

Organizational Regimes for Commuter Rail: Improving Train Service Worldwide

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Notice: Opinions expressed in this presentation are those of the authors and do not reflect the official policy or position of the Metropolitan Transportation Authority, MTA New York City Transit, or the Chicago Regional Transportation Authority.



Photo: Mark Chatwin



Changing Institutional Landscape

- Bankruptcy
- Nationalization
- Corporatization
- Privatization
- Mergers
- Rationalization
- Concessioning
- Partnerships
- Infrastructure Separation



Local Control of Commuter Rail

MBTA, Boston



Private Concessions
Buenos Aires
Photo: R.J. Yommi



Connex, Melbourne



Photo: Au Fil des Rails

South West Trains
London
Photo: M. Hawkes



Public Investment in Infrastructure

- **State of Good Repair**
- **New Lines and Extensions**
 - MBTA Old Colony, Greenbush, Worcester, Newburyport
 - Metro-North Wassaic
 - Chicago Metra New Starts
- **In-place Upgrades**
 - Grade Separation
 - Electrification
 - Cab Signal System
 - Tri-Rail Double Track
- **Passenger Amenities**
 - “Union Station”

Babylon Elevated
(LIRR)



Photo: Amanda Marsh

Yonkers Station
(Metro-North)



Photo: PCAC

Railroad as Bundle of Assets

- **Infrastructure**
 - Right of Way
 - Track
 - Signal System
 - Electric Catenaries
 - Stations
- **Vehicles**
 - Passenger
 - Freight
- **Crew**
 - Train Operators
 - Maintenance Forces



Railroad as Bundle of Functions

Infrastructure Provider

INFRACO

- Infrastructure Maintenance & Construction Functions
 - Track Gangs
 - Signal Crews
 - Structure Engineering
- Regionally-Based
- Zonal (Supply Side) Approach

Train Operating Company

TOC

- Carrier Core
- Service Related Functions
 - Train Crewing
 - Dispatching
 - Service Design
 - Capital Planning
- Corridor-Based
- Market (Demand Driven) Approach

Car Equipment Provider

ROSCO

- Vehicle Related Functions
 - Procurement
 - Engineering
 - Heavy Maintenance
- Systemwide Support Unit
- Supply Side Approach

Range of Operating Regimes

- Vertical Integration
- Purchase of Service Contract
- Trackage Rights
- Business Units
- Long-term Concessions
- Infrastructure Separation
- British-style Privatization



North America



New Haven Line
Metro-North



South Shore Line
Indiana



Trinity Railway Express
Texas



Amtrak Downeaster, Maine



Great Britain



Network SouthEast (1986)

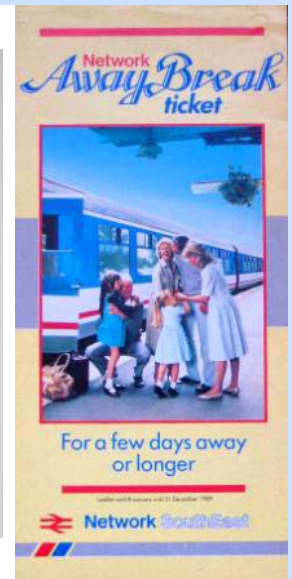
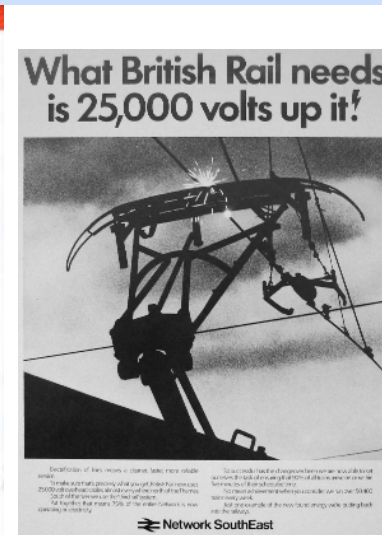
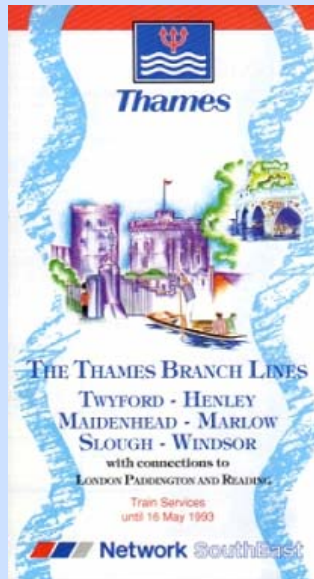
- **BR London & South East Business Unit (Sector)**

41,000 employees • 6,700 cars • 930 stations • 2,350 route miles • 8,350 daily trains • 1.44 million daily passengers

Key Objectives: punctuality, cleanliness, renovations, passenger information

- **Systematic Approach to Improving Service**

- New vehicle ‘Networker’
- Capital programs
- Publicity campaign
- Accountable Line-based management structure
- Performance measures



Northern Europe



Japan



Photo: Koei Monogatari



Australia



Argentina



Common Themes

- **Regional Control of Commuter Rail**
- **Large Variety of Institutional Regimes**
 - Business Sectors
 - Local Transit Authorities
 - Commuter Concessions
 - Contracts with Full-Service Railroads
- **Inter-Regional Services and Open Access both Require Strong Coordination**
 - Easier with light traffic density
- **Corridor-based Structure is Operationally Effective**

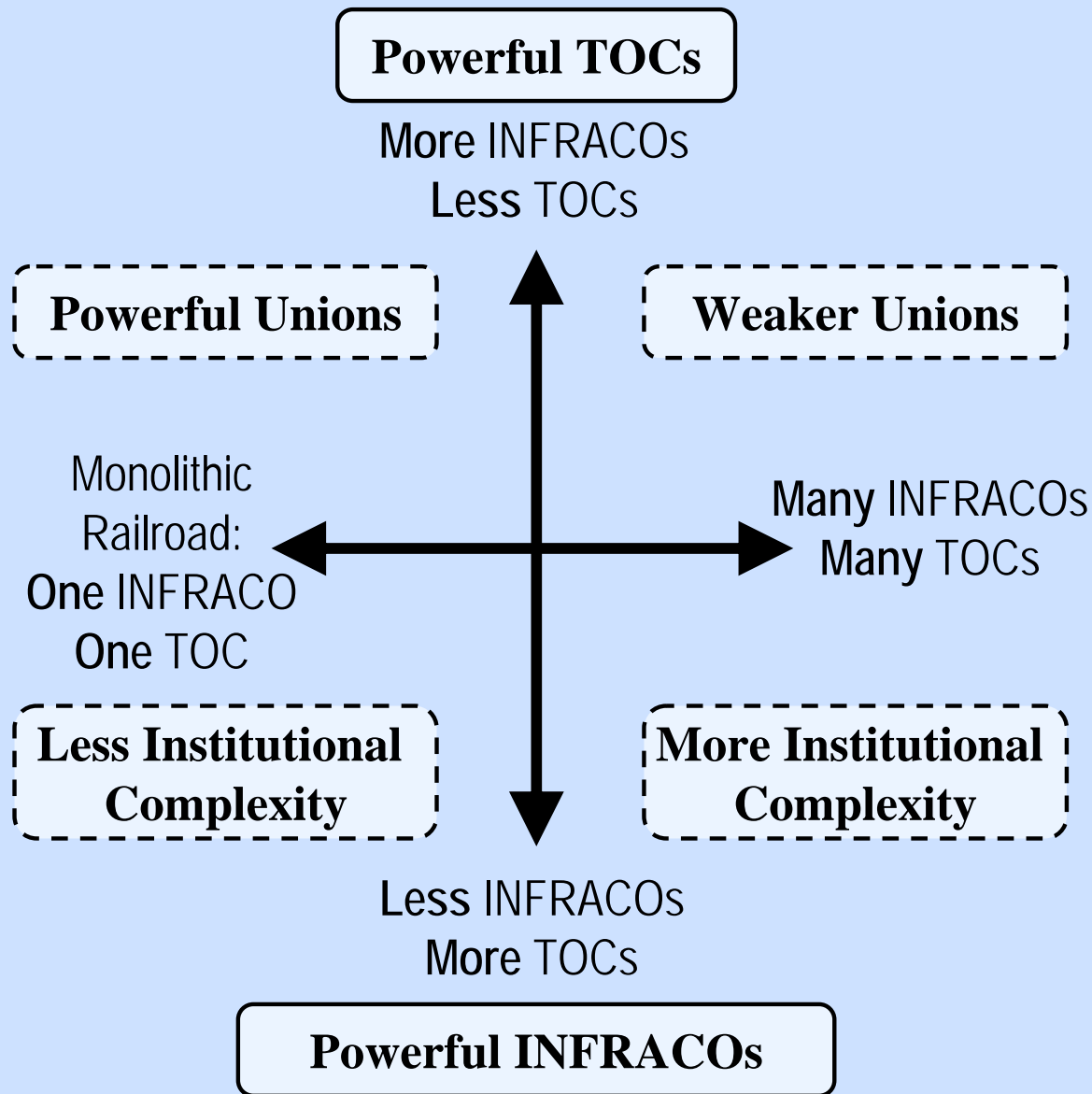


Potential “Interfaces”

Metro Area or Franchise	INFRACO Zones (A)	Passenger TOCs (B)	Commuter TOCs (C)	“Interfaces” = (A × C)	Traffic Density
Network SouthEast (1986)	4	3	2	8	High
Former NSE Territory (1998)	4	23	14	56	High
ScotRail (1998)	3	4	1	3	Low
Former NSE Territory (2008)	4	19	12	48	High
Boston, Mass.	4	2	2	8	Low
Chicago, Ill.	5	3	2	10	Medium
New York, N.Y.	6	4	3	18	High
Tokyo, Japan	3	6	6	18	High
Netherlands	1	4	1	1	High
Buenos Aires	4	5	4	16	Medium
Stockholm	1	2	1	1	Low
Melbourne	1	3	1	1	Low

Note: Counts are approximate.

Power Balance



- **Consolidation**
 - Creates powerful institutions
 - Market power
 - Applies to both management and labor
- **Fragmentation**
 - Increases coordination requirements
 - Possibly non-linearly to a point of “overwhelming complexity”
 - Creates competition
- **It’s a Trade Off**

Aligning Infrastructure and Operations

- **Infrastructure Ownership**
 - Maintenance can be zonal
 - Operations control should not be zonal
- **North America**
 - Transit authorities expanding track ownership to the most distant exurbs
 - Trackage rights and coordination where track ownership not possible
- **Great Britain**
 - Franchises realigned to mimic corridor-based infrastructure zones (Interface reduction)
- **Japan, Argentina**
 - Vertically integrated corridors
- **Northern Europe, Australia**
 - Entire metropolitan area is basically one zone with one commuter TOC
 - Coordination is still required



Conclusions

- **Infrastructure Separation**
 - can work when commuter authority has firm control and resources to purchase access
- **Regionally-based Franchises**
 - commuter authority should coordinate and develop intercity and freight service
- **Corridor-based Franchises**
 - strong commuter business unit needed to secure service on a corridor-by-corridor basis
- **Reorganization isn't a substitute for enhancing network capacity**





Future Research

- **Business Models and Operating Issues in a Commuter Railroad**
 - Legislative requirements
 - Management rights and roles
 - Certification and training
 - Cost factors and implications
- **Changing Commuter Rail Ridership Patterns and Demographics**
 - Suburb-to-suburb ridership
 - Transit oriented development
 - Long-term demographic changes
- **Public Investments in Commuter Rail: 30 Years in Review**
 - Type of investments
 - Cost and benefits accrued
 - Relationship to intercity rail infrastructure
 - Case studies: MTA, MBTA, Metra, new starts, and Network SouthEast