

# GREEN LIGHT:

Signalling the  
Department of Transportation's  
Commitment to the Environment





## Minister's Message

Maintaining a healthy environment is one of the most important issues facing us today. Managing climate change, air and water pollution, and stemming the loss of wildlife habitat are some of our biggest challenges.

The residents of the Northwest Territories are fortunate to live in a vast and relatively unspoiled environment that supports subsistence harvesting, resource development, recreation and tourism. Northerners have a strong and enduring attachment to the land, which demands special attention to addressing environmental challenges.

To formally recognize our commitment to protect our northern environment, I am pleased to present *Green Light*, which confirms the Department of Transportation's commitment to environmental excellence. *Green Light* fosters the development of a corporate culture dedicated to the environment and moving forward on plans and policies that improve the environmental sensitivity of day-to-day transportation operations. *Green Light* lays out the Department's immediate and future plans to become a more environmentally-responsible organization.

Michael McLeod

A stylized, handwritten signature of Michael McLeod in black ink.

Minister  
Transportation



*Table of Contents*

**Introduction**..... 2

**DOT’s Challenges:** ..... 4

    Environmental Impact of DOT Operations..... 4

    Climate Change Impacts on the Transportation System..... 6

    Need for Baseline Information ..... 6

    Need for Consolidated Environmental Policies and Guidelines..... 6

    Need for Corporate Culture Change..... 6

**Environmental Vision** ..... 7

**Action Plan:** ..... 8

    Short Term ..... 8

    Medium Term..... 12

**Conclusion** ..... 13



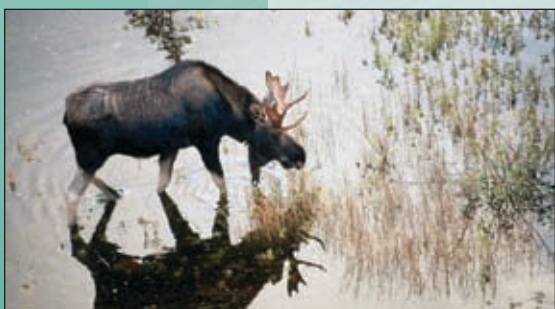


## Introduction

The 16th Legislative Assembly of the Northwest Territories places a high priority on building an environmentally sustainable and prosperous NWT. The Department of Transportation (DOT) is mandated to provide for the safe, secure, accessible and reliable movement of people and goods to meet the NWT's social and economic needs and aspirations. Conserving the environment for future generations is one of the Department's core values.

The cost efficient transportation of people and goods is of fundamental importance to society. This is especially true in the North, where communities are located far apart and essential goods are delivered from great distances. The delivery of goods is further challenged by the lack of year-round and, in some cases, a complete lack of highway access, low standard highways and the limited and/or costly alternate modes of marine and air. Notwithstanding these challenges, the need for the efficient movement of goods and services must be supported with a balance of attention to environmental considerations. The health of the environment continues to predominate public attention at the territorial, national and international levels. Northerners share a deep concern for the environmental health of our lands and waters, and are firmly engaged in local and global environmental issues. Climate change, habitat loss, the depletion of renewable and non-renewable resources, and water, waste and noise pollution are issues of significant concern to NWT residents, to the GNWT and to DOT.

DOT has undertaken a number of initiatives to date to improve the Department's environmental performance. Actions are ongoing to improve the energy efficiency of our facilities and the fuel efficiency of GNWT vehicles and ferries. These efforts have assisted in reducing operating costs, pollution and Greenhouse Gas (GHG) emissions. DOT considers traditional knowledge (TK) information collected in transportation planning studies and in the implementation of its programs and projects. DOT also conducts internal audits of its facilities to ensure compliance with environmental regulations. The Department is represented on the Environmental Remediation Committee that monitors the assessment and restoration of GNWT contaminated sites. However, recognizing that we can do more, DOT is committed to examining how operations associated with developing, operating, and maintaining the territorial transportation system can be improved and made more environmentally sustainable.





The main goal of *Green Light* is to highlight existing environmental practices and to further foster a corporate culture of environmental excellence at DOT and throughout the northern transportation industry. *Green Light* lays the groundwork for improving operations and demonstrates DOT's commitment to continue efforts to get our own house in order and to lead by example. It is meant to focus DOT employees on progressive approaches to address environmental challenges, while continuing to maintain high service standards. DOT will intensify efforts to engage the transportation industry on environmental issues and priorities by sharing information and encouraging industry to also adopt progressive and necessary environmental practices.

*Green Light* was conceived and designed to spark action by individuals in each operational region of the NWT and across the organization. The Action Plan presents a blueprint for priority actions in the short term (0 to 2 years) and medium term (2 to 5 years).

Short-term actions focus on: determining appropriate roles and responsibilities to address priority environmental challenges; collecting important baseline information; and developing clear and practical environmental policies for DOT. The medium-term actions focus on implementing the required policies and plans under a new departmental Environmental Management System (EMS). All policies, guidelines and initiatives stemming from *Green Light* will complement and enhance existing GNWT programs and initiatives related to environmental protection. These include the GNWT Sustainable Development Policy, the NWT Greenhouse Gas Strategy, the Climate Change Adaptation Strategy and DOT's Drive Smart Program.





## DOT's Challenges:

### Impact of Transportation Activities on the Environment

The transportation sector has a significant impact on the environment. However, minimizing negative effects from developing, operating and maintaining transportation systems warrant extra attention to reduce the overall impact of transportation activities on the environment. The Department's operations in the NWT touch many aspects of the environment, from the lands supporting territorial highways, the waterways supporting marine traffic in the summer and ice roads in the winter, and the airspace above us which supports aircraft movements.

DOT's construction and maintenance activities produce GHG emissions, pollution and hazardous wastes, and, in some cases, infringe upon wildlife habitats. The NWT's greatly dispersed population, challenging climate and growing demand for goods, fuel and materials increases DOT's activities and, thus, steadily increases our environmental impact. Environmental issues of particular concern to the Department include management of hazardous waste and pollution, assessment and remediation of environmental liabilities, mitigating wildlife and transportation system interactions, and mitigating and adapting to the effects of climate change.

### Hazardous Waste and Pollution Management

DOT's ongoing operations produce hazardous wastes and pollutants. Minimizing pollution and the production of unwanted waste materials is good business, as it reduces the costly need for pollution control, remediation and disposal. The Department is interested in finding innovative ways to prevent and control the production of hazardous wastes and pollutants throughout its NWT operations.

Hazardous waste management relates to the generation, storage, shipping and disposal of waste materials classified by regulators as being hazardous to the environment. Most DOT highway camps, ferry maintenance camps and airports store and use hazardous products, which may also generate hazardous waste products. The Department inherited several federal transportation facilities across the NWT, some of which contained lead paint, asbestos, polychlorinated biphenyls (PCBs) and other contaminants.



*A pollutant is a substance or condition that contaminates air, water or soil, rendering them unfit for or harmful to living things.*



*A hazardous material is any item or agent (biological, chemical, physical) with the potential to cause harm to humans, animals or the environment, either by itself or through interaction with other factors.*

Hydrocarbons, glycol and asbestos are the main hazardous wastes of concern to DOT. The ongoing challenges regarding hazardous waste and pollution for DOT relates to compliance verification, developing appropriate site contamination investigation procedures and optimizing the performance of septic effluent handling systems at all of our facilities.

#### *Wildlife and Transportation System Interaction*

The Northwest Territories is home to a wide variety of wildlife populations. DOT takes considerable precautions to protect nature and its inhabitants from the impacts of our work. These protective measures are incorporated into all aspects of our operations. For example, the protection and enhancement of fish habitat is an important part of the planning and work carried out by DOT and our contractors when working near water bodies. DOT also attempts to reduce the spread of invasive species, alerts the public and assists in managing bison interactions with motorists on the territorial highway system, and minimizes soil erosion from transportation-related activities.

#### *Greenhouse Gas Emissions*

The world's leading scientists, as represented by the United Nations Intergovernmental Panel on Climate Change, agree that human-caused GHG emissions are mainly responsible for recently observed increases in global air temperatures. Evidence from around the world – including extreme weather events, record temperatures, rapidly retreating glaciers, extensive thawing of permafrost and rising sea levels – indicates that climate change is happening much faster than anticipated. On a per capita basis, Canadians are the second highest contributors of GHG emissions globally, after the Australians and followed by the Americans.

The Canadian transportation sector is the second highest GHG emitter in the country and the NWT, after the manufacturing and resource industry sectors. Alarming, the Canadian transportation sector's GHG emissions rose 33 per cent between 1990 and 2005. In 2001, the NWT transportation sector produced approximately 591 kilo-tonnes of carbon dioxide, representing 37 per cent of the NWT's total emissions. While DOT is not directly responsible for all these emissions, it does produce quantities of GHG emissions in its own operations, and efforts are ongoing to reduce the Department's total GHG emissions.





### Climate Change Mitigation and Adaptation

*Mitigation* means decreasing greenhouse gas emissions to lessen future impacts.

*Adaptation* refers to actions that better insulate us from those impacts.

According to the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report “neither adaptation nor mitigation alone can avoid all climate change impacts; however, they complement each other and together can significantly reduce the risks of climate change.”

### Climate Change Impacts on the Transportation System

Northern regions face some of the greatest impacts from global climate change. In a recently produced report for DOT, entitled *Climate Change and Transportation in the NWT*, it was noted that climate change has and will continue to pose significant challenges for the transportation system. Warmer temperatures generally result in less extensive ice cover and shortened winter construction seasons. Projected warming temperatures and increases in early winter snow precipitation retards ice growth and increases highway maintenance activities and spending. Permafrost degradation and instability leads to structural problems for our roads, runways and bridge structures due to heaving, thawing and the emergence of sinkholes and potholes. These and other impacts have serious implications for the stability and reliability of the territorial transportation system.

### Need for Baseline Information

Accurate baseline information is integral to forecasting future needs for the Department's facilities and operations across the NWT. The current lack of key environmental baseline information is a challenge for the Department. In order to effectively address pressing environmental challenges, DOT must better understand where and how critical impacts are occurring. Better data on our energy and fuel use, emission of GHG and the relative efficiency of all our equipment and facilities is necessary to effect the required improvements.

### Need for Consolidated Environmental Policies and Guidelines

The Department of Transportation does not currently have a comprehensive and progressive suite of environmental policies and guidelines to consistently govern operations across the NWT. Although DOT makes best effort to follow all of the applicable federal and territorial environmental laws, policies and guidelines, the Department must go further to set a progressive example of compliance for the rest of the transportation industry operating in the North.

### Need to Enhance Corporate Culture

The Department of Transportation must heighten environmental awareness and stewardship in all divisions and across all regions. Enhancing environmental responsibility will demand strong leadership, effective communications and the efficient use of resources.





## Environmental Vision

The Department's environmental vision is for a transportation system that best meets the environmental, social and economic needs of the people of the Northwest Territories. We will achieve this vision by making environmental priorities an integral part of the decision-making process and all operations.

*Green Light* will help focus attention on environmental issues and help foster a corporate culture which strives for environmental excellence. A primary goal is to empower employees to find the most environmentally appropriate approach to delivering transportation programs across the NWT. It is expected that environmental considerations will become a more important part of the day-to-day decision-making process across the Department, and results will be fully assessed.





## Action Plan:

### Short Term (First Two Years)



In the short term, DOT will lay the groundwork for *Green Light's* implementation. Internal discussions will be initiated across the Department on how to effectively improve our environmental approach in planning and delivering essential transportation programs. Senior management will lead the shift in corporate culture to develop, promote and uphold the highest environmental standards for the transportation sector in the NWT. The Department will begin by looking at innovative and low cost ways of improving operations, which yield the maximum environmental benefits.

Defining the Department's medium-term environmental priorities is also critical. The Department will need to decide what prospective environmental initiatives will likely yield the best results. Research will consider best practices and a detailed examination of all current DOT operations. The development and implementation of an Environmental Management System will guide the Department's selection of implementation costs and priorities.

In two years time, DOT will provide a report card on *Green Light*. The report card will highlight our successes, identify areas that need improvement, incorporate new initiatives and set the stage for the full implementation of the Action Plan.

### Fostering Employee Commitment

Fostering employee commitment is an important initial step in developing an enhanced environmental corporate culture. Encouraging the sharing of information and ideas throughout the organization is very important to encourage buy-in for the Department's new environmental plan from all employees. Exemplary employees and work teams will be recognized to acknowledge commitment to the overarching objectives of *Green Light*.

In order to move forward quickly, a dedicated staff member will be appointed to act as the Environmental Management System Coordinator. The EMS Coordinator and Senior Management Committee will play a central role in encouraging the new corporate culture.



### *Develop the Environmental Management System*

The EMS will be the foundation of the Department's approach to enhanced environmental stewardship. It will provide the framework to collect and analyze baseline information and the planning of research and implementation priorities. The Department will undertake a review of all environmental regulations, policies and guidelines relevant to transportation activities.

Under the EMS, the Department will standardize Environmental Site Assessments. The requisite auditing, monitoring and reporting will help DOT ensure that it is carrying out its activities in an environmentally responsible manner, and in full compliance with issued land use permits, water licences, and government regulations and guidelines. Standardization of procedures across the Department will improve efficiencies and simplify environmental accountability.

The design and implementation of the EMS will require a dedicated staff member in the Planning, Policy and Environment Division to serve as the Department's EMS Coordinator. The EMS Coordinator will undertake policy and guideline development and lead the implementation plan. All employees will be encouraged to share ideas on operational practices and innovative policies which would better protect the environment.

The Transportation Association of Canada has developed an EMS guide for the public transportation sector. This guide will be a key component of the Department's efforts to design, adopt and implement its own EMS.

### *Assessment and Remediation of Contaminated Sites*

There are a number of former and current facilities under DOT ownership or responsibility that are known to be contaminated. DOT will increase its efforts in assessing and remediating these sites. These efforts will involve work as required by Financial Administration Manual policies 3201, 3202 and the *Environmental Protection Act*, and in association with the federal government and industry, where applicable.



### **Environmental Management Systems (EMS)**

An *Environmental Management System* is a systematic approach for organizations to bring environmental considerations into decision-making and day-to-day operations.

An EMS establishes a system for tracking, evaluating and communicating environmental performance. An EMS introduces performance measures and helps ensure that major environmental risks and liabilities are identified, minimized and managed.

EMSs are designed and adopted by organizations themselves. They are comprised of policies, procedures and guidelines tailored to an organization's particular needs.





#### Traditional Knowledge

*Traditional knowledge*, in the context of the GNWT regulatory regime, refers to the knowledge, innovations and practices of northern Aboriginal peoples. Traditional knowledge (TK) significantly contributes to environmentally and socially responsible decision-making. It is an important tool for mitigating potential environmental impacts, learning about best practices, and for conserving important traditional and cultural activities, sites and intrinsic values.

#### Baseline Information

Gathering baseline information is necessary for the Department to determine priorities and track subsequent progress. DOT will determine what information is needed and then design and initiate any required baseline studies. Possible studies include:

- current practices for managing hazardous waste;
- current construction practices;
- historical environmental issues at Department facilities;
- energy use/GHG emissions at department facilities;
- vehicles and heavy equipment fuel use/GHG emissions;
- benefits of using energy efficient pilot vehicles;
- office supply consumption patterns; and
- waste produced and proportion recycled (diverted from landfill).

Baseline data collection will utilize traditional and scientific knowledge. With baseline data studies in place, the Department will be better able to measure the performance of its new environmental approaches.

#### Best Practices and Policy and Procedures

There will be an ongoing commitment to researching best environmental practices and policies from other jurisdictions. The Department will continuously learn about what other jurisdictions and industry stakeholders are doing to determine what is most likely to work in the NWT. Open communications on the EMS will enable important information and ideas to flow throughout the Department.

DOT will incorporate the GNWT's Guide for Procurement of Environmentally Responsible Products and Services into our purchasing of and contracting for goods and services where economically feasible. The intent will be to reduce the consumption of resources and minimize environmental and health risks.

DOT's internal protocol for conducting TK has been in place and in use for eight years. It is governed by regulatory requirements and best practices. The protocol has been circulated within the Department to provide direction and recommendations for comprehensive and meaningful TK interviews. These interviews have influenced aspects of project/program planning such as design, location, timing and methodology.

#### Develop GHG Emissions Reduction Plan (Mitigation Plan)

The Department will develop a GHG Emissions Reduction Plan to be implemented in the medium and long term. The plan will utilize the information gathered through the baseline and best practices assessments. The GNWT's goal, as stated in the *NWT Greenhouse Gas Strategy 2007-2011*, is to reduce the territorial government's GHG emissions 10 per cent below 2001 levels by the year 2011. The Department's own plan will set this target as its minimum and determine where further reductions are possible.



### *Develop Climate Change Adaptation Plan*

The Department's Climate Change Adaptation Plan will apply traditional and scientific knowledge to define probable northern climate change impacts and propose possible adaptation strategies. The *Climate Change and Transportation in the NWT* report provides a framework to help understand the impacts climate change is having on the NWT. The report recommends adaptation measures, identifies preferred options and best practices, and will be very useful in developing elements of the EMS. To further the understanding of climate change adaptation, DOT has allotted \$1.8 million under the R&D component of the Building Canada Fund for research projects.

The Government of the Northwest Territories released the *NWT Climate Change Impacts and Adaptation* report in January 2008, which will also be considered in developing DOT's EMS. The report describes the impacts climate change is having on GNWT activities and defines actions departments are taking to address these challenges. The Department of Transportation will also provide ENR with advice and input in the development of an NWT Climate Change Adaptation Plan.

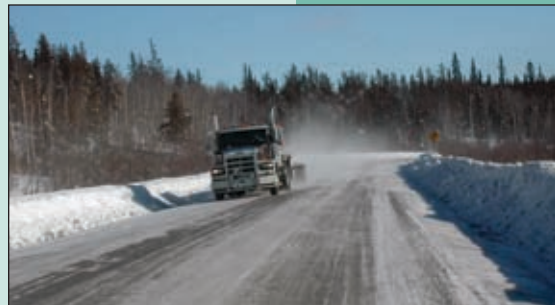
### *Develop Worksite Specific Plans*

Departmental work teams in all regions will be asked to develop plans and specific initiatives to improve environmental performance. These efforts will have support and oversight from the EMS Coordinator Planning, Policy and Environment Division, and the Senior Management Committee. Work Teams will be encouraged to develop and implement their plans within two years, including the collection of baseline information, desired results, and implementation and monitoring tasks. Employees will be asked to look at all areas of DOT's operations for achievable results.

### *Engage the Transportation Industry and the Public on the Environment*

In recognition of the transportation industry's impact on the environment, DOT will more fully engage with industry and the travelling public on environmental issues. Over the first two years, the Department will look at ways in which we can share information, work with and generally support efforts to become more environmentally responsible.

The Department of Transportation will seek partnerships with other levels of government and NGOs to support and promote such things as active transportation, smart driving practices, green procurement and other best practices.





### Medium Term (Three to Five Years)

In the medium term, the Department will move forward with major initiatives and measure progress. The Department will also use this time to determine how initiatives and best practices can be adapted appropriately at DOT and in the transportation industry. In the medium term, DOT will also measure progress and determine appropriate future priorities. At the end of the fifth year it will be important to review the *Green Light* approach to ensure that it continues to meet the environmental goals of the Government of the Northwest Territories.

#### *Employee Training and Education*

The Department will develop appropriate environmental training for DOT staff. Training will focus on waste management, sampling, regulatory management, soil erosion control, and site assessment and remediation. The training will be tailored to specific operational needs. Fostering employee commitment through education, training and performance challenges will go a long way to developing the desired responsible environmental corporate culture.

#### *Implement the Environmental Management System*

The Environmental Management System's implementation will shape the Department's overall approach to the environment. The EMS will be implemented incrementally to ensure that it is well focused, appropriate and practical. Senior Management support throughout the development and implementation phases is critical to meeting our overarching environmental objectives.

#### *Implement GHG Emissions Reduction Plan*

The implementation of the GHG Emissions Reduction Plan will be one of the Department's major environmental initiatives. Since GHG emissions reductions can be gained by improving energy efficiency and conservation, important cost reductions are anticipated. Reducing consumption and using resources more efficiently is the smartest and most cost-effective way to protect the environment and reduce GHG emissions. It is very important to develop solid long-term objectives, as efficiency improvements may require investment in the short and medium term to achieve the stated long-term outcomes.

#### *Implement Climate Change Adaptation Plan*

The Department will also focus on developing strategies to adapt to climate change. Adaptation will help the Department preserve its core assets, and to plan and design infrastructure that is less vulnerable to the impacts of climate change and climate variability.

#### *Implement Worksite Specific Plans*

In the medium term, DOT work teams will be encouraged to implement priority environmental initiatives. Measurable deliverables will be expected as evidence that the desired corporate shift in environmental attitude is taking place.



## Conclusion

*Green Light* provides a blueprint to improve the environmental performance of the Department of Transportation. It will inspire and guide the Department to achieve new levels of environmental sustainability and stewardship, while fulfilling its main mission of supporting and enabling a safe, secure, accessible and reliable Northwest Territories transportation system. The Department is proud to be entering an era of increased environmental awareness and positive action.

