



Transition Challenges in Chinese Railway Restructuring

Louis S. Thompson

Railways Adviser

The World Bank

Beijing, January 29, 2002



The World Bank

Transition Challenges

- Lessons from elsewhere
- System design choices
- Evaluating the options
- Minimizing risk
- Information and tools for restructuring



Restructuring Lessons from Elsewhere

- Action – highest risk is nothing
- Iteration, not revelation
- Avoid unclear or impossible objectives
- Understand tradeoffs
- Mixed solutions often best
- Do **not** neglect future government role – ownership, transport strategic planning, railway investment, economic regulation (versus competition), safety



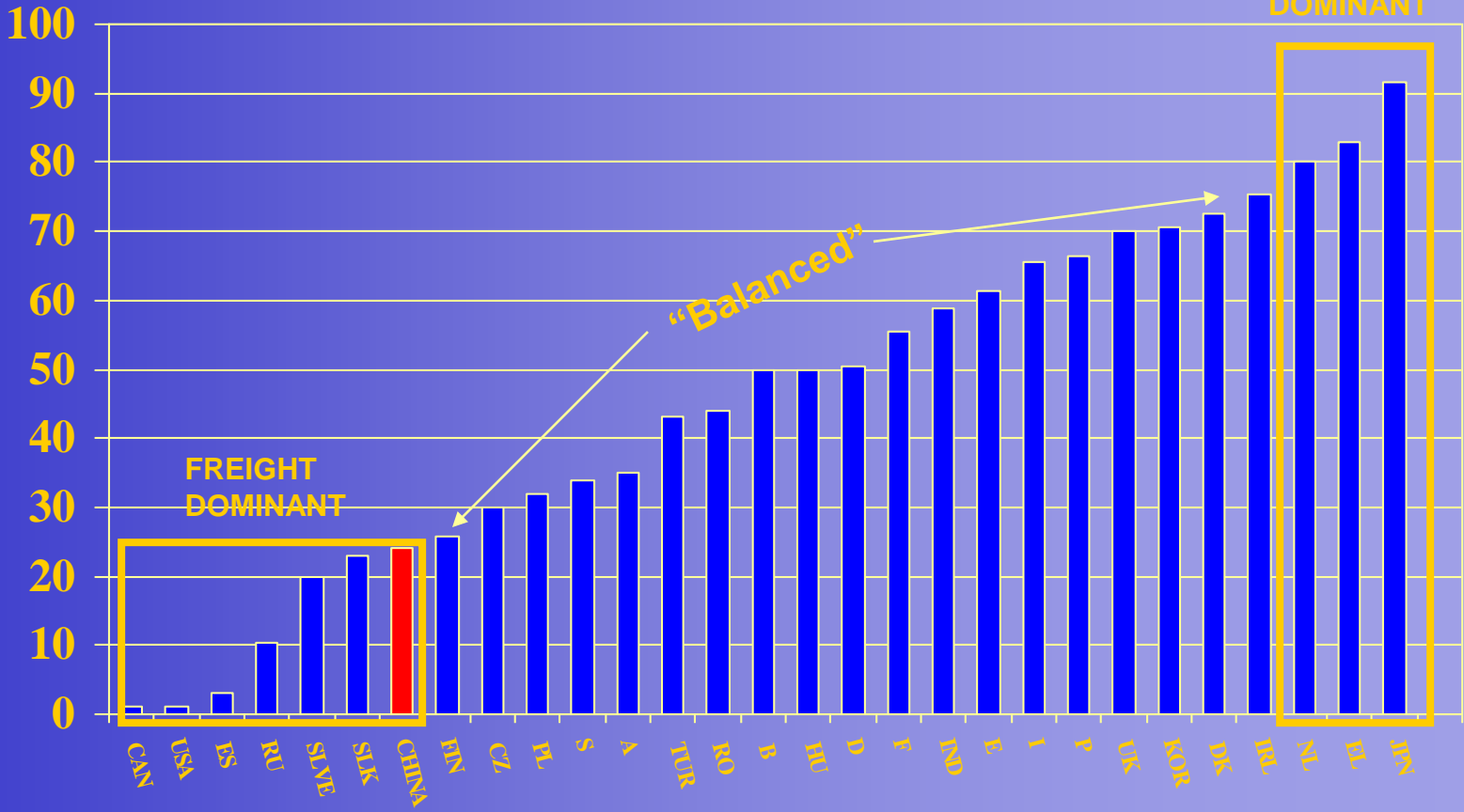
System Design Choices

- Dominant integral (U.S. freight vs. Amtrak) vs. total up/down (operating companies have franchises?)
- Centralized versus regionalized infrastructure organization
- Design role and degree of competition
- Decide on development of role of private sector -- Guangshen, specialized operating company (containers), wagon leasing



Percent of Rail Passenger Traffic to Total Rail Traffic

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



Evaluating the Options If the Boundaries Change

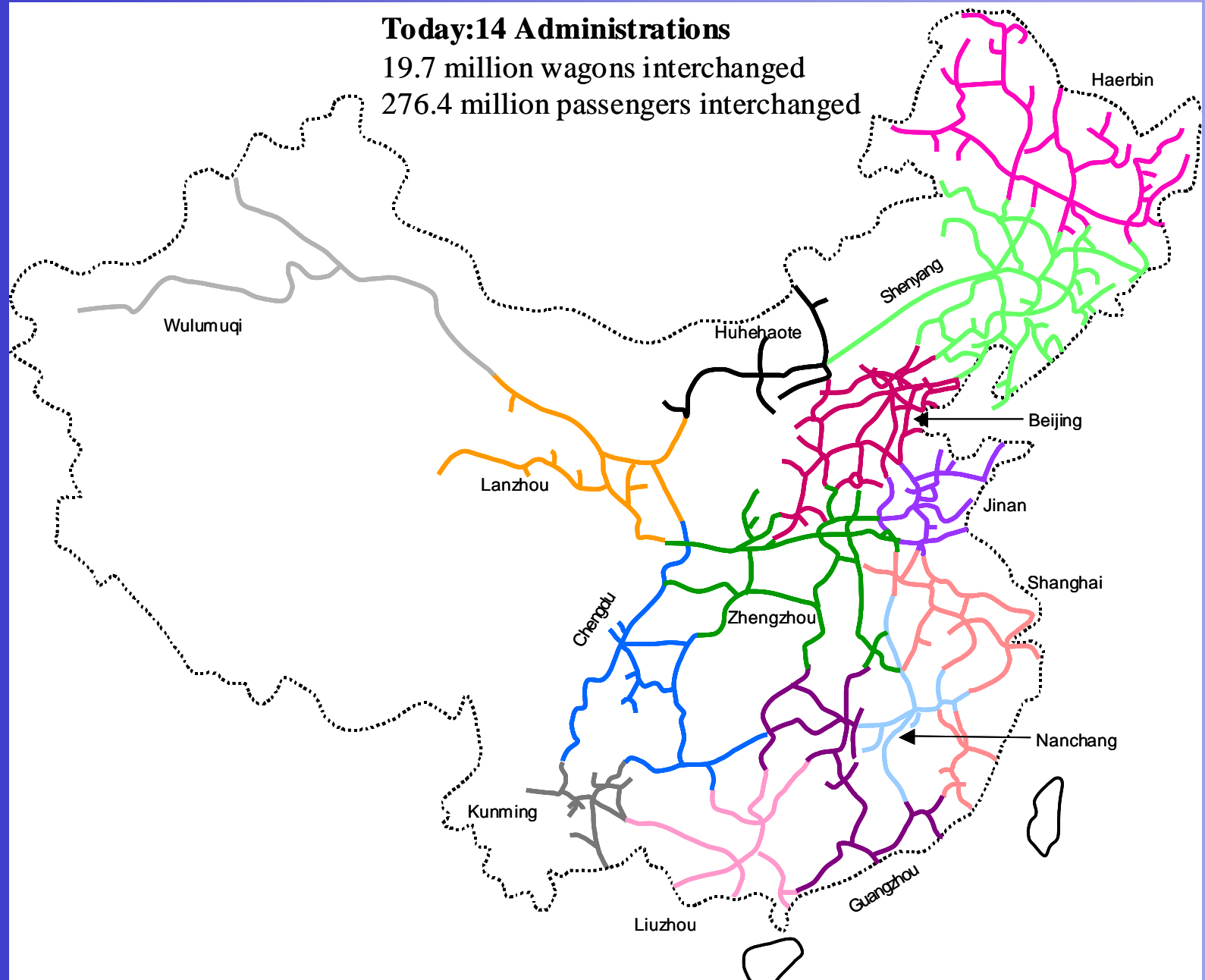
- Reducing cost of interchanges
- Matching the market structure
- Introducing competition – how and where
- Enterprise balance and profitability



Today: 14 Administrations

19.7 million wagons interchanged

276.4 million passengers interchanged

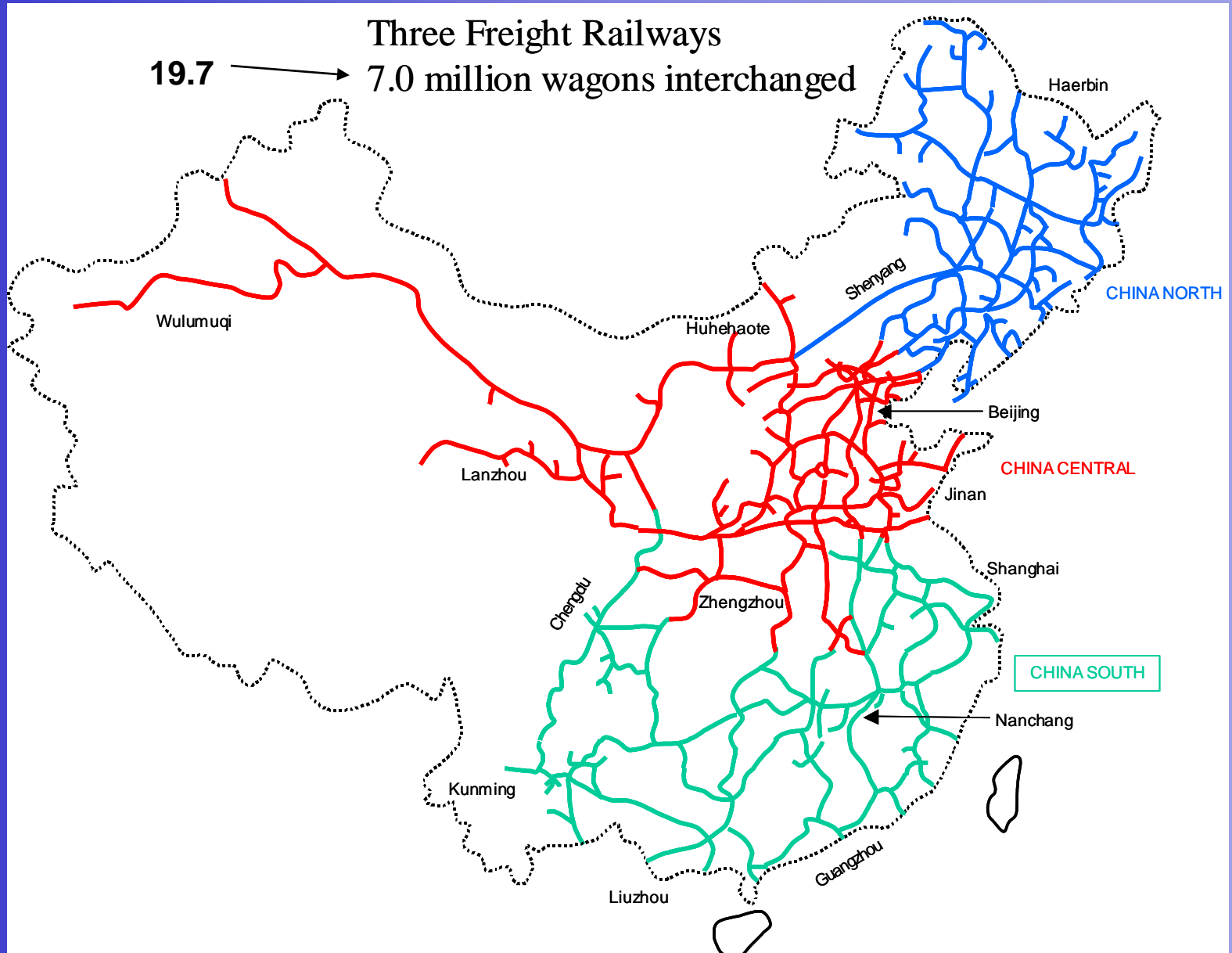


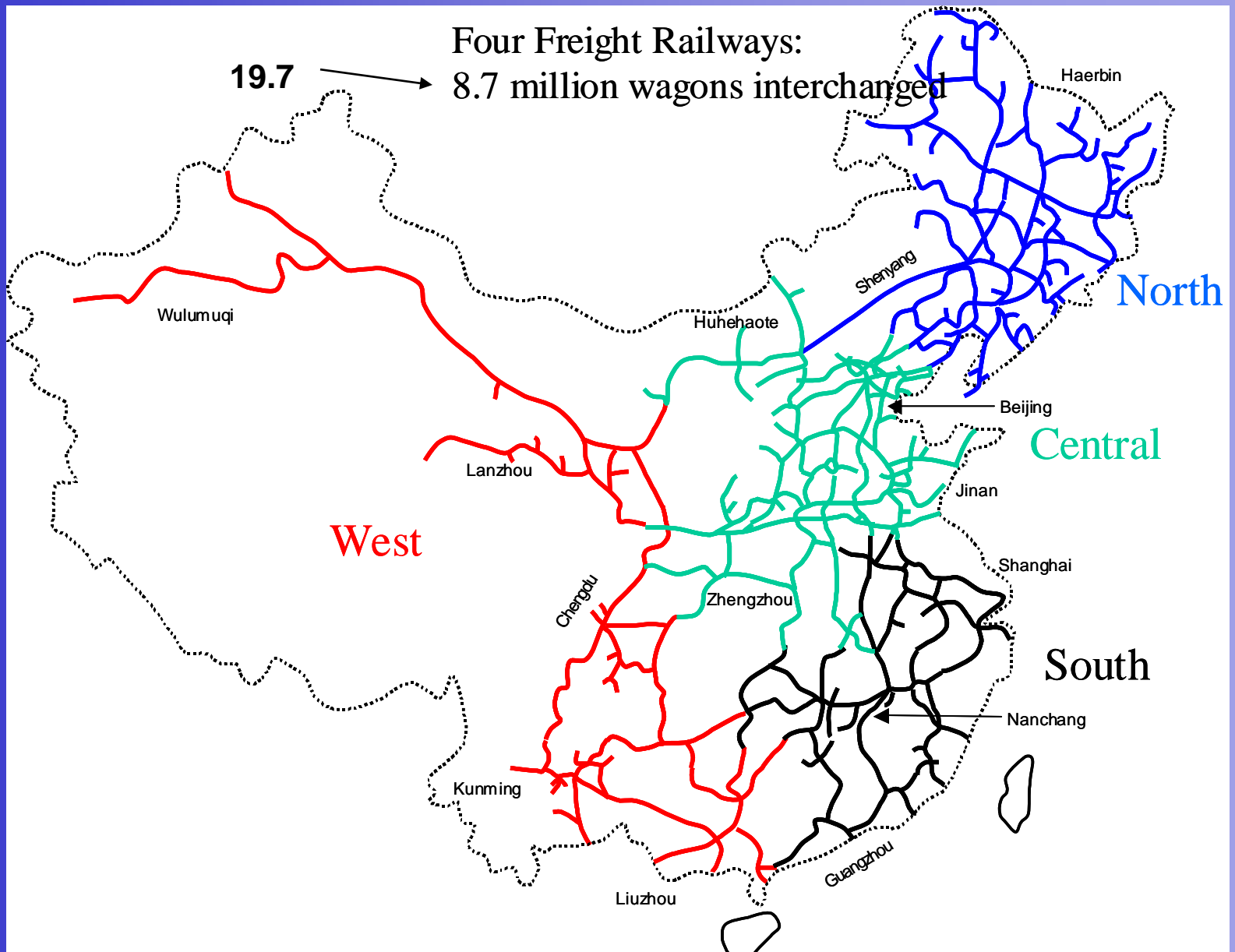
Two Freight Railways
19.7 → 4.5 million wagons interchanged



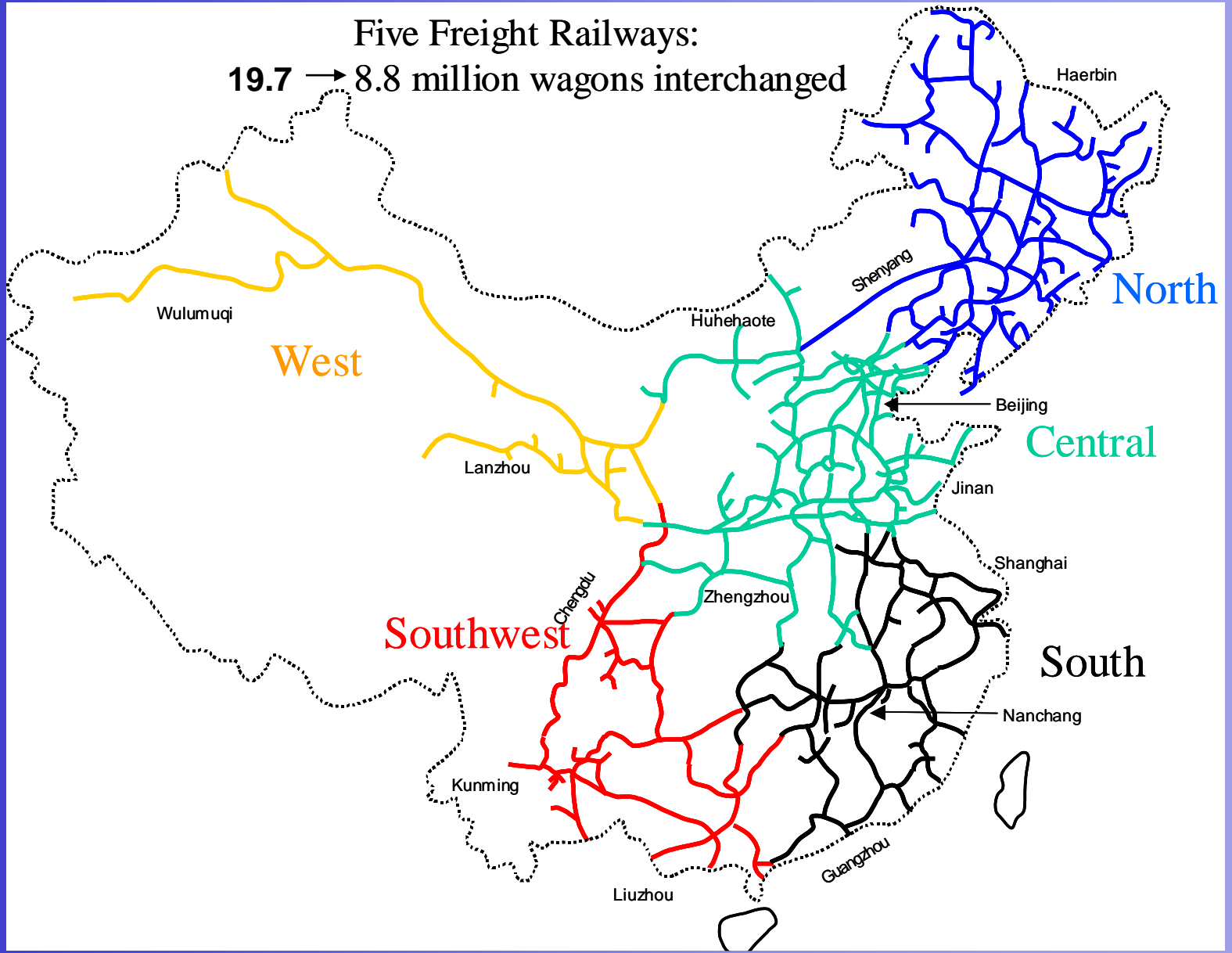


19.7 → 7.0 million wagons interchanged

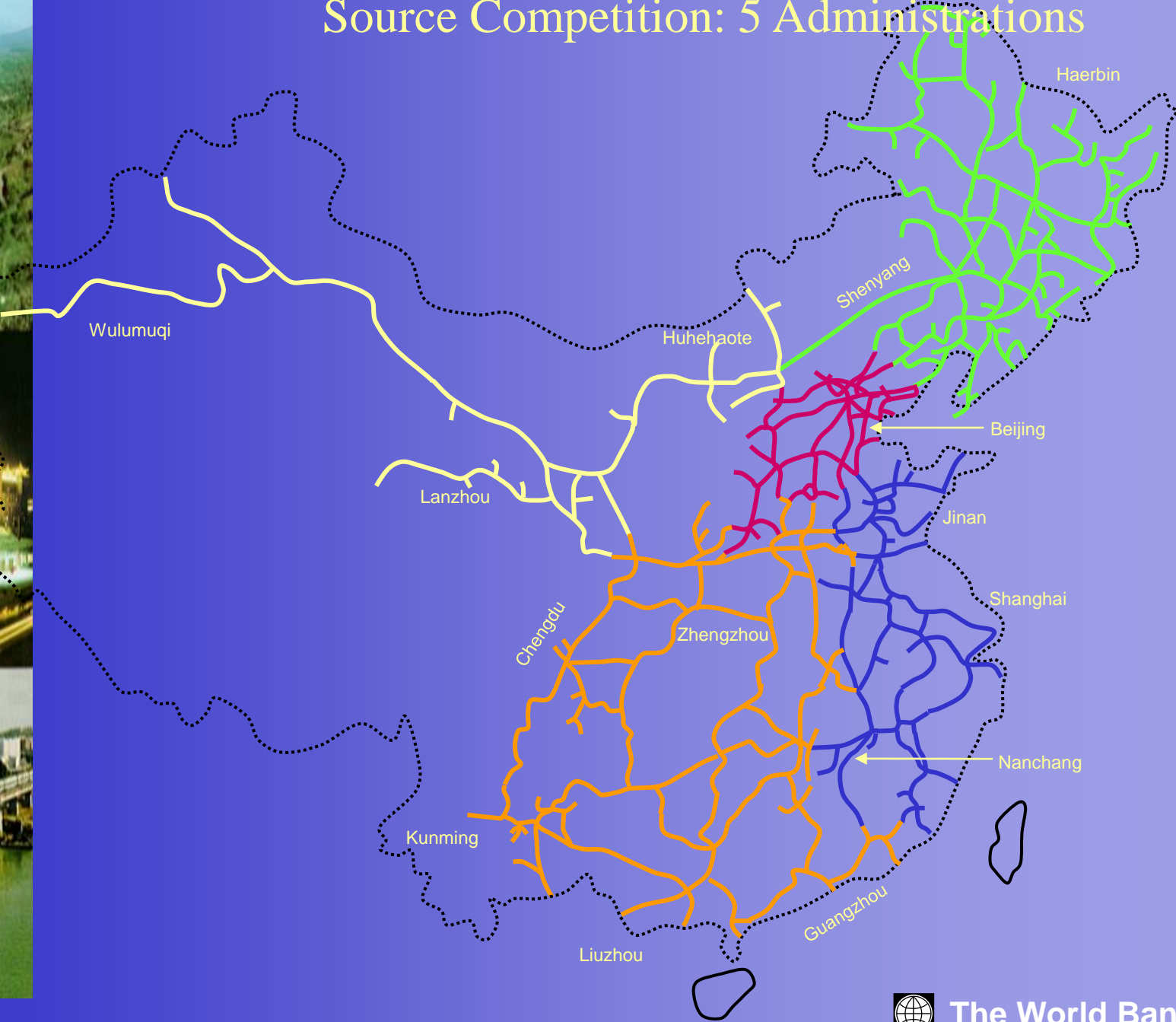




Five Freight Railways:
19.7 → 8.8 million wagons interchanged

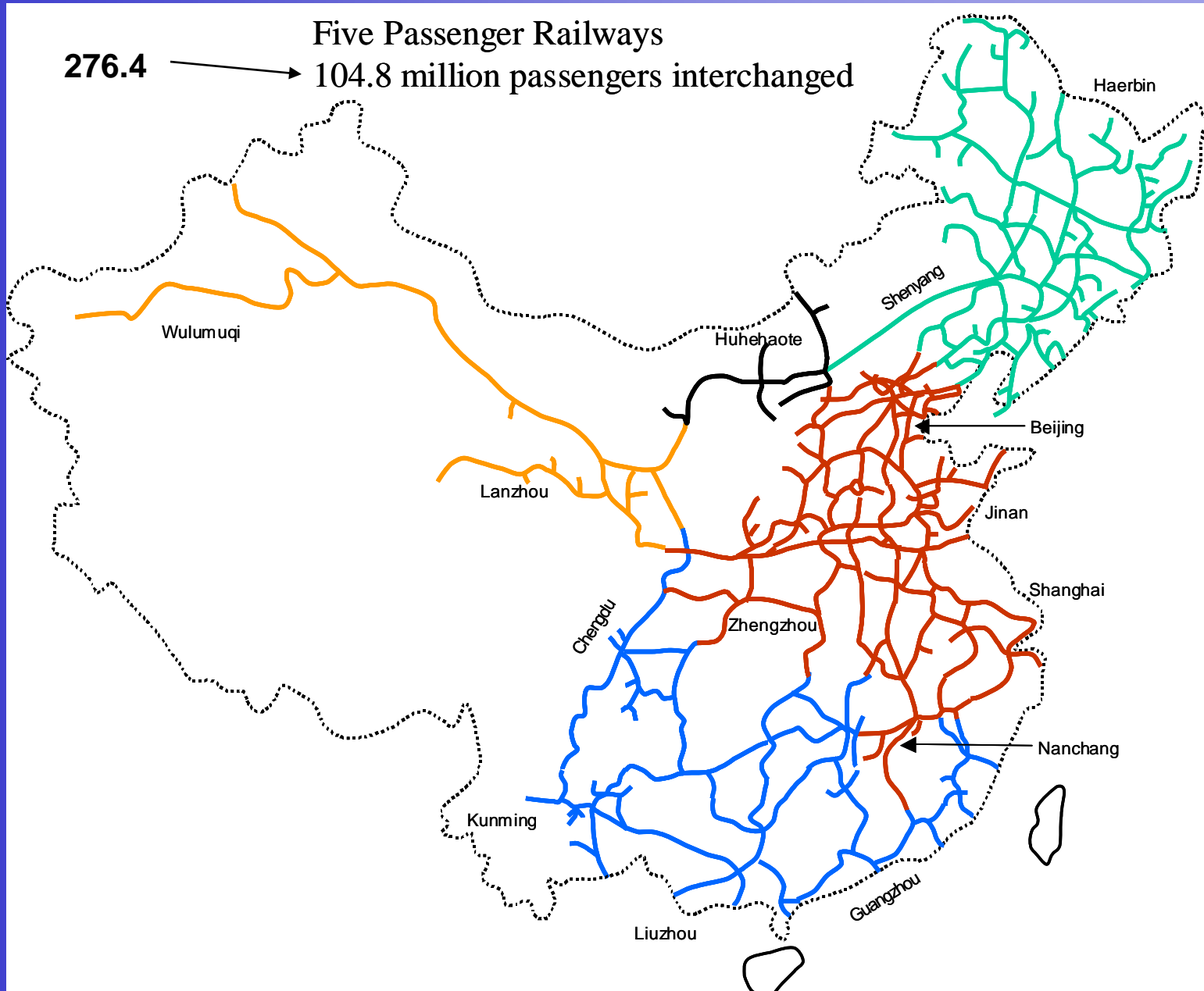


Source Competition: 5 Administrations

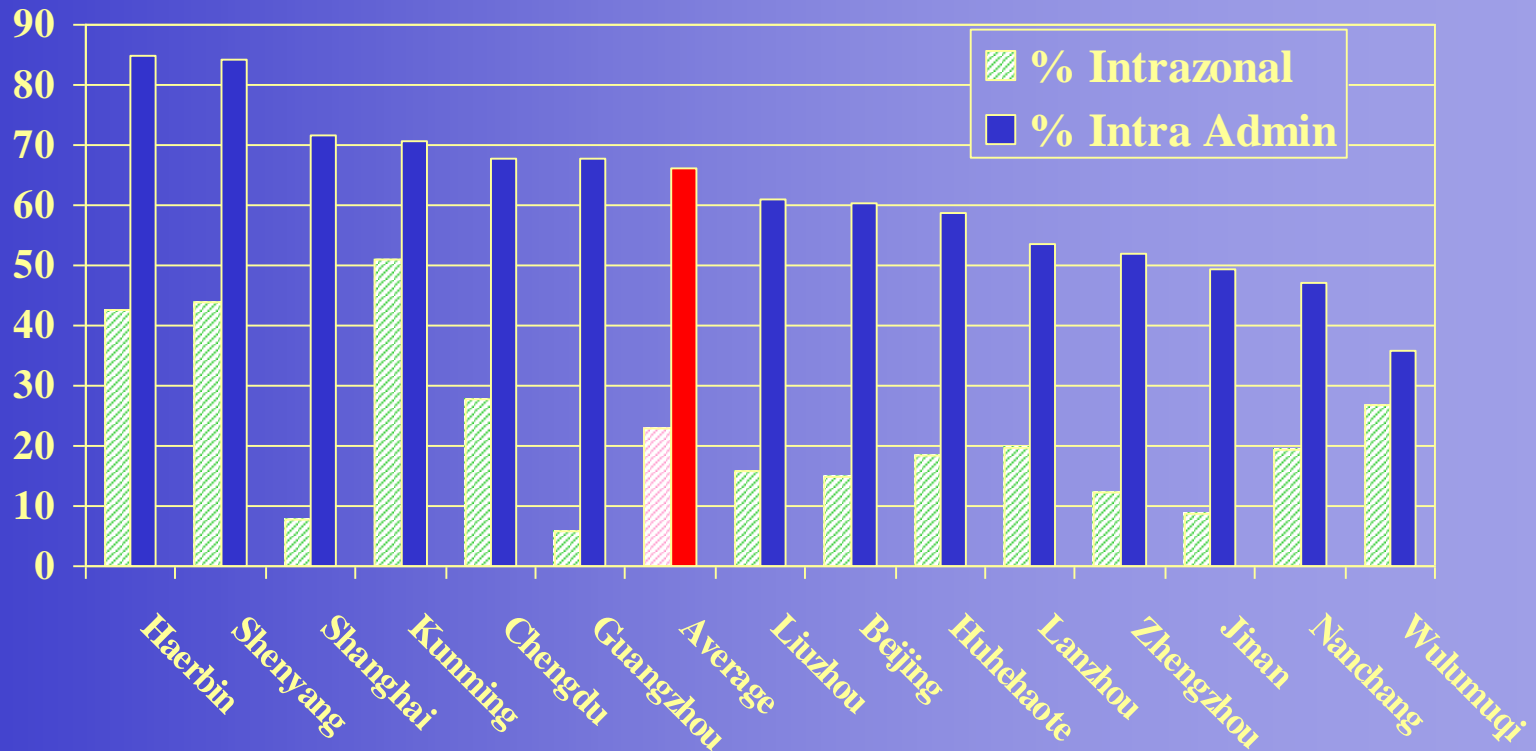




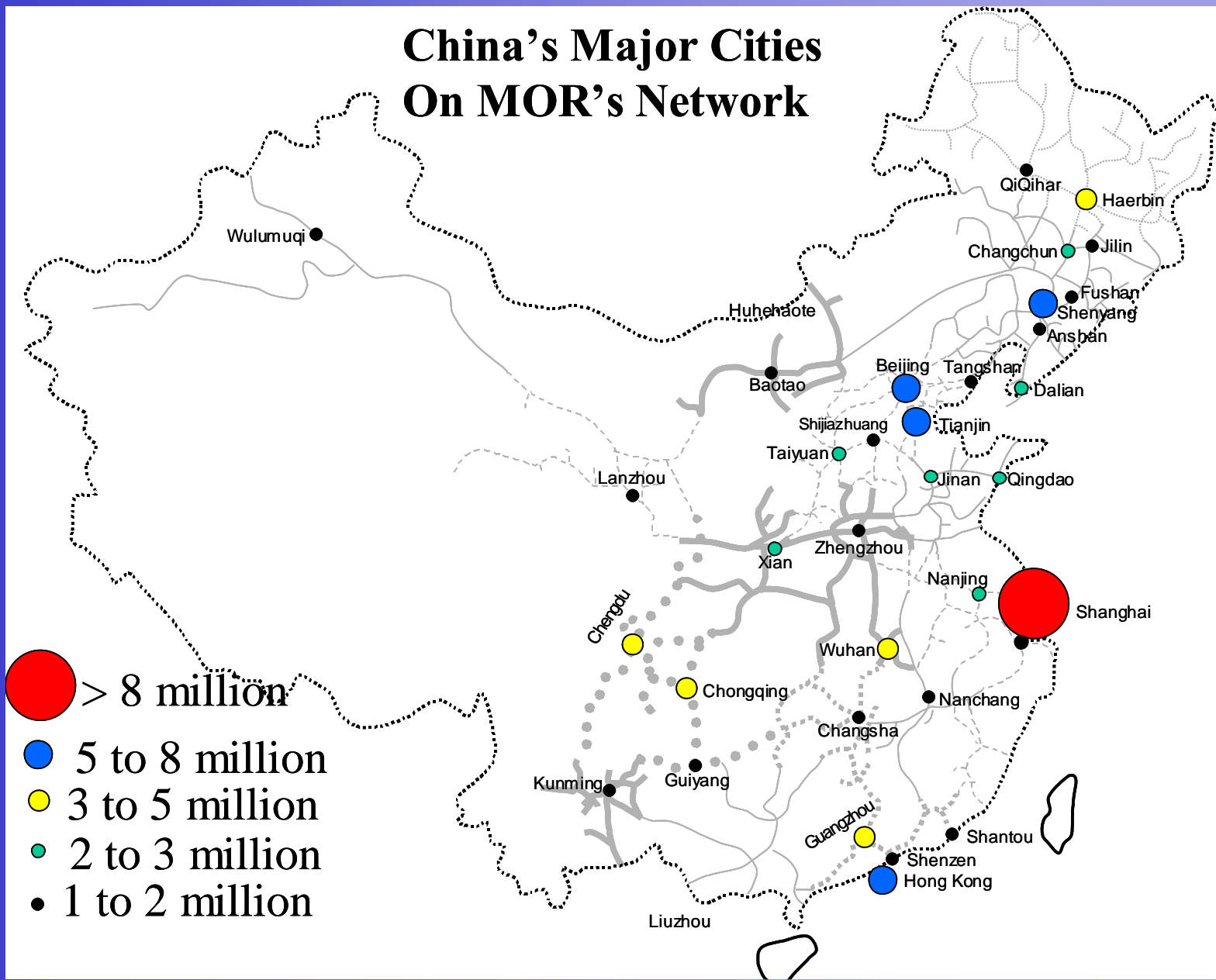
276.4 → **Five Passenger Railways**
104.8 million passengers interchanged



Percent of Originating Passengers -- 1997



China's Major Cities On MOR's Network

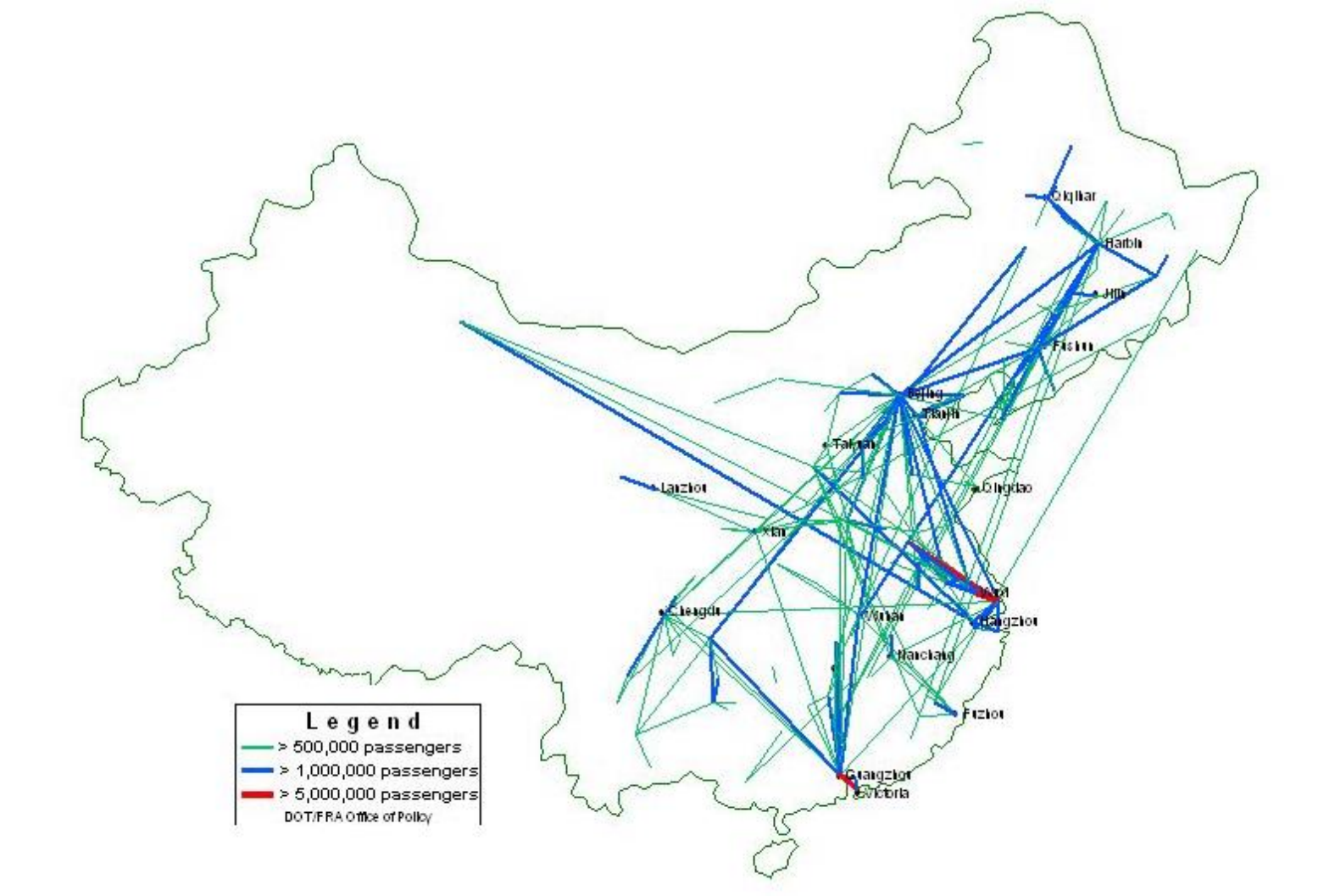


- > 8 million
- 5 to 8 million
- 3 to 5 million
- 2 to 3 million
- 1 to 2 million

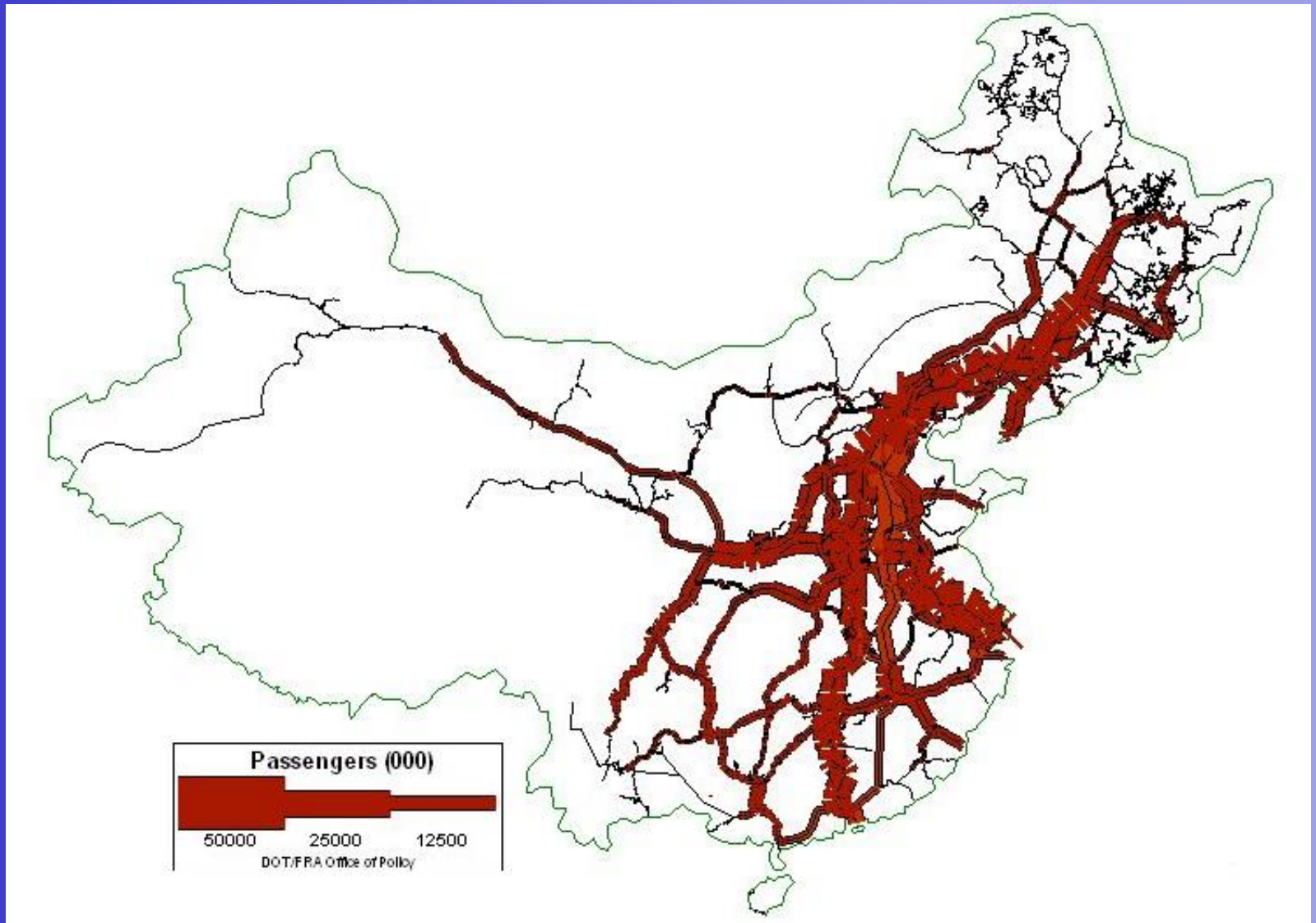


Point to Point Rail Passenger Flows in China

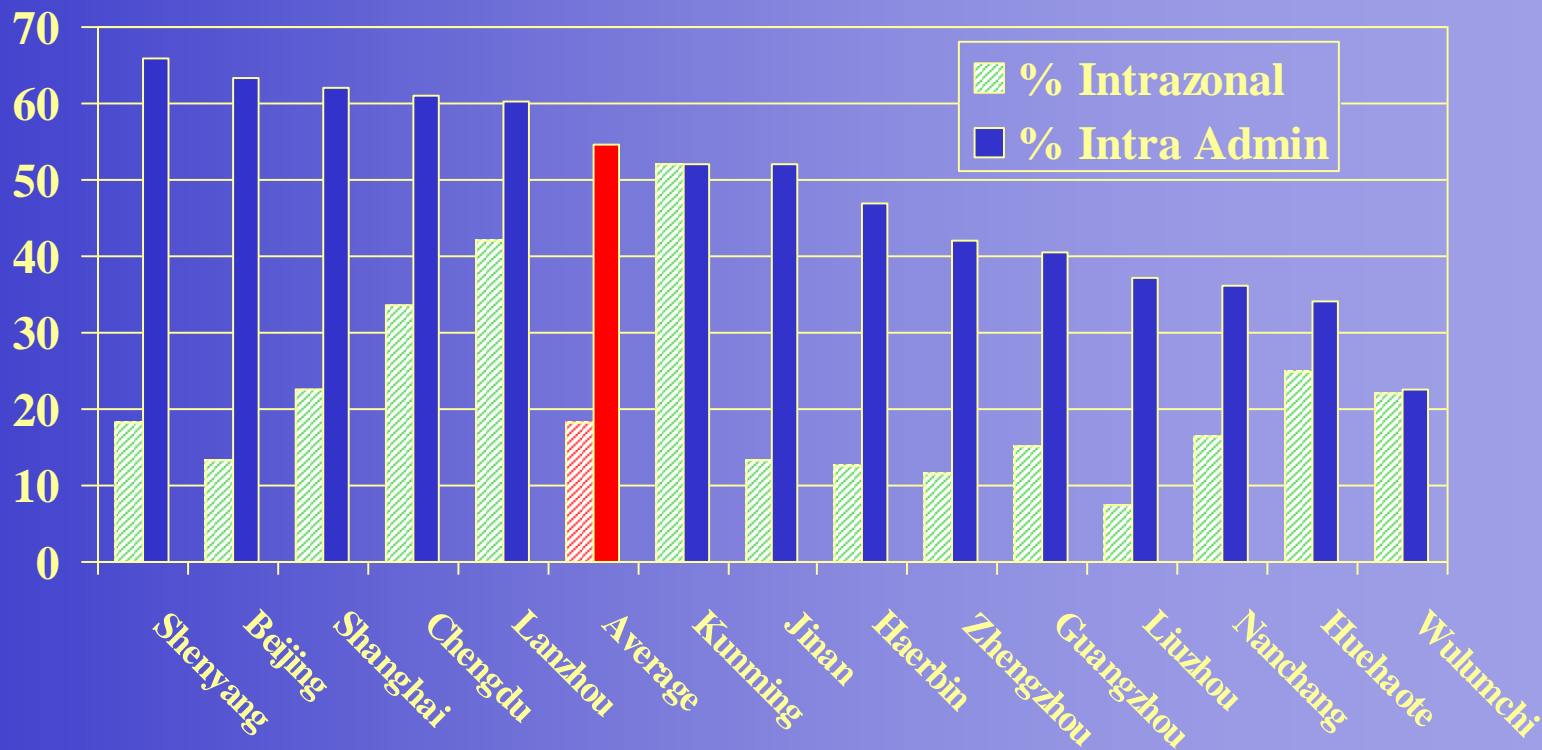
(1997 data excludes intra-zonal flows)



1997 Passenger Flow Density (excludes intrazonal traffic)

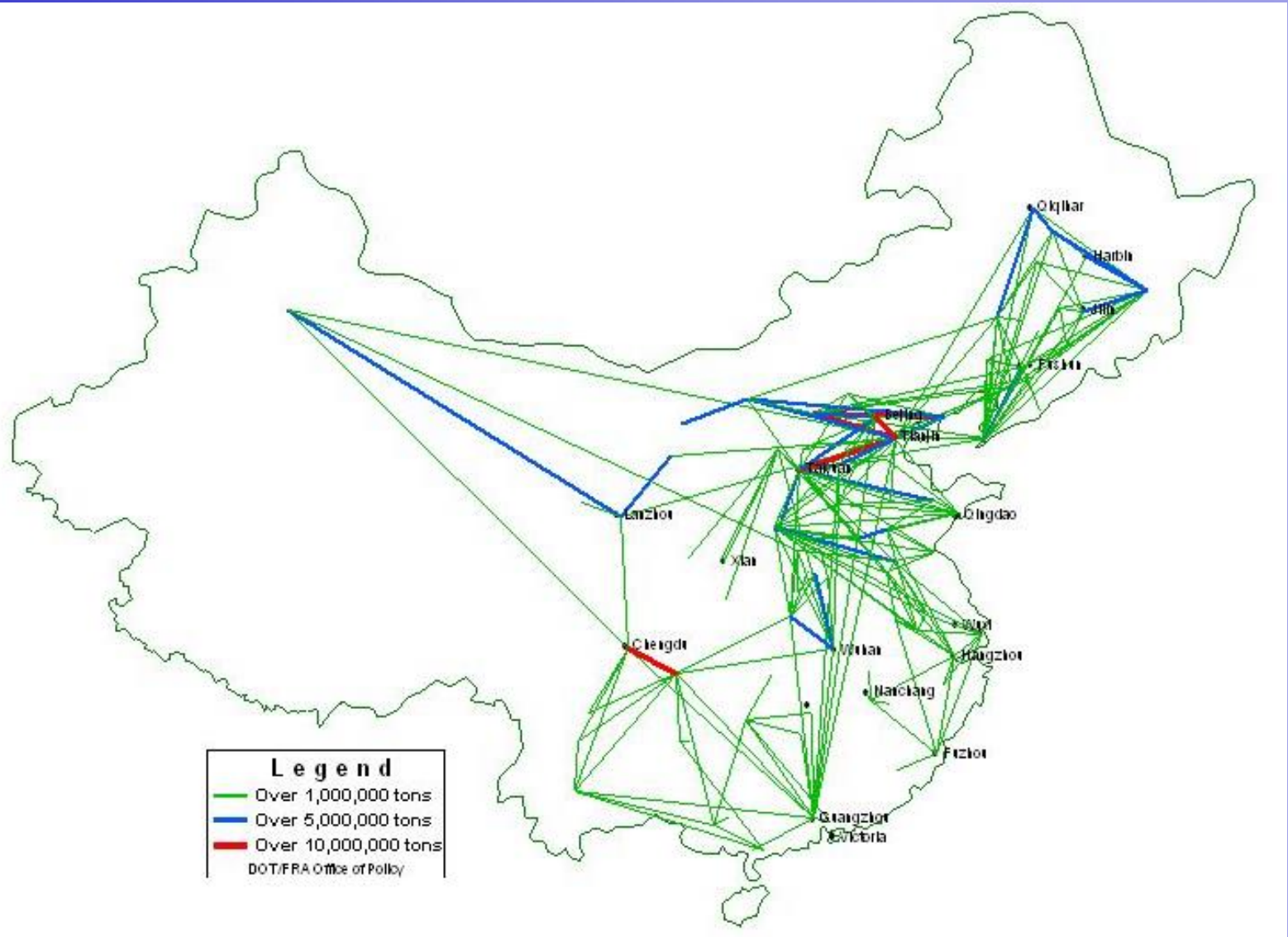


Percent of Originating Tons -- 1997



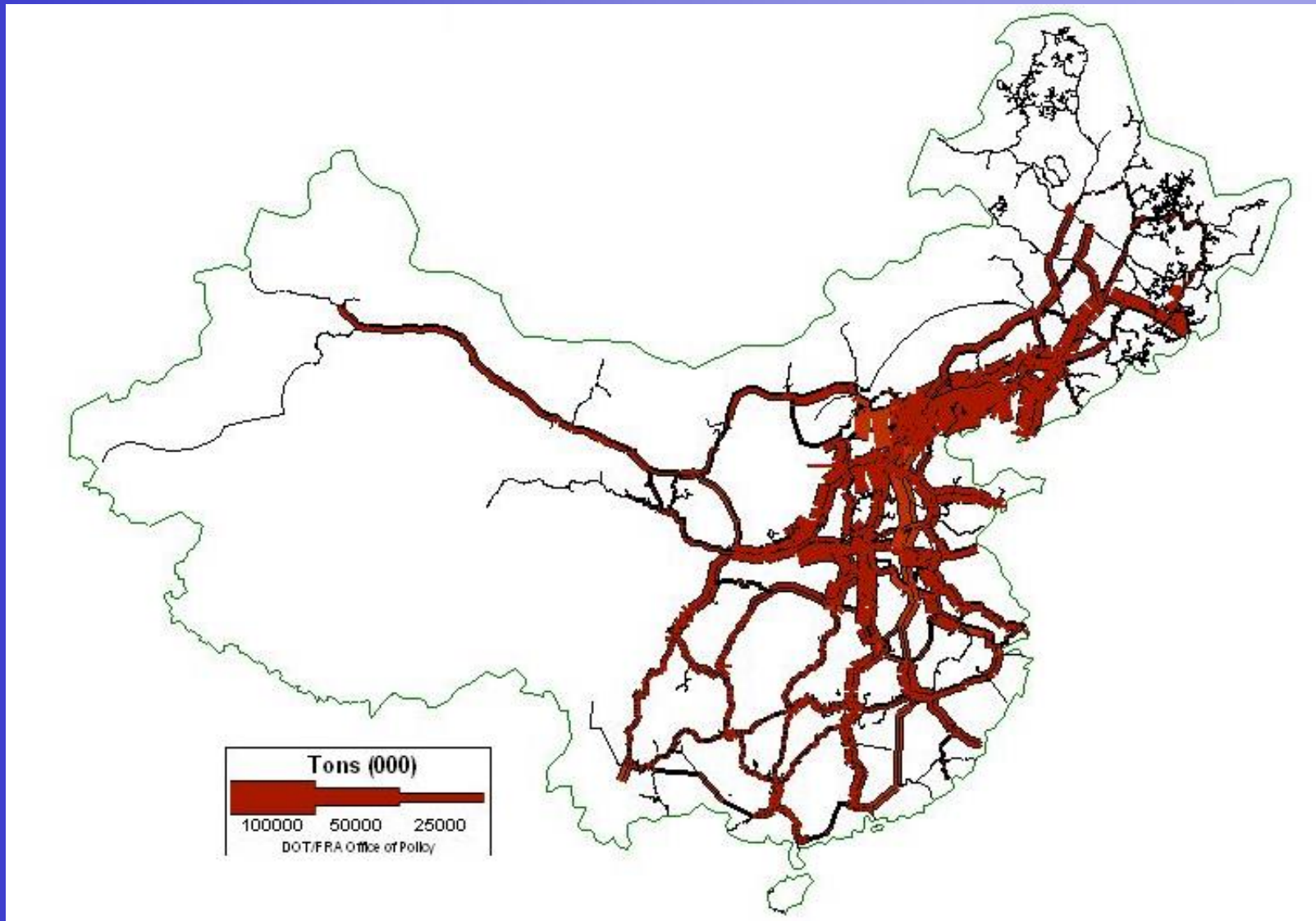
Point to Point Rail Freight Flows in China

(1997 data excludes intra-zonal flows)

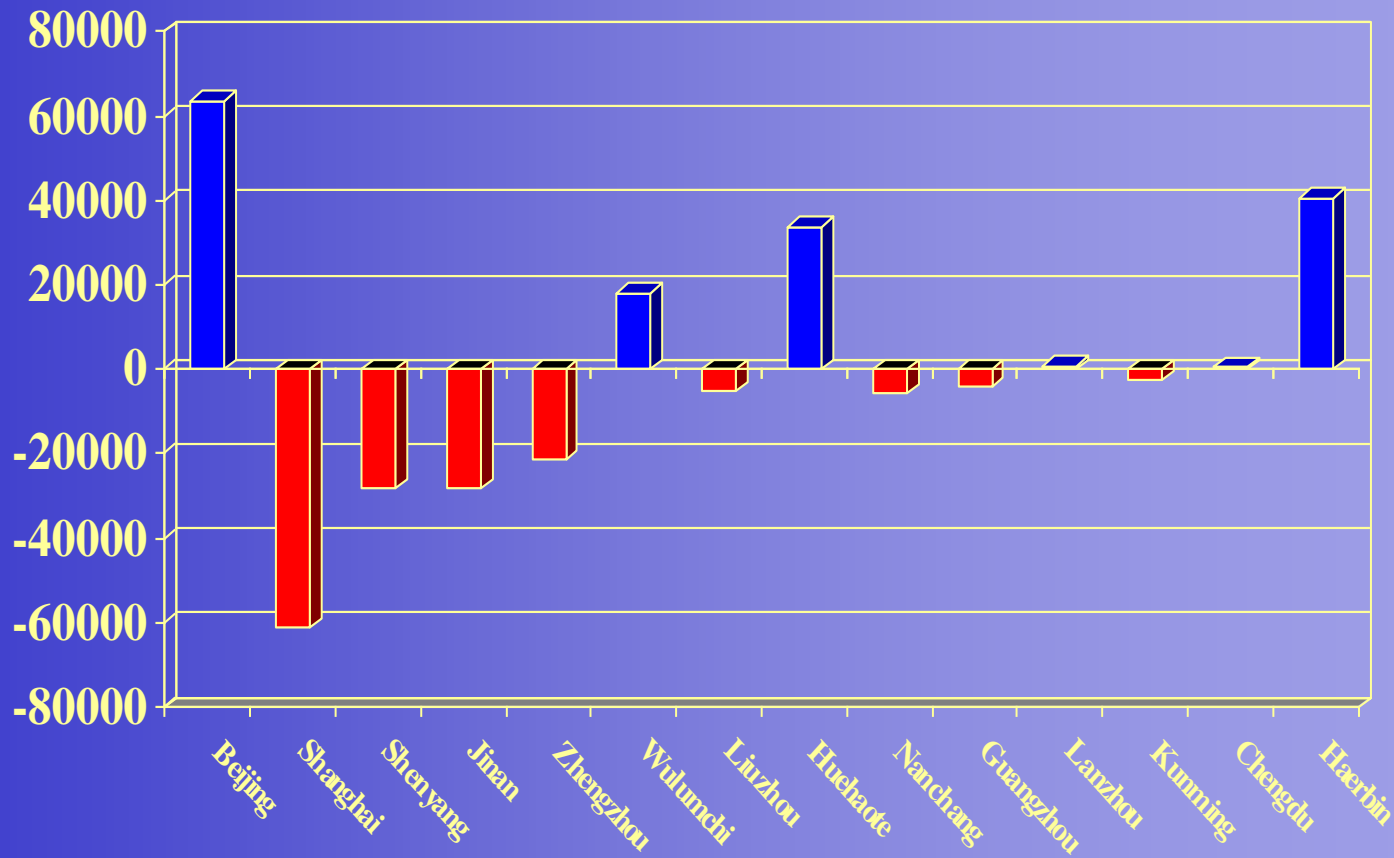


1997 Freight Flow Density (Tons)

(excludes intrazonal traffic)



Net Tonnage Originated by Administration



Freight System Comparisons

	Tons Originated	Net Tonnage Balance	Annual Wagon Interchanges	Expected Profitability	Administrations
Two Systems					
			4.5 (\$450)		
North	1,121.3	60.2		?	Haerbin, Shenyang, Beijing, Jinan, Huehaote, Zhengzhou
South	485.4	(59.3)		?	Shanghai, Nanchang, Guangzhou, Liuzhou, Lanzhou, Wulumuchi, Chengdu, Kunming
Three Systems					
			7 (\$700)		
North	373.4	12.3		?	Haerbin, Shenyang
Central	837.4	66.7		?	Beijing, Jinan, Huehaote, Lanzhou, Zhengzhou, Wulumuchi
South	396.0	(78.2)		?	Chengdu, Shanghai, Nanchang, Kunming, Liuzhou, Guangzhou
Four Systems					
			8.7 (\$870)		
North	373.4	12.3		?	Haerbin, Shenyang
Central	748.0	47.8		?	Beijing, Jinan, Huehaote, Zhengzhou
South	225.8	(71.0)		?	Shanghai, Nanchang, Guangzhou
West	259.7	11.6		?	Liuzhou, Kunming, Chengdu, Lanzhou, Wulumuchi
Five Systems					
			8.8 (\$880)		
North	373.4	12.3		?	Haerbin, Shenyang
Central	748.0	47.8		?	Beijing, Jinan, Huehaote, Zhengzhou
South	225.8	(71.0)		?	Shanghai, Nanchang, Guangzhou
Southwest	170.2	(7.3)		?	Chengdu, Kunming, Liuzhou
West	89.5	18.9		?	Lanzhou, Wulumuchi
14 Administrations					
			19.7 (\$1,970)	All	



Minimizing Risk

- Risk definition and management (dispatching and revenue allocation in all cases, access charges for up/down)
- Sequencing of change – separate and restructure passenger enterprises first, restructure freight enterprises and infrastructure later



Information and Tools for Restructuring

- TMIS as **information source** – not just operational
- Network models **linked** to TMIS data
- Traffic costing models **linked** to TMIS
- Capacity simulators and financial planning models for investment and financial evaluation
- Tools **integration** needed



A Good Way to Proceed 推进改革的一个好方法

- Start with U.S. Model -- Up/Down as second stage
- 先从美国模式开始——可以把网运分离作为下一步
- First separate national, regional and local passenger companies -- adjust over time
- 从分别建立全国性和区域性旅客公司开始——而后逐步调整
- Start with Administration-based, integral freight companies, but with selected trackage rights competition between major markets
- 从成立以路局为基础的，网货一体化的公司开始，同时有选择性地在主要市场进行开放通路权的竞争
- Broaden trackage rights over time with experience and information
- 随着经验和信息的增加，逐渐扩大开放通路权的范围
- If up/down implemented for freight, use freight franchises and broaden them over time
- *Enter Chinese translation here*
- Leave private operations for later stage, but consider private wagon leasing
- 后期再考虑引入私人参与问题，但可先从货车开始
- Use policy components of National Railways (TMIS traffic information, system flow models and traffic costing models) to guide the implementation.
- 利用世行国铁项目的政策子项（南昌试点和TMIS的运输信息，系统流模型和运输成本模型）来指导实施

