TRANSPORT CANADA'S CLIMATE ADAPTATION INITIATIVES

MEOPAR, ICLR & WESTAC Expert Forum: Climate Risks for Coastal Transportation Infrastructure Vancouver, May 2018

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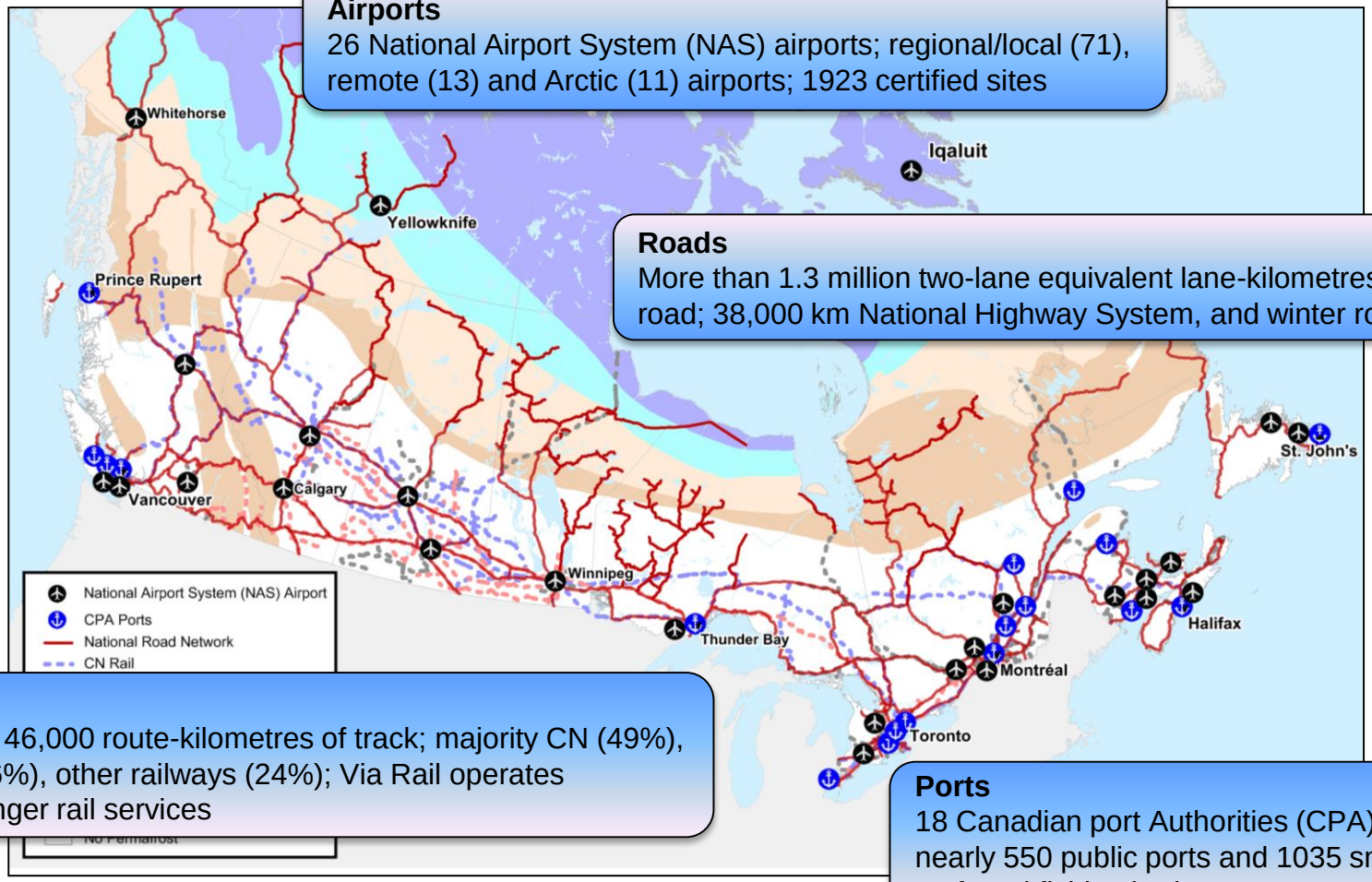
OVERVIEW

- Importance of B.C. in the national transportation system
- Key climate risks for the transportation sector
- Transport Canada's mandate
- Global and domestic adaptation priorities
- Transport Canada's climate change adaptation initiatives

CANADA'S TRANSPORTATION SYSTEM

Airports
26 National Airport System (NAS) airports; regional/local (71), remote (13) and Arctic (11) airports; 1923 certified sites



Roads
More than 1.3 million two-lane equivalent lane-kilometres of public road; 38,000 km National Highway System, and winter roads

Rail
Nearly 46,000 route-kilometres of track; majority CN (49%), CP (26%), other railways (24%); Via Rail operates passenger rail services

Ports
18 Canadian port Authorities (CPA); nearly 550 public ports and 1035 small craft and fishing harbours

B.C.'S TRADE & TRANSPORTATION CORRIDORS

- 4.8M people, concentrated within the South Coast
- Diverse, resource-based economy with increasing hi-tech
- $274B GDP in 2017 (13% of Canada)
- Marine ports are major economic drivers
- Major international air passenger gateway
- Economic linkages to US Northwest

A CHANGING CLIMATE POSES RISKS TO OUR TRANSPORTATION SYSTEMS

- Risk of damage and disruption to critical gateway transportation networks' infrastructure and operations
- Acute affects – northern remote communities and large urban centres

Airport vulnerability: risks from extreme cold, degrading permafrost, storm surges

Damage from extreme precipitation in the Fraser Canyon (Nov. 2017)

Bridge failure isolated Stewart, BC (Sept. 2011). Cost= $7M response, $11M repair

Sea level rise, storm surges, and flooding will impact port facilities and logistics

TRANSPORT CANADA'S MANDATE

Mandate

- Responsible for developing & overseeing the Government of Canada's transportation policies & programs so that Canadians can have access to a transportation system that is: Safe & Secure; Green & Innovative; & Efficient

Role

- Leadership role in ensuring that all parts of the transportation system across Canada work together effectively
- Develop policies, programs, legislative and regulatory frameworks
- Safety and security oversight (e.g., airports, ports, rail)
- Funding to organizations such as infrastructure owners

GLOBAL CLIMATE CHANGE ADAPTATION CONTEXT

- Adapting to a changing climate: has emerged as increasingly important policy issue – internationally and domestically
- For example internationally:
  - Paris Agreement on Climate Change (2015)
  - Agenda 2030 and United Nations Sustainable Development Goals: Goal 13 – Climate Action (2015)
  - Sendai Framework for Disaster Risk Reduction: 2015-2030

DOMESTIC CLIMATE CHANGE ADAPTATION PRIORITIES

Federal role:

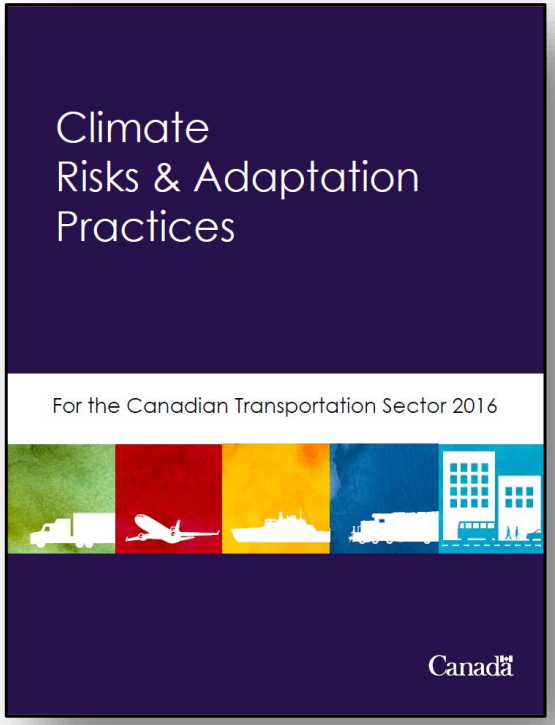
- Generating and sharing knowledge
- Building adaptive capacity to respond and helping Canadians take action
- Integrating adaptation into federal policy and planning (mainstreaming)

Key drivers of Transport Canada' adaptation work:

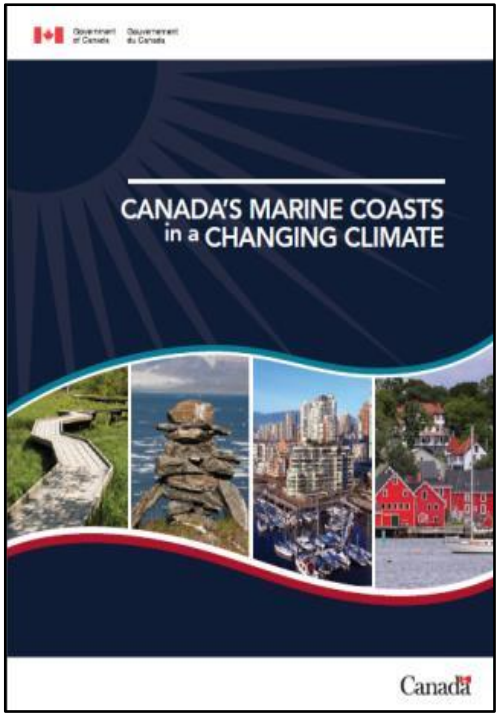
- Federal Adaptation Policy Framework
- Transportation 2030
- National Emergency Management Framework (updated May 2017)
- Pan-Canadian Framework on Clean Growth & Climate Change
- Federal Sustainable Development Strategy (2016-2019)
- Government of Canada Greening Government Strategy, 2017

GOVERNMENT OF CANADA CLIMATE RISKS & ADAPTATION REPORTS

Climate Risks and Adaptation Practices for the Canadian Transportation Sector (2016)



Canada's Marine Coasts in a Changing Climate (2016)



TRANSPORT CANADA
NATIONAL TRADE CORRIDORS FUND

Program Features:

- Funding for infrastructure projects supporting fluidity of Canadian trade
- $2 billion, 11-year, competitive, merit-based program
- Leverages investments from multiple partners
- One of the four objectives is to "*help the transportation system withstand the effects of climate change and make sure it is able to support new technologies and innovation*"

Climate Change Adaptation & Resilience Assessment:

- Applicants required to provide information on degree to which they take climate change impacts into consideration
- Proposals evaluated on how they will strengthen resiliency of Canada's transportation system in a changing climate

TRANSPORT CANADA
NATIONAL TRADE CORRIDORS FUND

Climate adaptation measures in BC project proposals: submitted examples

- Raising construction level of new structures by 1.3 meters to address predicted sea level rise & predicted 200-year storm surge
- Designing storm sewers to an anticipated 17% increase in rainfall intensity by the mid-2050s
- Raising height of road by 1m to provincial 1 in 500-year flood level
- Project design follows the BC MOTI Engineering Infrastructure Design Guidelines on “Climate Change & Extreme Weather Event Preparedness & Resilience”

TRANSPORT CANADA
TRANSPORTATION ASSETS RISK ASSESSMENT (TARA) INITIATIVE

- TARA initiative announced following Budget 2017, receiving up to $16.35 million over five years (2017-2022)
- Aim is to better understand climate risks to federally-owned transportation infrastructure and potential adaptation solutions that could be employed
- Eligible activities:
  - Climate risk assessments
  - Purchases and installations of tools and technology
  - Associated training
  - Research and analysis
- TARA is delivered through a combination of transfer payments (grants and contributions) and operational funding

CLIMATE RISK ASSESSMENT – SANDSPIT AIRPORT

Transport Canada owns and operates Sandspit Airport:

- Susceptible to winter storms of increasing strength & duration, and associated storm surges
- Experiencing damage to airfield lights and pavement, marine debris on runway
- Frequency & magnitude of storm surge events may increase with sea level rise

Transport Canada is undertaking a climate risk assessment of the airport:

- Project will consider climate change risks and explore adaptation solutions
- Study completion anticipated by winter 2019

TC Sandspit Airport Runway, (December, 2011)

End of runway subject to severe wave overtopping during a significant storm event, with a sea surge approximately 1 metre above runway elevation. A 250 m section of damaged riprap needed to be re-constructed.

Source: Climate Risks & Adaptation Practices - For the Canadian Transportation Sector 2016

THANK YOU