

# On Track

*Status, Challenges, and Current Initiatives of the Department of Transportation*  
Government of the Northwest Territories

**November 2011**



# Contact Information

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## Regional Offices

North Slave (Yellowknife) Highways Building	867-920-3096
South Slave (Hay River) Capital Suites	867-874-5000
Fort Simpson Nahendeh Building	867-695-7651
Inuvik Mack Travel Building	867-777-7343

## Yellowknife Headquarters:

Directorate Lahm Ridge Tower	867-920-3460
Corporate Services Lahm Ridge Tower	867-920-3459
Planning, Policy and Environment Lahm Ridge Tower	867-873-7666
Airports YK Centre 4	867-873-7725
Road Licensing and Safety Highways Building	867-873-7972
Highways & Marine Highways Building	867-920-8771



# *On Track*

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**Status, Challenges and Current Initiatives of the Department of Transportation**  
Government of the Northwest Territories

The Northern way of life and economy is tied directly to the transportation network.

A vital, well developed and reliable multi-modal infrastructure system:

- *Reduces the Cost of Living*
- *Supports Inter-community and Social Mobility*
- *Bolsters Economic Diversification*
- *Ensures Effective Resource Development*
- *Reinforces Canadian Sovereignty and Security*

*This document outlines the challenges and current initiatives underway for the Department of Transportation to remain...*

## ***On Track***

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# Introduction

The Department of Transportation is structured into six headquarter divisions: Directorate; Corporate Services; Policy, Planning & Environment; Airports; Highways & Marine; and Road Licensing and Safety. Regional offices include Inuvik, Fort Simpson, South Slave in Hay River, and North Slave in Yellowknife. Over 300 employees provide services to operate, maintain, repair, and construct NWT transportation infrastructure, which is comprised of 2200 km of all-weather highways, 1425 km of seasonal winter roads, 93 bridges, 244 major culverts, over 3000 small culverts, 27 airports, and 5 ferries.

This document features an overview of the Department's operating environment and strategic actions followed by a description of each division and their respective activities, which are guided by the following vision, mission, and goals:

## ***Vision***

- *Safe, secure, affordable, reliable and accessible personal mobility*
- *A higher standard of living for the territory and its communities through the more efficient and lower cost of freight*
- *Sustained economic growth and prosperity through better development access to the territory's renewable and non-renewable resources*

## ***Mission***

*To provide for the safe, secure, accessible and reliable movement of people and goods to serve the social, economic, and political needs and aspirations of the people of the Northwest Territories*

## ***Goals***

- *The NWT transportation system continues to improve*
- *The NWT has an ongoing high level of northern business and employment opportunities in the public and private transportation sectors*
- *The NWT has a safe and secure transportation system in all modes*
- *The department has a high performance workplace that is adaptable, effective, efficient and innovative in delivering programs and services*
- *The high quality of the NWT environment is maintained*
- *The department supports local transportation infrastructure*

The Northwest Territories is a land rich in people and resources covering almost 1.2 million square kilometres—over 10 percent of Canada’s land mass. Within this vast area is a population of 43,505 living in 33 communities. Only one-third of the land area of the Northwest Territories is within 100 kilometres of an all-weather road. Thus, air and marine transportation play a very important role in the mobility of Northerners. Transportation infrastructure allows an economy to grow, and prosper through increased access to essential goods and services and to natural resources. Linking communities within a region provides jobs, fosters social development, improves mobility, reduces the cost of living, and improves access to services.

Created in 1989, the mission of the Department of Transportation is to provide an integrated transportation system in the Northwest Territories to meet the social, economic and political needs and aspirations of Northern residents by providing safe, secure, accessible, and reliable movement of people and goods. The Department of Transportation’s activities to support this mission, vision and goals are guided by strategic direction provided within the over-arching plan of the Legislative Assembly of the Northwest Territories and business plans prepared annually for review by Members of the Legislative Assembly.

The NWT faces many unique challenges to the operation of an effective transportation system. The harsh climate, geographic distances between communities and markets, limited construction season, sensitivity of the environment, and developing economy are important considerations in the construction, operation, and maintenance of the transportation system. Now, climate change, aging infrastructure, and limited resources are also imminent challenges. The Department is working to address these challenges and working towards the vision and goals of the Department through the activities currently underway and highlighted throughout this document. Department-wide strategic actions to surmount current challenges and achieve the department’s mission include:

- Focusing Investments
- Sustaining an Under-Developed and Aging Transportation System
- Expanding the System to Connect Communities and Enable Development
- Ensuring Environmental Sustainability
- Accommodating Increasing Regulatory Requirements
- Adapting to Climate Change
- Addressing Human Resource Pressures

## 43,505 NWT RESIDENTS

### 33 COMMUNITIES

- **8: all weather access**  
(Fort Liard, Kakisa, Enterprise, Hay River, Hay River Reserve, Fort Resolution, Fort Smith, Jean Marie River)
- **10: all weather access with seasonal disruptions**  
(Fort Providence, Behchoko, Dettah, Yellowknife, Fort Simpson, Wrigley, Nahanni Butte, Tsiigehtchic, Fort McPherson, Inuvik)
- **11: winter road access**  
(Whatì, Wekweètì, Gamètì, Trout Lake, Deline, Tulità, Norman Wells, Fort Good Hope, Colville Lake, Aklavik, Tuktoyaktuk)
- **4: air and marine access only**  
(Lutselk’e, Sachs Harbour, Paulatuk, Ulukhaktok)



# Challenges and Strategic Actions



## *Focusing Investments*

Demand from industry and the public is increasing for new roads, improved all-weather and winter roads, and airport runway extensions to support development, inter-community travel, and reduced cost of living in communities across the NWT. In recent years, the federal government allocated a large amount of infrastructure funding under various programs including Canadian Strategic Investment Fund and the Building Canada Plan. The Government of the Northwest Territories also invested in transportation infrastructure through the Reducing the Cost of Living Strategic Initiative. As these programs sunset, the Department must ensure the limited capital funds remaining are focused on priority rehabilitation needs, while exploring additional financing alternatives for capital project delivery.



Public expectation with respect to quality of service has increased with recent infrastructure investments, which have allowed for system rehabilitation, expansion and greater levels of service. The investments improved the condition of the all-weather highways, extended and relocated runways, straightened and improved winter roads, and extended the ferry operating season.

As some of the investments sunset, the Department will be challenged to continue meeting service expectations and regional demands for equitable distribution of funding. To meet the challenges, the Department will:

- Concentrate efforts to ensure limited capital is focused on the highest priority programs and that adequate capital and O&M funding is provided to reconstruct, replace, maintain, and protect existing infrastructure and maximize asset lifecycles to maintain the integrity and reliability of the system
- Continue to lobby the federal government for the development of long-term infrastructure programs that recognize the unique challenges facing northern transportation
- Invest in technology and innovation to maximize resources including intelligent transportation solutions, such as Road Weather Information Systems, which allow maintenance personnel to identify and target salt and snow plowing needs
- Continue to renew modal transportation strategies to ensure system needs are evaluated, prioritized and well-documented





### ***Sustaining an Under-Developed and Aging Transportation System***

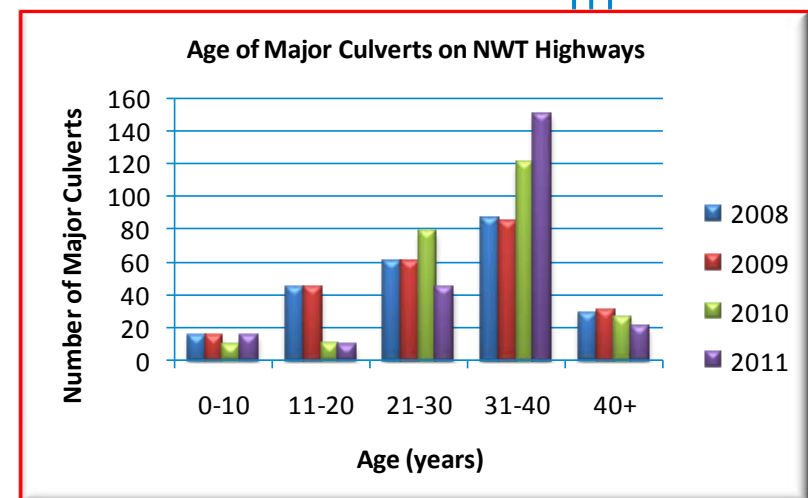
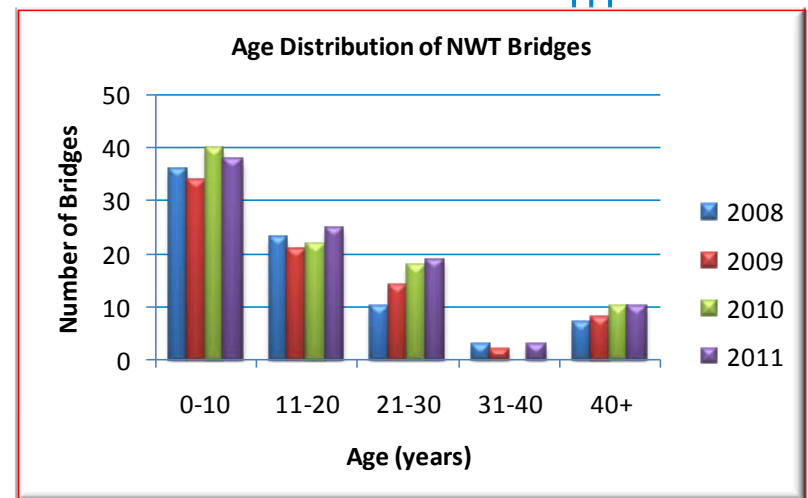
The Department is challenged by the need to upgrade substandard transportation infrastructure and to rehabilitate and replace aging infrastructure with limited resources. Much of the existing infrastructure in the NWT was built to minimum standards of the day and now requires extensive investments to maintain operability and reliability. For example, the Liard Highway requires major reconstruction because it can no longer accommodate commercial vehicle traffic in the spring. The highway was so deteriorated in the spring of 2010 and 2011 that it had to be closed to all traffic for extended periods despite the issuance of road bans to limit the weight of commercial vehicles. This is also evident with the rapid deterioration and repair requirements on Highway 1, following the increased traffic related to the clean up of the Enbridge pipeline oil spill.

Major culverts, bridge structures, and maintenance buildings are reaching the end of their lifecycles and must be rehabilitated or replaced. Investments are also required to replace chipsealed sections of the highway that have reached the end of their service lives (typically 5 to 7 years). If chipsealed sections are not resurfaced, then they must be returned to gravel to maintain safety.

Modernizing practices through innovation will assist the Department to optimize resources and address the aging transportation system. Investments in technology will increase efficiency, improve productivity, system performance, and reliability.

To maintain the integrity of the transportation system, the Department will:

- Prioritize investments in critical repairs, rehabilitation and replacements of bridges, culverts, and chipsealed surfaces
- Implement management systems to prioritize investments and maintain, upgrade, and safeguard transportation assets and infrastructure with limited capital funding
- Invest in technology and innovation, including online web services, real-time online information, and variable message boards, to better inform the public of transportation system conditions



# Challenges and Strategic Actions

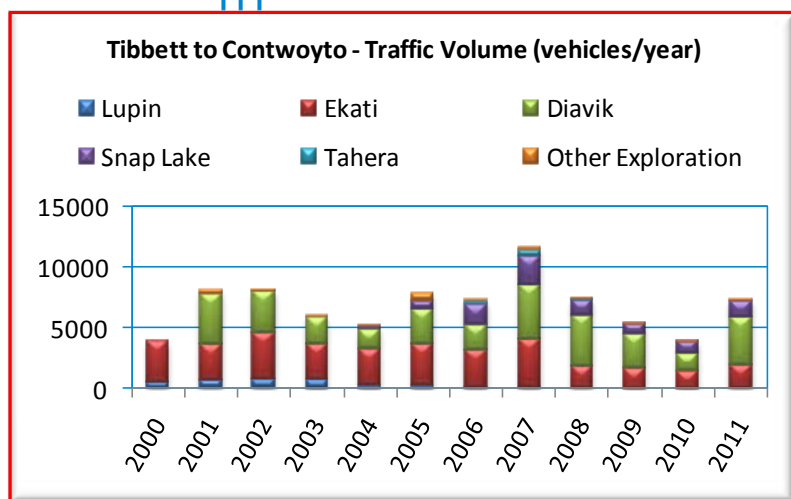
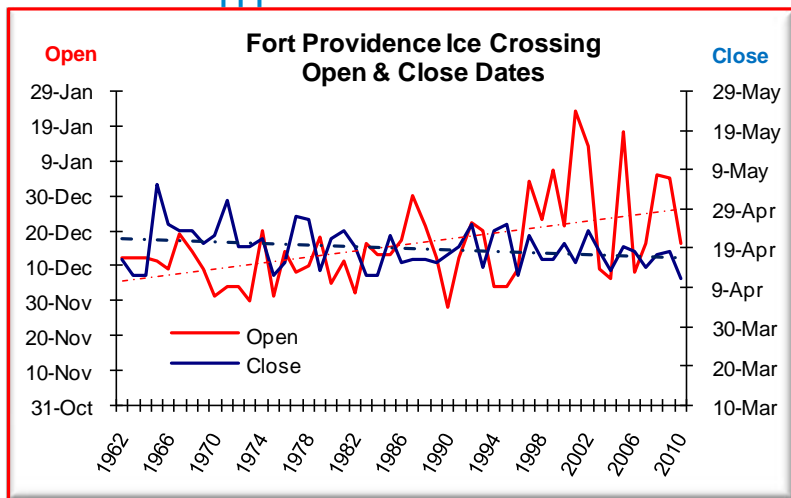
## Expanding the System to Connect Communities and Enable Development

Expansion of the Northwest Territories' transportation system will facilitate the diversification of the NWT economy and improve the quality of life for citizens who will gain increased access to essential services, economic opportunities, increased mobility, and a reduced cost of living.

The NWT has enormous potential for non-renewable resource development to increase economic growth for the territory and Canada. The vast mineral potential alone is consistently ranked by mining companies surveyed by the Fraser Institute as one of the highest in North America, yet the NWT continues to have insufficient infrastructure required to access its full potential. Development projects such as the Mackenzie Gas pipeline, Prairie Creek Mine, Avalon Resources, Ghacho Koe, and Fortune Minerals will benefit from an improved transportation network.

The Department of Transportation will continue to collaborate with governments, communities, and industry to improve air, marine, and land-based access to communities and resources including:

- Partnerships to advance the environmental processes relating to the Mackenzie Valley Highway from Wrigley to Tuktoyaktuk
- Pursue innovative financing options, such as P3's, to begin constructing the Inuvik to Tuktoyaktuk Highway
- Study the options for constructing a Seasonal Overland Road into the Slave Geologic Province
- Study the options for realigning the existing Tlicho winter road to improve access to resources, connect communities, and reduce the cost of living
- Realign Highway 4 to facilitate the environmental remediation of Giant Mine
- Continue to use innovative technology to lengthen the operating season for ice crossings, winter roads, and ferry seasons
- Complete construction of new airports in Colville Lake and Trout Lake
- Construct and maintain a winter road to Wekweètì to facilitate community resupply and reduce the cost of living
- Complete the Deh Cho Bridge project to provide a year-round link



### ***Ensuring Environmental Sustainability***

The health of the environment continues to be the focus of public attention at territorial, national, and international levels. The Department recognizes the importance of environmental considerations and continues to foster a corporate culture of excellence across all programs and services. To guide these efforts, the Department has developed an environmental strategy, ***Green Light: Signaling the Department of Transportation's Commitment to the Environment***. To continue making progress toward realizing its commitment to environmental stewardship, the Department will:

- Develop a Green House Gas Reduction Plan to improve energy efficiency and conservation
- Develop an Environmental Management System to identify and manage potential environmental impacts of the Department's facilities, activities and projects
- Continue the remediation of hazardous sites and environmental liabilities, such the Fort Resolution community airport, Checkpoint at Km 414 on Highway 1, and at the James Creek highway camp on the Dempster Highway
- Implement internal energy saving initiatives, such as upgrading ferry engines to reduce fuel consumption and testing a 5Kw in-stream turbine to energize the ferry camp at the N'Dulee crossing
- Educate the public and commercial trucking sector on energy saving measures related to transportation

### ***Accommodating Increasing Regulatory Requirements***

The Department is subject to an increase in regulatory requirements aimed at protecting the environment and ensuring public safety within the transportation system. In addition to territorial standards, the Department must comply with federal transportation safety, security, and environmental regulations. To maintain compliance with higher regulatory standards, the Department will:

- Ensure activities meet all regulatory requirements through self audits, compliance checks and continual improvements inherent in Safety Management Systems and Environmental Management Systems
- Consider the social, economic, and environmental impact of department activities through the continual development and implementation of best practices to support sustainability, such as salt management and erosion and sediment control best practises
- Lobby for regulatory amendments to better reflect Northern issues and conditions, for example Transport Canada's current runway end safety areas (RESA) regulation could require improvements be made to 11 NWT runways.



# Challenges and Strategic Actions



## *Adapting to Climate Change*

The NWT transportation system is vulnerable to the effects of climate change. Vital infrastructure is built on discontinuous permafrost. The operating season for winter roads and ice crossings rely on ice, snow, and cold temperatures. Over the past 20 years, the trend to warmer than normal temperatures has delayed the opening of ice bridges, reduced the operating window of the winter road system, increased O&M costs, increased the use of consumable such as sand and salt, and has led to increased variability and unreliability within the transportation system. Permafrost degradation increases the cost of operations and maintenance and accelerates the need for capital rehabilitation. Pressure is increasing to adapt to the effects of climate change by improving surface and drainage conditions on highways and airport runways, realigning winter roads to overland right-of-ways, and building permanent bridges to extend and stabilize the winter road seasons.

The Department is working with other jurisdictions and organizations across the country to move research forward and to develop climate change adaptation strategies.

To continue addressing transportation challenges, the Department will:

- Complete a departmental Climate Change Adaptation Plan to inform decision making, suggest adaptive measures, predict future trends, frame best practices, identify data gaps, research and development needs, and cost implications of climate change impacts
- Continue research into the implications of climate change on the transportation system, including vulnerability assessments of transportation system components
- Continue to decrease the vulnerability of the system by improving surface and drainage conditions on highways and airport runways, realigning winter roads to overland right-of-ways, building permanent bridges and using ice spray technology to extend and stabilize winter road and ice crossings seasons
- Collaborate with researchers, experts, other jurisdictions, and the Transportation Association of Canada (TAC) to produce Best Practice's Guides, such as the Construction, Maintenance, and Operation of Winter Roads



## Addressing Human Resource Pressures

A healthy, productive and sustainable workforce is essential. One of Department's most significant challenges is age-related attrition. With 43 percent of the current workforce over the age of fifty, 29 percent of the Department's staff is expected to change due to age-related attrition within the next five years. This is especially critical when examining the workforce by the type of position. Between 38 and 45 percent of middle and senior managers, engineers, technologists and service personnel, such as Highway Transport Officers, are eligible to retire within the next five to ten years.

To address the current human resource pressures, the Department will:

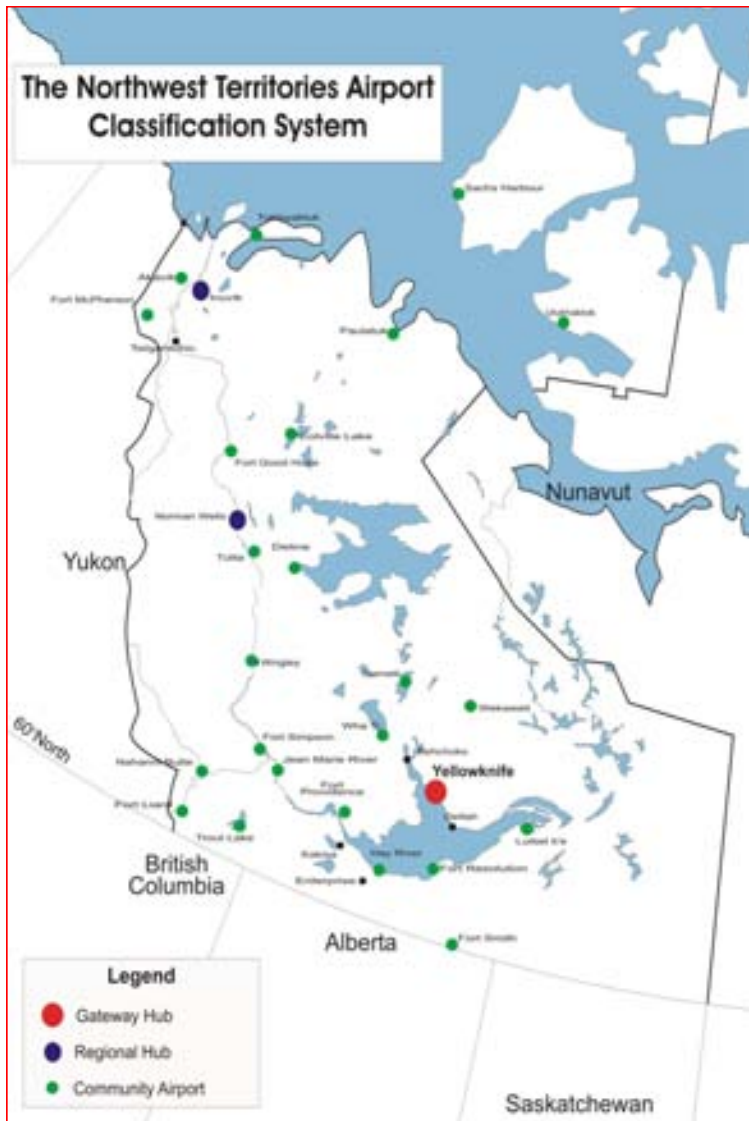
- Implement ***Developing our Greatest Resource: 2010-2014 Human Resources Plan for the Department of Transportation***
- Invest in technology, training, and development that promotes diversity, development, advancement, recognition and retention of the DOT workforce
- Develop a succession plan to address age-related attrition

Occupational Category	Total Positions	Occupied Positions	Attrition					
			Within 5 years		Cumulative within 10 years		Beyond 10 years	
			#	%	#	%	#	%
Senior Mgt	11	10	3	30	4	40	6	60
Middle Mgt	31	31	13	42	14	45	17	55
Finance & Administration	50	43	11	26	15	35	28	65
Natural & Applied Science	71	53	19	36	20	38	33	62
Social Science & Education	10	9	1	11	2	22	7	78
Sales & Service	23	19	5	26	8	43	11	58
Trades & Transportation	113	100	25	29	31	31	69	69
Total	309	265	77	29%	94	36%	171	66%





# Airports



The Airport Division of the department operates 27 airports in the NWT: one gateway hub (Yellowknife); two regional hubs (Norman Wells and Inuvik), and 24 community airports. The division maintains a close watch over air transportation legislation, regulation, policy activities of other governments, overall trends in air transportation safety, costs, infrastructure technology developments/change, and opportunities for partnership to finance the improvement of airport infrastructure.

The air infrastructure in the NWT is well-developed. Department resources are focused on operating, maintaining and rehabilitating existing infrastructure. In some cases, new or expanded air terminal buildings and runways have been constructed.

Air services are provided by four major carriers (Canadian North, First Air, West Jet and Air Canada); by several smaller regional carriers (Air Tindi, Northwestern Air Lease, Landa Aviation, North Wright Air, Aklak Air and Buffalo Air) and by charter operators such as Arctic Sunwest. Helicopter operators such as Great Slave Helicopters, Trinity Helicopters, Helicopter Transport Services Canada and Canadian Helicopters are based throughout the territory.

Transport Canada is responsible for the regulation of airport facilities and air carrier operations. NAV Canada provides air navigation systems and flight and weather information using their own forces at the gateway and regional hubs. The Canadian Air Transport Security Authority (CATSA) manages pre-boarding and baggage screening through contracted security forces while the department is responsible for the physical security of the Yellowknife airport. Seventeen community airport radio stations, or CARS stations, are managed through a private contractor, hired by NAV Canada.

# Airports Initiatives

## Improve Airports and Airport Facilities

In the past few years, transportation access to communities has been improved by extending the length of airport runways in Fort Good Hope, Tulitù, and Fort McPherson to accommodate larger aircraft. New air terminal buildings have been installed in Sachs Harbour, Paulatuk, and Tuktoyaktuk and a new Combined Services Building opened in Yellowknife.

Aerodromes in the isolated communities of Colville Lake and Trout Lake are being relocated to allow for runway expansions that will allow access by pressurized aircraft. The Department will continue to improve airports and airport facilities using innovative solutions such as installing light-emitting diode (LED) runway lights; implementing infrastructure, maintenance, and asset management systems; exploring security options in light of the Canadian Air Transport Security Agency (CATSA) review; and developing quality control and quality assurance expertise at airports and implementing best practices.

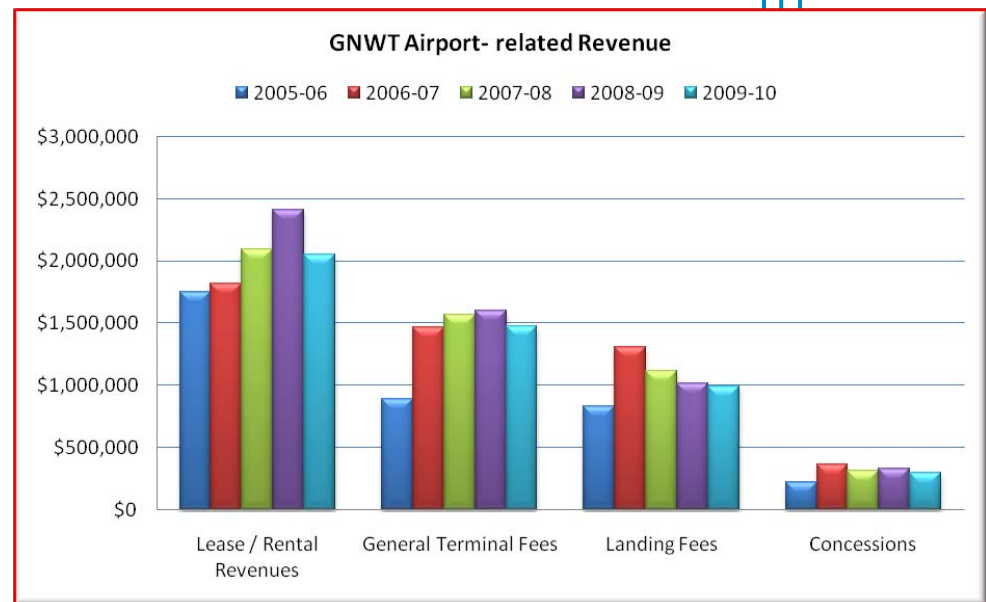


## Advance Economic Development Opportunities

The Department is developing new strategies to enhance private sector opportunities that help the economy. The department will advance economic development opportunities on airport lands through investigating and promoting commercial business interests and investments and advancing airport commercial land development.

## Fees Review

The Department is reviewing airport-related revenue streams and will review, evaluate, and revise current service fee structures, such as landing fees and general terminal fees, to ensure consistency and fairness. Once these fee structures are reviewed and revised, they will be set to increase annually with inflation.





# Airports Initiatives



## **Regulatory Safety Management System**

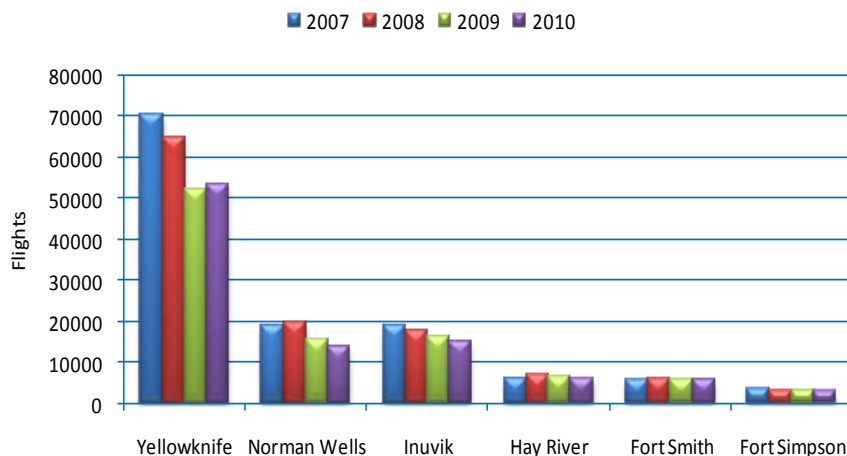
The Safety Management System (SMS) is a new Transport Canada regulatory requirement for aviation safety. It is an important factor in the achievement of the goals to reduce the number of accidents and to increase the level of public confidence in Canada's air transportation system. A primary strategy is to improve safety through proactive management rather than reactive compliance with regulatory requirements. Safety management involves organizational change and requires a process for managing risks. The SMS integrates operations and technical systems with the management of financial and human resources to ensure aviation safety and the safety of the public. The department is in the third year of a three-year implementation plan which includes quality assurance, emergency planning, hazard risk analysis, corrective action programs, inspection, auditing and training programs and documentation requirements at all community airports.



## **Emergency Response Plans**

Certified airports are now required to meet more prescriptive regulations surrounding emergency response planning, emergency response training, and full-scale live exercises that must be held every four years to practice procedures in a simulated emergency. DOT works closely with the communities, the Departments of Municipal and Community Affairs, and Health and Social Services, RCMP, and other emergency responders to ensure the exercises are a valuable experience for each community. Partnership opportunities are being explored to coordinate best practices in emergency planning and to ensure efficiencies are maximized. Identified issues are being addressed and continual improvement is being made to the planning process and emergency response capabilities in each community.

6 Busiest NWT Airports - Fixed Wing Movement



## **Firefighting**

The Yellowknife Airport is working with partners within the City of Yellowknife, the Department of Environment and Natural Resources, the diamond mines, and the Department of National Defense to improve firefighting capacity in the North. The department is developing a strategic action plan to share resources, training facilities, and to ensure firefighting equipment can be used in a cohesive, effective manner between our partners. The department will continue developing the firefighter training facility and will identify opportunities for efficiency, such as cross-training and cross-utilizing staff.

# Highways

The NWT highway system consists of approximately 2,200 kilometres of all-weather road and 1,425 kilometres of publicly constructed winter road. It includes over 95 bridges, 244 large diameter culverts, and well over 3,000 small culverts. In addition, feeding into the public system are numerous privately constructed winter roads for oil and gas development and mine re-supply, including the 570-kilometre Tibbitt to Contwoyto winter road into the Slave Geologic Province. Seventeen communities are served by all-weather roads (12 of which experience disruptions during freeze-up and break-up) and another 11 are served by winter roads. At present, 45 percent of the highway system is paved or chipsealed, with another 27 percent having a dust-treated surface.

Improvements to highway surface conditions remain a priority. Major system improvements have been accomplished through federal funding programs including the Canada Strategic Infrastructure Fund and Building Canada Plan as well as GNWT strategic investments under the Reducing the Cost of Living Strategic Initiative. These improvements include reconstruction of segments on every major highway across the territory, the construction of the access road from Tuktoyaktuk to Source 177, the Yellowknife Bypass Road and completion of the road to Nahanni Butte.

Despite these recent investments, further investment is needed. Highways 7, 1, and 8 require additional major reconstruction and upgrading and Highway 3, from Behchoko to Yellowknife, presents challenges due to the degradation of permafrost. Highway 4 requires upgrading to ensure safety for private and commercial vehicles. Highways across the system require culvert and bridge rehabilitation and chipseal, including Highways 5 and 6 and the Dettah Access Road.



## All-weather Highway Classification

Total = 2208 Km

- Chipseal
- Dust-Controlled Gravel
- Untreated Gravel



# Highways Initiatives



## ***Mackenzie Valley Highway***

Public and political support is strong for an all-weather highway up the Mackenzie Valley from Wrigley to Tuktoyaktuk. The project is of national significance as it will complete a transportation network extending from coast-to-coast-to-coast. The all-weather highway will create greater access to a wealth of resources, such as oil and gas development, and create connections to Northern communities previously dependant upon air travel or winter roads.

Already, 35 permanent bridges have been constructed along the highway's proposed alignment and a 19 kilometre access road extending south from Tuktoyaktuk has been completed. The department is collaborating with Aboriginal land claim organizations and community governments to develop Project Description Reports for sections of the highway alignment passing through five claim areas.

The Department will seek funding to advance the Wrigley to Dempster segment of the route through the regulatory phases. The Department will also seek innovative financing to continue with incremental improvements such as the Great Bear River bridge crossing.

## ***Inuvik to Tuktoyaktuk Highway***

The most advanced segment of the Mackenzie Valley Highway route, in terms of regulatory review, planning and funding, is the Inuvik to Tuktoyaktuk segment. The 137-kilometre highway will be located in the Inuvialuit Settlement Region, with approximately 51.5 percent of the alignment on Inuvialuit private land. The 19-kilometre access road completed between Tuktoyaktuk and Gravel Source 177 will become the most northern section of the highway.

In the June 2011 budget, the federal government committed \$150 million over five years for the construction of the Inuvik to Tuktoyaktuk all-weather highway. The Department is currently reviewing procurement and financing options, as well as completing the environmental review phase of the project.



### ***Deh Cho Bridge***

The Department is constructing a 1045-metre bridge across the Mackenzie River at Fort Providence. When the bridge opens to traffic in 2012, the Department will enter the operation and maintenance phase of the largest infrastructure project ever undertaken by the GNWT. This will include the operation of an automated toll tracking system. The interconnected automated system includes transponders, cameras and automated axle counters to track and record commercial vehicle crossing events. The technology will reduce the administrative burdens on the department and commercial operators, improve efficiencies, and align with practices in other jurisdictions.

The conclusion of the project marks an important and historic milestone. The Deh Cho Bridge removes a bottleneck in the transportation network that has affected the social and economic aspects of the Northern and Canadian lifestyle. Uninterrupted access is the most significant benefit of the first permanent bridge to cross the Mackenzie River.



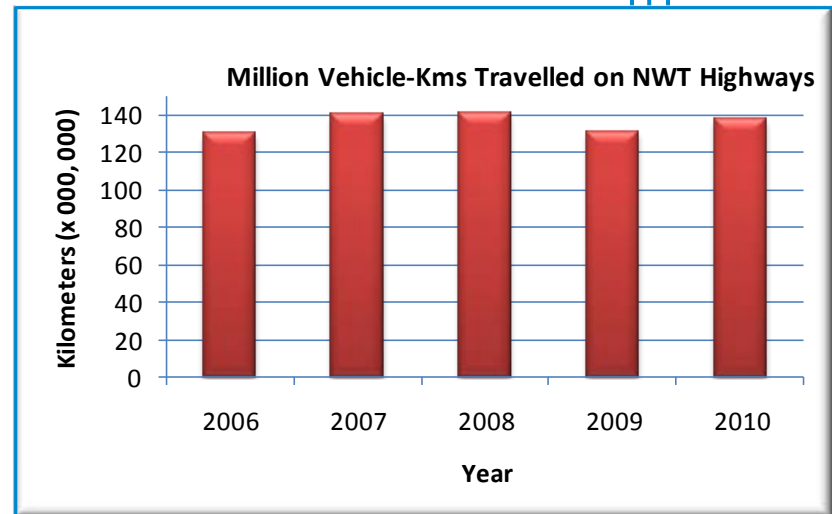
### ***Ingraham Trail Realignment***

The GNWT is committed to re-aligning the Ingraham Trail away from the Giant Mine site to facilitate remediation and to improve public safety. The GNWT entered an agreement with the federal government to commit funding towards this remediation project. This funding will be used to re-align the existing highway away from the remediation site. Construction is expected to begin in the winter of 2011. The highway is scheduled to be open to traffic in the fall of 2012 and paved in the summer of 2013.



### ***Seasonal Overland Road***

A shortened winter road season results in significant cost and operational difficulties for resource development activities and community re-supply. Building upon the work already completed by the private road operator, the Tibbitt to Contwoyto Joint Venture, the Department of Transportation is assessing the feasibility of constructing a seasonal overland road (SOR) as a P3 project to replace the 156-kilometre southern portion of the ice road from Tibbitt Lake to Lockhart Lake. The SOR will extend and stabilize the normal winter ice road season by as many as 30 days. Funding for the study was secured through a partnership with P3 Canada through the Maximizing Opportunities Strategic Initiative. The feasibility study will be complete late in the fall of 2011. The next steps are dependant on the study results.



# Highways Initiatives



## ***Tlichô Corridor Study***

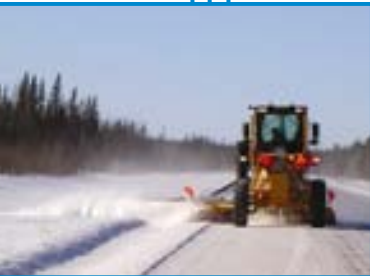
Working with the Tlichô chiefs, the Department initiated research into options to improve access to the Tlichô communities. The research included an economic analysis of the costs and benefits of realigning the Tlichô winter road to an overland route. The Department and the Tlichô government recently renewed a Memorandum of Understanding to move forward with work relating to Project Description Reports, such as an engineering and environmental analysis.



## ***Extending Winter Road and Ice Crossings Seasons***

The Department endeavours to maximize winter road operations to facilitate inter-community travel, re-supply, and resource development. Major progress has been made to improve the bridge infrastructure supporting the Mackenzie Valley Winter Road. In an effort to achieve a longer operating season, 35 of 40 bridges have been constructed with two more in the planning and design phase.

The Department is supplementing conventional ice auger flooding techniques with ice-spray technology to accelerate the construction of the ice crossings on the Peel and Mackenzie Rivers along the Dempster Highway. Both crossings are anticipated to be at full load capacity by mid-December and the Tsiigehtchic Winter Access by early January. Similarly, ice-spray technology will be used at the Liard River ice crossing to Fort Simpson with the goal of opening the ice bridge earlier in the season.



## ***Wekweètì Winter Road***

In 2012, the Department will pursue the construction of a winter road to Wekweètì. Previously, the federal government contracted the construction of a 140-kilometre winter road to the Colomac Mine to support remediation work. The Department then constructed a 73-kilometre spur from the federal Colomac road to Wekweètì, which dramatically reduced the cost of living for residents. Remediation work at the mine is concluded and the Department is exploring all options to connect Wekweètì via a winter road.



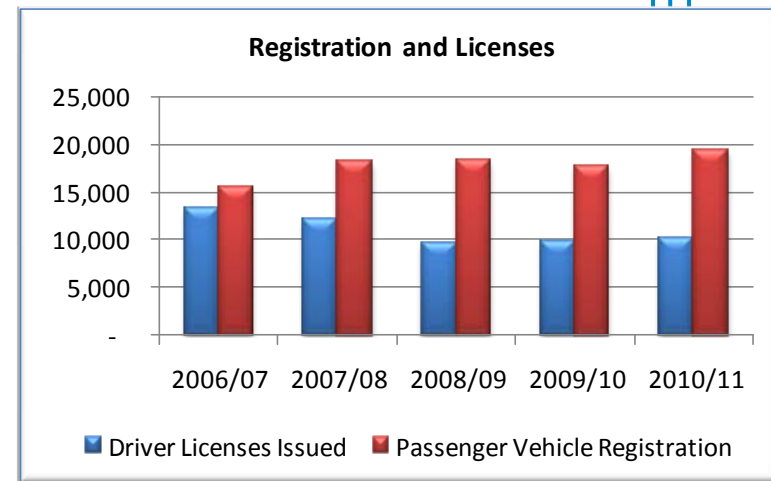
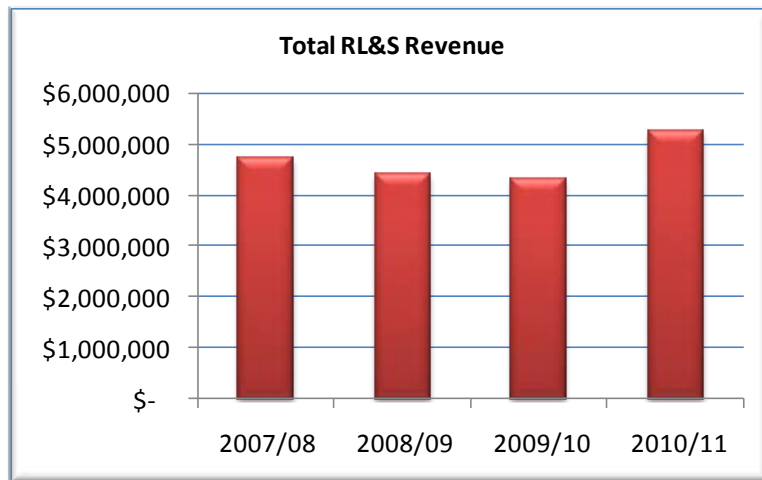
## ***Improved Asset Management Systems***

Innovative management systems are necessary to prioritize limited resources and to monitor the life cycles of assets and programs. With limited capital funding, the department must ensure investments are targeted at the infrastructure in greatest need of replacement or rehabilitation. The department will continue to review, improve, and implement asset management systems to manage the maintenance, repair, and life cycles of equipment, pavement, and bridge and culvert structures to better target operations, maintenance, and rehabilitation.

# Road Licensing & Safety

The Road Licensing & Safety Division (RL&S) ensures the protection of public safety and the environment in areas of private and commercial transportation. The division is responsible for driver testing, issuing vehicle registration and driver's licenses, and to inspect all commercial vehicles operating on the territorial transportation network. The Department also administers the *All-Terrain Vehicles Act*, which delegates authority to municipalities to enact bylaws relating to all-terrain vehicles. The Department establishes and enforces the Acts, regulations, and safety codes that apply to drivers and motor vehicles including commercial motor carriers. The Department also ensures compliance with national policies and initiatives. It is responsible to research trends in highway transportation safety, technology development, and future opportunities for partnerships to ensure regulatory harmonization, implementation of new ideas, and to ensure all drivers and vehicles are safe to share the roadways.

Commercial vehicle enforcement is undertaken at two permanent weigh scales located at Enterprise on the Mackenzie Highway and near Inuvik on the Dempster Highway. The Department operates a weigh in motion scale (WIM) on Highway 3 south of Fort Providence; operates a mobile weigh scale and inspection unit; and enforcement officers patrol throughout the territory.



# RL&S Initiatives

## ***Commercial Permitting/ Carrier and Inspection Programs***

The Department launched a 24-hour permitting centre in 2009 to issue overweight, over-dimension, registration and fuel tax permits to commercial carriers. Since opening, the *24/7 Permitting Centre* has issued 98 percent of all commercial permits. This has allowed Highway Transport Officers (HTOs) to increase their focus on enforcement and inspection activities. The Department will continue to improve efficiencies by providing training and development opportunities for HTO's, hire and train more Northerners, and ensure the division is structured to meet future activities such as the DCB toll.



## ***Partners in Compliance (PIC)***

The Department is co-operating with Alberta Transportation to adopt the Partners in Compliance Program (PIC), a motor carriers' safety program that rewards commercial carriers with exemplary safety records by allowing them to bypass weigh scales. Information shared through PIC provides Highway Transport Officers the opportunity to concentrate enforcement efforts on commercial carriers with lesser safety ratings.



## ***Motor Vehicle Information System***

The Motor Vehicle Information System (MVIS) provides essential driver and vehicle licensing, commercial carrier, and enforcement services to the residents of the NWT, and information to Canadian and American jurisdictions through the Inter-Provincial Records Exchange. The issuance of driver and vehicle licensing services generates over \$5 million in revenue annually for the GNWT. The MVIS is being replaced and enhanced to ensure the system is sustainable into the future. Enhancements are required to allow for online services and to protect data integrity. New modules will be deployed beginning in the fall of 2011. The overall redesign of the MVIS structure is expected to be complete in 2013/14 with system expansions that include online vehicle registration and other client services.



## ***Issuing Offices***

The challenge of providing secure identification documents that meet national and international standards has changed the way driver and vehicle licensing agencies do business. New equipment and operational strategies at the Yellowknife office have reduced the amount of time required to issue licenses and registrations and has improved customer privacy for conducting personal business. The Department continues to explore options to streamline processes and improve client service at all issuing locations, including the use of online technologies.

## ***Fees Review***

The Department is reviewing current service fees to ensure consistency and fairness. Once these fees are revised, they will be set to increase annually to coincide with inflation.



# RL&S Initiatives

## NWT Road Safety Strategy

A departmental Road Safety Strategy is being developed as part of Canada's national Road Safety Strategy 2015. The safety plan is being created to educate and inform the public and to highlight and direct the work the department is doing to promote road safety through public education, engineering and regulation and legislation.

## Drive Alive

The Department views driver safety as the number one priority on NWT highways. Informing the public on how to be safe when traveling is a key component of the department's communications with the public. *Drive Alive*, the GNWT's partnership-based safety program, provides travel safety information using a variety of media.

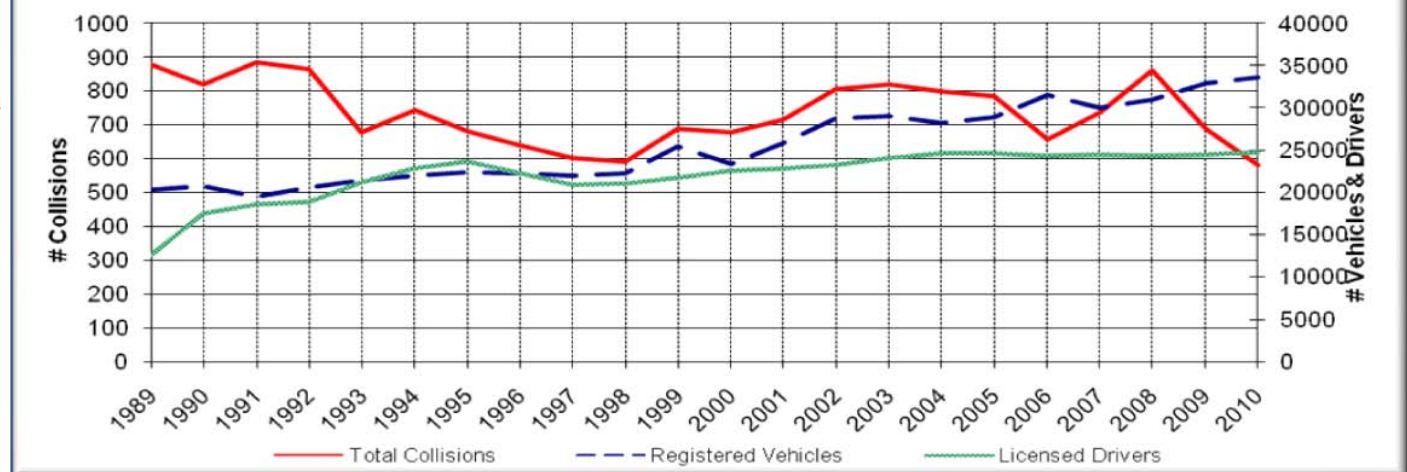
The department will continue to develop partnerships promoting information campaigns that focus on driver safety and young driver training. New safety initiatives will be introduced to raise public awareness around personal safety while traveling on NWT roads and highways.

In 2011, the *Motor Vehicles Act* was amended to ban the use of hand-held electronic devices while driving. The amendment, which is similar to legislation in other Canadian jurisdictions, will come into effect on January 1, 2012.



Trends in Licensed Drivers, Registered Vehicles and Collisions

Figure 1.1



# Ferries & Marine



Abraham Francis



Merv Hardie



Johnny Berens



Louis Cardinal

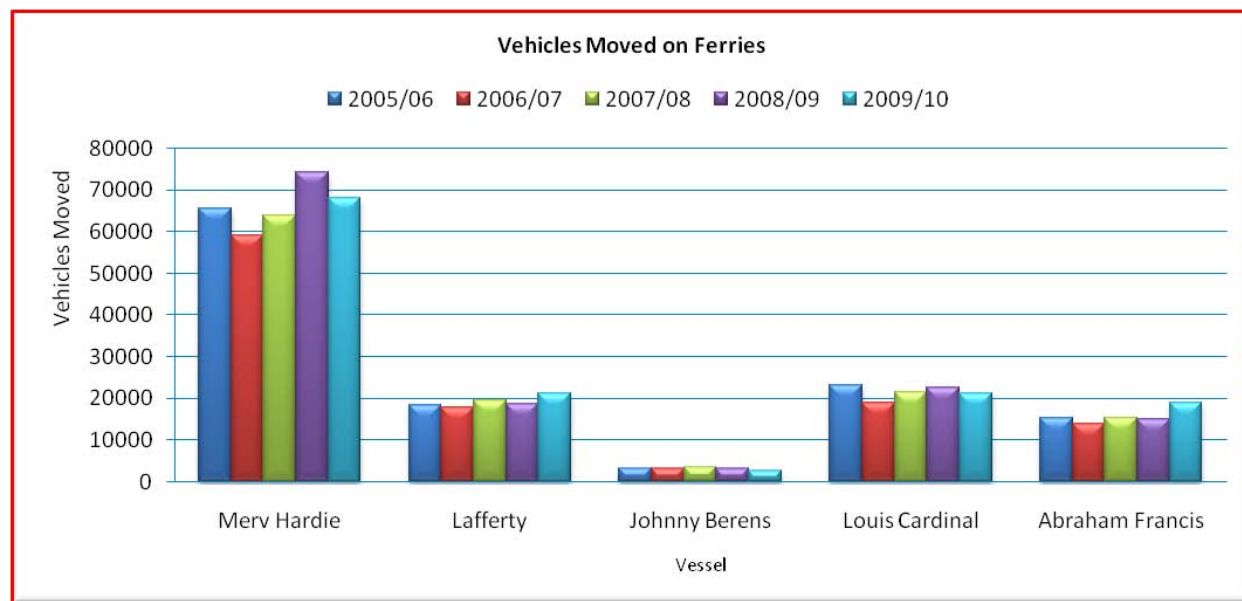


MV Lafferty

The Department of Transportation provides safe, reliable, effective, and environmentally responsible ferry services at five river crossings where the all-weather highway intersects the waterways. The Department is responsible for the maintenance, operation, and continual improvements of five vessels and their support facilities, a diverse fleet that operates under harsh conditions. Responsibilities also include maintaining a close watch over federal policy activity and changes.

The division conducts annual training sessions under the Marine Training Program, before the start of the operating season, to increase the skill and knowledge level of employees and to maximize the level of local participation in the marine industry. The program, which emphasizes training qualified marine engineers and captains, has been instrumental in increasing the number of Northern staff. In Fort Simpson, for example, eight of the nine crew members aboard the MV Lafferty in 2010 were from the North.

Investments in technology and innovation are being driven by changing regulatory requirements pertaining to the use of granular materials at the landing sites, a new requirement for real time passenger information, and increased fuel efficiency. To address these requirements, the Department has recently implemented an extensive Local Area Monitoring Plan for the Dempster ferry system, an online passenger tracking system, and has adjusted the ferry refit plan to focus on engine and generator replacements as well as landing upgrades.



# Marine Initiatives

## *Increase Access and Reduce the Cost of Living*

The Department will continue to extend the ferry operating season and accommodate fluctuating water levels using technology and innovation at the Peel River, Mackenzie River at Tsiigehtchic, and the Tsiigehtchic winter access ice crossing. During the 2011 season, the department will endeavour to extend the ferry service at the Peel River crossing by approximately two weeks to allow the opening of the ice crossing to coincide with the ferry closure. At the Tsiigehtchic ferry crossing, the department will extend the ferry operations by approximately a week by operating through an ice channel. The extension reduces the cost of transporting essential goods by providing road access for 22 additional days.

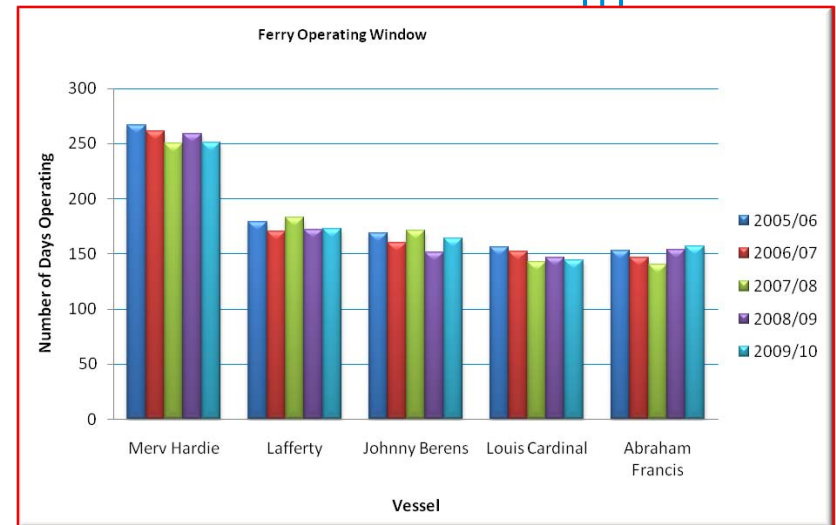
## *Marine Strategy and Ferry Redeployment Plan*

The Department is currently drafting a marine system plan which will include innovative methods for increasing fuel efficiency and improving maintenance practices. The strategy will also provide methods to monitor and minimize the environmental impact of granular deposits at landing sites, increase the length of the operating season, and meet all Transport Canada regulations.

The Deh Cho Bridge is expected to open to traffic in the fall of 2012 ending decades of ferry service crossing the Mackenzie River at Fort Providence. The opening of the bridge will create an opportunity to improve efficiencies and redeploy the fleet across the remaining 4 ferry crossing locations.

## *'Over the Top' Shipping Route*

Industry is showing heightened interest in commercial shipping activities in the waterways of the Western Arctic and the Mackenzie River Basin. The recent interest is largely due to opportunities associated with the development of a Western Arctic Gateway and the "Over the Top" shipping route. The department will continue promoting the Canadian benefits of developing a Western Arctic Gateway through the Ports of Tuktoyaktuk, Hay River, and Fort Smith to meet growing import and export activities in Western Canada.



# Community Access Program

Community	Projects in 2010/11
Aklavik	Ice road to Fort McPherson
	Access road to waste site PDR
Behchoko	Floating docks and boat launch
Deline	Kahtu' traditional trail
	Ice road to Whiskey Jack Point
Fort Good Hope	Trail to Hareskin and Old Baldy
Fort McPherson	Boat launch
	ATV trail to Husky Lakes
	Road to Tloondih Healing Lodge
	Ice road to Aklavik
Fort Resolution	Nagel Channel road
Fort Simpson	Upgrade community boat launch
	Trail to Horne Plateau
Gamètì	Community dock replacement
Inuvik	Community boat launch improvements
Lutselk'e	Breakwater Rehabilitation
Nahanni Butte	Trail to Yohin Lake
Salt River/ Fort Smith	Grand Detour winter road
Tsiigehtchic	Scenic road
	Ice road on Arctic Red River
Tulità	Bushing and clearing Willow Lake trail
Paulatuk	Access road to Rat Lake
Wekweètì	Trail to rapids

The Department provides funding and technical assistance to rural and remote communities for the construction and maintenance of community access roads and local boating facilities in support of local recreation and subsistence harvesting activities and for winter road access to granular resources. Community access roads include public roads or trails offering all-weather or seasonal access, connecting communities to nearby public locations such as recreational sites, camps, archaeological sites, local resources, and access to fishing, hunting and tourism opportunities.

The expansion of the program in 2010/11 resulted in a greater range, scope, and an increase in the number of projects funded each year. In 2010/11, the Community Access Program was fully subscribed with projects undertaken in every region of the NWT. Since 1995, the GNWT has contributed a total of \$7.85 million in project support across all communities in the NWT.

The program is application-based and funding is allocated to communities based on the merit of the project proposals and level of community support. The Department works to maximize the total number of communities and the number of rural and remote communities receiving contributions. Community involvement, community benefit, cost, and mitigation of potential environmental impacts are considered within the evaluation of the project.





# Privately Owned Infrastructure

## **Rail**

Canadian National (CN) owns the only rail line in the Northwest Territories. The line extends from Smith, Alberta to Hay River. It is an important link to the NWT transportation system despite the short length of track (121 Km in the NWT). Over half of all bulk commodities, such as petroleum, agriculture and forest products come into the territory by rail.

Originally constructed to a minimum standard over muskeg and discontinuous permafrost, track structure, ties, and culverts deteriorated over time resulting in trains operating at reduced capacity during the summer periods. Since 2009, CN has made significant investments toward system upgrades by installing new ties and ballast, bridges and culverts, and siding extensions. Ongoing budgets are in place for further improvements, maintenance of \$8 to \$10 million beginning in 2010, and annually thereafter. The Department will continue to lobby for rail system improvements to better support community resupply and industry needs.

## **Marine**

Marine infrastructure for resupply activities is either privately owned by barge operators or publicly owned by the federal Department of Fisheries and Oceans or the Canadian Coast Guard. Barge operators include the Northern Transportation Company Limited (NTCL) and smaller operators, such as Coopers Barging, Bob's Welding, and E. Gruben's Transport. Federal marine activities in support of resupply activities in the NWT include the placement of navigation aids, dredging, ice escort, search and rescue, spill and emergency response, communications, vessel and crew certification, and marine policies and regulatory development. The Department of Transportation maintains the resupply landing sites on behalf of the federal government with federal funding.

The integrated rail and marine resupply systems are an important multi-modal resupply system for communities and resource development. Four communities depend exclusively on marine resupply (Lutselk'e, Paulatuk, Sachs Harbour and Ulukhaktok). The Department will continue promoting multi-modal partnerships and facilities to improve service levels and reduce the cost of resupply activities.

The Department will also continue to lobby the federal government for improvements to hydrographical charting in the Arctic to improve community resupply for marine serviced communities and will also lobby for the restoration of the dredging program, including at the port of Hay River.

## **Private Winter Roads and Airstrips**

The public transportation system is supplemented by numerous privately constructed, operated, and maintained winter roads and airstrips that connect resource development and exploration activities to the public transportation system.

### **FREIGHT FACTS**

**520 000 Tonnes**  
of surface freight were  
transported into the NWT  
in 2009.

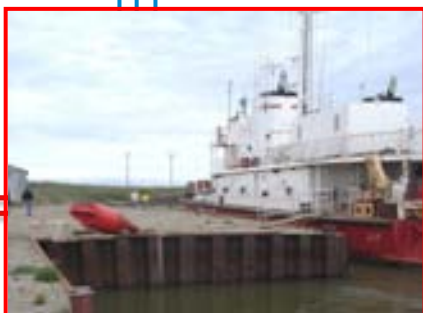
- 194 000 t for community re-supply
- 54 000 t for resource projects
- 273 000 t in bulk fuel
- 241 000 t arrived by truck
- 212 000 t arrived by rail
- 20 000 t arrived by air

# Transportation System Partners

To succeed in the delivery of transportation services and infrastructure to users, the Department of Transportation promotes partnerships between various levels of government and the private sector:

- Marine, air, rail, and highway service providers (carriers) transporting both people and cargo;
- The federal government providing infrastructure funding and services, such as marine navigation aids, regulation of marine and air safety, and the provision of air security and baggage screening;
- Community and Aboriginal governments providing maintenance and operation of infrastructure. For example, many of our community airports are operated through a contracts with local communities and local Aboriginal governments;
- Community and Aboriginal governments as partners in facilitating infrastructure improvements. For example, the road to Gravel Source 177 was constructed through a partnership with the Hamlet of Tuktoyaktuk; the Fort Good Hope Runway was extended through a partnership with Yamoga Land Corporation; and the community of Nahanni Butte was instrumental in the completion of the Nahanni Butte Access Road;
- Industry partnerships to expand operations and services to meet industry needs; and
- Provincial, territorial and federal partnerships to ensure an integrated and efficient national transportation system.

The Department is also committed to sharing knowledge and expertise through these partnerships. For example, the Department is working to assist the communities of Fort McPherson and Lutselk'e to improve their own community roads and also assisting the community of Aklavik to study options to develop a community granular source.



# Legislation & Regulations

The Department will continue updating and modernizing legislation, policy, and regulations to meet changing circumstances. Current initiatives include enacting regulations under the *Deh Cho Bridge Act* to facilitate the bridge tolling system. Amendments to the *Motor Vehicles Act* were passed to support banning the use of hand-held electronic devices while driving. The respective regulations are under development.

The Department is responsible for the following Northwest Territories legislation:

## ***All-Terrain Vehicles Act***

- All-Terrain Vehicles Regulations
- Enterprise All-Terrain Vehicles Regulations
- Fort Resolution Snowmobile Regulations
- Lutselk'e All-terrain Vehicles Regulations
- Special All-terrain Vehicles Fees Regulations
- Special All-Terrain Vehicles Helmet Regulations

## ***Public Airports Act***

- Commissioner's Public Airport Lands Regulations
- Public Airport Fees Regulations
- Public Airports Vehicle Parking Regulations

## ***Public Highways Act***

- Highways Designation and Classification Regulations
- Highway Signs Regulations
- Colville Lake Winter Road Designation and Classification Regulations

## ***Transportation of Dangerous Goods Act***

- Transportation of Dangerous Goods Regulations

## ***Deh Cho Bridge Act***

## ***Motor Vehicles Act***

- Appeal and Review Fee Regulations
- Breath Analysis Equipment Regulations
- Carrier Fitness Regulations
- Driver's License Demerit Point Regulations
- Driver's License Regulations
- Financial Responsibility Regulations
- General Identification Card Regulations
- Hours of Service Regulations
- Large Vehicle Control Regulations
- Motor Vehicle Equipment Regulations
- Motor Vehicle Registration and License Plate Regulations
- Motorcycle Helmet Regulations
- Regulations Respecting Exemptions to the *Motor Vehicle Act*
- School Bus Regulations
- Seasonal Highway Regulations
- Seat Belt Assembly and Child Restraint System Regulations
- Trip Inspection Regulations



# Additional Resources

***Please consult DOT's Internet website for information on all aspects of the Department, including the following documents:***

- ***Investing in Roads for People and the Economy***, the DOT highway strategy, November 2000
- ***Corridors for Canada: An Investment in Canada's Economic Future***, May 2002, prepared by DOT and submitted under the Strategic Infrastructure Fund
- ***Corridors for Canada II: Building on Our Success***, September 2005, prepared by DOT and submitted under the Strategic Infrastructure Fund
- ***Connecting Canada Coast to Coast to Coast: A Proposal to Complete the Mackenzie Valley Highway to the Arctic Coast***, November 2005, prepared by the Department of Transportation
- 2008-2012 Department of Transportation Business Plans
- ***Northern Connections: A Multi-modal Transportation Blueprint for the North***, a pan-Northern transportation strategy developed by the NWT, Yukon, and Nunavut, February 2008
- ***Green Light: Signaling the Department of Transportation's Commitment to the Environment***, the DOT environmental strategy, 2009
- ***Developing Our Greatest Resource — DOT Human Resources Plan 2010-14***





