Public Transport Integration and Sector Reforms: Global experiences and good practices

UITP Global Public Transport Summit
Knowledge Exchange Workshop – DG INTPA – European Commission
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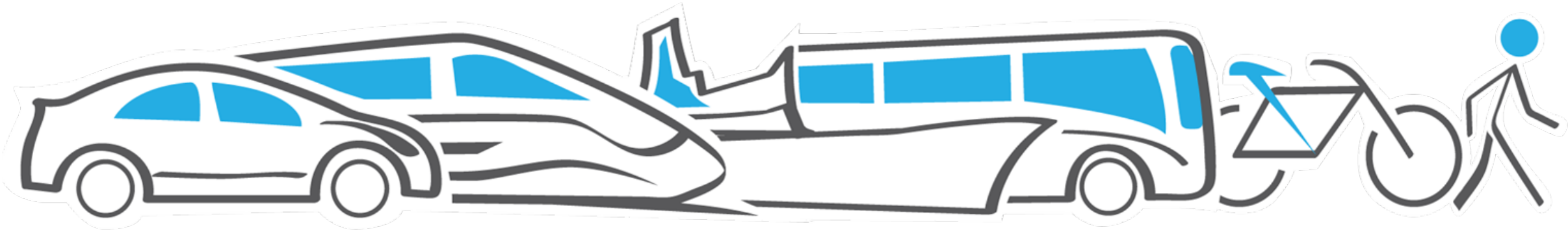

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THIS PRESENTATION…

Who is Leonardo?

Is not a lecture on transport planning, demand forecasting or corridor design

Is not a list of ideal best practices in engineering, technology or operations

Seeks to stimulate a discussion on the enabling environment for integrating transport systems

Welcomes your input and comments on how to overcome typical challenges to move forward with integration

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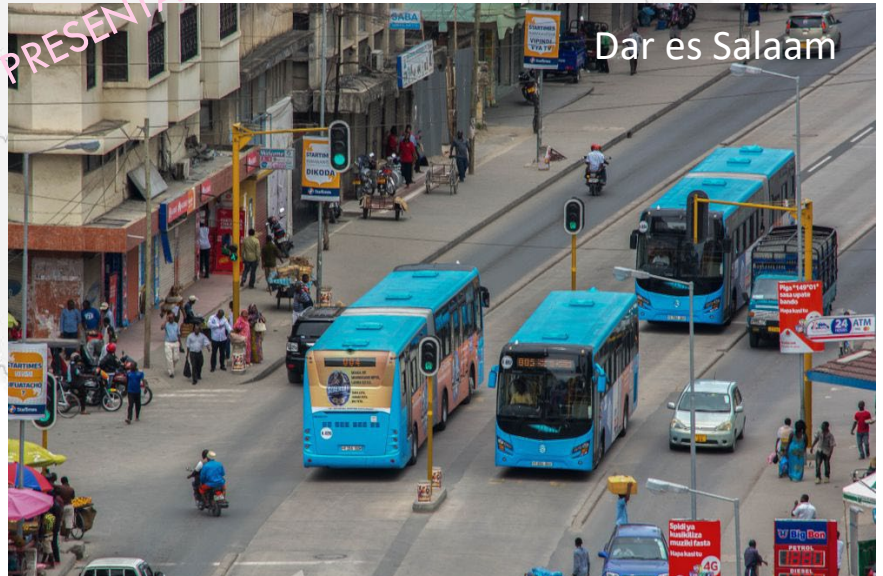
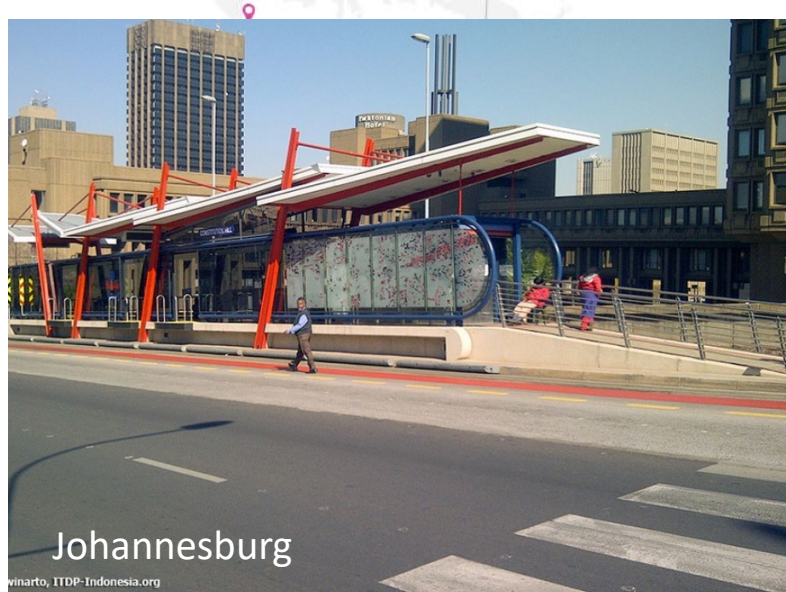
Indore

La

Cape Town





Bogota

Beijing

Ahmedabad

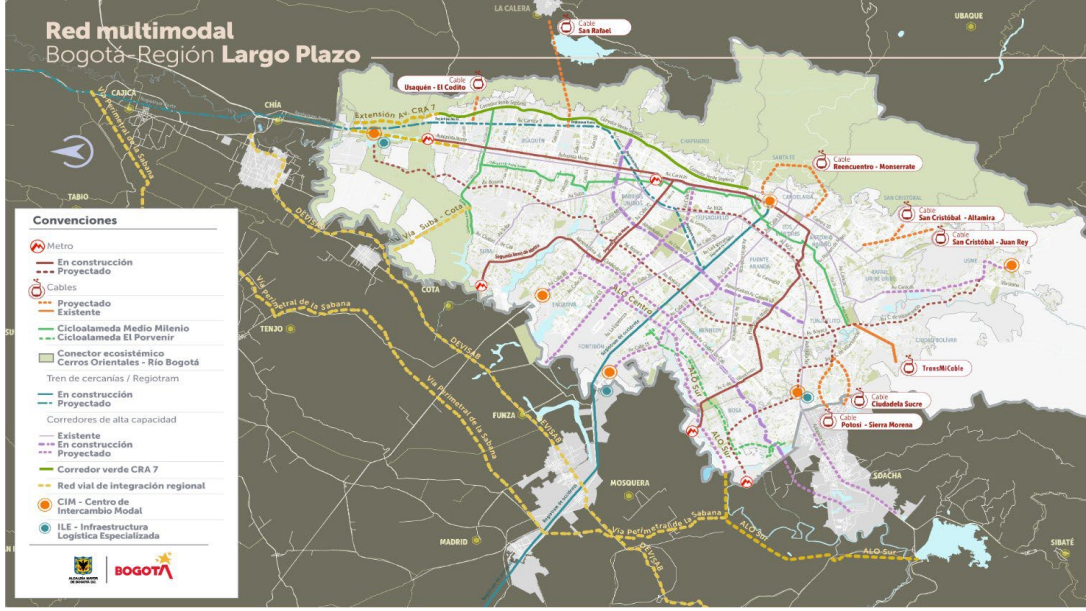
Belo Horizonte

Lanzhou

Jakarta

MULTIMODAL NODES

- Combining improvements to major urban roads, dedicated facilities for PT and Non-Motorized Transport (NMT), with PT service improvements, traffic management, and safety measures to increase total person travel speed, reliability, etc.
- Aiming to make PT and NMT more attractive in medium-demand corridors, while willing to marginally affect general traffic.



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PLAN

REALITY

WHAT'S HAPPENING?

WHAT'S HAPPENING?

- Who owns the land? Mass Transit Authority (TransMilenio)
- Who has the mandate to develop the integration node? Land Renovation Authority (ERU)
- Who is purchasing land in this area besides Transmilenio? Metro, Regional Rail
- Who authorizes the development plan? Ministry of Culture, City Planning Authority
- Who is developing the masterplan? Metro Company
- Is Metro currently designing an integration node? NO.
- Has Transmilenio designed one? NO
- Organizational, governance and market failures

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THE WB APPROACH TO INTEGRATED PUBLIC TRANSPORT

Keywords:

- User Perspective
- Political Economy
- Social Benefits

THE WBG HAS VALUABLE GLOBAL EXPERIENCE IN PUBLIC TRANSPORT IMPLEMENTATION AND OPERATION

MAJOR SHIFTS IN RECENT YEARS

Internal and external catalysts towards more sustainable transport options

1

Heavy government investment in public transport and active mobility infrastructure

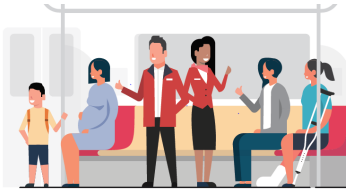
2

Increase in walking, cycling, and use of personal mobility devices for first-and-last mile travel

3

Technological Innovations have created more travel options

4



Evolving social context – demographic changes, shifting norms & expectations

5

Greener vehicles with lower emissions

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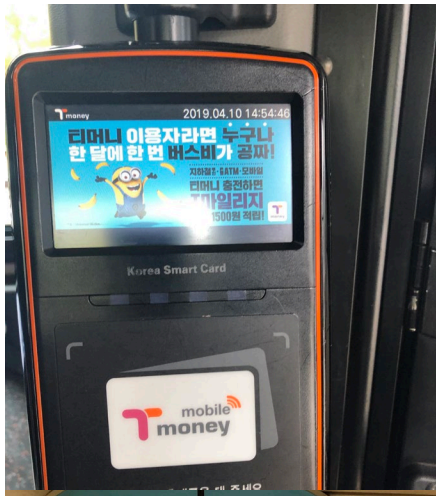
MOTIVATION FOR FOCUSING ON MULTI MODAL PUBLIC TRANSPORT: USERS

Public transport users :

- Tend to have limited commuting options, make fewer trips and live further away from job centers and public services → **lower accessibility**
- The majority are vulnerable or poor (bottom 40% of income) → **high cost of transport**
- Women users in average have less access to vehicles, spend more of their time and/or a larger share of their income → **limitations to chained trips or non-work trips**



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MOTIVATION FOR FOCUSING ON MULTI MODAL PUBLIC TRANSPORT: PLANNERS

Public transport projects typically involve:

- Large capital investments ('mega-projects') → **long waits, big expectations**
- Large political-economy and sector reform issues → **oscillating political and financial support**
- Significant risks of cost overruns, optimistic demand forecasting, and poorly planned integration with land and transport → **financial struggle, unmet expectations**
- Far-reaching urban and metropolitan impacts (access), especially for disadvantaged populations → **positive externalities and social returns**

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WB'S VALUE-ADDED: A HOLISTIC APPROACH TO PUBLIC TRANSPORT

Multimodal Integration and Accessibility

Urban Development/ Renewal

Social Development and Sustainability

Operational and Institutional

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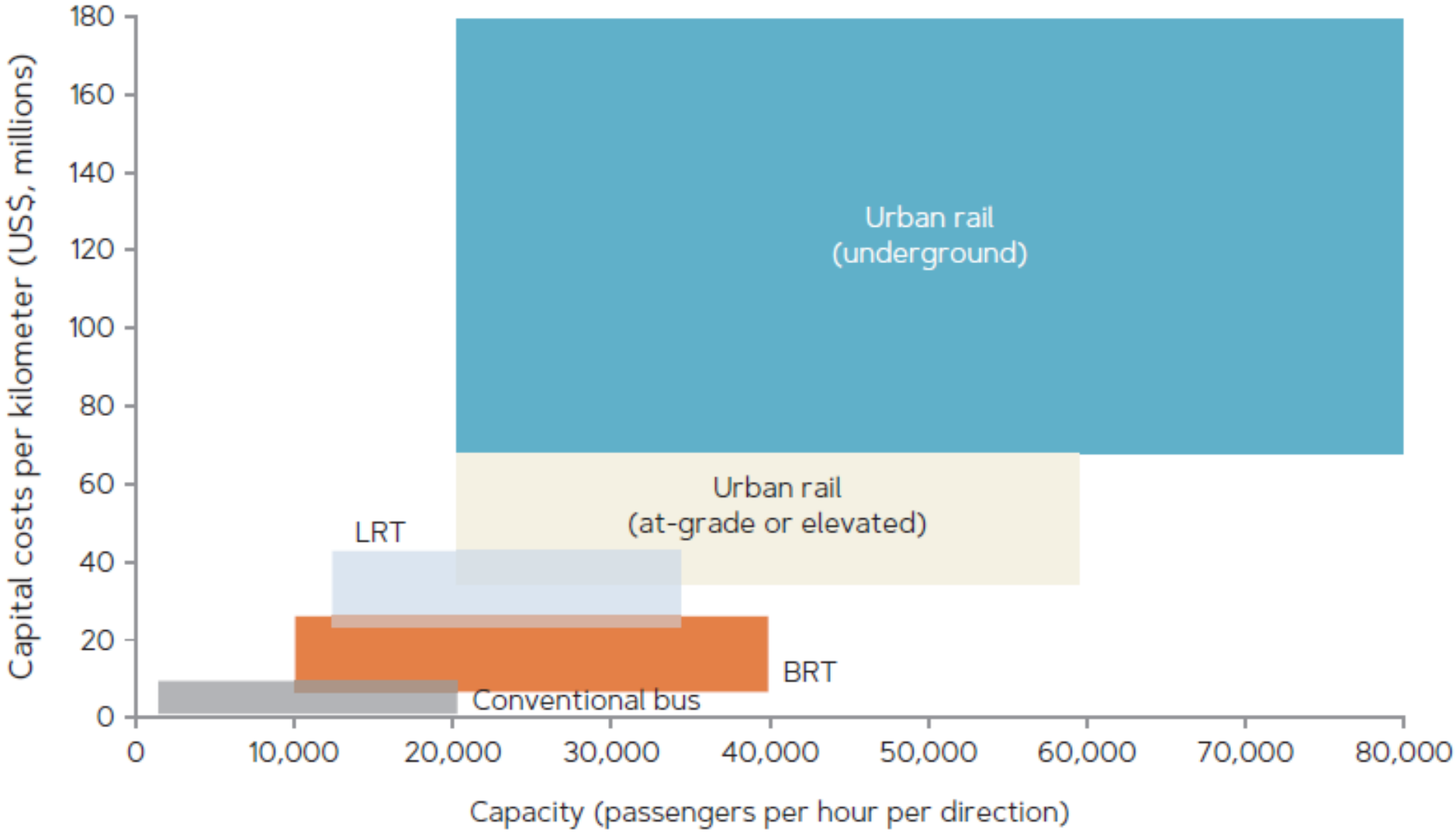
MULTIMODAL INTEGRATION

Integrated public transport systems combine infrastructure and operational features configured and integrated according to the expected passenger demand and urban context.

CAPITAL COSTS VS. CAPACITY FOR RAPID TRANSIT MODES



Source: WB Urban Rail Development Handbook

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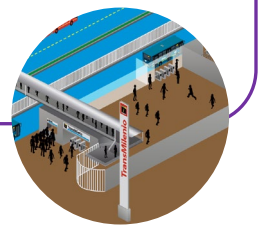
INTEGRATED ELEMENTS → PERFORMANCE → BENEFITS

Design Elements

- Tracks/busways
- Stations
- Fleet
- Technology components
- Business, Service and Operations plans
- Marketing and Branding



System Performance

- Accessibility & Coverage
- System Capacity
- Operating Speed
- Productivity

Benefits

- Travel time savings
- Change in public transport operating costs & efficiency
- Change in traffic accidents
- Change in GHG and local pollutant emissions

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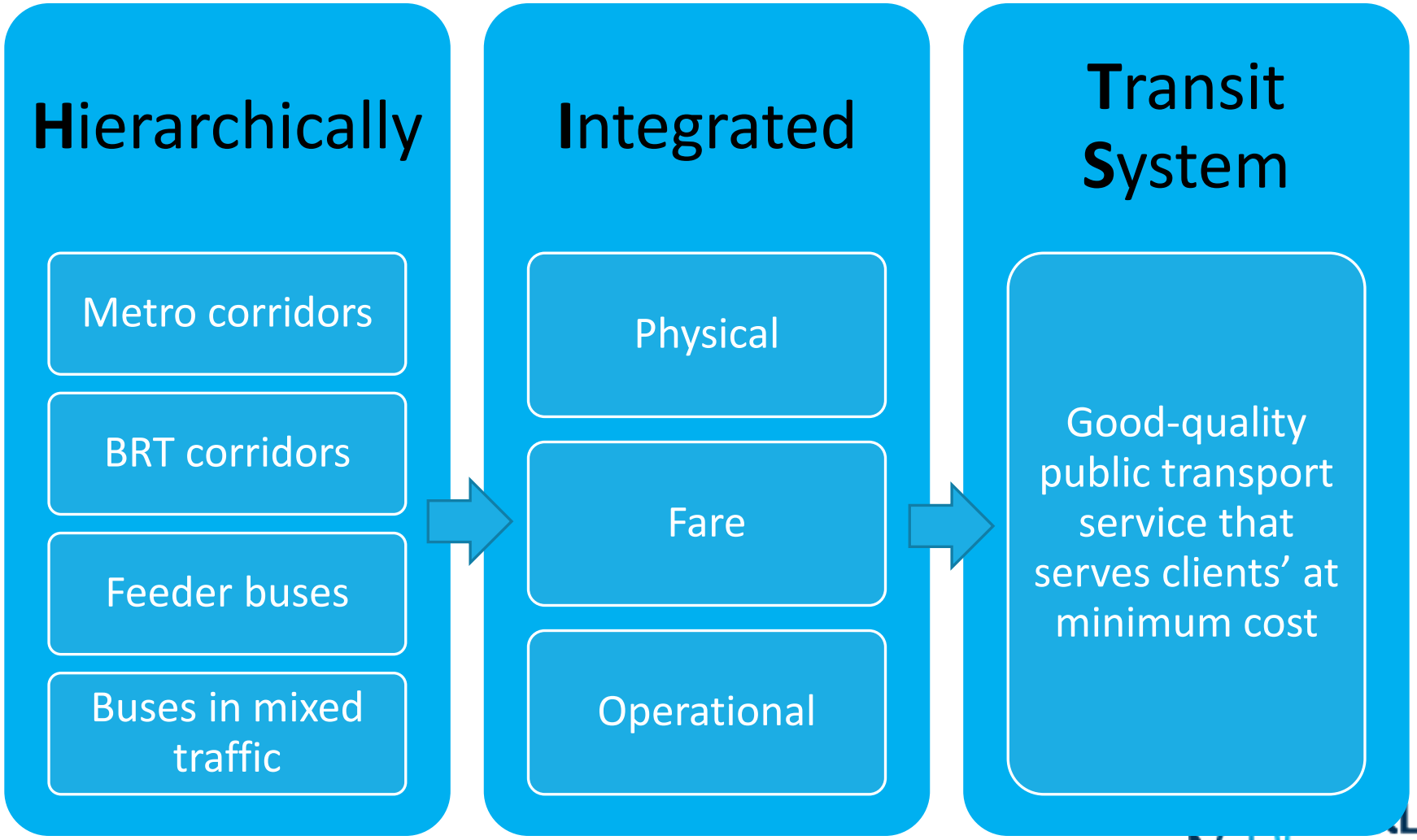
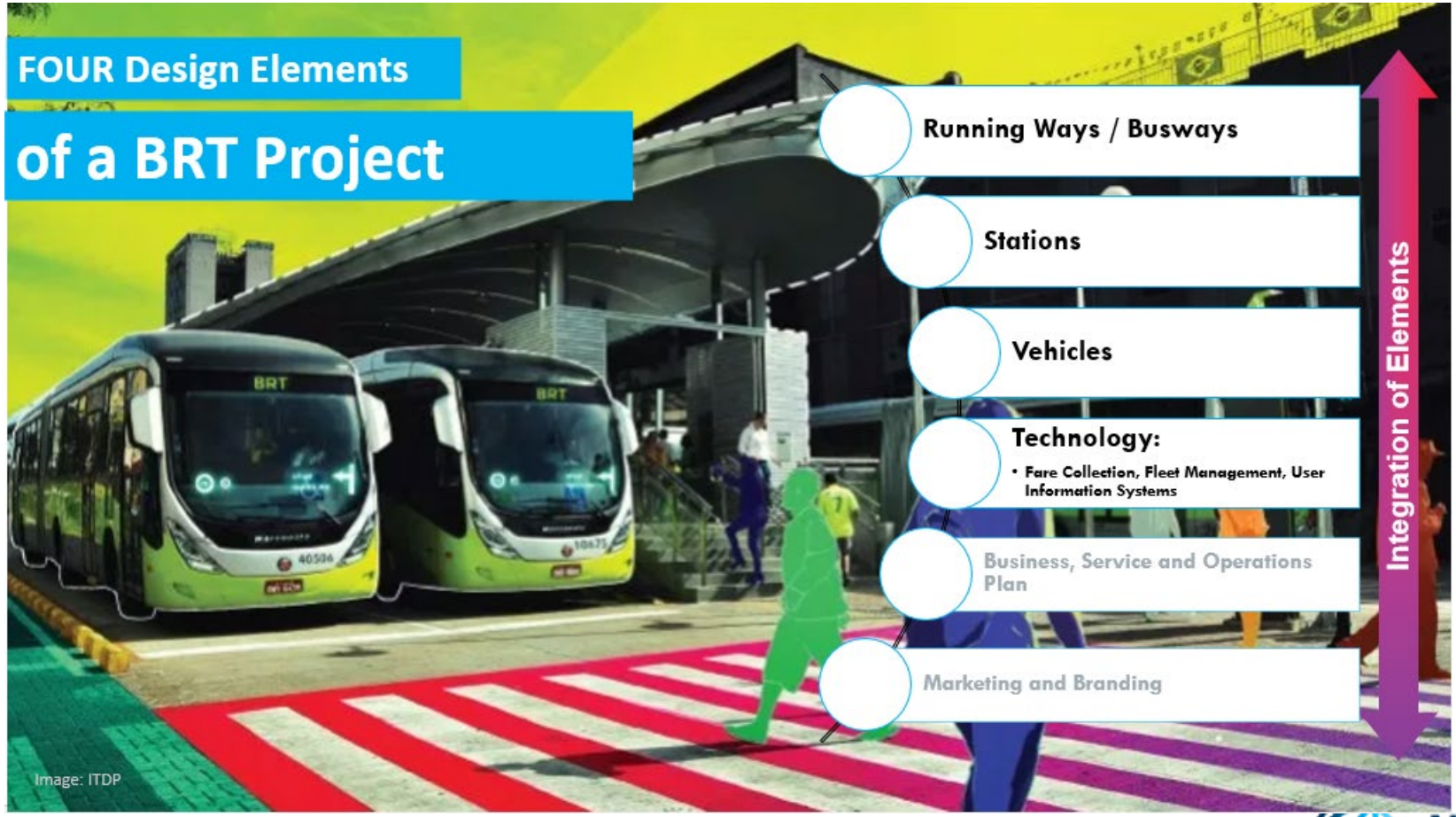
WHAT WE WANT: HITS!



INTEGRATION: ALL ABOUT INFRASTRUCTURE?



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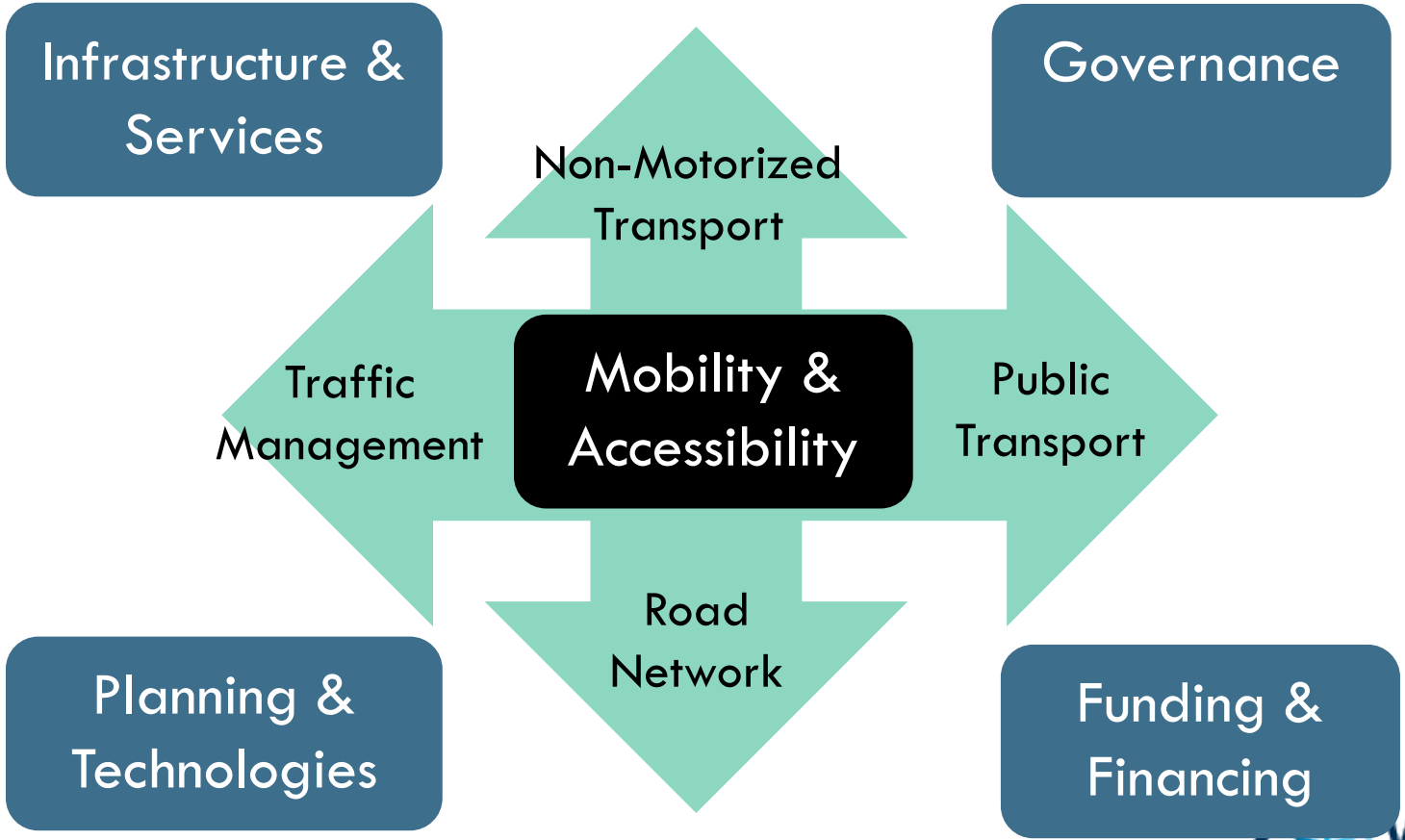
INTEGRATED URBAN MOBILITY TOOLKIT

- Prioritizing people movement and universal accessibility
- Mobility as a Service (MaaS) and other emerging trends



- Integrated Corridor Management, including safe systems
- Appropriate pricing for vehicle ownership, use and parking

- Transit-Oriented Development
- Mass Transit with Land Value Capture

- Clean technologies (electric mobility)
- Integrated transport-land use plans, resilience considerations

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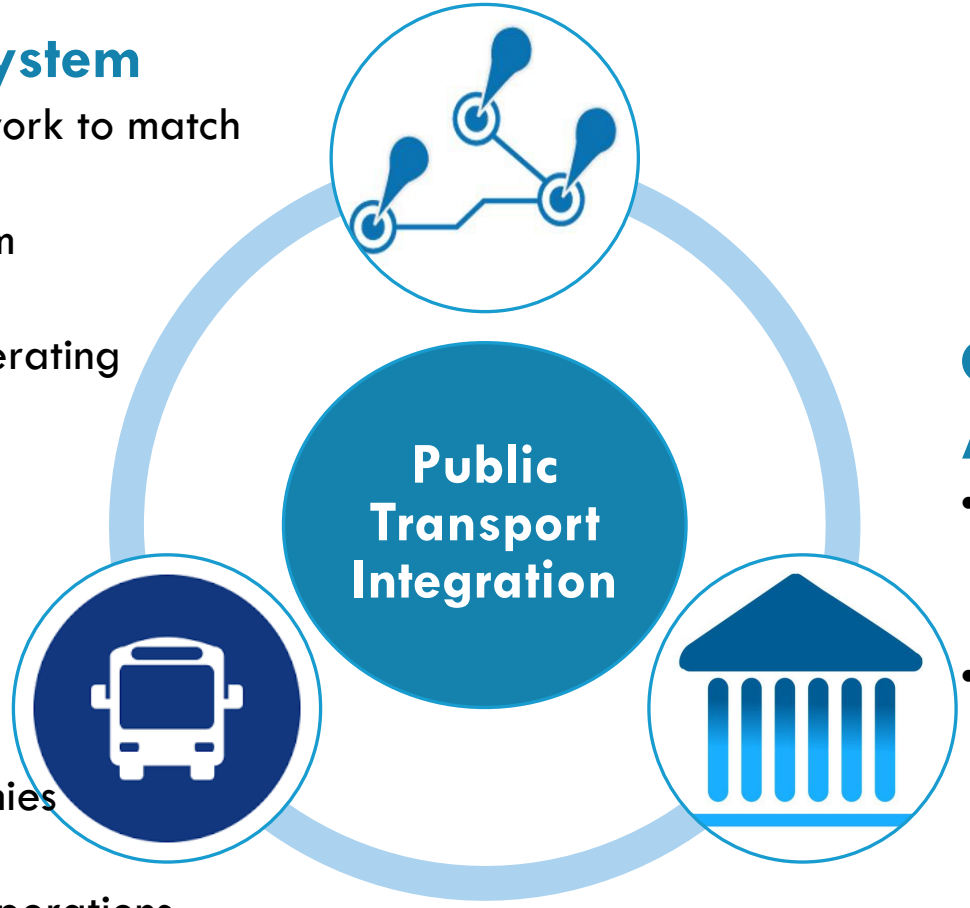
INTEGRATION: FOCUSING IN REFORMING THE PUBLIC TRANSPORT SYSTEM, NOT JUST INFRASTRUCTURE

Network & Fare system

- Integrated Route network to match demand
- Integrated fare system
- Passenger Information
- Ensure quality by Operating Contracts



Government Management Agency

- Capacity to plan routes, prepare-, procure-, monitor- and manage operating contracts.
- Manage and distribute fare revenue

Industry Operations

- Formalization of individual / small operators into companies
- Access to capital for fleet
- Management expertise for operations

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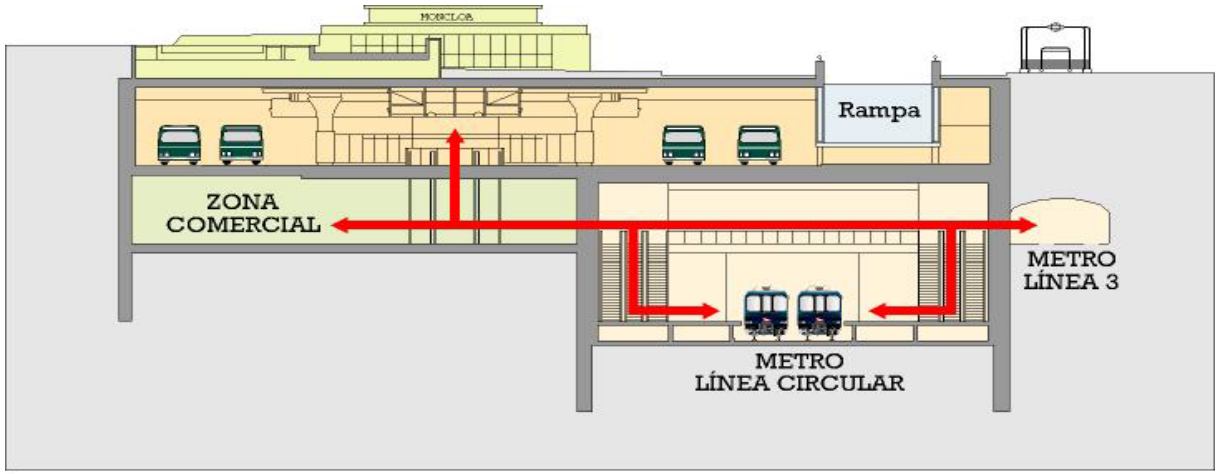
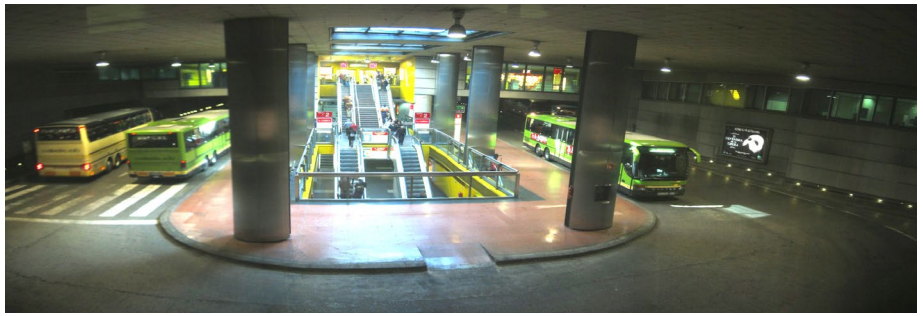
PHYSICAL INTEGRATION: INTERCHANGE TERMINALS IN MADRID



SECCIÓN POR RAMPA DE AUTOBUSES



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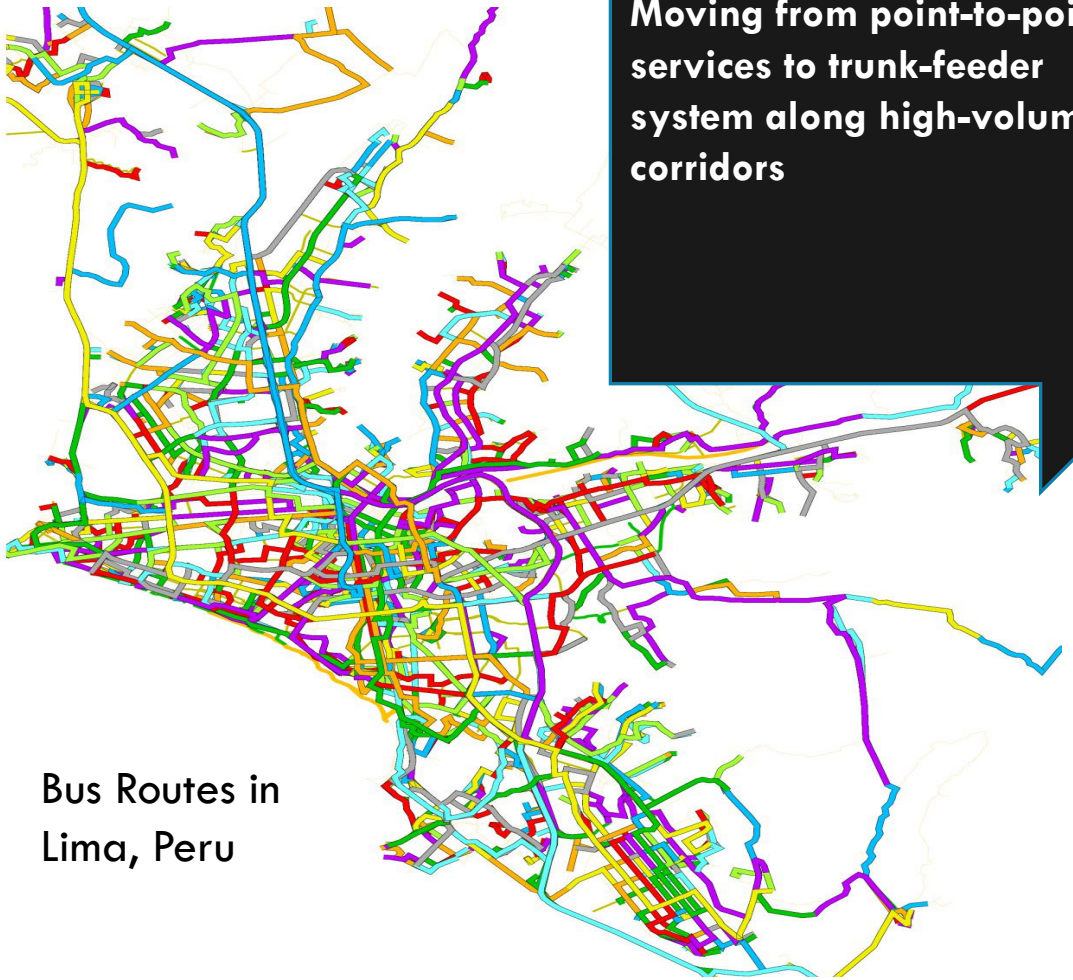
OPERATIONAL INTEGRATION: HIERARCHICAL PT NETWORK



Bus Routes in Lima, Peru

Moving from point-to-point services to trunk-feeder system along high-volume corridors

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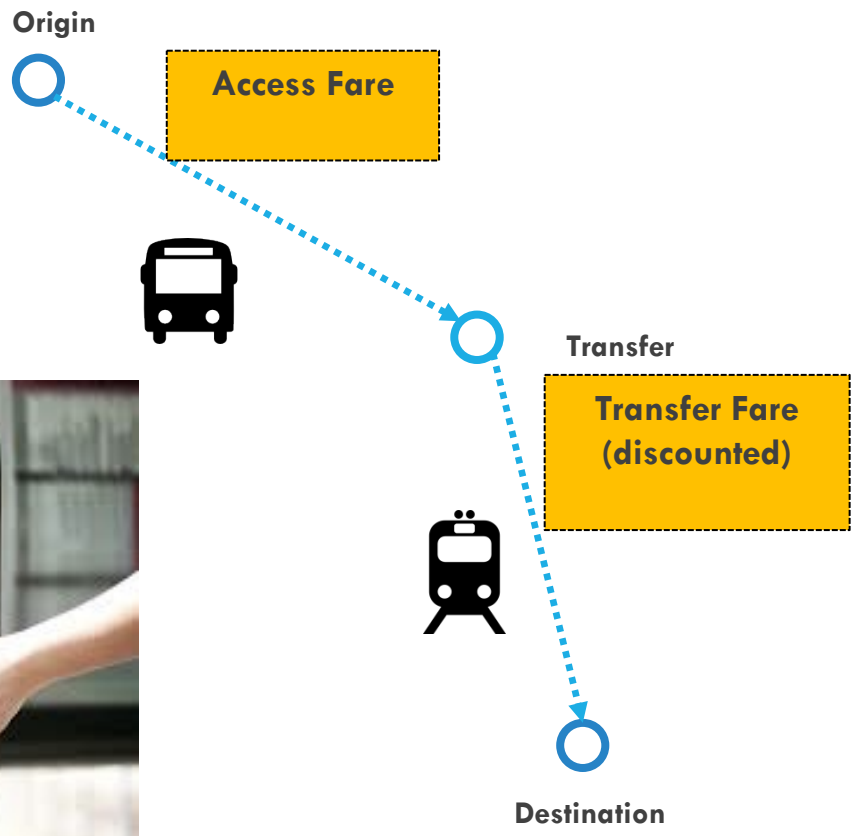
FARE INTEGRATION: POLICY AND TECHNOLOGY



Interoperability options:

- City-owned mapping
- Multiple payment media
- Closed vs open
- Account based
- Centralized accounting and clearing house

Funding and Fare Policy

- Integrated fares, discounts
  - Fare levels and structure
  - Targeted subsidies, i.e. pro-poor
- Funding and revenue allocation
- Financial sustainability of system

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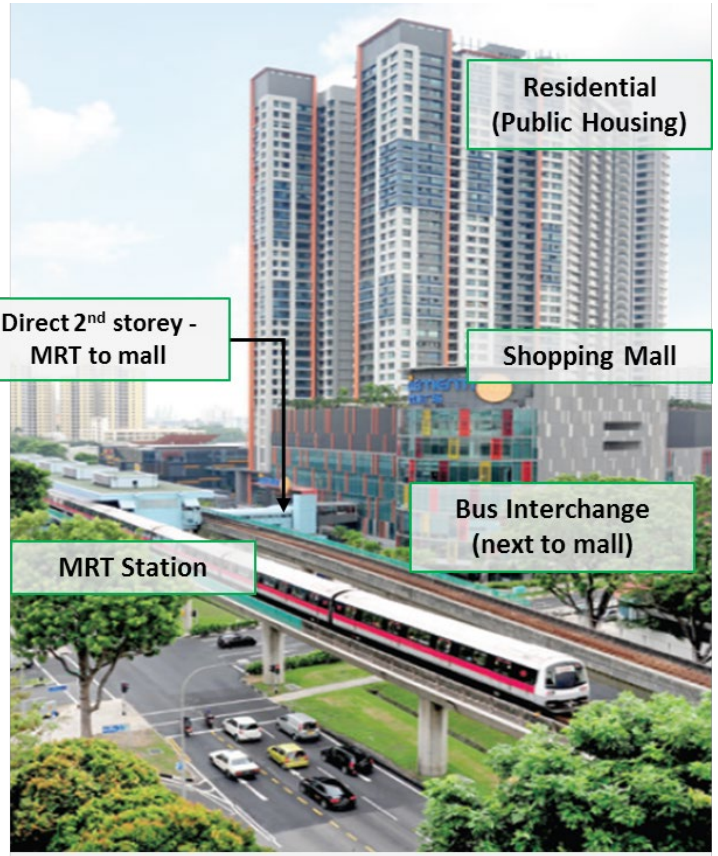
TRANSIT-ORIENTED DEVELOPMENT

Developing land use plans around a transit core



Clementi Mall integrated with Clementi MRT and bus interchange

Land Use

- Optimize and intensify land-use
- Diverse mix uses and services
- Vibrant public spaces for social interaction

Transport

- Maximise access to public transport
- Convenient transfer hub for public transport
- Increase location efficiency by allowing people to walk, cycle and take transit at the same location

Economic

- Access to more employment opportunities

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A Bold Vision for Users, Industry and City

BUS SECTOR

MODERNIZATION

Users

- High % of satisfied users
- Reliable, quick, safe & secure service wins over private or 3-wheelers
- The user at the center of the public transport system

Bus Industry

- Strengthened, capable, innovative and future ready bus operators
- Stable labor conditions for crews

City

- Improved **public space**
- Friendly, **accessible** transport for locals and **visitors**
- Reduced traffic-related **accidents & pollutant** emissions
- Transit is the **quickest** way to move around
- **Targets set** for % of trips in public transport & average travel times

WHERE WE WANT TO GO: OBJECTIVES OF BMI

What is the objective of supporting bus reforms?

- Is it to have newer, better bus fleet?
- Is it to reduce transport-related emissions?
- Is it to reduce oversupply, or optimize capacity?
- Is it to improve performance of the bus operators?
- Is it to improve user satisfaction?
- Is it to improve travel times, accessibility and integration?
- Is it a combination of these?

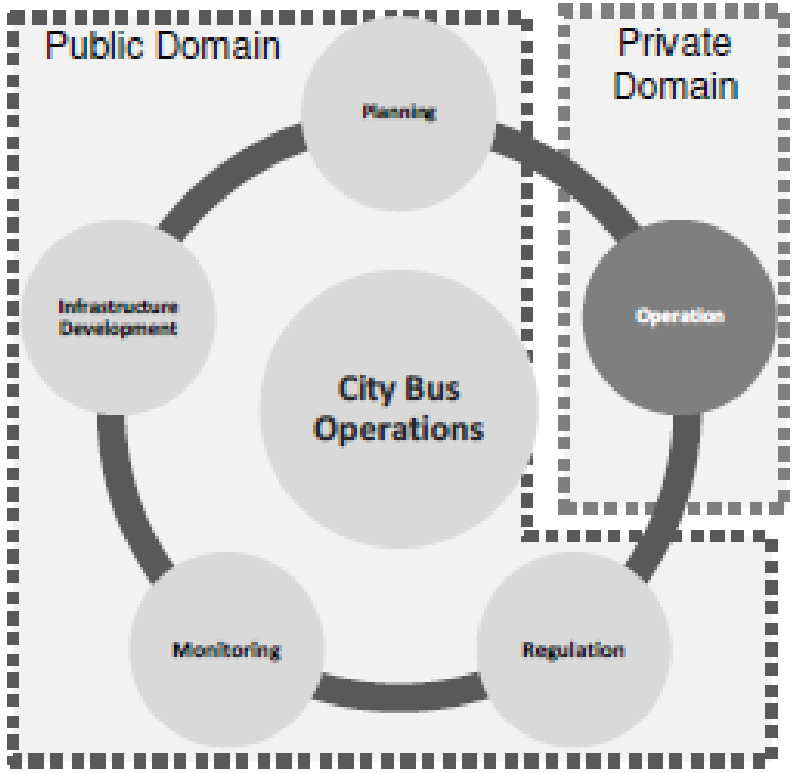
The **user perspective** is fundamental for a bus reform. Focusing on buses, stations or technology solely might lead to unexpected results and negative effects on users (travel times, cost, satisfaction)

Not just travel times, but affordability, reliability, other aspects of the user experience

CONTEXT OF BUS OPERATIONS

Many cities around the world with performing urban bus networks manage their bus services through two-tier model:

1. **Public sector** is responsible for infrastructure development, network and service planning, regulating and monitoring (managing) of operations,
2. **Private sector** operates bus services according to specifications and standards set in performance based or quality-incentive contracts



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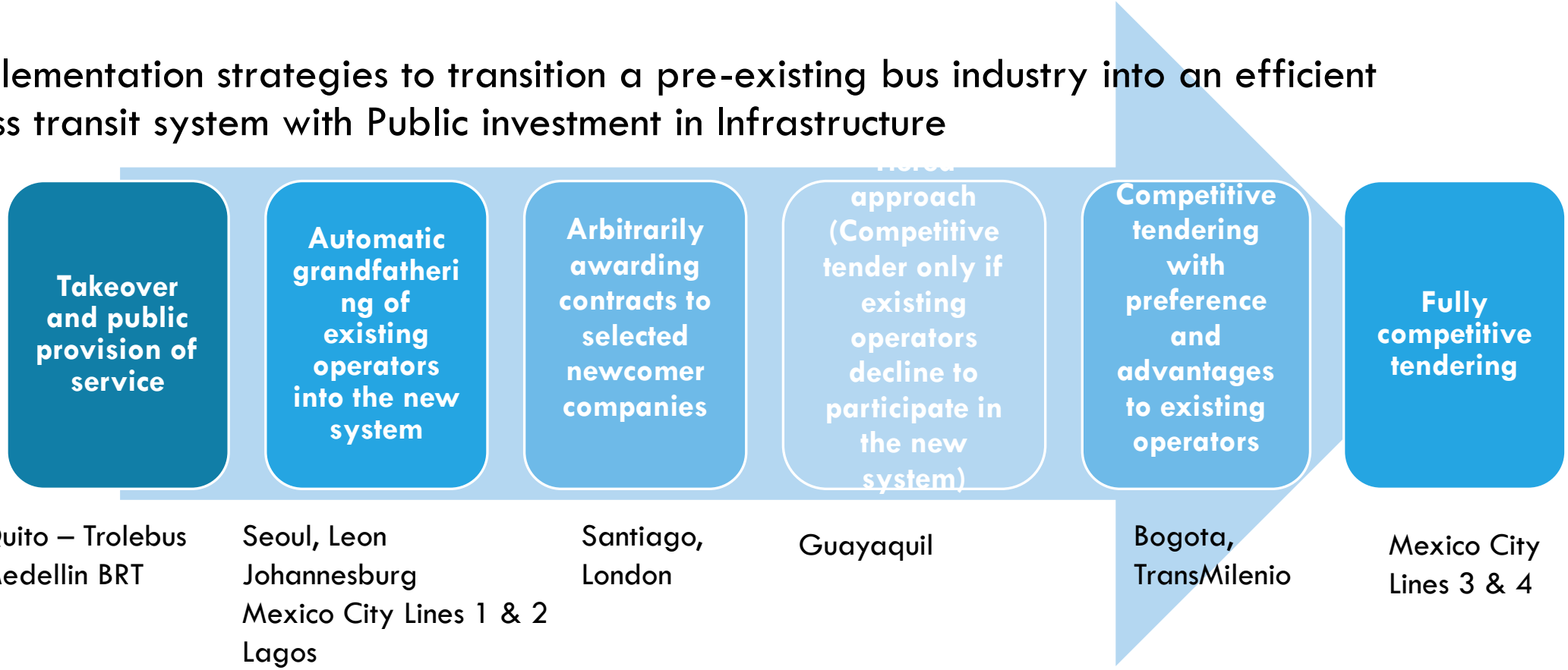
SERVICE CONTRACTING AS AN INDUSTRY TRANSITION MECHANISM

Implementation strategies to transition a pre-existing bus industry into an efficient mass transit system with Public investment in Infrastructure



Adapted from Flores, Dewey & Zegras, 2012

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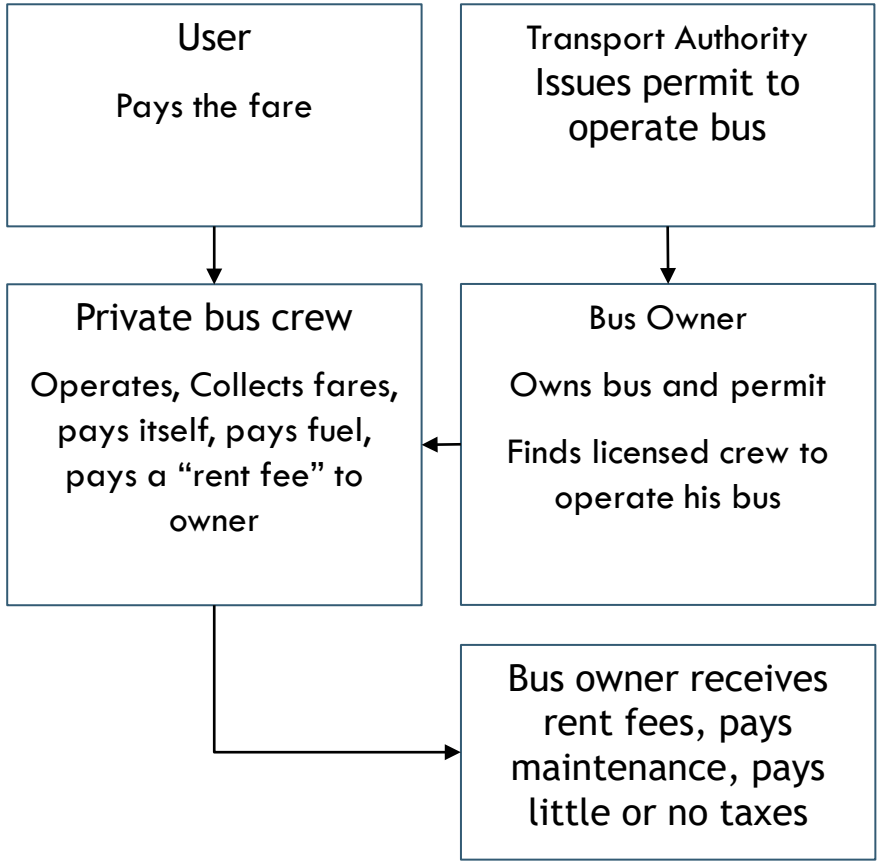
CURRENT STRUCTURE: BUS CREW AS THE MAIN FINANCIAL AGENT



Under the current fare collection scheme, passengers pay directly in cash when boarding buses.

It is responsibility of bus crews to store, count and handle cash for bus owners (for private operators) or for SLTB.

Cash flows are not directly supervised by WPRPTA, and private bus owners do not pay taxes on the collected proceeds.

Since bus crews handle cash and are not required to provide support of revenues and tickets sold, there are no formal rules or guidelines on remuneration to bus crews or on leakage tracking.

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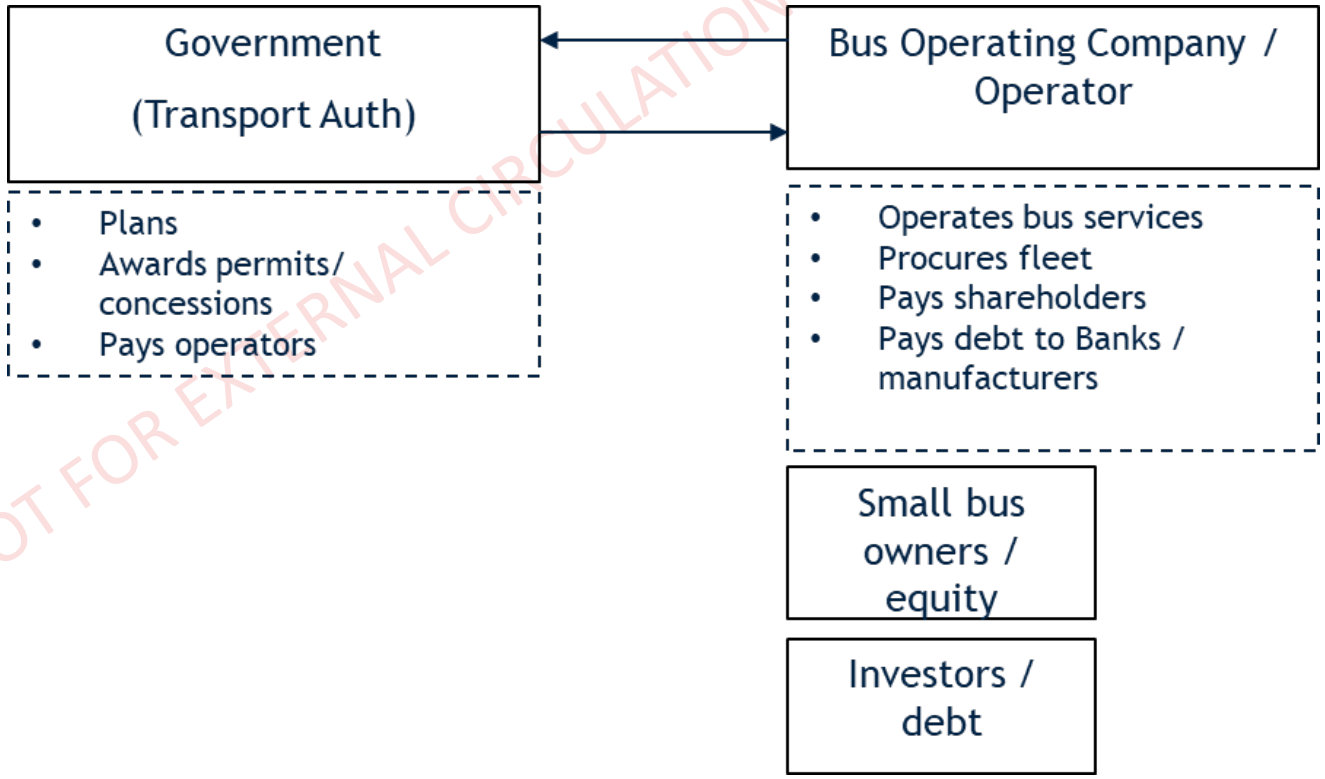
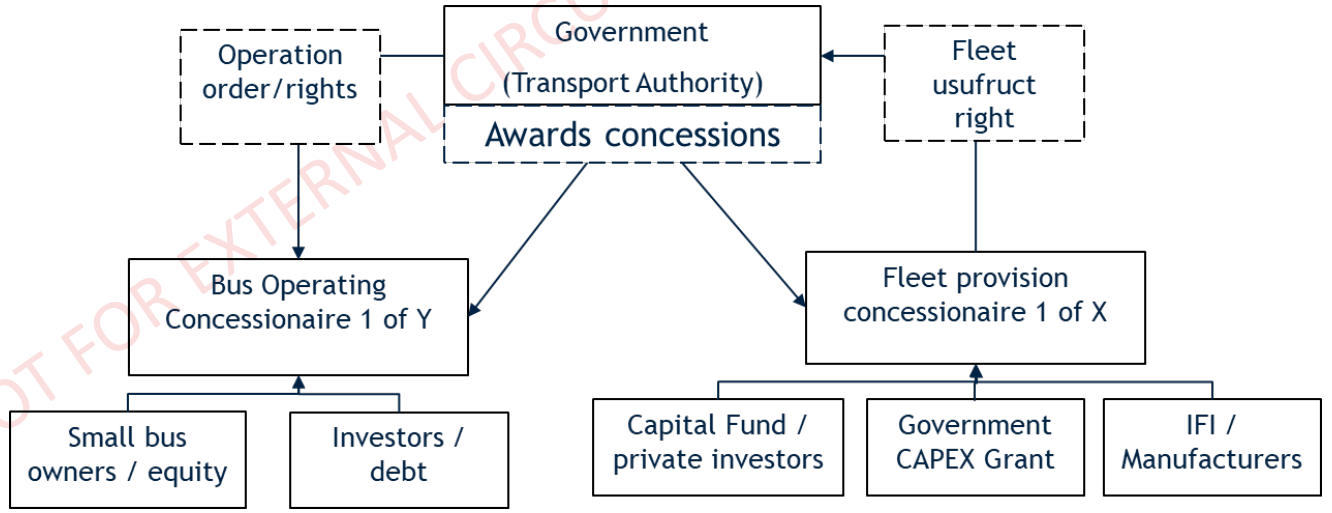
Bundled Procurement & O&M, public or private (fraction or complete bus system):

- Case 1: Private sector procures, operates and maintains bus fleet (one contract or multiple contracts, examples: Chile, Colombia, Mexico, Nigeria, Tanzania)
- Case 2: Public sector constitutes an operating company which procures, operates and maintains (Barcelona, Boston, Colombo, Jakarta, Medellin)



Unbundled fleet Provision, bus O&M:

- Separate contracts for fleet provision (private or public) and fleet operation (public or private), who is responsible of operating and maintaining (i.e. management contracts: most common in Europe, includes London TfL new Routemaster)



Lessons learned from Integrated PT Corridor Projects

- Work with a project “champion” e.g., Mayor, city council chairperson, minister, managing director.
- Create “leading groups” with active participation of all direct players:
  - Construction, communications, planning bureaus
  - Public transport company and transport bureau
  - Traffic police
- Get all stakeholders involved (especially users, merchants & operators) through two-way “multi-media” communications
- Understand issues and objectives (more than congestion, move people efficiently)
  - Provide input to planning process
  - Citizen engagement, especially new interventions
- Use integrated PT/TM/Safety consultant teams with experience and expertise in all relevant technical specialties

Sources: Fang Ke (2015, World Bank) and Sam Zimmerman

Conclusions

- There is a range of approaches to set up a successful urban transport authority
- The most successful mass transit systems in have evolved through significant institutional reform and innovation:
  - Recent Metros and BRTs were created by new authorities or management agencies to fill an administrative vacuum.
  - In rare cases existing institutions successfully contracted out efficient bus operations.
- Managing authorities are not created in one day. Most of the best practices began as offices with 4 technical staff.
- Persistence and step-by-step growth and strengthening is key

DISCUSSION

Deploying solid public transport projects takes time. Have you been able to speed up implementation? How?

Can land policy keep up with public transport implementation? How?

Should more cities implement congestion charging to fund public transport? What prevents authorities from doing it?

What successful policies can be replicated to balance supply and demand

Public or private operators? Does the unbundling of contracts contribute to improving service delivery?

Should Federal/National Governments develop funding programs for mass transit infrastructure?

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