



**Automotive
Engineering
Bureau**

DLT

Department of Land Transport

Thailand's Electric Vehicle policies

The Public and private joint Forum in Asian Region

25th November 2022

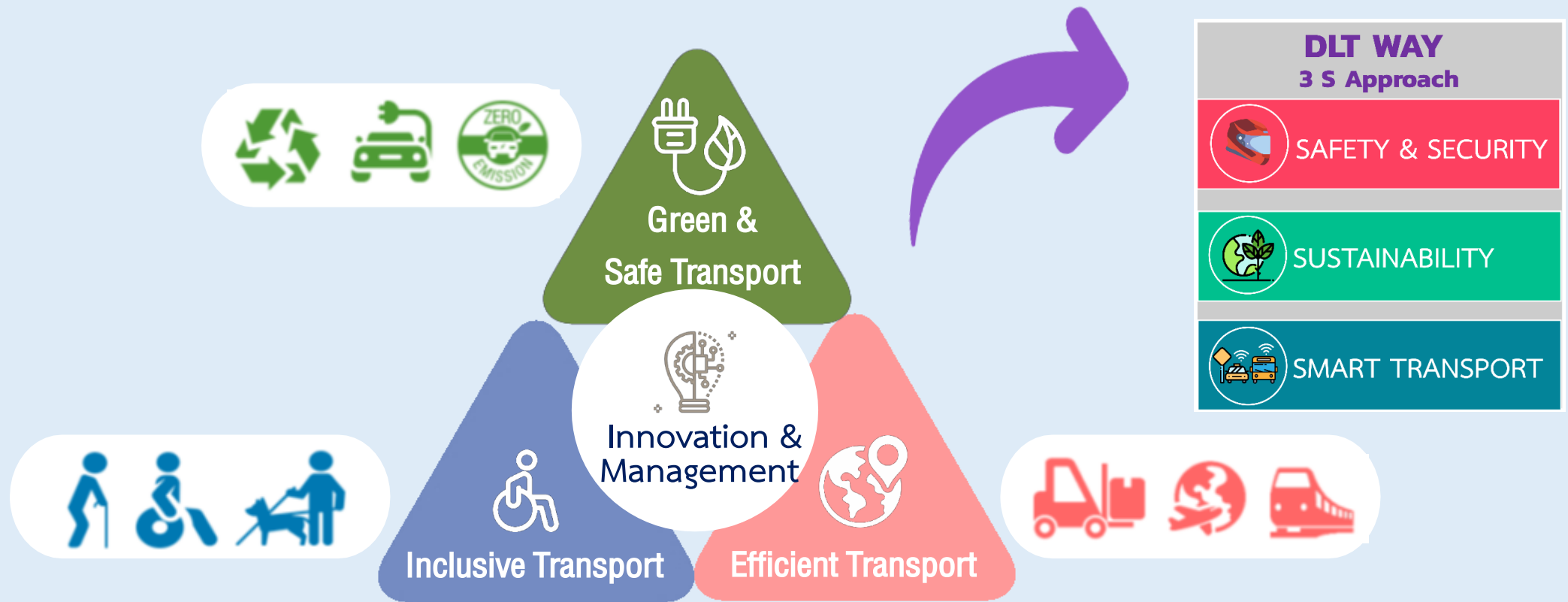
Strategy for Transport systems



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Thailand's 20-year development strategy for transport systems (2018 - 2037)



Current National Regulations



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Goal = Internationalization of
Vehicle Safety Regulations



UN Regulations



ANNOUNCEMENT

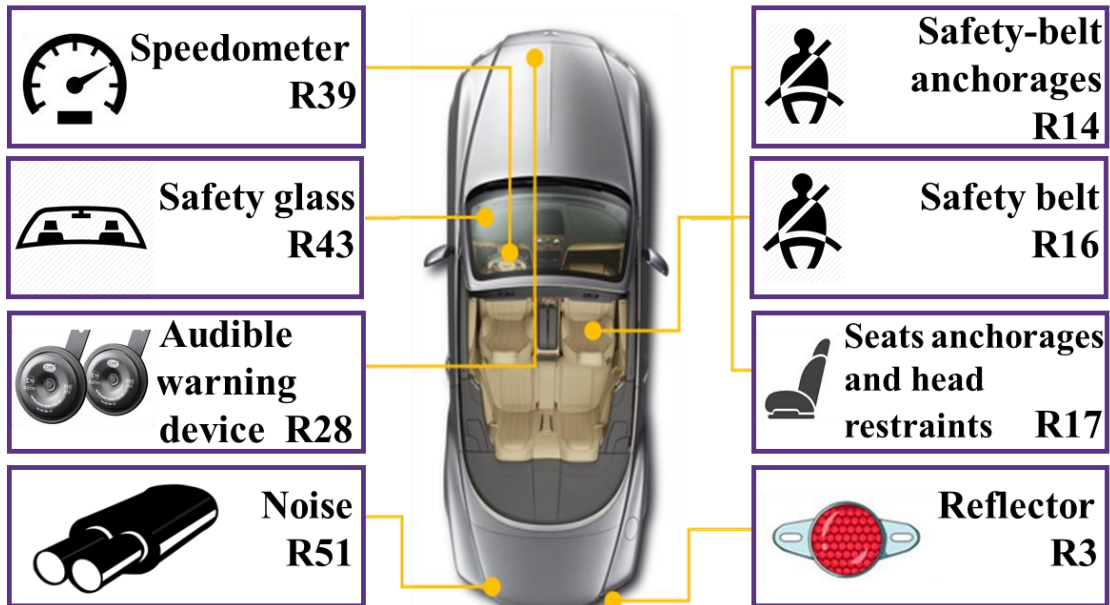


DLT Regulations



Safer Vehicles

M1 N1 : Enforced



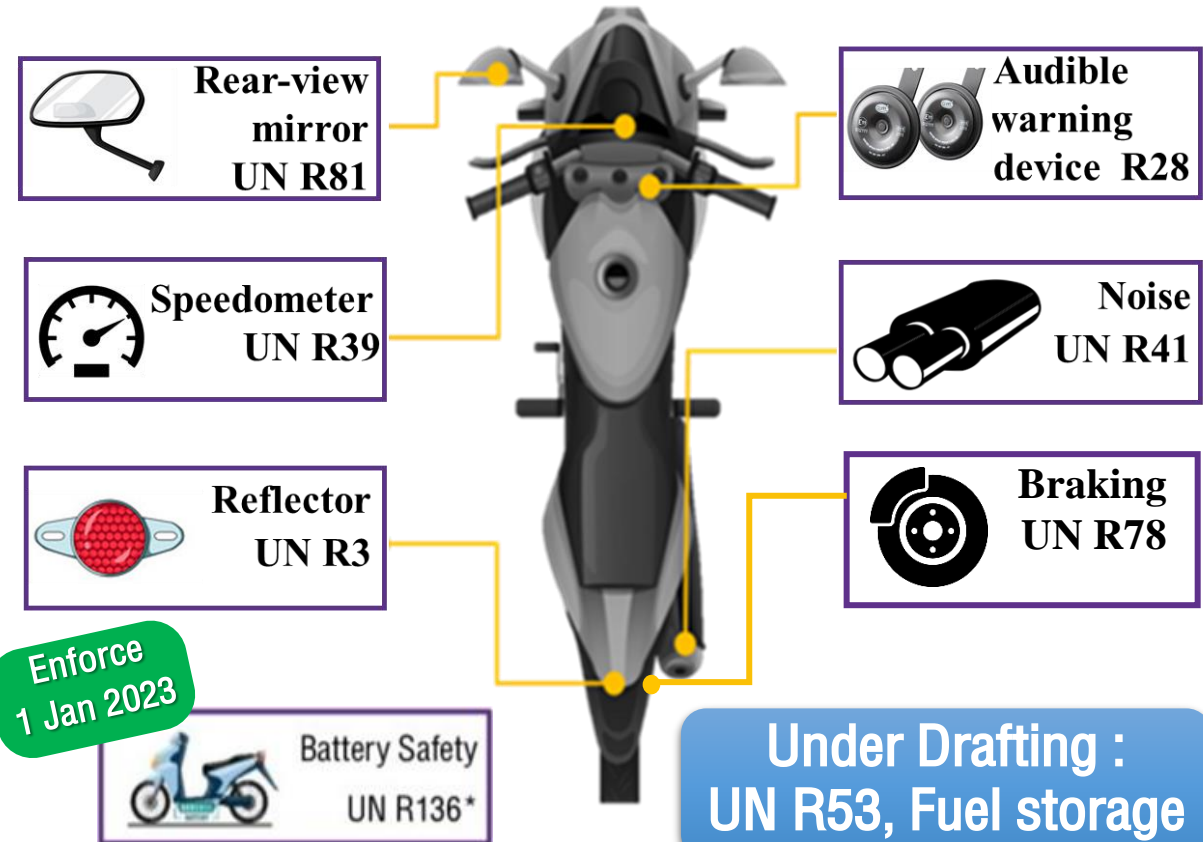
Enforce
1 Jan 2023



Battery Safety
UN R100*

Under Drafting : UN R13H

L3 : Enforced



Enforce
1 Jan 2023



Battery Safety
UN R136*

Under Drafting :
UN R53, Fuel storage

Current National Regulations (Cont.)



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Safety Regulations for Bus



Large Bus Stability Test

Enforce
1 Jan 2013



Tempered Glass as
addition Emergency Exit

Enforce
29 Oct 2014



GPS Installation
on all Public Buses

Enforce
25 Jan 2016



Height Restriction of 4.00 m
for Double Decker Bus

Enforce
19 Mar 2017



Retro-Reflective Installation
(UN R104)

Enforce
1 Jan 2018



Seat Strength, Seat Belt
Anchorages (UN R14,17, 80)

Enforce
1 Jan 2020



Burning Behaviour
of Interior Material (UN
R118)

Enforce
1 Jul 2022



Check and Maintenance
of Vehicle

Enforce
31 Oct 2022



Strength of Bus Super
Structure (UN R66)

Enforce
1 Jan 2023

Safety Regulations Under Drafting and Studies



ABS and Endurance Braking
System (UN R13)



Installation of
Indirect Vision for Large
Vehicles (UN R46)



Battery Safety
(UN R100)

Current National Regulations (Cont.)

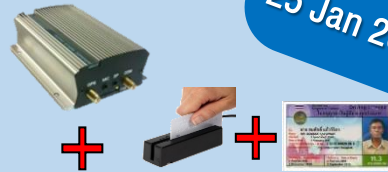


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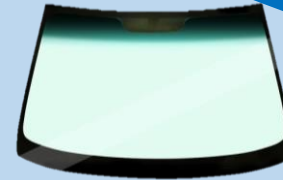


Safety Regulations for Trucks



Enforce
25 Jan 2016

GPS Installation
on 10W-Truck and Tractor



Enforce
29 Oct 2014

Safety glazing



Enforce
1 Jan 2018

Retro-Reflective Installation
(UN R104)



Enforce
1 Jan 2019

Coupling Device (UN R55)



Enforce
1 Apr 2020

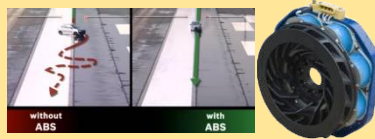
Twist-Lock for Container
Carrier



Enforce
31 Oct 2022

Check and Maintenance
of Vehicle

Safety Regulations Under Drafting and Studies



ABS and Endurance
Braking System (UN R13)



Underrun protective
devices RUPD, LPD
(UN R58, 73)



Battery Safety
(UN R100)



Installation of
Indirect Vision for Large
Vehicles (UN R46)



Dangerous Goods
Vehicle Standard
(ADR)

DLT's EV Subsidy Policies



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Tax Reductions

Current

EV under Motor Vehicle Act.



Annual Vehicle Tax of EV Sedan (Not more than 7 Pass.)
base tax on weight of Microbus & Passenger Van.

ICE 1,800 Baht



EV 1,000 Baht
(1,800 cc, 1,800 kg)



EV 1,000 Baht



Decrease
80 %

200 Baht

Vehicle Registered between

1 Oct 2022 - 30 Sep 2025

Annual Vehicle Tax

Decrease by 80 % for first year.

EV under Land Transport Act.



Annual Vehicle Tax of Bus & Truck
half the tax of ICE.

ICE 2,900 Baht



Decrease
50 %

EV 1,450 Baht

(7,000 kg)



Public Transport Measures

Implemented



Incentive Measures for EV Public Transport

Revised rule of Fixed Route Transport Operator Consideration
that increased point of Pollution & Environment from 4 to 15 points.

Fixed Route Electric Bus

Category 1 (Bangkok and Continuous Route)

No.	Route No.	Route Name.	EV (Units)
1	4-1	Phra Pradaeng - Bang Lamphu	19
2	4-40	Krung Thon Bridge - Bang Lamphu	12
3	4-36	Suksanareewittaya School - Hua Lamphong	15
4	4-21	Samut Sakhon - Ban Khaek Intersection	5
5	3-15	Kheha Bangplee - Ekkamai Station	16
6	1-5	Rangsit - Victory Monument	17
7	4-44	Suan Luang - Rama VIII Park	13
8	4-8	Kheha Thonburi - Bang Lamphu	15
Total			112

7 Aug 2022

Fixed Route Electric Bus

Category 1

(Bangkok and Continuous Route)
have registered 8 Routes,
112 Units.

And 77 Routes are currently under consideration, not less than 800 units in 2022.

DLT's EV Subsidy Policies (Cont.)



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Other Measures

Implemented



Symbol for EV










Enforce
4 Feb 2021



Sort of EV type (HEV / PHEV / BEV)

DLT database of EV type (Since 1 Aug 2020)

The data use to analyze EV Industry Trends and Developments.

Type of Electric Vehicle		Rated Power (kW)	Speed (km/h)	30 min of driving	Symbol
Motorcycle		0.25	45	✓	✗
Motor tricycle		4	45	✓	✗
Small Car		4	45	✓	
Sedan Van & Pick Up		15	90	✓	
Road Roller & Tractor		✗	✗	✗	✗

Code	Meaning
0	Non Fuel
1	Gasoline
2	Diesel
3	LPG
4	LPG + Gasoline
5	LPG + Diesel
7	Electric BEV
8	CNG - Gasoline
9	CNG - Diesel
A	CNG
B	Gasoline - Electric HEV
C	CNG - LPG
D	Gasoline + LPG + CNG
E	Diesel + LPG + CNG

Code	Meaning
H	LPG + Gasoline - Electric
I	Diesel - Electric
J	LPG - Diesel - Electric HEV
K	CNG - Diesel - Electric
L	CNG - Gasoline - Electric
M	Hydrogen
N	Gasoline - Electric Plug PHEV
O	Diesel - Electric Plug
P	LPG - Diesel - Electric Plug
Q	CNG - Diesel - Electric Plug
R	CNG - Gasoline - Electric Plug
S	LPG + Gasoline - Electric Plug
T	LNG



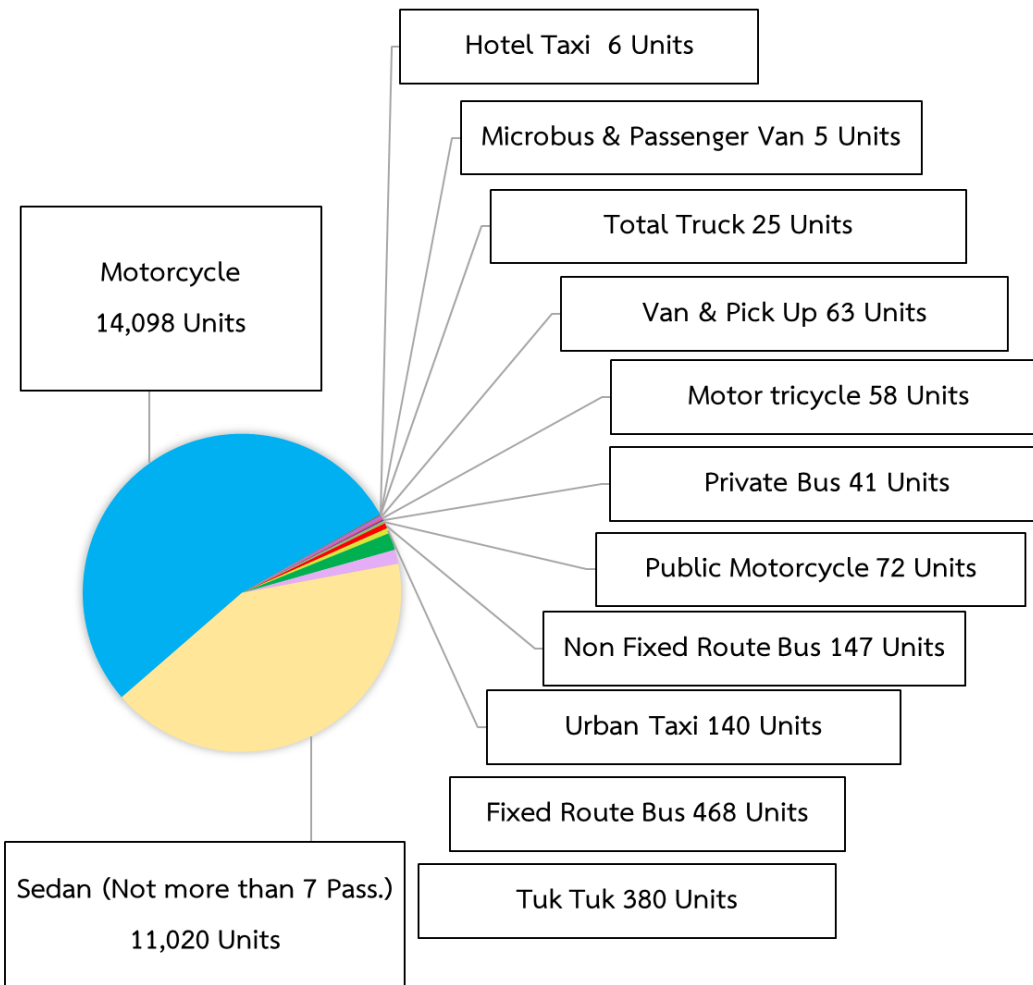
EV Registration Statistics



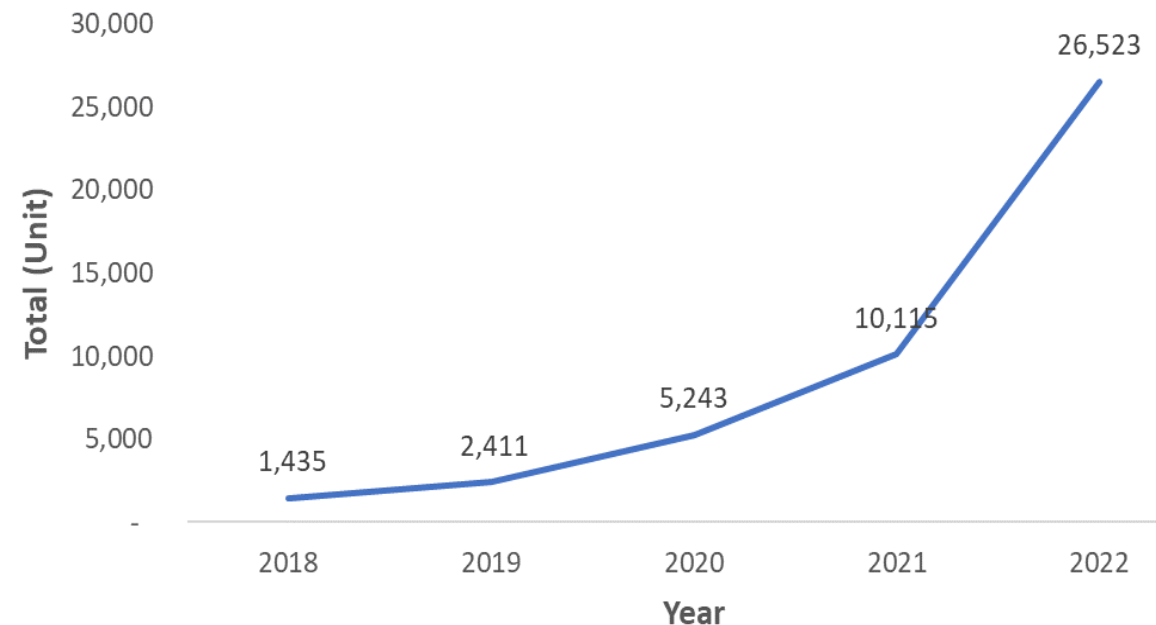
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➔ Number of BEV Registered in Thailand as of 31 October 2022 : **26,523 Units**



Number of BEV Registered in Thailand
(Oct.2018-Oct.2022)



(Transport Statistics Sub-Division, Planning Division , Department of Land Transport)

The Registration of New EVs



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Vehicle Dimensions

Current Vehicle Registration

Vehicle Components










Electric Motor
Power Rating



Rated Power of Electric Motor under Motor Vehicle Act.

Enforce
4 Feb 2021

Type of Electric Vehicle		Rated Power (kW)	Speed (km/h)	30 min of driving	Symbol
Motorcycle		0.25	45	✓	x
Motor tricycle		4	45	✓	x
Small Car		4	45	✓	
Sedan Van & Pick Up		15	90	✓	
Road Roller & Tractor		x	x	x	x

Power Ratio of Electric Motor under Land Transport Act.



Power Ratio not less than 5 kW/ton GVW.



Enforce
1 Jan 2010

The Registration of EV Conversion

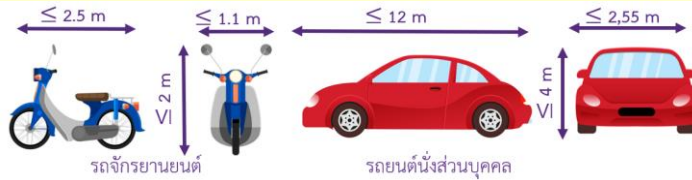


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Specification

Vehicle Dimensions



Vehicle Components

Chassis

Body

Steering System

Wheelbase

Suspension System

Electric Motor Power Rating



Motorcycle : Rated Power ≥ 0.25 kW

Speed ≥ 45 km/h



Sedan : Rated Power ≥ 15 kW
Van & Pick Up

Speed ≥ 90 km/h



Small Car : Rated Power ≥ 4 kW

Speed ≥ 45 km/h

Motor tricycle : Rated Power ≥ 4 kW

Speed ≥ 45 km/h



Required Documents

1. Vehicle Certification (Design / Stability / Safety / Electric)

- **Mechanical Engineer, Associate Engineer** (In case of consideration not more than 100 kW) certify Design or Conversion / Motor and Battery Installation / Braking System / Suspension System / Powertrain System / Motor and Battery Specification / Gross Vehicle Weight (GVW) / Top Speed / Range / etc.
- **Electrical Engineer, Associate Engineer** (In case of consideration for all rating) certify Electrical System (Electrical Circuits and Wiring Diagram)



2. Electric Motor Power Rating Certification

3. 30 min of driving Test Report

4. Symbol



or \



Inspection

- ☐ Conversion Checking with Evidence
- ☐ Motor and Battery Installation Checking ***
- ☐ Other Conversion Checking (Brake Booster / Power steering system / etc.)

EV Safety Enhancement Measures

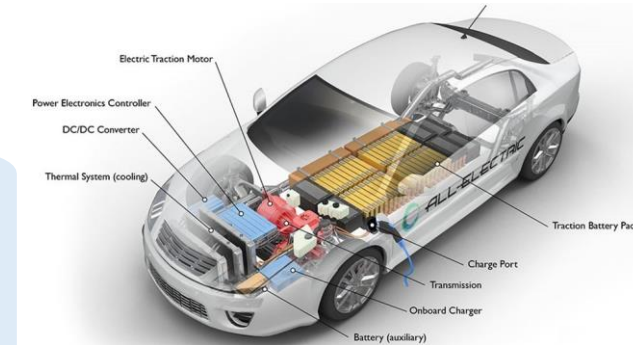


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The study of rules and procedures on Electric Vehicle Inspection

- Ensure electrical safety of users and equipment
- Reduce the accident caused by electrical Failure
- To process the draft of DLT notifications on rules and procedures of Electric Vehicle Inspection



Action

1. Make a rules and procedures of Electric Vehicle Inspection
2. Training for DLT and Private Inspector
3. Prepare the equipment for Electric Vehicle Inspection
(Ohm Meter, Milliohm Meter, Insulation Tester, Rubber Gloves, Finger Test & Wire Test)





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Thank You



กรมการขนส่งทางบก

Safety

Security

Sustainable

Smart

Transport

"เป็นองค์กรแห่งนวัตกรรมในการควบคุม กำกับ ดูแล ระบบการขนส่งทางถนน ให้มีคุณภาพและปลอดภัย"



Web Site
www.dlt.go.th



กรมการขนส่งทางบก
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