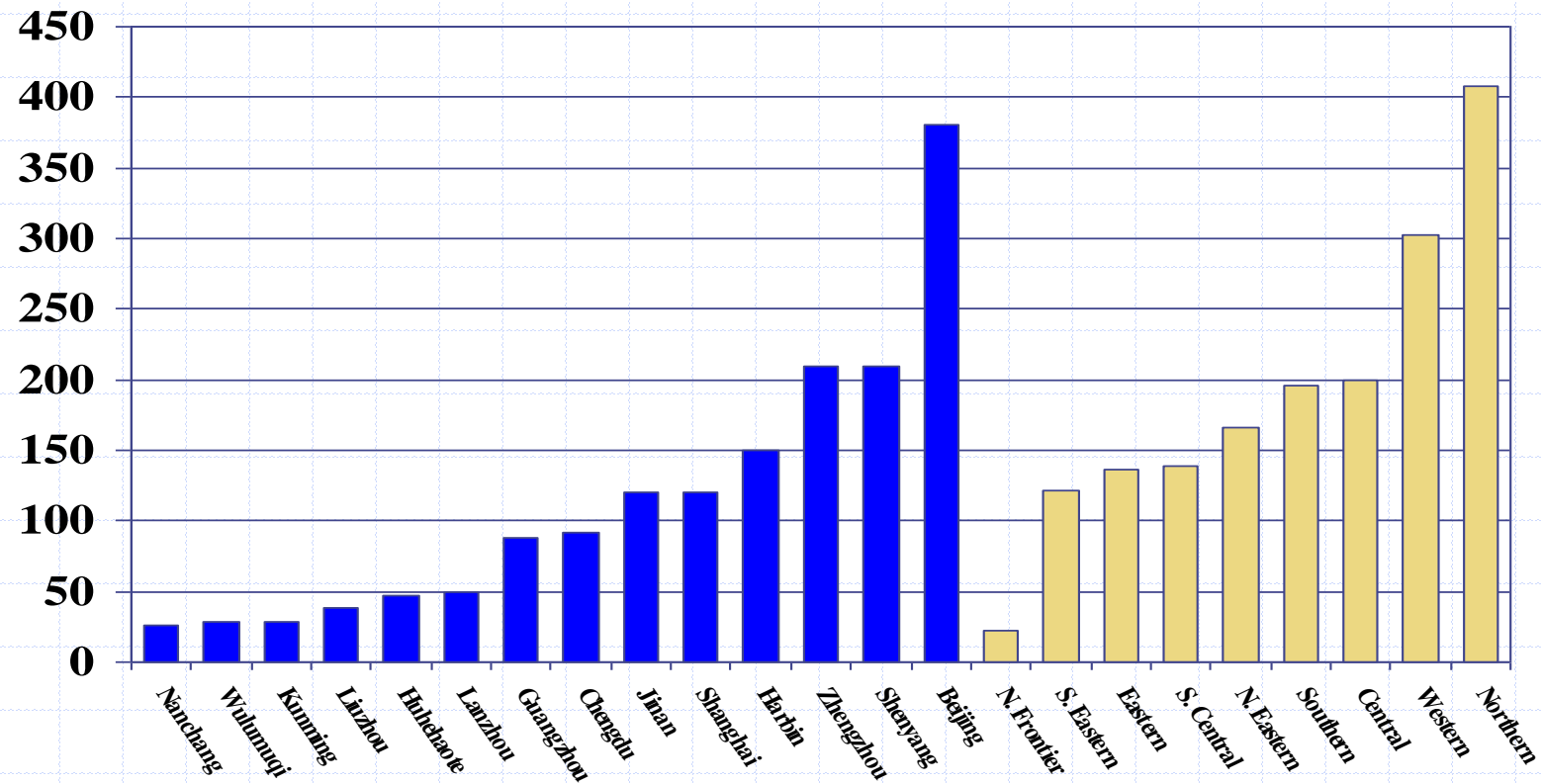
Traffic Volume Index: 1994=100



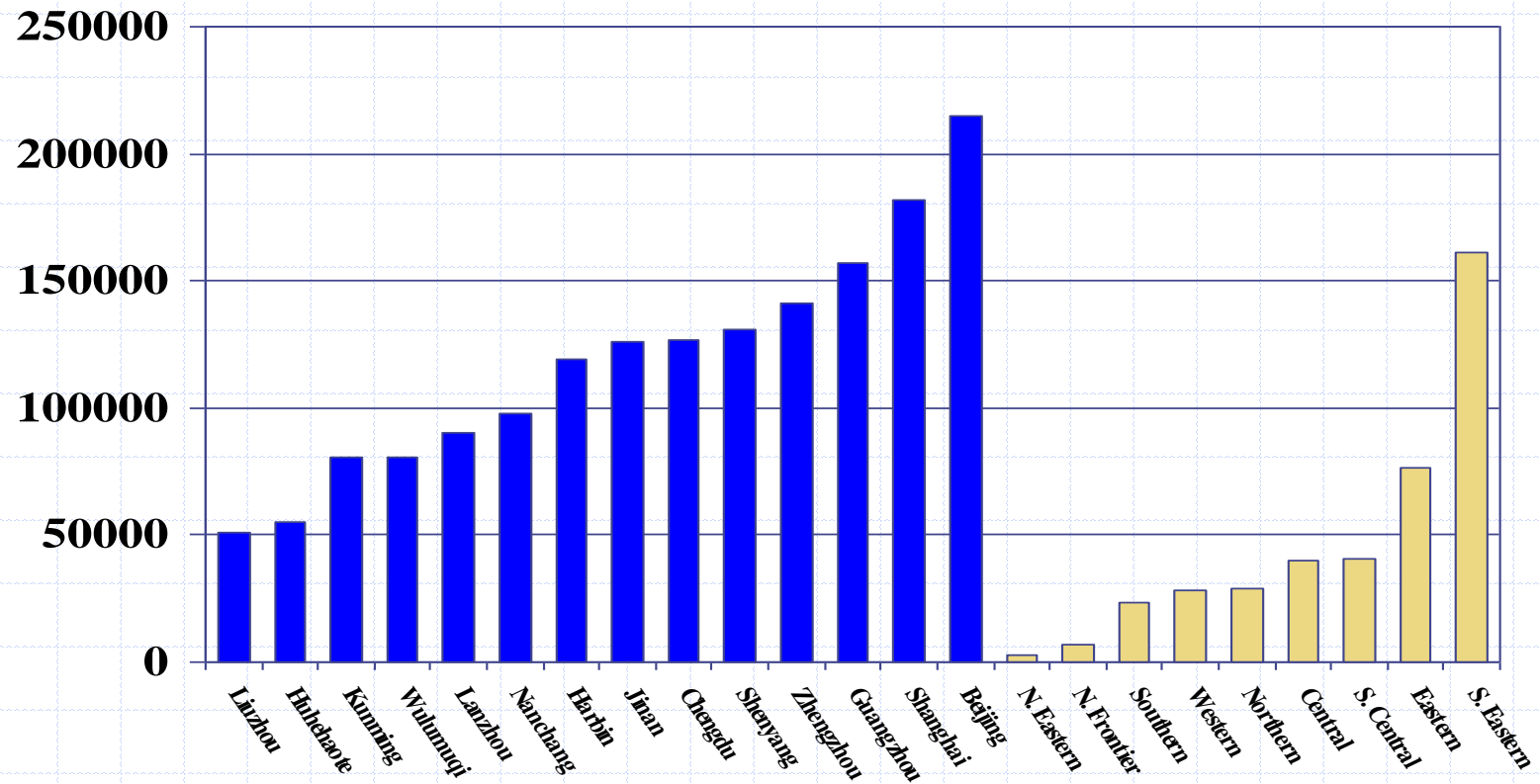
# Km of Line: MOR Administrations Compared with IR Zones



# Inter-city Passengers Originating (000,000): Comparison of MOR Administrations with IR Zones

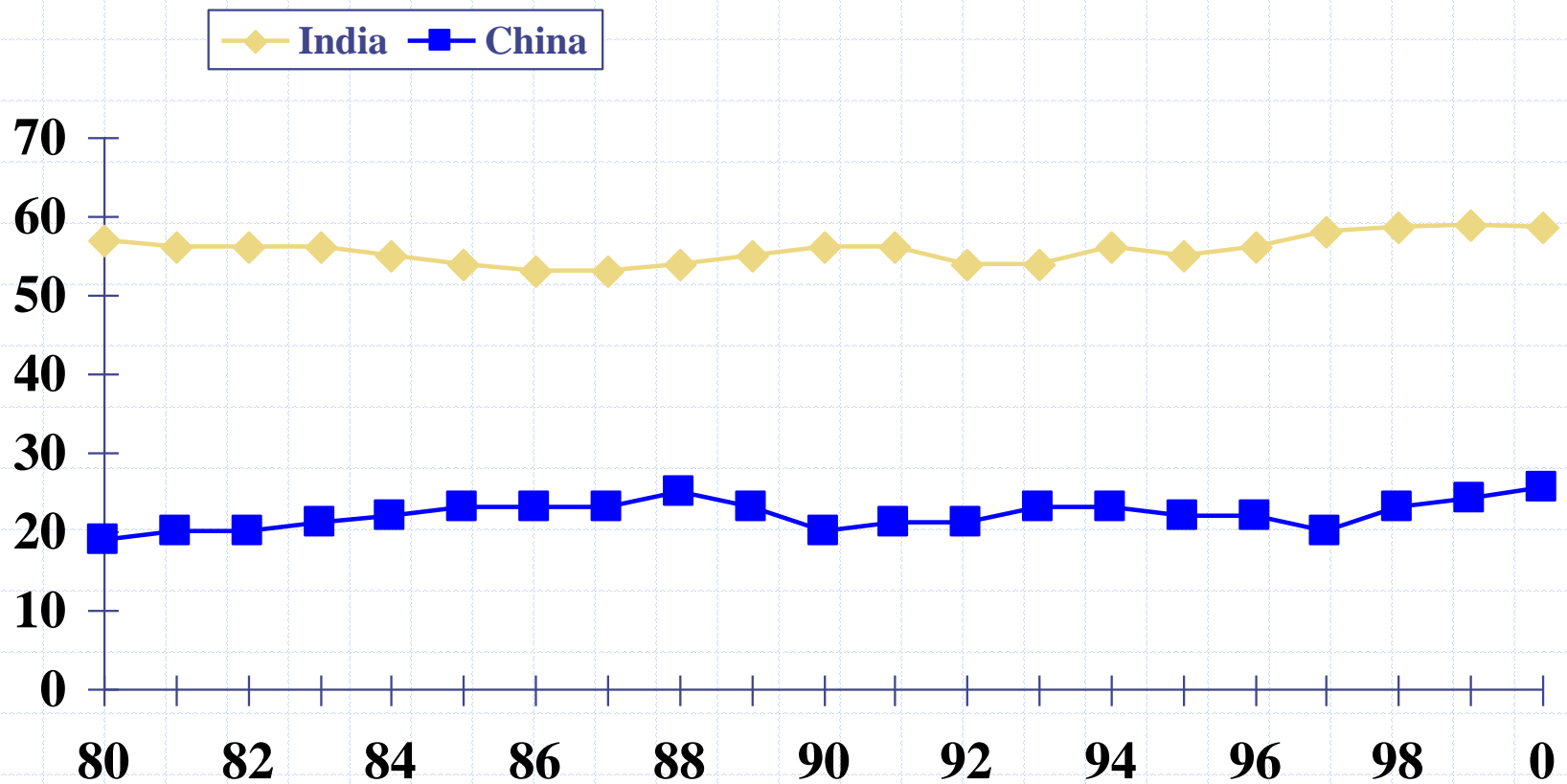


# Freight Tons Originating (000,000): Comparison of MOR Administrations with IR Zones



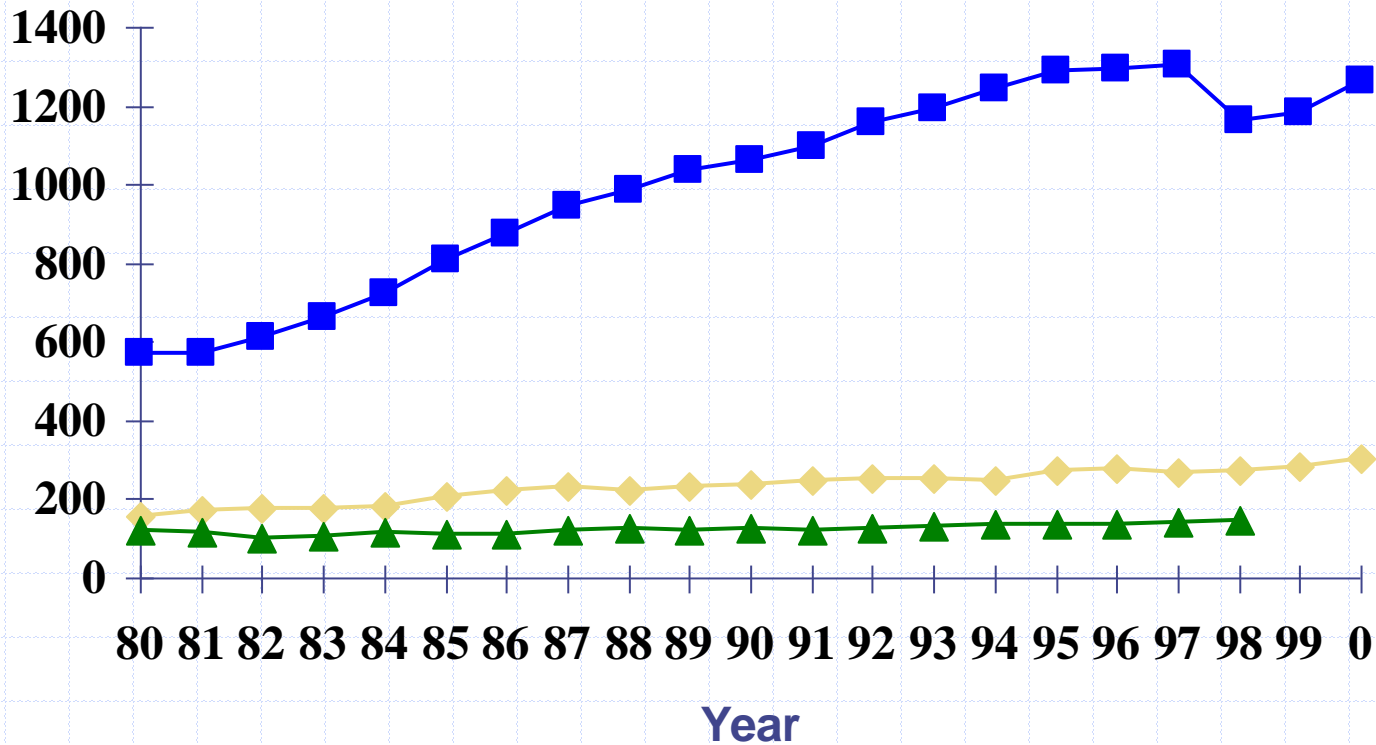
# MOR's Freight Orientation: Percent Passenger Traffic

$P\text{-km}/(P\text{-km}+T\text{-km})$  in %



# Freight Traffic

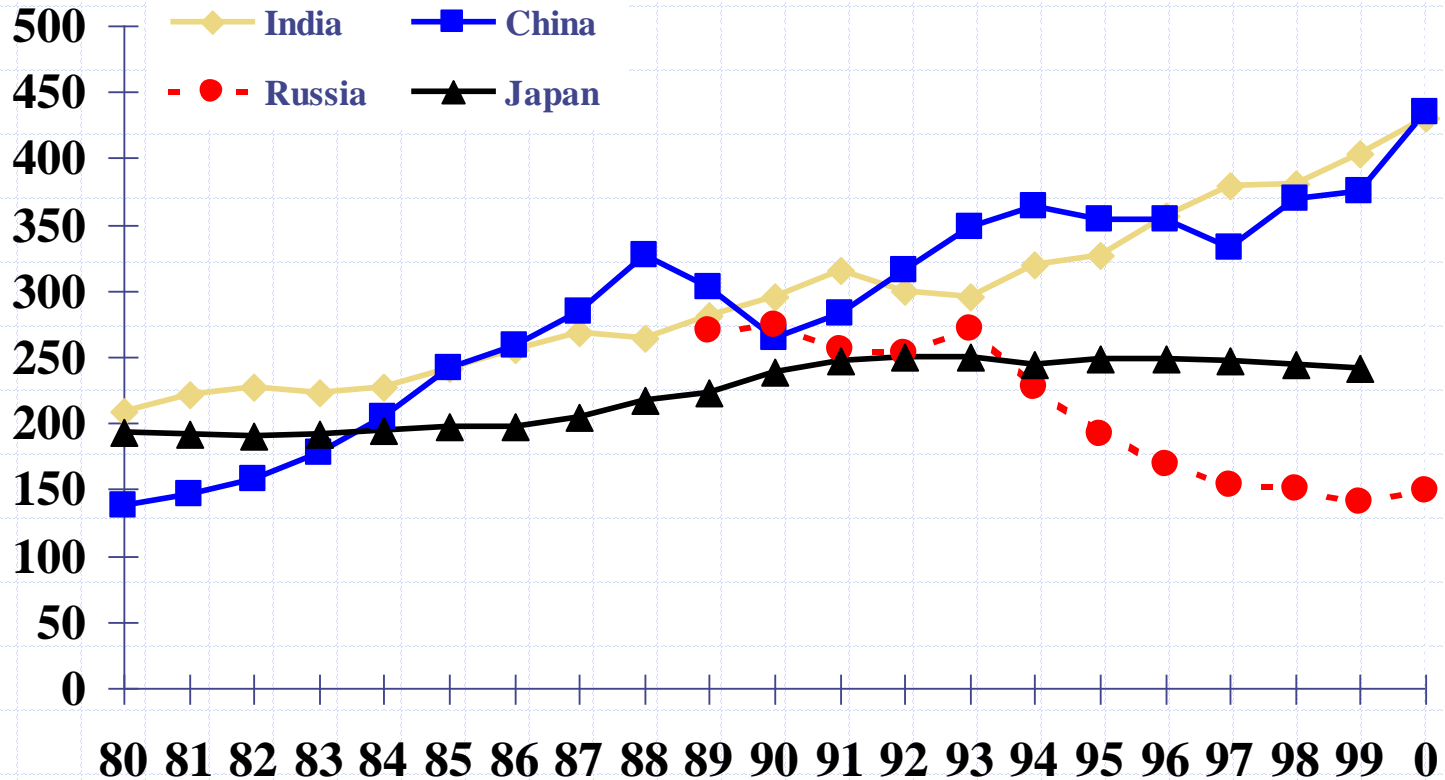
(billions of ton-km)



◆ India ■ China ▲ Conrail

# Passenger Traffic

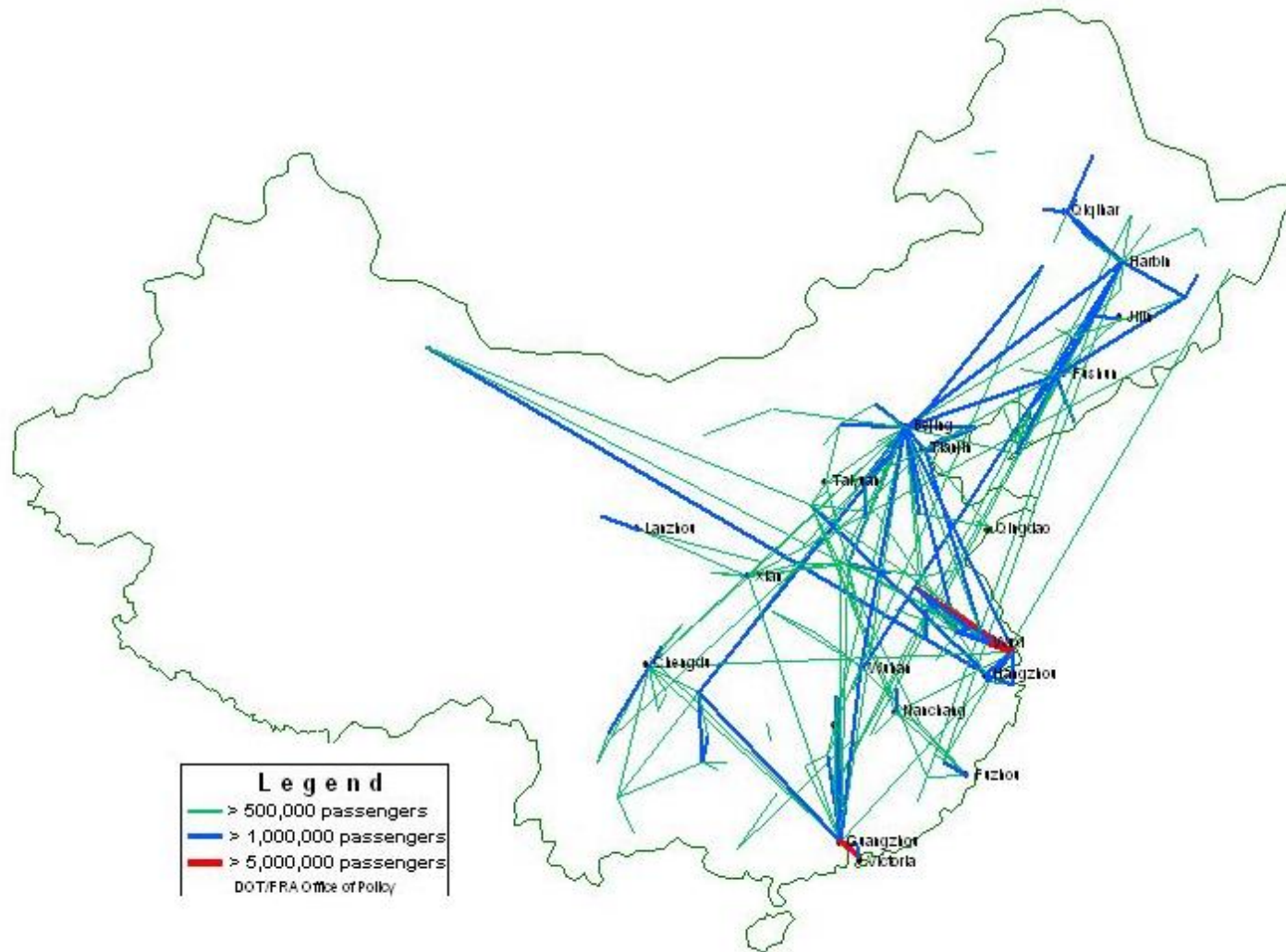
(000,000 p-km)



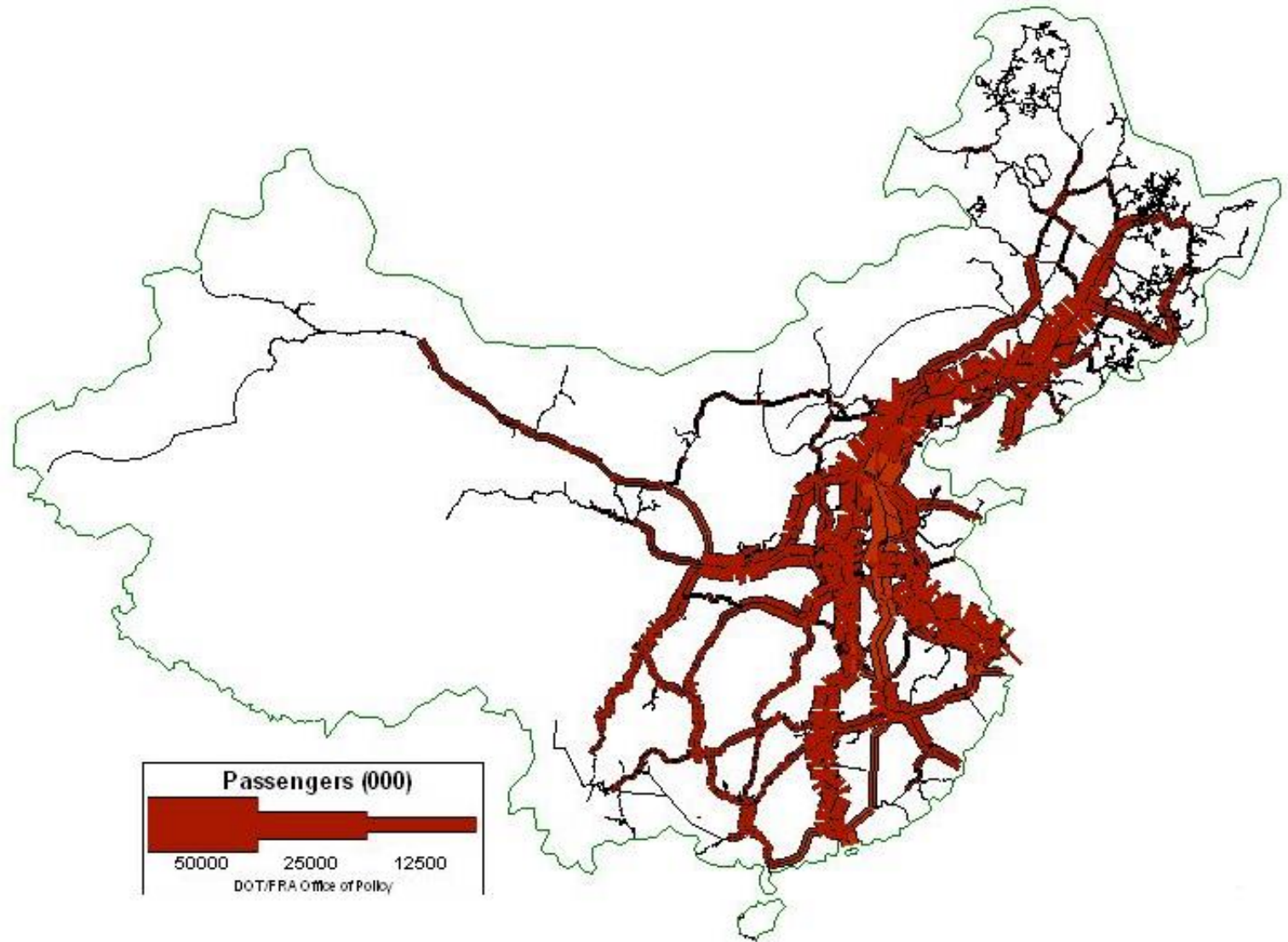


# Point to Point Rail Passenger Flows in China

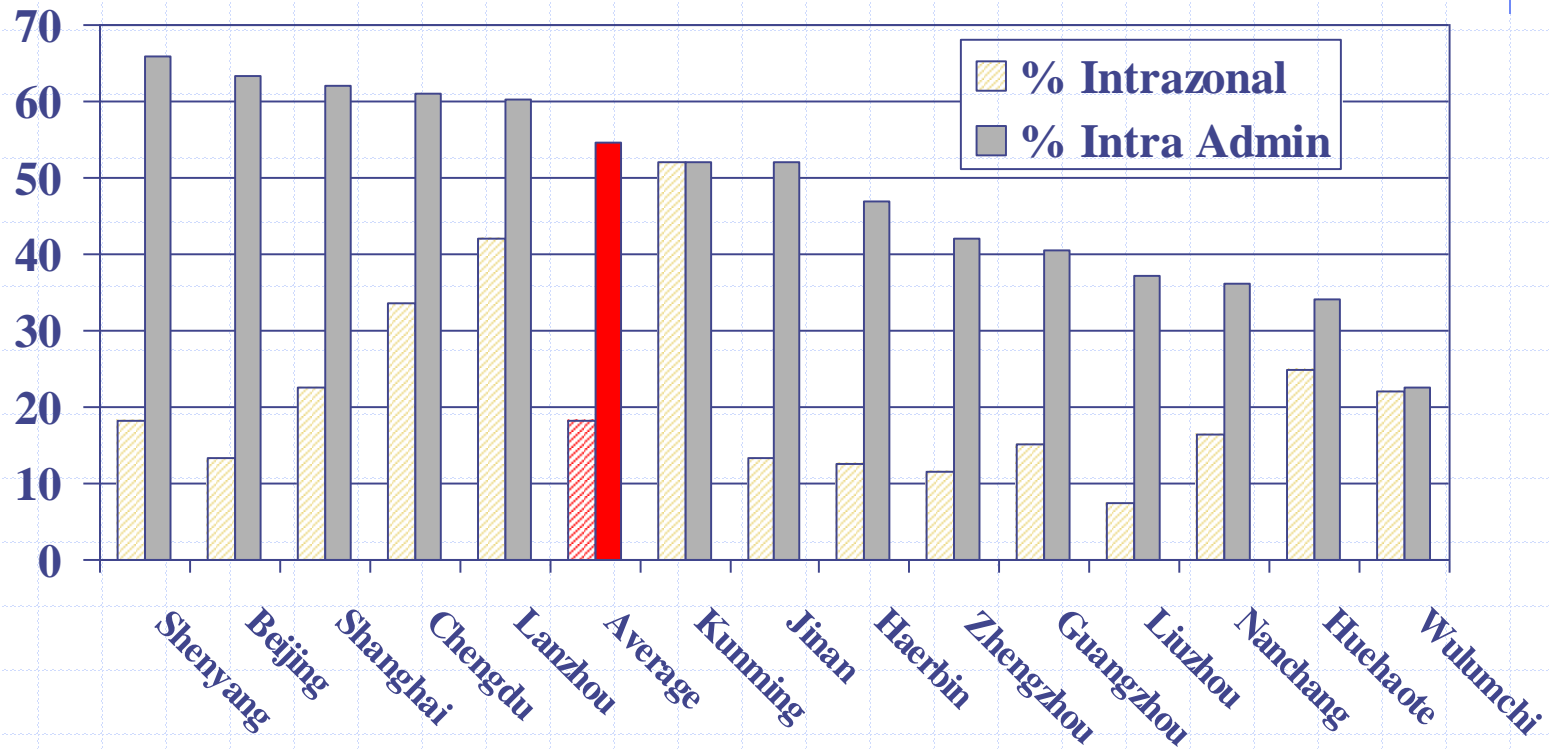
(1997 data excludes intra-zonal flows)



# 1997 Passenger Flow Density (excludes intrazonal traffic)

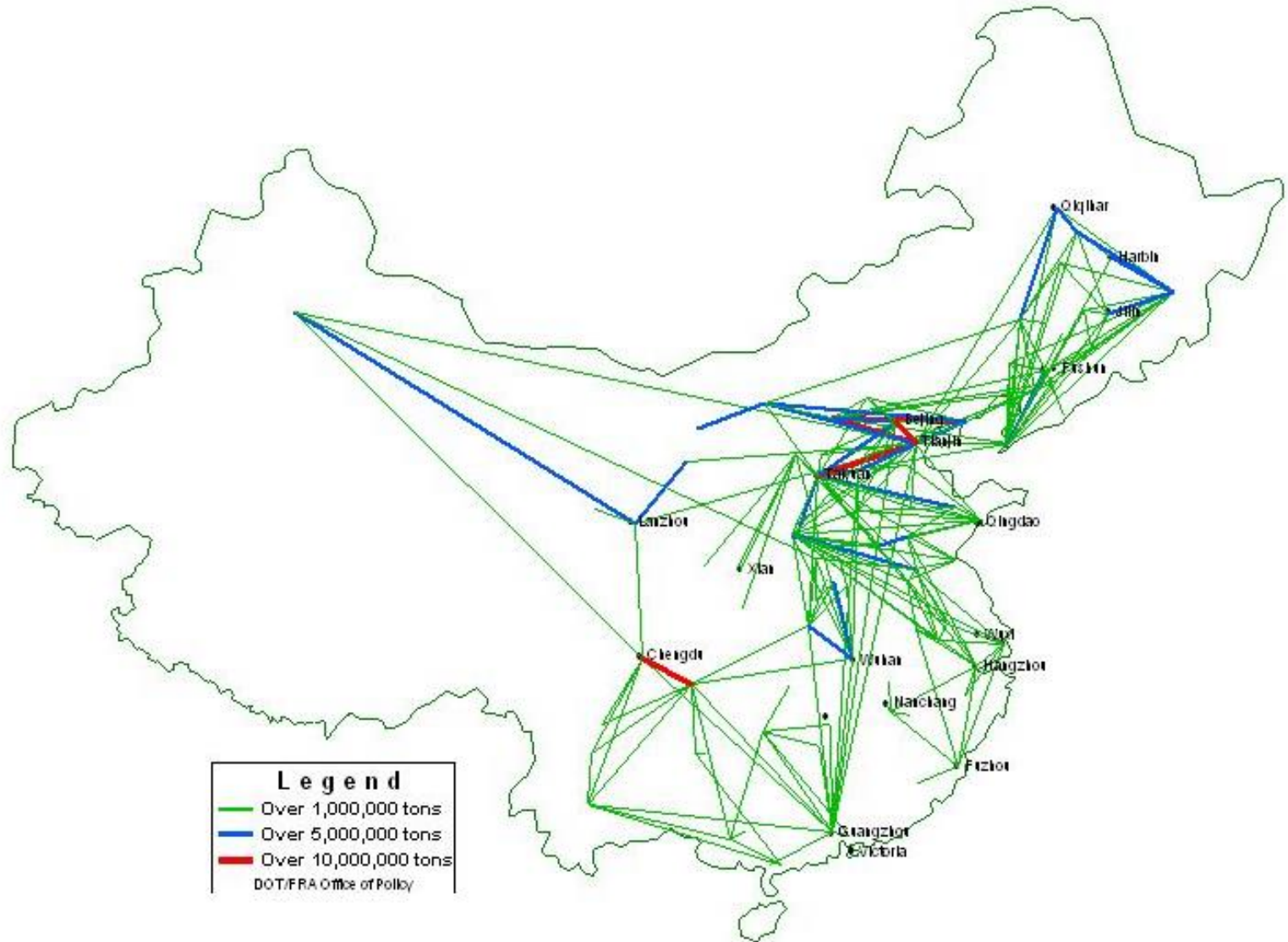


# Percent of Originating Tons -- 1997



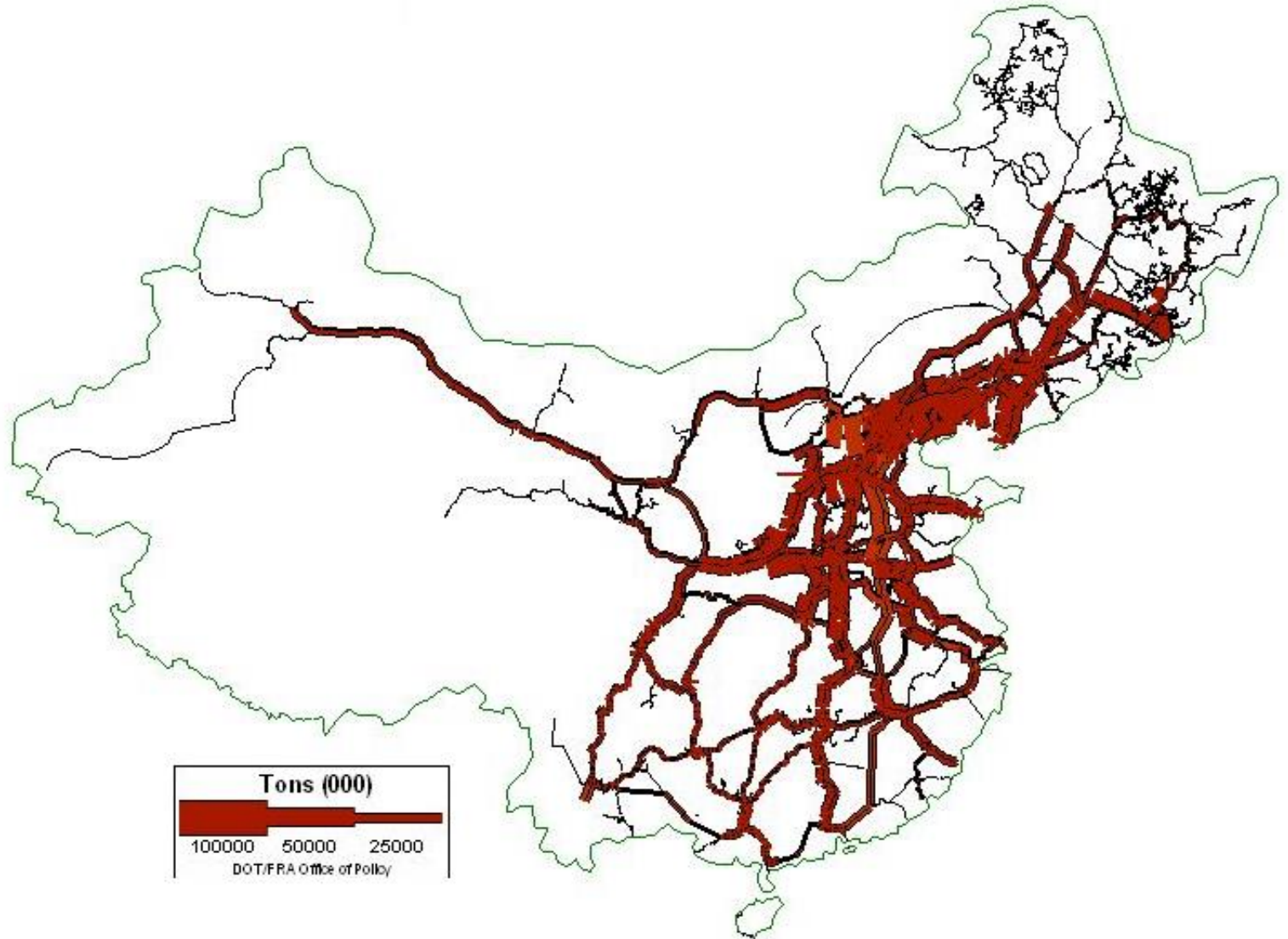
# Point to Point Rail Freight Flows in China

(1997 data excludes intra-zonal flows)

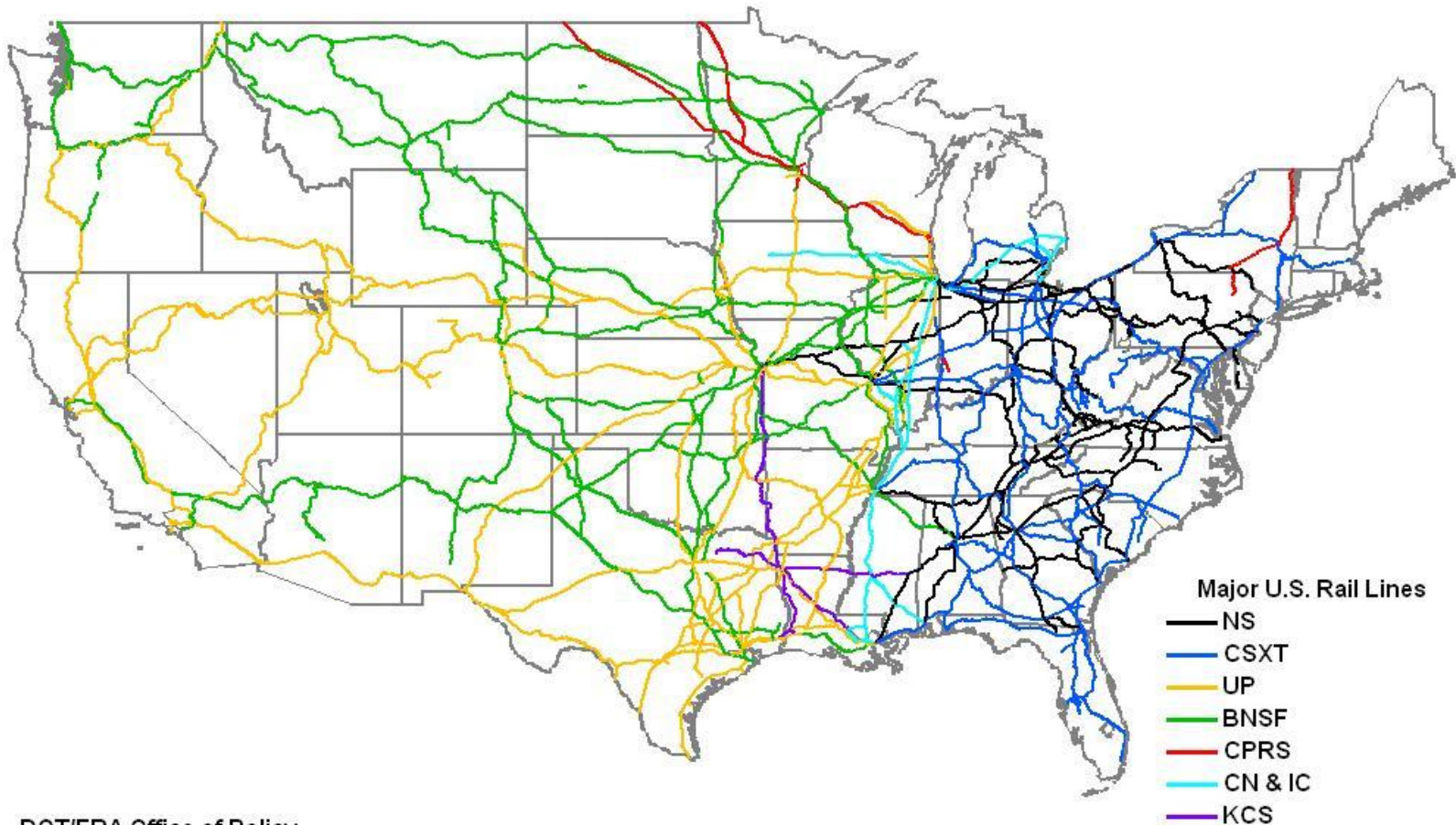


# 1997 Freight Flow Density (Tons)

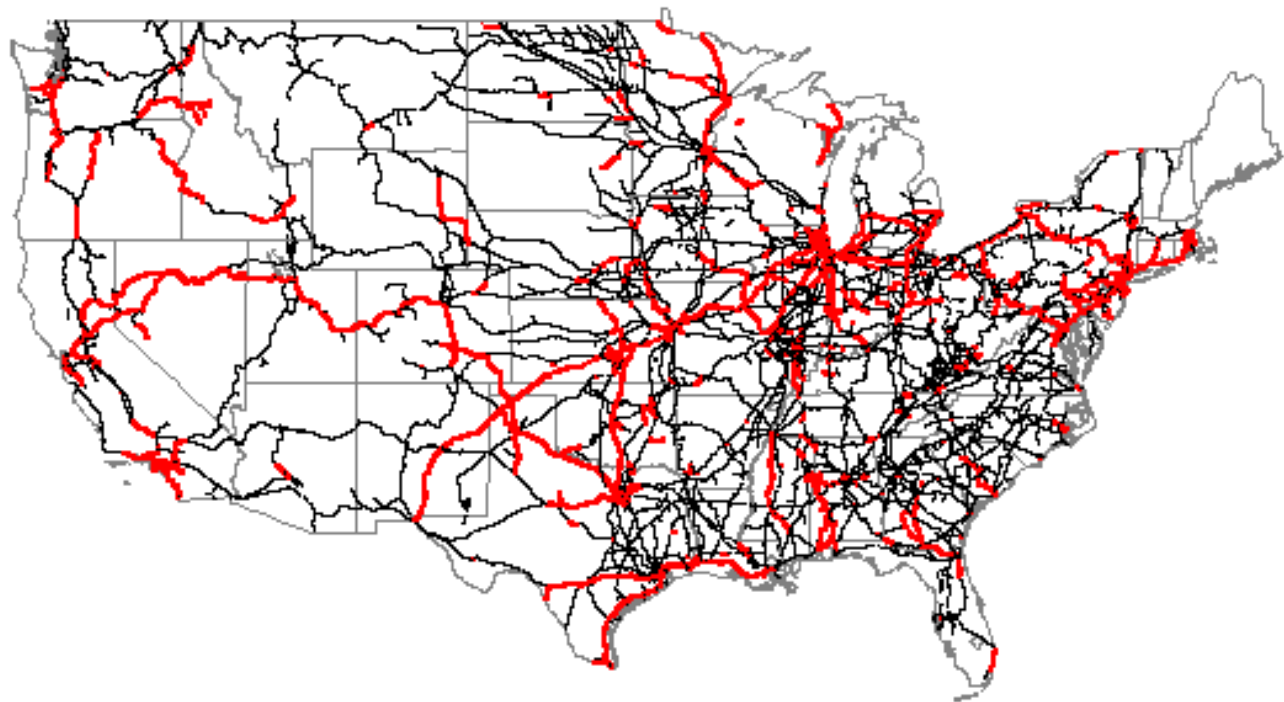
(excludes intrazonal traffic)



# Competition on Parallel Tracks: U.S. Class I Railroads



# Competition on the Same Tracks: Multiple Use U.S. Freight Tracks (Excluding Amtrak)



# Amtrak: The Secondary User

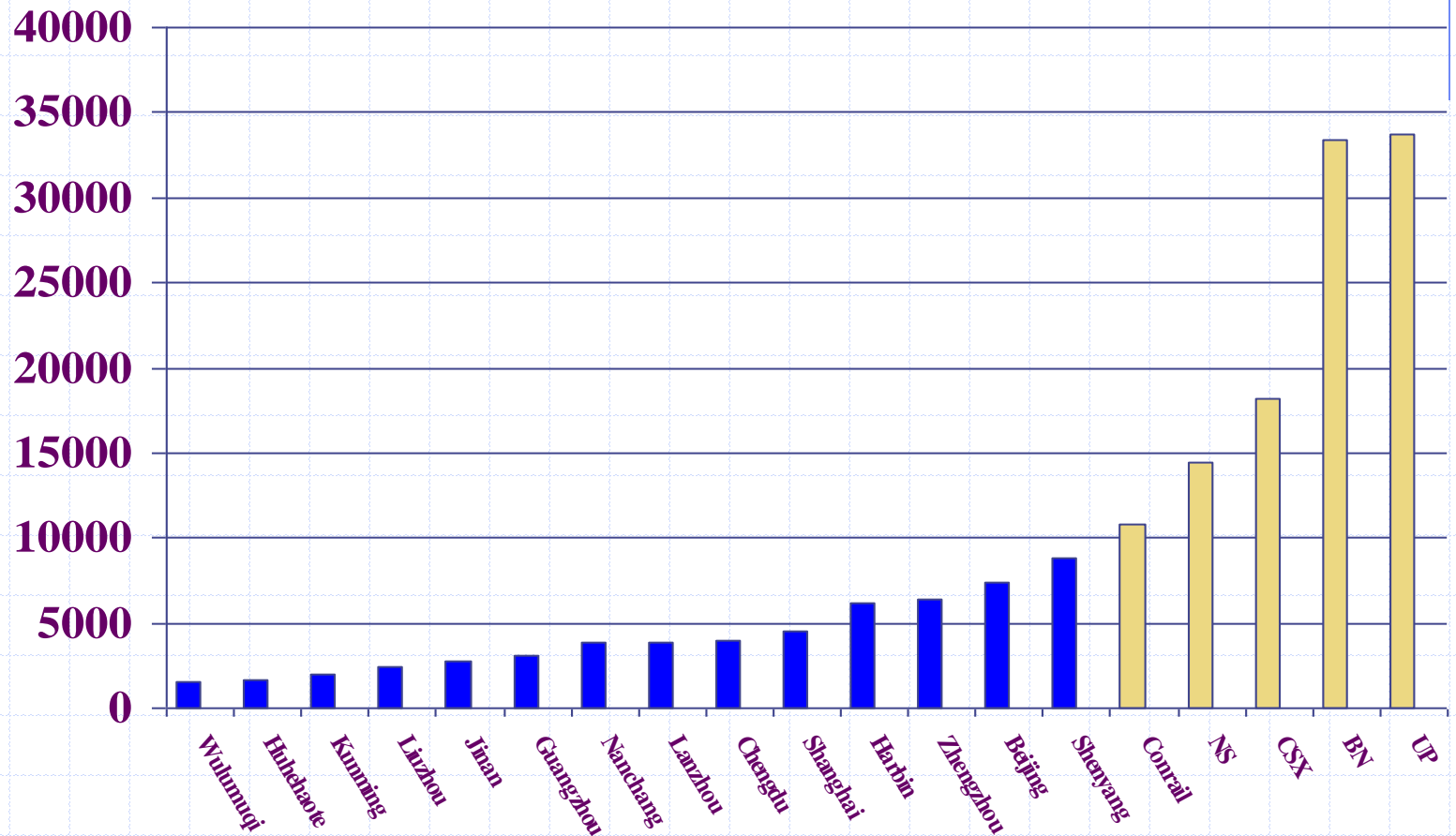




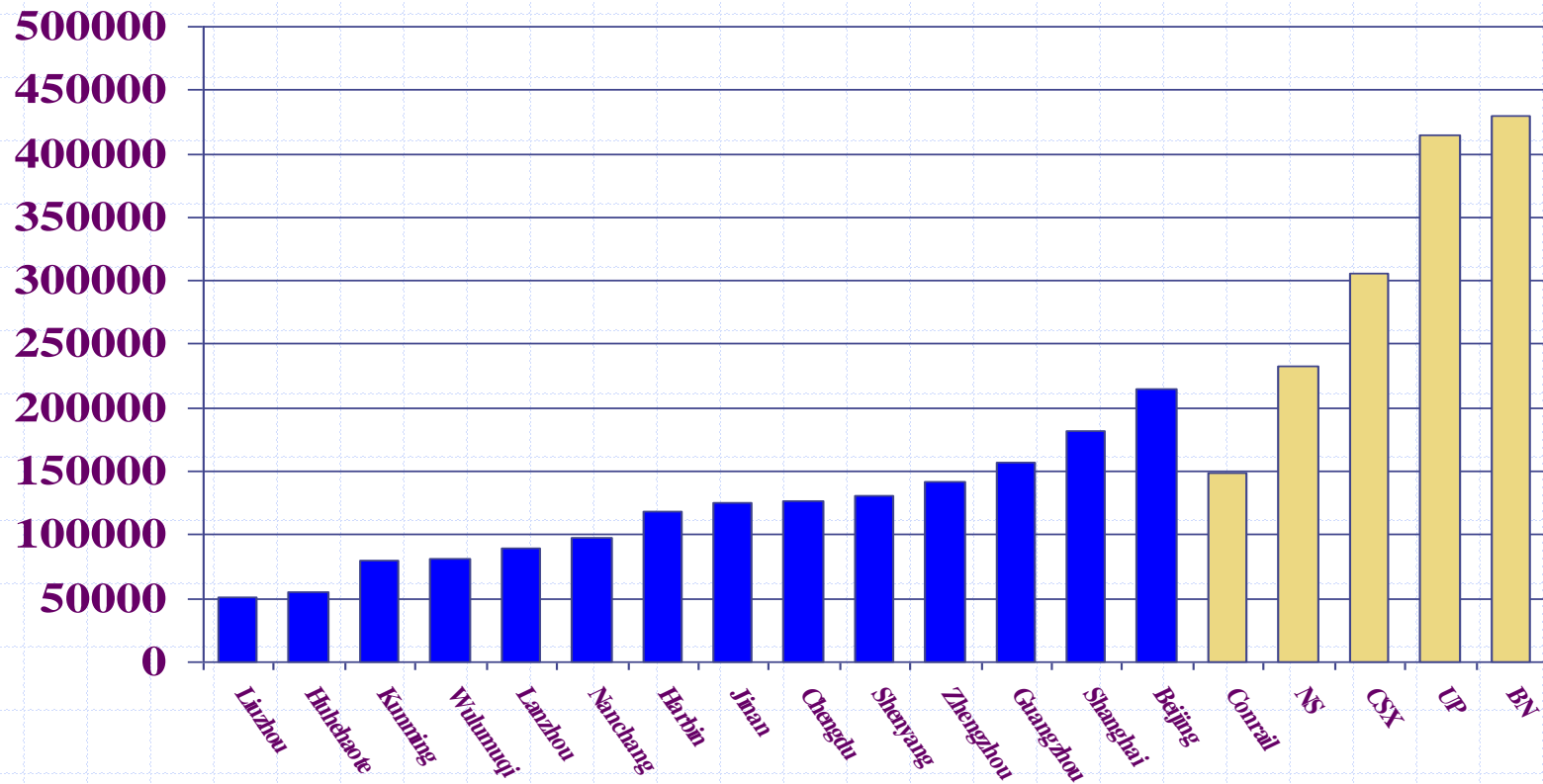
# The Full Predominant/Secondary Model: Multiple Use U.S. Tracks Including Amtrak



# Km of Line: MOR Administrations Compared with U.S. Railroads



# Freight Tons Originating (000,000): Comparison of MOR Administrations with U.S. Railroads



# Employees (000): Comparison of MOR Administrations with U.S. Railroads

