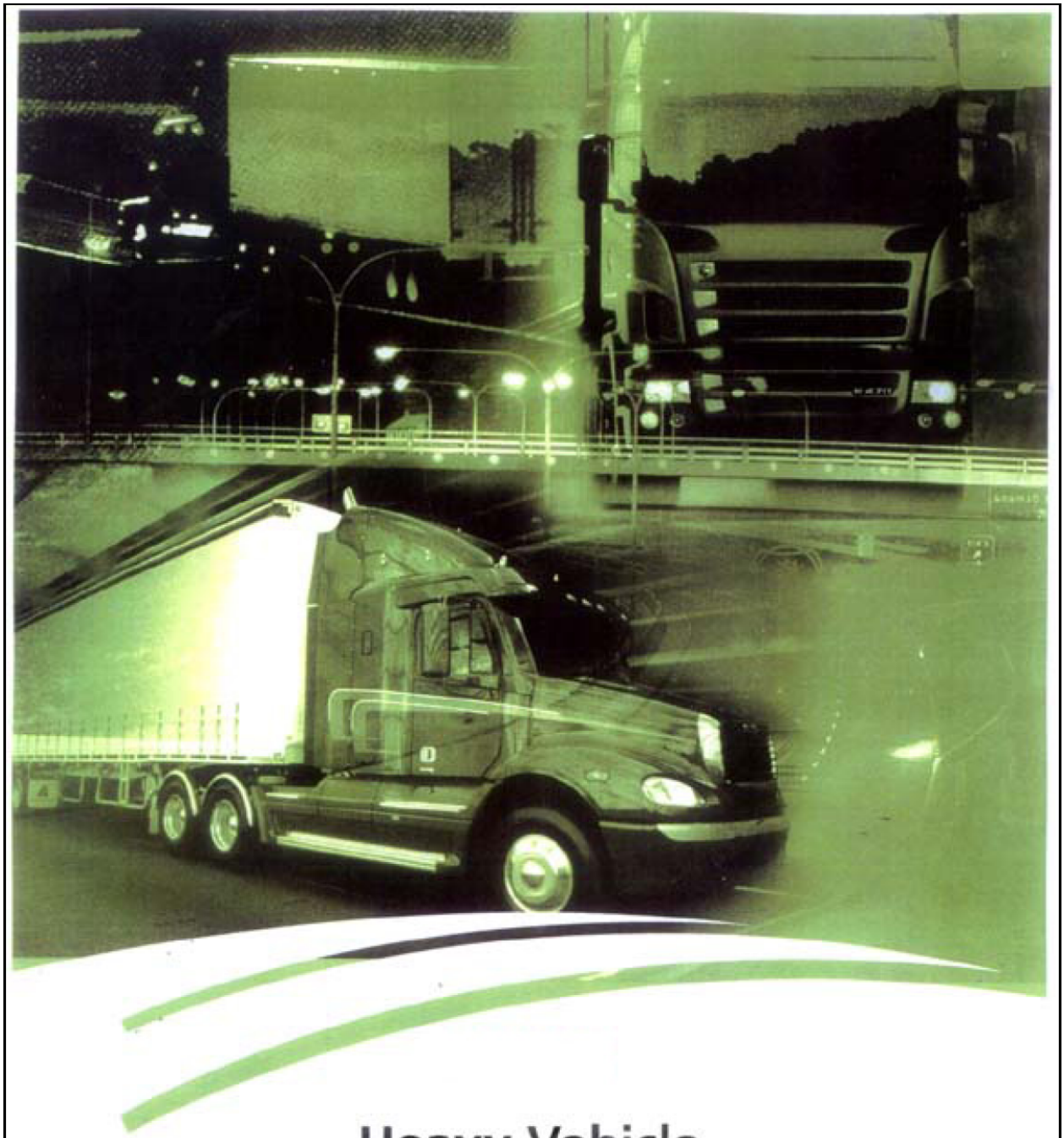

Heavy Vehicle Access Framework

Government of South Australia
Department for Transport, Energy and Infrastructure

Government of South Australia

Department for Transport, Energy and Infrastructure

HEAVY

VEHICLE

ACCESS

FRAMEWORK

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FOREWORD

Heavy vehicle transport plays an important role in supporting the State's economy by enabling business to access raw materials and primary produce, to move products to and from factories, and to transport goods to shops and homes. Developing a road network that supports this freight task in the most efficient way possible and that is safe for all road users is a fundamental requirement in achieving a sustainable and environmentally friendly transport system.

The efficient movement of road freight relies on using the most appropriate vehicle for the freight task. Road freight vehicles range from small utes and vans that are used for carrying local parcel freight through to road trains for long distance and interstate operations, low-loaders for carrying heavy earth moving equipment and specialised vehicles for moving large loads such as transportable homes.

Not all road freight vehicles need to use the entire road system. The road system is developed for different uses consistent with land use requirements, social benefits and environmental considerations. Consequently, the road system is built to different design standards and carrying capacity.

In order to use the road system as efficiently as possible and to meet the needs of all road users, this Heavy Vehicle Access Framework has been developed to provide industry and government authorities with the necessary guidelines for sustainable long-term planning of transport operations and road network access.

The Framework provides the detail to implement the principles of South Australia's Strategic Plan that relate to the operation of heavy vehicles in South Australia and has been developed by the Department in consultation with Local Government and the Transport and Freight Industries. It defines the policy, processes and accountabilities for managing heavy vehicle access within South Australia.

Without compromising road safety, the Framework achieves a balance between industry productivity, environmental impacts, community amenity and equitable road/rail competition. In addition, the Framework provides consistency with national transport strategies, reform initiatives and Government financial accountabilities.

The Framework also forms the basis for the development of an on-going road assessment and upgrading investment program for the heavy vehicle road network in South Australia consistent with the direction and objectives of South Australia's Strategic Plan.

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Hon Patrick Conlon MP
Minister for Transport

FURTHER INFORMATION

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To ensure that this document is readily accessible to all interested parties, it will be updated and maintained on the Department's website at sa.gov.au/heavyvehicles

GLOSSARY OF TERMS

Restricted Access Vehicle:	Vehicle, including any load, that is: a) Over 4.3 metres high; b) Over 19 metres long; c) Have a total mass over 42.5 tonnes; d) Controlled Access Bus.
Authorised Assessor:	A trained assessor responsible to the Department for Transport, Energy and Infrastructure for the assessment of routes for Restricted Access Vehicle (RAV) operation.
Controlled Access Bus:	A rigid bus over 12.5 metres long but no longer than 14.5 metres.
Key Freight Route:	A road that provides access for the movement of general freight of state significance on a 24-hour basis.
General Freight Route:	A road that provides access for the movement of general freight of regional or local significance on a 24-hour basis.
Commodity Freight:	Bulk primary product loads that are transported on an adhoc or seasonal basis from the place of production to the place of processing or delivery.
Commodity Freight Route:	A road that provides access for the movement of commodity freight to or from farms or places of production or delivery.
Performance Based Standards:	National system for the regulation of heavy vehicles based on performance, safe operation, manoeuvrability and characteristics of the vehicle.
Intelligent Access Program:	A national system that monitors heavy vehicle compliance and road access for Restricted Heavy Vehicles using satellite based telematics services.
RAVnet Online Mapping System (RAVnet)	DTEI's online interactive mapping system in which approved heavy vehicle route networks can be viewed and printed
Special Purpose Vehicle	A specially constructed vehicle built for a purpose other than carrying a load that requires road access incidental to its main purpose.

ABBREVIATIONS

ATC	Australian Transport Council
CAB	Controlled Access Bus
Department	Department for Transport, Energy and Infrastructure
HVAF	Heavy Vehicle Access Framework
NTC	National Transport Commission
PBS	Performance Based Standards
RAV	Restricted Access Vehicle
RTA	Road Traffic Act
SPV	Special Purpose Vehicle

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SPECIFIC SUPPORTING DOCUMENTS / GUIDELINES

1	Diagrams of Restricted Access and Special Purpose Vehicles
2	Strategic Route Classification Process
3	Swept Path Template for General Access
4	Heavy Vehicle Configuration and Related Networks
5	Commodity Network Route Guidelines
6	DTEI Route Access Assessment for Restricted Access Vehicles (Available from DTEI website at sa.gov.au/heavyvehicles)
7	Policy for the Transport of Oversize and Overmass Indivisible Loads and Vehicles (Available from DTEI website at sa.gov.au/heavyvehicles)
8	PBS Road Classification Guidelines (Available from the NTC website at http://www.ntc.gov.au)
9	Route Network for Oversize / Overmass Loads

REFERENCE DOCUMENTS

1	South Australia's Strategic Plan
2	Strategic Infrastructure Plan for South Australia
3	South Australian Road Traffic Act and Regulations
4	Local Government Regional Associations' Transport Strategies

1. BACKGROUND

This section provides the historical background and context for developing the HVAF.

1.1. History

For many years, prior to the 1990s, road transport law was fragmented because each State and Territory had developed its own rules over the years. This created inefficiencies in the movement of freight and the design of freight vehicles that affected interstate operations in particular.

For Australia to remain competitive in a world economy, it became essential to implement reforms to improve transport efficiency. Transporting goods represents a significant factor in costs. This resulted in the creation of the National Road Transport Commission which has now been incorporated into the National Transport Commission (NTC). The Commission has advanced many reform initiatives to standardise vehicle regulations and revisions to administrative arrangements in managing heavy vehicle access, fees and charges.

National vehicle regulations implemented in South Australia in December 1999 promoted the concept of a national road network varying in standard and design dependent on type of use, such as freight, residential or recreational. This provides for maximum use of available road system capacity matched to the freight task and particular vehicle types.

1.2. Future Land Transport Task

The land transport task involves both road and rail modes with links to air freight (airports) and sea freight (seaports).

With predictions that the land freight task is set to increase significantly over the next 20 years, Government policy and direction specifically requires greater complementary and intermodal operations between road and rail with an emphasis on increasing freight moved by rail.

South Australia's Strategic Plan requires the freight task to be considered in a holistic context that reduces duplication of transport infrastructure where practicable, and ensures that the most efficient transport outcomes are achieved.

2. SCOPE AND PURPOSE

This section provides the policy direction for operational stakeholders, and other interested parties, consistent with the objectives of South Australia's Strategic Plan, the principles of the Restricted Access Vehicle (RAV) Policy and national transport initiatives. This section also provides a regulatory overview of the three categories of heavy vehicle operation.

2.1. Introduction and Link to South Australia's Strategic Plan

South Australia is a large state with limited resources. To manage the freight task of the future it is essential that we plan to maximise efficient and sustainable use of our existing road transport infrastructure and coordinate road freight with rail, air and sea facilities and systems.

South Australia's Strategic Plan has identified the need to embrace a strategic approach to infrastructure development. The Framework adopts this principle with the aim of improving the efficiency and effectiveness of road freight transport to make South Australia more competitive, support export and employment growth, and improve community access to affordable freight services.

This is achieved by the development of road freight networks and corridors for heavy vehicles and must take into account environmental and social issues that are now given greater prominence by the community in general.

Road freight networks must also be developed in the context of providing a complete, sustainable and efficient land transport system in South Australia by complementing and interacting with other transport modes, particularly rail.

The HVAF provides the policy and direction for meeting the main objectives of South Australia's Strategic Plan for heavy vehicle operation and seeks to achieve a sustainable balance between the interests of all stakeholders and to guide heavy vehicle access to the road network for the long term.

This is consistent with the national transport direction in providing networks that suit the particular freight or passenger task.

2.2. Restricted Access Vehicle (RAV) Policy

In support of national transport initiatives, the then Minister for Transport has approved the Restricted Access Vehicle (RAV) Policy and actions in relation to heavy vehicle access and these are incorporated in this Framework.

The key principles of the RAV Policy are:

- To provide legal access to the road system by Gazette Notice for general freight RAVs without the need for individually issued vehicle permits. A general freight RAV is a vehicle designed to carry

variable types of goods that can be arranged and loaded in a way that allows carriage within specified mass and dimension limits.

- To develop a Framework that provides direction and guidelines for the development and funding of heavy vehicle freight networks and the regulatory regime for providing route network access.
- To provide open and transparent heavy vehicle freight networks throughout South Australia that support the freight task and which are developed in partnership with all levels of Government, Industry and the Community.

2.3. Regulatory Overview

The South Australian Road Traffic Act and Regulations recognise the significant differences across the road network in standard and use. It therefore accommodates the operational requirements of the various vehicle types and supports the role of Government in providing the most appropriate road system possible within its existing and long-term financial strategies.

Heavy vehicle operations are divided into three categories. These are:

- General Access
- Restricted Access by Gazette Notice
- Restricted Access by Permit

2.3.1. General Access

Heavy vehicles in this category are permitted access to all roads in South Australia subject to any local road or bridge restriction.

While this is the case, not all roads are designed to accommodate the largest vehicles operating at the maximum limits in this category such as the six-axle articulated vehicle. Roads are designed and built based on their projected or known use to ensure responsible use of South Australia's financial resources. Industry and transport operators need to be aware of these limitations in the road network and plan and use the appropriate vehicle for the freight task.

Maximum limits for General Access are:

- Gross Mass 42.5 tonne
- Width 2.5 metre
- Height 4.3 metre
- Length 19.0 metre

The common six-axle articulated vehicle (semi-trailer) equates to the above limits.

2.3.2. Restricted Access by Gazette Notice

Restricted Access Vehicles (RAVs) can only operate on approved routes due to their large size and mass.

It is recognised that transport efficiency can be improved by the use of larger vehicles with greater carrying capacity. While parts of

the road network are built to a standard that can accommodate these larger vehicles, much of the road system in South Australia is not purposely designed or built to suit these vehicles.

This fact is recognised throughout Australia and, consistent with national transport policy, South Australia has adopted the Restricted Access Vehicle concept within State legislation to make the most efficient use of the existing road network infrastructure.

As some RAV types, such as Road Trains and B-Doubles, are built to a common design and configuration, their construction specifications and general rules of operation are specified in the Road Traffic Act and related Regulations.

Due to their size and mass, these RAVs are only permitted to travel on routes approved as safe and suitable in accordance with nationally consistent road assessment standards.

Controlled Access Buses for carrying passengers are also included in this category. Approval of routes for their operation will also be consistent with the criteria listed above and with other passenger transport policies and strategies.

RAVs can only operate legally in South Australia in accordance with specified conditions and on approved routes either by Gazette Notice or Permit.

The RAV policy requires that common type RAVs, where their design specifications are detailed in the Road Traffic Act, should predominantly operate under Gazette Notice for administrative efficiency.

Another category of RAV is Special Purpose Vehicles (SPVs). These vehicles are designed and built to undertake specific tasks and functions generally as machines on wheels not as freight carrying vehicles. Typical SPVs are front-end loaders, fork-lifts, mobile cranes and grain-harvesting machines. Due to their unique design, SPVs, in many cases, do not comply with vehicle standards or the general access width, height, length or axle mass limits. Consequently, they operate under strict conditions such as daylight travel only and no travel during peak periods in urban areas.

2.3.3. Restricted Access by Permit

Permit operations generally cover the transport of large indivisible items (as distinct from general freight loads), that is, loads that cannot be readily transported within general access mass and dimensional limits, such as transportable homes, earth moving machinery, wind farm components or large boiler vessels weighing several hundred tonnes. These loads require individual assessment for conditions of travel, such as travel restriction on bridges, time restrictions and the particular route to be used.

It is important that the use of permits be confined to such individual assessment applications and not be used on an ongoing basis for operations that may be regular or repetitious, involve multiple operators or high vehicle numbers or where vehicle assessment or route conditions can be standardised.

2.4. RAV Types

Diagrams of the most common Restricted Access Vehicles are shown in Appendix 1.

Heavy vehicle and route access policies must not be developed in isolation. Such policies shall be consistent with the whole spectrum of land transport operations as detailed in this Framework.

3. TRANSPORT SECURITY

This section outlines the importance of ensuring that transport security policies, strategies and procedures are taken into consideration when developing route networks.

3.1. General

Events around the world have demonstrated that transport can provide ready targets for terrorist strikes.

All Australian jurisdictions have signed an Intergovernmental Agreement (IGA) on Surface Transport Security to formalise co-operation between Australian governments on preventative surface transport security.

The IGA provides a mechanism to enable a nationally consistent approach to surface transport security to:

- Reduce the possibility of terrorist acts on surface transport in Australia
- Minimise the possibility that a terrorist act will be displaced from one jurisdiction to another jurisdiction with a lower level of security
- Ensure that there is minimal disruption to trade and passenger movement resulting from different security requirements across different modes and between different jurisdictions.

In keeping with the provisions of the IGA, the South Australian Government has developed a Transport Security Directorate to guide the improvement of transport security across all transport modes within the State and to reduce the likelihood of transport vehicles or infrastructure being used as targets for terrorist activities.

The Department will continue to work with industry to raise security awareness and capability.

The Government's aim is to balance the burden on industry engaged in the transportation of goods while at the same time ensuring appropriate security standards are maintained.

3.2. Security Related Access Requirements

Development of route networks especially at the strategic level must incorporate any operational requirements or route access conditions as required by the Transport Security Strategy.

Where appropriate all State and National security policies, strategies and procedures must be taken into account when developing Heavy Vehicle access policy or networks.

4. COMPLIANCE AND ENFORCEMENT

This section provides an overview of the roles and responsibilities of all stakeholders to ensure that an adequate level of compliance and enforcement is used to maintain road safety and protect the road system infrastructure.

4.1. General Concept

Under our system of Government it is expected that all road users will comply with all laws, rules and regulations governing road use.

The responsibility for compliance rests entirely with the road user.

Complying with all these laws, rules and regulations ensures protection of the road infrastructure and safe and orderly use of the road system.

The South Australian Road Traffic Act and Regulations, which are consistent with nationally agreed vehicle policies, guidelines, rules and regulations, are designed to ensure a level of safety that matches the expectations of all road users and at the same time protects the community's investment in the road network infrastructure. This includes vehicle drivers, pedestrians, cyclists and businesses.

Non-compliance with road laws and regulations can severely compromise safety and cause unacceptable levels of infrastructure damage.

A safe, efficient and sustainable transport industry will only be achieved with a high level of compliance with road laws.

To achieve this outcome the Government has the responsibility, using the best means available, to detect and minimise non-compliance.

4.2. Strategic Approach

Compliance and enforcement strategies are divided into three broad tiers. These are:

- Actively encouraging voluntary compliance with road laws and regulations through education and other programs.
- Encouraging compliance through quality and accreditation systems.
- Direct on-road enforcement.

As freight vehicles become larger and heavier, the impact of non-compliance with road laws and regulations on safety and infrastructure can increase significantly.

It is therefore important and incumbent upon all road users and industry to ensure that a high level of compliance is maintained when using the road network. Governments, industry associations and responsible operators understand the importance of promoting a culture of compliance in order to achieve a sustainable and publicly accepted freight transport industry.

4.3. Compliance and Enforcement Systems

In cooperation with industry, government continues to improve the way it manages compliance and enforcement. This includes

- The use of nationally consistent compliance and enforcement legislation
- Quality management and accreditation schemes
- Conventional on-road enforcement
- The use of ever evolving technology such as Intelligent Transport Systems that can monitor vehicle speed and location.

Vehicle tracking systems are gaining popularity by transport companies for managing fleet operations. Satellite monitoring technology is now a legitimate tool for use by road authorities for managing the operation of heavy vehicles, particularly Restricted Access Vehicles, on specified route networks.

Compliance strategies in South Australia are generally applied as follows:

- Education
- Voluntary compliance – accreditation schemes, etc.
- In-vehicle telematics systems
- On-road enforcement

It is accepted that sole reliance on on-road enforcement or in-vehicle telematics systems does not achieve an acceptable level of compliance.

Greater emphasis is now being placed on education and accreditation schemes within the transport industry coupled with the use of in-vehicle telematics systems (Intelligent Access Program) as the most efficient way of managing resources and meeting policy and compliance outcomes.

Authorities are required to apply compliance and enforcement tools and systems, as deemed appropriate, to ensure that road safety and protection of the road network infrastructure are preserved in accordance with government policy and direction and community expectation.

For example, a network compliance strategy using in-vehicle telematics systems may need to be developed in conjunction with Local Government, to provide follow-up investigations with sub-contractor employers to enforce operational conditions through "Chain of Responsibility" legislation.

In cooperation with Industry, the Government has a role and responsibility to detect, correct and minimise any non-compliance with road transport law using appropriate methods, systems and technology.

5. CONSULTATION

This section discusses the importance of consulting with the key stakeholders as a mandatory requirement in any process involving change.

5.1. Introduction

Consultation is important to achieving a successful outcome in the development of appropriate route networks and efficient and sustainable transport operations.

5.2. Identification of Stakeholders

There are many direct and indirect stakeholders that must be consulted in the development of freight networks. The major stakeholders are:

- Commonwealth Government eg Department of Infrastructure, Transport, Regional Development and Local Government
- State Government (DTEI) for the development of State or Arterial Road Networks and coordination of Freight Network Strategies. Within DTEI this includes:
  - Policy, Planning and Programs Division
    - Rail Policy and Investment
    - Marine and Logistics
    - Security and Legislation
    - Sustainable Transport Policy
    - Road Transport Policy and Investment
  - Transport Services Division
    - Regional Managers
    - Pavements and Structures
    - Rail Crossing Unit
  - Infrastructure Division
- Other Government Departments, including:
  - Department of Trade and Economic Development
  - Department of Primary Industries and Resources
  - Advisory Board of Agriculture and Agricultural Bureau of SA Inc.
  - Department of Planning and Local Government
  - Department of Environment and Natural Resources

- Local Government, which includes the Local Government Association of SA and Councils as owners and managers of local roads

- Industry Groups and Associations:
    - SA Freight Council
    - Freight Logistics Industry
    - Road Transport Industry and Associations
    - Manufacturing Industries and Associations

Change to policies or route network access must be undertaken in an environment of positive consultation with all relevant parties.

6. STRATEGIC APPROACH TO ROUTE NETWORK DEVELOPMENT

This section provides details of the strategic approach for developing and establishing route networks and introduces the concept of Commodity Freight Networks.

This section also describes the process for identifying and classifying freight routes, provides an overview of stakeholder responsibilities and risk management, and defines the currently approved heavy vehicle configurations.

6.1. Introduction

To efficiently manage the road transport system, roads are classified based on use, importance and funding responsibilities.

The broad classifications, which are consistent throughout Australia, include:

- **The National Network**

  The National road network provides links with other states, territories and capital cities for predominantly interstate traffic movements along national highway corridors

- **State Arterial Road Network**

  The State Arterial Road Network provides links to the National Road Network and links to major regional areas, freight centres, towns and cities throughout the State including access to intermodal terminals such as rail, seaports and airports

- **Local Road Network**

  The Local Road Network provides access to and from the National Highway and State Arterial Road Networks to meet access requirements for local commercial activities and to residential premises

For the purposes of this Framework, the road freight network in South Australia is divided into three categories. These are:

- **Key Freight Routes**

  Key Freight Routes are defined as routes that provide a high capacity for the movement of freight. These can include a combination of roads on the National Network, State Arterial and Local Roads that include:

  - major links between important economic regions and freight centres, industrial, agricultural and manufacturing areas
  - connections to State borders
  - intermodal connections at rail terminals, seaports and airports

- **General Freight Routes**

  General Freight Routes are defined as routes that:

  - Provide ongoing access to transport depots, manufacturing and processing plants
  - Link into the Key Freight Route Network

  They also include roads of regional significance and along with Key Freight Routes provide for the movement of general freight transport activities all year round.

- **Commodity Freight Routes**

  Commodity Freight Routes are routes that can safely accommodate the operation of RAVs on a limited or seasonal basis where traffic volumes are very low and in most cases limited to particular users transporting specific primary products (i.e. the transport of grain from paddock to silo).

  For this type of limited operation it is unreasonable to require these routes to be upgraded or maintained to the standard required for all year round general freight operations. Commodity Freight Routes, however, must meet certain standards to protect the road infrastructure and to ensure that road safety is maintained to an acceptable level.

  This provides a "fit for purpose" road network that matches the prevailing freight task where conditions of operation, not appropriate for key or general freight routes, can be applied through a risk assessment process.

  Typical conditions of operation are:

  - travel limited to seasonal operation only, eg to align with harvest season
  - restricted to a particular commodity for which access is required
  - time restrictions to offset environmental and amenity impacts
  - speed restrictions to prevent infrastructure damage and maintain vehicle stability and safety on rough or unsealed roads
  - use of yellow revolving flashing lights fitted to the vehicle to warn on-coming motorists where the road may be narrow and sight distance limited
  - the requirement to slow down or stop and give way to other road users at intersections or cross roads where the RAV may be undertaking a turning manoeuvre.

Prerequisite requirements to approving a commodity route may be to:

- Improve gateway or paddock entry or exit points to provide greater turning radii to avoid damage and rutting to the road surface
- Cover the cost of any minor works such as tree trimming to increase available road width or improve sight distances.

Commodity Freight Routes are therefore limited to providing access for the movement of specific bulk commodities in rural areas on a seasonal or needs basis only.

Bulk Freight approved for transport on the commodity freight network is as follows:

- Bulk Wine & Grapes
- Fertiliser
- Fresh Fruit & Vegetables
- Grain
- Hay & Bulk Stockfeed
- Livestock
- Logged Forest Timber
- Milk
- Wool (Baled)

It should be noted that bulk products are transported in a road vehicle of which a tank forms part or to which a tank is attached.

Dangerous Goods are not included as a Commodity Freight load as routes for dangerous goods need to be assessed in accordance with the Performance Based Standards (PBS) Scheme Network Classification Guidelines – July 2007 and any other regulatory requirements.

Commodity Network Route Guidelines are detailed in Appendix: 5.

6.2. Network Development Principles

RAV routes are developed on the basis of moving freight from one off-road depot or facility to another off-road depot or facility.

Key freight routes provide the strategic access at a State arterial level whereas general freight routes provide links to key freight routes and regional access. Commodity networks focus on individual and limited local access requirements. It must be recognised that, dependent on use, and without compromising road safety or adversely impacting on infrastructure, the actual road construction standard will vary considerably within and between the categories.

For complete management of a particular freight task, route access may span over all three-route categories encompassing national, state and local roads.

Key freight routes are based on existing road and intermodal infrastructure investment and integration of relevant aspects of the various freight policies and strategies including key aspects of the various Regional Local Government Associations' Transport Plans and Strategies.

As part of developing freight route networks that encourage heavy vehicles to use certain routes that include town bypasses, the road authority will need to consider the application of load limits to arterial roads in a similar manner to that applied to local roads.

The strategic development of freight routes includes:

- Developing key freight routes for the National Road Network and State Arterial Roads and route classification levels for particular vehicle types that best reflect the freight task
- Developing general freight routes that provide access to, from or between industrial, business, agricultural or manufacturing locations and properties in the local or regional area. General freight routes also provide a connection to key freight routes at a classification level equal to or lower than the key freight route classification
- Developing commodity freight routes that link to either the key or local freight route networks at a classification level equal to or lower than the respective key or local freight routes.

The strategic approach may require a specific section of a key, general or local freight route network to be upgraded to a higher classification level to suit a specific freight task.

The standard of RAV routes can vary significantly through the adoption of risk management principles without compromising road safety or road infrastructure.

6.3. Identification and Classification of Freight Routes

The identification and classification of freight routes is achieved by defining freight operations, roads and route networks according to needs and requirements.

This consists of a five-step process. This process is shown graphically in Appendix 2.

Step 1: The Department receives a request or proposal for RAV access. This may come from a transport operator, manufacturing or freight industry, council or the Department itself.

Step 2: Identify the freight task and validate the appropriate heavy vehicle operation, either RAV or General Access. Check policy and strategy documents and consult with relevant stakeholders.

Step 3: Classify the RAV route as a Key, General or Commodity Freight Route. ***Note that the <u>commodity</u> needs to be identified for a Commodity Route classification***. The classification of commodity Routes will be undertaken in consultation with Councils.

Step 4: Determine the vehicle configuration for operation on the classified route. The vehicle configuration is determined based on the principle of using the most appropriate vehicle for the freight task. Refer to Appendix 4 for the currently approved vehicle configurations.

Step 5: Review the freight route and operation to ensure that it complies with South Australia's Strategic Plan and relevant transport policies.

6.4. Risk Assessment

In many cases the desired outcomes of the various stakeholders involved in the assessment process can conflict significantly. The objective of the assessment process is to meet as best as possible the needs and requirements of all stakeholders in the most reasonable way.

Due to the varying standard of the road system in South Australia, there will always be pressure from industry to transport freight on routes that, in some parts, do not meet the standards as set out in the guidelines.

To address and resolve these situations and differences, a risk management approach must be used to determine whether a RAV should be allowed to operate on a route where a deficiency exists that is not explicitly covered in the guidelines.

The risk assessment process is undertaken to balance the needs of the freight and transport industry, capacity of the road system for the freight task, environmental impacts, security and amenity issues, other community expectations and road safety requirements.

The Minister for Transport has the legal responsibility for managing these risks and carries the liability if risks are assessed negligently or in a manner

deemed legally inappropriate. The ultimate decision on whether a route is approved for RAV operation rests with the Minister. For day-to-day operations, this responsibility is managed by delegated officers within the Department.

The Department's Risk Assessment Framework and Audit Matrix based on Australian Standard AS/NZS 4360.2004 is the model to be used in the assessment of freight routes.

6.5. Authorised Assessors

It is the role and responsibility of the Department:

- To ensure that routes approved for RAV operation meet and continue to meet the appropriate standards
- To manage the road transport system and regulate access to the road network in accordance with Government policy and direction.

Consistent with this role, the Department has the option of managing the assessment of routes for RAV operation through the use of Authorised Assessors.

Where there is a direct benefit or gain to industry from access to the road network by RAVs, it is appropriate for the cost of assessment to be borne by the beneficiary.

The Department has the responsibility to manage the approval of Authorised Assessors. For operational transparency and to ensure process integrity, all route assessments must to be undertaken by Authorised Assessors. These will include Departmental and Local Government Officers and Private Sector Authorised Assessors.

All routes for RAV operation must be assessed in accordance with the appropriate standards by Authorised Assessors.

6.6. Transport Impact Statement

When defining route classifications or operations, which may change the status or use of a particular road, a Transport Impact Statement is required to ensure that all issues are addressed.

Transport Impact Statements can be prepared by the Department or Councils, as the road managers, when planning upgrades to the network or new road developments. Authorised Assessors may also be required to prepare Transport Impact Statements when assessing routes and making recommendations for RAV operations. In the case of applications for local operations the beneficiary may be required to meet the cost of undertaking the Transport Impact Statement.

A Transport Impact Statement must include and address details such as:

- The change in nature and use of a road
- Changes to traffic volumes and vehicle mix

- Impact on wear and tear and resultant life expectancy of a road
- Impact on interfaces with other transport networks (i.e. rail level crossings)
- Consultation undertaken with stakeholders

6.7. Managing Change to establish RAV Networks

6.7.1. Overview

As previously stated, the road system is dynamic and ever changing. This is attributed to:

- Natural wear and tear through normal vehicle use
- Natural factors caused by climatic conditions or unusual environmental events
- Change in vehicle use as a result of a change in the freight task
- Change in land use
- Evolving environmental and amenity issues
- Economic development within South Australia

Another key element of the strategic approach is the ongoing identification and upgrading of the road network to match and support the freight task consistent with integration with other transport modes.

6.7.2. Responsibilities and Risks

Once a road has been established as part of a freight network for use by a particular vehicle type, the road owner has the responsibility to review and maintain the road to the required standard to ensure consistent operational safety for all road users and to minimise infrastructure damage.

It is therefore incumbent on the road owner to establish systems that monitor, review, upgrade or change the network to meet and balance the needs of industry in regards to transport efficiencies and community expectations. This is best achieved by Government, industry and communities working together.

One of the fundamental principles embraced in this Framework is that the established networks are subject to change as required. However, changes to the network should be undertaken in a collaborative manner involving all relevant parties to achieve the best possible outcomes.

The frequency of reviewing route networks should be based on factors that are likely to cause change and should be determined at the time of initial assessment. Such decisions can be incorporated as part of the conditions of use of a particular route.

For example, an operator may want to use a local road that only just meets the required standards and which is likely to deteriorate quicker than normal with the projected increase in heavy vehicle use to access a depot or site. In keeping with the responsibility of

the road owner a condition can be applied that requires an assessment to be undertaken at the end of a given period. The result of the assessment will determine whether the route can continue to be used for a further period of time or needs to be rehabilitated before it can continue to be used.

The Framework under which an assessment or rehabilitation of a route will be funded is discussed in *Section 10 – Route Network Funding.*

6.8. Heavy Vehicle Configurations and Access Networks

The efficient movement of freight relies on using the most appropriate mode and vehicle for the freight task and matching it to the appropriate route network. The common general freight RAVs are defined in the Regulations to ensure national consistency while others are defined under State-based policies.

The currently approved RAV configurations and associated network regimes are detailed in *Appendix 4 titled "Heavy Vehicle Configuration and Related Networks".*

This regime is dynamic and will be reviewed and updated as required to keep pace with freight task developments, economic conditions, advances in vehicle technology and changes in road network infrastructure. The Road Transport Policy and Investment Section in the Department's Policy and Planning Division is responsible for managing this function.

An example of a typical amendment to this chart will be the gradual change and inclusion of route network access for general freight RAVs into the four-level PBS route classification structure.

The process for amending or updating an approved heavy vehicle configuration will follow in principle the same step-by-step process as detailed for "Route Network Development". That is, relevant transport policies as well as operational and administrative considerations must be taken into account.

Route network development must be undertaken using a strategic approach in consultation with all stakeholders such that all risks are identified and managed appropriately to achieve acceptable outcomes.

6.9. Higher Mass Limits

Axle mass limits are imposed on heavy vehicles to protect roads and bridges from unacceptable wear, tear and damage.

Road damage is caused by the dynamic impact of heavy vehicles travelling along the road. The higher the speed the greater the dynamic impact on the road surface.

Dynamic impact can be reduced with a corresponding reduction in road damage with the use of special soft riding suspensions. These suspensions are known as "Road Friendly Suspensions" and are certified under a national identification scheme.

To improve transport efficiency, South Australia has adopted a national scheme whereby heavy vehicles fitted with Road Friendly Suspensions are permitted to operate at Higher Mass Limits.

However, the Higher Mass Limit principle does not apply to all pavement types or structures such as bridges and culverts and is generally limited to pavements that are suitable to carry high levels of commercial vehicle traffic.

Higher Mass Limits are also restricted to specified vehicle configurations, and those that are fitted with tri-axle groups are required to operate under the National Heavy Vehicle Accreditation - Mass Management Scheme to ensure that the Higher Mass Limits are not exceeded.

Higher Mass Limit operation is not generally appropriate for residential or unsealed roads and will not be promoted for use on commodity routes.

However, depending on the freight task, short sections of unsealed roads that are specifically used by freight vehicles such as for access to grain silos can be approved for Higher Mass Limit if the productivity benefits to be gained outweigh any increase in maintenance costs caused by Higher Mass Limit operations.

In this situation the road owner is required to assess each route to determine if operation at the Higher Mass Limits can be economically justified.

However, any increase in maintenance costs as a result of Higher Mass Limits for local operations should be borne by the private sector operator or beneficiary.

The policy, operational guidelines and route network maps for the operation of vehicles at Higher Mass Limits are found on the department's website at sa.gov.au/heavyvehicles.

The current Higher Mass Limits route network can be viewed in the RAVnet Online Mapping system at maps.sa.gov.au/ravnet.

Higher Mass Limits can be considered for defined freight routes that have suitable sealed pavements constructed for commercial vehicle use.

7. ROUTE NETWORK ASSESSMENT STANDARDS

This section provides an overview of the route network assessment standards and guidelines to be used, with particular reference to national design standards and the proposed Performance Based Standards (PBS) scheme.

7.1. Introduction

Safe road operation is directly related to traffic volumes, the mix of vehicle types, (ie the ratio of cars and trucks), speed and road standard.

It is therefore logical that Roads on the National Network and main Arterial Roads must be to a standard that can safely cater for high traffic volumes and high speeds. Correspondingly, safe road operation can also be achieved on roads that carry very little traffic and could be narrow and unsealed, i.e. a local road used for seasonal grain carting.

Consequently, roads and bridges are designed and built on a fit for purpose basis.

To assist in meeting this objective, standards are developed and used as guiding principles that provide the balance between achieving an acceptable level of road safety and the required road standard.

National design standards take into account factors such as traffic volumes and speed, road width, geometric requirements, sight distances, land use and vehicle mix, and are available for various vehicle configurations. These include:

- Car
- Light Commercial
- Heavy Commercial
    - Heavy Rigid
    - Buses
    - Heavy Articulated
- Restricted Access Vehicles
    - Large Articulated Vehicles
    - B-Doubles
    - Road trains
    - Long Rigid Buses (Controlled Access Buses)
- Specialised Vehicles
    - Low Loaders
    - Agricultural Machines

Guidelines that have been adopted in South Australia for the design of heavy vehicle routes are the following Austroads publications:

- Urban Road Design: A Guide to the Geometric Design of Major Urban Roads
- Rural Road Design: A Guide to the Geometric Design of Rural Roads

Current approved route assessment standards are:

- Commodity Network Route Guidelines
  (RAVs – B-Doubles and Road Trains) - Appendix: 5
- Route Access Assessment for Restricted Access Vehicles Manual
  (RAVs – B-Doubles and Road Trains) - Appendix: 6
- Route Assessment Guidelines for Controlled Access Buses
  (Controlled Access Buses) - Appendix: 7

All the above standards include a requirement to ensure that the total route under assessment (depot to depot) has been covered.

7.2. Rail Crossings

Typically rail owners will install, maintain and operate infrastructure that is directly related to the operational safety of the railway system to a standard that addresses the safe operation of a crossing for general access vehicles. The decision to introduce RAVs across a level crossing will create additional risks to rail owners. (Also refer to Section 10.3 for discussion of Level Crossing Improvement Funding).

Although assessment of rail crossings is included in the above standards, in recognition of the impact on the safe operation of a level crossing, it is a mandatory requirement in South Australia to specifically seek and obtain the agreement of the rail owner to include the rail crossing in the route network for a particular vehicle classification. Initiating the assessment of the crossings and undertaking any improvements that are needed to accommodate restricted access vehicles must be managed and addressed by the road authority in liaison with the rail owner.

The Australian Level Crossing Assessment Model (ALCAM) is used by DTEI to assess the suitability of Level Crossings for access by long vehicles in accordance with AS 1742.7 – 2007 as outlined in the *Manual of Uniform Traffic Control Devices – Part 7 – Railway Crossings.*

7.3. Performance Based Standards (PBS) Scheme

As a result of the national transport reform process that began in the early 1990s and in the implementation of nationally consistent road transport regulations across Australia, it is now generally recognised by road authorities that large parts of the road network infrastructure have reached its capacity in being able to handle heavy vehicle operation on a general access basis.

Consequently, it is unlikely that further broad-based increases in vehicle mass and dimension limits for both general access and RAV vehicles will be considered in the future.

To keep pace with transport and freight demands it is recognised that a more innovative approach to improving transport efficiency and productivity should be considered.

The PBS scheme developed by the National Transport Commission (NTC) meets this requirement and direction.

The PBS scheme ensures that heavy vehicles are compatible and operate safely on specified routes, without causing any extra wear on the road network infrastructure and at the same time improve vehicle productivity.

7.4. Implementation of PBS

The PBS scheme was approved by the Australian Transport Council (ATC) in December 2007 for national implementation.

PBS consists of two parts:

- Standards and guidelines for assessing the dynamic performance of vehicles on a national basis
- Technical Guidelines to ensure consistent development and assessment of route networks for PBS vehicles.

The application, assessment and approval of PBS vehicles is undertaken on a national basis through the NTC.

To assist in the management of the PBS scheme, the NTC has established the PBS Review Panel (PRP) which consists of a representative from all the state, territory and commonwealth governments.

The purpose of this Panel is to facilitate the assessment, approval and use of innovative vehicle designs under the PBS regime that enables industry to take advantage of new technology and to improve transport productivity.

Full details and application forms for PBS can be found on the NTC's website: www.ntc.gov.au

7.5. PBS Vehicle Standards and Guidelines

PBS will be updated as the standards are revised or new standards developed.

These Standards and Guidelines are used by approved vehicle assessors who assess the performance abilities of new vehicle configurations for operation under the PBS system.

PBS route networks have been approved for use by road authorities for the development and assessment of the PBS Route Classification Networks.

The development of freight route networks is the responsibility of individual state or territory governments. Under the national PBS scheme, four route network levels have been adopted, these being L1, L2, L3 and L4. Network levels for South Australia have been defined as follows:

- L1 - No existing classification but closely aligns with the six-axle articulated vehicle for operation on the arterial road network and defined local freight routes.
- L2 - B-Double
- L3 - Double Road Train
- L4 - Triple Road Train

Under the national PBS scheme, it is proposed that the PBS Road Classification Guidelines will be used for the assessment of all general freight RAV route networks once the full PBS scheme is implemented.

PBS networks and the process for updating the networks or assessing new routes can be found on DTEI's website sa.gov.au/heavyvehicles.

Network levels for South Australia covering general, concessional and higher mass limits have been developed and can be viewed via DTEI's RAVnet Online Mapping system at maps.sa.gov.au/ravnet or on DTEI's website for easy access and printing at sa.gov.au/heavyvehicles.

The following table details the national PBS route networks:

TABLE 1 – Mapping the PBS Network

	Network Access by Vehicle Length, L (m)	
Vehicle Performance Level	**Access Class 'A'**	**Access Class 'B'**
Level 1	L ≤ 20 (General Access*)	
Level 2	L ≤ 26	26 < L ≤ 30
Level 3	L ≤ 36.5	36.5 < L ≤ 42
Level 4	L ≤ 53.5	53.5 < L ≤ 60

* General Access is subject to a 50 tonne gross mass limit and posted local restrictions.

Established processes exist for updating the networks or assessing new routes on an ongoing basis.

8. NETWORK POLICIES AND OPERATING CONDITIONS

This section contains information on General, RAV and Permit Access network policies and details the general rules of operation.

8.1. General Access Network Policy

While the Road Traffic Act and Regulations allow heavy vehicles up to certain dimension and mass limits to operate without restriction on the road network, a significant proportion of the total road network is not designed or built for the very large commercial vehicles, such as six-axle articulated vehicles.

While the majority of local and residential streets cannot accommodate these large vehicles the nature of the transport task does not normally require such vehicles to access these roads which in itself provides a self regulating situation. However, instances do occur where access by large vehicles does cause problems for local communities and Councils.

The general direction of South Australia's Strategic Plan focuses on the provision of freight corridors for heavy vehicle access and to discourage inappropriate use of roads primarily designed for light vehicle and passenger cars.

There is a responsibility by industry to encompass these principles and ensure that the most appropriate configuration of vehicle is used for the freight task in local and residential streets.

Most rigid trucks and rigid truck/trailer combinations have suitable geometric characteristics for access to most local roads where clearly large articulated vehicles do not.

As a guide, vehicles that fit within the swept path template (Appendix 3) can generally access all roads satisfactorily.

The template covers the largest rigid vehicles specified in the Road Traffic Act and Regulations for general access, that is, rigid trucks and buses up to 12.5m long.

Rigid vehicles such as garbage compactors are suitable for access to most roads.

Articulated vehicles are not encouraged to access local or residential streets unless specifically designated for use by such vehicles.

8.2. General Access Heavy Vehicles

Assessment criteria for vehicles in this category are general by nature and take into account such factors as:

- Traffic volumes
- Projected use
- Mix of heavy and light vehicles
- Pavement standard
- Geometric design using Austroads swept path templates
- Land-use, environmental and amenity considerations.

8.3. RAV Access Network Policy

Under this policy, RAVs are vehicle types of common design and configuration which play a very important role in the efficient movement of freight. Their ability to carry large volumes of freight helps to reduce the number of large vehicles that need to be used for a given freight task.

Their development over time has resulted in these vehicles having generally safe operating characteristics, but due to their size and mass need to be restricted to those parts of the road system that have the capacity to accommodate this size of vehicle.

The principles and direction of South Australia's Strategic Plan as embodied in this Framework are to identify and develop freight route networks for use by RAVs as required to meet the ever-changing and growing freight task consistent with other related land transport policies.

It must be emphasized that the road system is dynamic by nature and is under constant change to meet the ongoing needs of industry and the community. Consequently the development and maintenance of such networks need regular review and investment to keep pace with the road requirements for the freight task.

8.4. Rules of Operation for General Freight RAVs

General freight RAVs are high productivity vehicles that generally operate 24 hours per day, seven days a week. Freight routes are assessed on the basis of full load operation from one off-road depot or facility to another off-road depot or facility. Such locations are transport depots, major freight terminals, large manufacturing or processing factories, intermodal terminals or agricultural loading facilities where freight volumes can sustain fully loaded vehicle operations.

Assembly/disassembly or unloading on roads, road-reserves or public land is not permitted.

Access in and out of such locations will always be in a forward direction. Reversing is not permitted due to vehicle size, length and multiple articulation points which make reversing difficult.

To manage community expectations for safe operation of general freight RAVs, it is a policy requirement that these vehicles shall be maintained in a roadworthy condition and meets all technical specification requirements at all times. This is achieved through either annual inspections or participation in the National Heavy Vehicle Accreditation Scheme - Maintenance Management module.

The assessment of routes will be based on the above criteria in conjunction with the appropriate standards and in accordance with the process detailed in Appendix 2. The rigour of maintenance requirements will increase with the risks involved.

Following the process detailed in Appendix 2 ensures that freight networks are developed consistent with the freight tasks, specific road development programs and state, regional and local access requirements.

This step-by-step approach also ensures that time and effort of both Government and Industry are directed towards processing requests that meet the objectives of South Australia's Strategic Plan and which achieves sustainable transport efficiencies.

It is important to note that route network applications for general freight RAVs will not be considered for partial loading or unloading operations, eg using a RAV for local delivery going from depot to depot.

Most general freight RAVs are articulated vehicles consisting of two or more rigid vehicle components. For operational flexibility and to cover emergency situations (eg a RAV route temporarily closed and vehicle detoured along a non-RAV route), it is appropriate for such vehicles to be able to be disassembled into smaller legal size vehicle configurations to enable continued travel as a general access vehicle. B-Doubles are a typical example of a popular vehicle configuration that can be disassembled into a prime mover and single trailer configuration for general access travel.

Controlled Access Buses are generally used for the movement of high passenger numbers between passenger terminals or locations on routes assessed as safe and suitable.

By the nature of their operation buses have different route requirements to freight vehicles.

To ensure their efficient operation, Controlled Access Buses have been divided into two categories, viz. 14.5 metre long buses and 13.7 metre long buses with their own specific route networks and maps (in the case of 14.5 metre buses) and associated regulatory regimes and operating conditions.

The operation of RAVs and related route networks must be developed in accordance with the Framework detailed in the "Heavy Vehicle Configuration and Related Networks" Chart, as shown in Appendix 4.

8.5. Policy For the Transport of Oversize and Overmass Loads

The movement of large and heavy loads, which can be transported on some rather unique vehicles, is limited by the capacity of the road network, in particular pavements, culverts and bridges consistent with the need to maintain an acceptable level of road safety for all road users.

For operation above general access mass and dimensional limits other than for general freight RAVs, oversize and overmass loads are deemed to be "indivisible".

A "large indivisible item" means an item that:

- Cannot be divided without extreme effort, expense or risk of damage to it, and
- Cannot be carried on any vehicle or combination without exceeding a mass or dimension limit in the mass and loading requirements.

"Extreme effort, expense or risk" in this context is defined in the broadest sense and is addressed in the "Policy for the Transport of Oversize and Overmass Indivisible Loads and Vehicles" (document available at sa.gov.au/heavyvehicles).

This document provides the framework for assessing applications for moving "indivisible" items. This includes accelerated wear on infrastructure and management of road safety risks over the entire road network infrastructure.

For operational efficiency and safety, the transport of indivisible items is undertaken under a framework of established nationally consistent guidelines on which the South Australian policy is based.

While it is necessary to protect the road network infrastructure from excessive damage, it is recognised that vehicles carrying indivisible items can impose greater levels of wear and tear on the road system than is acceptable for general freight vehicles. This extra wear and tear is balanced against the economical and safe movement of such large loads which otherwise would need to be reduced in size or manufactured on site at a greater cost.

The efficient movement of indivisible loads is also improved by the identification and development of freight routes suitable for oversize and overmass loads.

The Principal Oversize and Overmass networks for South Australia are shown in Appendix 9.

8.6. Permit Operations

Permit operations generally involve the movement of large single indivisible items on a one-off basis and are therefore assessed on an individual basis. In most cases conditions or restrictions are applied to manage road safety risks and ensure adequate protection of road network infrastructure.

Typical conditions of operation are:

- Daylight travel only
- The use of pilot vehicles to warn approaching road-users that an extra large vehicle is on the road
- Police escorts to ensure safe traffic control and movements in and around these large vehicles which often need to travel in adjacent and opposing traffic lanes in conflict with other traffic
- Speed restrictions while travelling on bridge structures
- Escorted by infrastructure authorities to lift overhead wires for high loads

Applications for permits to transport oversize and overmass loads must be assessed in accordance with the Department's document titled "*Policy for the Transport of Oversize and Overmass Indivisible Loads and Vehicles*" and other supporting Departmental quality procedures and business rules.

9. ADMINISTRATIVE FRAMEWORK

This section provides the administrative framework, statutory requirements and structure for approval and exemption documents. This section also provides an overview of the principles for network access under Gazette Notice and permits.

9.1. General

The Road Traffic Act and Regulations specify rules which apply to all road users. It also specifies mass and dimension limits for vehicles for operation over the entire road system, that is, general access.

The Road Traffic Act provides the Minister for Transport with authority to:

- Approve routes (RTA S161A) for the operation of RAVs specified in the Road Traffic Act and Regulations (eg B-Doubles and Road Trains), and
- Exempt (RTA S163AA) other vehicles from the general access mass and dimension limits for the transport of large and heavy loads

subject to any conditions as determined by the Minister.

General Freight RAVs and Oversize/Overmass vehicles and loads all operate under this authority, either by Gazette Notice or Permit.

In summary, there are four ways in which to manage or regulate the use of heavy vehicles on the road system:

9.1.1. Operation under the Road Traffic Act Statutory Requirements

These are specified in the following sets of Regulations:

- Mass and Loading
- Vehicle Standards
- Oversize/Overmass
- Hours of Driving
- Miscellaneous
- Australian Road Rules

9.1.2. Gazette Notices

Gazette Notices are published in the Government Gazette and in the case of heavy vehicles provide for; approval of routes for RAVs specified in the Regulations; exemptions from mass and dimension limits and vehicle design requirements. Gazette Notices are appropriate where such exemptions can be applied on a broad basis to a particular category of vehicle or load type.

9.1.3. Permits

Permits are documents issued by the Department and used where individual assessment is required for a particular transport operation, generally for the movement of a one-off

oversize/overmass indivisible item. The assessment results in special conditions being applied such as restrictions on times of travel, the use of pilot vehicles and police escorts and special route requirements.

9.1.4. Local Council By-Laws

Councils may prohibit access of certain types of heavy vehicles to Council roads due to design or capacity limitations.

9.2. Interaction Between Regulations, Gazette Notices and Permits

The type of transport task will dictate which type of administrative system is most appropriate. Permits generally deal with the more complex transport tasks, require significant resources to manage and provide the maximum level of control. Management by use of the Road Traffic Act and Regulations provides the least restrictive level of control and relies to a high degree on voluntary compliance by road users and on conventional on-road enforcement.

9.3. Introduction of New and Innovative Vehicles or Transport Operations

Transport efficiency and maintaining the appropriate levels of road safety are achieved through the appropriate use of Regulations, Gazette Notices and Permits.

The transport industry will continue to adopt technology and ideas to develop new and innovative vehicle concepts and enhance existing vehicle types as a way of improving freight efficiency (The PBS Scheme).

The introduction of new concepts or transport initiatives generally commence with the issue of a permit as the way of providing maximum level of control during a trial or review period. Once the Department is confident about the operation and satisfied that appropriate generic operating conditions have been established to manage all identified risks without the need for further individual assessment, then the particular concept or transport initiative can be considered as a candidate for gazettal.

Following on from this, and over time, the gazettal concession may become a common arrangement and therefore could be included in the Regulations as a further step in streamlining administration and management of the particular vehicle type or transport operation.

The ongoing national transport reform process, in keeping with the principles of reducing administration and associated costs as much as possible, generally has the greatest influence in determining the type of administrative system applicable to any new initiative.

9.4. Structure for "Approval" and "Exemption" Documents

All documents, either Gazette Notice or Permit, consist of three parts:

- The first part details the section of the Road Traffic Act to which the approval or exemption relates
- The second part contains the Conditions of Operation which cover both vehicle and route related conditions, and
- The third part details the legal parameters such as when the concession starts and ends and identifies the delegated authority.

Depending on the complexity of the concession and the conditions, the document may be in a simple one or two page format or, in the case of more complex concessions, be divided into a number of separate documents. In the case of general freight RAVs the operating instrument shall consist of:

- An enabling document published in the Government Gazette
- A *Code of Practice* which contains all the technical data and general conditions relating to the vehicle type. The Code of Practice is printed as a separate document
- A *Route Network Map* which contains the approved route network applicable for the vehicle configuration and axle/axle group loading. The Route Network Map can be provided in one of two ways:
    1. In the form of electronic maps stored as PDF documents on and available for download from DTEI's website at sa.gov.au/heavyvehicles, or.
    2. via the department's interactive RAVnet Online Mapping system at maps.sa.gov.au/ravnet

These formats allow for more efficient updating of approved routes which are subject to regular change and amendment, whereas the technical data in the Code of Practice does not change that often.

Applicable Government Gazette/s must be produced and formatted in a way that is clear, readable and unambiguous, and can be legally enforced.

9.5. Minimising Documents carried in the Vehicle

It is a legal requirement for enforcement purposes that the appropriate Gazette Notice be carried in the vehicle at all times while operating under that exemption.

From July 2011 the Department removed the need for the Code of Practice and Approved Route Maps to be carried within the vehicle with a condition that drivers of heavy vehicles operating on heavy vehicle route networks must prior to their journey ascertain and understand the approved routes that they intend travelling on.

Consistent with national transport reform objectives, the Department seeks to minimise the amount of paperwork that needs to be carried in the vehicle when operating under an Approval or Exemption.

This strategy consists of converting, where appropriate, all Approval and Exemptions for RAVs into gazetted Codes of Practice with publication of the route maps via the Department's website.

The Department is committed to minimising the amount of paperwork required to be carried in the vehicle without compromising compliance and enforcement principles.

9.6. Distinction Between Vehicle Assessment and Route Assessment Functions

The operating requirements and conditions in any approval and exemption document can be divided into two parts:

- Vehicle Related Requirements and Conditions
- Route Network Access Requirements and Conditions

9.6.1. Vehicle Related Requirements and Conditions

This part covers the technical and specification requirements and conditions relating to the design or construction of the vehicle to meet certain geometric and performance requirements necessary for safe road operation.

This function is managed by the vehicle specialist areas of the Department.

9.6.2. Route Network Access Requirements and Conditions

This part covers the approval of routes for access including any requirements and conditions to ensure safe and compatible operation for all road users and the protection of the route network infrastructure.

This function is managed by those areas of the Department responsible for the planning and management of the road network infrastructure.

The distinction between vehicle and route access related responsibilities aligns closely with the regulatory structure of the proposed national PBS scheme.

Under PBS, State and Territory jurisdictions are responsible for determining network access for PBS vehicles, while the technical assessment of vehicles in accordance with the PBS Scheme Standards and Vehicle Assessment Rules is managed by the NTC as a national process.

10. ROUTE NETWORK FUNDING RESPONSIBILITIES

This section outlines the funding responsibilities for the road network in South Australia for route assessments, route network development and upgrading.

10.1. Funding Responsibility

Funding for the planning, development, upgrading and maintenance of roads in South Australia is shared between the Commonwealth and State Governments and Local Councils.

In general terms:

- Under the Auslink agreement the Commonwealth and the State Government has a joint funding responsibility for the National Land Transport Network which includes those roads that form part of the National Network
- The State Government is responsible for State and Arterial roads. That is, roads of strategic importance that carry high volumes of passenger and commercial vehicles and which also link the larger urban activity centres within South Australia
- Local Government is responsible for the road network that provides access at a local and regional level and to and from residential and local premises.

While this general arrangement applies in terms of funding, there are numerous grants, roads programs and special subsidies where funding is provided by the Commonwealth and State Governments for developing, upgrading and maintenance of the road network at all levels.

It is the responsibility of each level of government to balance the needs of the community, transport industry and other competing South Australian priorities and allocate the appropriate level of funding for the road system.

The movement of freight whether strategic, regional or local can involve to some degree all or any of the national, state or local road system.

It may be appropriate for private industry to contribute towards the funding and development of specific roads where there is an economic benefit to that particular industry or activity, for example, special access to mining areas or to large manufacturing complexes.

Contribution from private industry may include funding for road widening and kerb realignment, under road services improvements and infrastructure strengthening, and a contribution to ongoing maintenance and rehabilitation to maintain a particular route to the required standard.

10.2. Private Sector Funding

Based on a strategic approach to network development and the maintenance and upgrading of key freight routes will generally be the responsibility of the Department and Councils as part of normal works programs.

However, where local commercial activities or local road access (Commodity Routes) is required for a larger RAV type than the particular route is classified for, or where the proposed access clearly provides direct benefits to a particular private operation, then route assessment and any network upgrading will need to be funded by the beneficiary.

10.3. Level Crossing Improvement Funding

Rail owners fund the maintenance and operation of infrastructure at level crossings that forms part of the rail operational and safety system. Unless otherwise agreed through an interface agreement, they maintain the infrastructure for the safe operation of general access vehicles.

Any work that is required to upgrade a level crossing to the appropriate standards for RAVs operation (above that of general access vehicles) must be considered as road improvement and not the responsibility of a rail owner. Funding for such works is the responsibility of the appropriate road authority or private sector as determined from the above funding principles.

In partnership with Industry, the Department and Local Government need to:

- **Define the key and general freight networks and the appropriate vehicle classification levels**
- **Provide for the development of such networks within ongoing works programs consistent with the objectives of South Australia's Strategic Plan and other Government transport policies and strategies.**

However, where a particular transport task clearly benefits a local operation, the beneficiary may be required to fund route assessments, route network development and upgrading, rehabilitation and maintenance to the standard required for the operation of the particular vehicle type.

APPENDIX: 1

DIAGRAMS OF RESTRICTED ACCESS AND SPECIAL PURPOSE VEHICLES

APPENDIX: 2

STRATEGIC ROUTE CLASSIFICATION PROCESS

APPENDIX: 3

SWEPT PATH TEMPLATE FOR GENERAL ACCESS

APPENDIX: 4

HEAVY VEHICLE CONFIGURATION AND RELATED NETWORKS

APPENDIX: 5

COMMODITY NETWORK

ROUTE GUIDELINES

APPENDIX: 6

DTEI ROUTE ACCESS ASSESSMENT FOR RAVS

sa.gov.au/heavyvehicles

APPENDIX: 7

POLICY FOR THE TRANSPORT OF OVERSIZE AND OVERMASS INDIVISIBLE LOADS AND VEHICLES

sa.gov.au/heavyvehicles

APPENDIX: 8

PBS ROAD CLASSIFICATION GUIDELINES

sa.gov.au/heavyvehicles

APPENDIX: 9

ROUTE NETWORK FOR

OVERSIZE / OVERMASS LOADS