Pilot Green Transport Fund

Interim Report
On
Trial of Hybrid Light Goods Vehicle for Logistics Service
(Kei Shun International Logistic Limited)

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Interim Report
(Trial Period: 1 December 2018 – 31 May 2019)

Executive Summary

1. Introduction

1.1 The Pilot Green Transport Fund (the Fund) is set up to encourage transport operators to try out green innovative transport technologies, contributing to better air quality and public health for Hong Kong. Kei Shun International Logistic Limited (Kei Shun) was approved under the Fund for trial of one hybrid light goods vehicle. Through the tendering procedures stipulated in the Subsidy Agreement, Kei Shun procured one Hino 300 series 5,500 kg hybrid light goods vehicle (HV) for trial.

1.2 PolyU Technology and Consultancy Company Limited has been engaged by the Environmental Protection Department (EPD) as an independent third party assessor to monitor the trial and evaluate the performance of the trial vehicles. Kei Shun assigned a diesel light goods vehicle (DV) providing same service as the conventional counterpart for comparison.

1.3 This Interim Report summarizes the performance of the HV in the first six months of the trial as compared with its conventional counterpart.

2. Trial Vehicles

2.1 The HV – Hino 300 series hybrid light goods vehicle – had a gross vehicle weight of 5,500 kg and was capable of carrying a driver with two passengers and goods. The DV – a Hino 300 series diesel light goods vehicle – had a gross vehicle weight of 5,500 kg capable of carrying a driver with two passengers and goods, was used as the conventional counterpart for comparison in this trial. The vehicles were used mainly for providing logistics service in the New Territories and Kowloon. The delivery was conducted from Monday to Saturday, excluding Sunday and public holidays. The operating hours were from 9:00 to 18:00. Key features of the HV and DV and photos of the vehicles are provided in Appendix 1 and Appendix 2 respectively.

3. Trial Information

3.1 The trial commenced on 1 December 2018 and would last for 24 months. Kei Shun was required to collect and provide trial information including the HV mileage reading before refilling, amount of fuel refilled in each refilling, cost and downtime associated with scheduled and unscheduled maintenance of the HV. Similar data from the DV was also required. In addition to the cost information, reports on maintenance work, operational difficulties and opinions of the

driver were collected and provided to reflect any problems of the HV.

4. Findings of Trial

4.1 The following table summarizes the statistical data of the HV and the DV.

Table 1: Key operation statistics of each vehicle (December 2018 – May 2019)

	HV	**DV**
Total mileage (km)	10,107	13,316
Fuel cost (HK$)	30,238.5	42,120.6
Average fuel economy (km/litre) [1]	4.70	4.43
Average fuel cost (HK$/km)	2.99	3.16
Maintenance cost (HK$) [2]	0	0
Total operating cost (HK$)	30,238.5	42,120.6
Average total operating cost (HK$/km)	2.99	3.16
Downtime (working day) [3]	0	0

[1] The market fuel price was used for calculation.

[2] Maintenance due to incident not related to the performance of the vehicle was not included for comparing the performance.

[3] Downtime refers to the equivalent number of working days in which the vehicle was not in operation due to maintenance, counting from the first day it stopped operation till the day it was returned to the operator.

4.2 In this reporting period, the average fuel cost of the HV was HK$0.17/km (i.e. about 5.4%) lower than that of the DV. The HV and DV had no scheduled or unscheduled maintenance in the first six months of the trial. Therefore, the average total operating cost of the HV was same as its average fuel cost and was HK$0.17/km (i.e. about 5.4%) lower than that of DV.

4.3 The utilization rates of the HV and the DV were both 100% in this reporting period.

5. Summary

5.1 In the first six months of the trial, the average daily mileage of the HV was 70 km, while that of the DV was 92 km. Both the average fuel cost and the average total operating cost of the HV were HK$0.17/km (i.e. about 5.4%) lower than those of the DV. The utilization rates of the HV and the DV were 100%.

5.2 Kei Shun had a designated driver for the HV. The driver had no problem in operating the HV and was satisfied with its performance.

5.3 The findings only reflect the performance of the HV in the first six months of the trial. The performance and reliability of the HV will be further tested under this 24-month trial.

Appendix 1: Key Features of Vehicles

1. Trial HV

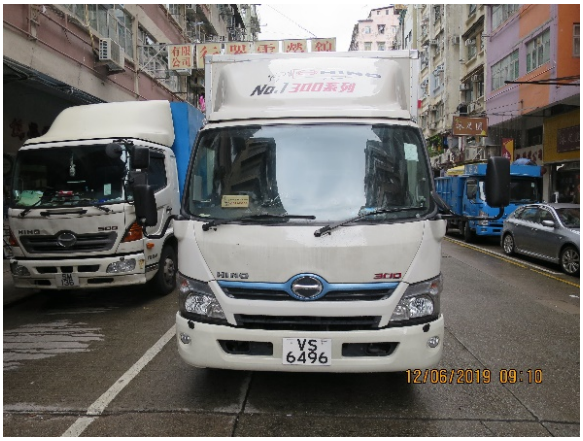
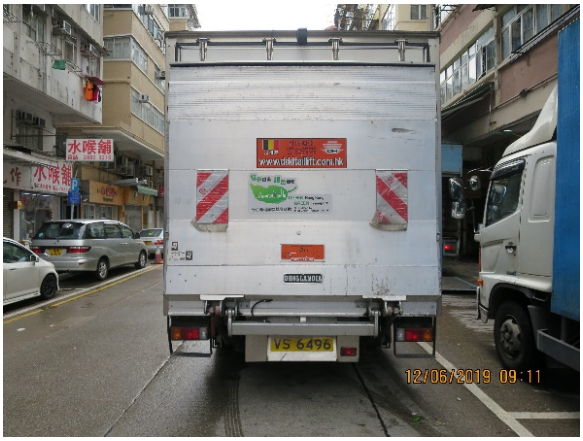
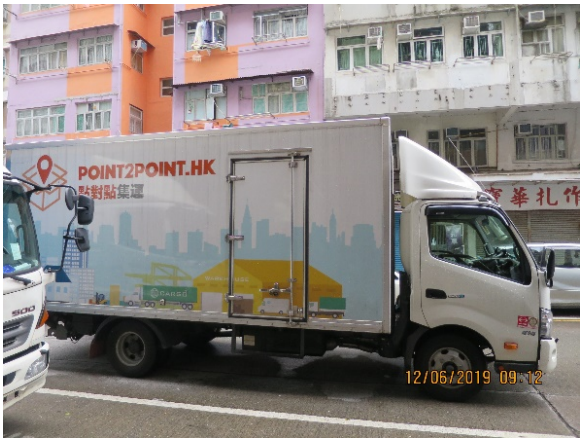
Registration Mark:	**VS6496**
Make:	Hino
Model:	300 Series Hybrid XKU720R-HKUQS3
Class:	Light goods vehicle
Gross vehicle weight:	5,500 kg
Seating capacity:	driver + 2 passengers
Cylinder capacity:	4,009 cc
Year of manufacture:	2018
Maximum Output (ps/rpm)	150/2,500
Battery Type	Nickel-Metal Hydride Battery

2. DV for Comparison

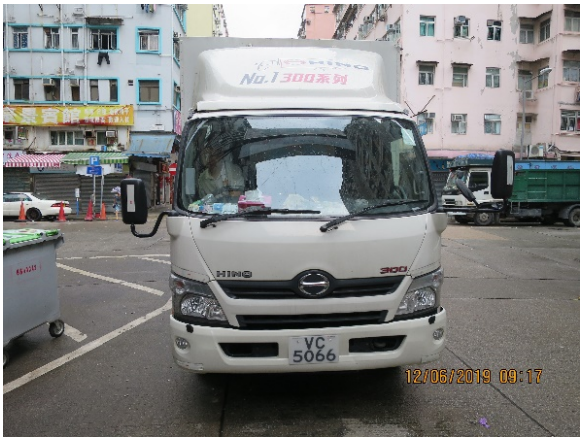
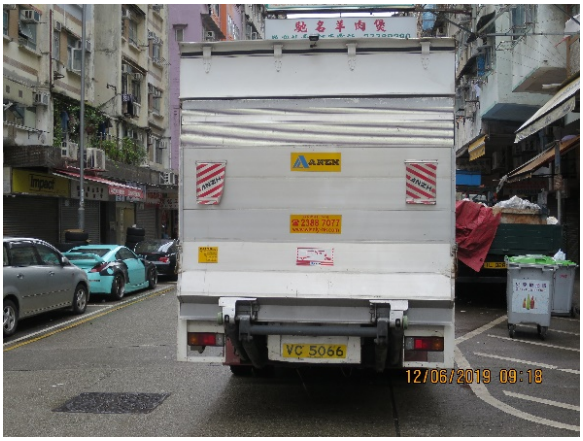
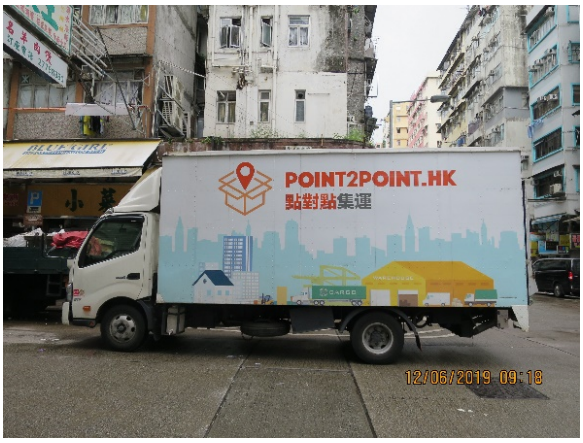
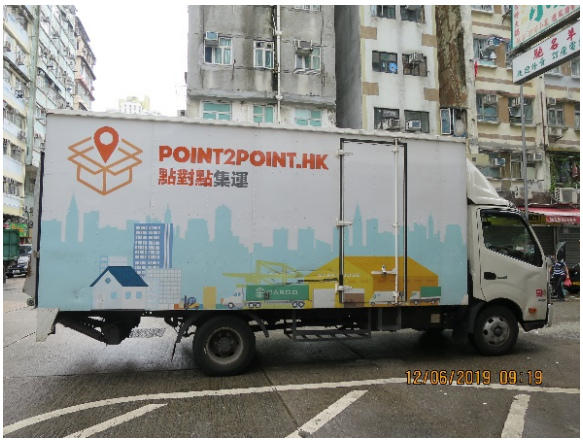
Registration Mark:	**VC5066**
Make:	HINO
Model:	300 Series XZU720R-HKFQT3
Class:	Light goods vehicle
Gross vehicle weight:	5,500 kg
Seating capacity:	driver + 2 passengers
Cylinder capacity:	4,009 cc
Year of manufacture:	2017

Appendix 2: Photos of Vehicles

1. Trial HV – VS6496

	
Front view of HV	Rear view of HV
	
Side view of HV	Side view of HV

2. DV for Comparison – VC5066

	
Front view of DV	Rear view of DV
	
Side view of DV	Side view of DV