



# **Guidelines for Next Generation High Productivity Freight Vehicle Trial in Victoria**

**September 2009**



## Introduction

These Guidelines describe the arrangements for the trial of next generation High Productivity Freight Vehicles (HPFV) in Victoria, announced in the *Victorian Transport Plan* and the Victorian Freight Network Strategy, *Freight Futures*.

## Background

*Freight Futures* responds to the freight challenge in Victoria, which includes issues such as the projected significant growth in the demand for freight, impacts of congestion, sustainability and liveability issues, higher security and safety standards and labour and skills shortages. It responds to these challenges through goals relating to efficiency, capacity and sustainability, addressed in 20 Strategic Directions. Direction 8, *Invest in the network and trial next generation HPFVs*, includes a commitment to a trial of next generation HPFVs,

*In the Green Triangle region targeting expanded exports through the Port of Portland, particularly timber products*

*On limited key metropolitan freeways to link the Port of Melbourne with major industrial areas: the West Gate Freeway – Western Ring Road – Hume Freeway*

The *Victorian Transport Plan* also notes that,

*The use of next generation High Productivity Freight Vehicles (HPFVs) on key dedicated routes has the potential to reduce the number of trucks by almost a third, and reduce emissions and the cost of travel by up to 22 per cent on these routes.*

*With Victoria's freight task forecast to approximately double by 2030, next generation HPFVs will be an important way to mitigate increasing congestion, emissions and the cost of our goods.*

The trial of next generation HPFVs is an important step in the implementation of a Performance-Based Standards approach to heavy vehicle regulation in Victoria and the broader introduction of new, safe and efficient freight vehicles.

## Trial of Next Generation High Productivity Freight Vehicles

The trial of next generation High Productivity Freight Vehicles in Victoria will operate for two years from the date of this bulletin, and vehicles participating in the trial will operate under annual oversize and overmass vehicle permits issued by VicRoads.

## Routes

Arterial roads approved for use in the trial by next generation HPFV are shown in Figures 1 and 2 of these Guidelines. These routes indicate the scope of the trial, although access to these routes from nearby origins and destinations, using other roads, may be approved on a case-by-case basis.

Any proposed travel on local roads requires the written support of the relevant municipality.

The distance that HPFV will be permitted to travel off approved routes (refer maps) in Melbourne will generally be no more than two road kilometres. However, distances beyond two kilometres will be considered, depending on the circumstances. As the trial progresses, the routes on the enclosed maps will be updated to reflect the approval of routes for 'last kilometre' access. Updated maps will appear on VicRoads website: [vicroads.vic.gov.au](http://vicroads.vic.gov.au)

The design and dynamic performance of vehicles proposed to be used in the trial will affect access. For example, a proposed route with tighter corners will require the vehicle to have a narrower swept path (which may require more sophisticated self-steering axles). Similarly, vehicle mass limits will depend on the capacity of structures along the route. Mass limits for the trial are shown in Table 1. However, these may vary as roads and bridges may be upgraded during the period of the trial.

The following references provide guidance in relation to assessing routes for heavy vehicles, including next generation HPFV:

- a) National Transport Commission website: [ntc.gov.au](http://ntc.gov.au) – *Performance Based Standards, Network Classification Guidelines*;
- b) Victorian Freight and Logistics Council website: [vflc.com.au](http://vflc.com.au) – *High Productivity Vehicles - Information Kit and Industry Case Studies*; and
- c) Austroads website: [austroads.com.au](http://austroads.com.au) - *Austroads Design Vehicles and Turning Path Templates* (for purchase);
- d) Austroads website: [austroads.com.au](http://austroads.com.au) - AP-R333/09 : *Guidelines for Assessing Heavy Vehicle Access to Local Roads: Draft for Consultation*

In assessing proposed routes, the swept path of the vehicles undertaking a turn may need to be overlaid on a plan of an intersection. Alternatively, if the vehicle already exists a one-off supervised trial (under permit) may be undertaken to confirm that a manoeuvre can be safely achieved without encroaching onto opposing traffic lanes.

To ensure railway level crossing safety, next generation HPFV must not cross suburban passenger train lines. Other crossings, which have slower, less frequent train movements, such as freight trains, may be approved as part of a trial route. However, a risk assessment, undertaken by the Department of Transport, would be required to determine whether a permit will be granted to cross a railway line. For information on rail level crossings contact the Department of Transport (Transport Insurance & Risk Management Services section) on telephone 1800 660 432.

## Avoiding Peak Hours

Under the HPFV trial, travel is not permitted on the West Gate Freeway and Western Ring Road during traffic peak hours, between 6.00 am and 9.00 am and between 4.00 pm and 6.30 pm on weekdays. This will minimise traffic congestion, particularly on key arterial roads.

## Intelligent Access Program

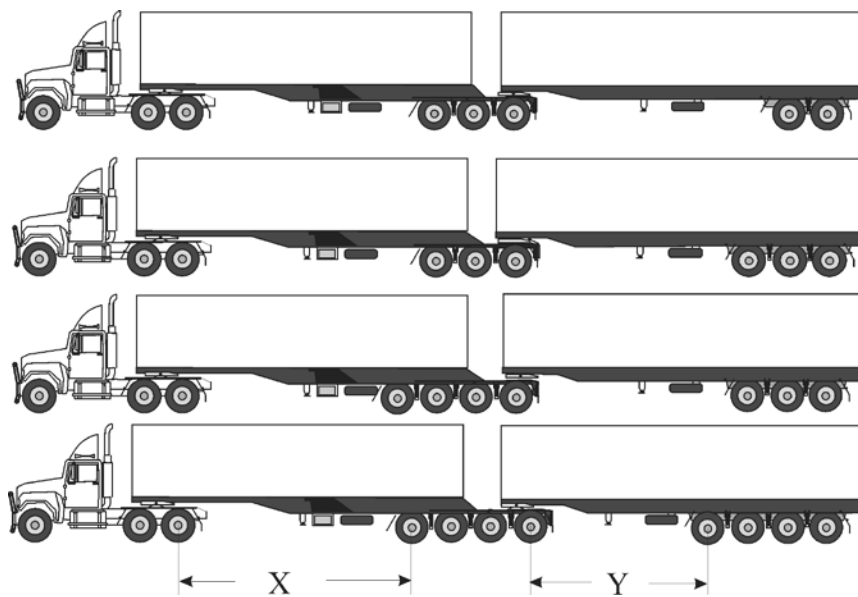
Operators of HPFV in the trial must participate in the national Intelligent Access Program (IAP). The purpose of the Program is to provide Government, municipalities and the community with assurance that only approved routes are being used. It can also be used to monitor times of travel.

Independent service providers track vehicles by systems such as global positioning. For more information about IAP and how to participate, see the Transport Certification Australia website at: [www.tca.gov.au](http://www.tca.gov.au). This site also provides the contact details of certified IAP providers.

## Vehicle specifications

The HPFV trial in Victoria is limited to B-doubles, up to 30 metres long. While it is expected that many operators in the trial will be transporting containers (30.0 metre B-doubles are capable of carrying two 12.2 metre (40 foot) containers), other trailer types, for example, flat tops, tautliners, tippers and tankers, are also eligible to participate. Vehicles in the trial can incorporate tandem axle groups, tri-axle groups, quad axle groups or a mixture of these groups.

Expected configurations include:



In addition to the vehicles having to comply with the B-double axle spacing requirements to minimise their impact on bridges, the above X and Y distances must be a minimum of 6.5 metres. The normal B-double axle spacing requirements are described in the VicRoads information bulletin, B-doubles & Higher Mass Limits Trucks.

## Mass and Dimension Limits

The maximum dimensions of vehicles able to participate in the HPFV trial are:

- 30.0 metres long;
- 2.5 metres wide; and
- 4.3 metres high, except 4.6 metres for certain type trailers carrying light weight freight.

The maximum axle and vehicle mass are:

**Table 1: Mass limits**

Axle/axle Group	Mass
Steer axle	6.0 tonnes or 6.5 tonnes*
Tandem axle group	17.0 tonnes
Tri-axle group	22.5 tonnes
Quad-axle group	27.0 tonnes
Vehicle mass	77.0 tonnes or 77.5 tonnes*

\* If the prime mover meets the national requirements for 6.5 tonne steer axle mass, described in the VicRoads' information bulletin, 6.5 Tonnes Steer Axles.



## Vehicle Mass Management

To ensure that HPFV do not exceed permitted mass limits and that the vehicles function as designed, operators in the trial must participate in the National Heavy Vehicle Accreditation Scheme (NHVAS) Mass Management Module.

The Mass Management Module requires operators to have an approved, auditable system that provides a level of confidence that vehicles are correctly and legally loaded.

For further details on NHVAS, please refer to VicRoads' information bulletin, *Mass Management Accreditation Guide, February 2007*.

Accreditation under the NHVAS Maintenance Management Module may be required for some vehicles as a condition under the Performance-Based Standards.

## Performance-Based Standards

To participate in the HPFV trial in Victoria, vehicles must satisfy the national Performance-Based Standards (PBS) safety and infrastructure standards. The assessment includes measuring the amount of space a vehicle requires in a turn, how stable it is and its ability to clear intersections safely. The results of an assessment by an accredited assessor are examined by the national PBS Review Panel, administered by the National Transport Commission.

A person may have a vehicle configuration assessed with a range of internal dimensions, or a group of operators may pool together to have a vehicle configuration assessed that they all will utilise. Information in relation to PBS and the process for obtaining approval and certification of a vehicle can be obtained from National Transport Commission website: [ntc.gov.au](http://ntc.gov.au).

## Construction Standards

In addition to the vehicle specifications that are contained in the Performance-Based Standards certification, vehicles must comply with the following requirements:

- a) The Standards for Registration, including having all axles fitted with spray suppression devices (in accordance with British Standard AU200-1984);
- b) Front, side and rear underrun protection devices complying with UN ECE Regulations 93, 73 and 58 respectively (refer VicRoads 26 metre B-double Information Bulletin);
- c) An engine complying with ADR 80/02 (Euro 4) or later, or North American equivalent;
- d) Anti-lock braking system, as per ADR 35/00 and 38/02, that is effective on all axles of the prime mover and both trailers;
- e) Certified Road Friendly Suspensions on all axles, except the prime mover steering axle;
- f) Self steering axle on at least the last axle of each tri-axle or quad-axle group, noting that some routes may require both trailers to be fitted with self-steering axle groups;
- g) A "LONG VEHICLE" sign is displayed at the front and rear of the vehicle; and
- h) Dual tyres on each trailer axle.





## Transitional Arrangements

Operators wishing to use existing vehicles that do not have all the above vehicle construction standards, but substantially meet the requirements, may seek approval to progressively update each combination to be fully compliant over a 12 month period.

Vehicle features for which transitional arrangements will be considered include Front Underrun Protection Devices, Euro 4 engines including the north American equivalent (providing the vehicle has at least a Euro 3 engine or the North American equivalent) and strengthened truck cabin.

## Assessment of Trial

Assessment of the trial will include monitoring of the impacts on road safety and road infrastructure, impacts on traffic flows and impacts on community amenity. Productivity outcomes and compliance with the operating conditions will also be assessed. Operators participating in the trial will be required to assist VicRoads with information to support the monitoring and assessment of the trial. The outcome of the trial will inform the future operation of next generation HPFV on roads in Victoria.

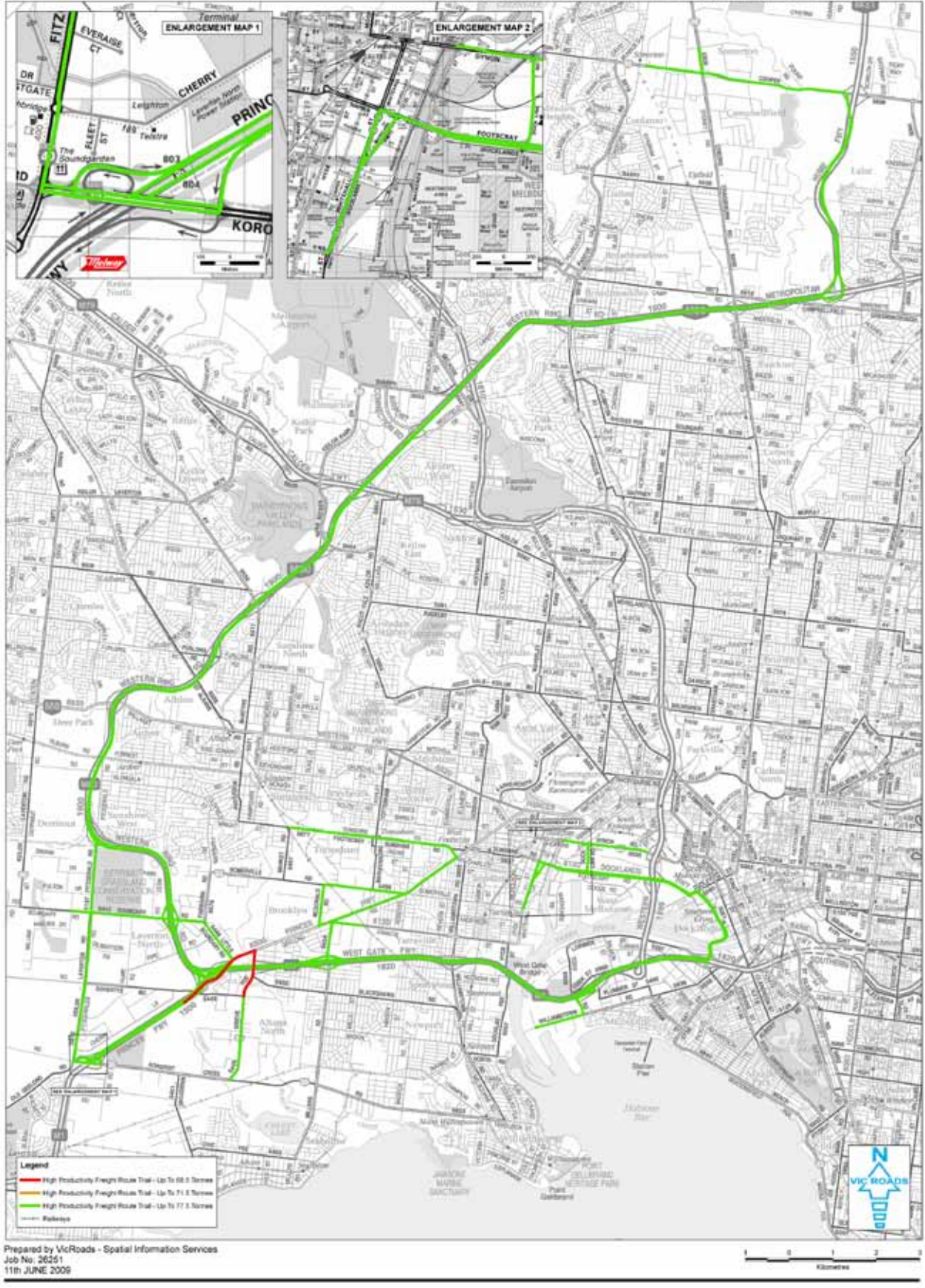
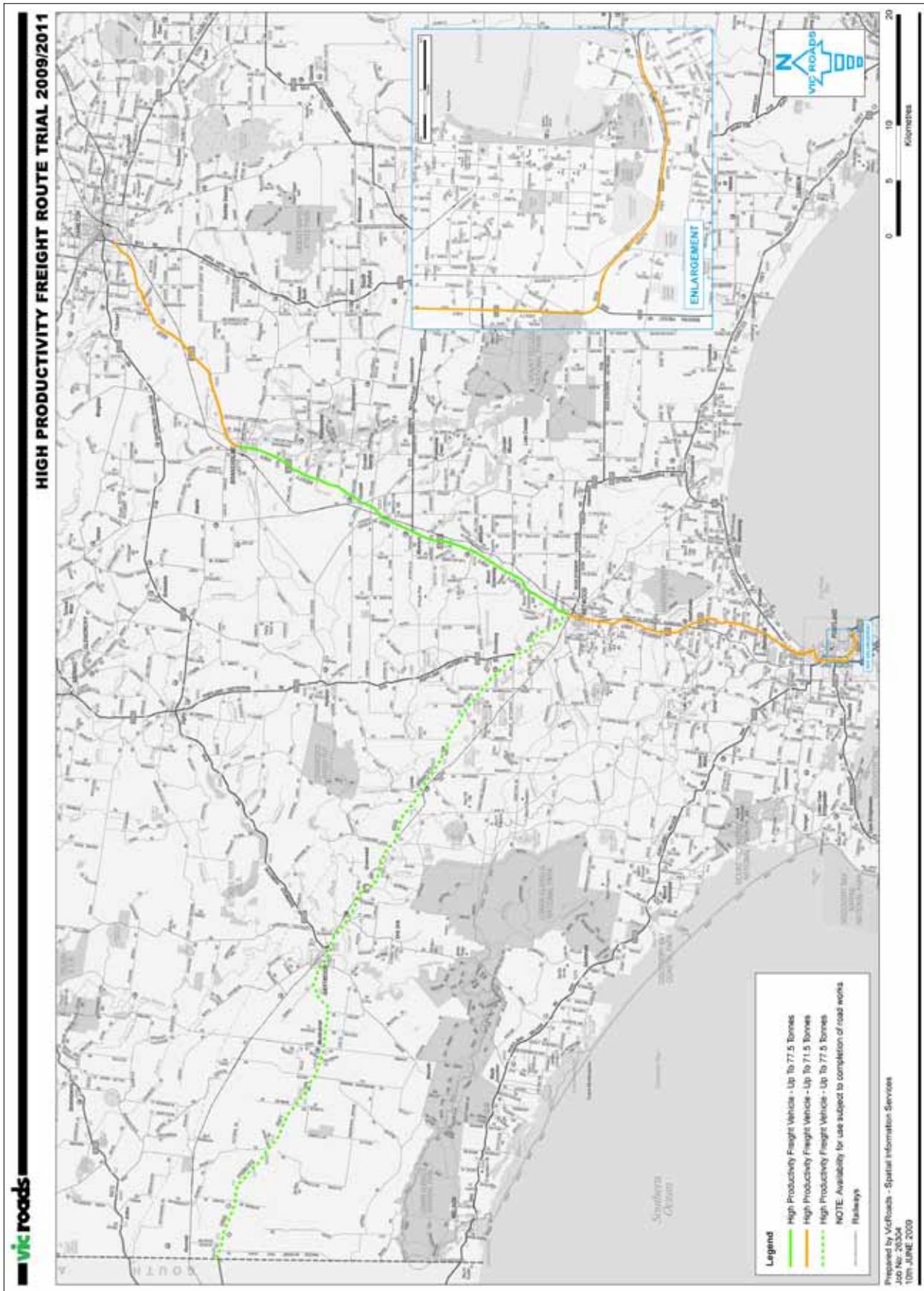


Figure 1: Arterial Roads in Metropolitan Melbourne Approved for HPFV

**Route legend:** Green routes are suitable for vehicles up to 77.5 tonnes  
 Orange routes are suitable for vehicles up to 71.5 tonnes gross mass; and  
 Red routes are suitable for vehicles up to 68.5 tonnes gross mass.

Specific operating conditions will apply to vehicles using the West Gate Bridge.





**Figure 2: Arterial Roads in the Green Triangle Region Approved for HPFV**

**Route legend:** Green routes are suitable for 30 metre B-doubles up to 77.5 tonnes gross mass. Orange routes are suitable for 30 metre B-doubles up to 71.5 tonnes gross mass. (Subject to bridge upgrades the routes shown as orange on the map will become available for vehicles to operate at 77.5 tonnes). Use of the Princes Highway between the South Australian Border and Heywood is subject to its upgrade.





## Vehicle Service and Breakdown Arrangements

When the trailers in the combination need servicing and the service provider is not on an approved route, each trailer shall be delivered to the service provider as a single articulated combination. If the lead trailer in combination with a prime mover exceeds any statutory dimensions, a permit is required and would need to be applied for. (A permit valid for up to 12 months may be issued).

In the event that a HPFV becomes disabled, the combination must be capable of being uncoupled at the breakdown point to facilitate towing. This may mean that the trailers are fitted with landing legs and the fifth wheel couplings are of quick release design.

## Obtaining Permits and for Further Information

An annual oversize and overmass vehicle permit will be issued to operators who meet the criteria and operating conditions for this trial. To apply for a permit or for information about the trial, contact VicRoads' Manager - Heavy Vehicle Policy (Tel: (03) 9854 2142).

VicRoads website: [vicroads.vic.gov.au](http://vicroads.vic.gov.au)

Please complete the relevant sections of this form and sign below. Please print clearly in ink using BLOCK letters. If any part of this form is incomplete it cannot be processed.

**Important:** a fee equivalent to the permit application fee may be charged for amendments to existing permits. A receipt will not be forwarded unless specifically requested by the applicant.

Please return permit by  Post  Facsimile

Permit Number															
Date Permit Required by	D	D	M	M	Y	Y	Y	Y							
Date Permit Required until	D	D	M	M	Y	Y	Y	Y							

**Please fill in date requirements above**

### Applicant Details

Surname					Given Name(s)								
Company Name and ACN (if applicable)													
Home (or company) Address													
								Postcode					
Telephone					Facsimile								

### Vehicle Details (please cross all circles that apply)

- B-Double  Yes  No Anti-Lock Brakes – Vehicle  
 Higher Mass Limits  Yes  No Anti-Lock Brakes – Trailer(s)

Vehicle Make					GCM				
Vehicle Registration Number				State	Number of Axles		Number of Tyres		

### Load Details

Description									

Maximum Gross Mass Required (kg)					Maximum Overall Length:				
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### Travel and Route Details (please attach council approval to travel on local council roads)

Route Description									

### Payment Details (if you do not have a credit card or VicRoads Credit Account Number you must attach the fee to this application)

All the information provided is true and correct.

Any information given or document submitted in connection with this application, or a copy of this application, may be disclosed or used for investigation, law enforcement and other purposes in accordance with the Road Safety Act.

I agree to pay for any route survey or load inspection carried out by VicRoads to determine this application.

Please charge the permit/escort/route/survey inspection fee to my  Bankcard  Mastercard  Visa  VicRoads Credit Account Number

Credit Card No.					VicRoads Credit No.				
Name of Cardholder					Date of Expiry				
					M M Y Y Y Y				
Signature of Cardholder					Signature of Applicant				





