Good practices by the public transport operators worldwide against the COVID-19

Presentation

10th December 2021

Agenda

This study aims to collect good practices of counter measures against COVID-19 among transport authority/ operator across the world

Background and objective

- Transport sector has been significantly affected by COVID-19 due to lock down as well as safety issues from passenger perspective
- However public transport is still important role as social infrastructure especially for essential workers
- Public transport authority/operator has been implementing counter measures against COVID-19 to make it sustainable transport system

Approach

- The purpose of this study is to investigate:
  - the impact of COVID-19 on global transportation businesses
  - the details and effects of measures taken by public transportation operators against COVID-19
  - the actual status of new technologies and services in the public transportation sector
- This study covers 28 countries, mainly focusing on developing countries

Daily new cases and use of transportation - #1 Singapore

Status of daily new cases and use of transportation

- ◆ Driving ■ Transit ● On foot ■ Daily new cases

Daily new cases ('000)

Change in PAX (%)

Apr. 3-Jun. 1 Declaration of the "circuit breaker lockdown"

Jun. 2~Jun. 18: Phase 1
Jun. 19~Dec. 27: Phase 2
Dec. 28~: Phase 3 (New Normal)

May 8 Reversion to Phase 2

Modification of LTA service frequency from 3 min. to 5 min. to reduce transportation services

Recovery of service frequency from 5 min. to 3 min. to avoid congestion

Transit ridership recovered to pre-COVID-19 levels

X-axis: 02/20 03/20 04/20 05/20 06/20 07/20 08/20 09/20 10/20 11/20 12/20 01/21 02/21 03/21 04/21 05/21 05/21

Y-axis left: 0, -20, -40, -60, -80, -100
Y-axis right: 1.5, 1.0, 0.5, 0.0

Details of initiatives

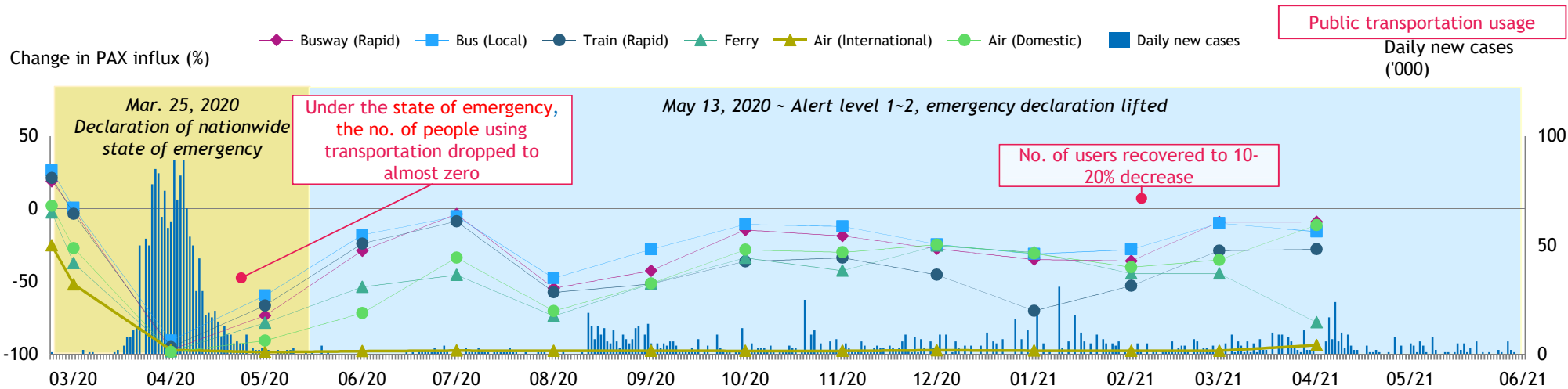|	Response ⚖		Recovery 🏆		Revitalization ♞	
Area	All of Singapore	All of Singapore	All of Singapore	All of Singapore	Punggol, Sengkang Area	All of Singapore
Enacting entity	Land Transport Authority (LTA)	SMRT Bus	SMRT Bus	Gov't of Singapore	LTA	Gov't of Singapore
Start date	May 2020	May 2020	Apr. 2020	2020-2023	Feb. 2020	2019-2040
Objective	To prevent COVID-19 transmission	To provide a transportation service for COVID-19 patients	To ensure early detection of close contacts	To improve bike lanes to meet demand of cyclists	To reduce infection risk by avoiding human contact due to congestion	To realize a compact city
Details	Implemented transit infection control measures set out in LTA guidance	Reused out-of-service buses to transport COVID-19 patients	Introduced close contact tracing system using QR codes on public transportation	800 km of bike lanes to be developed by 2023	Introduced an incentive program for passengers who transfer from train to bus during peak times	Promoting 20-minute towns and a 40-minute city by 2040

New 1 | New 2 | New h3e 3 | Continued 4 | New fi5e 5 | New 6

4
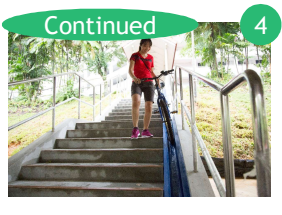
Daily new cases and use of transportation - #2 New Zealand

Status of daily new cases and use of transportation

Change in PAX influx (%)
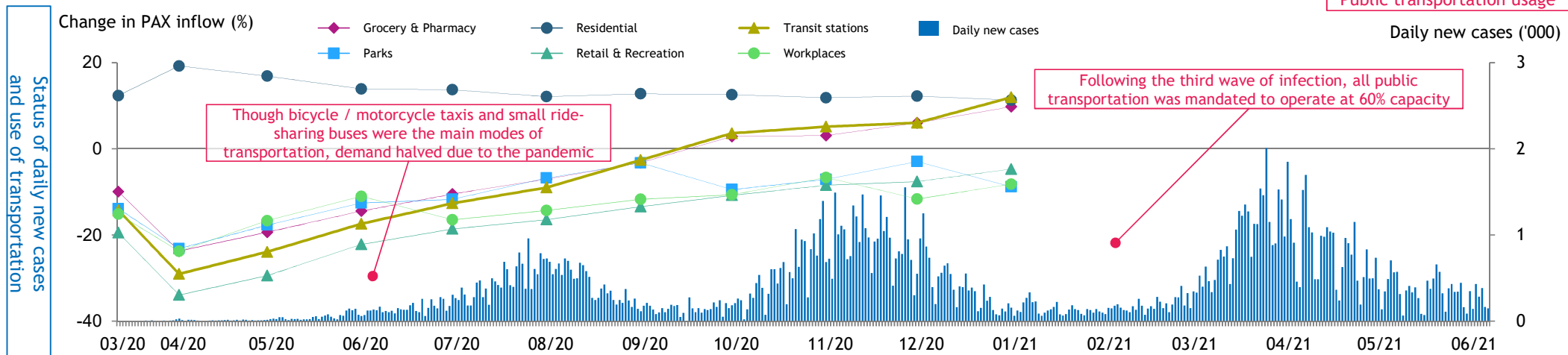
Public transportation usage

Daily new cases ('000)

Legend: Busway (Rapid) · Bus (Local) · Train (Rapid) · Ferry · Air (International) · Air (Domestic) · Daily new cases

Mar. 25, 2020
Declaration of nationwide state of emergency

Under the state of emergency, the no. of people using transportation dropped to almost zero

May 13, 2020 ~ Alert level 1~2, emergency declaration lifted

No. of users recovered to 10-20% decrease

Y-axis (left): 50, 0, -50, -100
Y-axis (right): 100, 50, 0
X-axis: 03/20, 04/20, 05/20, 06/20, 07/20, 08/20, 09/20, 10/20, 11/20, 12/20, 01/21, 02/21, 03/21, 04/21, 05/21, 06/21

Details of initiatives

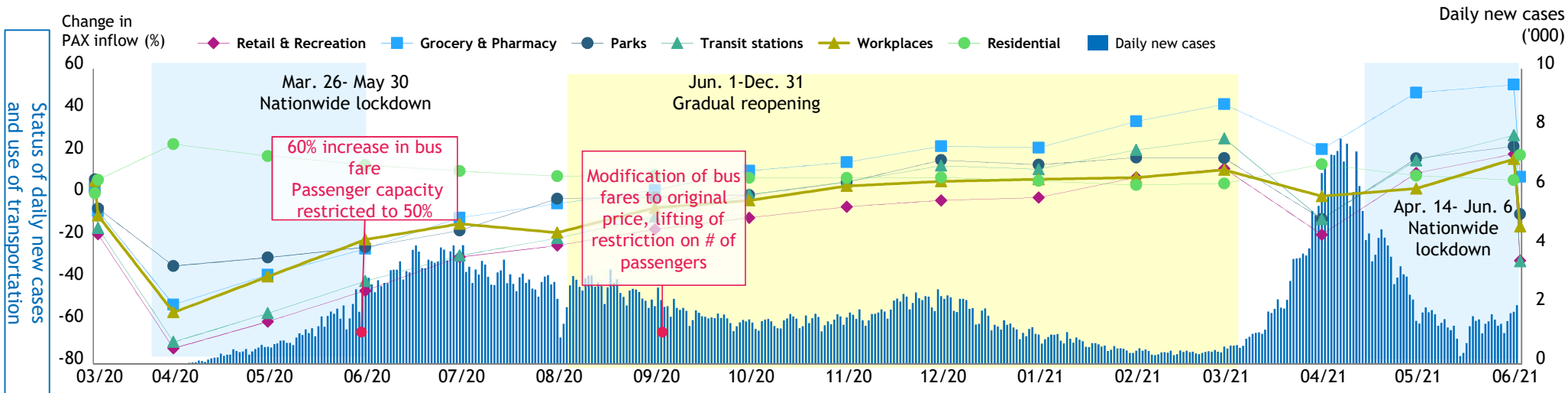|	Response ⚖		Revitalization ♞	
Area	All of New Zealand	All of New Zealand	Auckland	Auckland
Enacting entity	Each transportation operator	New Zealand Gov't	Auckland Transport	Auckland Transport
Start date	March 2020	March 2020	March 2020	March 2020
Objective	To maintain and enforce an onboard infection prevention environment	To provide temporary support to transportation operators affected financially by COVID-19	To reduce infection risk by avoiding human contact due to congestion	To envision/realize new forms of mobility in terms of both quality/quantity
Details	Used fog guns for onboard disinfection and to ensure social distancing	Provided financial support for transportation operators financially affected by COVID-19	Launched a service that provides real-time info on congestion using AT Mobile journey planner app	Developed/improved the road environment using technology and traffic data called Digital Street

① New ② New ③ New ④ Cont'd

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Status of daily new cases and use of transportation

Public transportation usage

Change in PAX inflow (%)

Daily new cases ('000)

Legend:
- Grocery & Pharmacy
- Parks
- Residential
- Retail & Recreation
- Transit stations
- Workplaces
- Daily new cases

Though bicycle / motorcycle taxis and small ride-sharing buses were the main modes of transportation, demand halved due to the pandemic

Following the third wave of infection, all public transportation was mandated to operate at 60% capacity

Y-axis (left): 20, 0, -20, -40
Y-axis (right): 3, 2, 1, 0
X-axis: 03/20, 04/20, 05/20, 06/20, 07/20, 08/20, 09/20, 10/20, 11/20, 12/20, 01/21, 02/21, 03/21, 04/21, 05/21, 06/21

Details of initiatives

Response   ## Recovery

Area	All of Kenya	All of Kenya	All of Kenya	Jomo Kenyatta Int'l Airport
Enacting entity	Matatu Owners Association	UN Human Settlements Programme (UN–Habitat)	Safaricom	Gov't of Japan/UNDP
Start date	Mar. 2020	Jul. 2020	Mar. 2020	Feb. 2021
Objective	To secure minimal passenger safety through small-scale investments	To encourage people to thoroughly prevent infection during state of emergency	To ensure passenger and employee safety by digitizing some existing operations and reducing contact opportunities	
Details	Halved passenger numbers based on bus capacity to ensure social distancing	Used small buses (Matatu), not in operation, as a public relations tool to promote infection prevention measures	M-PESA, the company's mobile money service, partnered with public transportation operators (mainly Matatu) to digitize train ticket payments	Conducting automatic screening using robots to check passengers' temperature and confirm whether they are wearing masks

1 New 2 New 3 New 4 New
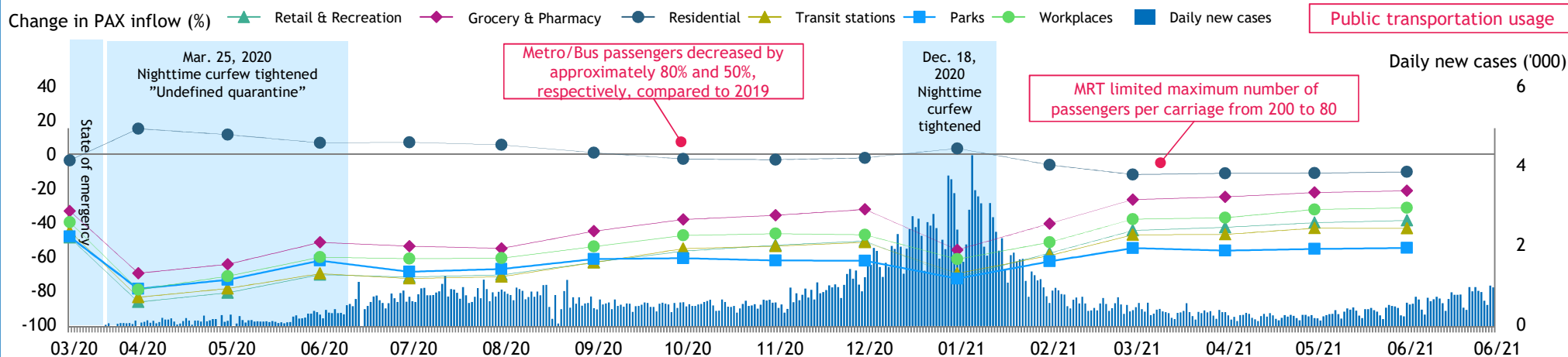
Source: BCG research, desktop research

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Daily new cases and use of transportation - #4 Bangladesh

Status of daily new cases and use of transportation

Change in PAX inflow (%)

Daily new cases ('000)

◆ Retail & Recreation ▪ Grocery & Pharmacy ● Parks ▲ Transit stations ▲ Workplaces ● Residential ▪ Daily new cases

Mar. 26- May 30
Nationwide lockdown

Jun. 1-Dec. 31
Gradual reopening

60% increase in bus fare
Passenger capacity restricted to 50%

Modification of bus fares to original price, lifting of restriction on # of passengers

Apr. 14- Jun. 6
Nationwide lockdown

03/20 04/20 05/20 06/20 07/20 08/20 09/20 10/20 11/20 12/20 01/21 02/21 03/21 04/21 05/21 06/21

Details of initiatives

	Response 🔨		Recovery 🏆		
Area	Bangladesh	Dhaka City	Dhaka City	All of Bangladesh	Impoverished areas in 6 cities
Enacting entity	Bangladeshi Ministry of Finance	Jatri	Dhaka Transport Coordination Authority (DTCA)	Pathao	Bangladesh Agricultural Society
Start date	May 2021	Aug. 2020	Aug. 2020	Mar. 2020	Jun. 2020
Objective	To provide livelihood security for unemployed taxi & bus drivers	To prevent infection through contactless payments & socially distanced seating	To ensure more efficient fare collection and widespread use of contactless payments	To increase profit through business diversification & delivery of daily necessities	To maintain & replace disrupted food & agricultural supply chains
Details	Approx. USD 29 subsidy was provided via mobile financial services (MFS) (or via bank account for those who did not own a mobile phone)	Online reservation, check-in, payment & ticketing became available through apps	Fare collection system was adapted to different modes of transportation	Ridesharing service provider Pathao rolled out on-demand delivery of medicines & daily necessities	Supported formation of order placement/receipt systems through online banking & SNS

1 New
2 New
3 New
4 New
5 New

Daily new cases and use of transportation - #5 Panama

Status of daily new cases and use of transportation

Change in PAX inflow (%)

Legend: ▲ Retail & Recreation ◆ Grocery & Pharmacy ● Residential ▲ Transit stations ■ Parks ● Workplaces ■ Daily new cases

Public transportation usage

Mar. 25, 2020
Nighttime curfew tightened
"Undefined quarantine"

Metro/Bus passengers decreased by approximately 80% and 50%, respectively, compared to 2019

Dec. 18, 2020 Nighttime curfew tightened

MRT limited maximum number of passengers per carriage from 200 to 80

State of emergency

Daily new cases ('000)

Y-axis (left): 40, 20, 0, -20, -40, -60, -80, -100

Y-axis (right): 6, 4, 2, 0

X-axis: 03/20 04/20 05/20 06/20 07/20 08/20 09/20 10/20 11/20 12/20 01/21 02/21 03/21 04/21 05/21 06/21 06/21

Details of initiatives

	Response		Recovery	
Area	All Panama	Panama City	All Panama	All Panama
Enacting entity	Central gov't	Alstom, Panama Metro	Central gov't	Central gov't/Mastercard
Start date	Sep. 2020	Mar. 2020	Mar. 2020	Apr. 2021
Objective	To prevent spread of onboard infection and droplets	To alleviate congestion at each station and provide transportation services that meet demand	To provide benefits to the impoverished due to spread of COVID-19	To promote contactless payments
Details	In addition to basic infection control, the number of passengers was limited according to bus capacity	Using AI to efficiently provide transportation services that meet demand by measuring and predicting real-time ride demand	A transit card pre-charged with USD 12 per person is provided to the economically disadvantaged as a benefit	Mastercard and the gov't partnered to digitize all transportation payment transactions
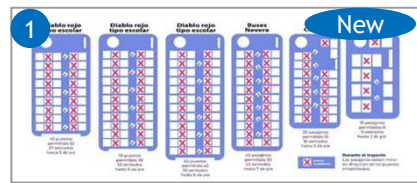
1 New   2 New   3 New   4 New

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Agenda

Overview of the study

Impact of COVID-19

> Good practices – Overview

Good practices – Case study

JICA's support

Structure and reorganize propositions and action policies for each target to summarize good practices

Main Target	Purpose	Action		Initiative examples
1 Individual level ·User ·Crew	Minimize the risk of infection when using public transportation	Prevent "infected person boarding"	Detecting infected people in advance	• Auto temp screening • Negative PCR test result
			Prevention of boarding after detection	• Auto ticket gate responding to negative cert passport
		Prevent "infection in the vehicle"	Prevention of infection via "human"	• No conversation • Partition • Mask mandate • Social distancing
			Prevention of infection via "goods"	• Contactless operation (E.g.: payment) • Car disinfection
			Prevention of infection via "air"	• Car ventilation
2 Operator level ·Transportation operator	Establish a sustainable "operation system"	Supply mgmt.	Goods perspective	• Car maint. / parts mgmt. • Stable power supply • Signal system maint.
			People perspective	• Stable employment (temp allowance / side jobs) • Provision of safe working environment
		Demand mgmt.	Promotion of use rate (Per person)	• Communication (Safety) • New service (New pricing)
			Seating occupancy rate mgmt.	• Train frequency mgmt. based on occupancy rate • Incentive design (E.g.: Dynamic pricing)
	Establish a sustainable "finance base"	External support	Financing (Increase)	• Gov. support (to companies / employees) • Support from private banks
			Exemption (Decrease)	• Tax exemption • Exemption measures
		Internal efforts	Increase sales	• Business diversification
			Reduce cost	• Shorter ops hours • Personnel reduction • Reduced frequency
			Asset sale / usage	• Use of assets (train / station, etc.) for non-transportation purpose
3 Local gov. / national gov. ·Local gov. ·Central gov.	Reform a new form of mobility adapting new mobility needs during/after the pandemic	Maintenance of the mobility system	Flow of people	• Transportation of essential workers (Med personnel) • Migrating workers / students, etc.
			Flow of goods	• Maintenance of logistics network • Response to new logistics needs
		Evolution of the mobility system	Qualitative changes of transportation	• Modal shift Mobility • Promotion of Active
			Quantitative changes of transportation	• Urban development (E.g. Compact city) • Telework

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List of good practice (1/3)

Target	Purpose	Action policy		Examples of initiatives	Country	Enacting agent			Phase		
						Central gov.	Local gov.	Biz operator	Res[1]	Rec[2]	Rej[3]
1 Individual level ·User ·Crew	Minimize the risk of infection when using public transportation	Prevent "infected person boarding"	Detecting infected people in advance	Mandatory submission of negative test result before boarding (Long distance travel)	(Indonesia)	●			✓		
				❶ Automatic temperature screening (Use of Robot)	(Kenya)	●			✓		
			Prevention of boarding after detection	Mandatory exhibition of health mgmt. app "Health Code" when passing gate	(China)	●					✓
		Prevent "infection in the car"	Prevention of infection via "human"	Passenger capacity restriction to 50%	(DR Congo)		●		✓		
				❷ Car delivery service by rent-a-car operator "SOCAR"	(Malaysia)			●	✓	✓	
				❸ Contactless payment via SMS using mobile money M-PESA	(Kenya)			●	✓		
				❹ Real-time traffic visualization using traffic app "AT Mobile"	(New Zealand)			●			✓
			Prevention of infection via "goods"	❺ Disinfection of cars using UV lamp	(USA)			●	✓		
				❻ Automatic face mask recognition using AI	(Vietnam)			●	✓		
				❼ Auto face mask recognition and contact tracing of infected people using AI	(Philippines)			●	✓	✓	
			Prevention of infection via "media (air)"	Thorough car ventilation in using 99% virus removal system	(UK)			●	✓		

1. Response, 2. Recovery, 3. Rejuvenation (Infection control phases defined by ADB)

Blue: Candidate for "Good" practice

Target	Purpose	Action policy		Examples of initiatives	Country	Central gov.	Local gov.	Biz operator	Res[1]	Rec[2]	Rej[3]
2 Biz operator level ·Transportation operator	Establish a sustainable "operation system"	Supply mgmt.	Goods perspective	⑧ Auto mgmt. of parts required for vehicle maintenance	Germany			●		✓	✓
			People perspective	⑨ Employee secondment during tenure and acceptance of side jobs	Japan			●		✓	
				Employee health mgmt. using contact-tracking app Bluezone	Vietnam	●			✓	✓	
		Demand mgmt.	Promotion of use rate (Per person)	⑩ Promotion of coupon "Flexible season ticket"	UK			●		✓	
			Seating occupancy rate management (per car)	⑪ Occupancy rate mgmt. based on demand forecast using AI	Panama			●		✓	✓
				⑫ Incentive design for passengers who change from trains to busses during peak time	Singapore	●					✓
	Establish a sustainable "finance base"	External support	Financing (Increase)	Subsidy to drivers of busses / jeepneys carrying medical personnel	Philippines	●				✓	
				⑬ Provision of charged transportation cards to the poor	Panama			●	✓	✓	
				⑭ Proposal competition of smart city to to local gov.	Canada	●	●				✓
			Exemption (Decrease)	Cut on gasoline price by the government	Mozambique	●				✓	

Enacting agent / **Phase**

1. Response, 2. Recovery, 3. Rejuvenation (Infection control phases defined by ADB)

Blue: Candidate for "Good"practice

Target	Purpose	Action policy		Examples of initiatives	Country	Enacting agent			Phase		
						Central gov.	Local gov.	Biz operator	Res[1]	Rec[2]	Rej[3]
2 **Biz operator level** ·Transportation operator	Establish a sustainable "finance base"	Internal efforts	Increase sales	Opening a café using unoperated train cars	Cambodia			●	✓		
				⑮ Delivery service using car hailing service provider "Bluebird"	Indonesia			●		✓	
				New biz in collaboration w/ players of other industries using customer data	Japan			●			✓
			Reduce cost	Employee secondment during tenure and acceptance of side jobs (Recap)	Japan			●	✓		
				Occupancy rate mgmt. based on demand forecast using AI (Recap)	Panama			●		✓	✓
			Asset sale / usage	⑯ Reusing unoperated train seats for COVID patients	India	●		●	✓		
				⑰ Remodeling / using busses as mobile vaccination sites	UK	●	●		✓		
3 **Local gov./ national level** ·Local gov. ·Central gov.	Seeking the ideal form of mobility for the coronavirus / post the coronavirus	Maintenance of the mobility system	Flow of people	Special train operation for migrating workers and students	India	●			✓		
				⑱ On-demand shuttle service for medical personnel	UAE		●			✓	
			Flow of goods	⑲ Proxy agricultural delivery / order system via online banking and SNS	Bangladesh			●			✓
		Evolution of the mobility system	Qualitative changes of transportation	⑳ Changing car roads to bicycle lanes	Germany		●			✓	
				㉑ Promotion of "20-Minute Towns and a 45-Minute City"	Singapore	●					✓

1. Response, 2. Recovery, 3. Rejuvenation (Infection control phases defined by ADB)

13

Shift to contactless ticket sale / purchase process accelerates due to COVID. Affinity with local existing infra. / service and convenience is key to success

Case example of contactless payment introducing digital for public transportation (bus) ticket purchase / payment

Description of measure

Country	Kenya
Area	Nairobi
Implementer	Safaricom Limited (The largest telecommunication carrier)
Start date	March 2020
Objectives	Following the spread of coronavirus, addressed increasing demand for contactless payment at public transportation

Measure details

- Safaricom Limited, in collaboration with public transportation players, used its mobile money "M-PESA" as a payment method for train tickets

Payment / transfer / deposit can be made using SMS function

A driver checking the money transfer

Effectiveness/ people's reaction

- Payment shifted to contact (cash) to contactless (M-PESA)
- The use rate initially accelerated with gov. support and high penetration rate of M-PESA
  - Introduced at all 400 public transportations as of Feb 2021
  - Sataficom considering of additional introduction at 400 matatus (small share-ride bus)
- Meanwhile, immediate use rage is on a declining trend (Some operators and users are voicing dissatisfaction)
  - Operator: Dissatisfied with to increased transparency (tax / pocket money)
  - User: Find difficulty in error / refund operation

Effect factors

Affinity with existing infra

- Some 70% of the population / 90% of adult population use M-PESA in Kenya
- 140K agencies available for toll charge in Kenya (also available via app)
- Money transfer / payment / deposit can be made as mobile money even without bank account

Convenience

- Charged toll can be used for various payment incl. at Kiosk, restaurants and for school fee payment
- Internet connection is not necessary as SMS is used for money transfer

Source: BCG調査

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Successful in delivering info widely by adding traffic status to existing app and in visualizing accurate / projected status using new technologies

Case example of visualizing car congestion status at public transportation and launching / providing to customers as new service

Description of measure	
Country	New Zealand
Area	Auckland
Implementer	Auckland Transport
Start date	March 2020
Objectives	Provide safer transportation services by strengthening infection prevention measures in train cars such as ensuring social distance against the risk of infections through contact and droplets
Measure details	• Provide real-time congestion status of transportation incl. bus / underground / ferry using own app app ◄ ◄ Obtaining info from transportation card

Effectiveness/ people's reaction	• No. of passengers in Apr 2021 made 10-fold recocery from Apr 2020
	  – Increase in the no. of passengers attribute to other factors beside the app
	  – Initiatives were realized quickly and at low cost using the data obtained from conventional transprotation card (AT HOP card)

Effect factors	
Availability of existing digital platform	• Few barrier for passengers as a new servie was added to existing own app "AT Mobile" to visualize the transprotation info. • Visualized congestion status of busses using the usage data of existing transportation card "AT HOP card"
Availability of new tech	• To confirm the no. of passengers in each train car, sensors are installed at each door to automatically count the no. of passengers boaring and existing. The information is updated on a real-time basis

Source: BCG survey

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AI system to detect unmasked individuals gives passengers sense of security and reduces burden on business operator to prevent in-vehicle spread

Case of introducing AI system which automatically screens masked/unmasked passengers

Country	Viet Nam
Area	Hanoi
Implementer	Binh Anh Group (Electronics manufacturer specialized in dev. of in-vehicle cams, GPS, and drive recorders)
Start date	March, 2023
Objectives	To raise awareness of the Ministry of Health's "5K" (Masking, Disinfecting, Social distancing, Avoiding crowds, and Health reporting)

Description of measure

Measure details
- Install AI system in Hanoi bus system security cameras to detect unmasked individuals
- Warning if passengers are not wearing or are improperly masked
- Initially provided to businesses free of charge to trial
- When unmasked person detected, possible to automatically analyze image data and forward to public transportation server

Passengers' mask use can be confirmed automatically via security cam

Effectiveness/ people's reaction
- Possible to minimize infections from airborne droplets because system can detect not only presence/absence of mask, but also whether masks are being worn properly
- Because system is set to send mobile alerts to business, passengers can feel sense of security and business operator's burden is reduced.
  - "AI tech not only helps public transport operations, but helps improve passenger safety" (Dao Thanh Anh, Chairman of Bin Anh Group)
- Since results of introducing system have been well received, other apps developed by same company to be trialed in public transportation soon

Effect factors

Advanced tech for infection control
- Possible to minimize infections from airborne droplets because system can detect not only presence/absence of mask, but also whether masks are being worn properly
  - If masks are not worn properly, the risk of spreading infection increases

Source: BCG research

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Provide timely transportation services that meet demand by using AI system to measure/forecast demand in real time

Case of realizing efficient transportation service provision that meets demand by measuring/forecasting demand in real time

Description of measure	Country	Panama
	Area	Panama City
	Implementer	Alstom, Panama Metro (Comprehensive provider of train-related tech including cars, communications, signals, and maintenance)
	Start time	March, 2020
	Objectives	Relieve congestion at all stations and provide transportation service that meets demand
	Measure details	• "Mastria" – AI system that can provide companies with measures/forecasting of passenger congestion and flow at each station • Information created by combining internal data points: sensors detecting weight of each car, ticket purchase history, signals, surveillance cams, and external data: e.g. weather. • Automatically creates operational plan to alleviate extreme congestion periods 30 min. beforehand; plan sent to business operators

	Effectiveness/ people's reaction	• According to passengers, waiting times at stations decreased significantly
		  - Before measure implemented, 80% of passengers forced to wait for later train due to congestion. Post implementation, reduced to 40% (about half)
		  - System has reduced passengers' time in station by 3 min./person
		  - Prior to system during peak hours, necessary to wait for ~3 trains before riding; now, possible to get on next train at least
		  - "Essentially, the use of Mastria technology has benefited our users in particular by reducing waiting times during peak periods" (Abdiel Perez, Metro de Panama)
		• Through automatic analysis and sending operational plan to operators prior to extreme congestion, possible to provide efficient transportation services according to passenger demand

Effect factors	NVariety of info obtained	• Visualize and forecast congestion from multiple perspectives (traffic-specific and general info) - Create info by combining internal data points: sensors detecting weight of each car, ticket purchase history, signals, surveillance cams, and external data: e.g. weather.

Can confirm which stations are crowded

Source: BCG research

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Offering of incentives encourages transfers between different transportation modes and manage load factor

Example of implementing a campaign to promote transfers between transportation modes by offering incentives
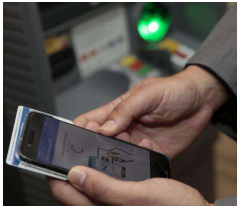
Country	Singapore
Area	Stations along The North-East line
Implementer	LTA: Land Transport Authority
Start date	February 2020
Objectives	Manage vehicle load factor and mitigate congestion, and provide transportation services that meets customers' needs
Measure details	• LTA offers incentives via an app to passengers who transfer from trains at stations along the North-East line with the highest load factors in the country (Punggol/Sengkang/Parkway Parade) to buses at designated stations (Macpherson/Paya Lebar/Parkway Parade) during peak hours • Offer 150 points (=S$1.5) per transfer
Effectiveness/people's reaction	N/A
Convenience	• Rewards are automatically paid to the user's registered credit card and can be used as cash, providing a high level of convenience • Points can also be used to pay for public transportation at ticket offices

Description of measure — *Effect factors*

Earn rewards' when you switch to **Bus Service 43e** on weekday mornings'

Land Transport Authority *Moving* — Travel Smart Journeys

◀ Transfer promotion campaign by Travel Smart Journey

Source: BCG research

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By distributing pre-charged transportation cards, possible to use card safely for contactless payment while also encouraging public transportation use

Case of distributing pre-charged transportation cards

Description of measure	Country	Panama
	Area	All Panama
	Implementer	Central Government of Panama
	Start date	March 15, 2021
	Objectives	Stimulus for people in dire financial straits due to coronavirus spread
	Measure details	• Central Gov't of Panama enacted monthly financial stimulus for economically disadvantaged people resulting from spread of COVID-19 (those living in rural areas or unemployed due to COVID-19)（120 USD/month payment per person） • To support transit, pre-charged transportation card (12 USD) provided; Can be used in Metro & MiBus • Qualifying individuals can apply for payment through app.
	Effectiveness/ people's reaction	• 1 month after launch, ~800k Panamanians have used both financial stimuli • 60% of users said: "I couldn't survive without using both stimulus types" • Because the transit stimulus is not paid in cash (pre-charged card), public transport can be used safely (contactless payment)
Effect factors	Payment by transportation card	• By distributing pre-charged transportation cards, possible to encourage use of public transportation without allowing for other use of money • Possible to use public transportation safely through contactless payment

◀ Pre-charged metro card

◀ Can check card-use status through app.

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Source: BCG research

In India, secured beds for COVID-19 patients by utilizing suspended inter-city railway cars as isolation wards

Case of using suspended service inter-city train cars as isolation wards

Description of measure	Country	India
	Area	All India
	Implementer	Indian Ministry of Railways / Ministry of Health
	Start date	March, 2020
	Objectives	To secure more beds due to bed shortage from rise in COVID-19 patients
	Measure details	• With cases exceeding 320k/day since April, Ministry of Railways remodeled sleeper cars into isolation wards to combat bed and ICU shortage • Installed hospital beds, stretchers, masks, disinfectants, and ventilators
	Effectiveness/ people's reaction	• At start of plan, ~5k cars used as isolation facilities; ~70k beds secured for COVID-19 patients • By adding another 500 cars, 8k additional beds • Ministry of Health announced plan to temporarily use nursing-care facilities/hotels (44 locations) and banquet halls (77 locations) as hospitals

Effect factors	Secure car bodies by suspension of all train service	• Enacted suspension of all railways on April 14th for the first time in Indian Railways 167 year history
		  – Halted 7,349 stations nationwide, which normally operates more than 20k local and long-distance trains/day
		  – Suspended 67,368km length of lines due to COVID-19 lockdown (continued cargo trains only)

	Utilization of beds in national railways	• Indian Railways is national railway, so speedy compliance w/ gov't request and low-cost initiative (From gov't perspective) • Also, because railway is state-owned, possible for gov't to provide direct financial support regardless of how trains are used

Use of temporarily suspended cars as isolation wards for COVID-19 patients

Source: BCG research

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Agenda

Overview of the study

Impact of COVID-19
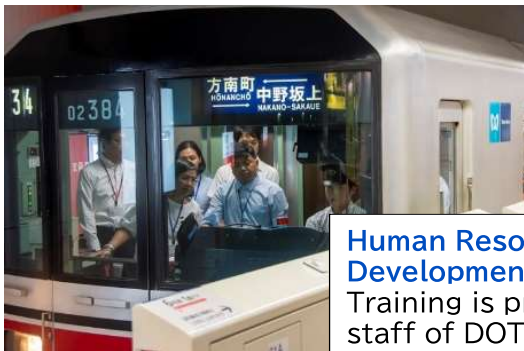
Good practices – Overview

Good practices – Case study

> JICA's support

JICA's assistance schemes

Technical Cooperation

Human Resource Development in Philippines
Training is provided to the staff of DOTR Philippines at Tokyo Metro General Training and Training Center.

Official Development Assistance Loans

Urban railway construction project in India
Provided ODA loan for urban railway construction projects in Delhi and Chennai.
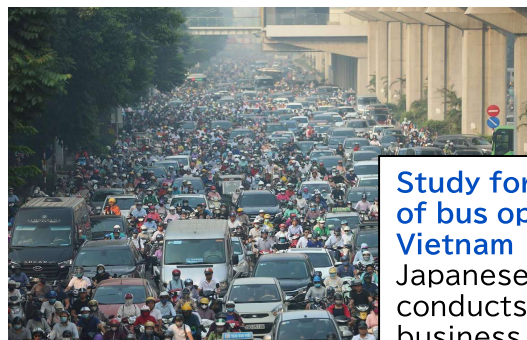
Official Development Assistance Grants

Providing Operating Control Center for Myanmar Railways
At Yangon Central Station, the system and device for train and track monitoring etc. are installed.

Public-Private Partnerships

Study for Improvement of bus operation in Vietnam
Japanese bus operator conducts survey to the business including improvement current bus operation in Hanoi.

JICA's support for the public transportation worldwide

1. For Planning
(Ex)Formulation of Policy,
Strategy and Master Plan

2. For Construction
(Ex)ODA Loan

3. For Establishment of Organization
(Ex)Support for making rules, regulations of the organization

4. For Operation & Maintenance
(Ex)Training for drivers and maintenance staff

JICA supports a series of processes from planning to operation & maintenance.

JICA's support under COVID-19

①Held a "COVID-19 Infection Prevention Seminar" in cooperation with the ILO in Phnom Penh, Cambodia. (May 2020)

②Held an online workshop on "COVID-19 and public transport" jointly by JICA and the Secretariat for Public Transport in Belgrade, Serbia. (February 2021)

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Mobility Management is important!

Transformation of the mindset of society to use more public transportation is required!

↑Workshops for residents near bus stops

↑Collecting a series of stamps event on Bus Free Day

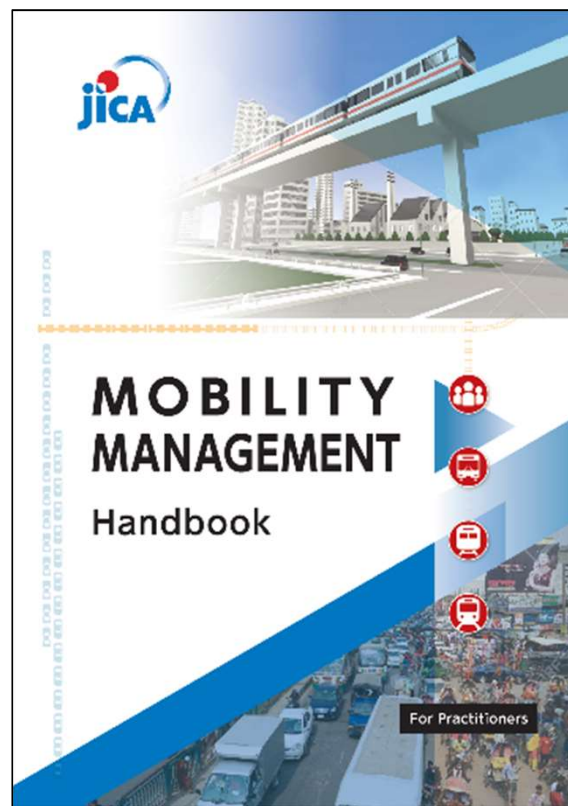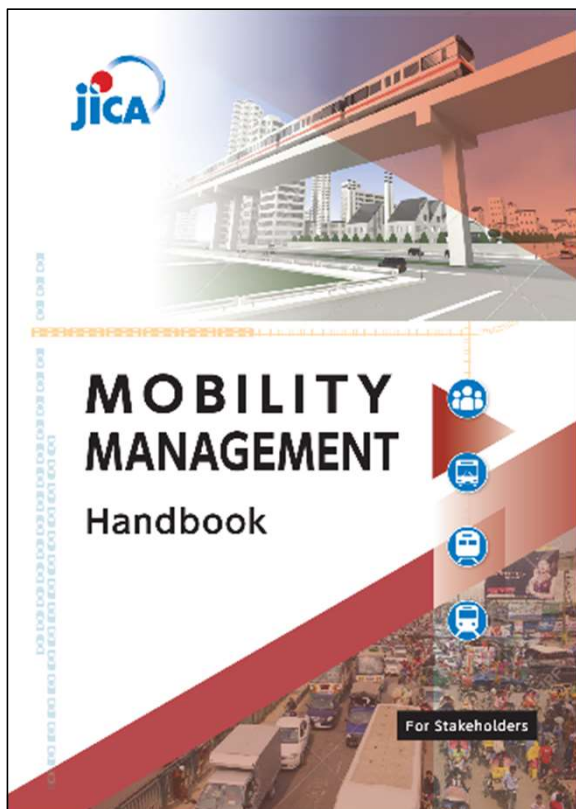↑How to get the bus for Children

↑Lots of tools are made for MM Activity

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Mobility Management Handbook was published!

Mobility Management Handbook（For Participants）
（ENG）https://libopac.jica.go.jp/images/report/12356861.pdf
Mobility Management Handbook（For Stakeholders）
（ENG） https://libopac.jica.go.jp/images/report/P1000044077.html