Roads and the Environment
A Strategy for Sustainable Development, Use and Maintenance of Northern Territory Roads

balancing development & conservation

Northern Territory Government
Department of Infrastructure, Planning and Environment
This strategy aims to provide guidance to staff, consultants and contractors on road-related planning, design, construction and maintenance projects, as well as being a general information document for the public. It will be reviewed regularly to make sure it remains effective. If you have any comments or suggestions on issues raised in this document, please send them to:

Senior Director, Road Network
Department of Infrastructure, Planning and Environment
GPO Box 2520
Darwin NT 0801
Phone 08 8924 7620
Fax 08 8924 7523
Email: ernie.wanka@nt.gov.au
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The Northern Territory Government is responsible for 21,700 kilometres of roads and 189 bridges in the Northern Territory through its Department of Infrastructure, Planning and Environment.

**Background**

The Department owns, constructs and maintains:

- national highways funded by the Australian Government
- rural arterial roads
- arterial links in major urban centres
- local roads in unincorporated areas

An effective road transport system can be a catalyst for economic, social and regional development by integrating social well being, economic viability and environmental integrity. This has the potential to improve the total quality of life for all Territorians, now and in the future.

The Department of Infrastructure, Planning and Environment has the role of balancing development and conservation. The Department’s structure enables transport planning and land use planning to be more fully integrated with environment protection.
This strategy establishes the policy framework for sustainable and integrated road development and road use management through an Environmental Management System.

The strategy is based on the following principles:

- **Demonstrating duty of care in environmental protection as a good corporate citizen**

- **Implementing relevant policy and legislation on environmental protection relating to the provision of road transport**

- **Applying environmental management and ecologically sustainable development.**
Roads impact on the environment in many different ways. This applies from the initial construction to maintenance, upgrading and usage. Roads that impede drainage or cause run-off to be concentrated or polluted, can seriously degrade the environment. Vehicles travelling on roads can add to ambient noise and reduce air quality, which has the potential to affect people’s health.

All road development proposals must go through a process of consultation with other government agencies to identify possible impacts on the environment and the community.

Depending on the size and potential impact of the project, a formal assessment may be required under the Northern Territory’s *Environmental Assessment Act*. For example, a large road project with potential for adverse environmental impact or public concern may be subject to a Public Environmental Report (PER) or a more detailed examination through an Environmental Impact Statement (EIS).

Projects with limited environmental impact, such as the widening or duplication of a road, require an environmental clearance from the Office of Environment and Heritage, which administers the *Environmental Assessment Act*.

Routine maintenance does not usually need environmental assessment under the Act.

The environmental impact of roads does not end with construction and maintenance. Motor vehicles using roads can cause problems such as traffic noise, reduced air quality, dust pollution and contamination of natural water resources as well as landscape degradation and soil erosion.
The following issues are of major concern in road infrastructure development and managing road use:

- air pollution
- biodiversity
- cultural heritage
- fire management
- greenhouse gas emissions
- land use management
- resource consumption
- social equity
- soil contamination
- soil erosion and sediment management
- drainage and storm water management
- vegetation control and management
- vehicle and traffic noise
- visual amenity
- water pollution
- weed management

This strategy aims to integrate these important environmental issues into the planning and operational stages of developing road infrastructure and managing road use.
Northern Territory Government Policies

A number of Northern Territory Government policy documents explicitly address environmental responsibilities for the provision and use of roads:

• Building a Better Territory: The Economic Development Strategy for the Northern Territory provides the basis for the Government’s economic and social development priorities and strategies. The Government’s vision is to develop integrated, accessible and effective transport services while managing our natural resources and protecting our environment for future generations.

• The proposed NT Greenhouse Strategy seeks to reduce greenhouse gas emissions and prepare for climate change, through further integration of transport and land use planning.

• One of the three core objectives of the Department’s Strategic Directions emphasises sustaining the value of our natural environment and public asset base through rigorous environmental management.

• The Northern Territory Road Strategy recognises that its overall goals can only be fully achieved through environmental management and ecologically sustainable development (ESD).

Federal and Territory Legislation

A wide range of legislation has been promulgated by the Commonwealth and Northern Territory Governments which relate to environment protection and environmentally sustainable development in the road and transport sector. Three of the most relevant Acts are:

• The Northern Territory’s Environmental Assessment Act, which ensures that projects likely to have significant environmental impacts are subject to an Environmental Impact Assessment (EIA). The EIA process enables, prior to project approval, systematic examination of the expected consequences of development proposals and the development of management options to minimise negative environmental impacts.

• NT Waste Management and Pollution Control Act has far-reaching environmental requirements. Any person or organisation undertaking an activity which may cause pollution or environmental harm must:
  • take all reasonable care to minimise the effects of the activity
  • promote effective waste management, pollution prevention and control practices.

• Federal Environment Protection and Biodiversity Conservation Act (EPBC Act) which formally requires the principles of ESD to be taken into account when considering:
  • project approvals for federally funded projects
  • projects on Commonwealth land
  • projects that could have an effect on Commonwealth land
  • actions likely to have an effect on matters of national environmental significance

Compliance with all relevant legislation is clearly an important factor in sustainable road development and road use management. A list of relevant legislation is at Attachment A.
Ecologically Sustainable Development in Transport

Growing public concern about the environment led to the development of the National Strategy on Ecologically Sustainable Development (NSES) in 1992. The strategy was endorsed by Commonwealth, State and Territory governments. It is a framework for:

- cooperative decision-making within government
- promoting Ecologically Sustainable Development (ESD) throughout Australia.

The goal of ESD is improving total quality of life now and in the future by using, conserving and enhancing natural resources in a way that does not adversely impact on the ecological processes on which life depends. The key principle is integrating social, environmental and economic factors in decision-making. In terms of transport, more sustainable use of energy and natural resources can be achieved through integrated urban and transport planning particularly in urban areas.

Austroads, the national association of road transport agencies in Australia and New Zealand, developed its second Environmental Strategy in 2002, articulating a commitment to "an ecologically balanced approach to road development and use with least impact in long-term viability of life".

Its framework for enabling environmental outcomes has four key areas:

- applying standards and practices to improve consistency of environmental practices
- stimulating innovation
- developing skills and technology
- researching tools and techniques to aid decision making and benchmarking.

At a corporate level, environmental management requires decision-making that integrates short and long term economic, environmental, social and equity considerations on a local, regional and Territory-wide scale. This can be achieved by:

- pursuing an intra-departmental strategic planning approach between the Department of Infrastructure, Planning and Environment’s divisions
- broader consultation with other government agencies
- community engagement.

This will help establish best practice towards a sustainable transportation system that contributes to social wellbeing, economic development and ecosystem integrity.

At an operational level, environmental management is based on best practice and quality assurance management principles. It enables an organisation to identify, manage and monitor adverse environmental impacts resulting from its road construction and maintenance activities on a project by project basis.

Sustainable transportation and best practice environmental management in road development and road use management can be achieved through an Environmental Management System (EMS). Through an EMS, an organisation can continually improve its environmental performance and meet the due diligence required by law for environment protection.

An EMS:

- Establishes an environmental policy and strategy
- Sets objectives and specific targets
- Develops monitoring and reporting procedures and guidelines
- Ensures continual review of strategy and policy, objectives and targets, procedures and guidelines
- Evaluates environmental performance.

Through this strategy, we aim to sustainably deliver an advanced and efficient road transport system for the Northern Territory with the essential elements of an EMS guiding our day-to-day service delivery and long-term planning.
This Department’s core business objectives are:

• sustaining the value of our natural environment and public asset base

• building on our unique natural and cultural heritage

• working as a catalyst for economic development.
Integrating these objectives into the environmental management of road infrastructure and road use is achieved through:

1. Commitment and policy => environmental policy which sets the overall goal.

2. Planning => environmental strategy which provides an action plan with clear objectives and targets to achieve community expectations in environment protection.

3. Implementation => procedures and guidelines articulated in an environmental management manual for roads projects and the continued implementation of measures under the Northern Territory Greenhouse Strategy.


5. Review and improvement => a review strategy for management and staff that regularly monitors the timeliness and effectiveness of all the above steps.
An environmental policy should:

- establish an overall direction on environmental affairs

- be relevant to the Department’s activities and services relating to roads

- reflect community values and guiding principles for appropriate best practice management for roads.
The Department has established an overall direction for environmental management of road infrastructure development and road use management which shows our commitment to environmental management.

At the same time, we recognise that some existing roads, particularly local roads in remote areas with small traffic volumes, may present environmental problems that can only be sufficiently addressed in the long-term.

Environmental policy for roads

The Department manages transport infrastructure assets, and provides safe and efficient access to and use of the road network for the people of the Northern Territory. In doing so it recognises the importance of safeguarding the environment and accepts its environmental responsibilities arising from its services and activities in providing road infrastructure.

The Department will demonstrate due diligence in the provision of its road network services and will strive for continual improvement by:

- Ensuring compliance with relevant environmental legislation and regulations
- Setting appropriate environmental management strategies
- Developing and implementing sound environmental policies and practices
- Minimising the environmental impacts of its activities
- Providing our employees with the skills to achieve environmental outcomes
- Improving the way we manage our contractors and suppliers
- Involving the community in planning and implementation issues
- Reporting publicly on environmental performance.
Environmental Strategy

Three key environmental objectives for roads have been identified to shape Departmental transport strategies on an organisational and operational level, and set the framework for outcomes over the next few years.

**Key environmental objectives**

1. **Advance as an environmentally responsible organisation.**
   - Organisational cultural change within the Department’s infrastructure, roads and transport groups for the benefit of the environment.
   - Integration of environment protection in roads, infrastructure and transport groups’ business planning process.
   - Full consultation with the community and other stakeholders on environmental matters.

2. **Achieve best practice standards in environmental management in road development, construction and maintenance.**
   - Strengthen awareness, knowledge and skills in environmental issues among relevant staff.
   - Integrate environmental considerations into road development and road use management processes and decisions.
   - Improve consultation process with other governmental departments, industry and the community.

3. **Promote a sustainable and efficient road transport system.**
### Objective 2

**Achieve best practice standards in environmental management in road development, construction and maintenance.**

This objective will be achieved by integrating the key elements and processes of an environmental management system into service delivery. This will ultimately result in better environmental performance of the roads, infrastructure and transport groups.

**Desired outcomes**
- Best practice environmental management in road development, construction and maintenance.
- Minimise the impact of road construction and maintenance.
- Protect the natural, social and cultural environment.
- Conserve resources and minimising waste.
- Identifying impacts and suitable replacement actions.

**Strategies**
- Develop guidelines to achieve best practice environmental management through continuous improvement in planning, design, construction and maintenance of roads.
- Minimise harmful emissions into air and water as well as adverse impacts on landscape, vegetation and soil during construction and maintenance.
- Increase recycling of materials and natural resources where possible.
- Minimise impacts on biodiversity, including the rehabilitation of significant impacts.
- Continue to protect cultural and heritage sites.
- Improve the way we manage our contractors and suppliers.

### Objective 3

**Promote a sustainable and efficient road transport system.**

This objective will be achieved by integrating the concept of ecologically sustainable development in decision-making processes and service delivery of strategic road network planning and road use management.

**Desired outcomes**
- Enhanced of transport planning and land-use planning.
- Greater use of alternative modes of transport such as public transport, cycling and walking in urban areas.
- Efficient performance of the vehicle fleet on Territory roads.
- Reduction in traffic noise, vehicle pollution and greenhouse gas emissions.

**Strategies**
- Promote the integration of land use, transport and environment in the decision-making process of strategic road network planning.
- Increase use of existing and future public transport services.
- Improve the infrastructure for walking and cycling.
- Continue to support improved vehicle technology as well as the use of better and alternative fuels through cooperation with all jurisdictions.
- Continue to support an efficient vehicle fleet and traffic management.
As this strategy is implemented, it will be important to:

• build on existing achievements
• develop environmental performance indicators
• establish organisational responsibilities
• set timelines for specific targets
• conduct a regular environmental performance review.
These steps will ensure that the Department remains well-informed of its environmental achievements and has suitable responses to any future environmental challenges, including addressing future changes in legal or other requirements.

The review should include this strategy, its action plan and future performance indicators, environmental incidents and their corrective actions.

Public reporting on environmental achievements is an important part of evaluating environmental performance. It provides the opportunity for the Department to assess its environmental achievements in road development and road use management, while at the same time offering the wider community opportunity to examine these achievements.
Delivering Results

The Department of Infrastructure, Planning and Environment works with the transport industry and takes part in a number of national forums that address environmental management. They include the Australian Transport Council (ATC), National Transport Commission (NTC), Land Transport Environment Committee (LTEC) and Austroads.

The Department is currently developing, reviewing and implementing other policies including:

- Australian Design Rules on vehicle emissions
- Transport-related greenhouse gas abatement strategies
- Vehicle Noise Standards, modelling techniques and mitigation measures
- Noise Design Standards for roads projects
- Weed Management Policy

- Fire Management Policy
- Road Reserve Management, specifically rest areas and roadside litter
- Guidelines for the protection of heritage sites within road corridors
- National fuel quality standards and alternative fuels
- Freight transport and dangerous goods legislation and regulations
- Efficient vehicle use and intermodal integration
- Accident and incident management for transport-related spills
- Native Vegetation Clearing Controls.
The Darwin Bus Service (DBS) successfully completed a trial of a diesel/LPG fuel substitution on several buses of the Darwinbus fleet to reduce fuel consumption and reduce greenhouse gas and other pollutant emissions. DBS is extending the fuel substitution system to a third of the fleet.

The Department is also developing an environmental management manual for road projects. The manual will incorporate the principles of ecologically sustainable development and serve as a communication plan for relevant staff. It will help provide best practice environmental management for design, construction and maintenance of the Territory’s road network. The manual is likely to incorporate:

- Environmental policy
- Register of significant environmental aspects and impacts
- Register of legal and other requirements such as professional standards and policies
- Core objectives, strategies and guidelines for an environmental management plan for construction and maintenance projects
- Job descriptions and organisational responsibilities
- Training manuals and course information
- Procedures related to communication and operational functions
- System procedures for document control and records management
- Guidelines for corrective and preventive action
- Emergency plans
- Monitoring and auditing procedures.

A major step forward will be the implementation of this Roads and the Environment Strategy.
Best practice
Identifying, evaluating and implementing appropriate management strategies, actions, techniques and measures to minimise adverse impacts on the environment, and ensuring that the process and outcomes are reviewed and, if necessary, improved.

Biodiversity
The biological diversity of an area or region as indicated by the numbers of different species of plants and animals living in that environment.

Community engagement
Informing and consulting with all relevant stakeholders in the planning, assessment and implementation of a project.

Due diligence
The care an organisation takes in a specific project or in the overall management of environmental impacts of its activities to identify and assess risks and their prevention.

Ecologically sustainable development (ESD)
Using, conserving and enhancing natural resources in a way that maintains and protects the ecological processes on which life depends and increases the overall quality of life, now and in the future, for the whole community.

Environmental Impact Assessment (EIA)
A planning procedure to consider the environmental implications of developments. All aspects and impacts (adverse and beneficial) on the environment caused by a project and related activities are studied. Major developments require an Environmental Impact Statement, while smaller scale developments may require a Public Environment Report (PER).

Environmental Management Plan (EMP)
Documents the requirements, procedures and performance criteria during the planning, construction and maintenance of a project to prevent or minimise adverse environmental impacts from project-related activities.

Northern Territory
Aboriginal Sacred Sites Act
Building Act
Bushfires Act
Commercial Passenger (Road) Transport Act
Control of Roads Act
Dangerous Goods Act
Disasters Act
Energy Pipelines Act
Environmental Assessment Act
Environmental Offences and Penalties Act
Fire and Emergency Act
Heritage Conservation Act
Motor Vehicles Act
National Environmental Protection Council (Northern Territory) Act
Noxious Weeds Act
Ozone Protection Act
Planning Act
Plant Disease Control Act
Prevention of Pollution of Waters by Oil Act
Public Health Act
Soil Conservation and Land Utilisation Act
Territory Parks and Wildlife Conservation Act
Traffic Act
Waste Management and Pollution Control Act
Water Act
Weeds Management Act
Work Health Act

Commonwealth
Aboriginal and Torres Strait Islander Heritage Protection Act
Aboriginal Land Rights (Northern Territory) Act
Commonwealth Environmental Protection (Impact of Proposals) Act
Endangered Species Protection Act
Environment Protection and Biodiversity Conservation (EPBC) Act
National Parks and Wildlife Conservation Act
Native Title Act
Native Title Amendment Act
World Heritage Properties Conservation Act