



DAVAO CITY

Developing a world-class public transport system with top-notch drivers trained with the latest tech



PROJECT SNAPSHOT

PROJECT NAME	Davao Bus Driver Training and Technology Study – Pilot Preparation and Implementation Support
COUNTRY	Philippines
SECTOR	Transport
MAIN GOVERNMENT BODY SUPPORTED	City Government of Davao
SMART SOLUTION	Training simulation technology and digital learning platform
PROJECT PERIOD	March 2022–March 2024
ADB PROJECT OFFICER	Shuji Kimura, Principal Transport Specialist
MAIN PROJECT OBJECTIVE	To support the ADB Davao Public Transport Modernization Project by developing a holistic training framework and identifying suitable modern training technologies that can inform the future bus driving academy of the city and contribute to safer, more convenient, and low-carbon mobility

Davao City, the third-most populated city in the Philippines, is on the verge of a breakthrough—it could soon be the benchmark for a top-notch public transport system in the country. The Philippines is not exactly known for having an efficient transportation network, and instead evokes images of long traffic jams and even longer metro rail queues.

With the support of the Asian Development Bank (ADB), the country is implementing the Davao Public Transport Modernization Project, which will usher in safe, comfortable, low-carbon buses, complete with an intelligent transport system and a bus driving academy for a holistic urban transformation.

THE CHALLENGE

Reducing Congestion and Raising Capacity

As one of the main metropolitan areas of the Philippines, Davao City has experienced significant economic growth through the years. Coupled with a rising population, this has increased travel demand not only within the city, but also to neighboring regions. Road congestion has become such a severe issue, it affects movement, air quality, and productivity.

About 80% of trips in Davao City are serviced by public transport. These are primarily by public utility jeepneys (PUJs) and modified vans that operate without proper schedules and designated route stops. This lack of optimized network can lead to blocked roads during peak hours, people jostling for space to hail PUJs or seating inside cramped vehicles, and other safety risks particularly for people with disabilities, women with children, and senior citizens.

The city, as a result, has partnered with ADB for a transport modernization program that will replace

the PUJs and install over 1,000 modern buses (both electric and Euro-5 standard diesel buses), consolidate transport routes, and construct bus stops, depots, terminals, and a bus driving school. Since Davao City has a smart city ambition, they also plan to have an intelligent operations center, and the project will integrate an automated fare collection system and Wi-Fi connection in the buses.

An overhaul of this magnitude, however, requires commensurate manpower for the transport system, as well as a social safety net for the jeepney drivers and operators to be affected. The ADB project has included a social development program for these workers and their families. The jeepney drivers and operators can also opt to transition to the new bus system to gain new employment. The bus driving school will be pivotal in training former jeepney drivers and other new bus drivers to enhance the service quality of the upcoming bus network.



THE SOLUTION

Setting a Framework and Simulation Technology for Upskilling



The ASEAN Australia Smart Cities Trust Fund (AASCTF) was tasked with creating a training program for the future bus driving school, as well as identifying technologies that could train the workforce at scale. Using smart solutions was deemed essential since this would help prepare the drivers for the unique conditions of driving a modern bus system without having to rely on risky and expensive on-the-road

training. It could also potentially shorten the duration of the training and embed gender equality, disability, and social inclusion (GEDSI) considerations.

More importantly, the training framework will set the baseline for what the school curriculum will be to get drivers certified in.

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“This is a significant step in our quest to have a bus system in our city. We are really looking at this project as our way to jumpstart a driver training program that we are to undertake, because we are looking at hiring around more than 2,000 future bus drivers here in the city.”

Tristan Dwight Domingo

Davao Bus Project Manager, City Government of Davao

Developing the training framework involved the following crucial steps:

Engaging with stakeholders

AASCTF conducted both on-site and online workshops to examine the transport situation of the city and identify the needs of jeepney drivers, as well as the context of current training and licensing processes. AASCTF coordinated closely with the city government, the Department of Transportation, the Land Transportation Franchising and Regulatory Board, Land Transportation Office, and the Technical Education and Skills Development Authority to tap into their different roles and ensure ownership of the training.

Reviewing appropriate training technologies

To support the delivery of the future training program, two types of technologies were assessed for a layered learning approach: a simulator and a digital learning platform. The former will replace or supplement traditional training on the road and train drivers in high-risk scenarios, while the latter will provide procedural scenarios to boost theoretical knowledge and enable continuous education. A system selection process narrowed the initial 30 vendors from a desktop research to a shortlist of 10 for deeper review based on functionalities needed.

Testing the technologies

The shortlisted suppliers were further prioritized and vetted until one was selected for a three-day public demonstration in Davao City. Held in early 2023, this was a highlight of the AASCTF project that enabled government officials, jeepney or would-be bus drivers, and local media to check and test the solutions first hand and learn about the features of using technologies for building capacity. Through the simulator, they experienced different driving scenarios, and even learned about pre-trip routines using a virtual reality headset.

Updating the functional requirements

Aside from showcasing the innovative solutions at the demonstration, this also gave an opportunity to receive feedback from stakeholders. The evaluation led to refining what functional capabilities should be considered when procuring such technologies for the future bus driving school.



Early Results and Tangible Benefits

The demonstration event organized by AASCTF and the city government reflected the excitement of the people for their new transport system. It showed participants, especially the jeepney drivers and operators, how their work could be professionalized with the potential modules in the digital learning platform shown and instill safer driving techniques.

With the training framework delivered, the city government can appoint a training developer to design the full comprehensive training program for the bus driving school. They should take in the overall learning journey and themes when expanding the modules suggested by the framework to fully raise the competencies of the learners. A mixed format of on-the-road training, digital learning, and simulation was also indicated to support learning.

In a recent [media report](#), the Department of Transportation aims to launch the pilot operations of the new bus system within two years. Part of the preparations for this includes constructing the driving school. By 2027, the goal is to start serving passengers to ease people's commuting experience.

Why it Matters Davao Bus Driver Holistic Training Framework

- Helps jeepney drivers transition to a stable livelihood with benefits by preparing them to become highly skilled bus drivers
- Promotes inclusivity by unlocking opportunities for professional bus drivers, regardless of gender or social identity
- Presents the learning journey, possible modules, crosscutting themes, and formats for comprehensive learning
- Offers short-, medium-, and long-term scenarios for training operator arrangements
- Includes an operations and maintenance guidance for the bus driving school
- Prompts authorities to revisit bus driver certification and licensing regulations
- Improves people's travel experience, providing safety and convenience

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“AASCTF is supporting the development of the training program for the drivers because this is a new bus system in the city and we need a lot of drivers to be trained in the short term. This digital technology training system will help to accelerate the training of the drivers, so AASCTF is really quite helpful for our project.”

Shuji Kimura

Principal Transport Specialist, Asian Development Bank

Transport for All: Addressing Gender Equality, Disability, and Social Inclusion

To reflect and respond to the diverse needs of various groups in Davao City (spanning gender, socioeconomic disparities, age, and other demographics), AASCTF conducted stakeholder engagements and workshops at the beginning and throughout the project. These included participation from government entities, both jeepney drivers and non-drivers, senior persons, representatives from the Association of Differently-Abled Persons, and other stakeholders. The introduction of the training technology and the training framework, therefore, have considered and are expected to address GEDSI considerations, specifically:

- enabling training equipment that allow for a safe training environment for all genders and social identities, and
- enabling a training framework that addresses the need for the bus service industry to be inclusive for all users, including senior persons and/or persons with disability.

For the upcoming bus driving school, AASCTF proposed the establishment of training core competencies as a way forward for would-be drivers to obtain a bus driving license. The core competencies include safeguards for GEDSI training, which can be expanded and adjusted in the future to respond to the evolving GEDSI needs within the country. This means GEDSI-related training has the potential to become a requirement across the Philippines in order to obtain a driver's license for driving a public bus. Based on the agreed implementation structure of the training framework, GEDSI content will be subject to the oversight of the Department of Transportation.

The training content explicitly includes training for passenger handling during incidents, passenger handling for various user groups facing disadvantage (persons with disability, pregnant women, children, and older people), and providing driver skill training for woman drivers in a safe environment.





Sustaining the Gains

The Davao Bus Driver Training Framework has the potential to become a fundamental part of this groundbreaking transportation program. It can guide the establishment of the driver training course, school, and actual ride experience of passengers. The framework can be integrated into existing or updated systems and legislation for long-term impact. Local authorities may also need to revise the vehicle driving license regulatory environment to accommodate a new class of driver specifically for public transportation.

Additionally, to sustain the driver training, AASCTF provided an operations and maintenance concept document that highlights an extensive planning and operational model for the driving school. If this and the framework are adopted, these could be replicated in other Philippine cities. Davao City will become a pioneer for better public transport. And with the enhanced mobility around the city, it will be able to sustain its growth momentum. For Shuji Kimura, the project officer behind the ADB investment: *"This [Davao bus project] will help change the life of the citizens of Davao. I'm really looking forward to seeing the accomplishment of this project."*

Lessons and Pivots

There are a lot of expectations riding on the transport modernization project. This naturally trickled down to the AASCTF project, and the team spent considerable time to understand the needs of the city and adjust its support. This became a reminder to allocate a sufficient amount of time for different tasks so as to ensure project implementation remains efficient.

In relation to this, the AASCTF project encountered delays with the logistics for procuring the training technologies for the demonstration event. This affected coordination and event preparations and required a greater effort than what was originally planned.

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"I have mixed emotions of nervousness and excitement because transitioning to the bus from the jeepney is a big step up. I started as a tricycle driver before driving a jeepney and now we are given an opportunity to drive the bus which is a privilege for me since it is also free to avail. That is why I am so thankful to the people behind this idea."

Mary Grace Pahuyo
Jeepney Operator

LEARN MORE

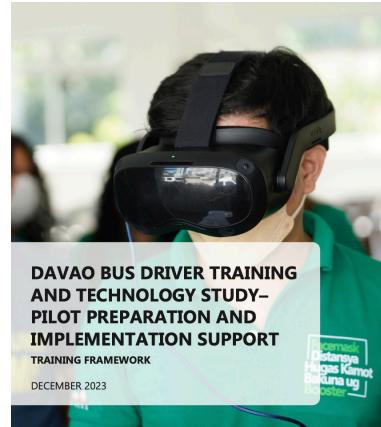


DAVAO BUS DRIVER TRAINING TECHNOLOGY PILOT, PROCUREMENT & FRAMEWORK ENGAGEMENT REPORT

JULY 2022



Australian Government
Department of Foreign Affairs and Trade



DAVAO BUS DRIVER TRAINING AND TECHNOLOGY STUDY – PILOT PREPARATION AND IMPLEMENTATION SUPPORT TRAINING FRAMEWORK

DECEMBER 2023



Australian Government
Department of Foreign Affairs and Trade



DAVAO CITY
Advancing an ambitious public transport program in the Philippines through a bus driver training framework

DAVAO CITY is progressing the first road-based mass transport modernization project in the Philippines. The Davao Bus Driver Training and Technology Study – Pilot Preparation and Implementation Support project is supporting this groundbreaking program with a study of bus drivers' needs and a market analysis of appropriate training technologies that will prepare the drivers, including former jeepney drivers, to meet the standards and safety of the new public bus system.

CONTEXT AND STRATEGIC ISSUES
The Asian Development Bank (ADB) has approved a \$1 billion loan to support the Davao Public Transport Modernization Project. The project aims to develop a public bus transport system with modern electric buses and Euro-5 standard hybrid buses using smart technologies and real-time tracking backed by an intelligent transport system and an automated fare collection system. It will also include the construction of bus stops, depots, and terminals, and a bus driver training center.

Currently, public transport – such as public utility jeepneys and mini-vans – accounts for 80% of trips in Davao City. These vehicles, while cheap, are typically not safe and user-friendly, contribute to air pollution, and are often stuck in traffic, thus adding to congestion and lost productivity.

The modernization project aims to improve the level of Davao's public transport system and marginally through better mobility. It will also include a social development program for the jeepney drivers and operators that will be affected by the shift to modern buses.

CONTRIBUTIONS TO THE SUSTAINABLE DEVELOPMENT GOALS

- 11.2.1 Ensure sustainable, inclusive and sustainable urbanization and sustainable development of human settlements, in particular for slums and informal settlements
- 11.3.1 Improve road infrastructure and transport systems, including through development of transmodal links and modernization of major transport infrastructure
- 11.5.1 Reduce inequality within and among countries
- 12.2.1 Take urgent action to combat climate change and its impacts

More cities and human settlements, including Davao City, are adopting modern public transport systems to meet the needs of urban and rural areas, which leads to reduced greenhouse gas emissions.



Demonstrating the potential of driving simulators to train Davao City's bus drivers

For more information on this project, check the Davao resources in the AASCTF Data Room



ABOUT THE ASEAN AUSTRALIA SMART CITIES TRUST FUND

The ASEAN Australia Smart Cities Trust Fund (AASCTF) assists ASEAN cities in enhancing their planning systems, service delivery, and financial management by developing and testing appropriate digital urban solutions and systems. By working with cities, AASCTF facilitates their transformation to become more livable, resilient, and inclusive, while in the process identifying scalable best and next practices to be replicated across cities in Asia and the Pacific. AASCTF is supported by the Australian Government through the Department of Foreign Affairs and Trade, managed by the Asian Development Bank, and implemented by Ramboll.



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