

PASIG TRANSPORT



E-mobility Initiatives in Pasig City

2022 SOLUTIONSplus Pasig Training on E-mobility

05 December 2022

PASIG CITY

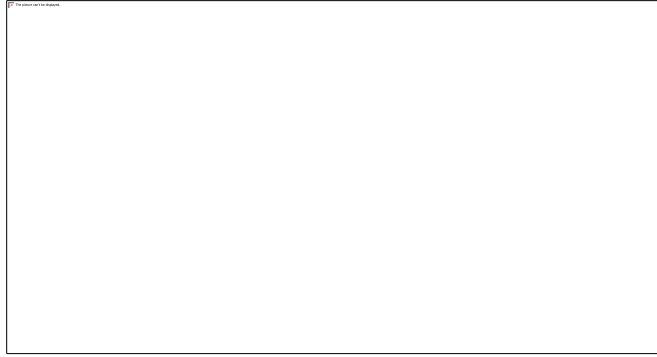
Land Area: **34.32 km²**

Total Population (2020): **803,159**





Image source: BEMAC Philippines website



E-MOBILITY IN THE CITY



Image source: Cycling Matters Facebook page

Ordinance No. 16 Series of 2016

established the Tricycle
Upgrading and
Replacement Program



Republic of the Philippines
SANGGUNIANG PANLUNGSOD
City Government of Pasig

Ordinance No. 16
Series of 2016

AN ORDINANCE ESTABLISHING THE TRICYCLE UPGRADING AND REPLACEMENT PROGRAM, PROVIDING MECHANISMS AND GUIDELINES IN ITS IMPLEMENTATION AND FOR OTHER PURPOSES.

Authored By: Councilor Alejandro E. Santiago
Co-Authored By: Councilors Rodrigo B. Asilo, Ferdinand Avis, Regino S. Balderrama, Orlando R. Benito, Rhichie Gerard T. Brown, Mario C. Concepcion, Jr., Rosalio D. Martires, Corazon M. Raymundo, Gregorio P. Rupisan, Jr., Wilfredo F. Sityar, Victor Ma. Regis N. Sotto, and Liga President Celestino U. Chua

WHEREAS, Section 16 of R.A. 7160 under the general welfare clause provides that every local government unit shall exercise the powers expressly granted, those necessarily implied therefrom, as well as powers necessary, appropriate, or incidental for its efficient and effective governance, and those which are essential to the promotion of the general welfare; including enhancing the right of the people to a balanced ecology;

WHEREAS, Section 36 of R.A. 7849 or the Clean Air Act mandates that local government units (LGUs) shall share the responsibility in the management and maintenance of air quality within their respective territorial jurisdiction;

WHEREAS, there is an argument need to control and effectively manage the air pollution in the City of Pasig through programs designed to lessen or regulate emission of harmful gases into the atmosphere from motor vehicles;

WHEREAS, the City Government of Pasig seeks to promote the use of public utility vehicles which are efficient and environmentally friendly;

BE IT ORDAINED, by the Sangguniang Panlungsod of Pasig in session assembled that:

Section 1. **TITLED** – This Ordinance shall be known as the “**TRICYCLE UPGRADING AND REPLACEMENT PROGRAM**”.

Section 2. **PURPOSE** – Pursuant to Republic Act No. 7849, local government units are mandated to manage and maintain the air quality standard set by DENR within its territorial jurisdiction. In furtherance of such mandate, this Ordinance aims to control, regulate and manage emission of air pollutants from motor vehicles, equipment from commercial establishment and industrial plants, and other sources. This is achieved through the implementation of various programs aimed at reducing the causes of air pollution, including carbon dioxide emission.

Handwritten signature: walderrama

Handwritten signature: Corazon M. Raymundo

Handwritten signature: Victor Ma. Regis N. Sotto

Handwritten signature: Alejandro E. Santiago

Handwritten signature: Rodrigo B. Asilo

Department of Energy



Image source: BEMAC Philippines



BEMAC
BEMAC ELECTRIC TRANSPORTATION
PHILIPPINES INCORPORATED

Market Transformation Through the Introduction of Energy-Efficient Electric Vehicles (E-trike) Project

E-trikes for City operations

DOE donated 200 e-trikes to the City in 2019, which were distributed to TODAs, HOAs, Pasig public schools, and City Hall Offices.

PHLPost Pasig



Integrating e2&3w into Existing Urban Transport Modes

E-vehicles for mail and parcel delivery

PHLPost Pasig letter carriers were trained on the use, maintenance, and basic troubleshooting of the electric vehicles in February 2020.



GrabWheels X PASIG

COOPERATION ON E-MOBILITY



Integrated Urban Electric Mobility Solutions in the Context of the Paris Agreement, the Sustainable Development Goals, and the New Urban Agenda

Consortium of 46 partners, 116 associated and support partners

10 Living Labs: Kathmandu, Manila/Pasig, Hanoi, Montevideo, Quito, Kigali, Dar es Salam, Hamburg, Madrid and Nanjing (self-funded)



CitieSWITCH to E-mobility

To protect public health from the impacts of transport emissions by mainstreaming sustainable electric mobility solutions in Pasig City's clean air initiatives

CitieSWITCH to E-mobility is a three-year program to develop Clean Air Action plans focusing on delivering e-mobility solutions



Promotion of Low Carbon Urban Transport Systems in the Philippines (LCT)

One of four pilot cities for the LCT project

Partnership to facilitate low carbon transport initiatives in select Philippine cities; Projects with Pasig City include the Pasig TODA Transport Cooperative Program and EVCS feasibility study

Clean Air Asia



Image source: Clean Air Asia



EV Charging Solutions

Launch of charging pods and a solar grid system

With Clean Air Asia, four charging pods and a solar grid system were installed at Pasig City Hall. The charging pods are dedicated for electric 2- and 3-wheelers in the city.

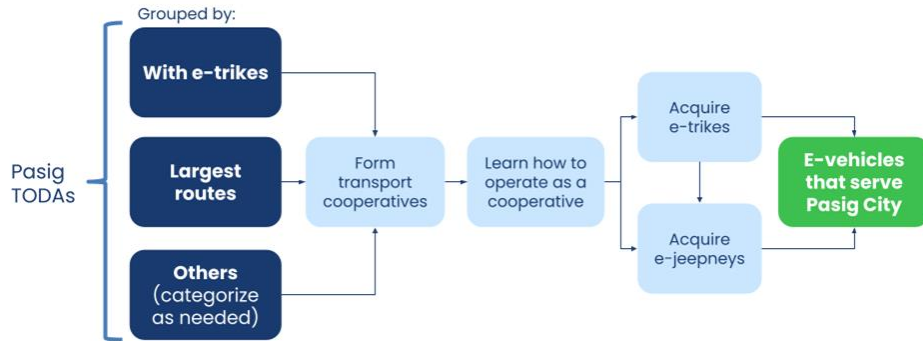


Image source: Clean Air Asia

Pasig E-Mobility Steering Committee

EO No. PCG 63
Series of 2021

Promotion of Low Carbon Urban Transport Systems in the Philippines (LCT)



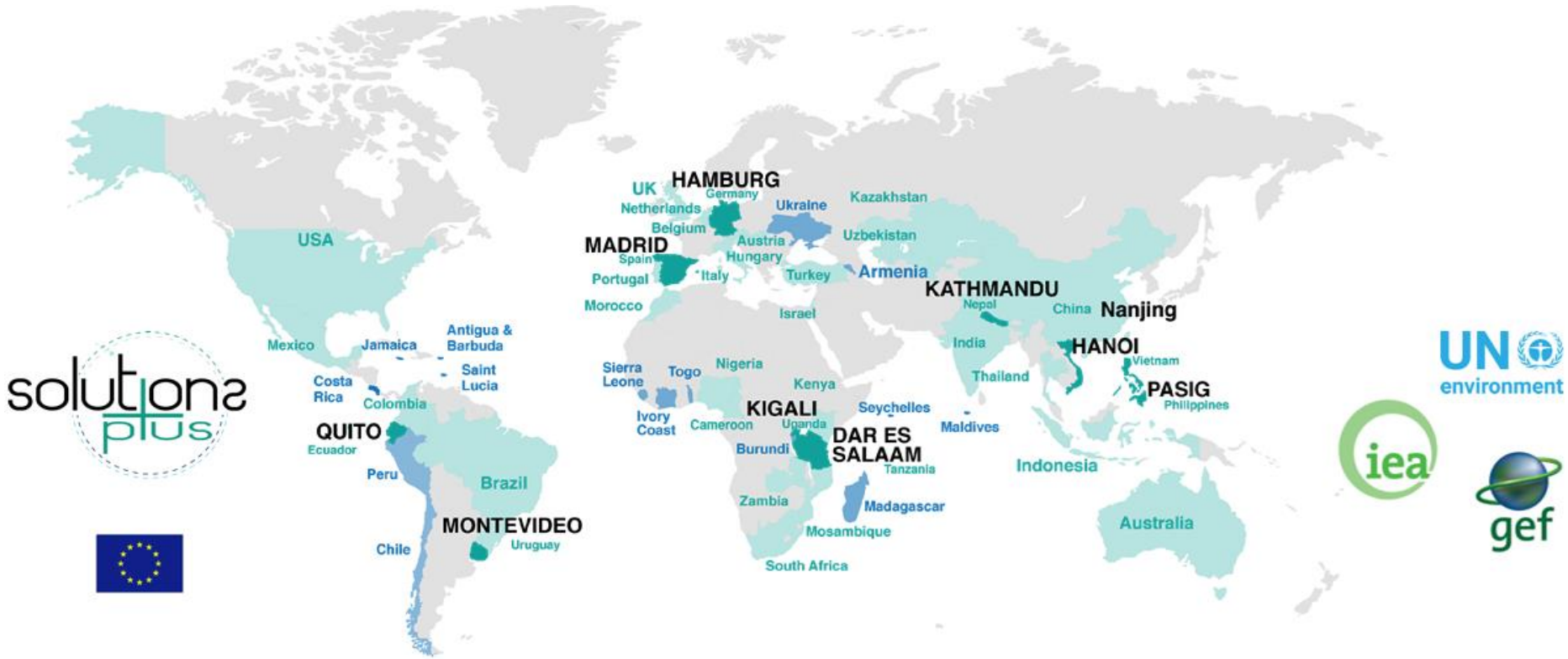
Pasig TODA Transport Cooperative Program

Supporting formation of Pasig TODAs into transport cooperatives

Collaboration with Cooperative Development Office and other Local Government Offices to facilitate the formalization of Pasig TODAs into transport cooperatives to improve livelihoods and access to programs and services.



Pasig is part of a global initiative to kickstart transition to e-mobility

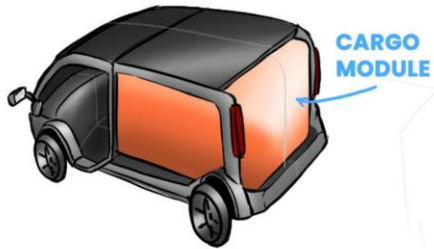


Joint Global e-Mobility Platform

SOLUTIONSplus Project

Shared Use of Electric Quadricycles and FLEVs Pilot Demonstration

Shared e-mobility for cargo and passenger services



E-quad



Flexible Electric Van (FLEV)

- Development of cost-competitive, locally-appropriate, multi-purpose, smart **electric quadricycles** (15 units) and **flexible electric vans (FLEV)** (3 units)
- Locally-appropriate, use case optimal charging solutions
- Test and establish an **EV Sharing System** that features accompanying user applications, monitoring, and decision support systems

SOLUTIONSplus Project

Engaging with local Start-up: Tojo Motors

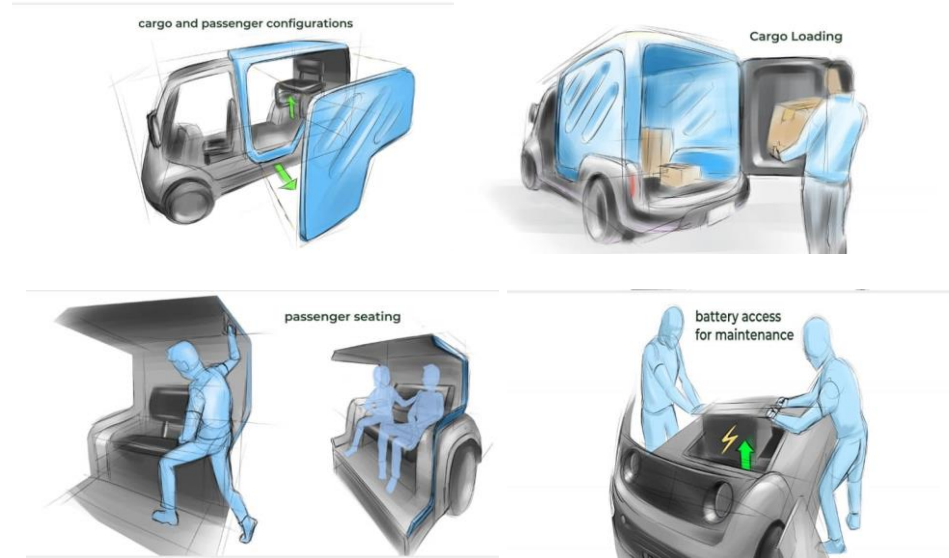
Design, prototyping, and pre-production of e-quads optimized to meet local needs and context

Initiated design process for vehicle prototype/sharing platform/operators' decision support systems

Engaging with local stakeholders towards user-centric system design

Detailed conversations with relevant Pasig local government offices

Surveys and focus group discussions with potential user groups



Booking app: Admin web app

- Dashboard
- Users
- Vehicles
- Charging Stations
- Logout

Home



Dashboard

Battery: 80%
50 mins and 10 km left

Time: 10:04:00 PM

1 Vista Malls Sta. Rosa
Pickup: 1

Google

 Manage Route

32 km/h



← Route Planner

Vista Malls Sta. Rosa to

Estimated Trip Duration: 0 mins 0 km

Next Stop: [Vista Malls Sta. Rosa](#)

1 Vista Malls Sta. Rosa
Pickup: 1 passenger

2 Phoenix Petroleum Station
Dropoff: 1 passenger

4 Gate 3 - Laguna Technopark
Dropoff: 1 passenger

Google



Driver

Hi Juan!

juandelacruz@tedhouse.org

Vehicle





DEF-1234

 Logout









**Booking app:
Driver app**









Engine

 50°C ENGINE TEMP	 Good ENGINE HEALTH
 Dec 2021 LAST SERVICE	 Dec 2022 NEXT SERVICE

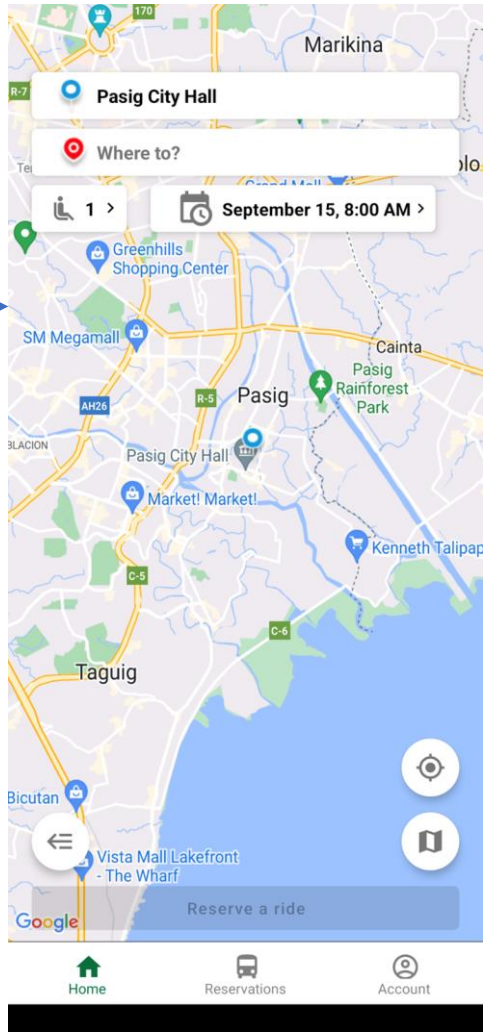
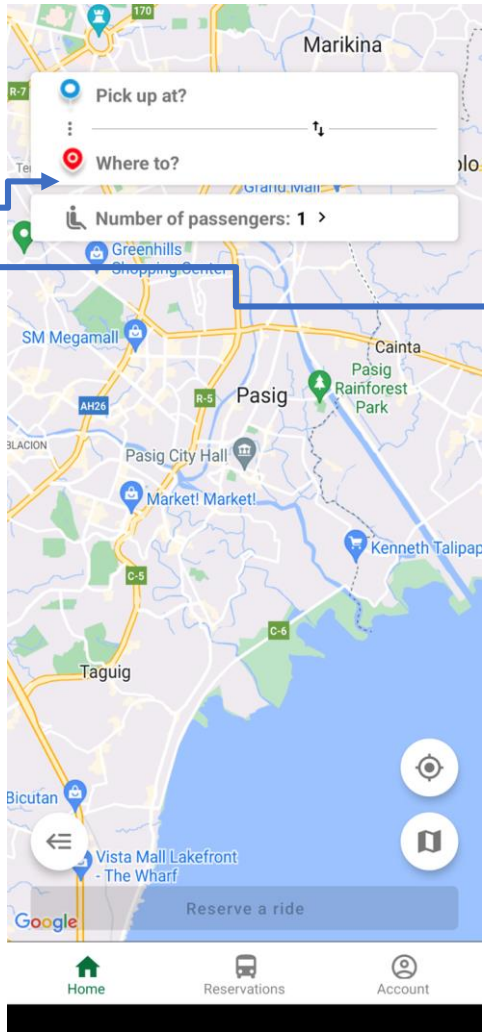
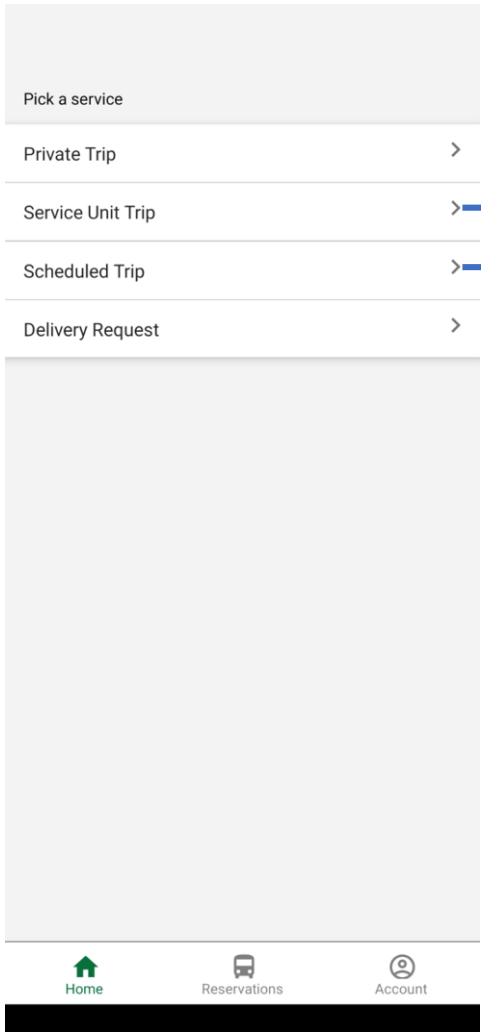
Battery

 50 km RANGE LEFT	 03:50 PM BATTERY LASTS UNTIL
 100 kWh MAX CAPACITY	 90C BATTERY TEMP
 Charging STATUS	 5 kWh per km CONSUMPTION RATE
Battery: 80% 50 mins and 10 km left	
List of Charging Stations No Charging Stations Found	

Maintenance

 50°C ENGINE TEMP	 Good ENGINE HEALTH
 Dec 2021 LAST SERVICE	 Dec 2022 NEXT SERVICE
 50 km RANGE LEFT	 03:50 PM BATTERY LASTS UNTIL
 100 kWh MAX CAPACITY	 90C BATTERY TEMP

Booking app:
Driver app

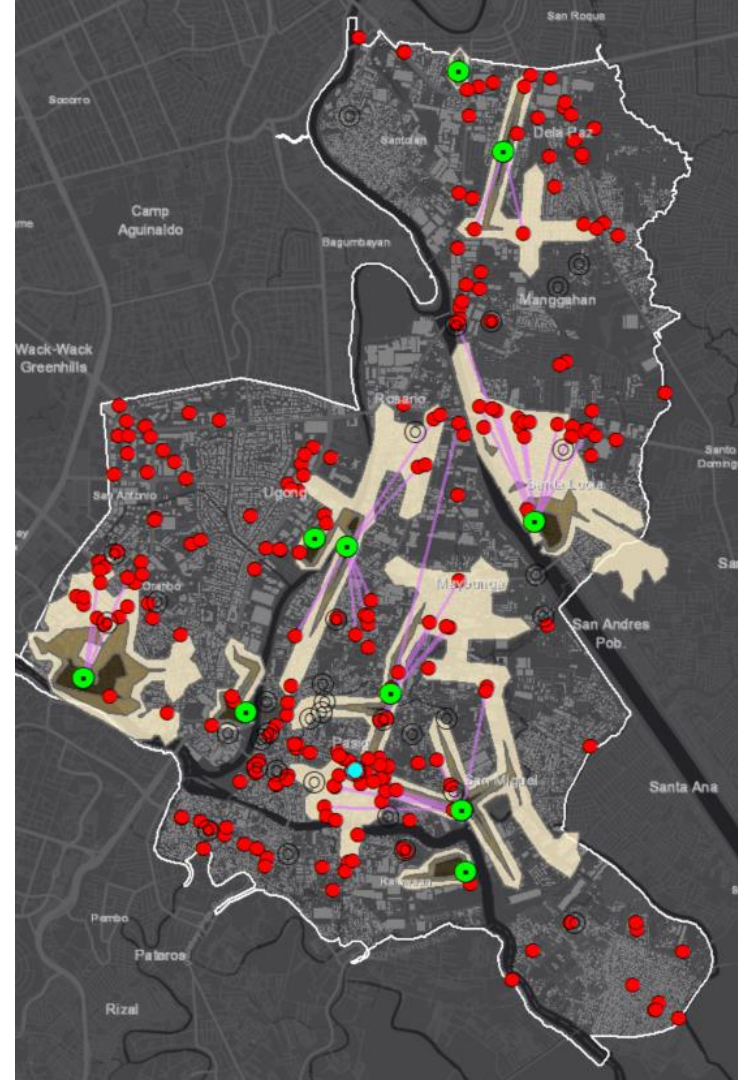
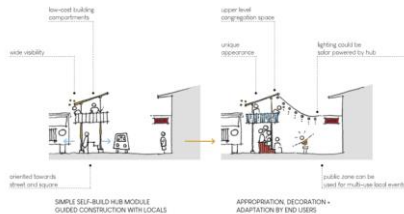


**Booking app:
Passenger
app**

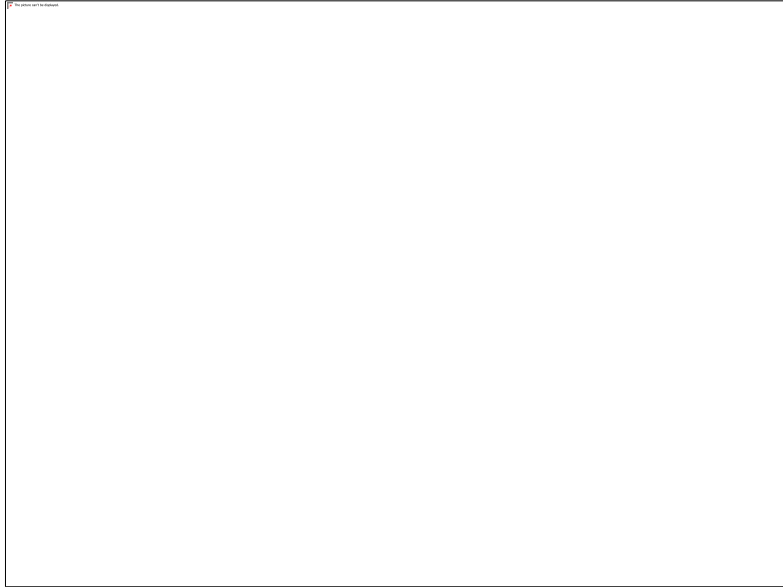


Charging solutions

Cooperation with TUB – Design studio outputs to serve as input to potential designs for charging facilities to be integrated in the pilot



MAIN CHALLENGES



- Availability of charging infrastructure
- Limited options for spare parts, battery, and maintenance providers
- Cost of electric vehicles
- Battery life
- Regulatory policies on e-vehicles

FUTURE PLANS

RA 11697 (EVIDA)
establishes the Comprehensive Roadmap
for the Electric Vehicle Industry (CREVI) in
the Philippines



- At least 5% of the vehicle fleet of local government units shall consist of EVs
 - Pasig City to gradually increase its EV fleet annually
 - EVs to replace old city motor vehicles
- Provision of incentives for the establishment of EV Charging Stations
 - Can encourage private sector participation to construct EVCS throughout the city
 - Pasig City to provide more EVCS in the city

Contact Us

We're on Social Media!



PasigTransport@pasigcity.gov.ph