

<b>Title</b>	<b>Drive a large passenger service vehicle in a fuel efficient manner</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to: describe factors that affect the fuel efficiency of large passenger service vehicles; and drive a large passenger service vehicle to optimise fuel efficiency.
----------------	---

<b>Classification</b>	Commercial Road Transport > Passenger Service
-----------------------	---

<b>Available grade</b>	Achieved
------------------------	----------

<b>Entry information</b>	
<b>Critical health and safety prerequisites</b>	Candidates must hold a minimum of the full class of licence required for the vehicle being driven, and a current P endorsement.
<b>Recommended skills and knowledge</b>	Unit 15158, <i>Carry out pre-drive vehicle checks on a heavy motor vehicle, start it up, and shut it down.</i>

### Explanatory notes

- 1 Legislation relevant to this unit standard includes:  
Land Transport Act 1998;  
Land Transport (Driver Licensing) Rule 1999;  
Land Transport (Road User) Rule 2004;  
Land Transport Rule: Passenger Service Vehicles 1999;  
Land Transport Rule: Work Time and Logbooks 2007.
- 2 Any new, amended or replacement Acts, regulations, Rules, standards, codes of practice, or NZ Transport Agency requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

### 3 Definitions

*Driving conditions* are road, traffic, vehicle, driver, weather, and light. A driver's reactions will always be to potential hazards arising from these six conditions.

*Large passenger service vehicle* means any passenger service vehicle that is designed or adapted to carry more than 12 persons (including the driver). For the purposes of this unit standard, it also includes any passenger service vehicle over 3500kg that carries less than 12 passengers because its configuration has been adapted to carry passengers in wheelchairs.

*System of vehicle control* means placing the vehicle in the correct place on the road, at the right speed and in the right gear in all driving situations, but particularly when approaching and negotiating hazards.

4 This unit standard does not apply to electrically powered vehicles.

---

## Outcomes and evidence requirements

### Outcome 1

Describe factors that affect the fuel efficiency of large passenger service vehicles.

#### Evidence requirements

- 1.1 The effects of inertia and friction on fuel efficiency are described.
- Range different types of inertia and friction include – inertial resistance, rolling resistance, aerodynamic resistance, grade resistance.
- 1.2 The effects of vehicle speed and mass on fuel efficiency are described.
- 1.3 The relationship between torque, power, and engine speed is described in terms of fuel efficiency.
- 1.4 Advantages and disadvantages of manual and automated transmissions are described in terms of fuel efficiency.
- 1.5 Electronic fuel management systems are described in terms of operation and fuel efficiency.
- 1.6 The benefits of regular vehicle checks on fuel efficiency are described.
- Range pre- and post-trip inspections, on-road spot checks, regular servicing, reporting of faults.
- 1.7 The influence of the driver's driving behaviour on fuel efficiency is described.
- Range influences on driving behaviour include but are not limited to – attitude; experience, knowledge and skills; fatigue; drugs and alcohol; illness and injury.

**Outcome 2**

Drive a large passenger service vehicle to optimise fuel efficiency.

Range a continuous drive of at least 40 minutes that includes driving on rural or urban roads and a motorway or highway.

**Evidence requirements**

2.1 Driving conditions are continually monitored to enable the driver to implement optimum fuel efficient driving strategies.

Range strategies include – use of momentum, throttle control, system of vehicle control, lane use, not overtaking unnecessarily, maintaining correct following distances, avoiding excessive speed, allowing the engine to pull back into the lower end of the operating or economy range, cornering techniques, grade techniques.

2.2 Engine speed and transmission use are managed to optimise fuel efficiency and safe vehicle operation.

Range may include – tachometer use, throttle use, avoidance of excessive idle times, avoidance of unnecessary downshifting when slowing and stopping, achieving highest gear possible as soon as possible, maintaining the highest possible gear, using auxiliary brakes or compression to minimise service brake use; for manual or automated buses with stick shift may include – progressive shifting, skip/block shifting.

2.3 Where fitted, and where driving conditions permit, cruise control is employed to achieve improvements in fuel efficiency.

<b>Planned review date</b>	31 December 2019
----------------------------	------------------

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	25 May 1999	31 May 2016
Review	2	8 February 2001	31 May 2016
Review	3	24 July 2002	31 May 2016
Review	4	20 May 2011	31 December 2019
Review	5	16 April 2015	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0092
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

---

**Comments on this unit standard**

Please contact NZ Motor Industry Training Organisation (Incorporated) [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.