



Virtual Workshop Report

# Challenges and Future Possibilities: Improving “Informal” Public Transport in Developing Countries

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*Transportation Research Board Standing Committee AME40*  
*Draft Workshop Report*  
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## 1. Background

On the 20th of May 2021, the Transportation Research Board (TRB) Standing Committee AME40 – Transportation in Developing Countries, organized an online workshop themed: “Challenges and Future Possibilities: Improving ‘Informal’ Public Transport in Developing Countries”. The workshop, presented with the cooperation and support of the Africa Transport Policy Program (SSATP), the World Bank, the French Developing Agency (AFD), Coopération pour le Développement et l'Amélioration des Transports Urbains et Périurbains (CODATU), and the International Transport Forum (ITF). Over 600 individuals from around the world signed up to attend. Over the session’s half day, the maximum participation was well over 200 at any given time, including people from Afghanistan, Belgium, Brazil, Columbia, Germany, Ghana, India, Nigeria, the Philippines, South Africa, Uganda, the UK, and the USA, amongst others. This report provides a summary of the workshop contents and, based on participant questions and discussion, an indication of the way forward,

## 2. Welcome

The workshop was opened by Mr. Samuel L. Zimmerman, the TRB AME40 Standing Committee Chair. Mr. Zimmerman introduced the AME40 Standing Committee and expressed his gratitude that digital platforms provided by the TRB provided the opportunity to meet, despite the difficulties caused by COVID-19.

Mr. Zimmerman voiced a special thank you to all persons and institutions that have assisted in making this workshop possible: TRB, the Africa Transport Policy Program (SSATP), the World Bank, the French Developing Agency (AFD), Coopération pour le Développement et l'Amélioration des Transports Urbains et Périurbains (CODATU), and the International Transport Forum (ITF).

Mr. Zimmerman explained the rules of engagement and aim of the workshop (to discuss cases of places that tried to improve their public transportation services and an expert panel discussion to talk about the issues raised). It is important to identify what works and what does not. Before getting to the official part of the proceedings, Mr. Zimmerman introduced Mr. William (Bill) Anderson, Senior Program Officer at TRB - National Academies of Sciences, Engineering, and Medicine, to say a few words.

Mr. Anderson thanked the organizers of the workshop and all members and friends of AME40 for their hard work. He requested that people keep their videos off, to reduce bandwidth requirements and improve presentations. It was pointed out that people are welcome to join and leave at any time and that the session was being recorded. Furthermore, questions posted through Zoom’s chat function would be noted and assigned by the respective moderators of the various sessions. Mr. Anderson wished everybody a fruitful workshop.

### 3. Introduction – Improving “Informal” Transport in Developing Countries

Dr. Ajay Kumar, member of the AME40 Standing Committee and retired World Bank lead official, made an introductory presentation that defined the terminology of informal transport. The presentation was based on a report that was recently published by SSATP entitled: **Myths and Realities of “Informal” Public Transport in Developing Countries: Approaches for Improving the Sector** (Kumar et al., 2021). He explained that the workshop’s discussion was to ultimately be potential ways to address informal public transport’s issues, particularly in Africa; however, before that could be done, it was necessary to identify ‘how and why the evolution to the sector’s current status occurred and what are the fundamental issues it presents.

The presentation was broadly based on informal transport experience in Southern Africa which is quite different from Latin America despite the high dependency on informal transport in almost all developing cities. What is different in the evolution of informal transport from place to place, is that transport is organic to the specific culture, society and economy in which it has evolved which are different from place to place.

The term informal transport, or paratransit, was first used in the USA, referring to unscheduled services that complement mass public transport (PT) systems and are often demand-responsive. In the developing world, paratransit services are provided at a large scale. However, paratransit is often weakly regulated, and illegally operated. Africa’s paratransit services operate under a variety of names, as can be seen in Figure 1.

The name “**Matatu**” (Kenya) is derived from Swahili, meaning "three". One explanation is that the vans and small buses originally pressed into service as matatu could be fitted with three rows of bench seats. Other sources maintain that three coins were a typical fare in the 1960s. The word “**Tro Tro**” (Ghana) may have been derived from the Ga (Gà) word "tro" meaning "pesewa" (the smallest unit of Ghanaian currency), given the TroTro's status as a cheap means of transportation. “**Jeepneys**” (Philippines) were originally made from surplus US military jeeps left over after World War II. The word jeepney came from the combination of the word’s "jeep" and "jitney", a small vehicle that carries passengers on a regular route with flexible schedule and stopping patterns.

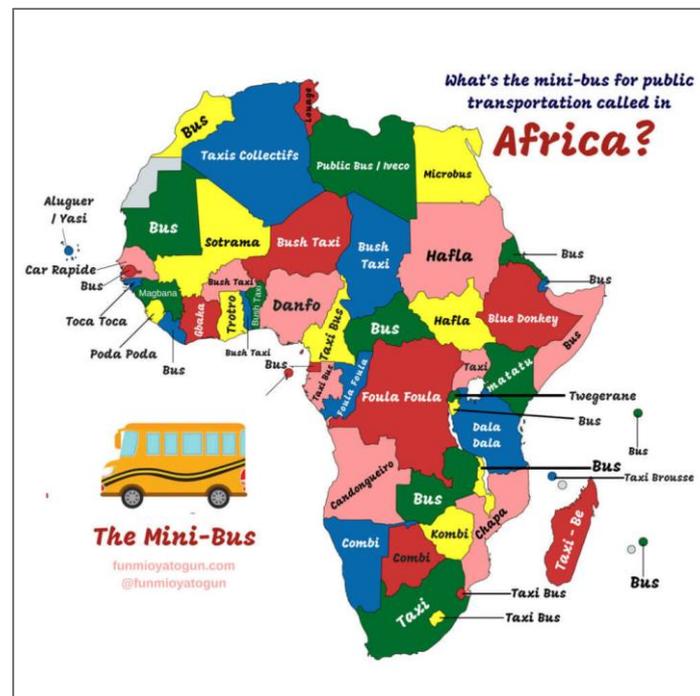


Figure 1 Paratransit in Africa

“**Car Rapide**” (Senegal) literally means “fast bus” in French. The Car Rapide connects the far-flung neighborhoods in Dakar. The “**Blue donkeys**” (Ethiopia) are mini vans that are painted blue on the bottom and white on the top. The Blue Donkeys are the most common form of PT in Addis. Finally, the “**Poda Poda**”

(Sierra Leone) are dynamic modes of cultural meaning, representing linkages to several cultural fields, including music, materialism, globalization, history, colonialism, identity, class, economy, media and technology.

Dr. Kumar provided examples and explained the range of informal PT service parameters (further information can also be found in the presentation by Dr Dario Hidalgo). It was pointed out that there are significant differences between formal and informal PT. Informal PT emerged and grew, due to gaps in the formal transport system or its total non-existence. The entrepreneurial minds of Africans identified these gaps. Vehicles vary from the typical 10-meter van to sedans (as well as three- and two-wheelers). There is often a lack of maintenance on the vehicles, and they operate without subsidy. The service network does not have timetables or formal stops (except ranks at major origins or interchanges). Businesses are generally family run with one or two vehicles owned, while drivers rent vehicles from owners. Many aspects of the business are self-regulated, although some countries do require operating licenses. Many countries do have informal sector ‘unions’ or ‘associations’ of operators and or labor often organized by area of a city or corridor.

Informal PT systems have many advantages and disadvantages, for the various stakeholders: operators, governments, labor, users, and the society at large (see Table 1).

Rapid changes, in urban areas in the developing world, specifically Sub-Saharan Africa, create unprecedented challenges. These changes include population growth, unplanned urban sprawl, insufficient infrastructure (implementation and maintenance) and many informal PT operators. This results in 75% of all PT trips being by informal services, with poor customer services, leading to additional congestion, and inadequate access and security, especially for vulnerable populations. Furthermore, informal PT is the cause of externalities, such as crashes, injuries and fatalities, air- and noise pollution etc. The working conditions for labor are poor, and the financial viability of operations is often tenuous at best.

**Table 1** Advantages and Disadvantages of Informal Public Transport for Various Stakeholders

Stakeholders	Advantages	Disadvantages
Operators, labor	<ul style="list-style-type: none"> <li>• easy access to licenses</li> <li>• low capital requirements</li> <li>• daily income</li> <li>• little technical requirements</li> <li>• opportunities for 2<sup>nd</sup> jobs</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Long, difficult working hours</li> <li>• no security, no labor laws</li> <li>• poor access to capital</li> <li>• police extortion</li> </ul>
Government	<ul style="list-style-type: none"> <li>• no subsidy requirements</li> <li>• satisfy mobility requirements</li> </ul>	<ul style="list-style-type: none"> <li>• compete with regular services</li> <li>• loss of tax income</li> <li>• poor quality of life</li> </ul>
Users	<ul style="list-style-type: none"> <li>• on-demand service</li> <li>• affordable</li> <li>• ability to navigate narrow street</li> </ul>	<ul style="list-style-type: none"> <li>• poor, unreliable service</li> <li>• uncertain fare structure</li> <li>• security, safety</li> <li>• gender/PWD bias</li> </ul>
Society	<ul style="list-style-type: none"> <li>• form of cultural expression</li> <li>• creates jobs</li> <li>• reward entrepreneurial spirit</li> <li>• enable private sector</li> </ul>	<ul style="list-style-type: none"> <li>• pollution</li> <li>• accidents</li> <li>• GHG emissions</li> <li>• congestion</li> <li>•</li> </ul>

Typical advantages of informal transport include ease, affordability, and entrepreneurial opportunities. The disadvantages include long working hours for drivers, possible extortion, loss of tax income for government, unreliable and unsafe service for users, and various externalities (pollution, congestion etc.).

Dr Kumar identified three possible approaches to improve urban transport. Cities can either “displace”, “adapt” or “embrace” informal transport. The approach may differ, depending on the local context. When identifying the approach in a specific location, stakeholders need to be aware of common misconceptions. These are:

- I. Investment in road infrastructure and procurement of new PT facilities and rolling stock are the main “necessary” actions to address worsening urban mobility problems. The specifics of possible solutions vary. Investment in infrastructure, facilities and equipment will solve problems in the long turn. This includes congestion and road crashes. The types of investments depend on the situation on the ground. Capital investments will not all be mass transit solutions.
- II. The rise of minibus taxis, etc. is the result of a conscious decision to deregulate PT. This is not the case. The need for significant investment for renewal and for operating subsidies among other factors led to a decline in government support for formal PT.
- III. Exponential growth in informal PT is simply a result of the collapse of the formal government-owned and operated bus systems of the 1970s-1990s. Informal PT services are easy to start, create jobs and drivers and operators learn on the job.
- IV. Informal PT's safety, security, environmental and performance issues far outweigh its benefits. It should be eliminated entirely. But eliminations have consequences.
- V. It may not be obvious, but informal operators have no incentive to be organized and act together cooperatively; However, there are benefits to being organized. For example, having access to capital, better working conditions and reduced on-street competition.
- VI. The quality, quantity, and usage of PT is declining in most developing cities. The only way to address the resulting chronic and escalating traffic congestion is to improve PT by investing in mass rapid transit (bus, or rail), and make all other transit subsidiary to it. No, there is no universal solution. There is a need for all modes integrated as a system, depending on financial means and the situation on the ground. All solutions should be considered, and local governments should not just support a specific supplier or technology without an objective transparent analysis of viable alternatives.
- VII. Bus Rapid Transit (BRT) and Rail Transit Systems are always a desirable solution to rapidly escalating traffic congestion and the low quality of PT in developing cities. No, it depends on the context. There is a spectrum of solutions, not just a single technology.
- VIII. To protect the interests of the poor, it is important to regulate bus fares to “affordable” levels for all. There is an equilibrium between affordability and financial viability. If affordable fares lead to the collapse of the formal PT system, the poor will suffer the most.
- IX. Replacing six or more small, informal vehicles with one large bus in conventional transit service would reduce congestion and improve owner/operator finances. No. Bus size should be a function of the magnitude and characteristics of demand, the nature of land use and the street and roadways system, the cost of labor and fuel and other factors. When planning PT, it is good to remember that the difference in operating costs between a small and large vehicle may not be that much, especially in the developing world where salaries are low and the cost of capital high.
- X. It is different in the developed world, where labor costs are much higher and may be more than 65% of total operating and maintenance budgets.
- XI. The problems with informal PT are purely “technical” and it is possible to replace them with an organized PT system including BRT or some form of rail rapid transit. Implementation of formal PT and what kinds depends on market, physical environment and operational financial and political factors. The myths and realities shown above make clear that the answers to questions of what to do and when in urban transport are eventually political, but hopefully technically informed. Transport is always political due to the sheer number of people involved. and the fact that there are always powerful vested interests. To manage change, there is a need for a strong political champion to lead the transformation conversation. all.

## 4. Informal Public Transport Improvement/Reform Case Studies

**Moderator: Manjiri Akalkotkar, Director of Capital and Service Planning for VIA Metropolitan Transit, San Antonio, Texas, Deputy Chair, AME40**

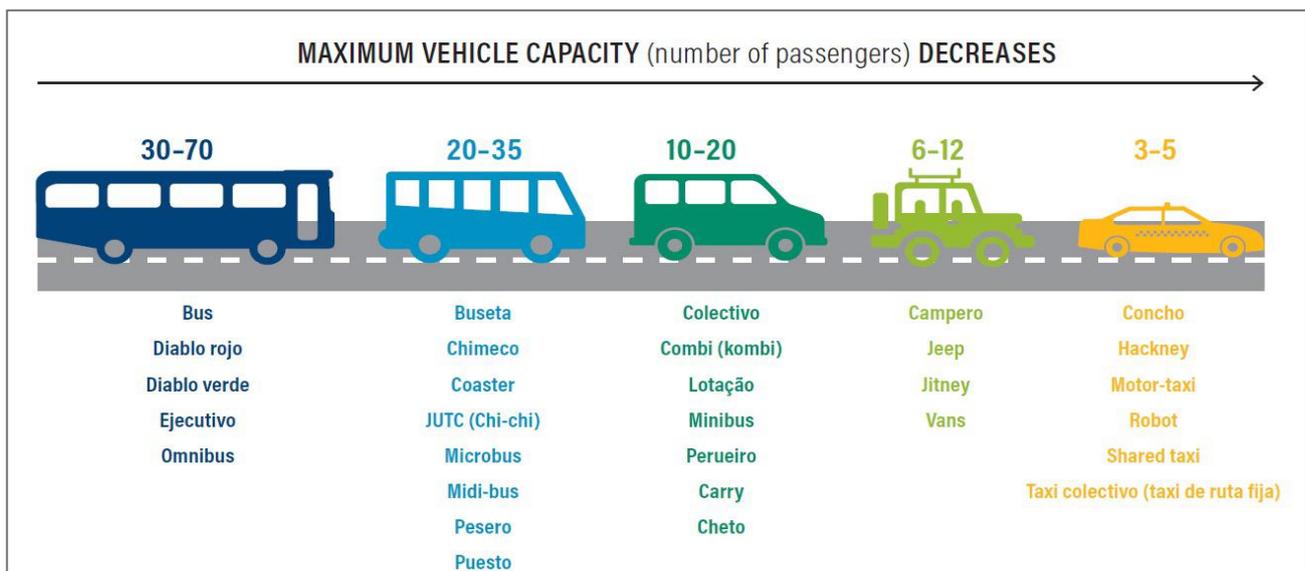
### 4.1. Informal and Semi-formal Services in Latin America: An Overview of PT Reform

Dr Dario Hidalgo, a consultant at the World Resources Institute, provided the first case study presentation. His presentation was called Informal and Semi-formal Services in Latin America: an overview of PT reforms is based on a report with the same title (Tun et al., 2020).

In the introduction, Dr Hidalgo acknowledged the positives of formal PT, which includes a reduction in pollution, the option for automated payment, which reduces security risks, improves the passenger experience along with safety for users and drivers. Sexual harassment of women may also be reduced.

Dr Hidalgo unpacked (the differences between) informal and semi-formal PT. Besides the different names for paratransit, as presented by Dr. Kumar, the way to describe these transport services also vary - including phrases such as unregulated, alternative, provisional, clandestine (makeshift), artisanal, illegal, informal and semi-formal mobility. Typical characteristics include demand responsive, unscheduled, and flexible services. These services are provided by self-organized small operators, utilizing small to medium sized motorized or even non-motorized vehicles. As mentioned by the previous speaker, there is generally no effective regulatory framework.

When evaluating PT services, to assess their applicability in specific developing city contexts, capacity is an important factor. "Standard "12-meter, single unit buses typically have a total (seated plus standee) capacity between 60 and 100 passengers depending on the allocation of space to seats, standees and the standee density policy. An 8–10-meter midi/microbus can transport between 20-35 persons while the capacity of a microbus (minibus) is between 10-20 people. Smaller vehicles such as the Jitney (van) with a capacity of 6-12 persons, and the shared taxi (sedan vehicle) able to transport between 3-5 people are also used in informal transport. Figure 2 provides a graphical representation of the different types of motorized paratransit services and the various names used for them.



**Figure 2** Paratransit Vehicle Types and their Capacity

Dr Hidalgo noted the positive and negative characteristics of informal and semi-formal PT services from the perspective of the user, government officials and the operator/driver. The details can be found in Table 2.

He pointed out that there is a 'cost for reform', for example, inclusion (e.g., improvements in labor conditions often means reduced employment opportunities)., while Replacement informal PT with conventional, formal services provides an opportunity for competitive bids but lowers capacity because of policies reducing crowding. The latter carries a financial risk.

For the user, a major advantage of informal PT is the fact that it is on demand and that routes are adapted to the needs of the passengers, often guaranteeing a "one seat ride." At the same time, the "waiting to fill-and-go" dispatching principle adds to travel time and causes traveler delay., Crowded vehicles needed to make money and the lack of formal stops causes personal security issues while competing on the street for customers creates road safety challenges. Government sees informal PT as meeting the mobility needs of most inhabitants, and job creation as major benefits. Industry fragmentation, the lack of accountability and the chaotic image of the industry are seen as major negatives by both government and citizens.

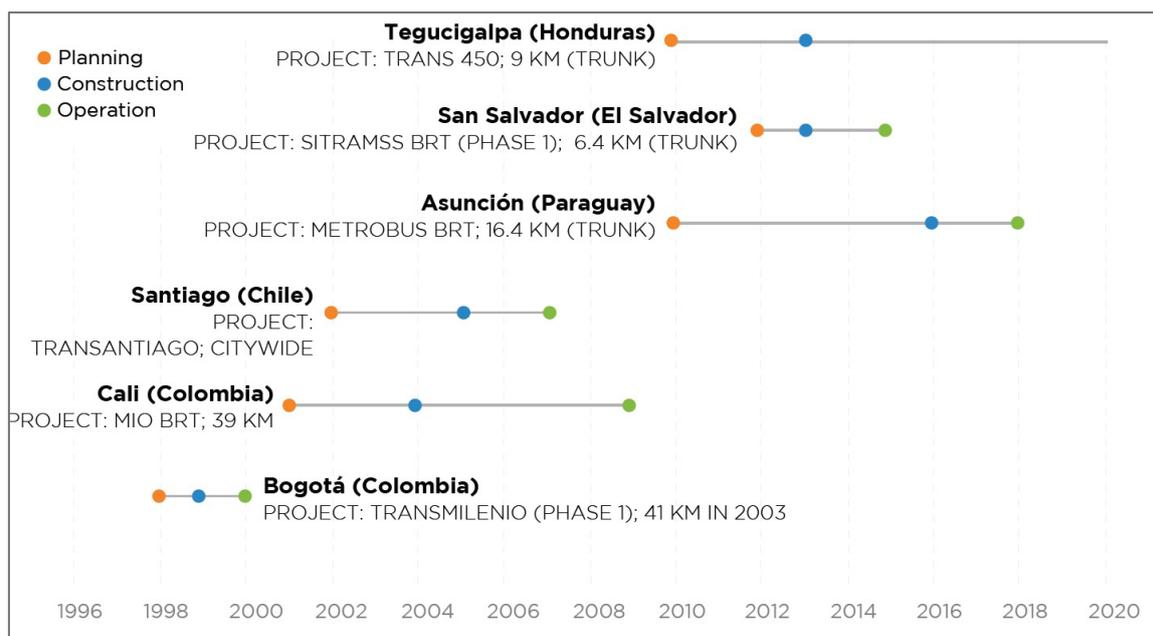
Entrepreneurial opportunities, and the fact that the required capital investment is limited, are advantage for operators, while drivers require few skills, earn income that is, generally, more than minimum wage and usually "tax free". Negative aspects for operators include the risk of not being able to afford vehicle repair and renewal and corruption. Besides having to deal with pervasive corruption, drivers must work long hours. That, on street competition and even violent conflicts with other drivers/operators causes significant stress. The industry is also not very open to women as operators or drivers.

Latin America provides a number of examples of informal PT reform. There are a number of cases where informal PT services have been replaced by formal PT, with semi-formal paratransit playing a support role. The implementation time of these systems varies across Latin America, as illustrated in Figure 3. There have been difficulties with this approach in many Latin American cities while here were initially promising results in one city, Bogota. However, over time the demand declined, the assets were prone to vandalism, the service quality was not better and there was a need for large subsidies, amongst other issues. A major negative in Bogota was also the loss of employment, some 4 000 jobs in total. Small owners and associated drivers and other employees were often the real losers.

The significant benefits of reformed informal public transport have been identified, including: reduction in emissions, reduction in security issues due to cashless payments, improved and even universal accessibility for people with disabilities, a reduction in passenger stress and anxiety due to real-time arrival information, published route and schedule information, formalized and all-weather stations, improved personal safety as a result of the presence of security staff, cameras on board and in stations, social inclusion programs for under-represented groups (women, people with disabilities), improved employment conditions such as job security and the application of government labor standards for drivers and other staff. . Figure 4 illustrates some of the benefits of informal public transportation reform (less congestion, pollution, aggression and better working conditions in the bus rapid transit lane).

**Table 2** Characteristics of Informal Public Transportation Services

	User	Government	Operator/Driver
<b>Positive</b>	<ul style="list-style-type: none"> <li>Ubiquitous, on-demand service.</li> <li>Affordable, especially for low-income populations.</li> <li>Routes can be adaptable to users' needs.</li> <li>Practical option for people to get around because of shorter headways and often fewer transfers, although not the most comfortable service.</li> </ul>	<ul style="list-style-type: none"> <li>Satisfy the transportation needs of the citizens, especially in places where the government does not have the technical, financial, and/or institutional capacity.</li> <li>Do not require government subsidies and are good at managing fare evasion.</li> <li>Create informal jobs in and around the transportation sector.</li> <li>Informal transportation vehicles can serve as cultural icons that reflect the city's vibrant nature.</li> </ul>	<p><b>OPERATORS</b></p> <ul style="list-style-type: none"> <li>Do not require large capital investment and can be profitable.</li> <li>Foster entrepreneurial spirit and a sense of community.</li> </ul> <p><b>DRIVERS</b></p> <ul style="list-style-type: none"> <li>Even though it is informal employment, the income earned is more than minimum wage.</li> </ul>
<b>Negative</b>	<ul style="list-style-type: none"> <li>Quality of service is poor: users experience overcrowding, and physical and sexual harassment.</li> <li>Drivers often do not follow traffic regulations and jeopardize users' safety.</li> <li>Unreliable, as drivers often practice "fill-and-go" approach, and users might be charged twice if they transfer.</li> <li>Lack personal safety and security, especially for women and children.</li> <li>Generally poor accessibility for people with disabilities.</li> <li>Unless digitized/mapped, informal systems are often incomprehensible to users, and especially unfamiliar to visitors who do not know the system. .</li> </ul>	<ul style="list-style-type: none"> <li>Create negative externalities: old vehicles cause pollution, road safety issues, fragmented ownership, and lack of accountability.</li> <li>Difficult to monitor, regulate, and enforce standards.</li> <li>Chaotic images of informal vehicles on congested roads do not conjure up the notion of a "modern" city.</li> </ul>	<p><b>OPERATORS</b></p> <ul style="list-style-type: none"> <li>Might lack financial capacity to upgrade and improve the limited service.</li> </ul> <p><b>OPERATORS/DRIVERS</b></p> <ul style="list-style-type: none"> <li>Extortion is rampant and can threaten the lives of operators/drivers.</li> <li>Potential barriers to women entering the market as operators or drivers.</li> </ul> <p><b>DRIVERS</b></p> <ul style="list-style-type: none"> <li>Long working hours, sometimes without formal contracts.</li> <li>Intense "in-the-market" competition for passengers as well as for routes.</li> <li>Exploitation often emerges.</li> </ul>



**Figure 3** Planning, Construction and Operation Timelines in Various Latin American Cases

Bus reform, however, comes at a cost. There needs to be sustained political will. There can be logistical and other delays. There are significant risks of incomplete reform. There is a cost to inclusion. There is a risk of former operators and drivers being left unemployed. In many cases, there was a lack of institutional capacity from the side of government to manage the reform and sustain it through proper monitoring and response. Furthermore, there is a financial risk, as reforms are not revenue neutral. The need for subsidies can be substantial.



**Figure 4** Illustration of Bus Reform

Dr Hidalgo touched on the characteristics of various Latin American reform case studies, sharing more detailed information on the case of Bogota. In the Bogota case, travel times were reduced with reform and there were reductions in emissions, road fatalities and injuries. A pro-poor objective saw the use of flat fares independent of distance. This made travel in the city affordable for the marginalized living at the periphery of the metropolis. In Bogota, there significant labor benefits, and institutional capacity in the public and private sectors was strengthened; However, over time, service quality declined (lack of expansion to meet growing demand, low or no fleet renewal and replacement, poor management, and vandalism).

Furthermore, formalization, without costly parallel infrastructure and operational enhancements, is problematic. Formal operations require a significant government subsidy (~US\$ 280 million/year). Automatic inclusion of informal incumbents to operate new, conventional PT services can be risky and costly (small owners were not able to comply with contractual requirements). Service quality declined as compared with semi-formal systems (lower frequency, coverage, reliability). But the institutional set up allowed electrification of the bus fleet (1,485 e-buses, which is the largest fleet outside China).

Based on Latin experience, the following conclusions were drawn:

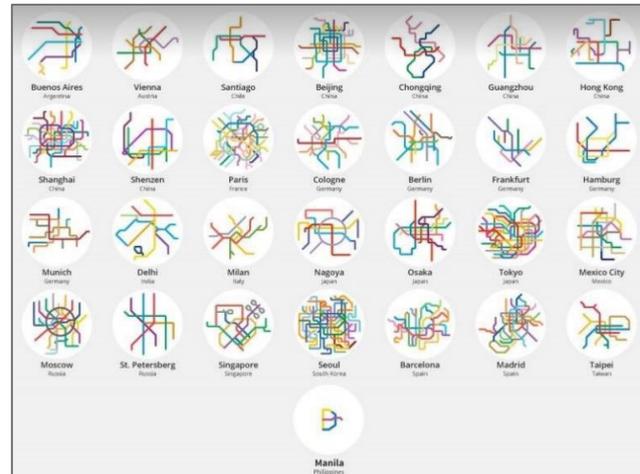
- There is **no single pathway** to improve and reform informal public transportation.
- Reforms **come at a cost** — the larger the reform scale, the more time, financial resources, technical capabilities, and human resources government will require. **Policymakers must examine the potential advantages and disadvantages of the reform process and set realistic expectations.**
- If options are limited, the government should **prioritize investing in informal service equipment and infrastructure** that can deliver substantial benefits to the most vulnerable citizens.

## 4.2 Multiple Stakeholder Engagement: Communications as Part of Planning for Public Transport Improvements in Cebu and Manila

Prof. Cresencio “Dayo” Montalbo, from the University of the Philippines, provided the second case study on stakeholder engagement in Cebu and Manila. His presentation started with a historic overview (see Figure 5a) emphasizing that there is a need for “dignity of travel.” The Manila rail rapid transit network (3 routes) is small compared to other international cities (see Figure 5b) of similar size. The rail corridors carry 6% of motorized trips in Manila, while Jeepneys transport 40%.



**Figure 5a** Historic Public Transport Offering



**Figure 5b** International Network Comparison

At this moment in time, the over-all PT network in the Philippines is vast, including light rail/metro rail services, urban and suburban buses, ‘Jeepneys’, express vans, taxis, ‘grab cars’, tricycles, motorcycle taxis, as well as Colorum (illegal) services, mimicking any of the previously mentioned. Examples of the vast range of PT offerings in the Philippines is provided in Figure 6. The last picture is an extreme example of how ridiculous things can get.



**Figure 6** Examples of Public Transport Services in the Philippines

The Philippines has trying to improve PT, even motorcycle taxis by formalizing it. To be able to move towards a completely formalized system, there is a need to raise awareness of the benefits of the effort among all stakeholders by proponents. Inputs from stakeholders need to be solicited and a sense of ownership needs to be cultivated.

It was established that stakeholder engagement is key to the successful implementation of PT improvement or reform projects. This engagement is required on four levels:

- Level 1 - Information gathering,
- Level 2 - Information dissemination,
- Level 3 - 2-way communication, and
- Level 4 - Decision-making.

Prof. Montalbo described the wide range of stakeholders at national, regional, and local government level; traffic operations managers and police; PT operators and drivers; passengers; residents; the business community and funding/regulating agencies.



In Cebu, over 90% of all franchises are for a single unit, and only 2% of all franchises have more than 2 units. This creates major administrative, communication and organization burdens. For the remaining 85% of the supply, there is very little concentration of ownership or organization within or across routes. The 17 individuals with 10 or more franchises have, on average, 2-3 franchises and 2-4 units per route. Operator associations are primarily representative, and provide administrative support to their members (e.g., for franchise applications). They do not have capacity for the organization or management of the Public Utility Jeepney (PUJ) operations. Their financing capacity is minimal. This is an extremely fragmented sector in terms of ownership, operating rights, and route assignment. There is no concentration of ownership or organization. Discussions with the sector have verified that there is no formal or informal organization of the services, supply, departures, or operations management. Considering that PUJ is the primary passenger transport mode, these two factors combined – lack of concentration of ownership or organization – make for a very highly fragmented and unorganized passenger transport system. In Cebu, there are 1 300 jeepneys directly impacted by implementation of the first BRT corridor. This translates to 2 600 driver/operators. During the stakeholder engagement, many of these indicated, that they would like to move to different ways of making a living if and when BRT is implemented.

Extensive stakeholder interaction revealed that the role of the jeepney as a primary mode of transport, needs to be redefined. There is a need to reduce passenger volumes for PUJs. Competition between different operations needs to be avoided. As such, the present PUJ routes, that are along the projected BRT corridors, need to be cancelled and/or altered. Dislocation of drivers and operators of PUJs need to be identified and accommodated. There is a possibility that existing transport cooperatives will fold.

various pathways to the future have been identified to mitigate the negative impacts on the jeepney industry. These include:

- to remain on their route, which has been restructured and will hopefully remain strong
- to remain on their route, despite the impact of the BRT, and hope that enough other operators will withdraw to make the route viable for those who remain
- to seek a Franchise elsewhere in Cebu and remain in the PUJ business
- to cancel the PUJ franchise and apply for open franchises of other transport services, such as trucks-for-hire or school services
- to transform their investment to participate in a BRT Feeder Route
- to sell their vehicle and exit the PUJ industry in Cebu.

For Manila, the size of the PT system is significantly larger, e. g. 34,650 franchised jeepneys and 5 337 franchised buses. Ownership of the system is fragmented. (Formal bus operators have indicated that they would like to become BRT operators.)

The sheer size of the Manila PT system makes it exponentially more difficult to implement a reform process than in Cebu. The PT system in Manila has similar types of stakeholders requiring similar levels and types of engagement as Cebu but many more stakeholders meaning a larger over-all communications program.

Lessons derived from stakeholder engagement experience in Cebu and Manilla were:

- Stakeholders with different social, education, economic and employment backgrounds, coming from different parts of a city can have similar basic concerns about reform but still be in conflict as to what the best way forward is;
- There is a constant need to find a common or middle ground for stakeholders based on a city's overriding objectives for PT;
- Because the set of PT stakeholders is large and complex, there needs to be careful planning and scheduling of consultation and communication activities;

- Grassroots engagement creates a feeling of ownership and pride in the system being developed that is ultimately recognized by politicians and is a way of ensuring continued political support;
- In both cities, consultation processes helped establish critical relationships among project teams, the public and key players in the city, including local government officials and politicians;
- Focused and sustained consultation with multiple stakeholders using different media is required;
- When negotiating, “be one of the people”, speak their language, go where they are (e.g., markets, transit terminals, factories or warehouses, corporate meeting, garages and grand lobbies...); encourage stakeholders to open up and earn their trust.

### 4.3 Organizing Informal PT Sector Operators: Lagos and Accra

Dr. Dayo Mobereola, Managing Partner/CEO, Almacht Inc. (former Managing Director, Lagos Metropolitan Area Transport Authority), presented the third case study. He expressed how glad he was with the interest in the Lagos and Accra informal transport reform. A summary of the system description in Lagos is included in Table 3.

**Table 3** Organization of Informal Public Transport in Lagos

Regulators	Owners	Driver (labor)
<ul style="list-style-type: none"> <li>• Loosely regulated sector.</li> <li>• Stakeholder engagement of the owners and labor groups.</li> <li>• New transport policy gives the power to the Lagos Metropolitan Area Transport Authority (LAMATA) to implement PT in Lagos.</li> </ul>	<ul style="list-style-type: none"> <li>• Buses are owned by individual entrepreneurs.</li> <li>• Owners have a union.</li> <li>• Independent drivers and conductors operate the buses and pay a daily fee to owners.</li> <li>• RTEAN represents the bus owners.</li> <li>• LOBOA represents Molue bus owners.</li> </ul>	<ul style="list-style-type: none"> <li>• Buses are owned by individual owners.</li> <li>• Owners have a union.</li> <li>• Drivers and conductors operate the buses and pay a fee to owners.</li> <li>• RTEAN represents the bus owners.</li> <li>• LOBOA represents Molue bus owners.</li> </ul>

Dr Mobereola indicated that in order to improve the sector there needs to be a comprehensive PT plan with strong political support. The expectations, however, are that the informal PT sector will not easily move towards formal PT, as it has an extremely large revenue stream and some government officials benefit personally from current arrangements. The lines between politicians and the unions (associations) are often blurred.

Institutional constraints include the lack of - over-all coordination among owners, route duplication, non-standardized pricing, and the unions (associations) do not always embrace new innovations. There is also insecurity in the operations, poor or insufficient management capacity, and a lack of supporting infrastructure. Furthermore, poor driving by drivers competing on the street for customers leads to congestion and road safety issues. Finally, the assets, e.g., Molue buses are not well maintained.

Lagos state has attempted to integrate the informal sector into the BRT system, through the formation of co-operatives (comparable to unions). There was a constitution developed for each cooperative and a steering committee established, which included: LAMATA, a bank for funding rolling stock and operators (Union). The obligations of a management board were drafted and implemented. Bi-lateral agreements were put in place, including arrangements for a cash flow system to protect the interests of union members. LAMATA provided start-up assistance and was involved in recruiting key role-players and provide support job training.



The informal PT structure in Accra was slightly different (see Table 4).

**Table 4** Organization of Informal Public Transport in Accra

<b>Regulators</b>	<b>Owners</b>	<b>Driver (labor)</b>
<ul style="list-style-type: none"> <li>• No effective regulator.</li> <li>• Multiple organizations with overlapping responsibilities.</li> <li>• Poor handling of functions, with weak regulatory and enforcement bodies, and a lack of adequate technical planners.</li> </ul>	<ul style="list-style-type: none"> <li>• Buses are owned by individual owners.</li> <li>• Owners have a union.</li> <li>• Drivers and conductors operate the services and pay a fee to owners.</li> <li>• GPRTU is dominant union.</li> </ul>	<ul style="list-style-type: none"> <li>• Operations by the private sector-Transport Union.</li> <li>• Drivers and conductors collect fares.</li> <li>• Maintain the buses.</li> <li>• Unions are interested in participating in BRT.</li> </ul>

In Accra, there have been several attempts to re-organize/reform urban transport. Formation of the three existing owner unions into one company is required. There is currently no legal backing for the regulatory authority. Furthermore, there is no funding, besides donor grants. No mechanism for public funding of operating and maintenance costs beyond fares is available. Finally, there are many communication issues.

The case studies have revealed that strong leadership support of the planning and priority-setting authority is required, as well as a political champion and strong political leadership at both national and local levels. The latter usually requires strengthening existing institutions and may involve creating new ones.

To win informal operators over, it is required to provide an enabling environment, through education and interaction. Trust between the transport planning authority and the respective labor union(s) also needs to be established. This and good relationships with operator organizations will make it possible to implement new policy frameworks for transport. Users will embrace a new system through the improved quality of service.

There needs to be a clear financial plan for associated infrastructure and facility implementation and maintenance, as well as operating and maintenance subsidies if required. There is a need to create a general understanding that change will create a win-win situation through a consistent and effective communication campaign.

Opportunities have been identified to use new informal PT improvement initiatives as leverage to bring about broader institutional, organizational, financial, and technological urban PT system reform. Financial, human resource and technical sustainability is critical. Africa needs to learn globally but develop “home grown” solutions.

#### 4.4 Transformation of the Informal Transport Industry to Enable a New Economically Responsive Approach

The final presentation was provided by Mr. Gershwin Fortune, formerly Director of Public Transport, City of Cape Town and currently a consultant to the World Bank. Mr. Fortune looked back at the past 14 years in Cape Town and indicated that there is not just one approach or technology that could solve all the issues of the informal PT sector. He noted that in the past, like others, he believed that full replacement of **all** informal services by a conventional bus network was the ideal approach, but no longer. He now believes that there is a role for all appropriate PT modes within an integrated network.

The reasons for Mr. Fortune's changed view are:

- **A 'Full Replacement Model'**, where **all** informal transport is replaced with scheduled, fixed stop and schedule conventional services has been proven to be technically flawed and financially unsustainable in the South African urban context.
- Conventional transit networks do not do a particularly good job of serving all customer needs in South African cities while, at the same time, require large subsidies.
- **Scheduled services performing collection/distribution (so-called "feeder") functions for rapid transit are particularly inefficient and ineffective in South Africa.**
- **For a variety of reasons, transit industry "formalization" comes at significant cost.**
- **Informal services must therefore be included in planning for Integrated PT Networks (IPTN)**

Cape Town's new approach is to turn the participating minibus taxi associations (groupings) into viable and sustainable Transport Operating Companies (TOCs). This is done to enhance the value-offer of the minibus taxi industry service to the PT user; to reduce the negative aspects of the minibus taxi service offer; to rationalize and simplify the regulation of minibus taxi operations; to place the minibus taxi industry on a sounder financial footing and to place the minibus taxi industry at the center of urban mobility improvements in the city.

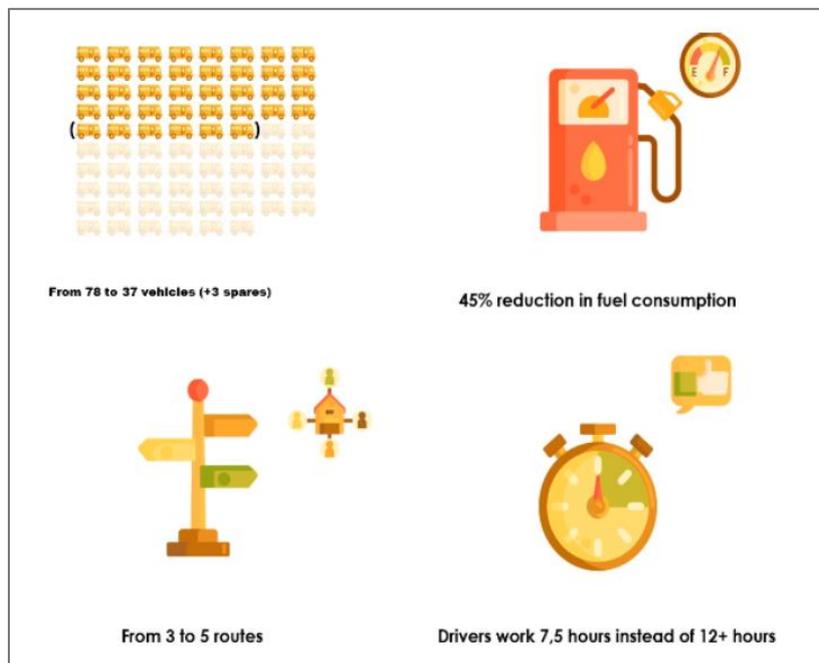
The City of Cape Town conducted a pilot study in the suburb of Tafelsig, part of the township of Mitchell's Plain. Mitchell's Plain is about 8% to 10% of the Metro population of about just over 4.4 million people. The Tafelsig area had three "on-demand" routes. In total, the services used 7 minibus taxi vehicles, and a roundtrip took approximately 16 minutes. The city then enabled a voluntary pooling of vehicles and services. Instead of drivers 'chasing' a daily financial target, they received a salary. Their shifts were limited to 8 hours per day and vehicles were tracked to guarantee headways. Furthermore, fares were collected as before, in cash.

A market study was conducted to develop a plan to move from an 'As Is' to a 'Be Business' Model, which was finalized in 2018. See Table 6 for a detailed account regarding the changes.

Analysis revealed significant potential benefits. A recapitalization of the fleet was included in the plan which was put in place in a pilot area. There were three major achievements from the adapted informal public transport model in Cape Town. Firstly, **the development of an Operations Plan based on a scheduled service** eliminated the unscheduled and over-traded minibus taxi operation, converting it into a scheduled, reliable, and significantly improved passenger transport service.

**Table 6** Changes to the Minibus Taxi Operations in the Cape Town Pilot

From	To
Understanding of the “As Is” reality	All license holders’ understanding of the “As Is” reality and the case for change.
Individual license holders but not drivers understanding the case for change.	Drivers and owners buying in to the case for change.
A loose association in which individuals or groups of individuals do business independently	A collective mind-set underpinned by basic collective business practices.
Daily “Owner Target” revenue driven business model.	A collective “System Revenue” model.
Driver earnings based on “surplus.” after owner target and fuel cost taken from revenue.	Driver earnings model based on legally compliant BCEA and remuneration structure.
Potential over-supply on routes.	Scientifically determined “optimized supply based on demand (operating) model (possibly resulting in OL & fleet rationalization).
Driver-determined operating hours and operating schedule.	Scheduled service based on passenger travel demand patterns, timetables, and driver rotation.
Informal (partly individual/partly collective) fueling, maintenance and repair practices.	First steps towards centralizing fueling, maintenance and repair practices.
Hands-off management model in which drivers act alone.	Hands-on management model (schedule, reliability & service quality)
Many individual bank accounts and cash handling systems.	One collective bank account (based on a shared business model)



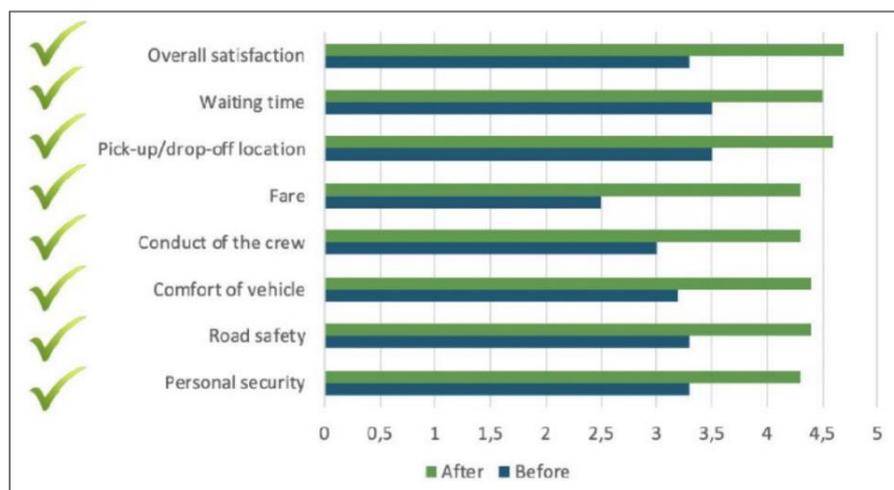
**Figure 7** Illustration of Gains between ‘As Is’ and ‘Be Business’

Details included the introduction of an agreed to (corporate) owners’ earnings model; the retention of all drivers and related operations staff; the agreement of improved driver conditions of service and a structured driver earnings model; the (organic) development of institutional arrangements, including operations, finance and human resource management arrangements from within the ranks of the association; and the ongoing improvement of planning and forecasting processes and the sustained achievement (and acceding) of performance (including financial) targets.

The second benefit was improvements to the reliability and quality of operations/services of the entire minibus taxi association's network while coverage actually expanded. This included the rationalization of the fleet size from 78 vehicles to 40 vehicles (37 plus 3 spare); improvement in driver conditions of employment (from working an average of 12 hours per day for a 7-day week to working a 7.5-hour day with scheduled breaks and one day off in a 7-day cycle); a 45% reduction in fuel consumption; and an expansion of the service from 3 routes to 5 routes bringing the service closer to passengers.

Under the new model, it is possible to monitor the operation more closely, requesting trip adherence, duty adherence and route adherence reports. One aspect that has not been implemented yet, is a cashless payment system.

The third achievement was improved passenger satisfaction (see Figure 8). This included reduced waiting times, improved pick-up/drop-off points, reduced fares, improved driver and conductor behavior, more comfortable vehicles, less road crashes and improved personal security.



**Figure 8** Changes in Passenger Satisfaction in the Cape Town Pilot

Based on the experience of the past 14 years, and the pilot results, Mr. Fortune drew the following conclusions:

- **Increasing Operating License (OL) holder control over daily revenue** was critical for pilot implementation: OL holders currently have little or no control over management of daily operations. Here-to-Fore, drivers have exercised complete control over operations and especially management of revenue. In addition to the changes in the operating and business models under the pilot, future owners' control can be further enhanced through the introduction of Automatic Fare Collection (AFC) mechanisms.
- **Improving OL holder's understanding of the sector's fixed and variable costs** is another critical prerequisite for the change process to take effect: A key component of the current owner-target system is that drivers are currently responsible for all routine operation and maintenance costs such as for fuel, minor maintenance and repairs. An important element of building the case for change to a 'collective/association' is that the owners understand what impacts fixed and variable costs and how to estimate them. This understanding helped to make the case for collectivization of cost management.
- **The presence of visionary and persuasive leadership is required:** the associations that have participated in the first phase of the pilot study have all displayed the presence of individual and/or collective leadership with a vision of the future better than the current for all stakeholders, the owners, labor and customers. The leadership of the participating associations also displayed some levels of legitimacy and a commitment to a consultative and participative approach to managing change.

- **Understanding of the benefits of scale (the need for collectivization):** synergies that can be derived from collective effort are seldom explored in the current association context. The fleet owners and leaders in the new associations who understand the benefits of scale.
- **Implementing basic operations management:** existence of a basic operation management structure has proven to be an important building block on the road to the formation of associations with expanded roles.
- Provision of supporting facilities and infrastructure (e.g., central maintenance depots and parking places with accommodations for driver’s rest, central fueling facilities, etc.): investment in supporting facilities and infrastructure provided the association with the ability to better manage its most important variable costs (fuel, maintenance and labor) and to explore the benefits of collectivization.
- The financial case needs to be sound: an 8- and 16-Year financial plan showed that **operating and maintenance costs can be covered** by revenues generated from fares. This would allow the current Operating License Holders (association shareholders) to earn, on average, the same profit they are earning now. However, the plan shows that the association will require financial assistance with a once-off setup cost, as well as with for capitalization of the new fleet.

#### Question/Answer

The period after each presentation revealed similarities between the Cape Town case study and implementation of “semi-formal” PT in Latin American countries. Furthermore, although not explicitly mentioned, the planning that went into of the formation of the collective associations under the new business and operating models in Latin America and Cape Town included the significant stakeholder engagement noted by Professor Montalbo, especially with owners and drivers.

## 5. Panel Discussion

After a short break, the panel discussion started. Participant numbers reduced to 142 individuals. The session was moderated by: Dr Joanna Moody, Extended Term Consultant to the World Bank and member/Activities Coordinator of TRB's Standing Committee on Transportation in the Developing Countries, AME40.

The panel included:

- Mustapha Benmaamar, Acting Program Manager, SSATP, World Bank Senior Transport Specialist
- Stephen Perkins, Head of the Transport Research Centre, International Transport Forum (ITF)
- Solene Baffi, Project Manager, Coopération pour le Développement et l'Amélioration des Transports Urbains et Périurbains (CODATU)
- Anne Chaussavoine, French Development Agency (AFD)
- Samson Gyamera, Chief Executive, Greater Accra Public Transport

The discussion started with a question to all panelists: *What should the key elements of a program be for improving informal public transport? What are the impediments to actually implementing improvements, and how can they be overcome?* The discussion naturally shifted into a question-and-answer session, with participants sharing their experiences. Below is an account of the themes and messages shared, categorized by theme.

### 5.1 Impediments to Reform

**In all cases, there are a multitude of informal stakeholders from associations (unions), owners, drivers and conductors to passengers and government agencies.** The mix of stakeholders and the relationships among them vary across countries as well as cities within them. A lack of government understanding of the structure and functions of associations is a further challenge. In some cities, the “informality” of associations in terms of their often-clandestine activities borders on illegality. Due to the fragmentation in the industry, efforts by honest owners, drivers and conductors to improve can be undermined by unscrupulous associations and public authorities. It was made clear that the informal public transport sector **is not unorganized**. To the contrary, in some cases the industry is highly organized, but fragmented among multiple, often competing associations (unions).

The point was made that it is incorrect to assume that the creation of a metropolitan agency limited to strategic planning functions is the best avenue open to governments to “organize” the sector. With regard to the role of government in “reform” it was also noted that there are big differences among small, medium, and large cities where informal public transport may be the only kind available.

A further important impediment to improvement is the **lack of organizational, operations and business acumen** amongst paratransit stakeholders, especially in small-medium sized cities. It is not only informal public transport license holders (operators) themselves that lack the necessary skills to improve performance through formalization, but government as well. The problems with government include technical capacity as well as organizational structures with silos that prevent implementation of unified approaches.

It was concluded that the a poorly performing private sector has dominated public transport in most developing countries for a variety of reasons, but the absence of government interest, poor organization and resources of all kinds were contributing factors in most cases.

Another reason for poor performance is that some government officials with public transport responsibilities have vested interests. Some officials who are directly involved in the informal transport industry, creating a **political economy** that is un conducive to formalization. They benefit (financially) from the current status-quo, and are, therefore, likely to be uncooperative during a formalization process. Planning the required level of formality is, therefore, needed. One of the participants reported that a mayor did put up ‘roadblocks’, because of lobbying by operators that did not want to embrace change. It is important to be aware of the power dynamics and (potential) corruption. The question is: what are the power dynamics within the sector and where are all the financial flows?

In many cases the informal public transport operators provide **sub-standard service levels**. Users are exposed to a lack of information regarding origins, destinations, and routes, long waiting times (to fill up vehicles – a 1.5-hour trip can take up to 5 hours), overloading, unroadworthy vehicles, aggressive driving styles, to name a few. The users who suffer the most are the most vulnerable persons in the society (the poor, women, children, the elderly, and people with disabilities). Pollution and GHG emissions are also externalities that affects the well-being of inhabitants in developing cities.

The sector includes a **multitude of different modes of transport**. This makes it difficult to understand and formalize the sector. In some instances, it is easy to start a business with one vehicle. Formalization, therefore, hampers entrepreneurial opportunities, with a risk of economical losers (job losses). A participant hints that the growing number of motorcycle taxis is even more challenging. Government has no idea what to do. Some panelists indicate that the motorcycle taxi challenge is not unique. Other countries have experienced similar challenges and are starting to find solutions.

## 5.2 Solutions: What Can and Should be Done??

Successful reform requires an **understanding of current informal public transport service, operating and business models by reform proponents**. This includes aspects such as revenue management, cost structures, labor relations and the characteristics of different modes in different applications, to name a few. There is no one single solution to improving public transport in developing cities. There is a need to understand international **best** practices, but also what was tried and didn’t work. There is a common bias because supposedly “non-significant” results are not published. This is regrettable, as there is a wealth of knowledge in learning from the mistakes of others. A key action is to identify the local structure of the sector and institutional context. Given the vast differences among developing cities, and the current lack of trust, it is not always possible to implement best practices instantly if at all. Incremental reform is required and universities should play a role in unpacking best and worst practices.

**Stakeholder consultation is paramount** for a paratransit reform effort to succeed. This includes addressing all stakeholders, including operators, drivers, conductors, and unions, as well as being cognizant of the (hidden) agendas of all. There is a need for facilitated interventions to identify all stakeholders. The benefit of a more formal involvement needs to be explained, e.g., who should change what, why and how! There is a need to move towards a more professional approach and unleash the Win-Win potential regarding labor and vehicle conditions, road safety and the customer experience.

The psychology of owners as well as drivers and other labor need to be understood to ensure that reform efforts succeed. Currently, they are all sensitive about so-called “government interference.” Government must demonstrate to the sector that it is genuine in caring about their concerns and put some money on the table for basic improvements that the associations, drivers and owners can immediately see. That builds some goodwill.

Informal sector stakeholders will always ask: ‘what is in it for me’? As a catalyst, government may want to create incentives for reform, such financial assistance to recapitalize fleets, build terminals and depots, etc.

It is also important to be aware of potential losses, e.g., employment opportunities and take concrete, visible steps to address them.

Ideally, public transport should be a completely integrated system comprised of different types of services, including informal ones, addressing differing market needs. As Government moves to implement that vision, the responsible agencies need to 'take back rights', with compensation and other actions to mitigate harm. However, any change should not undermine what currently works, as that could lead to paralysis and a reduction in over-all mobility.

Reform needs a **political champion trusted by the Sector**. Government and other stakeholder leaders were drivers of successful reform in Cape Town (Mr. Fortune's presentation, the Philippines (Prof. Montalbo's) and Latin America (Dr. Hidalgo's presentation).

**An enabling environment and user needs can be addressed** by setting up "pilot" projects incorporating different aspects of urban public transport, including infrastructure improvements, vehicle electrification, congestion management, road safety and gender-related activities, etc. If projects can address three or four of these, and representatives of different stakeholder groups are brought together to discuss project planning and implementation, there will be additional benefits such as the start of and/or strengthening of collaboration.

Development banks can assist by financing infrastructure, knowledge transfer and capacity building. Repeating this in multiple cities will help develop capacity at the national level. In some cities, pilot projects might include more than one informal mode, including motorcycles used for public transport. In Chad, for example, a large part of motorcycle-related challenges was overcome by creating motorcycle only roads/corridors. There are also good examples of where motorcycle taxis are used to access to and egress from minibus- and midi-bus services and even BRT.

### **Multi-dimensional Capacity Building:**

- Officials need to be informed about legislative and operational approaches that have worked in other cities. By creating peer-to-peer engagement opportunities (e.g., site visits), actors can learn from best and worst practices. Peer-to-peer engagement can create a community of people that are responsible for the development of legislative frameworks, policies, strategies, and operational plans. Public agencies also need to understand and have skills in community organization and engagement. Universities, development banks, Non-Governmental Organizations (NGO's) and other actors can assist by providing technical assistance/training and/or the financial resources to enable them.
- Informal operators, drivers, conductors, and unions require business training incorporating all modalities. This will create an understanding of the benefits created by paratransit reform and how to take advantage of them. Again, universities, NGO's and development banks could play an important role in the provision of informal sector stakeholder training.
- There are always going to be operators that oppose reform. Communication campaigns can address opposition by explaining how reform can be a Win-Win proposition for all. Lagos and Cape Town are good examples of where this worked well.
- Important elements to include in reform programs are service, operations and physical integration across modes and co-ordination among providers. Financial autonomy, and the capacity of organizations representing different groups of stakeholders are also important factors.
- Capacity building is required in many large and medium cities across the developing world. Given the many unknowns regarding paratransit reform and immense training needs, precursor "train-the-trainer" programs were recommended.

**For all training requirements, the question is: who is going to do it?**

The question was asked if there are examples of shifting owner/operator incentives from pure net revenue maximization to:

- Improving service quality (schedule and route) and customer satisfaction
- Coordinating coverage in underserved areas
- Integration with other modes (i.e., first mile/last mile)

There are indeed good examples, and development banks and N.G.O.'s were encouraged to develop and disseminate appropriate case studies as part of their capacity building efforts.

**Information and Communications Technology can help to address many informal public transport sector performance issues.** For example, there are already a number of indigenous online/phone booking systems with the ability to reserve places not just for travel by private car (as in Uber), but also by the two, three wheeled and/or shared ride four wheeled vehicles that are so prevalent in developing cities. One workshop participant noted that a phone application system developed in Mexico has shown the abilities to prevent overloading, improve travel times, road safety and labor conditions.

Phone and on-line Apps. provide potential passengers information on routes, departure and arrival times, and other information that can help ameliorate typically long waiting times. They also make it possible to book a seat 'along the route, compared to always boarding at a rank to be assured of a seat. This gives drivers the ability to leave terminals before they are full with the knowledge that they will gain riders further along the given route. It will thus reduce driver idle time as well as waiting time for passengers already boarded at the respective terminal/rank. By providing arrival times to passengers boarding along a route, it can reduce waiting time for them as well.

By making informal public transport more attractive than other alternatives and efficient in terms of the amount of passenger kilometers per revenue vehicle kilometer, reform can **reduce pollution and mitigate climate change**.

**Climate Change:** Informal public transport reform can be an important climate change mitigation strategy but vehicle electrification (especially if renewable sources of electricity are used) also has potential. For example, the purchase prices and performance of electric two and three wheeled vehicles used in informal modes are already at the point where significant market uptake is happening in many countries.

The greenhouse gas reductions produced by reform suggest that climate funding to support reform projects, through carbon trading, for example, is a possibility. The identification and preparation of reform-supporting projects provide an opportunity to utilize 'Green' funding streams for them; it was noted, however, that to access these funds, local proponents need to be willing to strictly meet the respective international development organization's contractual obligations and conditions which can be difficult.

**The moderator closed the panel discussion** noting that all discussants agree that there a significant capacity building program is needed for **all public transport stakeholders** in developing countries, technical, managerial and policy making. Learning best practices on how to make informal public transport services more attractive and efficient is important, but learning from places where new approaches have not worked to expectations is also important. In this regard, the suggestion was made for each city to identify 'sister' cities and exchange knowledge and experience of all kinds, at all levels.

Finally, change can only be accomplished if accompanied by a sustained, multi-modality and multi-audience communication program.

## 6. Closing Remarks

**Mr. Sam Zimmerman, the TRB AME40, Standing Committee on Transportation in the Developing Countries Chairperson**, concluded the workshop by indicating that approaches to improving public transport in general and the “informal sector in particular need to be context-sensitive. In this regard, he defined context as reflecting the respective government and legal system, transit market and social, operational, financial and physical environment.

Improvements need to be identified “top-down” and bottom-up”. “Top-down” reflecting a deliberate planning process, and “bottom-up,” reflecting ways of responding to specific challenges on the ground. Ultimately, many different types of public transport services are needed in fast growing developing cities but they need to be integrated into a seamless system. Both government and private solutions are necessary, supported by international technical and financial assistance.

Before and during the Workshop, everyone agreed that capacity building is essential to success, but the developing country public transport community still needs to come together to provide the necessary themes, educational models, priorities and support for it

He reiterated the workshop organizers’ appreciation of TRB, the Africa Transport Policy Program (SSATP), the World Bank, the French Developing Agency (AFD), Coopération pour le Développement et l'Amélioration des Transports Urbains et Périurbains (CODATU) and the International Transport Forum (ITF) for their contribution to the session and encouraged all participants to sign up as a member or friend of TRB AME40 by mailing [trb.ame40@gmail.com](mailto:trb.ame40@gmail.com). The same email is available to suggest topics for future programs and research to be sponsored by the TRB and the other organizations that supported the session.

## 7. Way forward

During the Workshop, it became very clear that paratransit/the informal public transport sector is extremely diverse in developing countries in terms of:

- services offered
- business and operations models
- level and types of government involvement
- unions and other stakeholder associations
- types of rolling stock, facilities, infrastructure and software utilized
- financial health
- relationships to other modes

Although some studies of one or more of the above have been conducted, an **extension of the knowledge base** is required to validate potential improvement/ reform measures and their transferability to various local contexts. Already identified gaps include the need for local governments to be trained on the development of a regulatory framework, strategies, and implementation planning, while operators and their representative associations need to be help understand techniques for timetabling, fleet and operations management, contract bidding and cost and revenue estimation, etc.

It's obvious that knowledge sharing of best practices is helpful; what isn't obvious and needs to be disseminated are critiques of current practices and how they can be improved. A better understanding of how to mitigate the potential negative impacts of change on different stakeholders would also increase the possibility of incremental reform. Further insights are required regarding risk mitigation approaches. The **collection of (standardized) data sets** in different local contexts would also support research that will expand the knowledge base.

The existing and an expanded knowledge base needs to be shared as widely as possible to **build capacity**. Capacity building efforts need to be targeted to technical, managerial, organizational, policy and legislative audiences.

**Stakeholder engagement:** Communications and engagement are essential for convincing stakeholders to learn about, then adopt new service, business and operations approaches. The multitude of stakeholders, from government, associations (unions), drivers and conductors, to users and residents, all have an interest in reform, and should all be participants in knowledge sharing activities. Government officials and union leadership stakeholder, in particular, need to be engaged to build trust in each group and between them and promote accountability.

Up-front analyses are necessary to identify hidden agendas (e.g., corruption), so that surprises can be avoided, when various stakeholders should be included in negotiations and how. There is a need to understand the political economy in different countries and cities. Fragmentation and variation in the industry will require that engagement approaches be tailored for the given context. Showcasing **exemplary leadership** practices while identifying pathways to adapt or replace corrupt practices with a new, service driven, equitable approach is required. Equity objectives, in particular, should help drive the pursuit of reform.

An important objective of improving (informal) public transport provision is better addressing the mobility and access needs of the most vulnerable (women, children, the elderly, and persons with disabilities) during ingress and egress, while waiting for their transport modes, and while travelling inside a public transport vehicle. They are an important stakeholder group that should be engaged as part of the reform planning and execution process.

**Enabling Environment:** Creating an enabling environment is required to successfully implement paratransit reform. One way to build such an environment is to provide **financial resources** for capacity building/training, peer-to-peer exchanges and site visits, to showcase exemplary service delivery approaches, public transport facilities and infrastructure.

A possibility for moving forward is the implementation of multiple projects in a single one location, each with a different target clientele. One project could target travelers with a choice, while the other, targeted to people who, because of physical or financial limitations, do not have travel options.

Although many parts of the world including in the Global South, have **embraced technology such as mobile phones**, large parts of developing societies still use traditional means for most activities. Cash-based purchasing, in particular, has an impact on the efficiency and security of public transport operations. The use of technology will assist in data collection and increase the knowledge base and facilitate its transfer. Governments can better monitor and regulate, operators can improve their asset base without financial losses, drivers and conductors will have better working conditions and stabilized income streams, and travelers will have reduced travel times, improved road safety and less overcrowded vehicles. Furthermore, embracing technologies that support sustainable development will reduce pollution and GHG emissions.

Based on the presentations, panel discussion and insights through supporting documents, a SWOT analysis was developed, which is summarized in Table 7 below.

**Table 7** SWOT Analysis for the Paratransit Industry in Developing Countries

Strength	Weakness
<ul style="list-style-type: none"> <li>• Entrepreneurship</li> <li>• Associations/unions</li> <li>• Self-regulation</li> <li>• Resilience</li> <li>• (Almost) door-to-door service</li> <li>• Coverage</li> <li>• Affordability</li> <li>• Flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Fragmentation of the industry</li> <li>• Poor, unreliable services</li> <li>• Under-served, usually poor areas</li> <li>• Irregular service hours</li> <li>• Lack of mode standardization</li> <li>• Informal practices</li> <li>• Employment practices</li> <li>• Congestion, pollution</li> <li>• Safety, security</li> <li>• Poor quality vehicles, facilities, infrastructure</li> </ul>
Opportunity	Threat
<ul style="list-style-type: none"> <li>• Stakeholder engagement</li> <li>• Entry level jobs</li> <li>• Rationalization</li> <li>• Creation of transport authorities</li> <li>• Improved working conditions</li> <li>• Inclusivity through infrastructure and jobs (universal design)</li> <li>• Improved reliability</li> <li>• Improved service quality</li> <li>• Opportunities to appl technology</li> <li>• Over-all sustainability</li> </ul>	<ul style="list-style-type: none"> <li>• Business practices reflecting only short-term objectives</li> <li>• (Borderline) Illegal practices</li> <li>• Opportunities for corruption</li> <li>• Excluding the most vulnerable</li> <li>• Job losses</li> <li>• Gender bias</li> <li>• Lack of transparency</li> <li>• Complexity</li> </ul>

## Appendix A: Welcome

**Mr. William B Anderson**

Welcome to our workshop which begin at 7:00 a.m. Eastern. We will admit attendees at this time. Please keep your cameras off and remain muted during the presentations as to not interrupt the presenters. Hope you enjoy today's workshop. The workshop includes live English to French translation. Turn on the Interpretation function at the bottom of the Zoom with the other features. Select the French to hear live translation.

Bienvenue à notre atelier. Svp, veuillez éteindre vos cameras et garder silence pendant les présentations afin de ne pas interrompre les présentateurs. L'atelier comprend une traduction en direct de l'anglais vers le français. Activez la fonction « Interprétation » au bas du Zoom. Sélectionnez le français pour entendre la traduction français en direct.

Dear all,

You can access the presentations for today's sessions on our committee website.

English: [https://drive.google.com/drive/folders/1OreyDC2P0Yzik\\_gs8N0ZPcBheTlfp6ah](https://drive.google.com/drive/folders/1OreyDC2P0Yzik_gs8N0ZPcBheTlfp6ah)

French: [https://drive.google.com/drive/folders/1WCzsq\\_TJsd0AQQSERsI837Gn06NyLTpT](https://drive.google.com/drive/folders/1WCzsq_TJsd0AQQSERsI837Gn06NyLTpT)

The workshop is being recorded and we will share the link with all participants on the workshop's webpage: <https://sites.google.com/view/trb-ame40/spring-workshop>

If this subject or other transport issues in developing countries interest you consider becoming a Friend of the Transportation Research Board (TRB) Standing Committee on Transportation in Developing Countries (AME40), one of 170 committees addressing all modes of transportation. You may do so by visiting MyTRB.org and creating an account. There are no fees for doing so. An Account on MyTRB.org enables you to sign-up as a Friend of all the committees that interest you, such as AME40. Likewise, TRB supports an International Coordinating Council (A0020C) that you may want to become a Friend of as well. Friends receive announcements on new publication, events, and opportunities to review research papers.

## Appendix B: Question Log

### Dr. Ajay Kumar's Presentation:

**Immacuete Natukunda (from Uganda)** / good afternoon to you? In Uganda, we intend to organize operators into SACCOs? Do I assume they are similar to unions? Does that mean the paratransit operations will still be informal???? What are the aspects of formalization???

**Abdul Hasib Mohtasibzada (from Afghanistan)** / According to the experience of Bogota-SITP, informal transport will be problematic in developing countries like Afghanistan, so how can we control potential future risks in these countries by using of informal transportation system?

**Bruno Dobrusin, International Transport Workers' Federation** / A major problem for informal transport workers is that they are not given a seat at the table, they are ignored as a key actor to be part of the solution. The introduction of BRTs and now electric vehicles displaces workers without giving them the opportunity to transition into a more organized mode of transport.

**Lionel Lucien, Massachusetts Department of Transportation, USA** / Could you address whether there have examples where government intervention or support in the form of access management (regulating driveway access, improved traffic operations, formal bus stops etc.) have made informal transport more efficient and financially sustainable?

**Emmanuel DOMMERGUES (UITP)** / Should we consider that the process of improving and the way of doing it should not dealt with politically and at local Level/close? What kind of agenda for institutions there to help?

**Emmanuel John (from Abuja)**/ I am pleased to share the report of our expert dialogue on this same subject. <https://www.mobility.ochenuel.com.ng/sumcourse/transforming-informal-transport>

**Jackie Klopp**/ There is also a political economy as to why many government actors and lenders prefer to focus on the technical such as buying buses and heavy infrastructure and corruption is one element of this. Do you want to comment on how this dynamic needs to be addressed?

### Dr. Dario Hidalgo's presentation:

**Bruno Dobrusin, International Transport Workers' Federation**/ Thank you Dario. In the case of Bogota, the provisional bus system is being phased out at the end of 2021. Over 4,000 workers are losing their jobs. Do you know how the municipal government and Transmilenio have responded to these workers? Have there been examples of retraining and employment programs as part of these reforms for existing informal transport workers?

**Rahul jobanputra.** RE: SITP, were infrastructure options such as Tactical Transit Lanes considered? This would have been low cost and enables operations outside of mixed traffic

**Pierre DEBANO.** For Bogota, do you study Trolleybus IMC 14 m because it is probably the lower TCO cost for electric buses. Thank you for the answer about trolleybus. I think that 24m trolleybus IMC are very interesting for BRT. I have remarks about the study made a lot of year before that concluded that trolleybus was not suitable for BRT. I am at disposal [pdebano@laposte.net](mailto:pdebano@laposte.net)

**Claire Birungi.** Glad to hear that on the overall the Bogota reform created more jobs - and more decent jobs with contracts.

**H. M. Swamy.** Formal PT through micro buses versus Informal PT? what would be the way ahead? I mean Informal IPT (Rickshaw)

**Rahul jobanputra.** Do you have a report on the outcomes of the use of Tactical Urbanism you could share with me?

**Victor Alves.** What were the impacts on transport reform in Bogotá in terms of tariffs? Was there a fare increase for passengers or an increase / creation of a subsidy?

**Chalwe Mwamba.** It is very good hear that we need to relook at the interventions, no one solution fits all problems, e.g., BRT. Dedicated lanes come with their own challenges.

### **Prof. Dayo Montalbo's Presentation**

**Stephane Masamba.** In the Stakeholders identification, how come public transport operators and drivers were not part of Level 4 - decision making?

**Benjamin De la Pena.** I agree @stephane Masamba

**Rimon Rafiah.** I concur. Also, how was the 1300 figure arrived at? Did it take into account future population growth? Was possible covid influence taken into account?

**Emmanuel DOMMERGUES.** How could the level of « appetite » / responsiveness to consultation ne qualified from the point of view of 1)thé général public/usera and 2)gouvernement? How to raise the interest in stakeholder engagement?

**Bruno Dobrusin, International Transport Workers' Federation.** Thank you Dayo. You mentioned that jeepney drivers were involved in consultation but not in decision making. Given that they have thousands of jobs at risk, how were their needs and demands incorporated as part of the transition?

**H. M. Swamy.** Thanks, Prof. Dayo, for a detailed presentation. A question - Apologies for misspelt message. Thanks Prof. Dayo for a detailed presentation. A question - How is this 'connection with users and non-users' continued during operations?

### **Dr. Dayo Mobereola's Presentation:**

**Mohammad Shoab Masoud.** What if governments in big cities encourages large scale investment to compete with informal and individual public transport operations that may/may not be on the same routes where informal public transporters operate? In this case what would be the informal operators protests? Does anyone from the panel have idea or similar experience?

**Emmanuel DOMMERGUES.** Linking this presentation to the previous one: we mentioned involvement of drivers. What about training to provide skills/understanding of beneficial changes to bring to the sector?

**Stephanie Ezra.** @ Dayo Mobereola: You seem to use the words informal and illegal interchangeably, could you clarify this please?

**Stephane Masamba.** On slide 10 when you mention infrastructure and operation. What do you mean by operations?

**Nitesh Shah.** Is there any evidence of improving informal transit reducing ownership private of vehicles? A user would prefer to buy a personal vehicle for reasons like convenience and safety, and their needs might not necessarily meet from existing (or even improved) informal transit.

**Edem NYADUDZI.** BRT seemed to be one window through which the informal PT operations was transformed in Lagos. With your experience, do you think we can bring some further improvements into this system bearing in mind the belief systems (sole ownership, fear of losing jobs to organized systems etc.) shared by these operators.

**Reggie Springleer.** @Nitesh... see <https://www.iol.co.za/capetimes/im-selling-my-bmw-and-taking-myciti-1151809>

**Victor Alves.** did you get some kind of understanding to reorganize the routes according to the BRT or did it remain "informal"? If so, what were the difficulties encountered?

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**Christine Nyakona.** I would like to recall the challenges presented by the informal PT: BRT ultimately eases the situation but how do ensure long time mitigation of the challenges-especially varied fares and service quality offered. (Hygiene, especially)? The regulators do help but passengers are still vulnerable to different fares along the routes.

Climate: The BRT introduced, is it electric?

Would introducing a body that represents passengers predominantly be helpful?

**Seye Rotimi Awoyomi.** Will you consider the Lagos scenario as a qualified success as the journey times are still relatively long? The Private owners and busses are still rivalling the LAMATA backed initiative. What is the way forward?

**H. M. Swamy.** Thanks for illuminating presentations on a very pertinent topic - Informal Transport. Need to leave.

**Yolanda Oliver-Commey.** Thank you for this presentation and comparison. Was there collaboration with Ghanaian authorities to provide this comparison or is it based on a literature review?

**Victor Alves.** What is the current situation for Accra failure situation? Is the BRT running? Was there any improvement besides the issues?

### **Eng. Gershwin Fortunes Presentation:**

**Pierre DEBANO:** Please Explain what is an "As-Is" business model. Thanks

**Brendan Finn:** Can you please share the link for the Cape Town report (or at least the title, we can search). It is not included in the download version of the presentation. Thanks.

**Nico McLachlan:** The business model as operated by the paratransit association prior to improvement (i.e., creating a ring-fenced understanding of revenue, costs etc.)

**Guilherme Dourado:** How convince them of a fleet reduction? "What Will I do with my vehicle then?"

**Nico McLachlan:** The introduction of a scheduled service made the case for reduction in fleet in this case-fleet reduction is an outcome not an objective in itself

**Reggie Springleer:** @Guilherme: In South Africa we have a Government Taxi Recapitalisation Project, which scraps/demolish old taxi vehicles in exchange for a recap allowance.

**Nico McLachlan:** City Authorities have to invest in the building of both technical, managerial and governance capacity of paratransit operators as part of any attempt at improving the quality of paratransit supply

**Reggie Springleer.** Hi Rahul, please use the contact details in the presentation from Gershwin to request the report. We will gladly share. Unfortunately, not uploaded to the public sites yet.

### **Panel discussion:**

**Isaya Ntalugela:** Which capacity is required for the government to help on this area?

**Nico McLachlan:** Thank you for mentioning the City of Cape Town Capacity Building Program Solene. It is important to understand that enhancing the operating capability of the paratransit sector and dealing with resistance to change is a journey that public authorities need to embark on - it requires a carefully designed program.

**Jackie Klopp.** There is also a problem with financing and government preferences for big infrastructure which involves corruption. There is also the lending bias towards large projects like BRT. How do we address this political economy problem- can we do better to bundle finance for popular transport upgrading within larger mass transit projects that need to be part of a multi-modal integrated system? How do we get creative with finance including leveraging climate finance to support this sector?

**Chadi Faraj.** is there a magic reform for informal bus system could be used in general? Or we must adapt tailored approach to every system what it could be in common and what is not, thanks.

**Benjamin De la Pena:** funny thing in Manila - with the service contracts and asking the jeepneys to “stay on the route” - apparently the government did not know that some parts of the routes were closed. (Jeepneys were rerouting because the roads were closed) government needs to work on their digital game.

**Dario Hidalgo, Bogotá, Colombia:** Regarding the example of Jetty see <https://www.itf-oecd.org/app-based-collective-transport-service-mexico-city>

**William Lyons.** Are there examples of shifting owner/operator incentives from pure fare maximization to service quality (schedule and route), coordinating coverage to underserved areas, coordination with other modes (first mile/last mile)? Role of technology mentioned by Steve seems critical.

**Benjamin De la Pena.** Public agencies need to understand and have skills in community organizing and community engagement.

**Brendan Finn, Ireland.** I think Samson has really put his finger on the key issue. Government must demonstrate to the sector that it is genuine, it is serious, and it is as willing to stay the course as the informal sector has been. He rightly points out the starting point of putting some money on the table for basic improvements that the associations, drivers and owners can immediately see. That builds some goodwill. Government must also put some resource into itself, to have the capacity to engage with the informal sector and do business with them. After all, the informal sector is in for the long-term and has its own well-established structures, it turns up every day and carries the people. Can Government say the same?

**Reggie Springleer.** @Brendan Finn, I fully concur... exactly the challenge in Cape Town.

**Stephane Masamba.** Electric vehicles do not necessarily address congestion. What does the panel suggest addressing pollution, as well as congestion issues?

**Anjali Mahendra:** On the point of creative financing and given the challenges small informal transport operators have been facing during COVID, are COVID recovery funds from national governments an opportunity to begin this conversation to reimagine public transport - institutionally and operationally, where

public and informal transport complement each other? Are panelists seeing these opportunities to use COVID recovery funds in this way?

**Dario Hidalgo, Bogotá, Colombia.** Cape Town pilot shows that it may be possible to cover operations from user fares, supporting fleet acquisition (specially e-buses) may be one way to advance public transport (which helps on reducing congestion, road fatalities and equity, while reducing emissions, local and global).

**Rafael Mejia-Ortiz.** how do you manage the increase in land values when transportation services are improved or “formalized” in many cases interventions to improve transit lead to increase in land values which displaces lower income groups?

**Dario Hidalgo, Bogotá.** Yes Rafael, this is one undesirable side effect. But improving Access to low-income communities increases their opportunities to reach Jobs. With integrated land use Planning that keeps social housing as a requirement, the effect of gentrification may be mitigated.

**Jean-Charles Crochet.** Isn't it dangerous to assume that the creation of a metropolitan planning agency (à la LAMATA) is the only solution to organize public authorities? There are softer, simpler ways to integrate the actions of public authorities which will make it possible to minimize conflicts between them.

**Dario Hidalgo, Bogotá, Colombia.** Development institutions are mainly demand driven, and governments keep asking for road infrastructure. How the Banks (multilateral and bilateral) shift the conversation towards funding sustainable mobility? Specially, given our knowledge on how difficult is to advance public transport in the context of informality?

**Kossigari DJOLAR.** Merci à tous les intervenants. Dans la plupart des interventions, il est ressorti qu'il faut adapter les solutions au contexte local. Ma question est de savoir dans les villes où les taxis-motos constituent le noyau dur de l'offre informel, comment s'y prendre?

**Abdul Hasib Mohtasibzada.** Greetings and thanks for your precious and efficient workshop it was really helpful and on behalf of ministry of transport of Afghanistan I do appreciate your hard work on this field. Again I respectfully request you for the link of this workshop, it will help our technical team in ministry of transport. Warm regards. Abdul Hasib Mohtasibzada. Senior officer to infrastructure development at ministry of transport Afghanistan.

**Jean-Charles Crochet.** Modibo, il y a eu d'excellentes recommandations faites dans le cadre du PDU de Yaoundé. Vous les verrez sur le site web de MYC.

**Mohammad Shoab Masoud.** What courses or workshops can be available for the developing countries urban transportation and public transportation policy makers by experts and/or organizations? For capacity building?

**Joanna Moody.** Question from us to you: What forms of capacity building are most useful for you? What topics would you like to see covered in further engagements? We want to hear from you: [trb.ame40@gmail.com](mailto:trb.ame40@gmail.com)

**Benjamin De la Pena:** congrats organizers. I hope we can get in your orbit: Global Partnership for Informal Transportation [gpitransportation.org](http://gpitransportation.org). we have a newsletter [gpitransportation.substack.com](http://gpitransportation.substack.com). informal transport moves billions and employs millions. one more plug: [makeshiftmobility.substack.com](http://makeshiftmobility.substack.com).

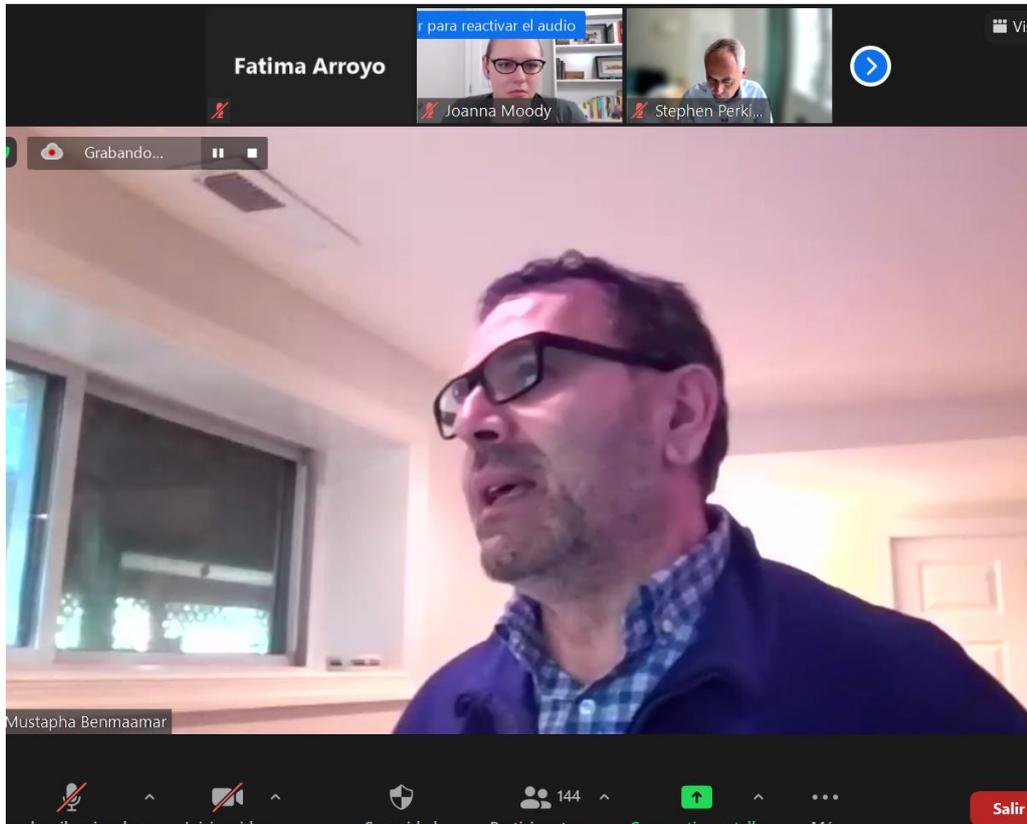
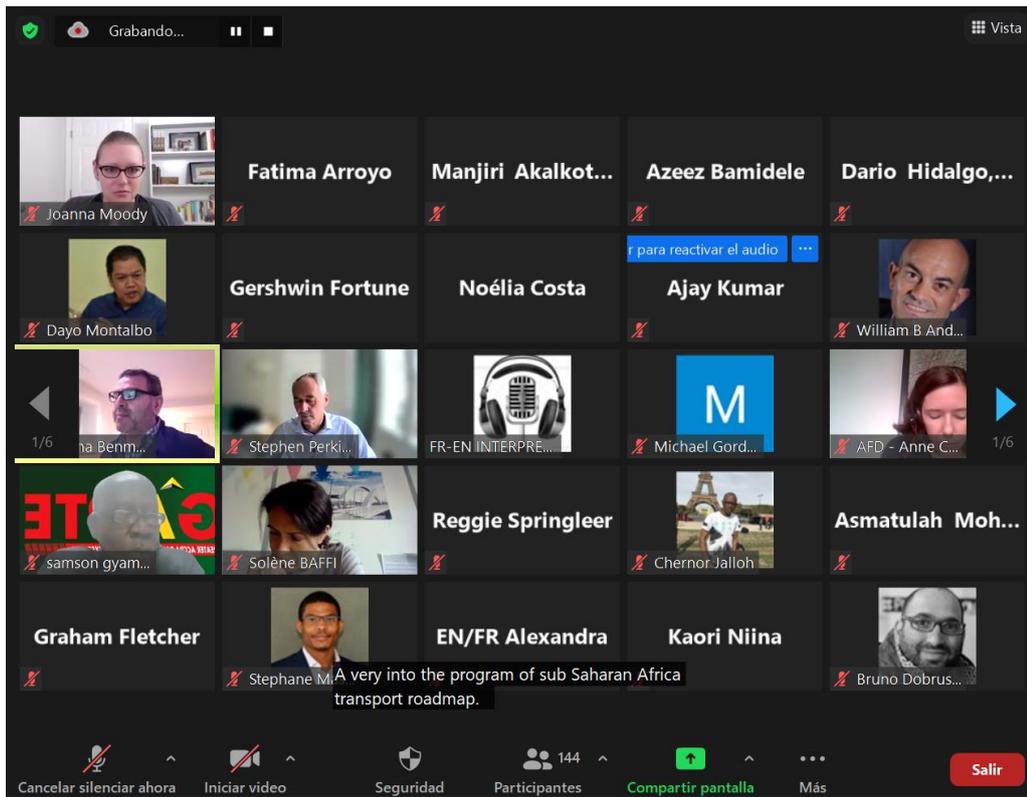
**Anjali Mahendra.** Congrats on this very informative webinar! We look forward to staying in touch and collaborating from WRI: <https://wriroscities.org/>



*Modibo Zerbo: Bamako*

- Green climate
- 2-3 wheelers: comment reglementer

## Appendix C: Participant and Speaker Screenshots





Zoom Meeting

Fatima Arroyo

Mustapha Ben...

Joanna Moody

Grabando...

Stephen Perkins

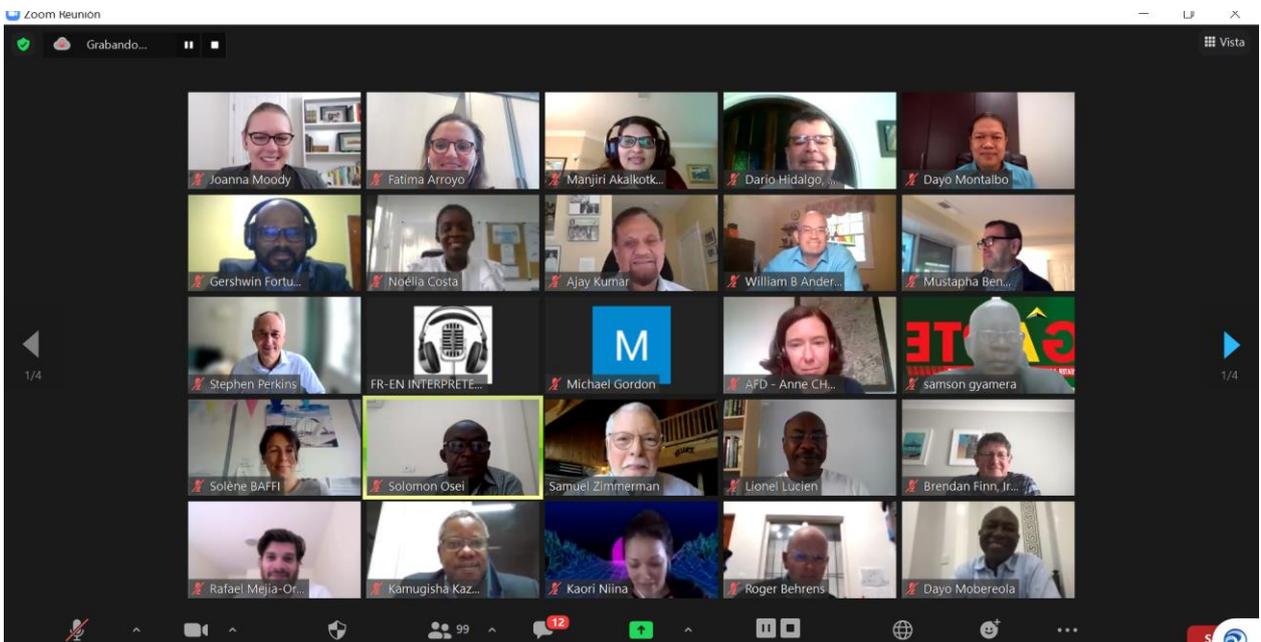
Fatima Arroyo

Joanna Moody

Stephen Perki...

Grabando...

Solène BAFFI



## Appendix D: Participants Who Introduced Themselves

Jason Hill, Office of International Transportation and Trade, U.S. DOT

Prof Marianne Vanderschuren, University of Cape Town

I am Tendekayi Marapara from Zimbabwe, working for KST Consultants

My name is Sheilah Napalang, University of the Philippines, Quezon City, Philippines

De kishore RRK, DIRECTOR (TECH) ASRTU, NEW DELHI para todos: 11:16 AM

I am Alphonse Soh, Senior Transport Specialist, World Bank, Abidjan, Cote d'Ivoire

Hi everyone! Ramiro Alberto Ríos, Senior Transport Consultant. Ramboll Smart Mobility, Sweden

Pulipati Sasanka Bhushan, Faculty of Transportation Engineering, Vellore Institute of Technology, Vellore, India. Hi all.

IM RRK KISHORE, DIRECTOR ASRTU, NEW DELHI INDIA

Ian McAllister, Independent Transport Consultant, British, now based in the Philippines.

Jacqueline Klopp, Columbia University.

De Jaspal Singh

Hezbollah Hamidi from Afghanistan Economic development, researching and planning director.

Samuel Zimmerman para todos:

Solène Baffi, CODATU

Neveen Al Qaisi from Jordan hope you are all doing well!

Hi, I am Engr Emmanuel John, Executive Director, Ochenuel Mobility, Director and Host of the Africa Sustainable Urban Mobility Course and Coordinator of Open Streets Abuja [www.mobility.ochenuel.com.ng](http://www.mobility.ochenuel.com.ng)

De Stephane Masamba Cape Town

Mateo Gomez, MobiliseYourCity Partnership

Constancio Machanguana, Senior Consultant, Maputo, Mozambique

Rimon Rafiah, Transport Economist, from Israel

Genesia Rodrigues, Directorate of Urban Land Transport, Bengaluru (Karnataka, India).

De H. M. Swamy good evening. It is so nice to meet you all, though virtually.

I am Mohammed Abdul Muhsin Zambang, a lecturer at the Civil Engineering Department, Tamale Technical University, Tamale, Ghana

Margaret Akofio-Sowah, WSP USA, Silver Spring, Maryland, USA

Prof. H. M. Swamy

Hello to everyone, I am Anne Chaussavoine from the French Development Agency (AFD), based in Paris

I am Angela Fuller-Dapaah, University of Leeds, United Kingdom

Hi Heather Allen - as anyone would expect checking up that women's needs are not being overlooked!!  
Gender & sustainable transport expert.

De Joanna Moody para todos: 11:19 AM

Hi everyone! Fasineh Bockarie Kamara, Project Engineer, Integrated and Resilient Urban Mobility Project,  
Ministry of Transport and Aviation, Freetown, Sierra Leone

Hi everyone! Victor Alves, Transport Consultant, DAR/GPO Group, São Paulo, Brazil

Azeez Bamidele, Federation of Ecowas Licensed customs Broker Associations

Mohammad Shoaib Masoud, Transportation Affairs Advisor of Ministry of Transport, Afghanistan

Hello to all. Malithi Fernando, International Transport Forum, Paris

Hi everyone, I am Jean-Pierre LANNES, Espelia (Paris)

Roger Behrens (Centre for Transport Studies, University of Cape Town)

Stephanie Ezra, University of Leeds, Institute of Transportation Studies

Laxman Singh, PhD student, IIT Delhi.

Bruno Dobrusin, International Transport Workers' Federation

De mí para todos: 11:22 AM

Hello, Ahmed (Ako) Alkady, Transport for Cairo Mobility Consultants

Zahi Akiki, Dar Group, Lebanon

Hello, Maya Abou Zeid, American University of Beirut, Beirut, Lebanon

De Neji LARBI Hello

Greetings! Ruvimbo Machingaidze from Zimbabwe. Studying in Belgium.

I'm Neji Larbi from the African Development Bank, Urban Mobility Specialist from Abidjan

Seye Rotimi Awoyomi AFDB

This is George Banjo retired World Bank staff now based in Lagos, Nigeria. Regards to all.

Ghassan Alam, Principal, Project Manager, Transportation Dept., Dar Al Handasah, Lebanon

Pedro Camargo, Based in Australia. Consultant (including the World Bank) and developer of AequilibraE, an  
open-source network and demand modelling package

Dr Raghuram from NIT Warangal, India, Hello everyone

Jules MUGAMBIRA, EU Delegation to RWANDA programme manager

Francisco Achwoka, PhD Researcher/Student, BRT Adoption and Implementation in SSA, Ben Gurion  
University of The Negev, Israel

Hi everyone Nico McLachan paratransit reform specialist Cape Town South Africa

This is Nihar Johari, Asst. Vice President, Darashaw and Company Pvt. Ltd., Consultant to Gujarat State Government.

Insacúlate Natukunda - Uganda

This is Abdul Hasib Mohtasibzada infrastructure development senior officer at ministry of transport, Kabul, Afghanistan

Anjali Mahendra -- from World Resources Institute (WRI). In line with the great slide on Positives and Negatives, some years ago Dario Hidalgo and I led a session at our Transforming Transportation conference (co-hosted with the World Bank) on "Informal Transport: A Boon or a Bane." It was designed as a debate between panels and there were strong views on both sides even among transport experts!

Sonia Lopez, EU Delegation to Mozambique connecting from Maputo

De Bruno Dobrusin, International Transport Workers' Federation

De Lionel Lucien, Massachusetts Department of Transportation, USA para todos: 11:57 AM

De Emmanuel John; I am pleased to share the report of our expert dialogue on this same subject. <https://www.mobility.ochenuel.com.ng/sumcourse/transforming-informal-transport>

Saksith Chalermpong, Chulalongkorn University, Bangkok, Thailand

Fernando Cordero, Auburn University, Auburn, Alabama, United States

Chernor A. Jalloh, Ministry of Transport and Aviation, Freetown Sierra Leone, West Africa.

Ababacar FALL, CETUD, Dakar SENEGAL

I am Fatoumata Diallo, SciencesPo Paris, Paris

Azeez Bamidele, from Nigeria

Bonjour Ababacar, merci de participer au webinaire. Super avoir representation de Senegal!

Masimba Mapfurira, University of Cape Town, MSc Transport Studies

Hi, I'm Khalid Abbasi. I'm online from Kabul, Afghanistan. Now, I'm working on implementation of public transport design for Kabul city

Claire Birungi

Nko Asanye Esuabana

Hello I am Pierre DEBANO French consultant in public Transport: Bus/Tram/BRT/Regional Rail; 50 years' experience; pdebano@laposte.net

Hi all, this is Mayank Dubey from India. I teach at School of Planning and Architecture, Bhopal

Hello all! This is Maria Margarita Zelaya, World Bank Retiree, Bethesda, Maryland, USA

I am glad I managed to join this informative discussion. I am Christine Nyakona, Civil infrastructure Engineer and transport planning and management practitioner, Entebbe, Uganda.

I am Emmanuel Bama, Data Transport, Mali

Chadi Faraj, Riders' Rights NGO from Lebanon we work on mobility justice