

March 2019

Driving change: reforming urban bus services

A policy paper of the EBRD's Sustainable
Infrastructure group



European Bank
for Reconstruction and Development

This policy paper was produced in partnership with



This policy paper contributes to the MobiliseYourCity Partnership for sustainable urban mobility, to which the EBRD is a contributing partner.



Acknowledgements

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The EBRD gratefully acknowledges support and contributions from its co-publishing partners:

- UITP international public transport association, reviewed by Ayman Smadi, Kaan Yildizgoz, Dionisio Gonzalez and Jaspal Singh.
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, reviewed by Christian Mettke and Frederik Strompen.

The EBRD also kindly acknowledges the contribution of speakers, Lisa Seftel Director of Transport (Johannesburg, South Africa) and Karolis Dekeris, Urban Transport Specialist (Kaunas, Lithuania) and the active participation of cities at the policy dialogue seminar: Tbilisi (Georgia), Yerevan (Armenia), Gjakova (Kosovo), Zarqa (Jordan) and Irbid (Jordan).

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Glossary

ADEME	French Environment and Energy Management Agency	KfW	Kreditanstalt für Wiederaufbau
AFC	Automated fare collection	KPI	Key performance indicator
AFD	Agence Française de Développement	LAMATA	Lagos Area Metropolitan Authority
AVL	Automated vehicle localisation	LRT	Light rail transit
BRT	Bus rapid transit	MaaS	Mobility as a Service
CEREMA	Centre for Studies and Expertise on Risks, the Environment, Mobility and Development	MENA	Middle East North Africa
CODATU	Coopération pour le Développement et l'Amélioration des Transport Urbains et Périurbains	NUMP	National urban mobility policy
DBFO	Design-build-finance-operate	O-D	Origin-Destination
DBOM	Design-build-operate-maintain	PPP	Public-private partnership
EBRD	European Bank for Reconstruction and Development	PSC	Public service contract
GTFS	General transit feed specification	PTA	Public transport authority
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	SUMP	Sustainable urban mobility plan
		TfL	Transport for London
		UCLG	United Cities and Local Governments
		UITP	International Public Transport Association (Union Internationale des Transport Publics)

1. Introduction

Bus services dominate our public transport systems, particularly in emerging economies, due to their cost effectiveness and adaptability, as well as the ease of reallocation and reconfiguration of bus fleets to respond to changing service requirements.

However, cities are facing intensified calls to reform their bus services to provide high-quality, safe public transport services for their users and address environmental challenges, notably congestion and air pollution. To deliver sustainable solutions, cities are increasingly looking to renew fleets and infrastructure, integrate their bus networks and introduce priority bus corridors. Bus sector reform is recognised as a fundamental step in achieving these goals.

Bus sector reform

Reform of the bus sector changes the way bus services are planned, procured, monitored and operated. It can fundamentally affect the role of the city authority¹ through increased control over financial flows, risks and service obligations and, in so doing, influence the composition, scale and duties of bus operators and service providers. The need for the reform itself, and the process to deliver it, must fully reflect the current operating model, problem definition, service quality desired and institutions and actors involved.

Delivering on these objectives requires enhanced sector funding, regulation and monitoring and, importantly, a more engaged city authority to take an active role in planning and regulation of the sector. This is fundamental in order to provide financial stability and to assume an increased level of risk, be it political, operational and financial. To turn political will into achievement, cities and national authorities need to act in the interests of residents to deliver a reform programme through effective and committed negotiation with operators.

This bus sector reform policy paper is for city authorities who seek to transform bus services in response to user expectations and environmental challenges. It builds on experience from cities in emerging markets and on proceedings of the bus sector reform seminar held at the EBRD in London in July 2017.

Bus sector reform changes the way bus services are provided. It is likely to have a major impact on current and future market actors, notably bus operators and passengers. The reform process will affect the institutional, regulatory and operational structure and related planning, procurement, operation, monitoring and evaluation functions of bus services in the city. The actors involved can be wholly public or include a large proportion of private operators and often comprise a combination of the two.

The intention is to change the rules of the game, so while their objectives may be noble, the city must recognise the likely scale of opposition to reforms. The reform process will require periods of detailed consultation and negotiation to steer the reforms towards the intended outcome. Careful thought should be given to the process and ultimate goals and priorities, in order to direct reforms along a well-prepared and determined path.

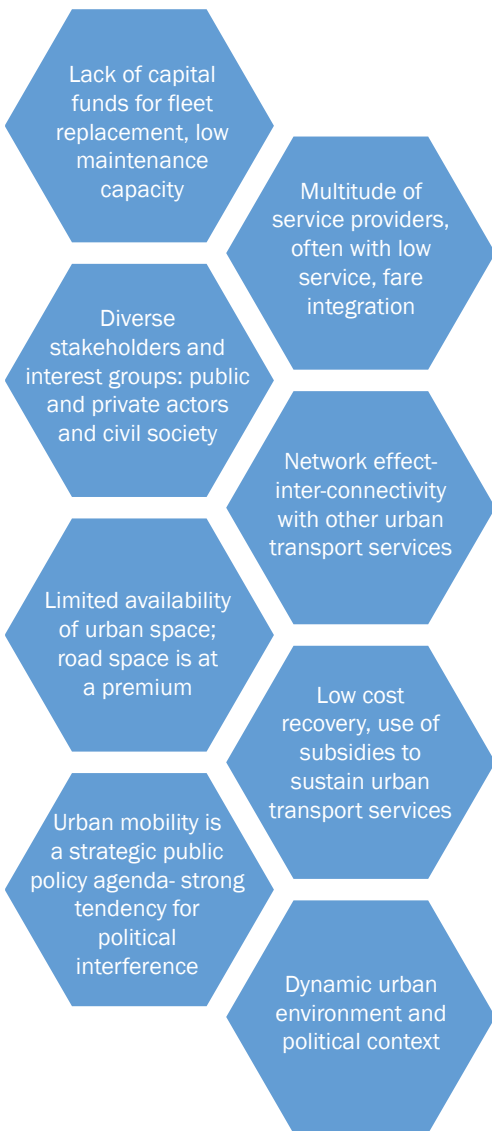
While presenting the “what” and the “why”, this paper focuses particularly on the “how” to improve services by laying out the rationale and steps for cities to achieve bus sector reforms, with case studies, examples and illustrations. While it principally applies to urban bus networks, many elements are relevant to regional and sub-regional public transport networks.

¹ In this paper, “city authority” refers to the authority responsible for the planning, organisation and regulation of public transport services within city boundaries. Its role may be taken on by a public transport authority (PTA) for the city or metropolitan area, as described on page 4

2. The case for bus sector reform

Urban transport systems function within a complex political, social and environmental context, imposing numerous demands and constraints that shape the nature of proposed solutions for a given urban context.

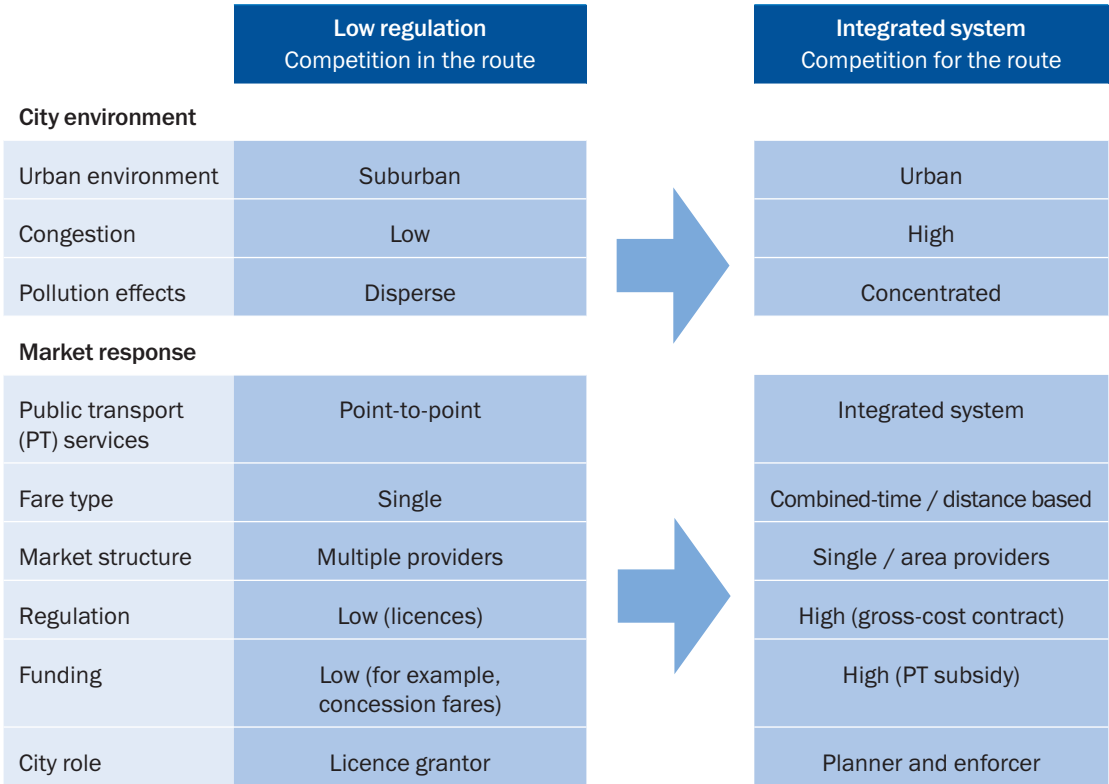
Figure 1. Demands on and constraints of urban transport systems



The response of city authorities is defined by the nature and intensity of these issues within the city environment and of the required, or desired, response to externalities notably congestion, pollution and safety. The scale and pace of reform is largely driven by the demand for change from users and other residents of the city together with the political will and resources of the city to deliver them.

For cities with low congestion or urban environment constraints, reduced user expectations for off-peak services, notably evenings or weekends, and where city resources are limited, low regulation systems may provide the most efficient solution. In such a case, operators are in open competition on each route and compete for passengers by operating cheaper, faster or better services than their competitors. Direct routes often provide the most attractive service option, due to lack of any fare or service integration between competing providers. With low regulation regimes, the city need not spend much money in controlling service performance. However, this also means that city control of the sector is weak and cash-based payments are likely to predominate, with little or no subsidy payments and resulting lack of transparent accounts, financial or operational data. The city therefore has little ability to determine urban transport policy or influence service provision, since it is bringing very little, notably funding, to the table.

Figure 2. Principal regulatory systems for urban transport

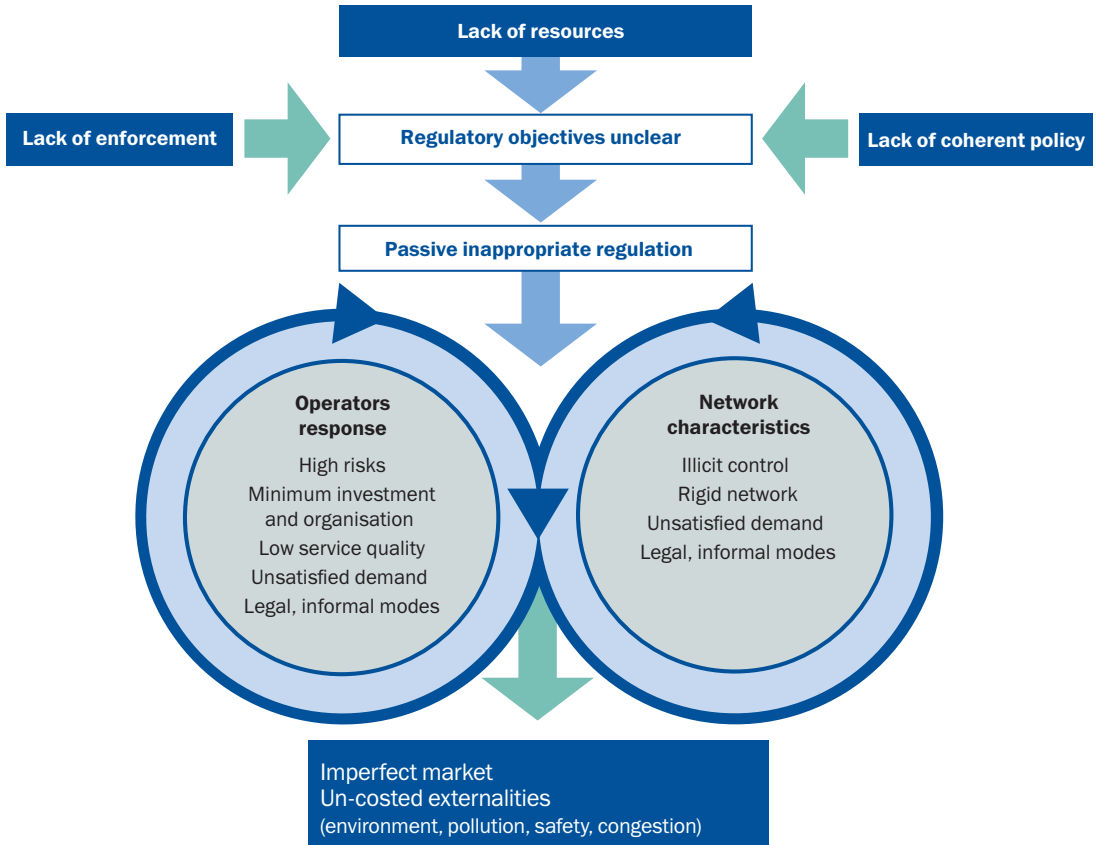


As cities develop both the level of externalities and user expectations increase. Low regulation systems generate an increasingly imperfect market, in which externalities remain un-costed and operations become increasingly inefficient, unable to consolidate and make the investments required of an expanding public transport system.

Such a system puts a high price on the community by imposing an increasing level of external costs, such as environmental pollution, safety and congestion, onto all residents, users and non-users alike.

As externalities are priced out of transport service through lack of regulation covering environmental and safety standards, users are encouraged to make sub-optimal modal choice towards private cars, taxis and minibus and the quality of the bus services deteriorates further.

Figure 3. Low regulation and the imperfect market



Source: Diagram developed from Figure 9 in the GIZ Sourcebook Bus Regulation & Planning.

At a certain point, this lack of city engagement under a low regulation policy reaches its limit, and pressure from discontented residents compels city authorities to act.

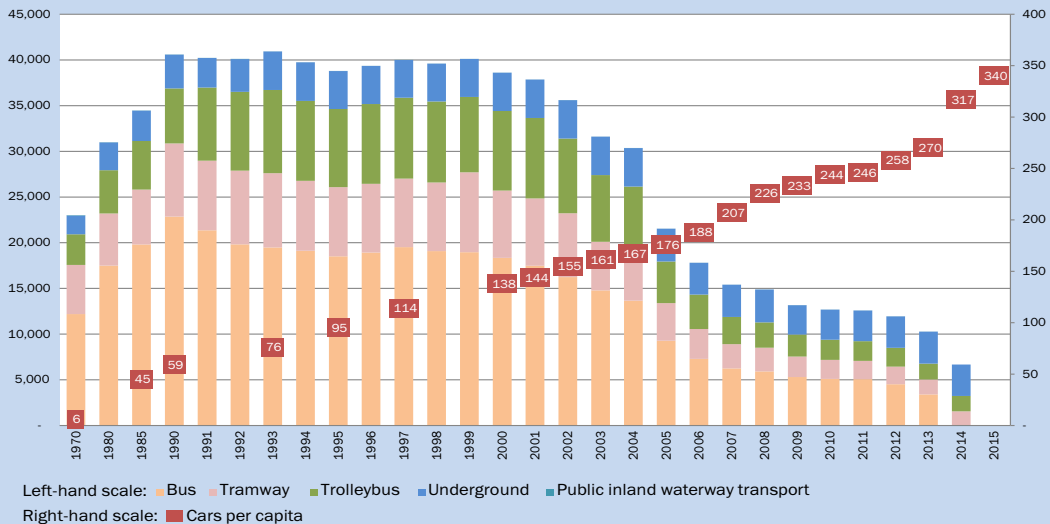
Decline of public transport in former centrally planned economies

Over the past twenty years, countries that were once centrally planned have witnessed a dramatic decline in public transport services, in the face of rapid urbanisation, growing car ownership and sustained strain on public funds. Public operators have struggled to obtain adequate funds for maintenance and investment, aggravated by an inherited policy of concessionary travel for large parts of the population.

Such operators have often been reduced to a core network, with an outdated fleet and low quality of service and in some cases, have been entirely disbanded. In their place, a fragmented private market has grown, with marshrutkas (minibuses) filling the gap with higher fares and poor service, but with direct routes and faster services better serving new residential and employment areas.

The lack of effective regulation, funding, fare or route integration, has resulted in numerous private operators with poorly maintained minibuses, not operating to a timetable, competing with each other for passengers at bus stops and with no, or limited, duty to accept concessionary fares. This has resulted in a critical lack of skills and investment in the sector and has limited the interest of larger operators to enter the market.

In many cities, the poor state of public transport services under such low-regulation scenarios now presents a clear case for reform towards more sustainable urban transport solutions. This is given added urgency with the continued rise of private vehicle ownership, as illustrated below (example of Russia).



Source: National Research University, Higher School of Economics, Moscow, Russia.

Note: Public transport passengers (left scale), modal split (graph) and car ownership, 1970-2015 (right scale) – Russia.

Why undertake bus sector reform?

Bus sector reform is needed when the existing low-regulation model becomes unsuited to the requirements and expectations of the city and its residents and there is a desire to achieve significant improvement in the quality of bus services. This reform may be initiated by a major transport project, such as bus rapid transit (BRT) or light rail transit (LRT), where major restructuring of the public transport system is required to establish feeder and secondary bus routes.

Often a bus network has grown through evolution rather than purpose. In a planned situation, the network may have been appropriate to serve the needs of the city at the time of planning. As the city grows and the needs of its population changes, often the bus network remains static. In many cities, the reaction has been to add routes to the bus network to plug apparent deficiencies without revisiting the merit of existing routes. This process of evolution has often led to a large, outdated and ineffective network.

Such services are often added based on commercial opportunity, following the rationale of profit maximisation rather than level of service. This results in further degradation of public operators through unfair competition from a less restricted private sector.

Motivation for reform most commonly originates from either financial constraint or user discontentment. The former can be due to the escalating cost of subsidising bus services, together with an inability to control such costs while maintaining service levels. The latter can result from protests about the quality, cost or coverage of bus services. Further motivations for reform can come from pollution and congestion impacts (externalities) on the community, untransparent practices or weak or unclear regulatory capacity or incentives to perform.

The increasing global trend to shift bus technology from fossil fuel to electric powertrains will increase the need for bus sector reforms. Such bus fleet renewal schemes would require larger operational platforms consistent with the new capital and resource requirements for such investments.

Bus sector reforms should seek to raise the game in urban transport services by restructuring how urban services are provided and, where possible, by pricing in externalities. This is achieved through increased sector regulation and introduction of more secure, safe and low-emission transport. The aim is to support public transport as a credible alternative to car use, improving the quality of life of all city inhabitants



Buses that are cramped, difficult to access and uncomfortable are not good for people with restricted or impaired mobility. Often the industry is not able to improve without coordination and support.

Source: ITP.

Barriers to reform of the bus sector

Barriers to reform can be summarised into six main themes:

1. Resistance to change. A status quo, or equilibrium, has been established that, while not optimal, is meeting a need. The private sector may have found a means of making a reasonable return and the public sector a means of providing services that provides a network of sorts. While the service providers might be well established, this does not imply that users are content or that the city is receiving the level of service it should from the bus network.
2. Lack of funds. Improvement of bus services requires investment in the bus fleet and facilities, may require funds for the reform process itself and may engage the city in providing longer-term operational subsidies. With often limited ability to increase fares to compensate, cities need to engage new funds for the reform process, where little has been committed previously.
3. Appetite for risk. Change requires determination and commitment from city authorities, with an appetite to reform for improvement. Inevitably this invokes risk. Risk may be political, affect relationships or financial. It may be all three. The existence of risk reinforces the need for clear objectives and a planned and systematic approach. Reform is most successful where there is a champion with sufficient influence and commitment to engage stakeholders.
4. Ownership of assets. The ownership of assets such as depots, stations, and vehicle fleets can restrict opportunities for control over service provision and competition in the market. Access to finance for new vehicles may create an inevitable reliance on existing service providers. Addressing such issues requires understanding, engagement and strong commitment to change.
5. Increased transparency and accountability. Licensed bus services are often dominated by cash-based payment systems, with resulting lack of transparency on ticket receipts and wage incomes. Companies may seek to under-report income to reduce tax exposure. By introducing new operating contracts (for example, public service contracts (PSC)) and electronic or automated fare collection (AFC), reforms can impose new accounting standards and fiscal obligations.
6. Conflicts of interest. Those that are instrumental to the reform process might either gain or lose through the action of reform. This might be the case where there is a strong public-sector operator or where an authority currently gains income from licensing processes. The reform process should ensure that any self-interest is moderated by the group and strong leadership retains commitment to its primary goals.

3. Understanding the bus sector and setting objectives

Before embarking on reform of the bus industry it must be clear both what the current status is (and who are the key stakeholders) and what is the desired outcome of reform, in other words what the reform is seeking to achieve.

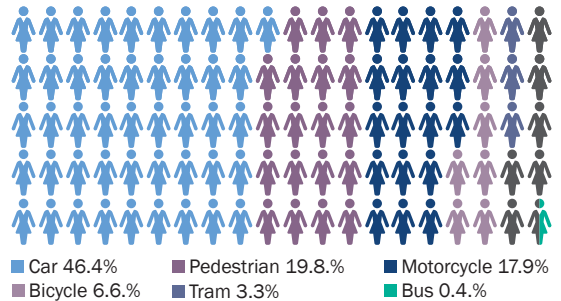
Transport enables a city to support economic growth and social wellbeing within a context of acceptable environmental impact and financial and political constraints. As such, the objectives set for transport must relate to achieving either the strategic interests of the city or improving the wellbeing of its residents.

Reform objectives must, therefore, support wider city objectives with the specific role of public transport defined relative to other transport modes. Where public transport is dominant, or its role responds to wider objectives, then a more comprehensive approach for high levels of accessibility and willingness to invest in the transport system is needed. Where public transport is less dominant or its intended role less emphasised, then reduced targets for accessibility and service levels might be appropriate.

Such objectives are often set within a sustainable urban mobility plan (SUMP)² for the city. A SUMP aims to create an urban transport system by addressing, as a minimum, the following objectives:

- Ensuring all residents are offered transport options that enable access to key destinations and services.
- Improving safety³ and security.
- Reducing air and noise pollution, greenhouse gas emissions and energy consumption.
- Improving the efficiency and cost-effectiveness of the transportation of people and goods.
- Contributing to enhancing the attractiveness and quality of the urban environment and urban design for the benefits of residents, and of the economy and society as a whole.

Road fatalities in the EU, by transport mode



Bus sector reforms are often a key tool for effective implementation of a SUMP. Common objectives for reform include:

- Financial efficiency – to contain funding support by government and ensure affordability of services for the users.
- Environmental controls – to limit or reduce the adverse effect of the transport system on the environment in terms of emissions, noise, safety or visual impact.
- Accessibility – to ensure transport is accessible to all, including disadvantaged groups and mobility impaired, and that communities are well served.
- Level of service – to improve quality of services towards the needs and expectations of users. The nature and scale of current deficiencies should be assessed and improvements balanced with the needs of financial affordability.

Once objectives are set and agreed across all stakeholders, a set of actions can be developed, with full account taken of current conditions, usage and demand.

Imagine your city in 20 years: what would you want it to look like? A place where children can play safely? Where the air is clean? Where you can walk to do your shopping? With lots of parks and green space? Where businesses can prosper?

“The spirit of a SUMP”, taken from Developing and Implementing a Sustainable Urban Mobility Plan, European Commission 2013.

² Developing and Implementing a Sustainable Urban Mobility Plan, European Commission (2013). ³Road fatalities data, EU Care database (2011).

MobiliseYourCity Partnership

The MobiliseYourCity Partnership (www.mobiliseyourcity.net) is a global and inclusive network of cities and countries as well as an umbrella alliance of European development partners to support the planning and delivery of sustainable urban transport systems.

The partnership assists beneficiary partners, namely local and national authorities, in preparing sustainable urban mobility plans (SUMPs) and, where relevant, national urban mobility policies and investment programmes (NUMPs), applying adapted techniques in stakeholder engagement, impact mitigation and evaluation and monitoring methods. MobiliseYourCity provides sets of methodologies and toolkits and links beneficiaries to Communities of Practice exchanges and capacity development programmes to improve availability of funding support, including emerging green funding sources.

The MobiliseYourCity Partnership is jointly co-financed by the MobiliseYourCity European Commission's Directorate-General for International Cooperation and Development, the French Ministry of Ecological and Solidarity-based Transition, the French Facility for Global Environment, and the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

The Partnership is supported by its implementing partners: the French Environment and Energy Management Agency (ADEME), Agence Française de Développement (AFD), Centre for Studies and Expertise on Risks, the Environment, Mobility

and Development (CEREMA), Coopération pour le Développement et l'Amélioration des Transport Urbains et Périurbains (CODATU), the EBRD, GIZ, Kreditanstalt für Wiederaufbau (KfW) and the Wuppertal Institute for Climate, Environment and Energy. It contributes to the UN's Agenda 2030, specifically Sustainable Development Goal (SDG) 11: Make cities inclusive, safe, resilient and sustainable.



Source: istockphoto.com

The status of the bus network

In most instances the known qualities of the bus network relate to:

- number of buses per route, type, availability
- service level in terms of routing, hours of operation and frequency
- revenue per passenger type
- operating costs.

However, such information may only be available from public operators or from systems with effective ticketing and control systems. For poorly regulated

networks, lack of information from private operators can be a critical problem in reforming the bus network. Developing efficient survey methods is therefore critical in defining new networks, providing credible network data for the reform process and allocating risks and subsidies.

Additional information needed to assess the bus system includes:

- passengers per line, per day
- bus operating speeds
- boarding and alighting by stop
- origin-destination (for network restructuring)

- breakdown of operating cost
- user perception of service level
- non-users' expectation of service level that would attract them to use the network.

Reliable data underpins the credibility of the reform process. Without it, restructuring of the bus network risks user discontent as new lines become overcrowded or infrequent and fares are disputed. Without it, negotiations with private operators are biased in favour of the better informed and risks and subsidies poorly allocated, to the detriment of the city and its residents. The pursuit of reform through lengthy negotiation and change requires robust data collection, initiated during preparation of the reform plan and monitored and updated through the reform process.

In using such data, there needs to be a full awareness that purely observing movements within an existing transport network does not necessarily constitute underlying demand, but rather illustrates market reaction based on the supply of services. As a result, latent or induced demand from new services may often not be accounted for.

The state of regulation

In many instances, the way in which public transport is regulated responds to inherited legacy rather than current needs. In such cases, a critical review is necessary, covering governance, regulation, contractual arrangements and assessment of the role and authority of stakeholders and levels of influence. This should include the institutional capacity roles and relationships, of those within the bus system, including bus operators themselves.

Understanding where planning and regulating happens

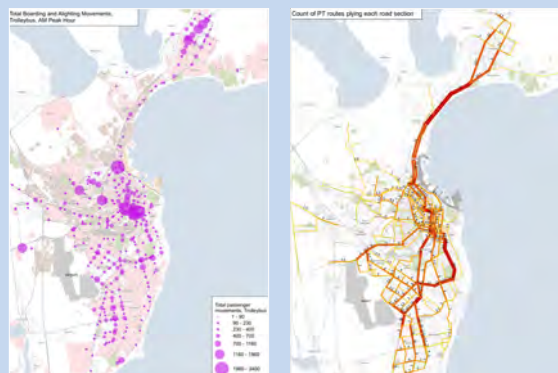
While most cities have a transport planning unit within either a transport or engineering division, the resources allocated to public transport vary widely. Institutional mapping will aid the understanding of where decisions are made in the planning of public transport networks, levels of integration with other city and national departments, budgets and resources allocated and the contracting and monitoring of services.

Understanding the network (mapping tools)

New mapping tools provide an opportunity for cities to tackle the critical data deficiency, especially for low regulatory systems.

In many instances the true extent of the bus network may not be known either because a) routes are not monitored and are allowed to deviate from licensed routeing; b) licenses are not given; or c) exact routeing is not specified. In such instances digital mapping tools can be useful. Cell phone applications, such as TransitWand, can be used on vehicles to geocode routes, stopping places and boarding and alighting. This information can be converted into a general transit feed specification (GTFS) network for compatibility with route planning software. Care must be taken not to assume that network mapping information represents demand (see Chapter Four).

Such tools have enhanced bus network planning (re Odessa below) and been applied for preparation of bus route maps in Amman, Cairo and Cape Town, among others.



Source: ITP.

Stakeholder mapping is a valuable exercise when existing resource and practices are insufficiently known or when stakeholders' roles frequently extend outside their formal mandate, often as a result of operational imperative.

Building a roadmap for Greater Cairo Transport Regulatory Authority (GCTRA)

The GCTRA was established in 2012 as a public transport authority to regulate, plan, monitor and assess performance of transportation in the Greater Cairo region. However, its role and capacity has remained limited and it needed to better define its priorities and actions within the sector, contribute towards sector policy and development objectives and build the required funding and capacity.

In order to achieve this, GCTRA is preparing a roadmap and short-term action plan, based on comprehensive stakeholder mapping, as per the framework below.

<p>Mandates Legal status Area Themes Governance Regulatory framework</p>	<p>Capacities Funding Staffing Departments in planning, regulation, project development</p>
<p>Actions Policies Development plans Projects Operations</p>	<p>Stakeholders Public, private partners User participation Communication strategy, methods</p>

The action plan will establish objectives and priorities to support, complement and, where necessary redefine, the role and efforts of stakeholders. The roadmap will provide for a staged development of GCTRA, initially focused on developing priority actions, a coordination framework to pool resources for delivery and building capacity and recognition of the organisation

The assignment is supported by the EBRD and implemented by consultants ITP (UK) and InfraOne (Egypt). Adoption of the plan is anticipated in Q2 2019.
Source: EBRD.

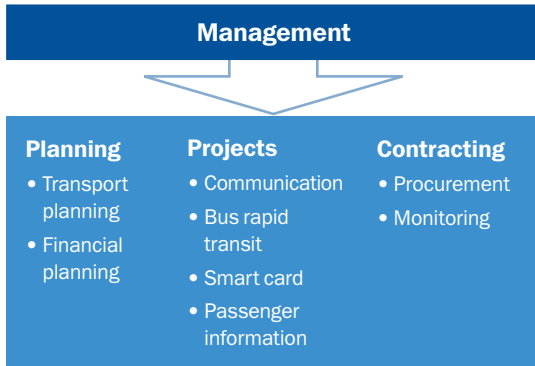
A city with a mature and integrated transport policy may have an established public transport authority (PTA) either as a dedicated unit or as a function within another department.

The core tasks of a PTA generally comprise:

- planning of infrastructure and services to meet transport demand, combined with the financial planning of fare level and required subsidies
- tendering, contracting and monitoring contracts with public transport operators under a regime based on equal treatment for public and private operators
- preparing improvements to public transport system, for example infrastructure and service expansions (metro, LRT, BRT, buses), ticketing systems (including AFC), integrated fares, passenger information)
- developing sustainable transport modes (public transport, soft modes for example, cycling and walking)
- promoting public transport and informing the public.

A GPS-based automated vehicle localisation (AVL) system provides real-time data for improved operational management allowing both operators and the authority to monitor performance. Installation of such a system could constitute a pre requisite for subsidy payments and/or fleet renewal.

Figure 4: Key functions of an urban public transport authority



Understanding the market (users)

Public transport users are not a homogenous group. However, while diverse in terms of their status and needs, they may only be offered a single service type (for example a standard bus or minibus). Various user groups may be granted concession fares, allowing them to travel at reduced rates or for free. Such social policy seeks to meet affordability needs or recognise the contribution to society of certain groups (civil service, war veterans and so on). The affordability of concession fares for the city authority will depend on how well they target social need while maintaining the efficiency of the transport network as a whole.

Public transport users can also be diverse according to their income, with consequential differing willingness to accept higher fares in return for improved services. Where objectives relate to reducing car use, there may be a need to consider higher service levels for users who may otherwise choose to travel by car, where current service standards are considered to be insufficient.

The need to understand the views, needs and responses of public transport users is fundamental and requires effective and regular market consultation and surveys.

Understanding the market (operators)

How the operating market is structured needs to be understood; for any public sector operator, what role do they play and what support do they receive; for private operators, their scale and composition, operating and business practices and the extent to which their obligations are different to those of the public operator. Moreover, the financial realities of operations need to be understood prior to reforms and prior to any commitment to offer financial support through Government funding or otherwise.

UITP working group on informal transport

The International Public Transport Union (UITP) launched their “Working Group on Formalisation or Corporatisation of Informal or Individually Operated Public Transport” at the UITP MENA congress and exhibition in April 2018, with representatives of public transport regulators, operators and industry from 11 different countries. The working group has the following main objectives:

- Steering UITP activities on the relevant topic at the global level.
- Facilitating networking and exchange between members on formalisation.
- Compiling, developing and building international knowledge.
- Benchmarking projects and experiences.
- Focusing on current issues, analysing and promoting innovations.
- Stimulating debates and interactions.
- Preparing advocacy arguments and positions.

The group will aim to share knowledge and provide coordination and integration of solutions to informal transport. UITP also developed a three-day capacity-building programme on the formalisation of informal transport to support its members.

Source: Kaan Yıldızgöz (UITP).

As private operators are driven by profit, their prevalence is an indicator of commercial opportunity, and often due to the lack or insufficiency of services by the public operator. Changes to the bus network or to the means by which public transport is organised or contracted will therefore have an impact on existing operators.

There will be inherent resistance to change because it threatens profits and the current business model of operators. In such cases, the authorities must understand in detail their business's environment, financial position, legal requirements, motivations and business plans and practices, in order to define reform strategies which offer workable solutions and opportunities to enable enough operators to support the change process.

Where new operators are sought, there needs to be a definition of the market opportunity and the proposed relationship between new and existing operators.

One key element of successful bus sector reform is to understand the financial realities of the affected bus industry. It is thus indispensable to analyse the financial context of bus operations. This important step should build the basis for any financial decision by the government, especially during the development of financial support mechanisms. For an example of relevant steps to be taken by government to develop a financial support mechanism, see Annex 1 Public Transport Reform, Philippines.

Figure 5. Understanding the market: users and operators

Users	Operators
<p>Needs</p> <ul style="list-style-type: none"> • Income • Dependents • Commute • Vulnerable groups (concessions, accessibility) <p>Willingness to pay</p> <ul style="list-style-type: none"> • Shorter waiting times • Higher comfort • Faster journey times 	<p>Existing operators</p> <ul style="list-style-type: none"> • impacts on profit • impacts on opportunities for expansion • Impacts on reliability of patronage (competition) <p>New operators</p> <ul style="list-style-type: none"> • Relationship to existing operators • Competition • Consolidation of existing operators into new bodies

Market consultation and surveys

Effective and consistent consultation is essential to determine the principal drivers and nature of the reform.

User preferences can be assessed using user surveys, for example:

- Passenger surveys, at bus stops/terminals and/or onboard buses to determine travel patterns and preferences.
- Tariff surveys and stated preference surveys⁴ to assess acceptance of tariff increase or adjustment for service improvements.
- Satisfaction surveys, to assess the level of appreciation for various components of existing services (for example cost, regularity, punctuality, cleanliness, driver behaviour and so on).
- User focus groups to determine user expectations and priorities for network development and service quality, as well as suggestions for improvement.

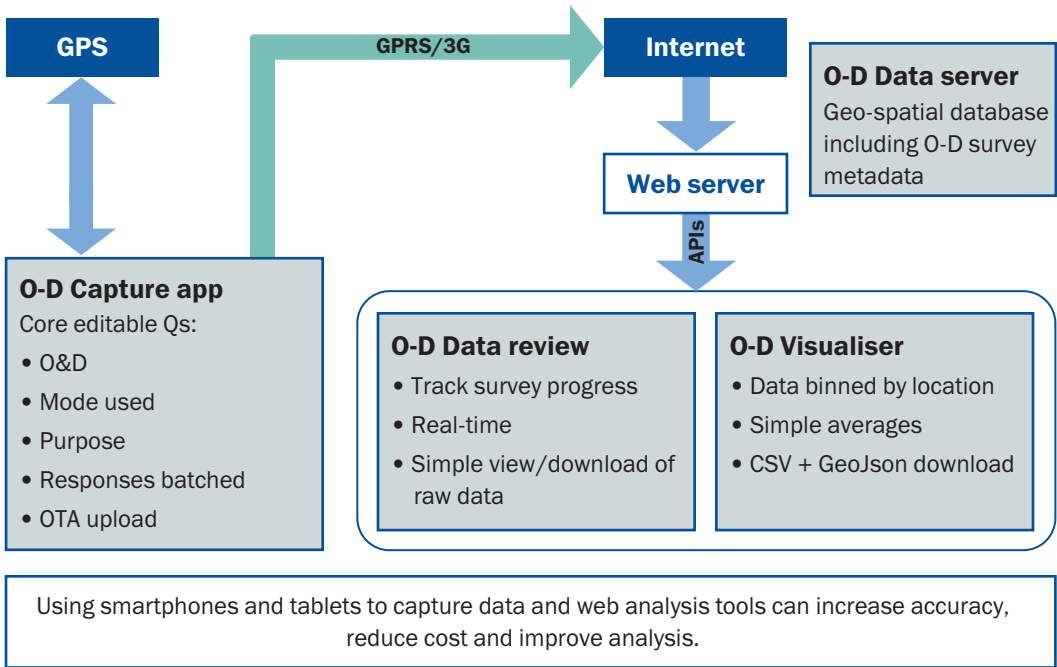
Data collection using traditional paper-based methods.

Such surveys can provide a credible basis for assessment of user expectations, gauge public acceptability for reform components and priorities and willingness to pay for service improvements. This provides vital input to the definition of the path of reform and its overall objectives and timeline.

Operators can be consulted through one-to-one interviews and/or operator and stakeholder workshops. Depending on the nature and scale of the proposed new operating contracts and, this exercise should be tailored to interested operators at a local, regional and/or international level.

⁴ Stated preference surveys request the respondents' preference to a series of alternative options for service improvement, with corresponding outcomes. It is frequently used to establish the 'willingness to pay' of users for a given service improvement.

Figure 6. Smart data collection method



Source: ITP data collection and network analysis methodology for Manila.

The nature of potential future operators in the reformed bus market is an essential component in determining the shape, scale and time frame for reform. Reform can only succeed if there are actors available to deliver the required level and quality of services in the reformed market. Understanding which operating market should be targeted is a critical part of the reform strategy and a source of constant referral and revisit throughout the process.

4. The process of reform

Roles and responsibilities

In contexts where city authorities provide strong engagement and funding of public transport and benefit from mature operating markets, the organisational model of public transport is generally the following:⁵

"A combination of transport authority planning and control of public transport services on the one hand and competition between independent operators for the operation of public transport services on the other has the strongest merit."

Moreover, publicly owned operators are generally allowed within the competitive market, provided they operate under the same conditions as private operators, ie under a 'level playing field' for all market players.⁶

Public sector and private sector responsibilities

At the heart of bus sector reforms are the definition of new roles, responsibilities and contract arrangements for public and private operators. This often includes the creation of a transport authority role either with the city or as an autonomous entity, with responsibility for:

- planning the route network

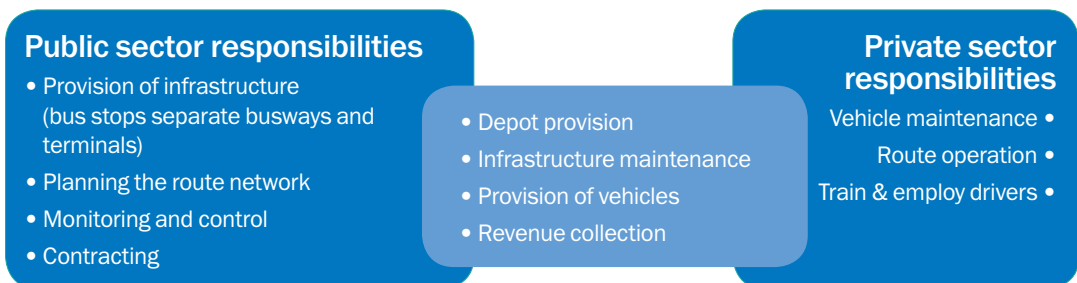
- providing the necessary infrastructure such as bus stops, separate busways and terminals
- negotiating with and subcontracting operators for routes or route packages
- monitoring and controlling the performance of such operators.

Bus services can be provided by public or private operators or a mix of both, according to operational and strategic requirements, national regulation and local context. Routes or route packages allow operators to compete for the route. The operators are able to satisfy quality requirements and offer the most economically advantageous tender will be awarded a contract for a given period of time.

While in larger cities a transport authority may function as a separate entity, in many cities it sits within an existing city department. However, its function is more important than its location.

As bus services reform, it will be necessary for the city to consider taking on some of the responsibilities for the new fleet and infrastructure and ensuring financial sustainability for operations. This particularly relates to those tasks shown in the shared portion of Figure 7.

Figure 7. Principal responsibilities of public and private sector



⁵ European Union research project, ISOTOPE, (Improved Structure and Organisation for urban transport operations of passengers in Europe) completed in 1997 and follow up project MARETOPE (Managing and Assessing Regulatory Evolution in Local Public Transport Operations in Europe).

⁶ As clarified by European Commission and regulated under EU 1370/2007.

Defining the new bus system

Reform of a bus sector is best implemented on an optimised network, in order to produce good outcomes for the user and address key elements of poor-quality service. The new bus network will generally require two main reform components or stages:

- First, an optimised network (routes and service levels) should be defined, based on travel patterns (origin-destination) of bus users. Optimisation can be related to routes or financial performance but ideally should be a combination of both.
- Secondly, integration of services, combining route and tariff integration, is the ultimate step of combining several service lines into a single, attractive transport offer to the user.

Route optimisation

A bus network that is not periodically evaluated will develop inefficiencies as the city changes and the needs of the residents and users of the city alter. Network inefficiencies relate to the supply of bus services failing to meet the demands of the travelling public. This optimisation requires study of mobility patterns and modal choice preferences. Moreover, care must be taken not to assume that high bus passenger levels necessarily equate to demand being satisfied, as bus trips may have already been distorted by an existing network which no longer matches demand.

Route optimisation may also have to adjust to new congestion patterns and infrastructure availability (road lanes, bus stops and so on) to adjust the route network and locate bus priority corridors.

Understanding of the network, for both supply and demand, will be greatly assisted by modelling tools, based on a comprehensive and up-to-date data set. Such tools may have been produced as part of a SUMP, notably a multi-modal assignment model. If this does not exist, other assessment techniques can be used through collection of route-based boarding-alighting data, harvesting mobile phone

data, data from mobility providers (such as Uber) or ticketing data.

Financial optimisation

Financial optimisation is required where:

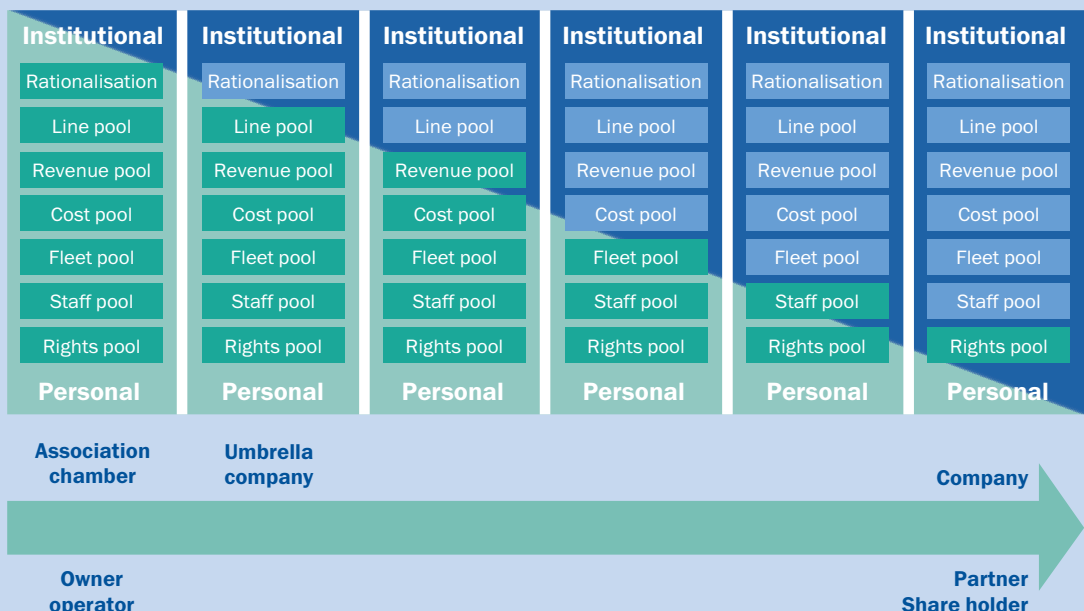
- the relationship between revenue and operating cost (cost recovery) is insufficient, often resulting in high subsidy levels
- compensation payments and other financial flows are not reliably and predictably made, resulting in high commercial risk and investment backlog.
- Financial optimisation comprises tariff policy, including fares and concessions. However, fare policy is often a highly sensitive political issue for the city and the appropriate policy must balance the need for cost recovery and operational sustainability with the conflicting political sensitivities and imperatives. The most appropriate fare policies balance such needs by containing fare levels to ensure sustained passenger levels while offering concession fares to certain groups of the population, such as low-income groups, the elderly or children.

Formalisation and corporatisation of informal or individual public transport operators in Turkey

Municipalities throughout Turkey have increasingly sought to address deteriorating services manifested by the deformation and concentration of public transport lines in the city centre, poor safety, comfort or social security standards, poor driving behaviour, no data for evaluation and planning, no transfers or service integration and low tax revenues.

The reform model on the next page illustrates the steps for transfer of responsibilities from individual ownership to institutional (corporate) bus operations, suitable for high-quality bus services. It was mainly developed for Turkey but is applicable more broadly.

From individual to institutional



The reforms were applied differently by municipalities in response to their particular local context:

- **Istanbul:** five companies, shares by licence holders; individually owned public buses; gross cost contract (eight years); bus maintenance facility provided by authority.
- **Edime:** operator cooperative: biennial elections of operator representatives to management board; management contract with each bus owner/licence holder; resource pooling (revenues, vehicles, staff, costs, new bus purchases); restructured bus network.

- **Keyseri:** individual operators, gross cost contracts, route restructuring.
- **Saniurfa:** municipal company, buses rented from individuals (fixed rental value); former drivers recruited by company.

The principal lessons learned from the reform process were: take a step by step approach; start with electronic fare collection first; there is no single formula; start with the most organised group; each step may turn up a new problem; non-technical aspects are important and participation is key.

Source: Kaan Yıldızgöz (UITP) and Erhan Öncü (U-Art).

Route integration

Free flowing transport systems may require little service integration as buses can travel where demand is highest and point-to-point services can operate with minimal constraint. However, as cities expand, objectives change and/or operators are not effectively meeting user need they may require larger bus fleets to transport passengers. Services may become increasingly constrained by congestion and pollution externalities, requiring increased service management.

Service integration responds to these constraints by focusing on overall journey patterns of transport users and combining travels into several trips. This is notably applicable for multi-model transport with high-volume corridors, and dedicated corridors for rail and bus rapid transit, with a hierarchy of secondary and feeder bus lines.

Tariff setting and integration

Tariff policy is a compromise between cost recovery of providing services and affordability for users. A further dynamic is the application of societal policies to subsidise some types of user such as children, elderly, students and so on. Through the reform process, it is important not to penalise existing users or compromise the potential to attract new users by setting the tariff too high. A commercial approach may seek to set fares according to revenue maximisation, whereas a societal approach will



Source: ITP.

Collecting fares in cash is slow, opens potential for fare leakage and robbery.

prioritise affordability and maximise patronage.

Through the development of a SUMP, fare elasticity may have been considered, possibly using simple stated preference surveys to test user sensitivity to proposed fare changes with corresponding levels of service. Even if current fares sit well within the realms of affordability, increases may be met with opposition. Any fare increases must thus be treated sensitively and form part of the communication plan for the bus sector reform.

Tariff integration is the key element of service integration for the user, neutralising the cost related to changing bus or transport mode during the journey and thus encouraging choice of the most efficient combination of routes, rather than with the fewest changes. This can be achieved in two main stages:

Combined fares, where a reduced fare, normally with single ticket, is offered for a journey comprising more than one mode or bus. These are often formed by simple agreement between two operators for mutual ticket acceptance with an agreement for redistribution mechanism on monies received. This could comprise, for example, “metro plus bus” tickets for metro feeder routes.

Integrated fares, where several trip combinations can be made with the same ticket for the same fare, notably tariff zones, time-based tickets and hopper fares (free transfer). This requires a more comprehensive agreement, usually through operator association or with the city, for recognised ticket types and redistribution of fares, often on passenger or vehicle-kilometre basis.

Tariff integration often provides the route to service integration, by reducing or eliminating the financial penalty for changing transport mode or bus and thus better aligning user payments to the level of service received.

A key tool for tariff integration and development of adaptable ticket fares are automated fare collection (AFC) systems, widely used in larger cities and towns, often implemented with real-time information (RTI) and bus fleet management systems for effective user information and fleet management. To understand

more about preparation and implementation of AFC systems, the reader is referred to the EBRD Policy Paper “On the move: delivering automated fare collection” available at www.ebrd.com (see page 43).

Adoption of an AFC system can have additional, non-tariff benefits such as:

- creating an extensive user database, which is highly informative for operational and network planning
- collecting user information, both real time and post journey, and user feedback tools improves the passenger experience
- improving safety by the removal of on-board cash collection
- providing a platform to expand Mobility as a Service (MaaS) functionality.

Defining a new operating model

Efficient bus services require fixed infrastructure to provide regular and quality services. This notably includes depots for maintenance and stabling, requiring available land sites with suitable road access. Moreover, development of higher capacity bus routes on priority bus corridors (or bus rapid transit) require higher levels of street infrastructure. Such infrastructure comprises strategic assets for the bus system and imposes economies of scale (fleet size, workforce and so on) for operations. Consideration of such fixed assets is critical in determining efficient company size and related form and scope of contract.

Improving bus services may require skills outside of the local market and bringing in regional or international expertise. However, this consideration must accompany engagement with the local market to provide opportunity to participate in the new operations, where possible.

Moreover, the nature of reform, the risks and timeline involved may require direct participation of the city in bus operations, by providing or facilitating new operating assets, such as the depot and fleet, and/

or initial equity participation in the new operator, if required by the market or the reform process itself. Such a contribution from the city could anticipate, for example, gradual phasing out of existing operators with parallel buyback by operators from the equity stake of the city.

Ownership and equity participation in the operator setup thus needs to consider the optimal balance between three main actors in the new bus services:

- the city (and/or public agencies)
- existing operators (operators displaced by the new services)
- new operators (with requisite operational experience).

This operator setup should consider the optimal balance between such actors at each stage of the reform process, considering that the reform period may require a transition period to establish the company and bus operations, ensure risks are manageable and allow the operators to develop the technical and financial ability to assume operators independently. The participation of city in the company may be considered through this transition phase, to ensure alignment of city actions, such as land for depots, bus priorities, leasing of buses etc, for efficient provision of services and allow subsequent release of equity to new operating owners.

The balance of existing and new operators should principally be an operational and market-driven assessment, to ensure the required skills are provided in the new structure, the operators are sufficiently represented and incentivised and, most importantly, that the new operations are sufficiently aligned with market expectations to ensure efficient tender response.

Minibus sector reform: Kaunas (Lithuania)

The city of Kaunas suffered from unreliable and low-quality services provided by an outdated vehicle fleet with poor safety and emission standards. There was no ticket integration and much route overlap and on street competition. Strong municipal operators were lobbying to shut down minibus services providing 15 per cent of trips; but this met with an angry response from those operators and further degradations in service quality.

To address these issues, a survey of demand and supply across the city was undertaken and the real cost and revenue for existing lines assessed. A new, optimised, network was developed with financial modelling to test the business case.

A new minibus route network was launched in 2013. From a network of 22 routes and 210 vehicles, the new minibus network consisted of 7 routes with 75 vehicles, let to a single company under a net cost contract. Sufficient revenue potential allowed the operator to provide a modern, new low floor vehicle fleet with fares collected through the city's new automated fare collection system.

The experience of reform in Kaunas showed that:

- comprehensive analysis of the sector is key
- sector reforms must be adapted to market possibilities
- net cost contracts can only be self-sustainable in certain cases (with revenue certainty) and for short periods
- cities have much less leverage to influence operators under net cost contracts
- a higher level of service can help to sustain marginal public transport users

Source: Karolis Dekeris, Urban Transport Specialist.

Forms of contract

Cities have a responsibility to regulate public transport to ensure minimum safety and environmental standards. However, in addition to regulation, most large cities dedicate significant budgets to provide a higher level of public transport services as a credible alternative to private cars. Such policies are implemented to provide improved access to employment, education and leisure, reduce traffic congestion and support economic and social wellbeing of its residents.

In public transport systems, the need to offer affordable fares makes it difficult to achieve sufficient revenue from the fare-box and ancillary revenues to cover investment and maintenance costs. Cities thus need to commit substantial financial resources on a continual basis to enable an affordable fares policy and reasonable service standard for the entire community. This commitment can be made by cities owning and operating a dedicated public transport company, through contract with private operators, or by a combination of both. Where services are provided by direct contract with a city operator, public service contracts (PSC) are recognised as good practice, to align payments with public service requirements and obligations.

The main models used by cities to contract for public transport services are by means of direct award or competitive tendering.

Under a direct award contract, the city negotiates with a single operator that has been selected to provide transport services to defined standards and specifies the payment mechanism to be used, including any bonuses and penalties. This approach may be used to introduce a public service contract with an incumbent operator, generally public sector, or to introduce new services on a route on a trial basis.

When cities contract with third parties for a wider scope of services, tenders are typically invited from qualified operators, who are asked to provide technical and financial bid for the services requested.

EBRD support for public service contracts

The EBRD helps its clients with setting up and developing public service contracts for urban transport services. These contracts establish a transparent contractual relationship between the operator and city authority, in accordance with Regulation (EC) No 1370/2007 to provide an effective basis for monitoring and enforcement of service requirements, fare collection and city subsidies and payments. Importantly, they seek to promote value for money for the city and its residents, by aligning operational requirements and funding support across the sector and establishing a level playing field for public and private operators alike.

The PSC template, developed by the EBRD, is comprised of two components:

- Contract conditions for roles and responsibilities of the parties, as adapted to local legal and regulatory requirements.
- Technical schedules (annexes) with all the required operational data and payment formulae.

Since 2015, the EBRD has assisted several clients in the preparation of PSC contracts, including for bus services in Constanta (Romania), Osh (Tajik Republic), Pristina (Kosovo), Sisak (Croatia), Tbilisi (Georgia) and metro services in Cairo (Egypt).

The EBRD provides technical assistance for both PSC preparation and implementation, through financial and operational improvement programmes (FOPIP) and corporate development plans (CDP) to support compliance with the operational performance and reporting requirements of the PSC.

Source: EBRD.

The choice of contractual model considered by public transport authorities for urban bus services depends on the degree to which revenue risk is to be transferred to the operator or retained by the city authority. Contracts broadly follow either the gross-cost contract or net-cost contract principle.

A gross-cost contract is where an operator is paid to operate a specified service and the city authority retains all the fare revenue collected. In a net-cost contract, the operator is granted an exclusive right to provide services on a route and is allowed to retain the revenue. This operator thus retains the revenue risk and is exposed to fluctuations which would render this insufficient to cover costs.

These contractual models should be seen as two ends of a continuum; several cities have adopted a hybrid model for public transport services. For the gross-cost contract model, this could comprise some of the operators' revenues depending on their success in attracting passengers and collecting fares. Gross-cost contracts typically provide for bonuses and penalties related to contractual performance and to customer satisfaction and more recently, bonuses related to passenger numbers.

As an illustration of hybrid contracts, gross-cost contracts for bundles of bus routes in Stockholm allow operators to earn bonuses of up to 23 per cent of the contract value if certain quality standards are met and if customer feedback is positive. Gross-cost contracts used in Elmshorn in Germany and Halmstad in Sweden share fare-box revenue between the operators and the authority if certain targets are exceeded. In these circumstances, the operator usually has greater input to route planning or changes to services patterns to respond to market demands.

Likewise, for net-cost contracts, transport authorities may supplement fare-box revenue with additional payments, based on level of service provided. This often occurs for routes considered socially beneficial but with insufficient fare-box revenues, where payments may be based on a defined level of service, for example bus-kilometre. However, the related requirements and quality standards are often much less stringent than for gross-cost contracts.

In many European cities, bus services connecting rural areas or suburbs to cities are often not commercially viable from fare-box revenues alone. As a result, public authorities often provide additional compensation to cover shortfall with operational cost or support a concessionary fares policy. Public authorities pay for these services both for their intrinsic value and to support viable commercial bus operations for the wider community. The standard of service required to gain such financial support may be as simple as the number of school services, provision of vehicles with improved access for mobility impaired passengers or an upgraded fleet with reduced emissions. While this approach is common in sparsely populated areas, the same principle can equally be applied in urban areas, for example for concessionary travel.

Transport authorities need to commit considerable management resources to procure and supervise bus operating contracts under competitive tendering. Experience in many European countries has shown that substantial cost savings (from public operations) are achievable when a city authority first adopts competitive tendering. The savings are often reduced for subsequent tender exercises but this may actually be due to the city authority seeking higher service standards or improved efficiency of municipal operators facing increased competition. Achieving such benefits also depends on genuine competition among qualified operators for the services. If there are very few credible bidders or if bidders collude in their tender, the potential value for money benefits for the city may be substantially reduced.

In contracting for transport services, a city authority needs to decide the nature and extent of the services to be contracted. This can be on a route basis, where single routes are tendered individually, or in small packages of routes, even if each operator may be allowed to win several tenders. For example, while Transport for London issues route tenders for a total fleet of 8,000 buses, over 90 per cent of routes are operated by only seven large operators. This approach retains a high level of control by the authority as a rolling tendering programme, but requires extensive administration and contracting resources.

Alternatively, a city authority may invite tenders for a large package of routes or within a specific

geographical area. This approach is less administratively burdensome than tendering individual routes and favours larger operators, who have the resources to provide a fleet, depot and management at a larger scale. The size of the bundle may be defined by a geographical area (such as routes connecting certain residential areas to the central business district) or related to location of depots or infrastructure (bus corridors or BRT, for example).

Area contracts: the example of *délégation de service public* in France

A public transport authority (Organising Authority for Mobility or AOM) is responsible for organising public transport within its urban perimeter, composed either of a municipality or, more often, a conurbation of several municipalities. AOMs are free to choose the delivery model for public transport services, either directly operated (*La régie*) or by delegation to a third party or public service delegation (*délégation de service public*, DSP).

DSP contracts represent the majority (85 per cent of AOMs), with, in most cases, the AOMs entrusting the complete public transport network to a single operator (area contracts). Ownership of rolling stock and facilities remains with the city and continuity in employment conditions across operating contracts is ensured through legal contract provisions.

While DSPs have an average contract length of only 4 to 5 years, 75 per cent of tenders (in the period 2005-13) were renewed with the incumbent operator. Two companies operate most of the urban public transport PSDs in the regions: Keolis, a subsidiary of SNCF, operates 28.5 per cent of the total 304 AOMs networks with 48.8 per cent of trips and Transdev operates 36.6 per cent of the networks with 27.5 per cent of passenger trips (GART, 2015).

Source: Extracts from Odile Heddebaut – The evolution of public transport contracts in France (extracts) - ITF Discussion Paper 2017-11 — © OECD/ITF 2017 ; Mobilité / Commande publique – Délégation de service public dans les transports: l'amour dure-t-il trois ans? 17/06/2016 Morgan Boëdec / Victoires-Éditions.

Branding the new bus service

The attractiveness of the public transport sector and how it is viewed by customers is an important factor. Branding is an essential component of city bus service modernisation. However, branding must be accompanied by a physical improvement of service and passenger comfort.

The aim of branding is to differentiate the product, service and company in a crowded marketplace and labour market, to add value and maintain or increase market share, as well as to attract and retain both customers.⁷

Common branding of transport services: the example of Västtrafik

Västtrafik is the public transport operator in Västra Götaland, western Sweden, managing buses, ferries, trains, and a tram network. The company introduced a common brand for its transport services through the following measures:

- One marketing department instead of four: facilitates coordination of all activities.
- A uniform profile: buses, timetables, advertisements, retailers and so on.
- One card for all needs: a uniform payment system.
- A customer loyalty programme.
- Integrated advertising campaigns for stronger impact.
- One customer service: one number for all enquiries.

Source: UITP Knowledge Brief.

Building a strong brand will help the engagement with the system. The following are key principles to build strong brand:

- Clearly define what you are and what you want to be (core values and positioning).
- Decide which strategies and arguments to use to get there (strategic market planning).
- Always and consistently make sure you are on the right track.

Defining a reform plan

The reform plan describes the process by which the reform will be achieved. It is the fundamental component in determining the scale of reform, phasing of actions, pace of change and path of consultations with all affected parties. It will allow the city authorities to prepare budgets, secure investment funds, build resources and plan communications. It also allows municipal authorities and national governments to prepare legislation and institutional measures and to build the political support for reform. However, while the reform plan is a key reference document through the process, it must be subject to periodic review and update, to keep in line with current status.

A reform plan thus needs detailed consideration on all levels (technical, financial, operational, commercial, legal, political and so on). It should be developed through careful assessment and consultation with all stakeholders to identify engagements, actions and critical path activities. The length of programme and complexity may take many years and comprise of several stages, depending on the extent and depth of reform required.

⁷ Source: UITP Knowledge Brief

Embarking on reforms in Chittagong, Bangladesh

The major port city of Chittagong has high public transport usage with multiple public transport modes and providers. However, the level of service is poor. As part of the Transport Master Plan, institutional mapping was prepared and a proposal for a passenger transport authority (PTA) developed through a collaborative stakeholder engagement process.

The development of the PTA was proposed in phases, as shown below. Phase 1 focuses on the core tasks of improving existing services through network and planning, contracting and monitoring. Phases 2 and 3 seek to integrate the transport network and develop added services and functionality, including the introduction of an AFC and real-time user information system as well as bus rapid transit.

Tasks related to public transport	Phase 1 Start PTA	Phase 2 Develop the network	Phase 3 Optimise the services
	Year 1-2	Year 3-4	Year 5-6
Transport planning and financial planning	X	X	X
Management of bus services and financial support	X	X	X
Promotion of public transport	X	X	X
Introduction of a transport service contract	X		
Tendering of new lines	X	X	X
Introduction of automated vehicle localisation (AVL)	X		
Introduction of automated fare collection (AFC)		X	
Introduction of a passenger information system		X	
Introduction of bus rapid transit (BRT)		X	X

The road map focuses on public transport development as the core business of the authority. In a subsequent phase, the city may decide to extend the scope of work of the authority to all modes of transport to become a fully fledged public transport authority. This would include, for example, the management of taxi transport, parking management and/or non-motorised transport (cycling and walking).

Source: ITP consultants

Compensating existing operators

Bus sector reform may require step-by-step implementation to enable adjustments to existing operators impacted by the new services and to ensure effective and efficient delivery of higher quality bus services. This will include reform of business practices and regulation, notably for revenue collection and operations management, and allow the progressive building of institutional and operational capacity, in both the public and private sectors.

Compensation to existing operators must be considered because reform disrupts business practices and operating and fixed assets held by operators. It is highly sensitive issue and should be handled carefully. It should address those operators who are displaced or affected by the new bus services. The degree of compensation should consider the existing licence or contract arrangements and may include informal transport, considering that the reform affects loss of commercial interests, based on reasonable expectations from an established or previously tolerated business practice.⁸ While the former is a commercial assessment, the latter is ultimately a politically led decision but should be supported by strong economic and social rationale.

The compensation policy should recognise the principle of fair treatment for operators, where it is merited, as they provide an essential public service, in the absence of larger public operator, and form part of the active, economic community of the city. The compensation policy should recognise their differing aspirations in the reformed business environment; some of them may seek to continue in bus operations and others may wish to pursue other opportunities, business or otherwise.

A compensation policy should therefore offer some or all of the following:

- Fair compensation (based on best practice business and accounting principles).
- Operator association (new bus operations).

⁸ EBRD policy requires a so-called “restoration of livelihood” plan for all affected persons, irrespective of their contractual situation.

⁹ Informal agreements may be considered so long as they represent market expectations over a period of time, based on which existing actors have invested. ¹⁰Jordan has this type of market in transferable bus licences.

- Alternative options (licence transfer, business reconversion).
- Support measures (corporate and operational training, business opportunities).

Fair compensation

Any compensation formula should be based on sound business and accounting principles of compensation for loss incurred by interruption of business activity, for those legally licensed companies with remaining or expected service agreements with the city.⁹ Moreover, the formula should apply business practices to determine licence value through company value assessment (ongoing turnover and profitability), including asset replacement value. Suitable correlation to observed transfer value of existing licences should be made, if available. Formulae should be based on objective and verifiable performance indicators such as:

- total passenger numbers, revenue: for example, total vehicle-kilometres, average bus occupancy
- profitability: specific to bus operations, sector benchmark (international) or related to the small business sector, for example, as capital or turnover ratio, depending on the fluidity of the business environment, opportunities and secondary licence market
- asset value, at replacement value or other and considering liabilities, as a baseline assessment (minimum value).

In cities with long-term, transferable licences, a secondary market may exist for resale of licences, providing an available market price for existing licences, reflecting the commercial value of expected return, with or without asset value. In such cases, the city authority may consider the buyback of such licences at market value to withdraw or amend those routes.¹⁰

Operator association

The successful introduction of new bus services will require effective coordination and integration with existing bus services, notably as feeder routes, in order to ensure smooth operation and anticipated passenger levels.

Existing operators may be offered the opportunity to buy into future operations, either as reinvestment of cash compensation or as other form of capital replacement. New bus services will require a competent and experienced bus operator (national or international) as the principal partner of any new bus company and/or under management contract, where feasible. Existing operators would be likely to form minority or simple majority investors in such an enterprise.

International examples have demonstrated the possibility of providing such options for buy in of existing operators and the advantages of doing so, principally to ensure coordinated feeder services to the main bus lines and avoid direct competition.

The reform process should determine:

- suitable forms of operator associations, cooperatives or companies, with the intention to form bidding partner(s) with experienced bus operators for the new bus route tenders
- the legal and regulatory context for creation and operability of proposed associations
- the structure of proposed companies, comprising capital and management structures, asset ownership, funding sources, staffing and so on

- modalities for establishment: the operator associations could either respond directly to new route tenders (as an imposed, unique local partner or as a freely associating partner to the “experienced operator” bidders) or be initially engaged as route or area cooperatives under existing licences, as an initial step towards new route tenders and further reforms.

Alternative options

Other options may include transfer of an existing licence to alternative routes and prospects for new business opportunities, outside of the urban transport sector. These options should be assessed in close collaboration with the city, incorporate initiatives of actors such as chambers of commerce and/or business associations at city level and be based on consultations with operators and their representative bodies.

Support measures

Support measures may be required to accompany the transition process for operators, either to transform their existing bus operations or to transfer to other business opportunities. The support programme could include training and mentoring in company management practice and small business development, to inform and build skills in new opportunities, and measures for staff reconversion, supported by the city or relevant national ministries.

5. Managing reforms

Reform disrupts established business practices in public transport services, it challenges the status quo and establishes a new equilibrium, imposing new rules and requirements, changing financial terms and introducing new players.

Reform will affect business livelihoods which, whether established on formal or informal arrangements, have arisen from an expectation of continued operations. Local transport operators are often active and vocal members of the economic community. Any discontent can thus be felt quickly by users and other residents alike, through disruption to services and protest actions. The reform process therefore needs to be carefully managed to ensure that the interests of all parties are represented and recognised.

Promoting reform

Bus sector reform involves multiple stakeholders many of whom have a financial interest. Change is more palatable if the benefits are clear, the expectations of stakeholders are known and recognised from the outset and the pace of change is managed to allow necessary adjustments by affected stakeholders. Successful change must:

- demonstrate a noticeable benefit to the city and its residents, to enable the required level and breadth of political commitment
- facilitate support across city authority and government departments by recognising and addressing both the benefits and impacts on all stakeholders, thus enabling effective government policy and support for the process

- present a well-defined financial structure and business plan that covers investment and operating costs, reasonable profit for operators, risk allocation based on proposed contract set up and any necessary support for the reform process itself
- be based on broad consultation with authorities, operators and stakeholders, to fully appreciate the impacts, requirements and opportunities of reform and ensure workable solutions for all parties.

These factors relate to the key delivery risks involved in the reform process. The extent to which this can be achieved with ease is dependent principally on the scale of the planned reforms, the strength of mandate and political will of city authorities and/or national governments and the extent of consultation and dialogue among stakeholders.

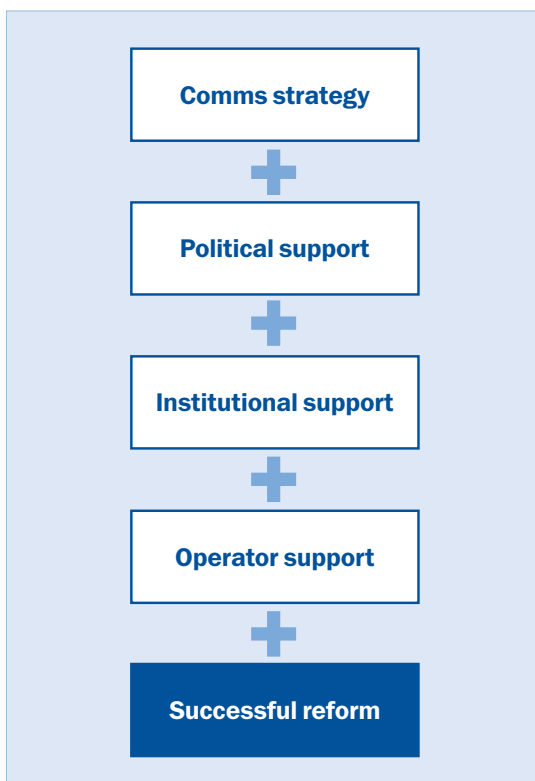
In a sector often categorised by a low level of engagement of public authorities (for low regulation markets), sector reforms will require the city authority to assume a much greater role overseeing and implementing the move towards new operating structures. The authority will need to ensure that there is sufficient budget, both for the reforms themselves and for future subsidies. They will also manage the risk of financial revenues (notably under gross-cost contracts) and ensure management of the reform process and new operating contracts. The authorities will need to manage the principal reform challenges through a negotiation and consultation process, as indicated in Figure 8 overleaf.

Figure 8. Principal reform challenges

Secure a budget	Assume risk	Manage the timetable	Build capacity	Efficient bus service
Financial	Institutional	Political	Technical	Social
<ul style="list-style-type: none"> • Revenue collection • Subsidy (concession fares and operational) 	<ul style="list-style-type: none"> • Service control • Fare enforcement • Fare distribution 	<ul style="list-style-type: none"> • User expectations • Existing players • Use of outsiders (national, foreign) 	<ul style="list-style-type: none"> • Network planning • Operational management 	<ul style="list-style-type: none"> • Competition from private vehicles • Replacement of old fleet • Redeployment of existing manpower

Implementing the reform plan needs strong and broad commitment based on extensive consultation and thorough analysis

Figure 9. Components of reform plan



Political support

Political support is generally motivated by one or both of the following factors:

- Financial support to the network is high and affordability has become a major issue.
- Increasing dissatisfaction and protest by residents of the quality and extent of bus services.

Public transport is almost always a political issue but how it is portrayed in the political debate can vary. There should be sufficient and broad-based political support to begin reforms and, importantly, for such engagement to be maintained through the inevitable challenges of the reform process.

The length of political terms of office are often a constraint for long-term planning, as politicians are often keen to show achievement within their period of office particularly if they are operating on marginal majority. For wider reforms, the reform plan should demonstrate key achievements at early stage and/or broad political support, at least in the overall objectives and nature of reforms.

Moreover, in many countries, public transport remains a largely cash-based system, with continued prevalence of on-board cash payments. Such systems suffer from a lack of transparency and accountability. While adoption of an accounts-based revenue system under the city authority is a

fundamental reform objective, it can rapidly assume a political dimension through its impact on existing financial practices and compensation payments to employees of the public operator.

Successfully implemented urban transport reform is often headed by a political champion. Such a champion leads the communication and marketing

campaign to continually articulate the benefits of reform and defend the interests of residents and users against those who oppose change. Such a champion also requires the full support and backing of the political leader (for example the city mayor), by continual expression of commitment to transport reform.

UITP Mobility Champions Community Initiative

UITP has launched a “Mobility Champions Community Initiative”, in collaboration with United Cities and Local Governments (UCLG) to create a high-level platform for local and regional leaders to collaborate in building more accessible, efficient and liveable cities.

The Mobility Champions Community is the first global platform of city leaders taking concrete action to collaborate in leading the transition in urban mobility. It builds on the capacity and hands-on experience of UCLG and UITP members, galvanised in the UCLG Community of Practice on Mobility and UITP Committees, respectively, to strengthen global advocacy for sustainable mobility.

It is a common agreement between mayors, ministers and other public sector leaders, together with private stakeholders, to share their insights and good practices on creating and implementing ambitious urban mobility projects.

The Mobility Champions Community will facilitate:

- City to city peer reviews on policy and strategic topics
- International advocacy and representation
- Capacity building and professional training
- Study tours and twinning programmes
- International hackathons to pioneer innovation
- Guidelines and check-lists
- Research projects
- Awareness and communication campaigns
- Technical assistance

More details – <https://www.uitp.org/mobility-champions-community>

Source: UITP.

Institutional support

While the main responsibility for bus transport is generally with the department of transport of the city authority, bus sector reform will engage broader responsibilities of other city departments and even national government, principally for funding and regulation but also for economic planning, business practice and management.

Within a city authority, many departments (for example, finance, industry, commerce, tourism) directly benefit from improved public transport services and can adopt policies and actions to support its success. Consequently it is important to engage such city departments early in the reform process to garner their support, develop supporting actions and contributions and ensure their active engagement in the reform outcome.

Operator support

Successful delivery of reforms requires a thorough understanding of the revenue potential of public transport operation, costs of provision and allocation of profit, and requirement and justification for subsidy.

The new operating model (see Chapter 4 on page 19) should define the efficient market structure and contract size, considering bus network, investment requirements, operator assets (depots and so on) and available market potential, especially local and national. For new entrants, an understanding of barriers to entry such as depot facilities, skill availability and access to finance (particularly to cover significant capital cost outlay at start of new operations) is required. The means of contracting services and security of revenue are key elements in defining how bus sector reforms are developed and in making them accessible to the bus operator community.

Operators may be either public or private or a mixture of both. While both have a financial interest, the private sector will generally exercise greater profit motivation. The primary considerations of an

operator for participation in new performance-based contracts are as follows.

- Profitability: the expectation of reasonable profit to cover needed operations and investments.
- Predictability: the ability to forecast revenues and costs confidently and make sound decisions for corporate management and investment.
- Upside: the existence of incentives to increase revenues, through good performance or increased passenger numbers.
- Political: protection from political influence that might affect revenue or cost.

It is essential to engage mature bus operators for the efficient procurement and operation of the new bus services. The reform plan should anticipate the experience required for efficient bus fleet operations, maintenance and user services. Where mature operators are not sufficiently available at local and/or national level for competitive market, the involvement of regional or international operators should be considered, along with the relevant structures to incorporate local stakeholders.

Where existing operators are earning undue profit or there are un-formalised commercial interests or practices, operators may be extremely reluctant to engage with any reform that would lessen their commercial status or financial security. In this instance, early engagement of operators is essential to ensure that their practices, expectations and business environment are fully understood.

The aim should not be to seek outright support from the start, rather to understand their business rationale and their concerns in a reformed market. This is likely to require regular consultations and negotiations, possibly with several groups of operators and/or associations, to consider the details of how the withdrawal of current operating rights (licences/contracts) could be managed with introduction of the new operating contracts.

The jeepney modernisation programme of the Philippine government

The National Department of Transportation of the Philippines and the Land Transportation Franchising and Regulatory Board initiated a transformational change of the entire road-based public transport market by creating a supportive regulatory and financial framework to unlock private investments into low-carbon public transport vehicles and operations.

The programme affects more than 200,000 jeepneys (colourfully decorated minibuses with a capacity of 15-20 people, often more than 50 years old). The cross-ministerial reform touches on almost every aspect of successful bus sector reform, including but not limited to:

- improvement of the policy and regulatory framework for public transport
- reorganisation of institutional set-up
- enhancing conditions to realise state-of-the-art public transport planning in the country
- establishing a national financial support mechanism for low-carbon public transport vehicles (nationwide).



Source: istockphoto.com

The envisioned formalisation of the public transport industry includes the following changes to the business model:

- establishment of public transport companies or cooperatives
- consolidation of franchises, routes, fleet and operators
- establishment of minimum service requirements and key performance indicators
- introduction of a fleet renewal scheme and integration into the business model of operators and regulatory framework
- enhancement of vehicle standards and road safety
- establishment of an employer-employee relationship in public transport industry
- increased financial literacy of the operators to stimulate constant fleet renewal.

The government conducts regular stakeholder dialogues to address the concerns of operators and to build consensus and capacity within the industry.

This modernisation programme for the public transport system is key to mitigating the effects of high growth rates of car ownership and GDP in the Philippines and is supported by GIZ.

Please refer to Annex 1 for key components of bus sector reforms in the Philippines

Source: GIZ.

The reform process may well need to consider incentives to navigate through the additional costs and risks involved in the process. In addition, facilitating access to finance, through vehicle lease schemes or similar, might encourage operators to participate in the reforms, particularly smaller

operators. The process for withdrawal or transfer of the previous operating rights to the new contracts will form an integral part of the implementation timetable, under the reform plan.

Bus sector reform in Jordan: bus operator workshop

The Jordanian Land Transport Regulatory Commission (LTRC) of the Ministry of Transport, which has the authority over planning and regulation of public transport outside of the capital, Amman, is currently reforming the public transport sector as part of a new national transport law. First, new bus route operations are being introduced in the four cities of Irbid, Madaba, Salt and Zarqa. With most services currently provided by single-owner buses under lifetime and transferable licences, the project aims to radically restructure and improve service provision through leasing of a new bus fleet and depots to operators selected through competitive tendering by the LTRC.

Several national and regional operators from the Middle East region attended the workshop which presented the bus operating contracts planned for each city and obtained operator feedback on key issues related to scope, structure and governance of the future contracts, such as:

- legal basis for new operations
- operating company structures (including shareholding by existing operators)
- vehicle, depot (and equipment) leasing

- fares and ticketing
- size and scope of route packages (estimated 250-300 buses total for the four cities).

The workshop forms a key part of the efforts to engage with existing owners to identify workable options for reform, including their integration into the future operating companies. Further workshops are planned in each city before completion of the study in 2019. The study is performed by the consultants WSP (UK) and Consolidated Consultants (Jordan), with funding by the EBRD. The workshop was organised with support of UITP.



Source: EBRD.

Communication strategy

Successful reform requires a detailed communication strategy that identifies all key stakeholders and the means and timing by which they are engaged. This will be based on an understanding of their key issues and accompanied by a risk assessment.

An effective communication strategy results from a comprehensive programme of stakeholder engagement,¹¹ which:

- improves the quality of decision making, since those with a vested interest contribute from the initial stages
- identifies controversial issues and difficulties before a decision is made
- brings together different stakeholders with different opinions, enabling an agreement to be reached together and preventing opposition at a later stage, which can slow down the decision-making process
- eliminates delays and reduces costs in the implementation phase
- gives stakeholders a better understanding of the objectives of decisions and the issues surrounding them
- creates a sense of ownership of decisions and measures, thus improving their acceptance
- renders the decision-making process more democratic, giving residents and local communities the power to influence decisions and, as a result, a greater sense of responsibility
- builds local capacity
- enhances public confidence in decision makers and creates opportunities for stakeholders and decision makers to learn from each other by exchanging information and experiences.

A communication strategy is most effective if controlled by a steering group headed by the political champion.

Bus sector reform in Delhi: engagement with stakeholders

The government of Delhi initiated a bus sector reform programme in 2008 after facing an increase in road fatalities owing to competition by road operators. The government launched the “Corporatisation of Private Stage Carriage buses in Delhi” scheme, mainly to shift from the existing individual ownership permit system to a system of fleet operators. To give shape to the scheme, various routes were classified into clusters. Clustering of routes was done to mitigate on-road competition by introducing “competition for the market” rather than “competition in the market” that is, the right to provide bus services on a cluster of routes as an exclusive private sector entity (in



Source: istockphoto.com

continued overleaf

¹¹ CIVITAS handbook, Involving Stakeholders: Toolkit on Organising Successful Consultations www.civitas.eu/sites/default/files/Results%20and%20Publications/Brochure_STAKEHOLDER_CONSULTATION_web.pdf

addition to Delhi Transport Company), rather than on a single route in competition to other operators on the same route.

A total of 657 bus routes were grouped into 17 distinct clusters and the procurement process for the first cluster was launched in February 2008. As it was a major reform measure, there was significant opposition from the existing bus operators with pressure to stall this process. In order to bring all stakeholders on board, the government conducted various workshops, meetings and an awareness campaign for the existing operators to receive objections/suggestions and feedback. Based on this consultation, suitable changes were incorporated and the proposed clusters were revised.

The government allowed existing operators to form a common entity to bid for these clusters, as well as

business entities and international operators. As a special case, existing operators were allowed to bid for clusters based on operational experience, without any financial capabilities. The gross-cost system was adopted to shift revenue risk to the government. This allowed the government to convince operators to join the new bus system.

To date, the government has awarded nine clusters, operating 1,600 buses in Delhi. However, the government put more than 1,000 buses out for tender in 2018 and a further 1,000 buses in 2019. This will take the total tally of buses to 3,600 buses before the end of 2019. The scheme has been very successful in improving service quality and environmental and safety standards of public transport in the city.

Source: UITP.

Importance of engaging users

Informing and engaging those who use the bus services is an essential part of the reform process as they will be directly affected by changes in service level and are likely to receive the greatest benefit. In general their involvement should seek to:

- ensure acceptance of reform measures
- raise awareness of opportunities or restrictions that come with implementation
- enhance community ownership of reform measures.

A variety of means of engagement can be employed and their choice and use should take full account of the means of communication most used by those affected. Consideration should therefore be given to:

- public meetings.
- direct engagement through written means.
- website.

- telephone help lines, with text service.
- social media.
- mass media (TV, radio and newspapers).

Even though not all residents may agree on the actions proposed by the municipality, they are generally willing to contribute to measures and projects for improvement of public transport and mobility and usually recognise and appreciate the effort made to receive their opinions.

Lagos BRT-Lite

Lagos BRT-Lite was developed rapidly, during elections for a new governor of Lagos State. Lagos Area Metropolitan Authority (LAMATA) engaged in a comprehensive consultation programme with existing bus users and communities living and working along the proposed BRT corridor. Consultations stressed the advantages of the BRT system in addressing existing problems of variable fares, violence and intimidation and long, unpredictable journey times.

Support for BRT became strong and vocal and recognised by both prospective state governors. As such it received cross-party political support and was dubbed a “peoples project” which effectively de-politicised its development. As Africa’s first BRT line, it was delivered in 18 months from initiation in March 2008, carrying 190,000 passengers per day from the first month.



Lagos BRT Lite.
Source: ITP.

Engaging with current operators

Existing operators must be understood and involved in the reform process. As a starting point there should be:

- Mapping of stakeholders involved in operations. These shall comprise operating entities and, in some instances, the separation of vehicle ownership, operators and licence holder must be understood and mapped.
- Understanding of motivations. A base motivation might be profit but this may be manifested in different ways. If service provision is fragmented, each stakeholder involved in operations will have different needs and interests which must be understood.
- Understanding of profit and reasonableness. There must be an understanding of where profit is drawn from. While the relationship between revenue and operating cost is a basic principle of profit in the bus industry, there are many instances where profit is drawn from elsewhere, with service operations being the facilitator of profit. While an operator might seek to protect the levels of profit being received, a view must be taken as to the reasonableness of that profit in relation to fair competition and an equitable charge to passengers.

Consultation

The need for effective and comprehensive consultation with existing operators cannot be over emphasised. Without such an approach there is likely to be large-scale protest which may lead to withdrawal of services and endanger political support.

Rea Vaya, Johannesburg

Rea Vaya BRT Phase 1a was introduced in 2009 and Phase 1B in 2013 with over 600 minibus taxis being removed from the corridor to accommodate the BRT. Negotiated gross-cost contracts (municipality takes the revenue risk and collects fares) were signed with two new bus operating companies to operate BRT. Existing operators who agreed to relinquish their rights of operation were given a shareholding in one of the operating companies and market value given in exchange for scrapping their vehicles.

The operating company formed a partnership with an international operator to ensure skill development in performance-based operations. A policy of incorporating displaced employees was adopted ensuring that over 400 former taxi drivers became drivers of BRT vehicles. The bus operating company runs the bus services and maintains the buses. It was granted access to the city-owned bus depot, trains and employs drivers as well as cleaning and securing the buses. Successful transition required a large independent team of negotiators and additional technical assistance to the taxi industry.

https://www.sutp.org/files/contents/documents/resources/C_Case-Studies/GIZ_SUTP_CS_Negotiating-the-Deal-Rea-Vaya_EN.pdf

Lessons learned from negotiation:

- Build capacity and maturity amongst potential future bus operators.
- Ensure transparent process to build legitimacy.
- Create flexibility – important when doing something for the first time but increases need to manage uncertainty.
- Tailor to suit local circumstances.
- Beware of middlemen who benefit more from process than outcome.
- Have a credible Plan B so that the process does not go on for too long.



Source: Lisa Seftel, Director of Transport, City of Johannesburg.
Photo source: istockphoto.com

Negotiation

Where there are capability, legacy or employment rights issues, there is a clear need to make every effort to enable existing operators to participate in future operations. This may, however, be through a different form of organisation than that which exists at present. Where operations are basic, there may be a need to bring in additional expertise, either mandated by the city authority as a requirement of future contract, or by the operators themselves to enable them to compete. Where operators are small in scale and not able to operate larger contracts, there may be a need for the municipality to facilitate a process of amalgamation.

A summary of likely issues in negotiating with operators includes:

- impact on profits
- skills required to meet imposed standards
- understanding of efficient operational management and planned preventative maintenance
- cost of new fleet and equipment and disposal of existing vehicles
- access to finance, particularly capital finance and potential for vehicle leasing
- depot space and depot management.
- Management of risk, particularly revenue risk.

Capacity-building

Depending on existing institutional arrangements and the current arrangements for planning and managing the network, significant additional capacity is likely to be required to see through the reform process and provide effective contract management for procurement and monitoring of the new bus operator(s). A tailored capacity-building programme is likely to be required as a key component for successful reform and to ensure protection of the public interest and value for money through the process.

The process of reform should involve, in most instances, an intensification of the planning and management of public transport networks, including the potential need for a dedicated unit that could constitute a public transport authority. The need to develop new skills to work within a new structure, with new responsibilities will require a process of training and manuals defining roles and responsibilities.

Performance, evaluation and monitoring

Implementing the reform plan should not be seen as the end of a process. To do so would see a repetition of the cycle that led to decline and the need for reform in the first place. Instead, the reform process, having established optimised operation, needs to ensure an appropriate institutional structure and effective regulation to develop the new relationship between public and private sector actors and ensure that standards and business practices are enforced to provide a secure, business environment for continued investment and good quality public transport services.

Bus sector reforms should be transparent and follow accountability principles. Key to understanding the success of a reform is creating key performance indicators (KPIs, see below). Each objective of the reform should be aligned to appropriate indicators (see Appendix A: example of public transport reform, Philippines).

Performance criteria

Performance shall principally be managed through the establishment and monitoring of key performance indicators (KPIs). These will enable a regular check on operations to ensure that they continue to perform to the standards required. KPIs might relate to:

- the level of service received by the user
- the performance of the operator against contract requirements
- the contribution of the bus network to wider city objectives and vision.

Initially KPIs might focus on securing financial sustainability and passenger satisfaction but once this becomes an expected norm, they may be developed to optimise performance further. For example, KPIs at Transport for London now focus on dwell times at stops and late arrivals, as the more standard performance measurements (regularity, punctuality and so on) are now more consistently achieved by operators.

Collecting data

Data will drive performance monitoring. This will be qualitative where relating to user satisfaction and quantitative relating to financial and operational performance. Base data collection can form part of the contractual requirement of operators and can also in part be automated through electronic ticketing and fleet monitoring. Other data will need to be collected by the planning entity.

Data should be monitored on a regular basis, linked to the contract profitability (bonus/penalty) and analysed at least monthly.

6. Additional resources

This document seeks to summarise the key issues associated with bus sector reform and take the user through a series of considerations and processes that would minimise the risk of failure and maximise the impact of success. Additional advice can be found within the EBRD Policy Paper on AFC, World Bank (PIAF) Urban Bus Toolkit, GIZ Sourcebook on Sustainable Urban Transport and UITP source material.

- The EBRD policy paper *On the move: delivering automated fare collection* presents guidelines for preparation and implementation of AFC systems and addresses the common challenges, with possible approaches and solutions. It is available at <https://www.ebrd.com/documents/admin/on-the-move-delivering-automated-fare-collection.pdf>
- The World Bank toolkit has been designed to help government officials and policy makers evaluate existing and alternative urban bus systems in developing and transitional countries. It seeks to offer practical advice to enact fundamental system reforms. The toolkit can be found at: <https://ppiaf.org/sites/ppiaf.org/files/documents/toolkits/UrbanBusToolkit/assets/home.html>
- The GIZ Sourcebook on Sustainable Urban Transport, module 3c, contains advice to developing cities on how to break out of a low-quality, high-risk, low-profit, low-investment spiral in which so many urban bus systems in the developing world are caught. It introduces and outlines the concept of an annual planning cycle, and shows how developing cities can improve bus systems from the viewpoints of operators, drivers, regulators, and passengers. <http://www.sutp.org/en/resources/publications-by-topic/sutp-sourcebook-modules.html>.

Additional GIZ resources include:

<https://www.changing-transport.org/publications/>

https://www.sutp.org/files/contents/documents/News/2018_March/3f_Transit_Alliances_SUTP_TUMI_GIZ_final.pdf

https://www.sutp.org/files/contents/documents/resources/H_Training-Material/GIZ_SUTP_TM_Bus-Regulation-and-Planning_Bus-Sector-Reform_EN.pdf

UITP resources:

- MENA Informal Transport Report
- UITP Guidelines on Setting Up of Transport Authorities. Policy Brief on Establishing a Public Transport Authority (PTA) in African Cities (with SSATP)
- UITP Funding Toolbox

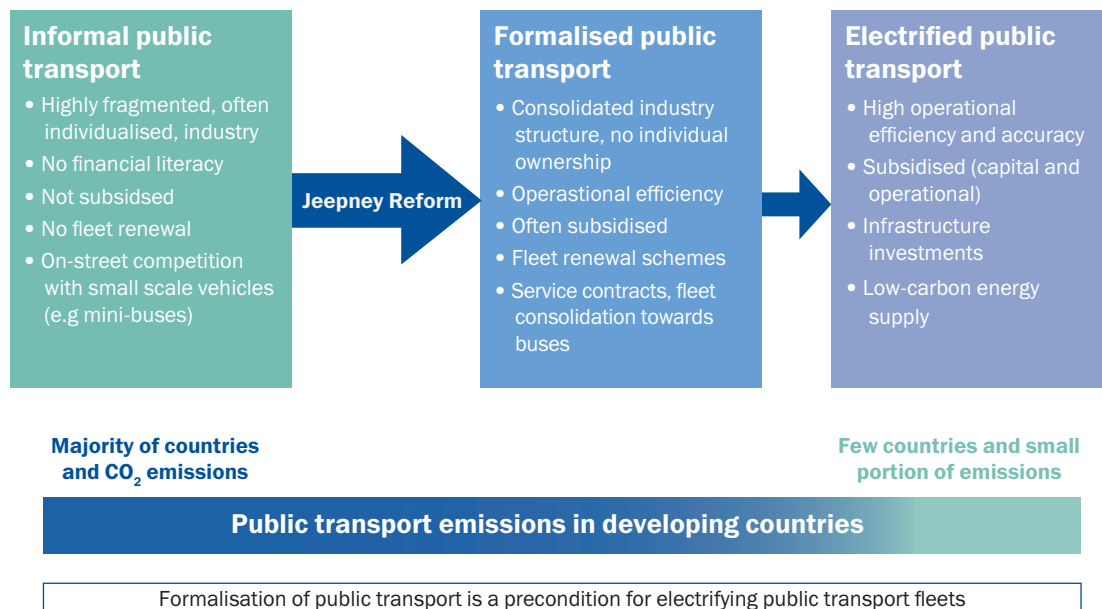
The BRT Guide includes guidance for the Informal Transit Transition to BRT, with detailed case study assessments: <https://brtguide.itdp.org/branch/master/guide/informal-transit-transition-to-brt/developing-an-industry-transition-strategy>

Annex 1. Public transport reform in the Philippines

Figure A.1.1. Components of change in the Philippines



Figure A.1.2. Moving from informal transport to electrified public transport through formalisation/consolidation of fleets



Source: Christian Mettke, GIZ (2018).

Box A.1.1. Bus sector reforms – objectives, indicators and data sources

Contextual issues behind bus sector reforms	Objective	Potential indicators	Data sources
Increasingly motorised population and slow travel speeds across Manila's highway network	Enhance attractiveness of public transport to limit growth in private vehicle use and build the foundations for future transport network sustainability	<ul style="list-style-type: none"> • Frequency of services • Average waiting time • Journey time on public transport • Journey time reliability • User satisfaction • Highway journey times 	<ul style="list-style-type: none"> • Classified traffic counts • Boarding time survey • Public transport journey time survey • User survey • "Floating car" journey time surveys
Public transport offering poor quality, uncomfortable and prolonged journeys	Offer safe, predictable and comfortable public transport journeys		
Poor driving behaviour offering unsafe travel for passengers and impacting on traffic conditions for other road users	Ensure disciplined and competent public transport drivers	<ul style="list-style-type: none"> • Number of operating units • Number of operating entities • User perception of driver behaviour and safety 	<ul style="list-style-type: none"> • Franchising data • Vehicle survey • User survey
Highly fragmented transport sector making management of performance standards challenging	Put in place the foundations more effective regulation of the sector and more appropriate operating models		
Increasing levels of air pollution	Improve environmental credentials of the public transport fleet	<ul style="list-style-type: none"> • Local air quality (NO₂, PM) • GHG emissions • Fleet emissions standards 	<ul style="list-style-type: none"> • Local air quality survey • Fuel consumption survey • Emissions modelling • Vehicle survey
Poor safety standards and high road casualty rates	Improve vehicle safety standards and driving behaviour	<ul style="list-style-type: none"> • Accident rate/1,000 trips • Severity of accidents 	<ul style="list-style-type: none"> • Accident statistics
Fair regulation	Ensuring balance between needs of passengers and sustainability of the transport industry		
Mistrust and resistance from transport sector to make necessary reforms	Work with the sector to deliver improved public transport in partnership	<ul style="list-style-type: none"> • Vehicle cost • Fuel consumption • Maintenance cost • Daily kilometres operated • Passengers carried • Daily revenue • Operator perception 	<ul style="list-style-type: none"> • Operating surveys • Operator perception survey • Boarding and alighting survey

Box A.1.2. Performance indicators for baseline studies

Thematic area	Indicator	Metric
Public transport journey quality	<ul style="list-style-type: none"> • Public transport frequency • Average wait time • Journey time • Journey reliability • User satisfaction 	<ul style="list-style-type: none"> • Buses per hour (BPH), by route • X minutes' typical wait in peak or off-peak periods • Typical route journey time (end-to-end) • Standard deviation of journey time • User satisfaction – various, covering all aspects of journey experience
Corridor conditions	<ul style="list-style-type: none"> • Traffic volumes • Passenger flows • Highway journey conditions • Number of operating units • Number of operating entities 	<ul style="list-style-type: none"> • PCU peak hour or all day (AADT) • Person flows peak hour or all day • Average traffic speeds in peak hour • Number of units • Number of operators
Environmental	<ul style="list-style-type: none"> • Local air quality • GHG emissions • Fleet emissions standards 	<ul style="list-style-type: none"> • NO2 levels, NOx levels • CO2 emissions per year
Safety	<ul style="list-style-type: none"> • Accident rate 	<ul style="list-style-type: none"> • Accidents per 1,000 trips
Operational parameters	<ul style="list-style-type: none"> • Vehicle cost • Fuel consumption • Maintenance costs • Daily kilometres operated • Passengers carried • Daily revenues • Operator perception 	<ul style="list-style-type: none"> • Vehicle cost PHP • Litres per 100 kilometres • Routine maintenance cost per month, exceptional costs • Daily kilometres per vehicle • Daily passengers per vehicle • Daily revenue • Operator perception – various perceptions covering all aspects of operating experience

Box A.1.3 . Developing a financial support mechanism for bus sector reforms – steps

Sections	Required minimum contents
1. Context analysis	<p>Analyse, from a financial perspective, the overall context of the public transport market with a particular emphasis on the following aspects:</p> <ul style="list-style-type: none"> • Relevant financial flows and main players (including public and private, national and international institutions and resources) and the nature of investments in the sector (including funding allocation and financing mechanisms in place). • Barriers that prevent the modernisation of bus fleet; discuss financial barriers, for example creditworthiness of the affected industry.
2. Identification of costs and revenues	<p>Develop an overview of the costs and revenues over the entire life cycle of the vehicles for each of the different technology options.</p> <p>Analyse the existing capital investment costs, operational and maintenance costs.</p> <p>Identify funding gaps and develop a gap assessment.</p>
3. Financial and economic feasibility	<p>Realise a financial feasibility (microeconomic perspective) assessment for each of the different options (from baseline vehicles to new vehicles) using common indicators such as Net Present Value, ROI, IRR.</p> <p>Identify funding gaps and specify the amounts of additional revenues or funding required to make the vehicle switches financially feasible in the different cases.</p> <p>Provide a first cost-benefit estimation (macroeconomic perspective) covering aside from the microeconomic as well potential macroeconomic benefits, reduced number of accidents, health costs, loss of GDP, time savings (external effects).</p>
4. Financial structure	<p>Describe and discuss potential public and private financing and funding sources (relevant programmes/ services, corresponding conditions and financial volumes, and so on).</p> <p>Design a detailed financial structure that includes a financial flow chart, responsible actors with corresponding areas and scope of responsibility, description of financial flows and under which conditions the money flows. The structure should be effective, efficient (for example, a low administrative burden to access potential incentives) and feasible. Describe how the financial risk will be managed and kept in feasible margins and how the private sector is involved and incentivised to participate.</p> <p>Develop suggestions for long-term financing of the programme considering existing (transportation) funds and funding principles. Develop options to close funding gaps (including potential revenues)</p> <p>Develop roles and functions of the stakeholders involved (for example, procurement, maintenance, inspections, scrappage).</p>

ANNEX 2. Bus sector reform questionnaire and seminar

July 2017, EBRD Headquarters, London

Before attending the seminar at the EBRD's Headquarters, attendees were asked to return the following questionnaire, aimed at collecting information on existing transport in their city.

1.	Name of city and population		
2.	What are the modes of public transport available and what is the approximate fleet size?		
	Mode	Exist in your city (yes/no)	Approx. fleet size
	Metro		
	LRT/Tram		
	Trolley bus		
	Conventional bus		
	Minibus		
3.	What is the approximate public transport mode share?		
4.	How many operators are there in the city?		
5.	What is the approximate percentage of private operators?		
6.	What percentage of travellers do not have to pay to travel?		
7.	Has the public transport network been subject to review, if so, when?		
8.	Do you have an agreed public transport strategy and, if so, does this integrate with the land use development plan?		
9.	Has the way in which public transport services are contracted been reviewed/changed?		
10.	Please describe how bus services are contracted. Is it competitive, how long are contracts, how are services paid for?		
11.	What percentage of the cost of running the bus network is subsidised by government?		
12.	What are the 3 biggest problems facing public transport in your city? 1. – 3.		
13.	Is there a government/city department that is actively involved in planning, contracting, evaluating the public transport network? If so, how many people are employed?		

Results of the questionnaire

Responses were received from Tbilisi (Georgia), Yerevan (Armenia), Gjakova (Kosovo), Zarqa (Jordan) and Irbid (Jordan).

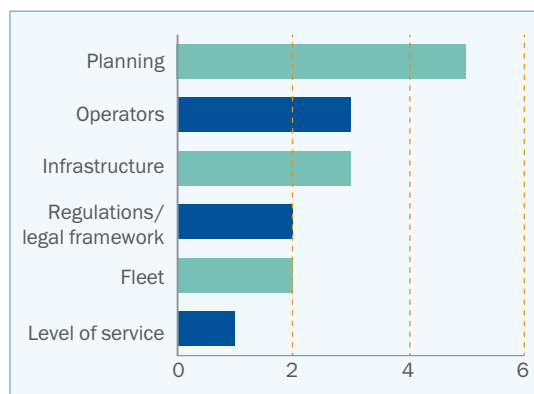
Of the cities that provided responses, all had minibuss services, two had conventional buses, two had metro systems, one had trolley buses and none had LRT or trams. Public transport mode share ranged from approximately 13 per cent (Gjakova) to 40 per cent (Irbid). Most cities had largely private operators, while Tbilisi and Yerevan had city-owned operators.

Concessionary fare policies were varied and complex across the cities. In Tbilisi around 12.7 per cent of people travel for free, with a further 25 per cent benefitting from more varied concessions. In Gjakova this figure is only 7 per cent, and in the Jordanian cities Irbid and Zarqa there are no concessionary fares at all.

Three of the five cities have transport plans, although they were reportedly poorly integrated with other planning documents for the city (including land use plans and masterplans). The remaining two (Yerevan and Gjakova) had their transport plans contained within broader masterplan documents as a chapter or section.

For most of the cities, tendering of contracts and contracts themselves had not been reviewed or changed for several years, in some cases since 2003 (Gjakova). Contracts were generally valid for long periods of time (10 years in some cases), or renewed automatically on a regular basis (for example, annually).

Biggest challenges for bus sector reform



Three of the five cities provide no subsidy for public transport services. Tbilisi and Yerevan both operate subsidised networks, although these are the public operators. In both cases, the private operators (for example those who run minibuss services) are not subsidised.

Of the three biggest problems facing each city, all cities stated “planning”, three stated “operators and infrastructure”, two “fleet and regulation”, and one “level of service”.

Most of the cities considered their resources and expertise in transport planning to be insufficient to plan and maintain public transport networks properly.

Bus sector reform policy dialogue seminar

The seminar was organised by the EBRD and by technical consultants ITP Ltd. Delegates were invited from Mongolia, Armenia, Egypt, Jordan, Georgia, Kazakhstan and Kosovo, and delegates attended from the latter four of these countries. There were representatives from four Jordanian cities (Amman, Irbid, Madaba, Zarqa), as well as Tbilisi (Georgia) and Gjakova (Kosovo). The delegate from Kazakhstan represented the transport authority for the entire country.

Day 1

The first day of the seminar consisted of a half-day visit to Transport for London (TfL), which included a presentation followed by a short tour of the surface command centre, followed by a half-day visit to the all-electric bus depot at Waterloo run by GoAhead, the largest bus route operator in London.

During these visits the delegates were encouraged to ask questions to learn about the operations of London's bus fleet. The visit to the depot at Waterloo was particularly interesting for many delegates because of aspirations for electric fleet renewal, and in terms of the opportunity to speak with staff who work directly with the day-to-day operation of the buses.

Day 2

The second day involved the seminar with presentations on case studies from Johannesburg, South Africa, and Kaunas, Lithuania. A wide range of issues were brought to the table from these case studies, including some which occurred in both. The delegates indicated several ways forward which they saw led directly from the case study presentations and the previous day's visits to TfL and GoAhead. For example, the Kazakh delegation (transport committee) highlighted the importance of the TfL visit in emphasising the inclusion of quality indicators in operator contracts.

The key issues which were common across the four countries included:

- low use of public transport networks (due, among other things, to poor quality services), which reduces availability of funds for improving services

- long contracts (or automatically renewed rolling contracts) which do not allow provision for renegotiation of terms, making it difficult to include quality service markers in the contract. Operator markets also generally contained a high proportion of individual operators
- problems with concessionary fares. Some countries offer a wide variety of complicated concessionary fares, while others offer none
- all four countries spoke of troubles with operator subsidies from the state, generally a lack of them, creating a tough market for operators to work in
- lack of integrated planning and strategy to facilitate long-term planning and objective-setting.

In response, the two speakers gave their comments. Lisa Seftel (Johannesburg) emphasised the different levels of strategic and more detailed planning which need to feed into bus sector reform programmes, speaking largely from experience with implementation of the Rea Vaya BRT in Johannesburg. She broke this down into a three-step framework from high-level strategic planning (a vision of the future, goal setting, not working with much data) down to transport planning with a very specific context in mind. She emphasised how long this can take to translate into meaningful change, and used the examples of Bogota and Curitiba to demonstrate how important a strong government can be in implementing such large-scale changes.

Karolis Dekeris (Kaunas) took a more economic viewpoint of the problems, focusing on the requirement for a strong and appropriate market environment to attract private operators and incentivise quality service. He advised that the first steps in creating this market were with smaller contracts, allowing the market to grow gradually rather than in one significant political change.

Seminar outcomes

The most striking conclusion of the seminar (and preparatory questionnaire) was that although the six cities present very different contexts and sizes, most faced similar problems. Issues with operators and regulation of services, and problems with integrated planning and capacity for planning were priority concerns for all cities.

ITP (Colin Brader, Chair) emphasised the danger of an echo chamber in the sector and that for ideas to have impact, momentum had to be maintained to engage politicians.

The EBRD (Ian Jennings) indicated that the policy paper would build from the dialogue in the seminar, case studies and site visits and seek to break down the process of bus sector reform into achievable steps, in the hope of effecting real and achievable outcomes. This paper is the result of that policy dialogue process.

Annex 3. Working with the EBRD

Working with the EBRD

The EBRD assists its clients in developing urban transport projects that are feasible, deliver value to users and public sector authorities and optimise private sector efficiencies. It supports effective ways for project delivery through both public and private actors, including public service contracts, route/area contracts, design-build-operate-maintain (DBOM) models and PPP contracts.

Overview of EBRD policy

In supporting urban transport projects, whether in their own right or as part of a larger project, the EBRD has certain overarching criteria, as indicated in Figure 10.

Funding

The EBRD funds schemes that are viable and have a well-considered business case. The funding is subject to a loan agreement, negotiated separately to the contract, with requirements for advances and repayment. While the funding should cover all or part of the capital expenditure needed, certain costs need to be met by the client, such as sector planning and regulation, route planning, enforcement and revenue collection, communications and financial models.

The EBRD provides funding across the whole spectrum, from sovereign loans when legally necessary, to municipal loans, public utility loans backed by municipal guarantee, operational concessions (DBOM), and PPPs based on design-build-finance-operate (DBFO) to full privatisations. Urban transport projects are often supported on a sub-sovereign basis, including loans to city authorities and companies and private contractors, under special project vehicle arrangements.

Funding from the EBRD is subject to approval by the credit committee and a separate loan agreement is required.

Technical and operational support can also be provided to support project preparation and implementation, subject to the specific needs of the client and project characteristics.

Figure 10. Summary of EBRD project requirements



Project strategy and preparation

The EBRD should be involved early on during project preparation, the main step of which is a feasibility study undertaken by the city and/or due diligence study performed by the EBRD. The study establishes the business case for the project through a full legal, operational and technical analysis and an economic and financial analysis, and recommends the technical and operational solutions to be adopted. It forms the basis of any funding request to the EBRD.

A key requirement of EBRD support is that any project should allow the highest degree of open competition for private contractors, based on industry-accepted standards and available solutions and technology platforms.

Moreover, legislative, institutional and organisational changes for the reform process are often critical to project implementation and their impact should be factored into the project timescales. The EBRD may be able to provide advice on changes that are needed, and, where appropriate, assist the city in advocating for such changes.

Tendering and contract management

For projects funded by the EBRD, the Bank's Procurement Policies and Rules are applied, which override local rules and policy. For well-defined products, a one-stage open tender is generally applied. However, for complex systems, a two-stage tender may be more suitable. The first round is to provide an unpriced, technical solution and serves to establish qualified bidders and the final technical requirements for the tender. The second round is for a final technical and price offer, with the lowest qualified bid being the successful contractor. A full guide to the Procurement Policies and Rules is available on www.ebrd.com.

Regular meetings are required to review progress and see how challenges are being overcome. On large and/or complex projects, a lender's supervisor is appointed to oversee progress on behalf of the Bank, assess variations and changes to the contract and report regularly with the client on contract performance. The cost of technical advisers is met by the client as part of loan repayments. It is also important and good practice to keep the lender well informed about progress and about issues that arise, as a lender who does not hear regularly how the project is progressing will often assume the worst, even if this is not the case.

For further advice, please contact:

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