

NORTHERN
POLICY INSTITUTE

INSTITUT DES POLITIQUES
DU NORD

ECONOMIC DEVELOPMENT YEAR 1, UNIVERSITY OF WATERLOO THE NORTHERN ECONOMY

17 JUNE 2016, THUNDER BAY

Overview

- Introduction to Northern Policy Institute
- GDP in the North
- Employment in the North
- Opportunities and Challenges
- Immigration in the North
- Education in the North
- Bottom Line

About.

NORTHERN
POLICY INSTITUTE

INSTITUT DES POLITIQUES
DU NORD

www.northernpolicy.ca

What is NPI?

- “Think tank”
- Independent – authors are free from interference from everyone, including us
- Non-partisan – we do not take “sides”
- Evidence based – we collect, measure and interpret data
- IN the North – we deal with local, regional, provincial, national and international issues from a northern perspective
- Not an advocacy group

Three ways YOUR issue gets on OUR to-do list

1. Top Ten Northern Issues:

Northern Policy Institute is the ONLY Think Tank in Canada that sets its research agenda based on feedback we receive from our stakeholders, all 780,000 of them. If your issue is shared by your friends and neighbours, it will likely get onto our to-do list.

2. Single Window on Northern Issues:

YOU do the work, commission the study, and you send it to us for re-publication or dissemination. Big parts of our job involve avoiding wasteful duplication of effort and getting the word out about what has already been done.

3. Willing to Partner – but no guarantees:

NOT a consulting service, but will partner – in cash, or in kind – to expedite needed work. We just can't promise you will like the answer.



Northern Ontario data is now just a click away. Northern Policy Institute, North Superior Workforce Planning Board, and the Sault Ste. Marie Innovation Centre are pleased to launch Northbynumbers.ca, an **interactive data tool** that displays Northern Ontario census data from between 2001 and 2011.

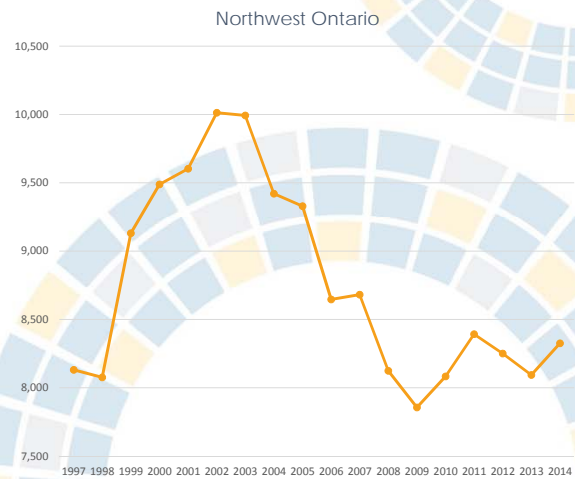
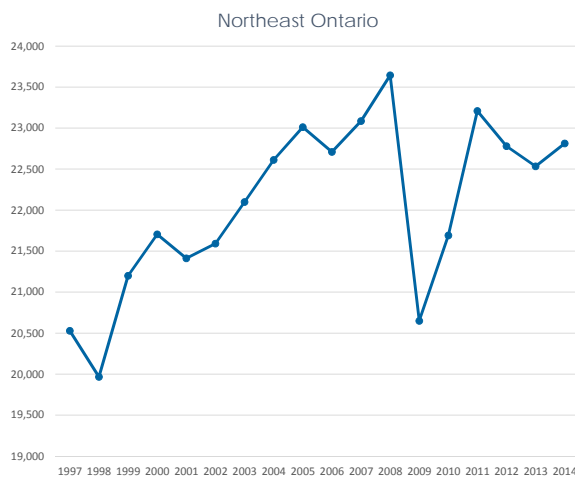
Identity, income, housing, education, employment, mobility, age and population statistics – at the District, community and even neighborhood level!*

* - where available

Northern GDP

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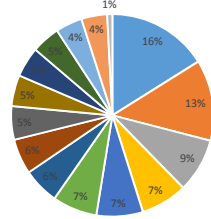
GDP (Chained 2007 dollars x 1,000,000)



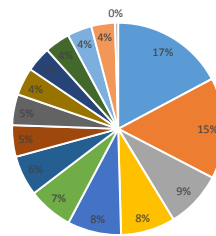
Source: Author's calculations based on Statistics Canada, CANSIM database, tables 282-0125 and 379-0030.

Distribution of Jobs by Industry – Sudbury

2001



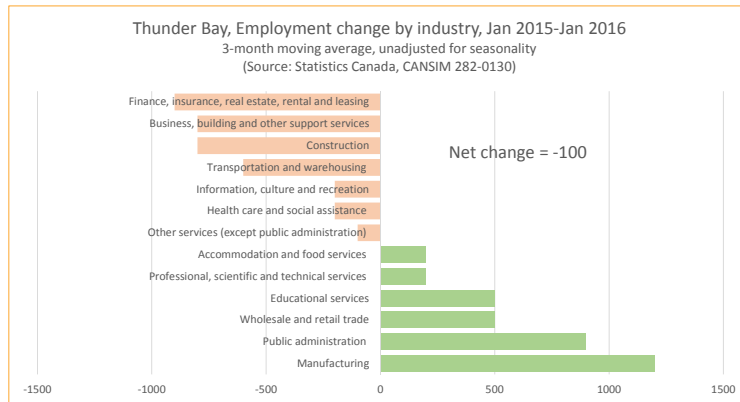
2014



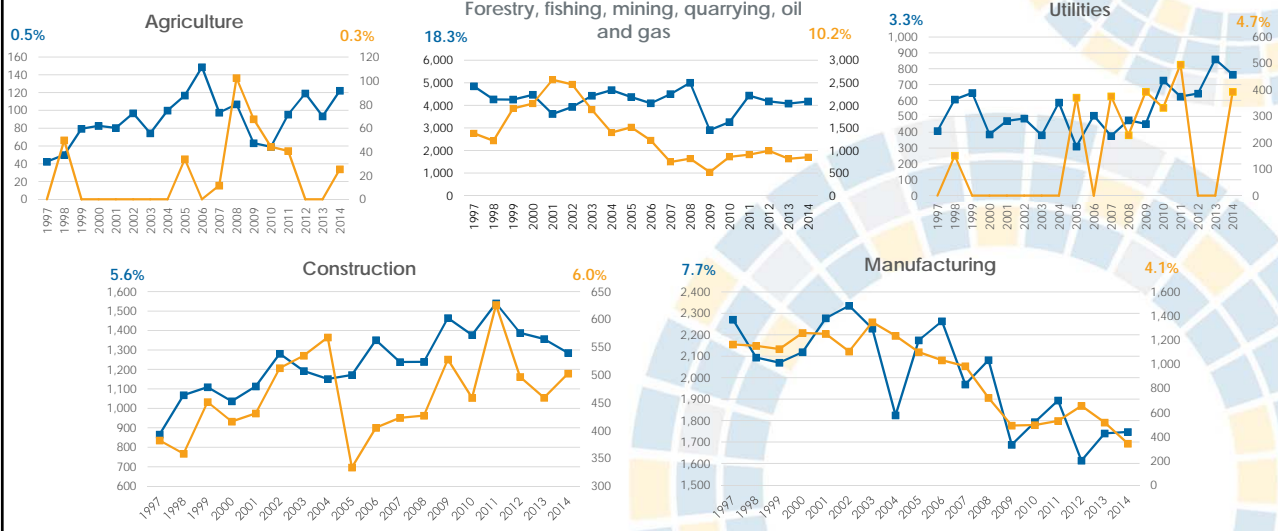
Labour Market Characteristics

Employment by industry (NAICS) and occupation (NOC-S)

- ER/CMA data by 4-digit NAICS/NOC-S through cost-recovery
- Request CA and CD level data
- Source: Statistics Canada, Labour Force Survey (CMA), Census/NHS (CSD)
- Source: Estimation techniques (CD, CSD)

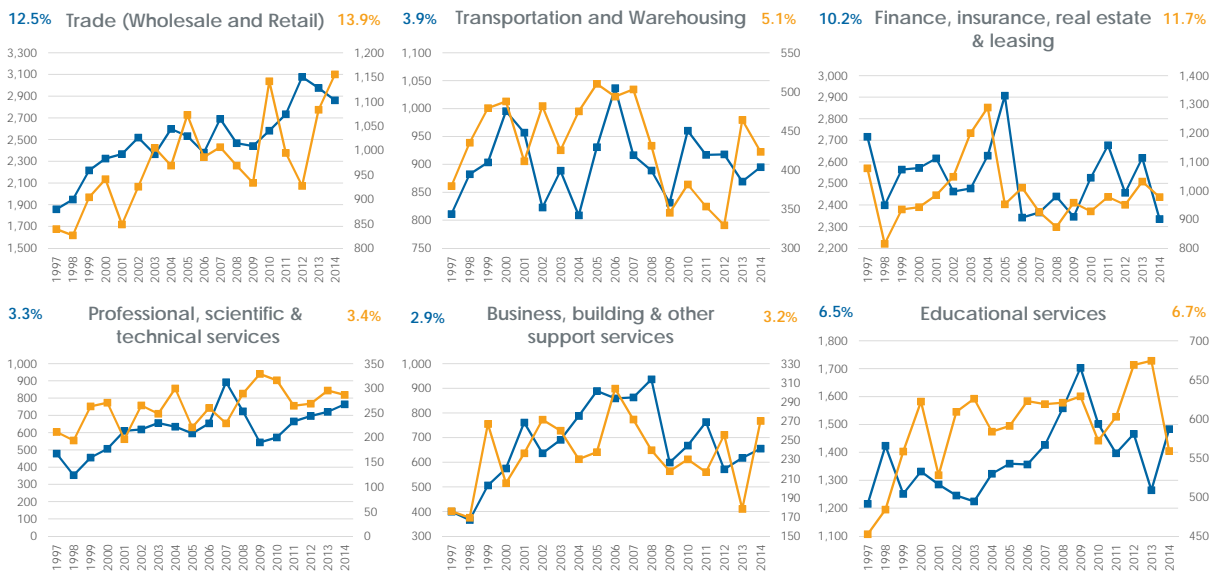


GDP by goods-producing industry (chained 2007 dollars x1,000,000)



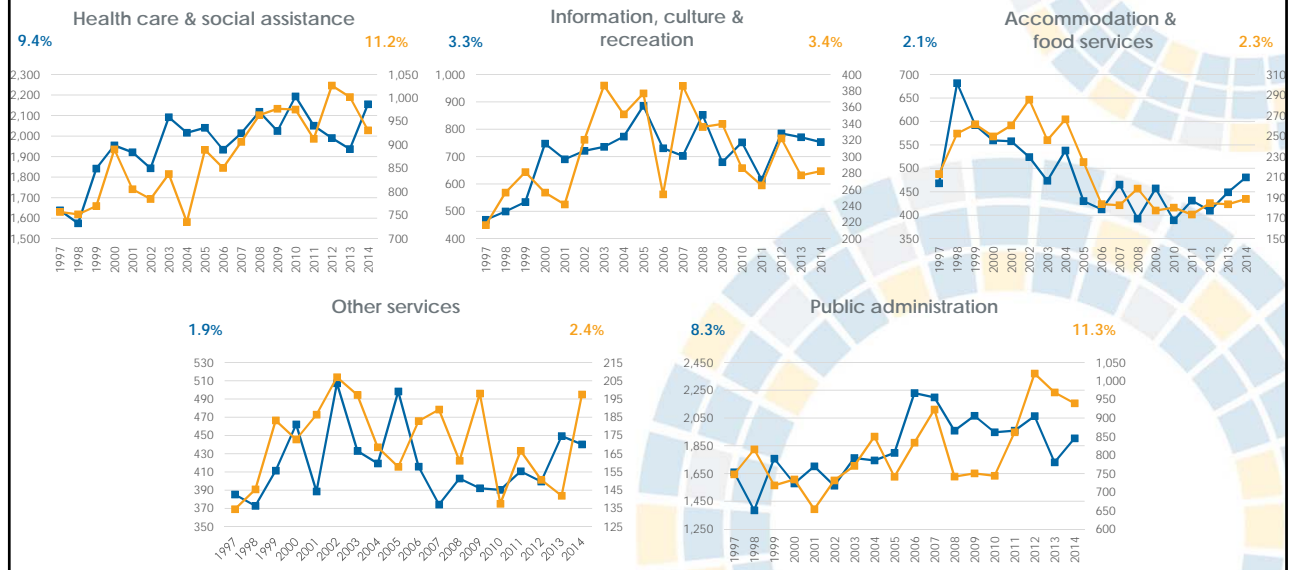
Source: Author's calculations based on Statistics Canada, CANSIM database, tables 282-0125 and 379-0030.

GDP by services-producing industry



Source: Author's calculations based on Statistics Canada, CANSIM database, tables 282-0125 and 379-0030.

GDP by services-producing industry cont'd



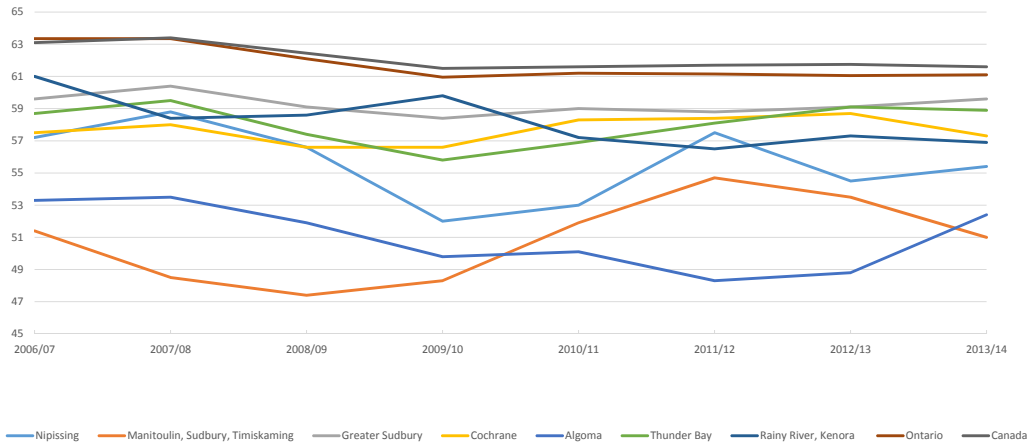
Source: Author's calculations based on Statistics Canada, CANSIM database, tables 282-0125 and 379-0030.

Northern Employment

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Employment Rate by district

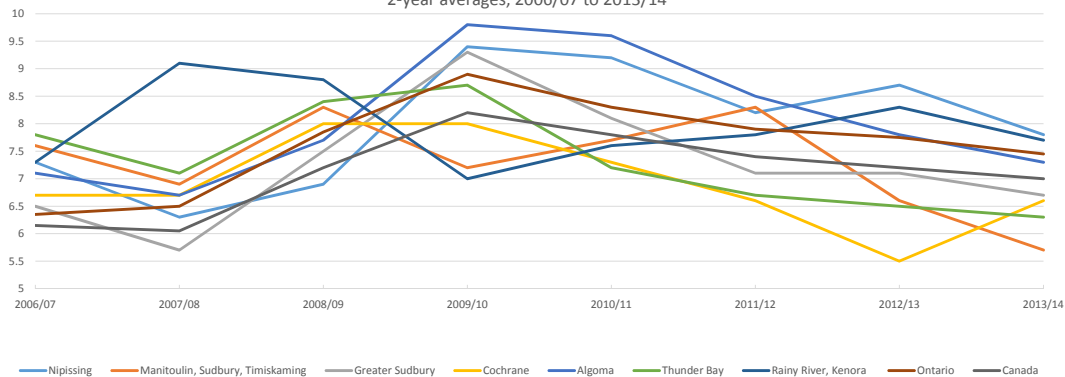
Employment Rate (%), Northern Ontario Census Divisions,
2-year averages, 2006/07 to 2013/14



Source: Statistics Canada, CANSIM Table 282-0002 and custom tabulation. Note: District-level data is only available as 2-year averages. As such, annual Labour Force Survey data for Ontario and Canada was manipulated into 2-year averages in order to compare with district-level data.

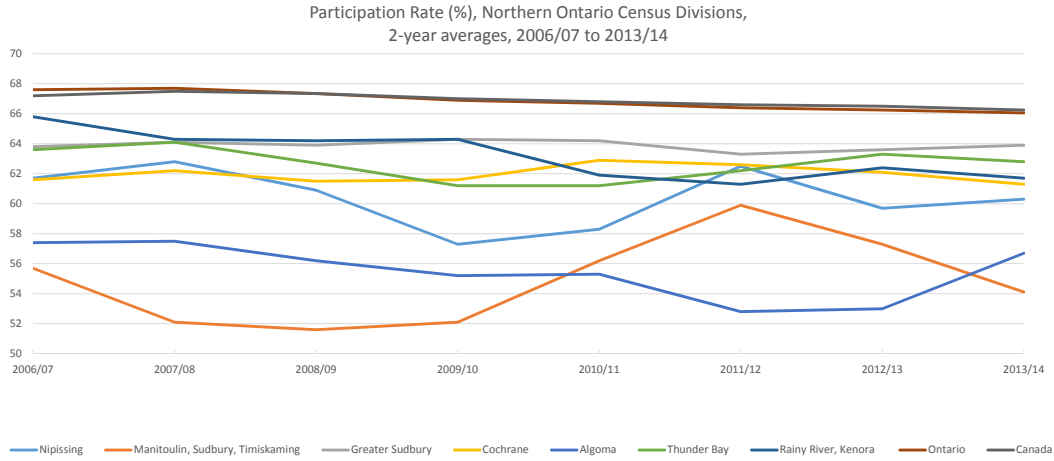
Unemployment Rate by district

Unemployment Rate (%), Northern Ontario Census Divisions,
2-year averages, 2006/07 to 2013/14



Source: Statistics Canada, CANSIM Table 282-0002 and custom tabulation. Note: District-level data is only available as 2-year averages. As such, annual Labour Force Survey data for Ontario and Canada was manipulated into 2-year averages in order to compare with district-level data.

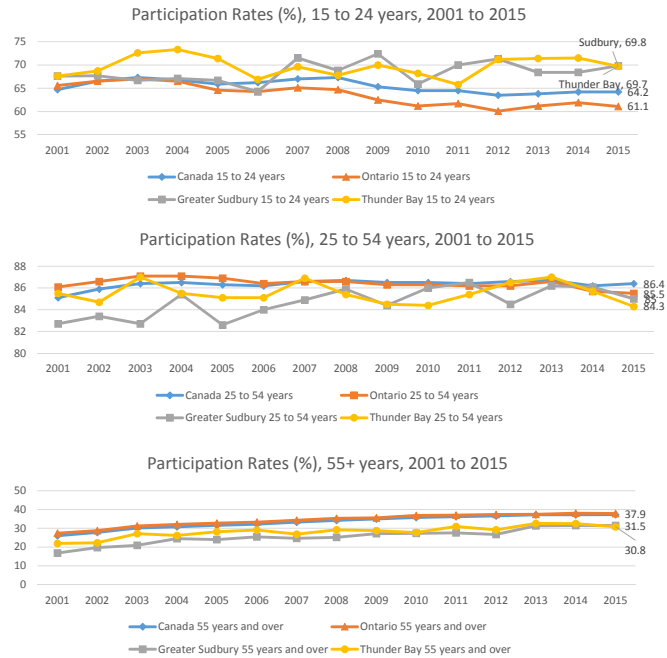
Participation Rate by district



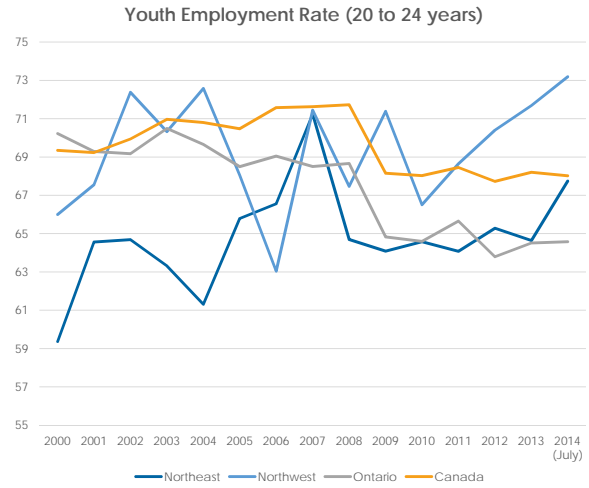
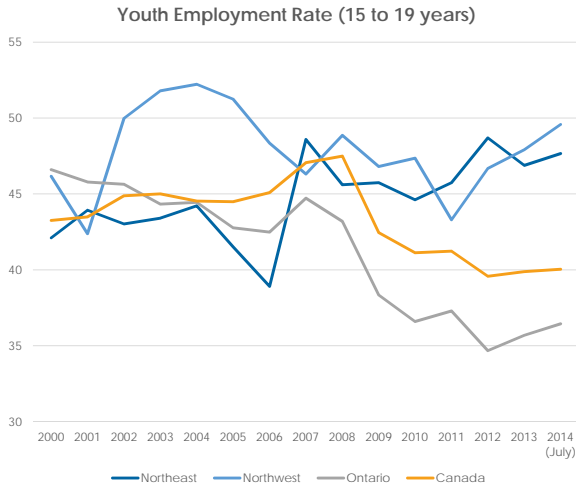
Source: Statistics Canada, CANSIM Table 282-0002 and custom tabulation. Note: District-level data is only available as 2-year averages. As such, annual Labour Force Survey data for Ontario and Canada was manipulated into 2-year averages in order to compare with district-level data.

Northern Ontario's youth are economically involved

1. 15-24
 - Consistently above Ontario and Canada
2. 25-54
 - Consistently below
3. 55+
 - Roughly equal participation



Youth Employment Rate



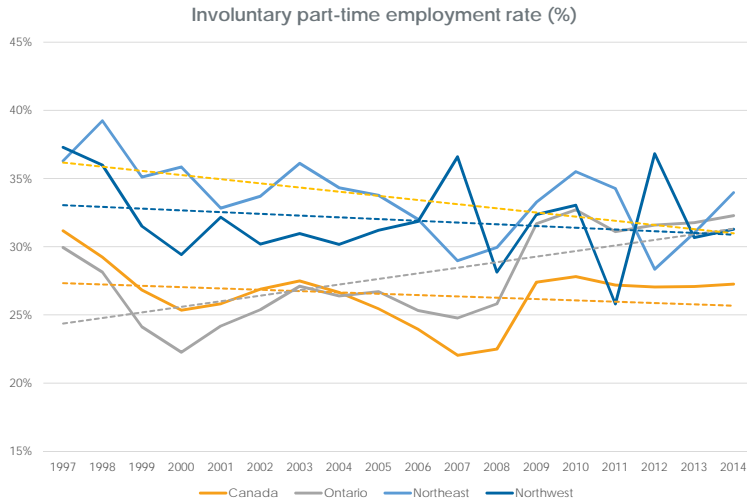
Source: Author's calculations based on Statistics Canada, custom tabulation.

Youth Unemployment Rate



Source: Author's calculations based on Statistics Canada, custom tabulation.

Involuntary part-time employment



Involuntary part-time employment rate is the percent of part-time jobs that are being filled by individuals who would prefer to be working full-time

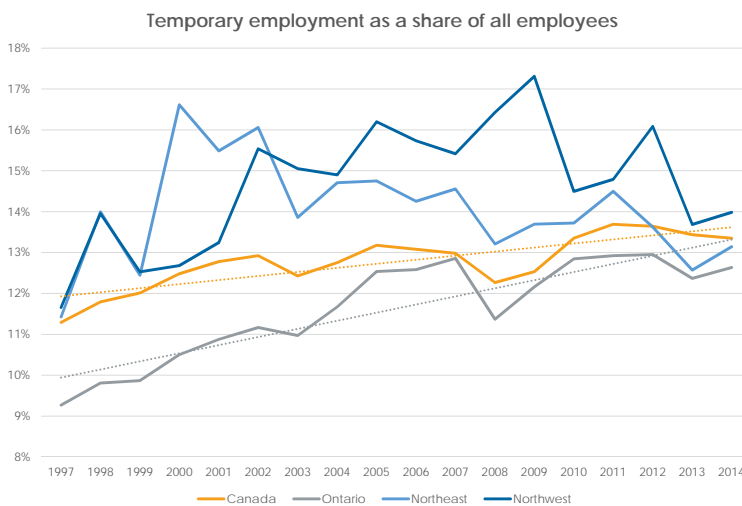
Involuntary part-time employment in 2014:

- Canada – 27% (935,700 people)
- Ontario – 32% (431,900 people)
- Northeast – 34% (17,900 people)
- Northwest – 31% (7,100 people)

Also tracking this indicator by age and gender

Source: Author's calculations based on Statistics Canada, custom tabulation.

Temporary Employment



Temporary employment includes seasonal, term or contract, casual and other temporary jobs

Temporary employment is only a small chunk of total employment.

As of 2014:

- Canada – 13.4% (2 million people)
- Ontario – 12.6% (736k people)
- Northeast – 13.1% (30k people)
- Northwest – 14% (13k people)

Also tracking this indicator by age, gender and industry

Source: Author's calculations based on Statistics Canada, custom tabulation.

Northern Challenges & Opportunities

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Northern Ontario's population is declining

From 2001 to 2015, Northern Ontario's population declined by 2.8%

1. Low fertility rates

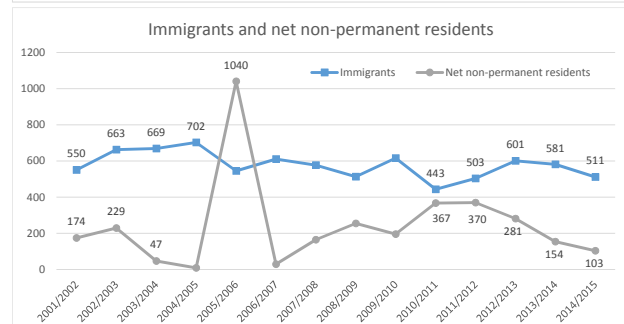
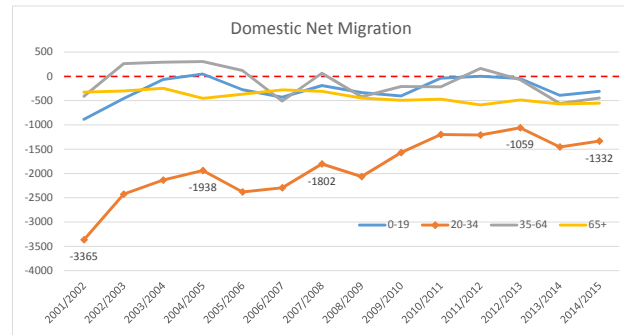
- Northeast Ontario = 1.60
- Northwest Ontario = 1.77
- Generational Replacement Rate = 2.1

2. Out-migration

- In 2014/2015, over 2,600 more people moved to Southern Ontario or another province than those who moved to the North from these areas

3. Low rates of immigration

- As of 2015, Northern Ontario had 6.4 immigrants per 10k people, compared with 64.8 in Ontario
- The number of immigrants in Northern Ontario has been declining on average for over decade
- Net non-permanent residents are positive but have been declining since 2011 (note these are 'net' numbers)

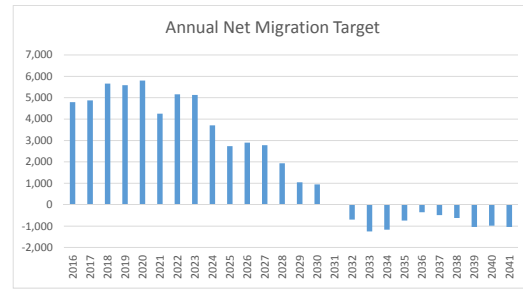
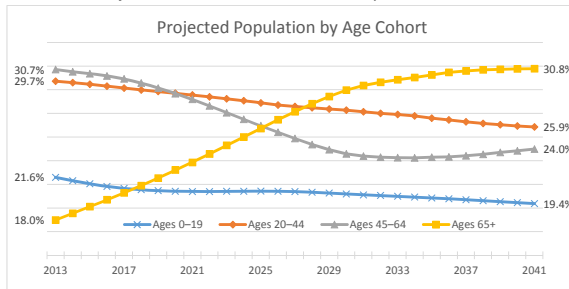
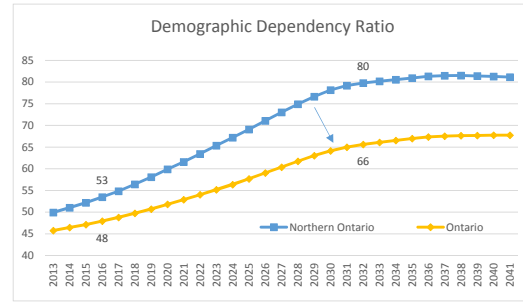


Source: Statistics Canada, NPI calculations.

Northern Ontario's population is getting older, faster

By 2041, people aged 65+ will make up over 30% of the population in Northern Ontario.

- In the next 15 years, non-working-age individuals will increase from 53 to 80 for every 100 working-age individuals, compared to 66 in the Ontario.
- Closing the dependency gap with Ontario by bolstering working-age population levels is one strategy that can be used to target levels of in-migration, immigration, non-permanent residents and youth retention.
- This is an opportunity for PSEs – in collaboration with communities – to be front and centre in reversing one of Northern Ontario's biggest challenges.
- See, for example, Greater Sudbury's Economic Strategic Plan which targets 10,000 new jobs and 30,000 more residents by 2025.



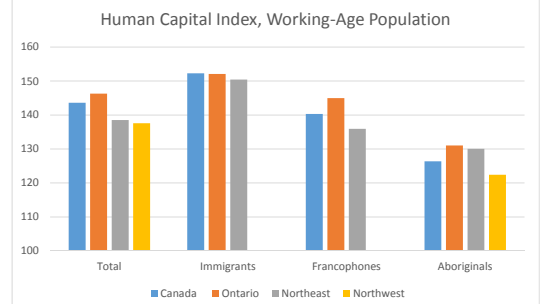
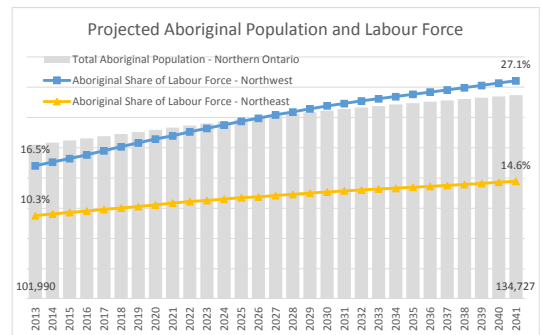
Source: Ministry of Finance, NPI calculations.

Northern Ontario's Aboriginal population is growing

From 2013 to 2041, the Aboriginal population is expected to increase by 32%, from 102,000 to 135,000

- Aboriginal labour force is expected to increase considerably. In districts such as Kenora and Rainy River, the Aboriginal share of the labour force is expected to exceed 40% by 2040
- Human capital among the working-age population is lower in the North than compared to Ontario and Canada
- Human capital among the Aboriginal population is lower than the rest of the population
- Immigrants have relatively high levels of human capital across Ontario and in the North

Increasing educational levels – among the Aboriginal population in particular – will be one of the largest barriers to growth in the North going forward.



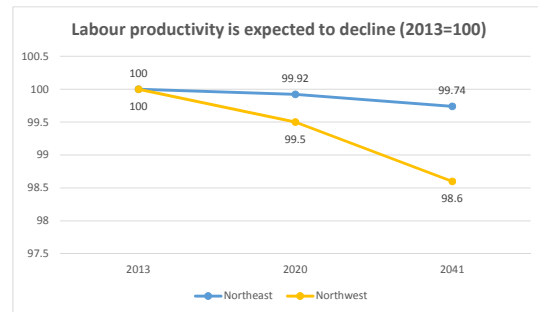
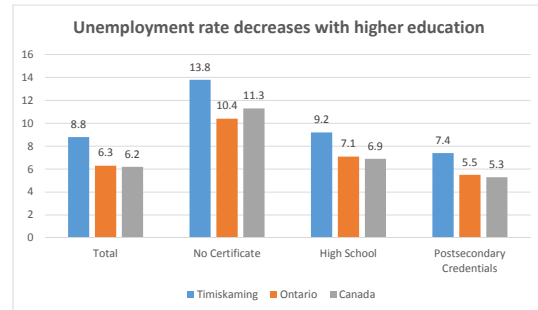
Source: NPI calculations based on Statistics Canada and Ministry of Finance.

Education is key to a productive economy

Higher education increases participation in the labour market and decreases unemployment

- Future productivity in Northern Ontario is expected to decrease as a result of:
 1. Declining overall population
 2. Increasing Aboriginal population with low education levels
- Productivity is expected to decline in all districts, but most prominently in Kenora, Rainy River and Manitoulin districts
- This is only part of the story...
- Currently, 63.4 percent of jobs require some post-secondary credentials in Canada (77-80% by 2031)
 - Northern Ontario, and the Aboriginal population in particular, is well below this number

If education levels in Northern Ontario remain at their current level or decline in the future while skill requirements of the workforce rise, the region will end up with people without jobs and jobs without people.



Source: NPI calculations based on Statistics Canada.

Where to go from here?

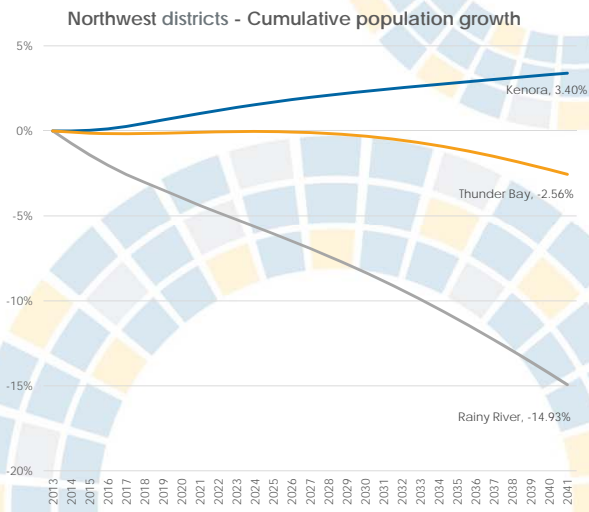
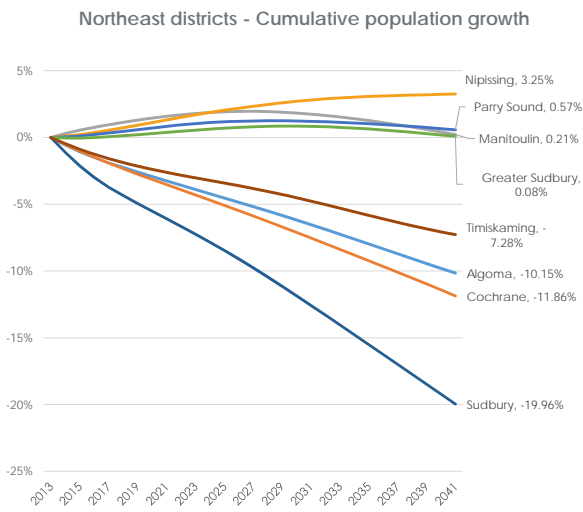
1. Bolster the population in Northern Ontario
 - i. Immigration
 - ii. Non-permanent residents (i.e., foreign workers, foreign students)
 - iii. In-migration (both from within Ontario and from other provinces)
 - iv. Youth retention
 - v. Use dependency ratios to target population growth
2. Increase educational levels among the Aboriginal population
 - i. Enhance access in both rural and urban areas (i.e., increased investment and quality, infrastructure, online methods, etc.)
 - ii. Community-based and cultural-tailored methods
 - See NPI publications: "[Picking up the Pieces](#)" and "[A Strategy for Change](#)"
 - iii. Personal tutors
 - See new research from NBER: "[The Production of Human Capital in Developed Countries](#)"

PSE's in Northern Ontario may be front and centre of the strategies

Northern Immigration

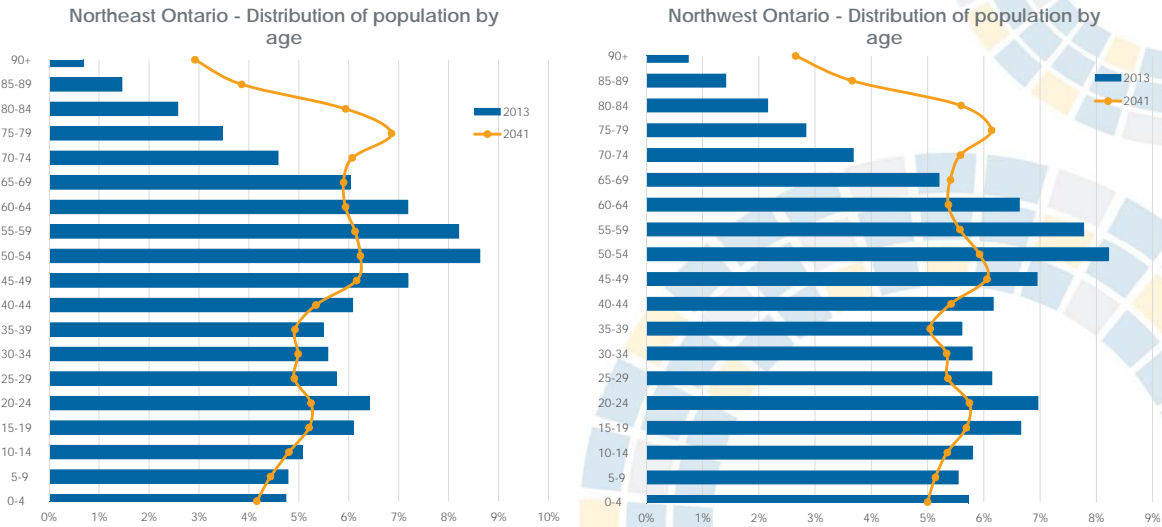
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Population Projections



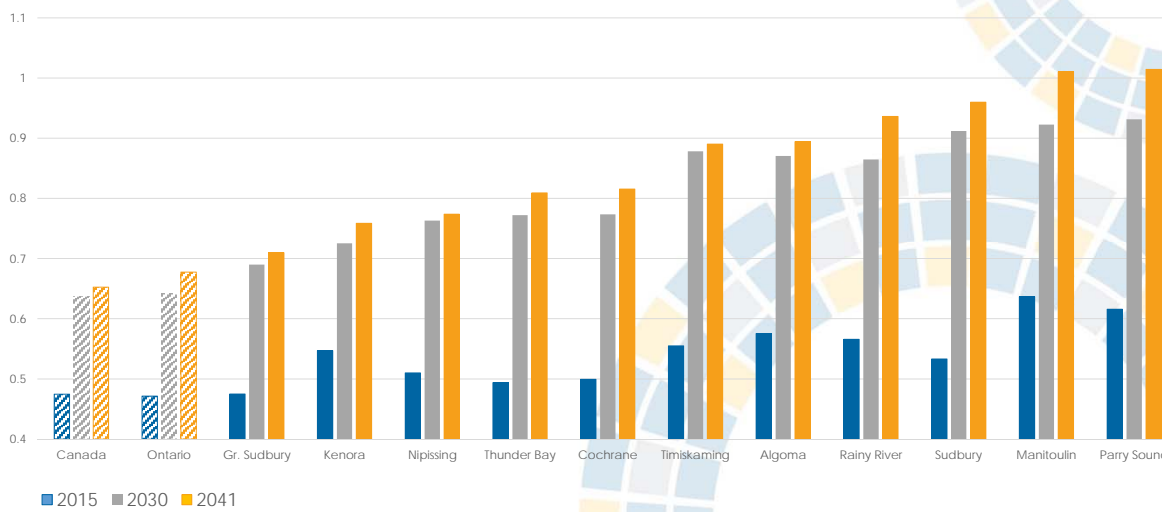
Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Age Cohorts

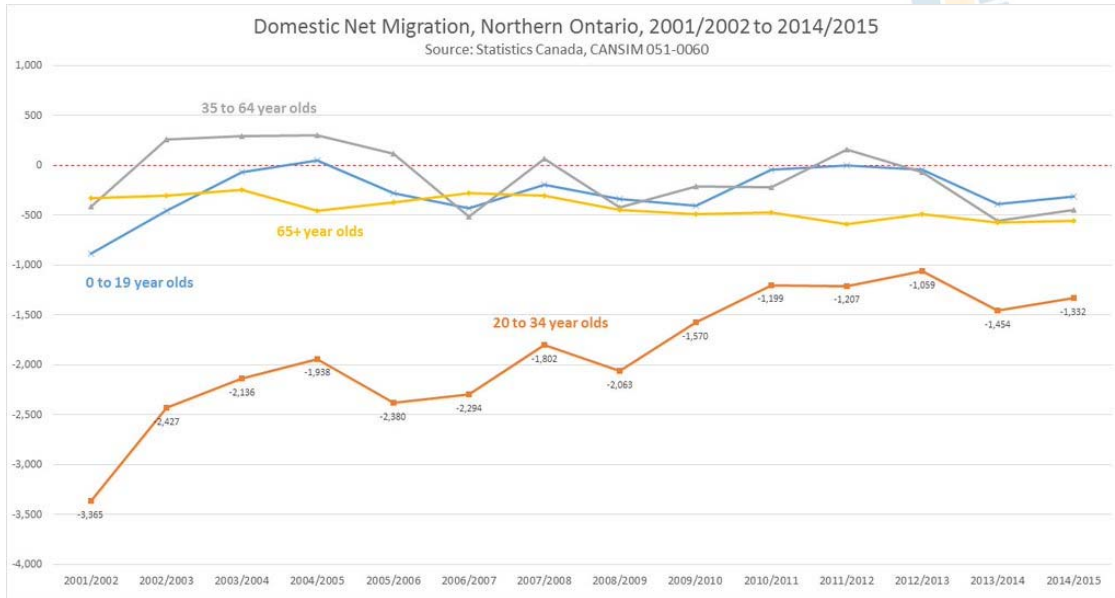


Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Current & Projected Dependency



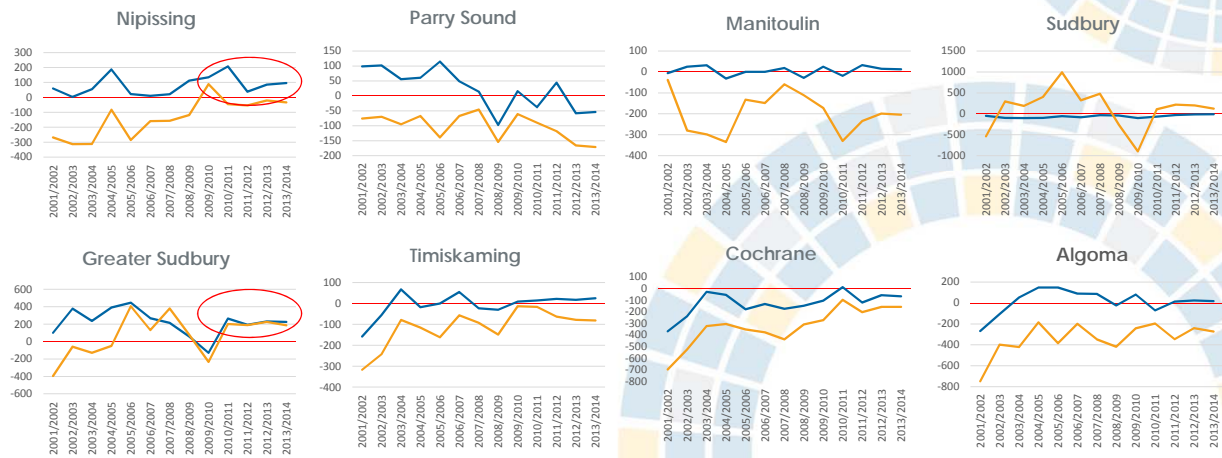
Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).



Source: Author's calculations based on Statistics Canada, CANSIM database, table 051-0053.

Youth net migration, by district (Northeast)

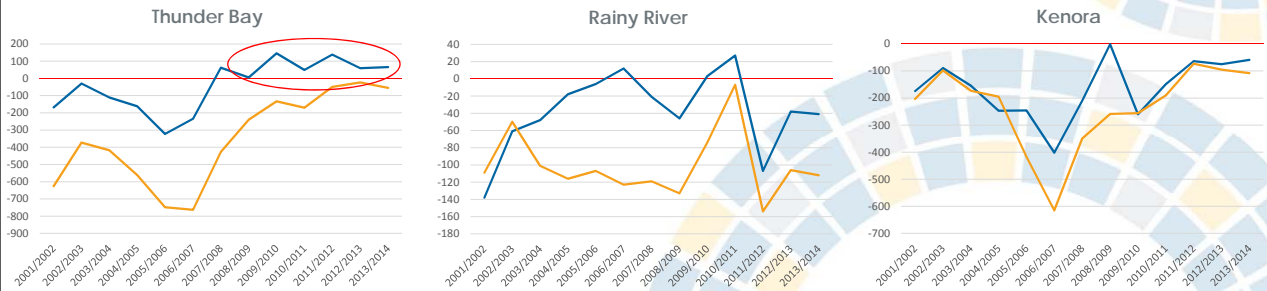
— 0 to 19 years — 20 to 34 years



Source: Author's calculations based on Statistics Canada, CANSIM database, table 051-0053.

Youth net migration, by district (Northwest)

— 0 to 19 years — 20 to 34 years

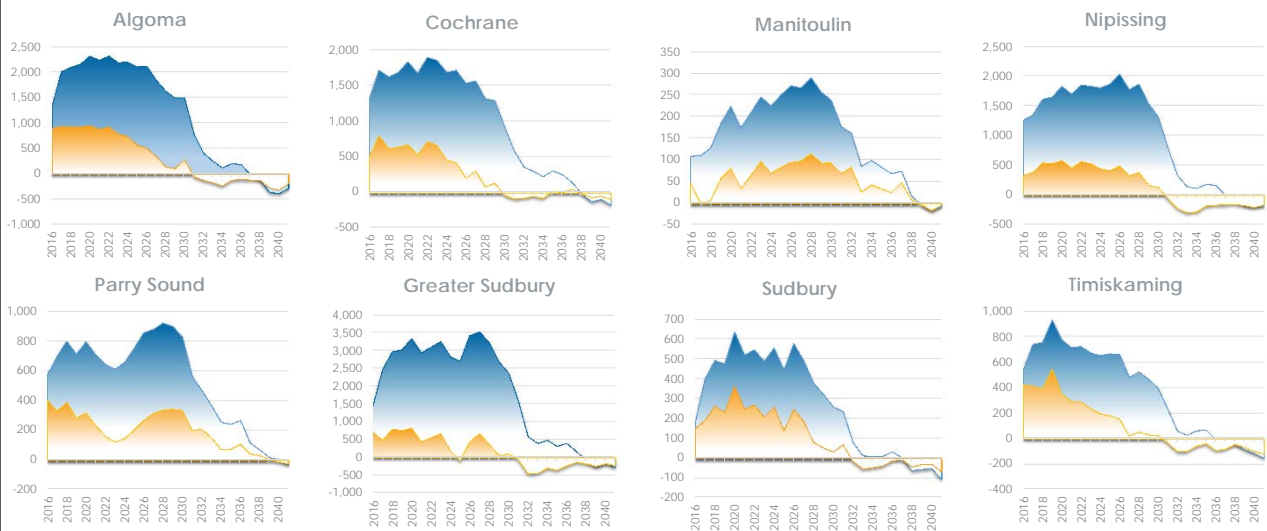


Source: Author's calculations based on Statistics Canada, CANSIM database, table 051-0053.

Northeast – migration targets

Target 1 = to hold dependency ratio at current level (i.e. just shy of .5 for Thunder Bay as of 2015, see slide 14)
 Target 2 = allowing dependency ratio to rise to match the provincial rate by 2041 (i.e. just shy of .7, see slide 14)

■ Annual Net Migration, Target 1
 ■ Annual Net Migration, Target 2

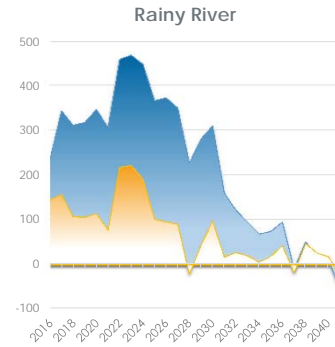
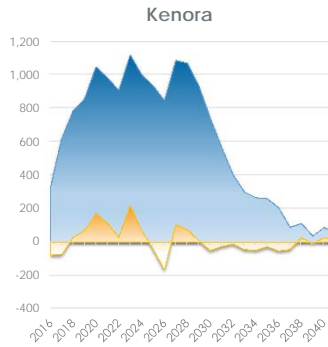
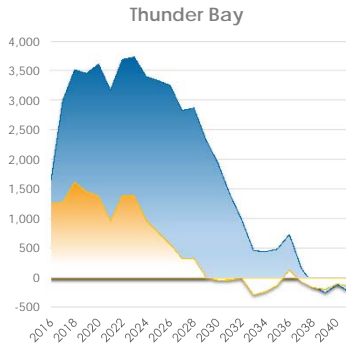


Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Northwest – migration targets

Target 1 = to hold dependency ratio at current level (i.e. just shy of .5 for Thunder Bay as of 2015, see slide 14)
 Target 2 = allowing dependency ratio to rise to match the provincial rate by 2041 (i.e. just shy of .7, see slide 14)

- Annual Net Migration, Target 1
- Annual Net Migration, Target 2



Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Northern Education

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Distance matters

Using nation-wide data, Frenette (2002) used econometric analysis to show that, after controlling for family income, parental education, and other factors associated with university participation, students living “out-of-commuting distance” are far less likely to attend than students living “within commuting distance” are. Students beyond 40 km from a university (35% of the student population) are only 63% as likely to attend university shortly after high school as students living within 40 km from a university. Students living beyond 80 km from a university are only 58% as likely to attend as students living within 40km.

Frenette (2003) finds that students living near a college only are more likely to attend college than those living near both a university and a college.

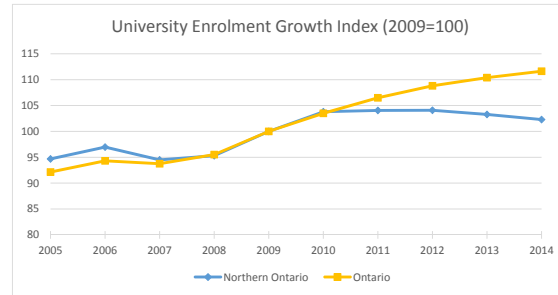
A Lay of the PSE Land

Colleges	Main Campus	Number of Secondary Locations	Secondary Locations
Cambrian College	Sudbury	5	Espanola, Litter Current, Thunder Bay, Toronto, West Bay
Canadore College	North Bay	5	Kitchener, Mississauga, Parry Sound, Tyendinaga
College Boreal	Sudbury	8	Hearst, Kapuskasing, New Liskeard, Niagara, Nipissing, Timmins, Toronto, Windsor
Confederation College	Thunder Bay	8	Dryden, Fort Frances, Geraldton, Kenora, Marathon, Red Lake, Sioux Lookout, Wawa
Northern College	Timmins	3	Haileybury, Kirkland Lake, Moosonee
Sault College	Sault Ste. Marie	0	

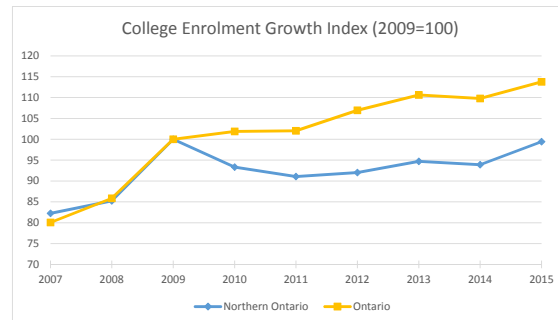
Universities	Main Campus	Number of Secondary Locations	Secondary Locations
Algoma University	Sault Ste. Marie	2	Brampton, Timmins
Lakehead University	Thunder Bay	1	Orillia
Laurentian University	Sudbury	2	Hearst, Barrie
Nipissing University	North Bay	2	Brantford, Bracebridge

PSE Enrolment in the North

- University enrolment is based on fall-term, full-time head counts and includes students from secondary campuses, and excludes enrolment at Algoma University
- College enrolment excludes students from secondary campuses located outside of Northern Ontario
- From 2005 to 2014, university enrolment increased by 7.6% in Northern Ontario compared to 19.5% in Ontario
 - In recent years, university enrolment in the North has declined modestly by (roughly 2% from 2012 to 2014)
- From 2007 to 2015, college enrolment in the North increased by 17.2% compared to 33.7% in Ontario
 - Since 2011, northern enrolment has increased steadily by 8%



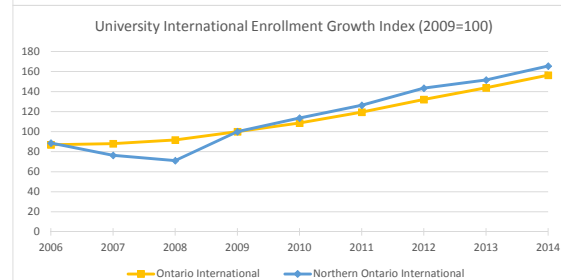
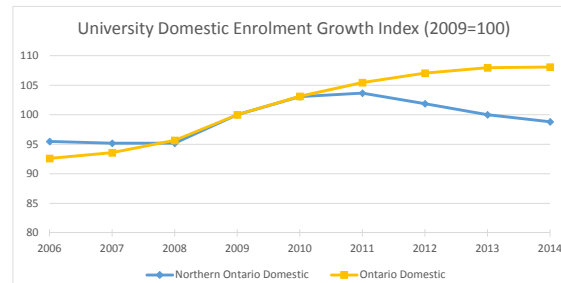
Source: Council of Ontario Universities, NPI calculations.



Source: Ontario College Application Service, NPI calculations.

University – Domestic and International Enrolment

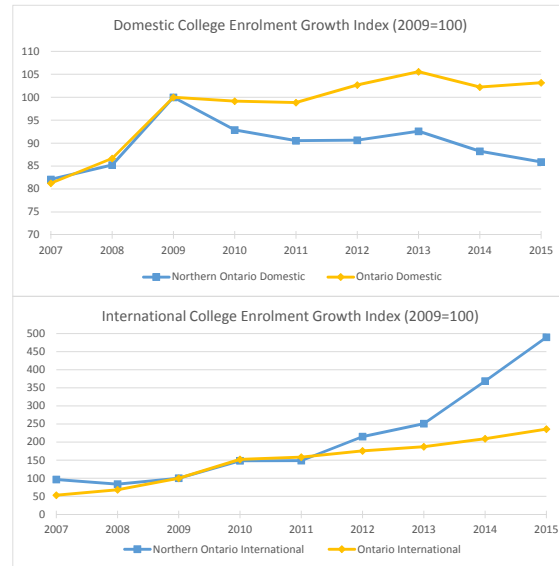
- Domestic enrolment in the North has decreased by nearly 5% since 2011, while enrolment in Ontario has experienced constant growth since 2006.
- International enrolment in the north has grown by almost 40% since 2008 – roughly the same rate as Ontario.
- In 2006, international students made up roughly 2.5% of total enrolment in the North, compared to 7% in Ontario.
- By 2014, international enrolment made up close to 5% of the total in the North, compared to 11% in the province.



Source: Council of Ontario Universities, NPI calculations.

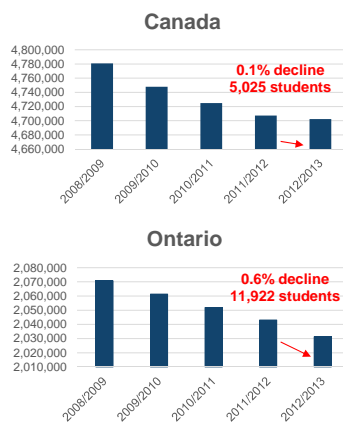
College – Domestic and International Enrolment

- Domestic enrolment in the North has declined by roughly 14% since 2009, compared with a 3% increase in Ontario
- From 2007 to 2015, international enrolment grew by 393% in Northern Ontario, compared to 183% in Ontario
- In 2007, international students made up less than 1% of total college enrolment in Northern Ontario, compared to 4% in Ontario
- As of 2015, international students grew to over 13% of total enrolment in the North, compared to nearly 15% in Ontario

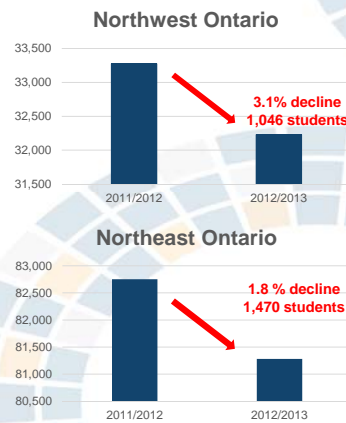


Source: Ontario College Application Service, NPI calculations.

Elementary and secondary school enrolment is falling



Source: Statistics Canada, CANSIM Table 477-0037; Ontario Ministry of Education

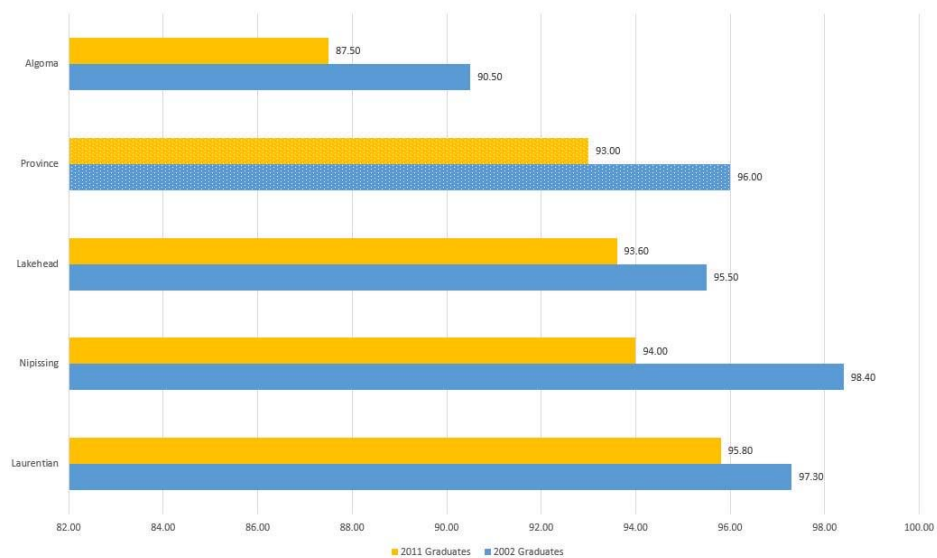


Our education levels are rising

	Less than highschool %	Apprenticeship or trades certificate or diploma %	College, CEGEP or other non-university certificate or diploma %	University certificate, diploma or degree
Census 2006				
Northwestern Ontario	30.1%	11.2%	18.6%	12.1%
Northeastern Ontario	28.8%	11.4%	21.0%	11.1%
Ontario	22.2%	8.0%	18.4%	20.5%
	Less than highschool %	Apprenticeship or trades certificate or diploma %	College, CEGEP or other non-university certificate or diploma %	University certificate, diploma or degree (at or above bachelor level)
NHS 2011				
Northwestern Ontario	25.2%	11.3%	21.3%	14.4%
Northeastern Ontario	23.8%	11.3%	23.7%	13.1%
Ontario	18.7%	7.4%	19.8%	23.4%

Graduate Employment Rates (%) Two Years After Graduation, 2002 vs 2011

Source: Ontario Ministry of Training, Colleges and Universities
(2013-14 Ontario University Graduate Survey)



Northern Bottom Line

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Will there be jobs?

- Aging population isn't all bad
- Replacement demand represents job openings from retirements
- Expansion demand represents economic growth in the industry
- A lot more work to be done
- Align current and future labour supply and demand

The key is to align job seekers (i.e., graduates) with job openings

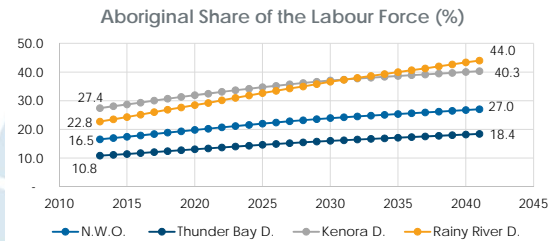
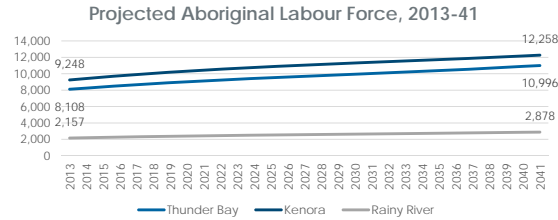
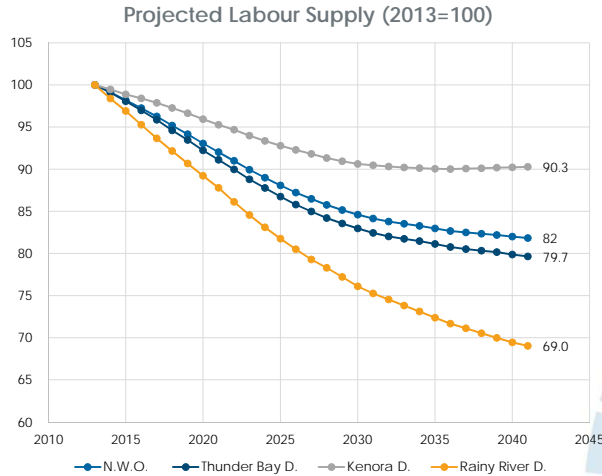
Health care and social services	2011-2020			2011-2030		
	Expansion Demand	Replacement Demand	Total	Expansion Demand	Replacement Demand	Total Demand
Professional occupations (except nursing)	423	950	1,373	1,119	2,100	3,219
Family physicians	82	270	352	219	470	689
Nursing occupations	828	1,780	2,608	2,198	4,375	6,573
Technical occupations	722	1,090	1,812	1,910	2,970	4,880
Assisting occupations	627	875	1,502	1,657	2,870	4,527
Total	2,682	4,965	7,647	7,103	12,785	19,888
Percentage demand (%)	35%	65%		36%	64%	

Trades	Replacement Demand	
	2011-2020	2011-2030
Industrial, electrical and construction trades	3,560	11,700
Maintenance and equipment operation trades	3,070	10,415
Other installers, repairers and servicers and material handlers	470	1,630
Transport and heavy equipment operation and related maintenance occupations	4,720	13,640
Trades helpers, construction labourers and related occupations	690	2,290
Total	12,545	39,715

Source: NPI calculations based on Statistics Canada.

Will there be workers?

* NE in progress



Source: Moazzami, Bakhtiar. 2015. "Northwestern Ontario Districts." Unpublished manuscript. Thunder Bay: Northern Policy Institute.

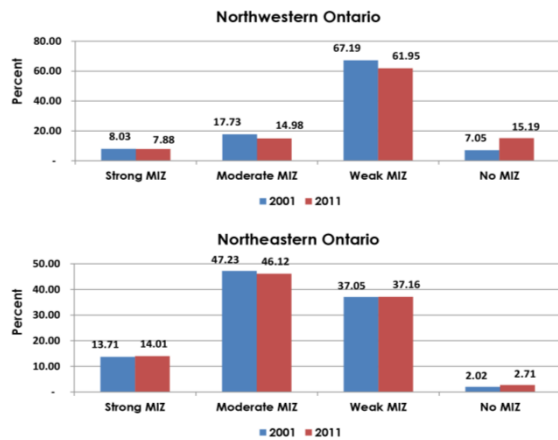
Northeast outperforms Northwest

- Educational attainment for the Aboriginal population is much higher in the NE than the NW.
- Average income for everyone is higher in the NE than the NW.
- Dependency on government transfers is lower in the rural NE than in the rural NW.
- Participation rates are higher and unemployment rates lower in the very rural and remote parts of the NE than in the NW.
- There is a higher percentage of rural income earners in the NE than the NW (more people have jobs).
- There is greater economic activity in strongly rural areas in the NE than the NW.

Why? Think CONNECTIVITY

Source: *It's what you know (and where you can go)*, Northern Policy Institute 2015

Connectivity – Northeast grid versus Northwest spines



Thank you. Merci. Miigwetch.

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