

FINAL REPORT

A Safe System Approach To Heavy Vehicles in the Greater Darwin Area

Prepared by

Darwin Region Heavy Vehicle Task Force

June 2011

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Disclaimer

The Darwin Region Heavy Vehicle Taskforce Report has been prepared with funding and assistance from the Northern Territory Government through the Department of Lands of Planning. The Report is the result of collaboration between members of the Darwin Region Heavy Vehicle Taskforce and various community representatives. The Report aims to provide a safe system approach to the future safe and effective management of heavy vehicle movements in the Greater Darwin Area.

The recommendations made in this Report are based on information considered by the Darwin Region Heavy Vehicle Taskforce during the period of review.

Executive Summary

On 18 August 2010 the Member for Nelson, Hon Gerry Wood MLA moved a motion in the Northern Territory Legislative Assembly that the Government immediately appoint a task force to review all aspects related to the transport of goods and materials by trucks through and into the Darwin, Palmerston and the rural area. The motion was agreed, and Terms of Reference for the Darwin Region Heavy Vehicle Task Force (the Taskforce) were approved by the Minister for Transport in October 2010.

This Report provides the findings of the Taskforce and reflects the hard work and commitment of the industry and Government stakeholders who have contributed.

Membership of the Taskforce (See Attachment 6.3) is representative of Government agencies and industry sectors with connections to heavy vehicle operations on the road network, and includes the following.

- Northern Territory Road Transport Association
- Northern Territory Cattleman's Association
- Northern Territory Resources Council
- Civil Contractors Federation Northern Territory
- Transport Workers Union
- Local Government Association of the Northern Territory
- Department of Defence
- NT WorkSafe
- Northern Territory Police
- Department of Natural Resources, Environment, the Arts and Sport
- Department of Resources
- Department of Construction and Infrastructure
- Darwin Port Corporation
- Department of Lands and Planning

The Report provides information about the regulatory and economic context in which the Territory's heavy vehicle industry operates. It addresses forecasts of future vehicle traffic and measures in place to manage heavy vehicle safety issues within the greater Darwin area. The Taskforce has used the information gathered to assess potential risks and identify opportunities to improve road safety outcomes for all road users.

The NT Context

The greater Darwin area is experiencing strong economic growth. As a result of the expansion of the defence forces, mining, gas and service sectors, this growth is forecast to continue. The likelihood of other major development projects and land development activity also indicate continuing growth in road freight.

The NT Government has significantly increased investment in infrastructure over the past 10 years. Of the record \$1.8 billion for capital works in 2010, there is a

\$331 million investment in Territory roads and highways. Within the greater Darwin area, the Department of Lands and Planning is forecasting investment of \$74 million into roads during year 2011-12.

Heavy transport includes livestock transporters, inter and intrastate line-haul operations on major freight routes, freight delivery, freight distribution and construction activity in urban areas. Freight carried includes a wide range of commodities and the industry operates 24 hours, 7 days a week. The Territory relies heavily on road trains as a form of transport.

A number of factors provide challenges for the management of heavy vehicle traffic systems in the greater Darwin area including the following.

- Large scale projects such as the proposed construction of the INPEX facility and the associated pipeline.
- The establishment of a Marine Supply Base.
- The development of the City of Weddell.
- The continuing high rate of land release for urban development.
- A predicted increase in the extracted materials freight task.
- Increased road congestion as a result of growing light vehicle traffic.

As the population of the greater Darwin area increases, the freight task involved in supporting the population will increase accordingly, resulting in a busier port, increased containerised imports and more line haul or rail freight.

The Policy Context

The Taskforce took into account a number of relevant policy developments including the following.

- In the Territory 2030 Strategic Plan, Government has made a commitment to improve driver, passenger, rider and pedestrian safety targeting reductions in road deaths and serious injuries.
- Australian Transport Ministers recently released the Draft National Road Safety Strategy 2011–2020 that adopts an internationally recognised 'Safe System' approach.
- In 2010 the National Transport Commission and Infrastructure Australia, recommended to COAG that Australia adopt a National Ports Strategy as part of a nationally coordinated approach to the future development and planning of Australia's port and freight infrastructure.
- COAG has agreed to establish a National Heavy Vehicle Regulator (NHVR) from 1 January 2013. While the Regulator will be responsible for administering National Heavy Vehicle laws, heavy vehicle access will remain the responsibility of infrastructure managers within each state and territory.

Population & Industry Forecasts

Research conducted by the Taskforce identified a number of national and NT traffic and freight forecasts. All forecasts predict significant growth in the greater Darwin area. Significantly, in a 2006 report the National Transport Commission concluded that the road freight task across Australia would double by 2020 and that the annual growth forecast for Darwin was the highest of all capital cities at 3.53%.

Heavy Vehicle Traffic Data

Heavy vehicle numbers on the Stuart Highway have been steadily increasing since 2001. Evidence that the freight task is growing can be seen in considering the increase in freight trains per week between Alice Springs and Darwin from 14 in 2004, to 40 in 2011. Road train traffic on the key arterial roads in the greater Darwin area indicates that there are, on average, 90 road trains using the Arnhem Highway (near the Stuart Highway intersection), 194 road trains on the Stuart Highway at Coolalinga, and 71 road trains on the new Tiger Brennan Drive extension, each day.

While heavy vehicle traffic has increased, so has general road user traffic. During the past 10 years the total number of vehicles registered in the Territory has risen by over 34%, registration of heavy vehicles, for the same period, has risen by nearly 45%.

Heavy Vehicle Traffic Access

There are 2 focal points for road train traffic within the greater Darwin area, the Darwin Port and the Frances Bay/Winnellie/Berrimah industrial areas. Road train activity falls into 2 primary functions, hauling freight and livestock to and from the port at East Arm and other industrial areas, and hauling extracted materials from within and around the perimeter of the greater Darwin area.

The 3 main routes currently used by road trains to haul quarry products to the main arterial (Stuart Highway), are Channel Island Road and Elrundie Avenue, Howard Springs and Gunn Point Roads and the Arnhem Highway, all of which are NT Government controlled roads.

Generally, the Territory does not regulate heavy vehicle access meaning that road trains have “as of right” access across the road network. Some restrictions do apply where road train travel is limited to Recommended Road Train Routes. These routes have been agreed with industry over a number of years.

Maintaining an efficient heavy vehicle access regime is a critical factor for future productivity benefits. Darwin is also the only Australian capital city with as of right access for road trains. In all other capitals, road trains need to be broken down outside the city limits. The vast majority of arterial roads traversing Australia’s east coast prohibit road trains.

In developing its recommendations on routes of access, in addition to other information included in this Report, the Taskforce considered the following.

- Forecasts indicating a doubling of the freight task from 2006 to 2020.
- The increase in the number of heavy vehicles, and their increasing representation as a proportion of road users in the greater Darwin area.
- The development of major Territory construction projects and the expansion of the resource industry.
- The future growth of the greater Darwin area including planned developments and infrastructure that will impact on heavy vehicle movements.
- The road network environment including ownership and control.

Infrastructure Design

The roads and intersections along major arterial roads frequently used by heavy vehicles have been purpose built to accommodate these vehicles. Engineering solutions, including mountable kerbing, extra wide turning lanes, extra long slip lanes

and active advance warning signs (wig-wags), are used to provide access for road trains without compromising safety for general road users. Speed and red light safety cameras are also operating in the greater Darwin area.

The Taskforce paid particular attention to the intersection in Coolalinga where 2 fatalities occurred between 2009 and 2010; and other current or potential areas with high volumes of heavy vehicles.

Following a detailed survey of industry operators and some businesses in key industrial estates, the Taskforce was able to identify patterns of usage that inform the framing of a number of recommendations to address current and future heavy vehicle access and management.

Road Safety Data

Overall, road deaths and injuries in the Territory are well above other jurisdictions at 3.5 times the national average. Over the past 10 years, 75% of Territory road deaths have occurred outside the greater Darwin area. During that time there were a total of 12,462 reported crashes in the greater Darwin area. Of these 749 involved heavy vehicles, 9 of which resulted in fatalities. Accident data suggests the following.

- Heavy vehicles are less likely to be involved in a crash in the greater Darwin area than other registered vehicles.
- Heavy vehicles are directly involved in only 6% of crashes in the greater Darwin area.
- Crashes involving heavy vehicles are 0.3% more likely to involve a fatality than those involving light vehicles.

Five (5) of the 9 heavy vehicle related fatalities recorded between 2001 and 2010 in the greater Darwin area occurred on the Stuart Highway, with 2 fatalities occurring at the Henning Road/Stuart Highway intersection at Coolalinga.

Although no fatalities involving heavy vehicles have been recorded on the Arnhem Highway through Humpty Doo in the past 10 years, many road trains and other heavy vehicles use this route and 3 serious incidents have been recorded between 2001 and 2010.

While heavy vehicles are not over-represented in accident statistics within and around the greater Darwin area, a changing population has resulted in a more diverse road user group in recent years. Heavy vehicles, including road trains, share urban arterial roads with increasing numbers of bicycle and scooter riders, compact vehicles and other road user groups.

While there is no easy solution to addressing real or perceived risks associated with heavy vehicles on Territory roads, using a holistic, strategic safe system approach, risks can be reduced.

Inspection, Compliance & Enforcement

Territory registered heavy vehicles are required to undergo annual inspections unless the vehicle is accredited under the National Heavy Vehicle Accreditation Scheme Maintenance Program. Of the 40,000 annual inspections at MVR in the Territory, 30,000 are carried out in Darwin. A key task for Transport Inspectors is on-road auditing of the heavy vehicle industry for compliance with relevant legislative provisions.

During 2010 Transport Inspectors checked 17,881 heavy vehicles using weighbridges and mobile audits, resulting in 553 breach notices for non-compliance, 87 of those breaches were in the greater Darwin area. Of the 12,095 heavy vehicles registered in the Territory, 129 were found to be unroadworthy during 2010.

The Taskforce found that competing priorities for Transport Inspectors, including the provision of motor vehicle inspection services at the Darwin Test Shed, reduces the capacity for on-road enforcement activities. This means that heavy vehicles are not subject to the same level of inspection and enforcement that occurs in other NT regions.

Heavy Vehicle Accreditation

Accreditation is a formal process for recognising operators who have safety and management systems in place. The Territory has administrative arrangements in place that allow operators to gain National Heavy Vehicle Accreditation (NHVAS) in mass, maintenance and fatigue management. This is a voluntary scheme resulting in benefits for accredited operators, including not being required to undergo annual roadworthy inspections.

In 2010, there were 34 Territory operators in the accredited Maintenance module, 3 in the Mass module and 15 in the Fatigue module. There were also 1,211 vehicles and 122 drivers accredited in the Territory.

While there is a strong case for heavy vehicle accreditation, it can be argued that the figures are not simply reflective of accreditation status. There is an argument that a large proportion of accredited operators in Australia are also larger companies that would have quality management systems in place, regardless of accreditation.

There are also concerns regarding the cost and access to the required support mechanisms necessary to gain accreditation, e.g. auditing, in regional and remote areas of the Territory.

Heavy Vehicle Licensing

The parameters for NT heavy vehicle driver licensing is provided by the *Motor Vehicles Act (2011)*. Drivers must progressively obtain licences to drive heavier category vehicles. There are no requirements for medical checks for drivers unless drivers are carrying dangerous goods or driving for an operator within the NHVAS.

While heavy vehicle licensing is not currently being addressed as part of the role of the National Regulator, a national Austroads project entitled the National Heavy Vehicle Driver Competency Project has been established with the Queensland Department of Transport and Main Roads. The project is considering aligning all licensing systems across Australia within one framework and the Taskforce considered NT Government participation in the project.

Fatigue Management

Management of driver fatigue is mandatory for all transport operators in the Territory, regulated by NT WorkSafe. The management system is flexible and provides operators with templates to assist in the development of a Fatigue Management Plan.

While specific driving hours are unregulated, a Code of Practice requires drivers to take 2 periods of rest, of at least 24 hours each, in a 14-day period and to take at least 6 hours rest in any 24-hour period. The Code of Practice applies to all commercial transport operators.

The Territory has previously committed to introducing the national model of fatigue legislation, which provides a 3-tiered approach to managing fatigue among heavy vehicle drivers. However, implementation remains conditional on additional truck rest area facilities being provided to meet more stringent work and rest hour requirements.

Notwithstanding the above, driving hours in the Territory will become regulated under the National Heavy Vehicle Regulator in January 2013.

Speeding & Red Light Infringements

Heavy vehicles are not over represented in infringements resulting from speed and red light camera surveillance. Over the 3 years from January 2008 to January 2011, speeding infringements were issued to 33 semi trailers and no road trains recorded infringements during that period. There were 16 red light infringements issued to semi trailers or road trains in 2010.

Based on the evidence that safety cameras are effective road safety strategies, and that red light and speed limit compliance is of a high level, the Taskforce recommends specific actions at identified locations.

Driver Remuneration

Research has established a clear link between driver remuneration practices and unsafe on-road behaviour and a lack of adequate repairs and maintenance of vehicles. Remuneration systems such as payment per kilometre or per load can provide an incentive for drivers to speed, or work excessive hours, in breach of current fatigue management and road safety laws.

NT Worksafe advises that although no survey data illustrating the extent of the problem exists in the Territory, anecdotal evidence suggests that it does.

'Chain of Responsibility' legislation dealing with 4 areas of road transport activity (dangerous goods, mass, dimension and load restraint, and fatigue and speeding) requires that each party in the chain take reasonable steps to ensure that breaches of the road law do not occur. With the establishment of a National Heavy Vehicle Regulator in January 2013, Chain of Responsibility legislation will take affect for the first time in the NT.

The Taskforce supports continued input and influence from the NTG on the development of national model of Chain of Responsibility legislation.

Education & Awareness

DLP undertakes various community road safety education and awareness campaigns. These campaigns target high-risk road user behaviour. In collaboration with Ausfuel/Directhaul, DLP has conducted regular campaigns called "Driving with Road Trains". The focus of these campaigns is to educate the public on sharing the road network with road trains including the following.

- Safe driving practices (towing, overtaking, night driving, speed, and cutting-in).
- Driving in remote locations and fatigue.
- Road safety in Aboriginal communities (a focus on pedestrian safety).

The Taskforce recommends specific actions within an education and awareness approach to road safety and has identified an opportunity for a more urban focus to be included in any heavy vehicle education and awareness material.

Conclusions

The Taskforce recognises that the application of a Safe System approach is required to improve safety outcomes. The Taskforce has identified a range of opportunities to improve road safety in the greater Darwin area, with particular attention to heavy vehicle traffic, and made recommendations to achieve that goal in this Report. The recommendations provide comprehensive short, medium and long term strategies. These strategies have been based on an understanding of the growth and development likely to impact on heavy vehicle traffic in the greater Darwin area.

The Taskforce believes that continued industry and community involvement in the management of heavy vehicles on our roads, and their interaction with other traffic, is an important element in providing community safety.

Summary of Recommendations

1. HEAVY VEHICLE ACCESS RECOMMENDATIONS

- 1.1 The Taskforce recommends, subject to other recommendations within this section, heavy vehicles (excluding Road Trains) continue to have an “as of right” access to roads within the greater Darwin area.
- 1.2 The Taskforce recommends that Approved Road Train Routes within the greater Darwin area be implemented. The Taskforce further recommends that Government and industry promote immediate compliance with these approved routes pending commencement of the legislation recommended below.
- 1.3 The Taskforce recommends the implementation of Northern Territory legislation, to coincide with the establishment of the National Heavy Vehicle Regulator on 1 January 2013, to include the following.
 - Prescribe the Approved Road Train Routes.
 - Prohibit slow moving heavy vehicles that are not designed or constructed primarily for on road use (e.g. backhoes, graders, and road rollers) from travelling on arterial roads in the greater Darwin area during peak traffic periods (7am-9am and 4pm-6pm).
 - Provide the ability to place restrictions on the movement of other heavy vehicles in the greater Darwin area, including stated hours of stated days.
 - Include an exemption permit system for these restrictions.

2. INFRASTRUCTURE RECOMMENDATIONS

- 2.1 The Taskforce supports plans for future upgrades of existing road infrastructure to include strategically located areas safely accessible to heavy vehicles within the greater Darwin area. These areas should be designed to be suitable for multiple purposes including enforcement activity, breakdowns and rest areas.
- 2.2 The Taskforce recommends the installation of safety cameras on both the inbound and outbound lanes of the Stuart Hwy at the Henning Rd and Girraween Rd intersection.
- 2.3 The Taskforce supports identification of future safety camera locations based on available road safety data, including the level of heavy vehicle usage.
- 2.4 The Taskforce supports the development of Jenkins Road as an alternate access route for heavy vehicles, consistent with the future developments in the area.
- 2.5 The Taskforce recommends that road infrastructure managers review local road intersections on recommended road train routes to prioritise future intersection upgrades.
- 2.6 The Taskforce supports ongoing level crossing safety upgrades across the NT.

3. PLANNING STRATEGIES RECOMMENDATIONS

- 3.1 The Taskforce supports the future development of a heavy vehicle service base on the fringe of the city.
- 3.2 The Taskforce supports the future development of a controlled heavy vehicle precinct in the vicinity of East Arm.

- 3.3 The Taskforce recommends that heavy vehicle safety and access is an integral element of any future planning activities. In particular, the location of future heavy industry sites and the capacity for roads to accommodate the unique road train combinations operating in the Northern Territory.
- 3.4 The Taskforce recommends that the issues raised in this Report be considered and incorporated (where appropriate) in the development of the NT Transport Strategy and the Greater Darwin Region Land Use Plan.
- 3.5 The Taskforce recommends that it convenes annually to consider current and emerging issues relating to heavy vehicles in the greater Darwin area and provides a short Report to the Minister for Transport.
- 3.6 The Taskforce recommends that a formal review of the operation of heavy vehicles in the greater Darwin area be undertaken in 2016.
- 3.7 The Taskforce recommends that, where appropriate, priority is given to the recommended road train routes when developing off road shared paths under the Greater Darwin Cycle Path Strategy to separate 'at risk' road users such as pedestrians and cyclists.

4. ENFORCEMENT RECOMMENDATIONS

- 4.1 The Taskforce supports ongoing and increased communication and coordination between stakeholders (Department of Lands and Planning, NT Police, NT WorkSafe and local governments) to inform and improve targeted enforcement.
- 4.2 The Taskforce recommends the implementation of an Infringement Notice Scheme for heavy vehicle related offences to coincide with the establishment of the National Heavy Vehicle Regulator on 1 January 2013.
- 4.3 The Taskforce recommends investigation of opportunities for Transport Inspector and NT Police training strategies in heavy vehicle enforcement in collaboration with the National Heavy Vehicle Regulator.

5. SPEED LIMITS RECOMMENDATIONS

- 5.1 The Taskforce recommends that an 80km/h speed limit zone be considered on the Arnhem Highway from the Stuart Highway to the commencement of the current 100km/h zone near the Humpty Doo Hotel.
- 5.2 The Taskforce supports the Department of Lands and Planning, using a safe system approach, prioritising a review of existing speed limits at the built up nodes of:
 - the Stuart Highway at Coolalinga
 - Gunn Point and Howard Springs Road at Howard Springs and Howard River Park.

6. ACCREDITATION RECOMMENDATIONS

- 6.1 The Taskforce supports the NT Government working with industry to increase the voluntary uptake of accreditation by local transport operators in the greater Darwin area.

7. LICENSING RECOMMENDATIONS

- 7.1 The Taskforce supports active participation by the NTG in the National Heavy Vehicle Driver Competency Project, to facilitate consideration of unique Territory issues such as remote and rural factors, and to influence the resultant national heavy vehicle competency framework and licensing regime.
- 7.2 The Taskforce recommends that NT Driver Training programs include heavy vehicle awareness content in order to raise learner and novice driver's awareness of and sensitivity to sharing the road safely with heavy vehicles.

8. DRIVER REMUNERATION RECOMMENDATIONS

- 8.1 The Taskforce supports continued input and influence from the NTG on the development of national model chain of responsibility legislation. Such legislation prohibits contracts or agreements that require or encourage the breaching of driving hours or speed limits.

9. AWARENESS AND EDUCATION RECOMMENDATIONS

- 9.1 The Taskforce recommends that road safety education and awareness material be created to promote safe sharing of roads with heavy vehicles both in remote and urban settings.
- 9.2 The Taskforce recommends level crossing education and awareness material, suitable for both urban and rural contexts, targeting heavy vehicle drivers, be produced.
- 9.3 The Taskforce notes the recommendation of the Coroner in respect of the death of Ms Karlee Jade McCullough, and supports ongoing public education to raise awareness in relation to wig-wags, for both general motorists and professional heavy vehicle drivers.
- 9.4 The Taskforce recommends additional heavy vehicle warning signs across the NT road network.

1. Introduction & Background

1.1 Background

This Report provides the findings of the Darwin Region Heavy Vehicle Taskforce (The Taskforce), which was established by the Northern Territory (NT) Government in October 2010.

On 18 August 2010 the Member for Nelson, Hon. Gerry Wood MLA, moved a motion in the NT Legislative Assembly that the Government immediately appoint a Taskforce to review all aspects related to the transport of goods and materials by trucks through and into the Darwin, Palmerston and the rural area, given the large increase in traffic in the rural and Palmerston areas, and due to the following incidents involving heavy vehicles.

- Two (2) fatal crashes within 12 months involving heavy vehicles failing to stop at the Coolalinga controlled intersection.
- Two (2) losses of very heavy loads on the Arnhem Highway, which fortunately did not result in injury.
- An incident at BP Palms where a truck ran into the back of a public bus.

The motion was agreed. The Minister for Transport approved Terms of Reference for the Taskforce on 19 October 2010. (See Attachment 6.3)

The Taskforce membership consisted of the following.

- NT Road Transport Association
- Department of Defence
- NT Cattleman's Association
- Minerals Council of Australia
- Civil Contractors Federation of the NT
- Transport Workers Union
- Local Government Association of the NT
- Darwin Port Corporation
- NT Police
- Senior officers from various NT Government agencies

The Taskforce first met on 25 November 2010 and has met on numerous occasions during the development of this Report. The Report provides information about the regulatory and economic context in which the Territory's heavy vehicle industry operates. It addresses forecasts of future vehicle traffic and measures in place to manage heavy vehicle safety within the greater Darwin area. The Taskforce has used all the information gathered to assess potential risks and identify opportunities to improve road safety outcomes for all road users.

The Report aims to provide Government with informed recommendations that take into account both the future development of the greater Darwin area and relevant government policy direction.

1.2 Heavy Vehicles in the Territory

The greater Darwin area is experiencing strong economic growth. As a result of the expansion of the defence forces, mining, gas and energy and service sectors, this growth is forecast to continue. The NT Government is also pursuing major development projects including the INPEX Ichthys gas project, development of a Marine Supply Base and a Defence Support Hub. In addition, the development of the City of Weddell, and the high rate of land release for urban development, indicate continuing growth in road freight.

Heavy transport includes inter and intrastate line-haul operations on major freight routes, freight delivery, distribution and construction activity in urban areas. Freight carried includes a wide range of commodities; mine haul/quarry products, vehicles and machinery, livestock, dangerous goods, horticultural produce and general freight. The transport of goods also includes oversize and over mass vehicles and loads. Some transport operations are seasonally influenced, other operations are determined by delivery deadlines, e.g., general freight is usually scheduled to arrive in the greater Darwin area on Monday mornings and cattle transport may need to meet strict shipping schedules.

The heavy transport industry runs 24 hours, 7 days a week. The Territory relies heavily on road trains in excess of 115 tonnes as a form of transport. Road trains are essential in providing support to economic growth.

As a result of recent advances in technology, road trains can now carry heavy loads more efficiently and more safely with less damage to road infrastructure. Other technological improvements, such as electronically controlled and antilock braking systems, intelligent suspension systems and highly stable trailer combinations, have vastly improved road train safety.

1.3 Policy Developments

In the Territory 2030 Strategic Plan the NT Government has made a commitment to improve driver, passenger, rider and pedestrian safety targeting reductions in road deaths and serious injuries. Territory 2030 also identifies other actions, such as finding solutions for key transport infrastructure challenges and improving access to public transport.

Australian Transport Ministers recently released the Draft National Road Safety Strategy 2011–2020 that adopts an internationally recognised ‘Safe System’ approach. This approach accepts that road users will inevitably make mistakes and that road systems need to be made as safe as possible to reduce the impact of those mistakes. The Strategy contains a range of actions to reduce the number of accidents involving heavy vehicles and to minimise accident severity.

In December 2010, the National Transport Commission, Infrastructure Australia, presented an Australian National Ports Strategy for consideration by the Council of Australian Governments (COAG). The Strategy recommends that COAG recognise the central role of ports and related freight supply chains to trade and therefore to Australia’s future. The Strategy seeks COAG’s agreement that Australia adopts a National Ports Strategy as part of a nationally coordinated approach to the future

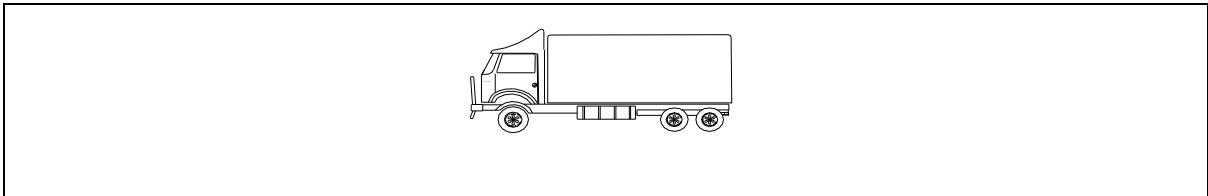
development and planning of Australia’s port and freight infrastructure. In support of this Strategy, all states and territories have been asked to identify the landside access routes of strategic importance to the efficient functioning of relevant ports and designate these as national port freight corridors.

Importantly, COAG has agreed to establish a National Heavy Vehicle Regulator (NHVR) from 1 January 2013. The Regulator will be responsible for administering national heavy vehicle laws in all states and territories. Heavy vehicle access will remain the responsibility of infrastructure managers within each state and territory. Infrastructure managers for the greater Darwin area are the NT Government, Litchfield Shire Council, Palmerston City Council and Darwin City Council.

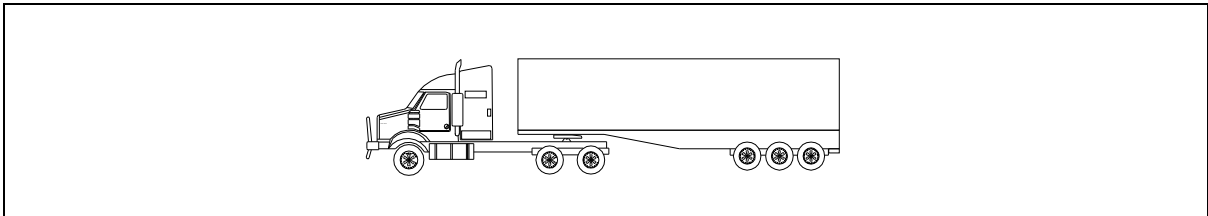
1.4 Heavy Vehicle Types

Under the current Austroads vehicle classification system there are 12 categories of vehicles. For the purpose of this Report, the heavy vehicle classes have been simplified into the following 3 categories.

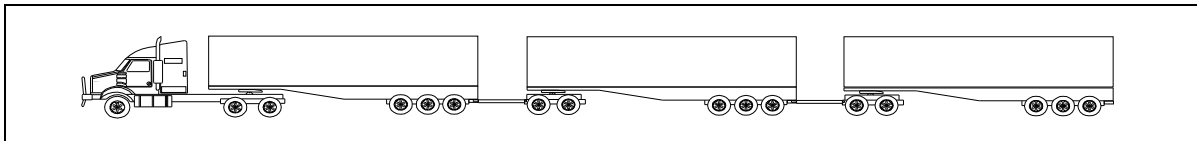
Rigid – single heavy vehicle with no trailers attached.



Semi-trailer – rigid vehicle/prime mover with one trailer attached.



Road trains – rigid vehicle/prime mover with two or more trailers attached.



1.5 Purpose of the Report

The Report provides information about heavy vehicle use within the greater Darwin area. The Taskforce has used this information to assess potential risks and identify opportunities to improve road safety outcomes for all road users.

The Report aims to provide Government with informed recommendations that take into account both the future development of the greater Darwin area and relevant government policy direction.

2. The Territory Heavy Vehicle Industry

2.1 Population and Industry Development

In July 2009 the Property Council of Australia released its “Australia on the Move” Report, which projected Australia’s population growth between 2009 and 2027. Research undertaken for the Report resulted in the inclusion of Darwin as one of the top 20 growth areas in the country.

In December 2010, the NT Treasury forecast that growth in the Territory would strengthen to 3.9% in 2010-2015 due to increasing private consumption expenditure, net exports and private construction and equipment investment.

The NT Government’s draft Greater Darwin Region Land Use Plan – Towards 2030, highlights a continuing and increasing freight task, particularly in support of the construction sector. Towards 2030 forecasts a ‘high growth’ scenario for Darwin projecting a population of 184,000 people by 2025.

In separate work, the Department of Lands and Planning forecasts that by 2018, Palmerston will have a population of 42,000 (limit of growth), Litchfield will have a population of 25,000 and the City of Weddell will house several thousand people. This region is described as the growth triangle for greater Darwin, projected to be housing approximately 90-100,000 people by 2030.

In February 2006 the National Transport Commission (NTC) released a report which had been commissioned to review national freight task forecasts. The report entitled, “Twice the Task” concluded that the road freight task across Australia would double by 2020 and that the annual growth forecast for Darwin was the highest of all capital cities, at 3.53%. Brisbane was second highest at 2.98% and the lowest growth forecast was Adelaide at 2.01%. Five years into the forecast period, registration figures indicate that freight growth is occurring more quickly than predicted. Between 2001 and 2010, the number of heavy vehicles registered in the Territory has been increasing at an average rate of 4.22%. In the past 5 years however, between 2006 and 2010, the average rate of increase is 5.69%. By comparison, light and passenger vehicles increased by 3.98% for the same five-year period. Should the current rate of increase continue until 2020, the greater Darwin area will indeed experience double the freight task from 2006 to 2020. In addition, the greater Darwin area will need to meet the challenge of having double the numbers of light vehicle traffic on Territory roads.

The adverse impact of current and forecast growth will be greatest in urban areas, where congestion compounds the impact of the freight task growth. Coupled with a predicted parallel increase of urban passenger transport during the same period, without major intervention, the greater Darwin area will experience an exponential increase in traffic congestion. It is noted however, that the NT Government has significantly increased funding to provide expanded and improved public transport services across the Territory in recent years.

The vast majority of land development is occurring south of Darwin in Palmerston, Coolalinga, in the rural areas along the Stuart Highway and will eventually include the City of Weddell. As a result, urban congestion will be most extreme during peak traffic periods on Tiger Brennan Drive and Stuart Highway. It should be noted that the increase in urban congestion is caused primarily by cars, which constitute over 92% of

vehicles on roads. The congestion caused by cars impacts on freight vehicles, rather than the reverse.

In summary a number of factors provide challenges for the management of heavy vehicle traffic systems in the greater Darwin area including the following.

- Large scale projects such as the construction of the proposed INPEX facility and the associated pipeline.
- The establishment of a Marine Supply Base.
- The development of the City of Weddell.
- The continuing high rate of land release for urban development.
- A predicted increase in the extracted materials freight task.
- Increased road congestion as a result of light vehicle traffic.

As the population of the greater Darwin area increases, the freight task involved in supporting a larger population will increase accordingly. This will inevitably result in a busier port, increased containerised imports and more line haul or rail freight from southern or eastern Australia.

2.2 Heavy Vehicle Traffic Data

The Department of Lands and Planning continually surveys and analyses patterns of traffic volume, including seasonal and peak movements, to inform the process of improving the road network.

The Department has urban traffic counters in locations throughout the greater Darwin area and across the Territory road network. These traffic counters are capable of counting traffic at specific times. Some are able to determine vehicle types using axle-counting technology.

With the exception of a slight decrease in numbers of heavy vehicles that occurred in 2004/05, following the completion of the railway from Alice Springs to Darwin, vehicle numbers on the Stuart Highway have been steadily increasing since 2001. Evidence that the freight task is growing can be seen in considering the increase in freight trains per week between Alice Springs and Darwin from 14 in 2004 to 40 in 2011.

As stated above, while heavy vehicle traffic has increased, so has general road-user traffic. During the past 10 years the total number of vehicles registered in the Territory has risen by over 34% from 125,682 in 2001 to 168,559 in 2010. Registration of heavy vehicles, for the same period, has risen by nearly 45% from 8,478 in 2001 to 12,279 in 2010. The growth in heavy vehicle registrations since 2005 accounts for a large proportion of the increase in heavy vehicle numbers.

Recently collected data provides a snapshot of heavy vehicle traffic. Road train traffic on the key arterial roads in the greater Darwin area indicates that there are, on average, 90 road trains using the Arnhem Highway (near the Stuart Highway intersection), 194 road trains on the Stuart Highway at Coolalinga, and 71 road trains on the new Tiger Brennan Drive extension, each day. Clearly these numbers will fluctuate reflecting current tasks or projects, e.g., moving rock from Mount Bundy quarry on the Arnhem Highway, or roadwork projects.

2.3 Heavy Vehicle Traffic Access

There are 2 focal points for road train traffic within the greater Darwin area, the Darwin Port and the Frances Bay/Winnellie/Berrimah industrial areas. Road train activity falls into 2 primary functions. Most road trains entering the greater Darwin area haul freight and livestock to and from the port at East Arm and other industrial areas located along the Stuart Highway in Darwin and Palmerston. The other primary activity involves hauling extracted materials from within and around the perimeter of the greater Darwin area. These materials are predominantly used in the construction industry.

The 3 main routes currently used by road trains to haul quarry products to the main arterial (Stuart Highway), are Channel Island Road and Elrundie Avenue, Howard Springs and Gunn Point Roads and the Arnhem Highway, all of which are NTG controlled roads.

Heavy vehicle access restrictions in cities around Australia are referred to as “Last Mile Issues” as they prevent an entire truckload travelling from point to point uninhibited. Last mile issues severely reduce productivity and add substantial costs for the transport, supply and consumer chain. This strategy also increases the total number of heavy vehicles on the road (e.g. one triple road train equals three semi-trailer loads).

Road trains have “as of right” access across the road network. Some restrictions do apply in urban areas where the road network is under the control of a local government authority. In this case road train travel is limited to Recommended Road Train Routes, which follow NTG controlled arterial roads. Recommended road train routes have been agreed with industry over a number of years and the level of compliance is good. It should be noted that the new Tiger Brennan Drive extension opened in late 2010 and no formal amendments or updates have occurred since 1998.

Darwin is also the only Australian capital city with “as of right” access for road trains. All other jurisdictions have restricted heavy vehicle access in some form and link access with permit systems, accreditation systems and designated routes, often incorporating time of day restrictions and reduced speed limits. In all other capitals, road trains need to be broken down outside the city limits. The vast majority of arterial roads traversing Australia’s east coast prohibit road trains.

2.4 Infrastructure Design

The roads and intersections along major arterial roads frequently used by heavy vehicles including road trains have been purpose built to accommodate these vehicles. Engineering solutions are used in road and intersection design to provide access for road trains without compromising safety for general road-users. These solutions include the following.

- Mountable curbing used for corners and roundabouts to provide access for road trains and oversized vehicles and to reduce the potential for damage to the road infrastructure.
- Extra wide turning lanes accommodate large vehicles with solid lines guiding general road users.
- Extra long slip lanes reduce the impact of turning road trains on other traffic.

- Flashing orange lights (Active Advance Warning Signs), more commonly referred to as “wig-wags”, provide warning to drivers that they should prepare to stop as they are approaching a red light.

2.4.1 Wig-wags

Wig-wags have been in place for a number of years in the Territory and have the strong support of the NT Transport Industry. Wig-wags are in place on routes that have high heavy vehicle traffic and the road transport industry uses wig-wags as an advance warning to reduce speed. These warning signs provide early advice to drivers that the approaching traffic signals (traffic lights or level crossings) are about to change by commencing an alternating (wig-wag) yellow light display. This display continues throughout the RED light period for that signal group and is particularly useful to heavy vehicle drivers who require longer stopping distances than general traffic. Timing of the wig-wag is determined in the same way as the YELLOW time settings for traffic signals are established, i.e. by driver reaction times, the prevailing speed limit and deceleration criteria.

It is important to note the following in understanding the application of wig-wags.

- Wig-wags are a complementary device to assist drivers prepare to stop at traffic signals.
- The message on the sign is “Prepare to Stop” and not “Prepare to Accelerate”. An argument against wig-wags is that some drivers will accelerate in an attempt to arrive at the intersection prior to the lights changing.
- Australian Standards are not prescriptive regarding the use of these signs and they are used in the Territory as an additional safety device.

2.4.2 Red Light and Speed Safety Cameras

Speed and red light safety cameras have been installed to reduce the incidence of non-compliance with traffic signals, which is a well-defined road safety objective. Safety cameras increase driver awareness of the presence of traffic signals and compel drivers to comply resulting in better driving practices approaching intersections. Research has confirmed that safety cameras are helpful in achieving substantial reductions of red-light violations. There are 9 safety cameras currently operating in the greater Darwin area.

2.4.3 Railway Level Crossings

Railway level crossings create potential crash points for vehicles and trains. Such crashes can be the most severe of all traffic accident types. Crossings are protected by either passive or active/automated systems. Passive protection systems provide only a constant and stationary sign, which warns of the possibility of a train approaching. Active protection systems activate automatic warning devices (i.e., flashing lights, boom gates, etc.) as they detect an approaching train. There are 18 designated level crossings in the greater Darwin area.

Due to the limited rail network, there is a relatively low level of risk of crossing crashes compared to other jurisdictions. In 2006, however, there were 2 major crashes involving road trains at level crossings in the Territory. One crash occurred when a double trailer road train drove into a south bound freight train at a level crossing near the Elizabeth River Bridge within the greater Darwin area. The drivers of the train sustained only minor injuries and the road train driver was uninjured. A subsequent

Report by the Australian Transport Safety Bureau¹ found that it was likely that the driver did not stop at the passive level crossing and that it was likely that he failed to see the approaching train.

2.5 Heavy Vehicle Safety in the Territory

2.5.1 Road Safety Data

Road deaths and injuries in the Territory are well above the national average at 3.5 times the national average of deaths per 100,000 head of population. The Territory's road fatality rate exceeds that of any other developed nation. Over the past 10 years, 75% of Territory road deaths have occurred outside the greater Darwin area. Indigenous people, interstate and international visitors, youth and other novice drivers are all over-represented in the road death statistics.

While the road toll in the greater Darwin area is very close to the national average, in remote areas it is exceptionally high. In 2007 the number of fatalities per 100,000 head of population in the greater Darwin area was 8.2 (compared to the national average of 7.7), in the Katherine Region the road toll was 25.7, and in Alice Springs and the southern part of the Territory the toll was a staggering 54.1.

Over the past 10 years (2001-2010) there were a total of 12,462 reported crashes in the greater Darwin area. One hundred and fifteen (115) or 0.9% included fatalities and 2,957 (23.7%) resulted in injuries requiring medical treatment or hospitalisation. Of the 12,462 reported crashes, 749 (6.0%) involved heavy vehicles.

Nine (9) or 1.2% of the 749 heavy vehicle crashes resulted in fatalities, a slightly higher rate than the total fatality/crash rate of 0.9%. Of these nine heavy vehicle related fatalities, 6 occurred between 2008 and 2010. Of the 749 crashes, 123 or 16.4% resulted in injuries requiring medical treatment or hospitalisation. This is lower than the total road user percentage of 23.7%. These figures include single vehicle accidents and in many of those cases, heavy vehicle drivers were uninjured. An analysis of this data suggests the following.

- Heavy vehicles are less likely to be involved in a crash in the greater Darwin area than other registered vehicles.
- Heavy vehicles are directly involved in only 6% of crashes in the greater Darwin area.
- Crashes involving heavy vehicles are 0.3% more likely to involve a fatality than those involving light vehicles.

Five (5) of the 9 heavy vehicle related fatalities recorded between 2001 and 2010 in the greater Darwin area occurred on the Stuart Highway, with one pedestrian killed and 4 angle crashes at intersections. The Henning Road/Stuart Highway intersection at Coolalinga is the only location where there have been multiple (2) fatalities. (See Attachment 6.5)

Angle crashes at intersections and rear-end crashes are the most common accident type. The intersection at Pinelands experienced 4 crashes involving heavy vehicles, which is the highest number of any one intersection. A further 4 angle crashes occurred between Pinelands and the Tivendale Road intersection. This localisation of crashes may be attributed to the number of heavy vehicles travelling along the Stuart

¹ *Rail Occurrence Investigation No. 2006/010*

Highway, accessing the busy industrial areas of Pinelands and Berrimah. (See Attachment 6.5)

Although no fatalities involving heavy vehicles have been recorded on the Arnhem Highway through Humpty Doo in the past 10 years, a substantial number of road trains and other heavy vehicles use this recognised road train route and 3 serious incidents have been recorded between 2001 and 2010.

2.5.2 Heavy Vehicle Standards and Inspection Regimes

Territory registered heavy vehicles (including trailers) are required to undergo annual inspections unless the vehicle is accredited under the National Heavy Vehicle Accreditation Scheme Maintenance Program. Heavy vehicles are required to adhere to vehicle standards that are detailed in the Motor Vehicles Standards Regulations and Australian Design Rules. Approximately 340 Inspectors conduct registration renewal inspections from 260 Authorised Inspection Stations in the Territory.

Of the total vehicle inspection workload in the Territory (in excess of 120,000 inspections per year), Transport Inspectors carry out approximately 30% or 40,000 inspections, with the majority (30,000) carried out in Darwin.

Inspection functions currently performed at Test Sheds include the following:

- Periodic roadworthy inspections for registration renewal.
- Inspections on vehicles that are subject to defect action.
- Commercial Passenger Vehicle (CPV) programmed inspections (6 monthly).
- Vehicle Identity Validation Inspections on vehicles establishing registration in the Territory and vehicles, which have been repaired after accidents and are on the Written-off Vehicle Register.
- Inspection and assessment of modified and imported vehicles.
- Road train rating inspections, which ensure road train trucks, trailers and components meet appropriate standards.
- Police requested inspections on vehicles involved in serious or fatal accidents.

2.5.3 Compliance and Enforcement

There are currently 20 Transport Inspectors in the Territory. Nine (9) are deployed in Darwin, 4 in Katherine and 7 in Alice Springs. All NT Transport Inspectors are qualified mechanics and undergo formal training in investigation, enforcement and compliance.

NT Transport Inspectors carry out a range of vehicle-related inspection and enforcement activities. These activities are linked to core business; safe vehicles, the protection of the road asset and assisting in maintaining an industry level playing field. Vehicle inspection facilities (Test Sheds) are located at Darwin and Alice Springs. Limited inspection functions are also performed at the Katherine Weighbridge. Programmed activity (in the form of monthly regional visits) occurs in Yulara, Nhulunbuy, Tennant Creek and Jabiru, and quarterly in Borroloola.

One of the key enforcement tasks of Transport Inspectors is on-road auditing of the heavy vehicle industry for compliance with relevant legislative provisions including mass, dimension, load restraint and compliance with vehicle safety standards (roadworthiness). Transport Inspectors work in partnership with NT Police when conducting vehicle roadworthy awareness campaigns.

Heavy vehicle enforcement is carried out using a combination of on-road mobile patrols in conjunction with fixed weighbridge operations at Katherine and Alice Springs. Weighbridge operations focus on the Stuart Highway freight corridor, mobile patrols are used on other major highways to focus on issues arising in urban areas such as construction activity. For safety reasons, all mobile patrols require a minimum of 2 Inspectors.

During 2010 Transport Inspectors checked 17,881 heavy vehicles using weighbridges and mobile audits. These inspections resulted in 553 breach notices for non-compliance with legislative requirements such as over-mass, over-dimensional, insecure loads and unregistered vehicles. The regional breakdown of enforcement action is as follows.

Darwin		Alice Springs		Katherine	
Checked	Breached	Checked	Breached	Checked	Breached
479	87	4329	149	13073	317

Of the 12,095 heavy vehicles currently registered in the Territory, during 2010, 129 (just over 1%) were found to be unroadworthy and were subject to defect action.

Fixed weighbridge operators check every heavy vehicle passing the weigh site, mobile patrols may target known underperforming operators and any visible non-compliance issues, generally resulting in a higher rate of breaches per number of vehicles checked. Fixed weighbridge operations are not carried out in the greater Darwin area, which contributes to the variation in numbers of vehicles checked across each region. It should be noted that competing priorities for Transport Inspectors, including the provision of motor vehicle inspection services at the Darwin Test Shed, reduce the capacity for on-road enforcement activities.

2.5.4 Heavy Vehicle Operator Accreditation Regimes

Accreditation is a formal process for recognising operators who have good safety and management systems in place. There are a number of accreditation schemes operating in Australia.

A 2008 Austroads analysis of the safety benefits of heavy vehicle accreditation schemes reported that operators who have safety management practices that meet accreditation standards are, on average, significantly safer than non-accredited operators. The Austroads Report also concluded that transport operators generally show substantial improvements through the accreditation process. The Report recommended that greater use be made of heavy vehicle accreditation in Australia, and New Zealand, as it is arguably the most effective means of improving heavy vehicle safety.

The Territory has administrative arrangements in place that allow operators to gain National Heavy Vehicle Accreditation (NHVAS) in mass, maintenance and fatigue management. This is a voluntary scheme resulting in benefits for accredited operators, including not being required to undergo annual roadworthy inspections.

In 2010, there were 34 Territory operators in the accredited Maintenance module, 3 in the Mass module and 15 in the Fatigue module. There were also 1,211 vehicles and 122 drivers accredited in the Territory.

Territory road transport companies and drivers in the Fatigue module must complete the nationally accredited Vocational Education and Training modules (TLIF 1007C) Apply Fatigue Management Strategies and (TLIF 6307A) Implement Fatigue Management Systems. Drivers for NHVAS accredited operators are also required to comply with the Austroads Fitness to Drive Guidelines.

2.5.5 Heavy Vehicle Driver Licensing

The parameters for NT heavy vehicle driver licensing are provided by the *NT Motor Vehicles Act (2011)*. The categories within the legislation are Light, Medium and Heavy Rigid and, Heavy and Multi Combination (road train).

Drivers must progressively obtain licences to drive heavier category vehicles. To obtain a Multi Combination licence, for example, a driver must have held a Heavy Rigid or Heavy Combination licence for periods totalling not less than 12 months and must also pass relevant tests and training. To obtain a Heavy Rigid licence, a driver must have held a car licence for two years and pass relevant tests and training.

While there are no requirements for medical checks, unless carrying dangerous goods or driving for an operator within the NHVAS, there is an obligation under the legislation for medical practitioners to inform the Registrar of Motor Vehicles if they believe the driver is an “at-risk” patient. Should this occur the Registrar may require a medical check to be undertaken to determine what follow up action may be required.

2.5.6 Fatigue Management

Management of driver fatigue is mandatory for all transport operators in the Territory as part of their duty of care and obligation to provide a safe working environment. Fatigue issues for the transport industry are managed under Occupational, Health and Safety legislation in the Territory, regulated by NT Worksafe. The management system is flexible and provides operators with templates to assist in the development of a Fatigue Management Plan.

While specific driving hours are unregulated, a Code of Practice requires drivers to take 2 periods of rest, of at least 24 hours each, in a 14-day period and to take at least 6 hours rest in any 24-hour period. The Code of Practice applies to all commercial transport operators including heavy vehicle operators. Drivers are not required to complete work diaries or logbooks in the Territory.

The Territory has previously committed to introducing the national model of fatigue legislation, which provides a 3-tiered approach to managing fatigue among heavy vehicle drivers. However, implementation remains conditional on additional truck rest area facilities being provided to meet more stringent work and rest hour requirements.

Notwithstanding the above, driving hours in the Territory will become regulated under the National Heavy Vehicle Regulator in January 2013.

2.5.7 Heavy Vehicle Speeding and Red Light Compliance

Heavy vehicles are not over represented in infringements resulting from safety camera surveillance. From January 2008 to January 2011 speeding infringements were issued to 33 semi trailers, no road trains infringed during that period. In 2010 there were 19,778 infringements issued as a result of safety camera surveillance, semi trailer

infringements represent only 0.05% of the total.² There were 16 red light infringements issued to semi trailers or road trains in 2010.

2.5.8 Driver Remuneration

There has been a considerable amount of research conducted seeking to identify the causes of unsafe on-road behaviour by drivers. Some commentators assert that remuneration systems based on systems such as payment per kilometre or per load provide an incentive to speed, or work excessive hours, in breach of current fatigue management and road safety laws.

In 2008, the Australian Transport Council requested the National Transport Commission (NTC) to engage experts to review the evidence demonstrating the existence of a payments systems/safety link and to assist with the preparation of legal and regulatory options to address its on-road impacts. The Hon Lance Wright QC and Professor Michael Quinlan concluded that the “overwhelming weight of evidence indicates that commercial/industrial practices affecting road transport play a direct and significant role in causing hazardous practices.” The Review was also told, by owner/drivers and small operators in NSW, that inadequate remuneration had resulted in them minimising costs associated with maintenance and repair of vehicles. The extent of such practices, which may well occur in the Territory, and their impact on road safety, are unknown but disturbing.

A number of government Occupational Health and Safety (OHS) agencies including Safework South Australia and Safework Victoria have supported the link between remuneration and safety. NT Worksafe advises that although no survey data illustrating the extent of the problem exists in the Territory, anecdotal evidence suggests that it does.

Two reforms, heavy vehicle driver fatigue and speeding legislation, address some of the underlying causes of on-road behaviour. Both sets of laws create specific obligations, which limit the demands that can be made of drivers and which may, in turn, lead to a breach of speeding or fatigue laws.

In summary, off-road actions can encourage or create an incentive for on-road behaviour. There is solid evidence linking payment levels and systems to accidents, speeding, driving while tired and drug use. Numerous government inquiries, coronial inquests, courts and industrial tribunal hearings in Australia have accepted the evidence of this linkage. The NTC has done a considerable amount of work in investigating ways in which the transport supply chain contributes to on-road safety.

2.5.9 Education and Awareness

The Department of Lands and Planning undertakes various community road safety education and awareness campaigns. These campaigns target high-risk road user behaviour, such as drink driving. Since June 2004, in conjunction with Ausfuel/Directhaul, the Department has conducted regular campaigns called “Driving with Road Trains”. The focus of these campaigns is to educate the public on sharing the road network with road trains including the following.

- Safe driving practices (towing, overtaking, night driving, speed, cutting-in).
- Driving in remote locations and fatigue.
- Road safety in Aboriginal communities (a focus on pedestrian safety).

² This information is based on NT truck and trailer registrations and does not include interstate vehicles.

3. Taskforce Response & Recommendations

3.1 Introduction

A number of factors contribute to the need to ensure that heavy vehicle productivity is sustainable and inclusive of public safety. These factors include the following.

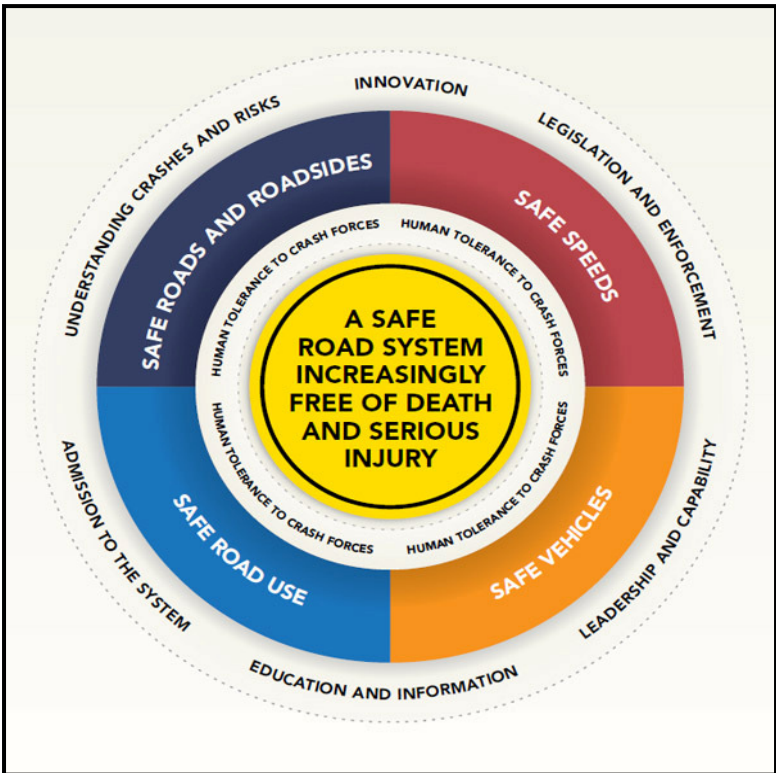
- The vast distances covered by heavy vehicles in the Territory.
- The growing population and traffic congestion within the greater Darwin area.
- The location of industrial estates and the port.
- The high levels of construction.
- The release of land for development.
- The importance of the trucking industry to the economic future of the Territory.

In considering the many factors involved in road safety, the Taskforce has applied the Safe System approach. This approach aims to influence a transport system, protect responsible road users, and reduce the number of deaths and serious injuries. A Safe System approach recognises the reality that, despite a focus on preventative strategies, road accidents will occur.

The Safe System approach also encourages better understanding of the interaction between the key elements of the road system; road users, vehicles, roads and roadsides, and travel speeds.

The Taskforce has considered each of the Terms of Reference in light of national experience, within the Territory context, and made recommendations where appropriate, in relation to each.

Each of the recommendations fits within the Safe System approach and aims to improve road safety through the four cornerstones, which are **SAFE ROAD USE**, **SAFE ROADS AND ROADSIDES**, **SAFE VEHICLES** and **SAFE SPEEDS**.



3.2 Heavy Vehicle Access

3.2.1 Access Overview

There are several options available to Government to decrease the interaction general road users have with heavy vehicles. These include; maintaining “as of right” access, denying access, reducing speed limits and implementing time-of-day restrictions.

In developing its recommendations on routes of access, the Taskforce considered the following.

- Current practise and possible impact on industry, local business and the broader NT economy.
- Existing infrastructure and the road network environment.
- Ownership and control of road networks.
- Road user behaviours and strategies to influence good behaviours (education and awareness campaigns coupled with enforcement and infrastructure measures).
- Traffic patterns and commuter peak travel times.
- The existing safety record of heavy vehicles in the greater Darwin area.
- The future growth of the greater Darwin area to include planned developments and infrastructure that will impact on heavy vehicle movements (e.g. Weddell Freeway)
- The development and operation of major construction projects such as the INPEX proposal.
- The expansion of mining across the Territory.
- Increase in the number of heavy vehicles, and their increasing representation as a proportion of road users on the urban network in the past 5 to 10 years.
- Forecasts indicating a doubling of traffic from 2006 to 2020.
- The work of the Heavy Vehicle Access Routes sub-committee.

3.2.2 Road Train Routes

In order to effectively review high-usage road train routes in the greater Darwin area, the Taskforce determined that a sub-committee be established, comprised of relevant local governments, DLP and industry. The sub-committee’s primary focus was on those roads controlled and maintained by local government, principally in industrial areas accessed via the Stuart and Arnhem Highways and Tiger Brennan Drive.

To gather information about the needs of the heavy vehicle industry and their clients, the Taskforce undertook a survey of industry operators and some businesses in the industrial estates of Yarrowonga, Pinelands, Tivendale Rd, Berrimah Rd, Winnellie and East Arm Port. The survey identified locations which are being accessed by heavy vehicles for the transport of freight, the class of vehicles being used and the frequency, routes, days and times of their usage. It should be noted that the process of surveying current freight practices has also fulfilled the National Ports Strategy requirement of identifying the inland, metropolitan area, intermodal terminals and industrial and/or warehousing lands.

The survey found that the vast majority of road trains transporting freight in the greater Darwin area are travelling between the port, their depot and the Stuart Highway/

Tiger Brennan Drive. Most freight entering Darwin by road travels to a freight industry depot where it is broken down and delivered to clients using a variety of smaller vehicles. Livestock is normally taken directly to East Arm Port. There are exceptions to standard practice with some greater Darwin area freight clients receiving deliveries directly by road train. Fuel and milk deliveries to a number of locations, some isolated heavy vehicle depots not recognised as industrial estates (e.g. Stephens Road and Humpty Doo) are examples of this practice. Road trains hauling freight to and from Frances Bay (Perkins) and fuel deliveries to the Airport are examples of heavy vehicle activity in the built up area around the CBD.

The delivery of raw materials, particularly landfill and quarry products, provides evidence of a different common practise with tippers usually travelling directly between the quarry and the site, at times using road trains. These operations often occur in areas where there is no designated route and may at times be on unsealed roads or may require entry to, or through, built up areas.

Information gathered by the Taskforce indicates that the securing of continued access to East Arm Port by all heavy vehicles is a high priority. The proposed road train routes are identified in the maps at Attachment 6.5.

RECOMMENDATIONS
1. HEAVY VEHICLE ACCESS
<p>1.1 The Taskforce recommends, subject to other recommendations within this section, heavy vehicles (excluding Road Trains) continue to have an “as of right” access to roads within the greater Darwin area.</p> <p>1.2 The Taskforce recommends that Approved Road Train Routes within the greater Darwin area be implemented. The Taskforce further recommends that Government and industry promote immediate compliance with these approved routes pending commencement of the legislation recommended below.</p> <p>1.3 The Taskforce recommends the implementation of legislation, to coincide with the establishment of the National Heavy Vehicle Regulator on 1 January 2013, to include the following.</p> <ul style="list-style-type: none"> • Prescribe the Approved Road Train Routes. • Prohibit slow moving heavy vehicles that are not designed or constructed primarily for on road use (e.g. backhoes, graders and road rollers) from travelling on arterial roads in the greater Darwin area during peak traffic periods (7am-9am and 4pm-6pm). • Provide the ability to place restrictions on the movement of other heavy vehicles in the greater Darwin area, including stated times of stated days. • Include an exemption permit system for these restrictions.
SAFE SYSTEM ELEMENT
SAFE ROAD USE

3.3 Infrastructure Design

In general, infrastructure is considered appropriate at most significant intersections used by road trains along the recommended road train routes. Two (2) fatal crashes at the Coolalinga intersection in two years involving road trains, however, were catalysts for establishing the Taskforce.

3.3.1 Coolalinga Intersection

As a result of the first fatality in June 2009, the Coroner recommended that a public education campaign be developed and delivered, to raise awareness in relation to wig-wags, for motorists generally as well as professional heavy vehicle drivers.

Sinclair Knight Merz (SKM) provided the Department of Lands and Planning with a Road Safety Audit of this intersection conducted in October 2010. This Audit also drew information from a Departmental infrastructure review compiled in August 2010. SKM reviewed accident data for this intersection for the 7 year period from 2003 and 2010 in order to ascertain any prevailing patterns of accident type. This analysis revealed that of the 4 crashes at the intersection during this period, 2 accidents, which resulted in fatalities, involved vehicles travelling north on the Stuart Highway and vehicles travelling east on Henning Road. Both fatal accidents were consistent with non-compliance at traffic signal control.

Both the Departmental review and the SKM report recommended that additional and upgraded infrastructure may reduce the risk of further accidents at this intersection. The recommendations included the following.

- Sightlines could be improved by trimming vegetation on the western side of the inbound Stuart Highway approach.
- Additional "Traffic Signals Ahead" signage could be installed in advance of the wig-wags.
- Visibility in bright sunlight could be improved by upgrading incandescent post-mounted signal lanterns to LED based displays.
- Installation of speed and red light cameras.

3.3.2 Other Intersections

A review of each intersection along the recommended road train routes of Stuart and Arnhem Highways, Tiger Brennan Drive and Gunn Point Roads was conducted and analysed.

The Taskforce concluded that the intersections used by road trains appeared to be fit for purpose. The Taskforce also found that some other road intersections on recommended road train routes, used mainly by cars, could be improved by the addition of longer slip lanes (to assist traffic turning off the road train route) and merge lanes (to assist traffic entering road train routes).

3.3.3 Other Issues

The Taskforce identified limitations along the recommended road train routes where heavy vehicles, particularly road trains, could pull over safely. This limits where drivers can rest, check vehicles and loads, or stop due to breakdowns. This also presents challenges for effective on-road enforcement.

The development of the City of Weddell and Middle Arm will significantly increase heavy vehicle traffic in those areas. Should the INPEX project proceed, there will be hundreds of road trains delivering construction materials to the site.

Jenkins Road has been identified as a strategically important road for heavy vehicle access. Jenkins Road is, for the most part, a formed gravel road that requires wet season mass restrictions to protect the pavement surface. There may be a significant increase in heavy vehicle traffic travelling north on Stuart Highway and Tiger Brennan Drive if Jenkins Road is not upgraded to an all weather road train route.

Finally, the Taskforce acknowledges the improvements to level crossing safety that has occurred in the Territory in recent years. Stage Three of the Tiger Brennan Drive project, the construction of a rail overpass on Berrimah Road providing heavy vehicles with uninhibited access to the Port, is also underway. However, there are other level crossings in the greater Darwin area that present a level of risk of road train crashes.

RECOMMENDATIONS
2. INFRASTRUCTURE
<p>2.1 The Taskforce supports plans for future upgrades of existing road infrastructure to include strategically located safe areas accessible to heavy vehicles within the greater Darwin area. These areas should be designed to be suitable for multiple purposes including enforcement activity, breakdowns and rest areas.</p> <p>2.2 The Taskforce recommends the installation of safety cameras on both the inbound and outbound lanes of the Stuart Hwy at the Henning Rd and Girraween Rd intersection.</p> <p>2.3 The Taskforce supports identification of future safety camera locations based on available road safety data, including the level of heavy vehicle usage at that location.</p> <p>2.4 The Taskforce supports the development of Jenkins Road as an alternate access route for heavy vehicles, consistent with future developments in the area.</p> <p>2.5 The Taskforce recommends that road infrastructure managers review local road intersections on recommended road train routes to prioritise future intersection upgrades.</p> <p>2.6 The Taskforce supports ongoing level crossing safety upgrades across the NT.</p>
SAFE SYSTEM ELEMENT
SAFE ROADS AND ROADSIDES

3.4 Improving Our Road Safety Record

3.4.1 Introduction

While heavy vehicles are not over-represented in accident statistics within and around the greater Darwin area, a changing population has resulted in a more diverse road user group in recent years. Heavy vehicles, including road trains, share urban arterial roads with increasing numbers of bicycle and scooter riders, compact vehicles and other road user groups. While there is no easy solution to addressing real or perceived risks associated with heavy vehicles on Territory roads, using a holistic, safe system approach, risks can be reduced.

3.4.2 Planning for the Future

The volume of intra-city transport will increase dramatically if the INPEX, Marine Supply Base and related industrial investments occur concurrently. The level of construction activity may triple current traffic levels.

Both current and proposed rural developments in Humpty Doo, Howard Springs, Coolalinga, Noonamah and Berry Springs will increase traffic congestion, as they become small urban centres with the commensurate increase in light vehicle traffic.

Outside of the CBD and northern suburbs, the greater Darwin area will experience a significant increase in vehicle traffic given the forecast in industrial economic expansion.

The Taskforce identified the need to plan for a heavy vehicle service base, outside of the CBD, providing a deconsolidation point for industry use. While this base is not essential at this time, identifying and securing a suitable site in the short term, is important.

The activity around East Arm Port and associated industrial areas was a focus point of consideration for the Taskforce. The development of a Marine Supply Base, and the associated increased freight task, provide an opportunity to create a safe and controlled area resulting in relaxed regulation and increased efficiencies for industry. A 'Heavy Vehicle Precinct' could accommodate increased vehicle mass and size so that heavy shipping and rail containers, and purpose built marine hardware, could move around the area safely. The Taskforce acknowledges the infrastructure upgrade that would be necessary.

The NT Government has recently released a Discussion Paper to facilitate public input into the Draft Greater Darwin Region Land Use Plan – Towards 2030. The Taskforce believes that consideration of heavy vehicle access and safety is a crucial aspect of this and other planning activities. The Taskforce also asserts that separating 'at risk' road users from interacting with heavy vehicles should be part of longer term strategic planning. The use of recommended road train routes by bicycle riders is an issue the Taskforce believes should be addressed in the medium term.

The Taskforce also supports an annual review of current and emerging issues relating to heavy vehicles in the greater Darwin area, and a formal review in five (5) years time.

RECOMMENDATIONS
3. PLANNING STRATEGIES
<p>3.1 The Taskforce supports the future development of a heavy vehicle service base on the fringe of the city.</p> <p>3.2 The Taskforce supports the future development of a controlled heavy vehicle precinct in the vicinity of East Arm.</p> <p>3.3 The Taskforce recommends that, where appropriate, priority is given to the recommended road train routes when developing off road shared paths under the Greater Darwin Cycle Path Strategy to separate 'at risk' road users such as pedestrians and cyclists.</p> <p>3.4 The Taskforce recommends that heavy vehicle safety and access is an integral element of any future planning activities. In particular, the location of future heavy industry sites and the capacity for roads to accommodate the unique road train combinations operating in the Northern Territory.</p> <p>3.5 The Taskforce recommends that the issues raised in this Report be considered and incorporated (where appropriate) in the development of the NT Transport Strategy and the Greater Darwin Region Land Use Plan.</p> <p>3.6 The Taskforce recommends that it convenes annually to consider current and emerging issues relating to heavy vehicles in the greater Darwin area and provides a short Report to the Minister for Transport.</p> <p>3.7 The Taskforce recommends that a formal review of the operation of heavy vehicles in the greater Darwin area be undertaken in 2016.</p>
SAFE SYSTEM MANAGEMENT

3.4.3 Standards, Inspections & Compliance

Service delivery demands on Transport Inspectors in Darwin are at their highest due to the volume of work undertaken in the test shed and the need to use technical staff to backfill other technical customer service roles including; Heavy Vehicle Permits of Exemption, Authorised Inspector, Heavy Vehicle Accreditation, management, auditing and technical support. The resulting challenges often impact on the capacity of Inspectors to undertake enforcement action. This is further complicated by an inability to recruit to short-term vacancies, due to the need to have technically qualified people.

Inspection and enforcement rates for freight vehicles travelling from Katherine to Darwin are generally high as they are required to be inspected at the Katherine weighbridge.

The low numbers of active patrols in the greater Darwin area means that heavy vehicles are not subject to the same level of inspection and enforcement as elsewhere in the NT.

Unless there is a significant increase in Transport Inspector resources in Darwin, any increase in on-road enforcement capacity will be at the expense of a decrease in vehicle inspection workload.

The Taskforce considered actions that could improve enforcement and compliance outcomes in the greater Darwin area. Other than traffic related offences, most heavy

vehicle regulatory offences, including mass, dimension and load restraint, require the offender to attend court. This process is resource intensive, especially for minor offences.

RECOMMENDATIONS
4. ENFORCEMENT
<p>4.1 The Taskforce supports ongoing and increased communication and coordination between stakeholders (Department of Lands and Planning, NT Police, NT WorkSafe and local governments) to inform and improve targeted enforcement.</p> <p>4.2 The Taskforce recommends the implementation of an Infringement Notice Scheme for heavy vehicle related offences to coincide with the establishment of the National Heavy Vehicle Regulator on 1 January 2013.</p> <p>4.3 The Taskforce recommends investigation of opportunities for Transport Inspector and NT Police training strategies in heavy vehicle enforcement in collaboration with the National Heavy Vehicle Regulator.</p>
SAFE SYSTEM ELEMENT
SAFE ROAD USE AND SAFE VEHICLES

There is no evidence to indicate heavy vehicle speeding is a major problem in the greater Darwin area. The recommended road train routes are also adequately designed and constructed for the existing posted speed limits. Data from the new Tiger Brennan Drive extension, collected during one week in February 2011, recorded no instances of road trains speeding in either direction.

The Taskforce acknowledged the growing residential and industrial areas along recommended road train routes. The variable speed limits on the Arnhem Highway through Humpty Doo were identified as an area of concern. Industry representatives were particularly concerned that car drivers attempt to overtake heavy vehicles in the 100km/h sections of the Highway where there are a number of side road intersections.

Overall, red light compliance is good, however, as evidenced with both Coolalinga accidents, the consequences of non-compliance can be tragic.

RECOMMENDATIONS
5. SPEED LIMITS
<p>5.1 The Taskforce recommends that an 80km/h speed limit zone be considered on the Arnhem Highway from the Stuart Highway to the commencement of the current 100km/h zone near the Humpty Doo Hotel.</p> <p>5.2 The Taskforce supports the Department of Lands and Planning, using a safe system approach, prioritising a review of existing speed limits at the</p>

built up nodes of: <ul style="list-style-type: none"> • the Stuart Highway at Coolalinga • Gunn Point and Howard Springs Road at Howard Springs and Howard River Park.
SAFE SYSTEM ELEMENT SAFE SPEEDS AND SAFE ROAD USE

3.4.4 Heavy Vehicle Operator Accreditation Regimes

In some states accreditation is a condition of access for heavy vehicles on select routes and some concessions, particularly those offering higher mass limits. This has resulted in accreditation becoming practically mandatory for many interstate operators.

While there is a strong case for heavy vehicle accreditation, it can be argued that the figures are not simply reflective of accreditation status. There is an argument that a large proportion of accredited operators in Australia are also larger companies that would have quality management systems in place, regardless of accreditation.

There are also concerns regarding the cost, and access to the required support mechanisms necessary to gain accreditation, e.g. auditing, in regional and remote areas of the Territory.

There is also a strong case that requiring accreditation as a means of gaining access is not in the best interests of achieving improved management and safety outcomes. For example, those operators who chose accreditation because they believe in improving their business management and safety outcomes may achieve a more positive outcome than an operator who is in accreditation simply because it is a requirement of driving down a particular road.

RECOMMENDATIONS
6. ACCREDITATION
6.1 The Taskforce supports the NT Government working with industry to increase the voluntary uptake of accreditation by local transport operators in the greater Darwin area.
SAFE SYSTEM ELEMENT SAFE VEHICLES AND SAFE ROAD USE

3.4.5 Heavy Vehicle Driver Licensing

While heavy vehicle licensing is not currently being addressed as part of the role of the National Regulator, a national Austroads project entitled the National Heavy Vehicle Driver Competency Project has been established with the Queensland Department of Transport and Main Roads. The project is considering aligning all licensing systems across Australia within one framework. All jurisdictions have agreed to implement the

framework within their existing heavy vehicle driver licensing systems following its implementation in Queensland. The licensing framework will dictate heavy vehicle license eligibility requirements, training and assessment standards, including delivery options, and standards for auditing and control.

The Taskforce acknowledged that the interaction of heavy vehicles with general traffic is a ‘two way street’ and that knowledge and awareness of the road safety related issues by all road users is critical. Measures to improve learner and novice driver awareness of heavy vehicles on our roads are an important priority.

RECOMMENDATIONS
7. LICENSING
<p>7.1 The Taskforce supports active participation by the NTG in the National Heavy Vehicle Driver Competency Project, to facilitate consideration of unique Territory issues such as remote and rural factors, and to influence the resultant national heavy vehicle competency framework and licensing regime.</p> <p>7.2 The Taskforce recommends that NT Driver Training programs include heavy vehicle awareness content in order to raise learner and novice driver’s awareness of and sensitivity to sharing the road safely with heavy vehicles.</p>
SAFE SYSTEM ELEMENT
SAFE ROAD USE

3.4.6 Driver Remuneration

The National Transport Commission has developed and applied the Chain of Responsibility principle to many areas of road transport reform. This concept extends liability for breaches of road transport law to all parties who influence the road transport task. A primary concern of road regulators and governments has been that breaches of road transport laws occur due to the interaction of a number of parties in the supply chain, rather than just the driver of the vehicle or its operator.

Chain of responsibility legislation dealing with 4 areas of road transport activity (dangerous goods, mass, dimension and load restraint and fatigue and speeding) requires that each party in the chain take reasonable steps to ensure that breaches of the road law do not occur. With the establishment of a National Heavy Vehicle Regulator in January 2013, Chain of Responsibility legislation will take affect for the first time in the NT. The establishment of the National Heavy Vehicle Regulator will contribute to addressing this issue with consistency across Australia.

The Commonwealth Department of Education, Employment and Workplace Relations recently requested all jurisdictions to comment on a Directions Paper, *Safe Rates, Safe Roads* by 7 February 2011. Results of this consultation process will assist the Australian Government to respond to the NTC 2008 review.

RECOMMENDATIONS
8. DRIVER REMUNERATION
8.1 The Taskforce supports continued input and influence from the NTG on the development of national model of Chain of Responsibility legislation. Such legislation prohibits contracts or agreements that require or encourage the breaching of driving hours or speed limits.
SAFE SYSTEM ELEMENT
SAFE ROAD USE

3.4.7 Education and Awareness

The Taskforce identified an opportunity for a more urban focus to be included in any heavy vehicle education and awareness material. Ongoing reinforcement of messages is critical in influencing driver behaviour.

RECOMMENDATIONS
9. EDUCATION AND AWARENESS
<p>9.1 The Taskforce recommends that road safety education and awareness material be created to promote safe sharing of roads with heavy vehicles both in remote and urban settings.</p> <p>9.2 The Taskforce recommends level crossing education and awareness material, suitable for both urban and rural contexts, targeting heavy vehicle drivers, be produced.</p> <p>9.3 The Taskforce notes the recommendation of the Coroner in respect of the death of Ms Karlee Jade McCullough, and supports ongoing public education to raise awareness in relation to wig-wags, for both general motorists and professional heavy vehicle drivers.</p> <p>9.4 The Taskforce recommends additional heavy vehicle warning signs across the NT road network.</p>
SAFE SYSTEM ELEMENT
SAFE ROAD USE

4. Costings

The majority of the Taskforce recommendations are high level and strategic in nature. Detailed costing of those recommendations to be actioned will need to be undertaken. The following information is indicative only.

HEAVY VEHICLE ACCESS

Implementation of recommendations related to heavy vehicle access will include the cost of developing and implementing legislation and the development and printing of written information and maps. A permit system will involve ongoing administrative costs. Costs to industry would include changes to business practice to avoid peak hour restrictions and costs associated with permit applications.

INFRASTRUCTURE

The costs for any infrastructure upgrades will vary with locations and specific design requirements. Some estimates can be provided based on previous project costs.

- Truck parking areas, based on the experience of such an installation in Coolalinga, may cost approximately \$300 000 each.
- The installation of a safety camera at Coolalinga, and other camera installations, may cost approximately \$150 000 each.
- Upgrading Jenkins Road to a road train standard may cost approximately \$12 million.
- Level crossing upgrades from passive crossings to active crossings may cost approximately \$1 million each.

PLANNING STRATEGIES

Costing of proposed future developments will depend on factors such as location, land acquisition, design and timeframes, all of which will be decided by Government.

ENFORCEMENT

Costs of an infringement notice scheme will include developing and implementing legislation, developing and printing infringement notices and on-going administrative costs. In addition there will be system support mechanisms and training costs.

SPEED LIMITS

Costs to implement a reduced speed limit on the Arnhem Highway will include signage and advertising.

ACCREDITATION

Costs to support the voluntary uptake of accreditation may include incentives, educational and promotion material.

LICENSING

The costs to include heavy vehicle awareness measures in NT Driver Training programs may include amending course materials and programs.

AWARENESS AND EDUCATION

The NT Government currently budgets \$250 000 p.a. for road safety education and awareness. It is expected that this budget will cover the cost of implementing the relevant recommendations.

5. Conclusion

The Taskforce has identified a range of opportunities to improve road safety in the greater Darwin area, with particular attention to heavy vehicle traffic, and made recommendations to achieve that goal in this Report. The Report is the outcome of collaboration between Government agencies and industry representatives. The application of a Safe System approach ensures consistency with national road safety policy direction.

The Taskforce recommendations provide comprehensive short, medium and long term strategies. These strategies have been based on an understanding of the growth and development likely to impact on heavy vehicle traffic in the greater Darwin area. In response to the Terms of Reference, the Taskforce has made 29 specific recommendations.

The greater Darwin area has unique opportunities for the management of heavy vehicles. Whilst we have a relatively small and manageable area, we can implement and monitor the impact of the strategies that we put in place.

While the Taskforce recommendations relate specifically to the greater Darwin area, the implications of the recommendations, if applied more broadly, could have Territory-wide benefits.

The recommendation regarding annual meetings of the Taskforce provides a valuable opportunity to assess the continuing development of the greater Darwin area, emerging heavy vehicle traffic issues and potential improvements in heavy vehicle safety. A formal review in 2016 will enable the impact of major projects and developments, identified in this Report, to be assessed and strategies developed to integrate this impact into future planning activity.

The Taskforce believes that continued industry and community involvement in the management of heavy vehicles on our roads, and their interaction with other traffic, is an important element in providing community safety. Community perceptions and expectations will always need to be managed. A culture of industry professionalism should be nurtured, and where there is a demonstrated need, Government needs to continue to act in the interests of community safety.

6. Attachments

6.1 Explanations & Acronyms

Term	Definition/Description
As of Right	Road trains have access right across the road network.
Austrroads	Austrroads is the association of Australian and New Zealand road transport and traffic authorities
COAG	Council of Australian Governments
DLP	Department of Lands and Planning
Directhaul	A major freight haul company operating in the NT
Last Mile Issues	Heavy vehicle access restrictions that prevent an entire truckload travelling from point to point uninhibited.
NTC	National Transport Commission
Taskforce	Darwin Region Heavy Vehicle Taskforce
Wig-wags	Flashing lights warning of a signal change ahead

6.2 References

1. Australian Transport Council; 2003, *National Heavy Vehicle Safety Strategy 2003-2010*, www.ntc.gov.au
1. Australian Transport Safety Bureau Transport Safety Investigation Report; Rail Occurrence Investigation No. 2006/010
http://www.atsb.gov.au/media/24297/rair2006010_001.pdf
3. Bureau of Infrastructure, Transport and Regional Economics; 2006, *Cost of road crashes in Australia, Report 118*
<http://www.bitre.gov.au/Info.aspx?ResourceId=748&NodeId=58>
4. Bureau of Infrastructure, Transport and Regional Economics; 2011, *Fatal heavy vehicle crashes Australia quarterly bulletin: April-June 2010*, Canberra, ACT
http://www.bitre.gov.au/publications/88/Files/FHVC_Aust_June2010.pdf
5. Bureau of Transport and Regional Economics, Dept of Transport and Regional Services (Cmwlth); 2006, *Freight Measurement and Modelling in Australia*,
<http://www.bitre.gov.au/publications/76/Files/R112.pdf>
6. Curnow, G; 2002, *Presentation: Australian Transport Safety Bureau Heavy Truck Crash Databases – What do the Statistics Tell Us?*; National Heavy Vehicle Safety Seminar, Melbourne, October 2002.

7. Department of Lands and Planning; 2010, *Darwin and Palmerston Region Land Use Plan – Towards 2030*, www.nt.gov.au/planning
8. Department of Lands and Planning; 2009, *NT Road Transport Fatigue Management Package*, various pub.
9. Department of Lands and Planning; 2010, *Road Safety Assessment at Coolalinga Intersection*, unpub.
10. Department of Transport and Regional Services (DOTARS); 2006, *AusLink Adelaide – Darwin Corridor Strategy*, DOTARS, Canberra, ACT.
11. Freightlink Submission to Infrastructure Australia; 2008, *Future Infrastructure Investment Requirements along the Adelaide to Darwin Freight Corridor*, unpub.
12. Gargett, D for Bureau of Infrastructure, Transport and Regional Economics (BITRE); 2010, *Effectiveness of measures to reduce road fatality rates*, Information Sheet 39, BITRE, Canberra, ACT.
13. Infrastructure Australia; 2009, *National Infrastructure Priorities – Infrastructure for an Economically, Socially, and environmentally Sustainable Future*, Infrastructure Australia, Canberra, ACT, www.infrastructureaustralia.gov.au
14. Kakas C. & Residential Development Council; 2009, *Australia on the Move*, <http://www.propertyoz.com.au/library/90701%20Top20Growth-Dar.doc>
15. Latta, D & Baas, PH; 2004, *Future Trends in Heavy Vehicle Design*, pub. no. AP-R244/04, Austroads, Sydney, NSW.
16. Logistics Information & Navigation Centre for South Australian Freight Council; 2006, *Land Freight Growth in Australia*, <http://www.the-linc.com.au/Portals/10/Land%20Freight%20Growth%20in%20Australia.pdf>
17. Luk, JYK, Karl, ARRB Group; 2006, *Automatic Vehicle Classification by Vehicle Length*, pub. no. AP-T60/06, Austroads, Sydney, NSW.
18. Luk, JYK, Karl, CA & Martin, T; 2004, *Best practice in road use data collection, analysis and reporting*, pub. no. AP-G84/04, Austroads, Sydney, NSW.
19. Manders S. SKM/Meyrick; 2006, *Twice the Task: A review of Australia's freight transport tasks*, <http://www.ntc.gov.au/filemedia/Reports/TwiceTheTaskReportFeb2006.pdf>
20. McMahon, P, & Taverner Research; 2005, *Community Attitudes to Road Freight Vehicles*, pub. no. AP-R274/05, Austroads, Sydney, NSW.
21. National Heavy Vehicle Regulator Project Office, National Transport Council of Australia; 2010, *Fatigue Chain of Responsibility*, unpub.
22. National Transport Commission; 2006, *Improving the Regulatory Framework for Transport Productivity in Australia: Position Paper*, <http://www.ntc.gov.au/filemedia/Reports/RegFramwrkTransProdFeb2006.pdf>
23. National Transport Commission; 2006, *Reform for the Next Generation of Heavy Vehicles*, Article, <http://www.ntc.gov.au/newsdetail.aspx?newsid=173>
24. National Transport Commission, Infrastructure Australia; 2010, *National Ports Strategy: Infrastructure for an economically, socially, and environmentally sustainable future*, <http://www.infrastructureaustralia.gov.au>

25. New South Wales Road Traffic Authority; 2010, *Road Train Routes*, <http://www.rta.nsw.gov.au/heavyvehicles/>
26. *Northern Territory Motor Vehicles Act* (1 January 2011) <http://notes.nt.gov.au/dcm/legislat/legislat.nsf/d989974724db65b1482561cf0017c8bd2/e130412817c899d06925781300839f64?OpenDocument>
27. Northern Territory Treasury; 2010, *Access Economics: December Quarter 2010*, http://www.nt.gov.au/ntt/economics/publications/economic_briefs/access_decqtr10.pdf
28. NT Police Road Safety Strategy 2008-2013; *Working in Partnership to Reduce Road Trauma and Increase Safer Road Use*, http://www.nt.gov.au/pfes/documents/File/police/publications/strategic/NTP_RoadSafeStrat_WEBFINAL.pdf
29. NT Road Safety Task Force Report; 2006, *Safer Road Use: A Territory Imperative*, NTG, Government Printing Office, Darwin, NT.
30. Queensland Transport and Main Roads; 2009, *Multi-combination routes in Queensland*, <http://www.tmr.qld.gov.au/Business-and-industry/Heavy-vehicles.aspx>
31. Quinlan, M, FSIA & Wright, L; 2008, *Remuneration and Safety in the Australian Heavy Vehicle Industry: A Review undertaken for the National Transport Commission*, www.ntc.gov.au
32. Quinlan, M, FSIA, Wright, L & NTC; 2008, *Safe Payments: Addressing the Underlying Causes of Unsafe Practices in the Road Transport Industry*, National Transport Commission, Melbourne, VIC.
33. Sinclair Knight Merz for the Department of Lands and Planning; 2010, *Road Safety Audit: Existing Conditions at the intersection of the Stuart Highway and Henning Road, Coolalinga*, unpub.
34. Styles, T, Mabbott, N, Roberts, P & Tziotis, M; 2008, *Safety Benefits of Improving Interaction between Heavy Vehicles and the Road System*, pub. no. AP-T119/08, Austroads, Sydney, NSW.
35. Territory Asset Management Services; 2009, Department of Lands and Planning. Road Network Division Annual Traffic Report 2008.
36. Territory Asset Management Services; 2010, Department of Lands and Planning. Road Network Division Annual Traffic Report 2009.
37. Tooth R; 2006, *The Cost of Road Crashes: A Review of Key Issues*, unpub.
38. VICRoads; 2010, *Maps of Approved Routes and Areas in Victoria*, <http://www.vicroads.vic.gov.au/Home/Moreinfoandservices/HeavyVehicles/RouteInformation/MapOfApprovedRoutesAndAreasInVictoria.htm>

6.3 Darwin Region Heavy Vehicle Task Force - Terms of Reference

Objective

To make recommendations to the Northern Territory Government regarding the safe heavy vehicle operations and access on major arterial roads in the greater Darwin area see map below.

Purpose

To provide a report to the Northern Territory Government with recommendations in relation to heavy vehicle access and operations in the greater Darwin area with specific regard to:

1. Routes of access to East Arm Port;
2. Potential industrial development and construction activity, including Inpex and Weddell;
3. Access to quarry products, including on the Arnhem and Stuart Highways, and Gunn Point and Howard Springs Roads;
4. Heavy vehicle Driver Licensing regimes;
5. Heavy vehicle operator accreditation regimes;
6. Vehicle standards, fleet maintenance and inspection regimes;
7. Employer and driver compliance with fatigue management regimes;
8. Road conditions, including traffic volumes, seasonal and peak movements;
9. Road design, intersection geometry and speed limits;
10. Compliance and enforcement by Police and Transport Inspectors;
11. Driver remuneration practices; and
12. Estimated costs to industry and government of the proposed recommendations.

Relevant, important additions may be included with consideration to the timeframe for the report to Government.

Scope

The Taskforce will:

- review existing data and reports;
- consult with relevant industry stakeholders, Government agencies and the public in order to form its recommendations;
- meet, investigate and develop suitable recommendations and present a final report to the Minister for Transport no later than 1 April 2011; and
- Meet monthly or more frequently as required.

Membership

Chairperson

- Ms Sharron Noske, Executive Director Transport, Department Lands and Planning

Members

- Mr Nicholas Papandonakis, Director Transport Services, Department of Lands and Planning
- Mr Simon Saunders, Director Road Transport, Department of Lands and Planning
- Mr Ernie Wanka, Director Roads, Department of Lands and Planning
- Mr Geoff Horni, Manager Network Operations Branch, Department of Lands and Planning
- Mr Greg Scott, Director Transport Policy, Department of Lands and Planning
- Mr Bill Muirhead, Manager Vehicle Standards and Compliance, Road Transport, Department of Lands and Planning
- Ms Barb Littler, Manager National Reform, Department of Lands and Planning
- Mr Ian Philip, Chief Transport Inspector, Department of Lands and Planning
- Mr Alister Trier, Executive Director, Minerals and Energy, Department of Resources
- Ms Laurene Hull, Executive Director, Worksafe, Department of Justice
- Mr Rohan Sullivan, President, Northern Territory Cattleman's Association
- Mr John Roil, Chairman, Northern Territory Road Transport Association
- Mr Bryan Quinn, President, Northern Territory Resources Council
- Mr Kevin Williams, Executive Director, Civil Contractors Federation Northern Territory
- Mr Alex Gallacher, SA/NT State Secretary, Transport Workers Union
- Brigadier Gus McLachlan AM ADC, Commander 1st Brigade, Robertson Barracks
- Senior Sergeant Kerry James, Road Safety Policy and Planning, Northern Territory Police
- Mr Peter McLinden, Local Government Association of the Northern Territory
- Mr Bob Pemble, Director Civil Construction, Department of Construction and Infrastructure
- Mr Robert Ritchie, Chief Executive Officer, Darwin Port Corporation

Additionally, the task force has the flexibility to engage and/or consult with any stakeholder or party that will assist with achieving desired outcomes.

6.4 The Heavy Vehicle Access Routes Sub-Committee

The Heavy Vehicle Access Routes Sub-Committee was established at the first meeting of the Darwin Region Heavy Vehicle Task Force to review existing and develop new or revised access routes for heavy vehicles moving from the arterial road network to local government controlled roads. The Heavy Vehicle Access Routes sub-committee comprised the following:

Chairperson

- Mr Geoff Horni, Manager Network Operations Branch, Department of Lands and Planning.

Members

- Mr Simon Saunders, Director Road Transport, Department of Lands and Planning
- Mr David Willing, Project Manager, Taskforce
- Mr Paul Mossman, Business Support, Taskforce
- Mr Peter McLinden, Local Government Association of the Northern Territory
- Mr John Roil, President, Northern Territory Road Transport Association
- Mr John Delaney, Director Planning & Works, Litchfield Council
- Mr Luccio Cercarelli, Darwin City Council
- Mr Paul Flanagan, Palmerston City Council

In order to review existing routes and current practise, an industry survey was commissioned and undertaken by Dophin Software Pty Ltd.

Upon receipt of the initial survey results, the sub-committee was able to verify and recommend to the task force proposed routes and access points (from major arterials) to five industrial areas;

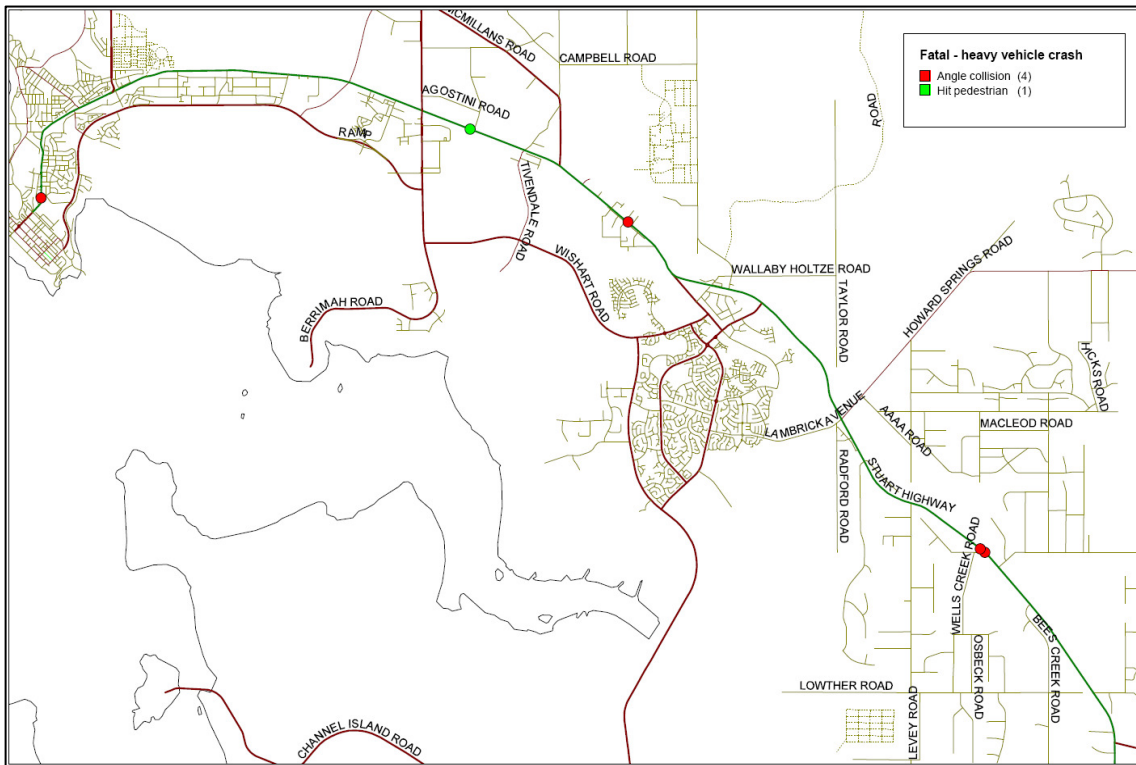
- Yarrowonga;
- Pinelands;
- Tivendale Road;
- Berrimah Road; and,
- Winnellie.

Further to the recommended road train routes, the sub-committee discussed the establishment of secondary road train routes for Class 10 vehicles. There are several established routes whereby Class 10 vehicles service a particular location but are not serviced by the proposed Class 12 route. Two examples include limited amounts of freight to the Perkins Shipping operation at the Darwin city end of Tiger Brennan Drive; and fuel to the Darwin Airport, accessed via McMillans Road at night.

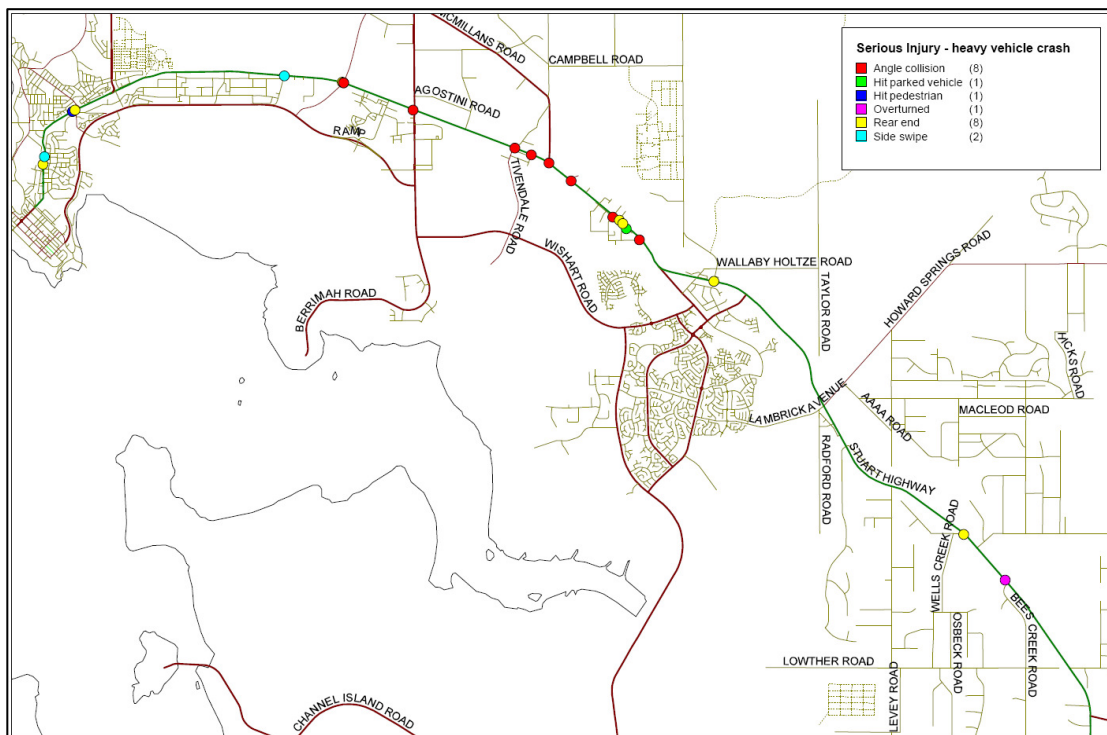
These and other unique, existing operations could be monitored and managed by the Department of Lands and Planning via a permit system rather than provide open access to combination vehicles.

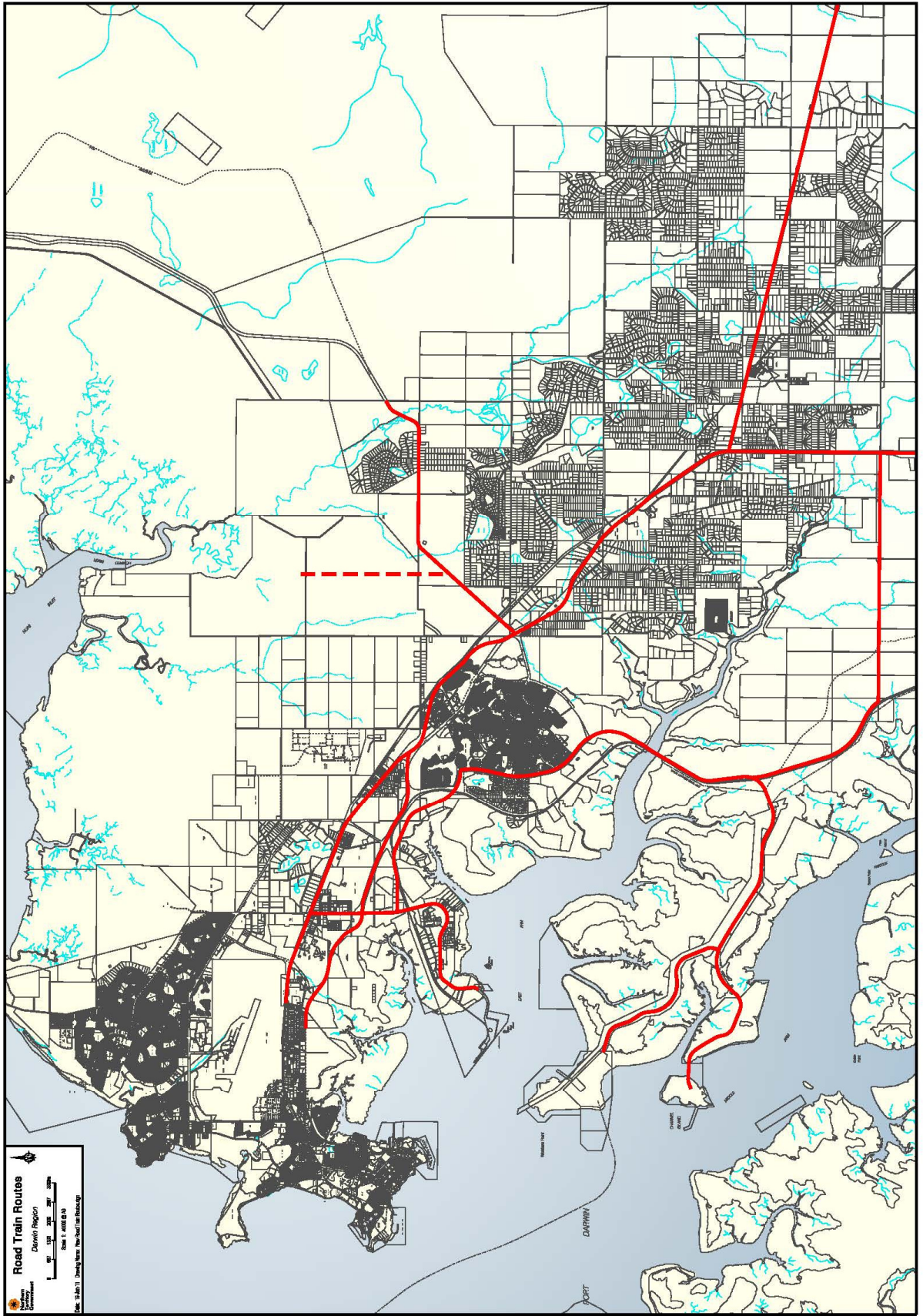
6.5 MAPS

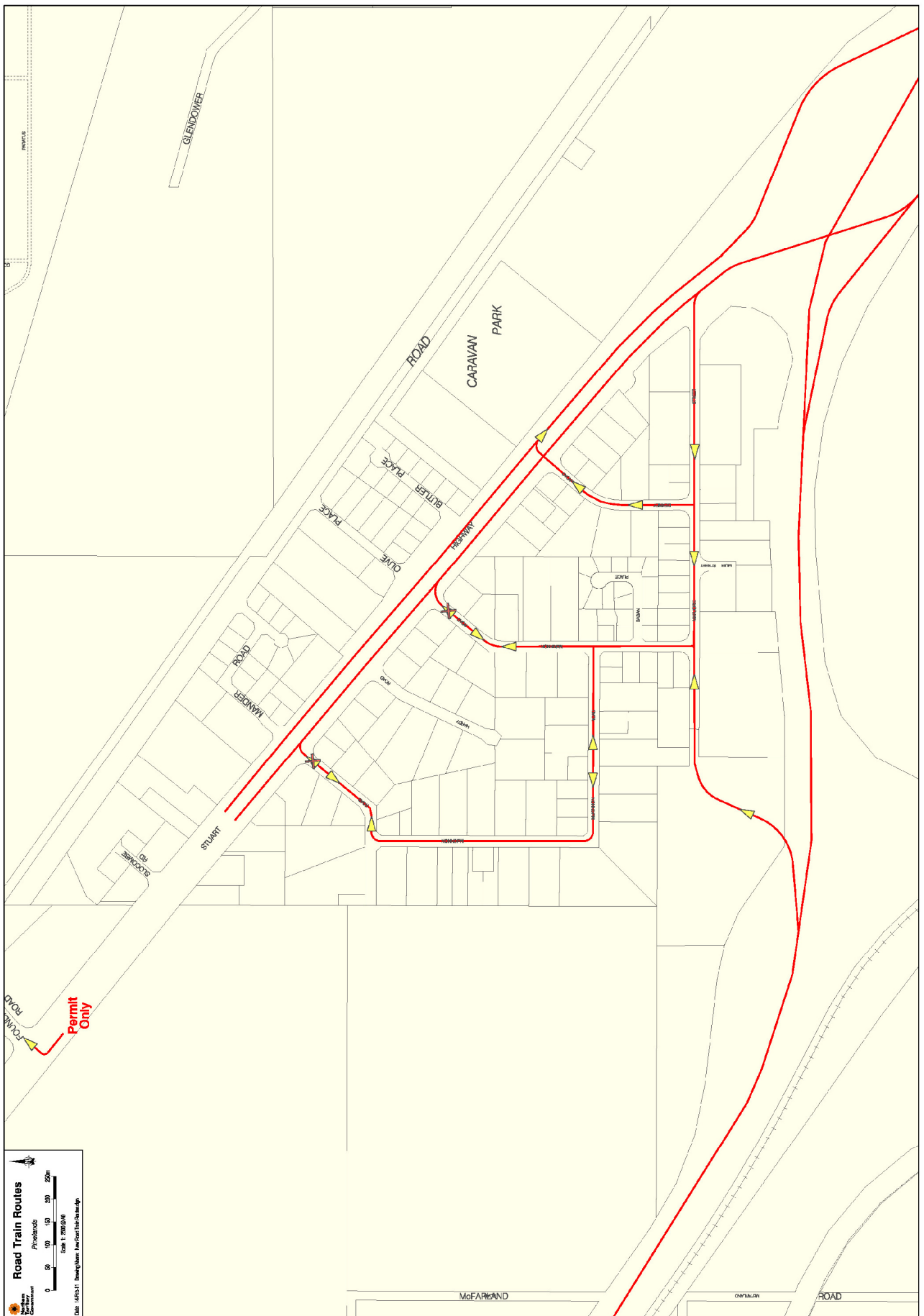
Locations of Fatal Accidents involving Heavy Vehicles on the Stuart Highway 2001-2010

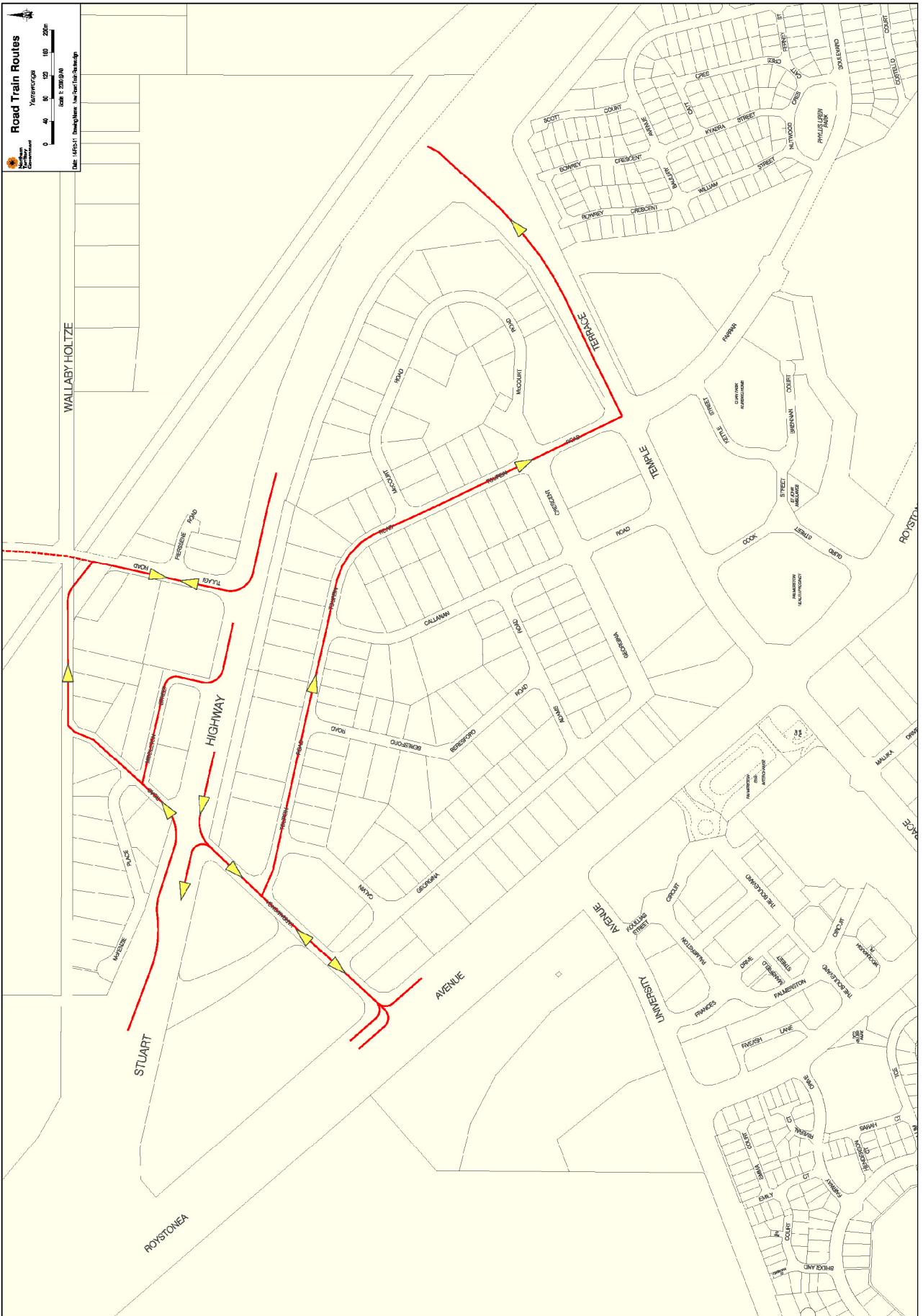


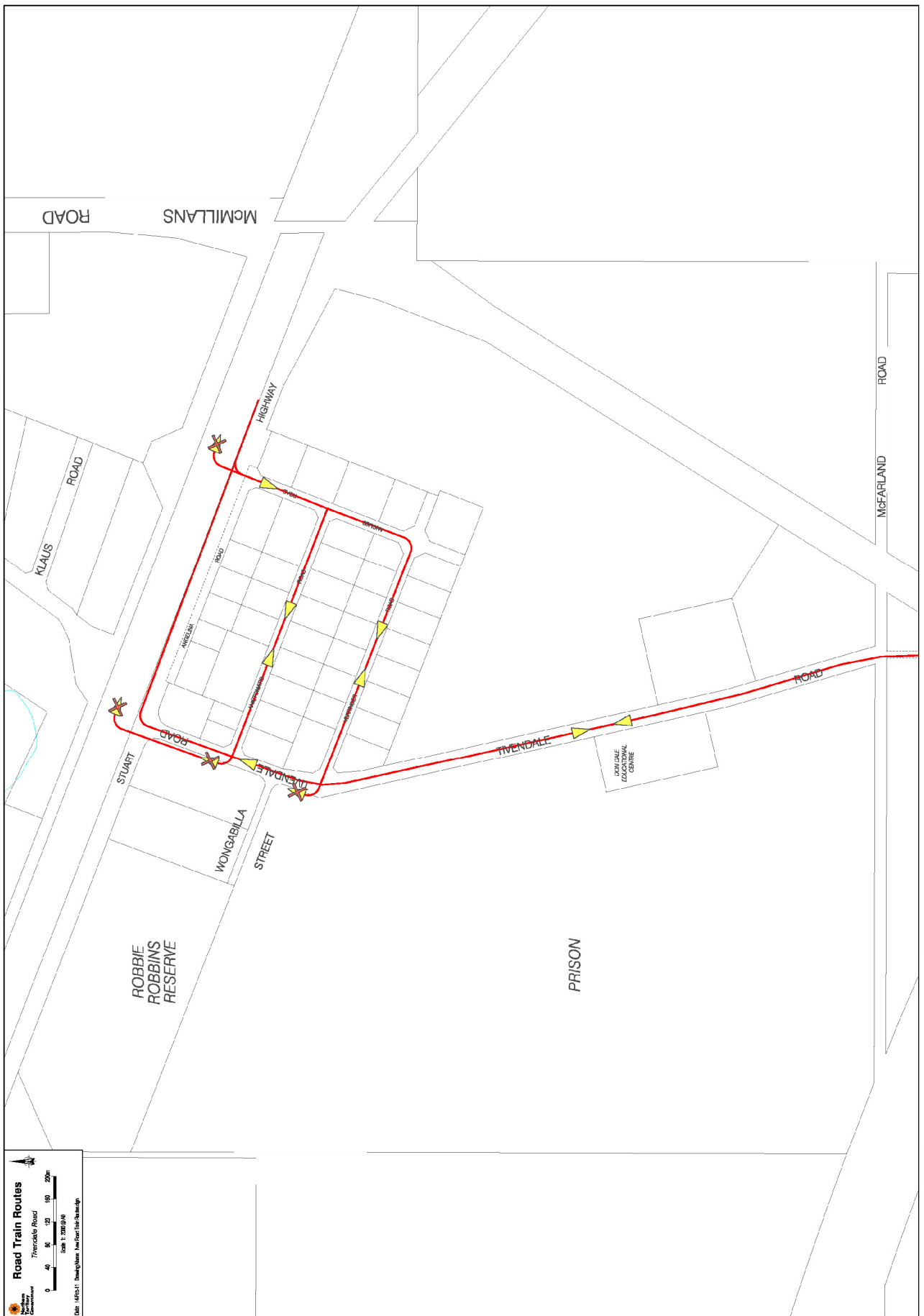
Locations of Serious Crashes involving Heavy Vehicles on Stuart Highway 2001-2010











Greater Darwin Area

