



Ontario's Looming Labour Shortage Challenges

***Projections of Labour Shortages in Ontario,
and Possible Strategies to Engage Unused and
Underutilized Human Resources***

Prepared by:

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Executive Summary

The Ontario economy, like many developed economies, is facing the reality of increased labour market pressures related to significant demographic forces. The structure of Ontario's workforce is changing as a result of a population that is, simultaneously, growing more slowly and ageing.

The Conference Board of Canada has developed a methodological framework for estimating the magnitude of labour market pressures in the future. Although labour supply currently exceeds labour demand that situation is expected to reverse itself by 2014 with the projected gap between labour demand and labour supply continuing to grow thereafter.

Our estimate is that in 2025 Ontario could face a shortfall of 364,000 workers.

An important question is whether a gap of 364,000 workers is sustainable over the long-term. Before reaching this point, markets are likely to adjust to bring labour markets into balance. A key adjustment would be a rapid increase in wage rates. This would lead firms to substitute capital for labour and, as a result, increase labour productivity thereby reducing the number of workers needed to produce any given level of output. However, this labour market adjustment might not be achieved without an economic cost. Higher wage rates, to the extent that they are not matched by increases in productivity might result in slower growth in the capital stock, a key contributor to potential output which would, in turn, lead to slower growth in potential output.

These observations suggest that Ontario needs to act proactively to mitigate future labour market pressures. One important way in which Ontario can help to relieve these pressures is to continue to develop and implement strategies and initiatives that develop skills and encourage higher labour force participation, especially by underrepresented populations within the province. Vigorous initiatives could substantially increase the size of the workforce and contribute to higher productivity by those in the workforce.

This report identifies and describes several key underrepresented populations that Ontario can tap into to build its human resources capacity, and offers some possible strategies to accomplish this goal.

Under-represented groups are described in Section 4, below. They include such important populations as youth, women, mature workers, immigrants, Aboriginal Peoples, and people with disabilities who are not yet able to contribute fully to the labour force. Given their higher than average unemployment rates, there is a real need to address persistent barriers to workforce entry they face. One key is to adopt new approaches to skills development, training and recruitment.

Possible strategies for success are outlined in Section 5 below.

With Ontario's labour shortages fast approaching, there is a real need to take action to tap into populations that are under-utilized in the provincial labour market. To do so, however, requires a shift in our understanding and approach to supporting and engaging Ontario's under-represented

working populations (particularly among its immigrants, women, mature workers, Aboriginal Peoples, people with disabilities and youth populations). Our education systems, governments, community organizations, and businesses must share a common goal: to facilitate the transition of an unemployed or underemployed individual into gainful employment.

Ontario's post-secondary education (PSE) system has a major role to play in developing skills and increasing the skilled labour supply by assisting the underrepresented populations. Within the PSE system, Ontario colleges fill a unique role in providing accessible post-secondary education to the marginalized and under-represented/under-utilized populations covered in this report.

Ontario colleges have a major opportunity to help bring these diverse underrepresented groups into workplaces and increase their productivity and performance, primarily through learning and skills enhancement and accreditation. Skills upgrading of existing populations would not only cover the projected workforce shortages, but would help re-energize Ontario's economy.

Assisting under-represented groups to participate more fully in the workforce is a complex task. No matter what strategy is acted upon, or which program is implemented, success will be determined to a large extent by:

1. *Responsiveness to workplace needs*: It is important that skills development, employment and training initiatives target and address the characteristics of the province's labour needs as specified by employers in the private and public sectors.
2. *Engagement of individuals*: It is important that the underrepresented population cohorts being served (including populations of youth, women, mature workers, new and recent immigrants, Aboriginal Peoples, and people with disabilities) are aware of and supportive of the initiatives designed to assist them.
3. *Existence of substantial collaboration*: It is important that the strategies and programs implemented have the support and collaborative engagement of employers, different levels of government, education institutions, and other agencies and organizations required to operate them.
4. *Adequate resources for sustainability*: It is important that adequate resources be available for each labour market strategy. As many skills development, learning and/or employment initiatives have found, there is often a trade-off that takes place between a program's success and its financial sustainability. A balance is needed so that the strategies implemented are both accessible and thorough in their approach and capable of operating for sufficient time to achieve the scale of impact required.

1.0 Introduction

This report presents projections of the labour force shortage in Ontario, through 2030; what target populations (e.g., new immigrants, mature workers) can play a part in alleviating these shortfalls; and some possible solutions or strategies for consideration in overcoming the looming labour shortage facing Ontario.

Labour force growth and increased productivity are two key drivers of economic growth. Ontario faces challenges with respect to both of these drivers.

Structural changes in Ontario's labour market—such as its aging work force and the on-going realignment of its labour needs across many sectors of the economy—may present significant obstacles to ensuring future economic growth in the province. The pool of labour market participants will grow more slowly and current skills of these participants needs to realign with the needs of Canadian businesses competing in a global economy.

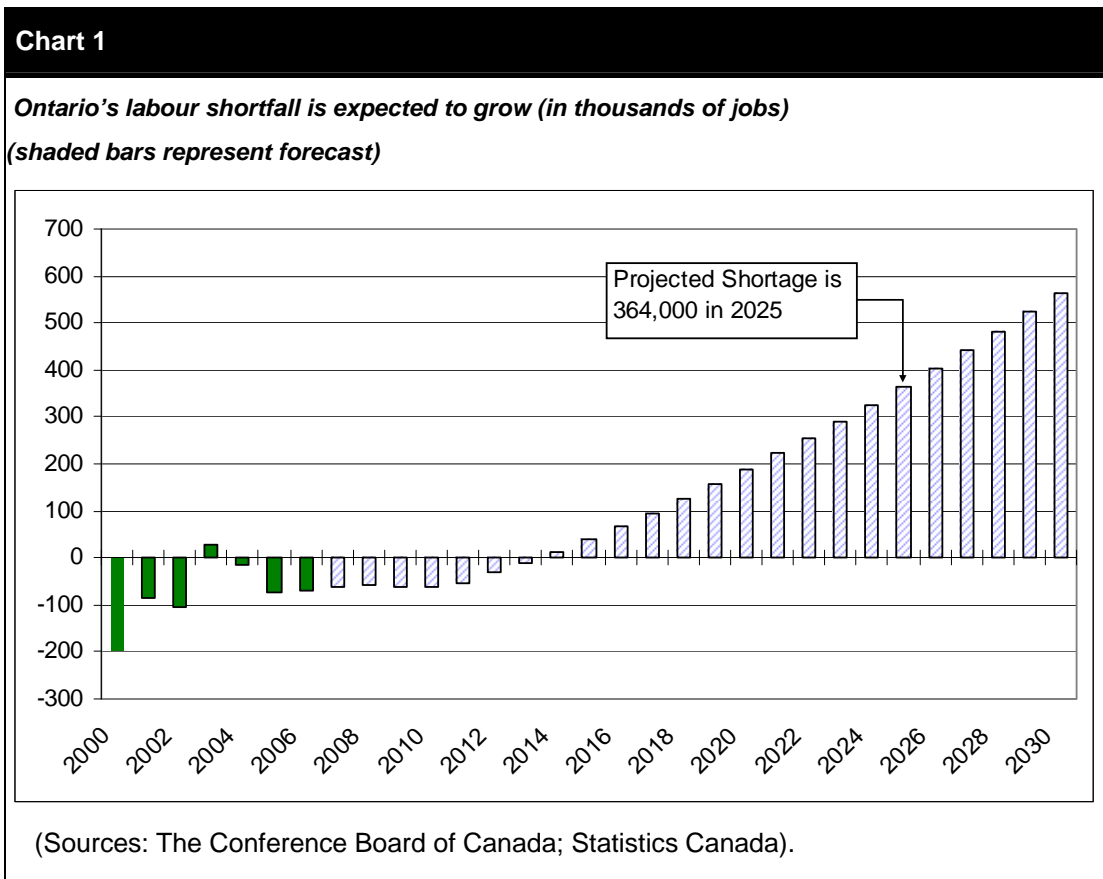
Ontario's recent labour productivity growth performance has been weaker than that of other provinces and the United States, posing a further challenge to Ontario's capacity to overcome a labour market shortage and skills mismatches purely through increased productivity growth.

2.0 An Estimate of Future Labour Shortage in Ontario

Ontarians have become used to opening their morning paper and seeing headlines announcing new rounds of layoffs undertaken by the manufacturing sector. However, these headlines fail to convey another important part of the labour market story – impending labour market pressures where the supply of labour will likely fail to keep pace with the demand for labour.

The Conference Board has developed a projection of this labour market pressure for Ontario. The analysis suggests that although labour market pressure currently remains muted, Ontario will soon be entering a period where pressures begin to mount significantly. Although labour supply currently exceeds labour demand that situation is expected to reverse itself by 2014 with the projected gap between labour demand and supply continuing to grow thereafter.

As a result, Ontario could face a *shortfall* of 190,000 workers in 2020, rising to 364,000 by 2025 and 564,000 by 2030. (See Chart 1)



The detailed methodology that was used to develop these estimates is described in Section 3.0, below. Briefly, however, the methodology used to estimate Ontario's labour shortfall can be described as a three step process.

In the first step, the projected demand for labour was calculated. This forecast was developed using projections of Ontario's potential output and an assumption that the growth in future labour productivity (defined as GDP per worker) will be consistent with past performance. In the second step, a projection of the supply of labour was developed. This projection was based upon demographic trends and forecasted movements in participation rates for various demographic groups. Finally, the projected shortage of workers was calculated using the estimates of labour demand and labour supply. Section 3.0, below, describes this process in detail.

In practice, no economy can sustain gaps between labour supply and labour demand over a long period. Wage inflation, followed by a shift by companies from using labour to becoming more capital-intensive are some of the adjustment mechanisms that would prevent labour demand from exceeding supply. Other adjustment mechanisms could include stronger labour productivity or slower economic growth. As such, the projected shortfall estimated in this study is one which might occur under a scenario in which labour productivity growth in Ontario does not accelerate beyond its current trend. Nevertheless, the projected shortfall is an important indicator of the degree to which Ontario's labour market will become increasingly strained, which could potentially constrain economic growth.

A key driver of these increasing labour market pressures is the changing structure of Ontario's workforce – manifested in a population that is, simultaneously, growing more slowly and aging. Ontario's population is expected to slow from an average growth rate of 1.5 per cent in the first half of this decade to 1.2 per cent from 2026 to 2030. Although net international migration is expected to remain strong throughout the forecast horizon, net provincial migration is expected to create a drag on population growth throughout the remainder of the decade.

In addition, the fertility rate is expected to remain unchanged over the forecast period at a rate that is below the rate necessary to maintain long-term population growth by natural means. As a consequence, Ontario, like the rest of Canada, will have to contend with the impact of an aging population. An important implication of this aging population for labour markets is the decline in labour force participation rates that typically accompany an aging population.

Indeed, the slowdown in Ontario's population growth rate and the decline in its overall labour force participation rate will have an important impact on labour force growth over the next two decades. The labour force is expected to grow by 1.8 per cent per year from 2001-2010. This robust growth in the near term is sustained by the combined effect of a rising female participation rate, high levels of immigration, and the continued entry of the echo boomers into the labour market. Labour market pressures will begin to intensify after 2010 as the number of workers entering their last years in the workforce grows relative to the number of workers entering the workforce. As a result, Ontario will experience a dramatic weakening in labour force growth from 2011-20, as yearly growth tumbles from 1.8 in the previous decade to a mere 0.7 per cent. Growth will shrink even further over the next five years, averaging 0.5 per cent annually from 2021-2025.

These demographic challenges suggest that Ontario needs to act proactively to mitigate future labour market pressures. One important way in which Ontario can help to relieve these pressures is to continue to develop strategies and initiatives that encourage higher labour force participation.

3.0 Developing a Projection of Ontario's Labour Shortage

Ontario's projected labour shortfall was estimated using a three step process. In the first step, the projected demand for labour was calculated. This forecast was developed using projections of Ontario's potential output and an assumption that the growth in future labour productivity (defined as GDP per worker) will be consistent with past performance.

In the second step, a projection of the supply of labour was developed. This projection was based upon demographic trends and forecasted movements in participation rates for various demographic groups. Finally, the projected shortage of workers is calculated using the estimates of labour demand and labour supply. The remainder of this section describes this process in detail.

3.1 *Estimating Labour Demand in Ontario*

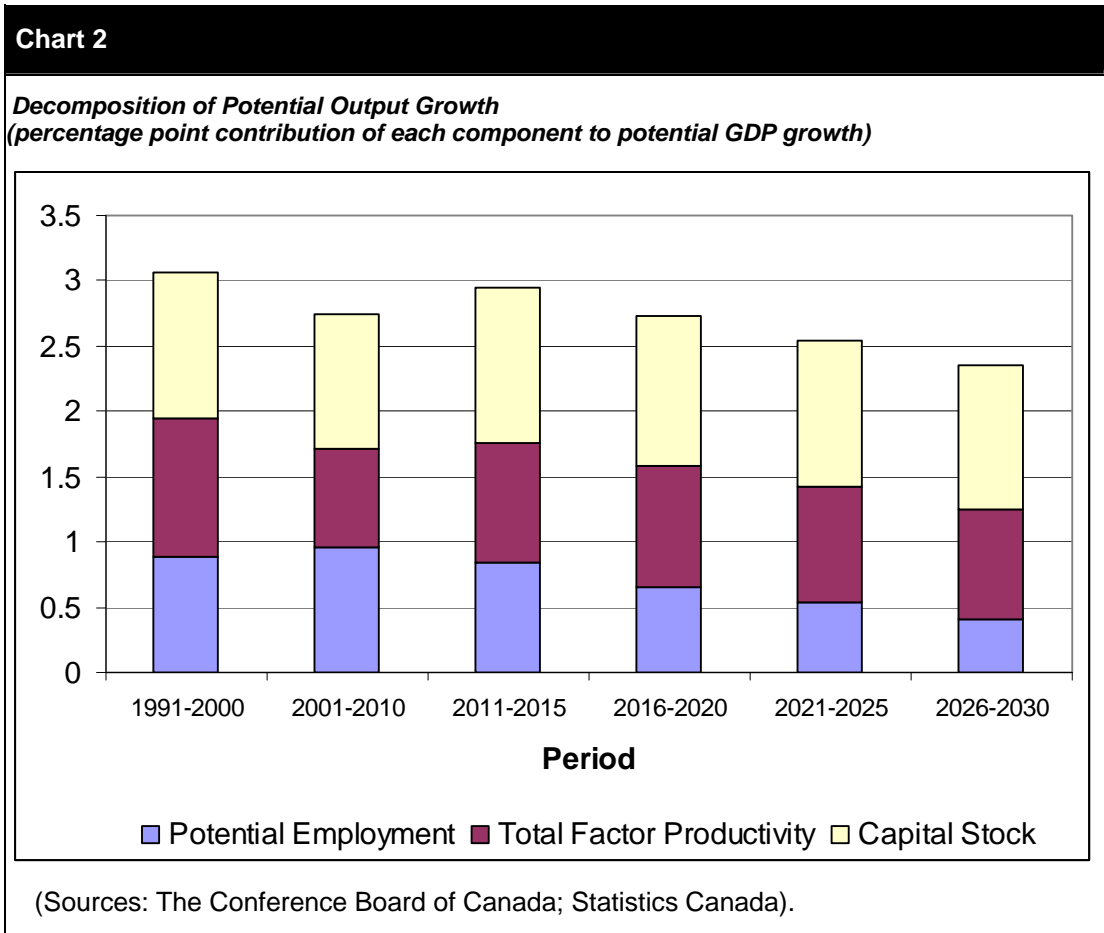
The first step in the process is to develop a projection of labour demand. An economy's demand for labour is determined by how fast it is growing. Over the long term, economic growth is constrained by "potential output" or the highest level of real gross domestic product (GDP) growth that can be attained without igniting inflation. Thus, in the long run the demand for labour will depend upon the level of potential output. Essentially, the demand for labour is the number of workers necessary for the economy to produce potential output. The level of potential output, in turn, depends upon three key components: the capital stock, productivity and labour.

The first key component of potential output – capital stock – measures the amount of productive capital that is available for economic activity. This includes all public and private capital net of residential assets. Over the forecast period, the capital stock is driven by the Conference Board's forecast of investment growth, less depreciation and discarded capital.

The second key component – productivity – is measured using a concept called total factor productivity (TFP), which is a measure of the overall effectiveness with which the economy uses capital and labour to produce output. Advances in knowledge, technological capacity, and skill are all factors that might contribute to increases in TFP. Between 1985 and 2005, average annual compound growth in Ontario's trend TFP was 0.68 per cent. The Conference Board's projections of Ontario labour demand were created using the assumption that annual compound growth in Ontario's TFP will average 0.87 per cent from 2006 to 2030.

The third component of potential output is labour. The contribution of labour to potential output is measured using the concept of potential employment. This is an estimate of the available workforce when the unemployment rate is at its "natural rate" and the labour force participation rate, the percentage of the working-age population that is currently employed or seeking employment is at trend levels. The "natural rate" of unemployment can be thought of as representing the minimum level of unemployment that would exist in an economy that is operating at full capacity. For Ontario, this natural rate of unemployment for Ontario is assumed to average 5.2 per cent over the forecast horizon. Unemployment may still exist in an economy that is operating at full employment because some people may be in transition between jobs while others might choose not to work at the prevailing wage rate.

The Conference Board’s projection for potential output is based upon its projected trends for the capital stock, total factor productivity, and potential employment. Chart 2, below, shows the average annual growth of potential output and the contributions to this growth from capital stock, total factor productivity, and potential employment in Ontario from 1991 to 2030. The chart illustrates significant declines in both the average growth rate of potential output and the contribution of potential employment to that growth between the 1991-2001 period and the 2026 and 2030 period.



With a measure of potential output in hand, it is now possible to calculate the demand for labour – specifically, by determining how much extra labour will be required to produce the full potential output of Ontario’s economy.

Based on an assumption that Ontario’s labour productivity (defined as GDP per worker) will grow at its historical 1985-2005 average of 1.24 per cent, the Conference Board calculates that Ontario’s labour force will have to grow by an average of 1.5 per cent per year between now and 2030 to meet its demand for labour, if actual GDP were to meet its potential.

3.2 *Estimating Ontario's Labour Supply*

The second step in the process is to develop a projection of labour supply. This projection was based upon demographic trends and forecasted movements in participation rates for various demographic groups. The key trends affecting labour supply are a slowdown in the rate of population growth and a decline in the overall labour force participation rate.

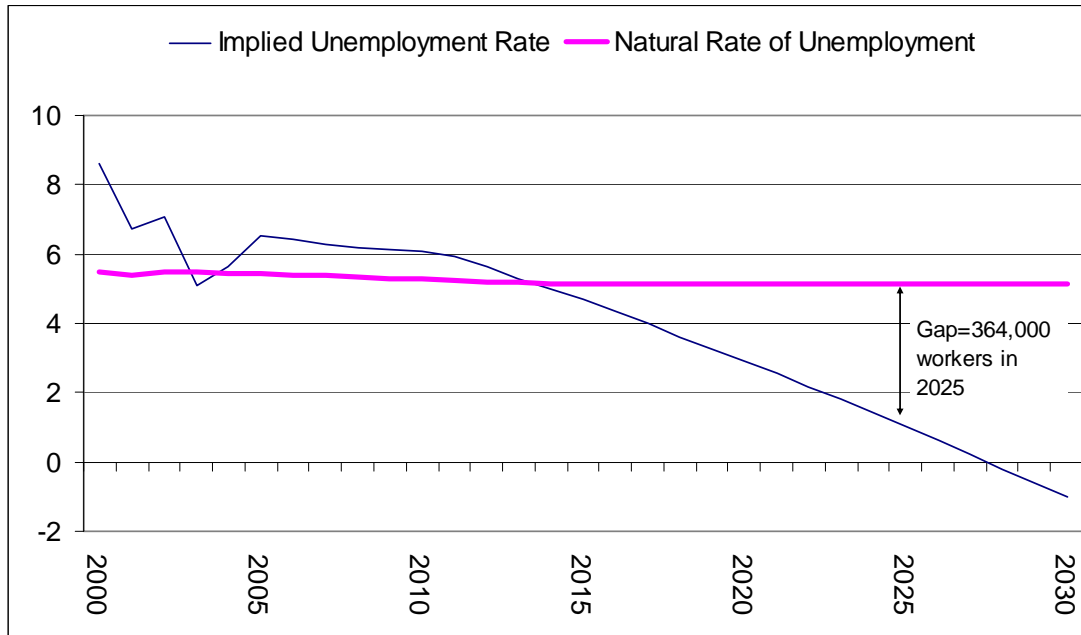
Ontario's population is expected to slow from an average growth rate of 1.5 per cent in the first half of this decade to 1.2 per cent from 2026 to 2030. Although net international migration will remain strong throughout the entire forecast period, net provincial migration is expected to create a drag on population growth throughout the remainder of the decade. In addition, the fertility rate is expected to remain unchanged over the forecast period at a rate that is below the rate necessary to maintain long-term population growth by natural means. As a consequence, Ontario, like the rest of Canada, will have to contend with an aging population and the declines in participation rates that typically accompany an aging population.

3.3 *Estimating the Shortage of Labour in Ontario*

The third step in the process is to develop an estimate of the labour shortage. Calculating the labour shortage using the projections of labour demand and supply is relatively straightforward. First, an implied unemployment rate is calculated under the assumption that actual unemployment was sufficient to meet projected labour demand. This implied unemployment rate reaches 1 per cent by 2025 and falls to -1 per cent by 2030. The labour shortfall is how many extra workers would be required to close the gap between this implied unemployment rate and the natural rate of unemployment, which for Ontario is projected to be 5.2 per cent. Chart 3, below, illustrates the divergence between the implied rate of unemployment and the natural rate of unemployment and the impact of this divergence on the labour shortage.

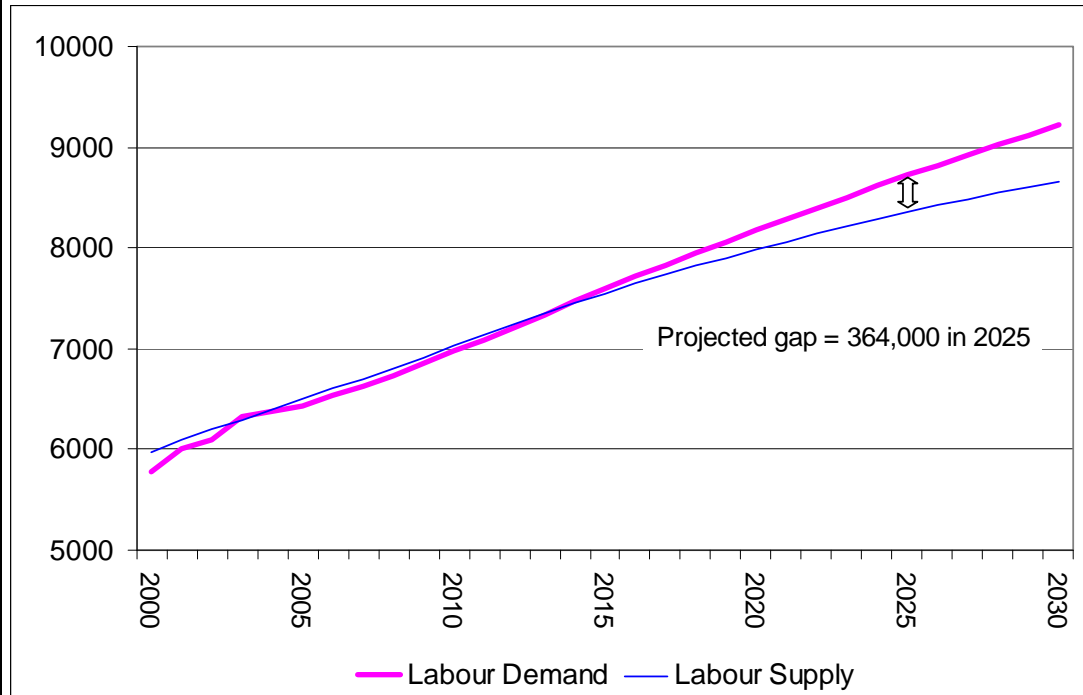
Chart 3

Comparison of Implied and Natural Rates of Unemployment



(Sources: The Conference Board of Canada; Statistics Canada).

The results of this analysis show that the labour shortage is large and growing. The implied labour shortage is projected to be 190,000 in 2020 and will rise to 364,000 and 564,000 by 2025 and 2030, respectively. (See Chart 4)

Chart 4***The Growing Gap between Labour Demand and Labour Supply
(in thousands of jobs)***

(Sources: The Conference Board of Canada; Statistics Canada).

An important question that arises from this analysis is whether this labour shortage will significantly constrain Ontario's output growth. A gap as large as 364,000 or 564,000 is not sustainable over the long-term. Before reaching this point, markets would adjust to bring labour supply and demand into balance. One of the main adjustments would be a rapid increase in the nominal and real wages, which in turn would drive a substitution of capital for labour – and therefore produce much higher rates of labour productivity.

However, these labour market pressures might reduce potential output for several reasons, primarily related to reduced investment spending. First, higher wages could also make some projects too expensive to be undertaken, resulting in slower growth in the capital stock and, in turn, potential output. Second, increased wage rates, to the extent that they are not matched by higher productivity, might be perceived by the Bank of Canada as signals of inflationary pressures and lead the Bank to raise interest rates which would reduce investment. Finally, higher wage rates, to the extent that they are not matched by higher productivity, would reduce Canadian competitiveness in the global marketplace and, as a result, reduce exports and investment.

4.0 Identifying Ontario's Untapped Human Resources Capacity

The potential gap in Ontario's labour shortage—190,000 in 2020, rising to 364,000 by 2025, and 564,000 by 2030—will not be addressed by natural population growth alone. There is, however, a possibility of minimizing the negative impact of this potential labour shortage by making better use of the skills and knowledge of human resources that already exist in Ontario and through better integration of immigrants into the Ontario workforce.

The populations that could have a marked influence on Ontario's anticipated labour short-fall include:

1. Youth - Secondary School Drop-Outs and At-Risk
2. Women
3. Mature workers
4. Immigrants
5. Aboriginal Canadians
6. The Disabled

In 2007 there were 10.4 million people of working age (15 years and over) in Ontario. Of this population just over 7 million people were part of Ontario's labour force. Approximately 6.6 million people were working (82 per cent of them full-time), and almost 0.46 million were actively seeking employment.¹

4.1 Ontario's Youth - Secondary School Drop-Out and At-Risk Populations

In 2005, 74,800 Ontarians in their early 20s (including 30 thousand in Toronto) had left school without obtaining a secondary school diploma. This drop-out population significantly overlaps with the at-risk youth population since most of the latter do not have secondary school diplomas. As well, many are members of either the immigrant or Aboriginal populations. By contrast, in 2005, the drop-out rates (non-secondary school graduates by age 24) were 9.1 per cent provincially, and 7.9 per cent for Toronto, constituting a reduction of over 35 per cent since 1990.

There is a direct correlation between having more education and enjoying a higher standard of living. A high school diploma not only provides opportunities for entry into postsecondary institutions but also increases the opportunity for finding work. In 2004 the national unemployment rate among 25 to 44 year olds without a high school diploma was 12.2 per cent, while those with just a high school diploma had an unemployment rate of 6.8 per cent.²

¹ Government of Ontario:
http://www.gov.on.ca/ont/portal!/ut/p.cmd/cs/.ce/7_0_A/s/7_0_252/s.7_0_A/7_0_252/1/en?docid=004941.

² Statistics Canada, Labour Force Survey.

4.2 Ontario's Women Workers

In 2007 there were approximately 6.49 million women living in Ontario, of whom 4.4 million were between the ages of 15 and 64. Of this group, approximately 3.2 million were in the workforce (representing 48 per cent of the workforce).³ In the coming decades the number of women in Ontario will continue to grow and the opportunity to tap into this potential labour supply should be recognized.

Female Population Projections:⁴

2020 female population in Ontario (age 15-64): 5.014 million.

2025 female population in Ontario (age 15-64): 5.111 million.

2030 female population in Ontario (age 15-64): 5.173 million.

4.3 Ontario's Mature Workers

The age structure of Ontario's population is about to undergo a dramatic shift over the 2006 – 2030 period. The population aged 65 and over, which is estimated to have accounted for 12.9 per cent of the population in 2006, will comprise approximately 20.6 per cent of the population by 2030. This shift is primarily the result of the aging of the postwar baby-boom population. Baby boomers are currently aged 40–59, with the largest segment of the cohort between 40 and 44 years old. This cohort will move on to the 60–79 age bracket by 2030, with a concentration in the 65–69 age range.⁵

Between 2001 and 2006, the number of seniors 65+ in Ontario grew by 12 per cent. The province's working-age population is increasingly made up of older individuals. In 2007 the number of people aged 65+ living in Ontario (male and female) was 1.68 million.

Population Projections:⁶

2020 population in Ontario (age 65+): 2.50 million.

2025 population in Ontario (age 65+): 2.95 million.

2030 population in Ontario (age 65+): 3.46 million.

³ Statistics Canada: <http://www40.statcan.ca/101/cst01/labr66g.html>.

⁴ Ontario Ministry of Finance: Ontario Population Projections Update – 2006-2031 (Based on the 2001 Census).

⁵ The Conference Board of Canada, *Provincial Outlook 2007, Long-Term Economic Forecast*, pp. 38-39.

⁶ Ontario Ministry of Finance: Ontario Population Projections Update – 2006-2031 (Based on the 2001 Census).

The projected population of individuals living in Ontario between the ages of 65 and 79 are:

Older Age Population in Ontario (Age 65 – 79): Projection 2021 – 2031 (thousands)				
	2007	2021	2026	2031
Age 65 – 69	480.8	812.5	935.7	996.0
Age 70 – 74	401.8	674.8	758.3	876.3
Age 75 - 79	342.2	457.8	597.9	677.2
Total	1.22 million	1.95 million	2.29 million	2.56 million
Source: Statistics Canada: Population Projections for Canada, Provinces and Territories (Catalogue no. 91-520-XIE). Using Scenario 1 – low growth estimates.				

Women outnumber men in these age categories. Projections of women in Ontario age 65 – 79 from 2021-31 show significant growth and represent a largely untapped human resource that could help Ontario to address its growing labour challenges:

Women Population in Ontario (Age 65 – 79): Projection 2021 – 2031 (thousands)				
	2007	2021	2026	2031
Age 65 – 69	250.5	425.3	484.3	511.6
Age 70 – 74	213.5	358.6	403.8	461.0
Age 75 - 79	189.3	249.6	326.7	370.1
Total	.65 million	1.03 million	1.21 million	1.34 million
Source: Statistics Canada: Population Projections for Canada, Provinces and Territories (Catalogue no. 91-520-XIE). Using Scenario 1 – low growth estimates.				

4.4 Ontario's New and Recent Immigrants

Data from the 2001 Census shows that Ontario has the highest proportion of people born outside Canada.⁷ About 1 million of Ontario's foreign-born population arrived between 1991 and 2001. Today, Ontario is home to approximately 3.5 million immigrants, and each year it welcomes more than 100,000 new immigrants. For example, in 2006, 125,900 immigrants settled in Ontario; and in 2005, 140,500 immigrants – 54 per cent of Canada's total number of new immigrants – settled in the province.

Net international immigration for Ontario is expected to increase gradually from 113,510 in 2006 to 162,652 in 2030. With the natural rate of increase in the population slipping, net international immigration to Ontario is projected to account for approximately 84 per cent of the total annual increase in the province's population by 2030.⁸

⁷ Statistics Canada: <http://www12.statcan.ca/english/census01/Products/Analytic/companion/etoimm/provs.cfm>.

⁸ The Conference Board of Canada, *Provincial Outlook 2007, Long-Term Economic Forecast*, pp. 38-39.

Recent trends, and the draw to larger Census Metropolitan Areas (CMAs) like Toronto, and Ottawa, ensures that Ontario will remain a primary immigrant destination for those coming to Canada. Work and learning systems in Ontario need to address this potential influx of human capital and accommodate their needs – be it within the workforce or in the learning system in order to maximize their potential. This is not an easy goal to achieve given the fact that it goes against an unfortunate trend— a 2007 Statistic Canada report clearly shows that high skill immigrants actually lost ground and became significantly less utilized in the economy over the period 1993-2000.

In addition to being a source of labour supply, skilled immigrants can also contribute much to new business formation. In the United States immigrants were responsible for starting one-third of Silicon Valley's high-tech start-ups.⁹ Self employment programs for immigrants would help to ensure an understanding of Canadian business practices and culture, thereby increasing success rates for entrepreneurs.

4.5 Ontario's Aboriginal Peoples

There are approximately 190,000 people in Ontario reporting an Aboriginal identity – 70 per cent identified as North American Indian, 26 per cent as Métis, and less than one per cent as Inuit.¹⁰ In 2001, one in five Aboriginal Canadians lived in Ontario, making it the province with the largest density of First Nations Canadians. According to the medium-growth scenario, Ontario will continue to have the highest absolute number of Aboriginal Peoples in 2017, about 267,700.

Compared with the total Canadian population, the Aboriginal population is likely to continue accelerated growth rate. The average annual rate increase for the First Nations population (1.8 per cent) is projected to be more than double the rate projected for the total population of Canada (0.7 per cent).¹¹

4.6 Ontario's Disabled Population

According to a survey conducted by Statistics Canada in 2001, there were 1.5 million disabled individuals in Ontario, representing 13.5 per cent of Ontario's population.¹² As the province's population ages, so too will its disabled population. Projections for Canada show that by 2021 seniors with disabilities will outnumber 25-64 year olds with disabilities. The same ratio should be prevalent in Ontario. And in 2026, the majority of people with disabilities in Canada (and Ontario) will be 65 years of age or older.¹³

⁹ Lowell, L.B., 2004. *Immigrant Labor Market Assimilation in the United States: A critique of Census data and Longitudinal Outcomes*. Paper prepared for the "U.S.-EU Seminar on Integrating Immigrants into the Workforce," Washington, D.C., June 28-29, 2004.

¹⁰ Statistics Canada: <http://www40.statcan.ca/101/cst01/demo38b.htm>; and Ontario Census Highlights: <http://www.fin.gov.on.ca/english/economy/demographics/census/cenhi6.html>.

¹¹ <http://www.statcan.ca/english/freepub/91-547-XIE/2005001/bfront1.htm>

¹² Statistics Canada, Participation and Activity Limitation Survey (PALS), 2001, released in September 2003.

¹³ Canada, Office for Disability Issues. *Advancing the Inclusion of People with Disabilities* (2005)

5.0 Addressing Ontario's Future Labour Shortage—Possible Strategies for Success

Skills are the backbone of Ontario's economy. Ultimately, Ontario's standard of living is determined by the quality and quantity of skills that its people are able to deploy in their work—a function of the skills Ontarians have, and the capacity of workplaces to take full advantage of those skills.

In order to maximize economic performance, Ontario needs to pursue strategies for raising people's skill levels and increasing participation rates in the labour force, especially by groups that are currently underrepresented. The government of Ontario has a prominent role to play here, in conjunction with the Ontario's post-secondary education (PSE) system and the province's more than 300,000 employers. Ontario's PSE system has an important role as an incubator for the talent and skills people needed to compete in the evolving global economy. Employers, too, have a central role in developing, implementing, and supporting effective labour market initiatives that have a positive impact on workplace productivity and performance.

In today's economy, knowledge and skills play a defining role in shaping Ontario's economic prosperity and sustainability. As well, the pace of technological change and shifting demographic patterns are affecting and driving future trends in the workplace. New industries such as photonics and bio-technology are emerging while at the same time the manufacturing sector is being fundamentally transformed by new production methods. The ability to adapt to these changes requires a skilled human resource base that is able to evolve in response to these challenges.

Economic growth has generally occurred for four major reasons:

1. Increased or improved use of labour—more people working more productively;
2. A general rise in the educational attainment among workers;
3. Investment in physical capital—including technology which requires that employees have more and better skills; and
4. A rise in multi-factor productivity (MFP) where a combination of better skills and better technology leads to more valuable output being produced through efficiencies in operations and innovation outputs.¹⁴

As new occupations emerge and old ways of doing work change or disappear, skills play an increasingly pivotal role in the province's socio-economic success. For these reasons, Ontario requires more investment, public and private, in human capital strategies to enhance skills and knowledge. If investment in human capital is not maintained through training and learning initiatives, the skills and knowledge that support the economy will decline, leading to skills gaps that will limit economic growth.

¹⁴ Dirk Plat, "Innovation in the New Economy," *ISUMA*, (Spring 2002), pp 54-61.

Ontario needs to ensure that more of its citizens gain the right combination of generic, technological and job-specific skills and it must help them find jobs where they can effectively apply them. Every person needs a combination of these skills to meet the basic personal challenges of life and work; and every business in Ontario needs employees who possess the necessary skill sets to compete successfully.

Individuals who are able to use and apply their skills and knowledge add to the economy's productivity equation. The fundamental issue is how best to balance the supply of skilled labour with demands in the labour market. If the demand is unsatisfied, skills and labour bottlenecks impede growth and development. If the supply is not absorbed, unemployment and waste of scarce resources ensue.

With a supply of highly skilled human capital, an abundance of natural resources and strong ties with the United States, Ontario is relatively well positioned for the near future. Yet the dynamics that drive productivity and competitiveness (e.g., capital, raw materials, and labour) are being stretched. Ontario, like many other jurisdictions, is facing a labour shortage exacerbated by its ageing population and a low birth rate.

Generally, two strategic directions are available to Ontario to address human capital issues:

- Tap into and make use of a larger labour supply; and
- Improve the performance and competitiveness of its existing labour supply.

The Government of Ontario has sought to address its labour challenges through new initiatives in 2006 and 2007 that relate to both.

In 2006, the Ontario 2006 Economic Outlook and Fiscal Review announced several strategies and some funding:

- Focused Training and Job Services – over \$20 million;
- Send special rapid re-employment teams into communities where plants have closed to help develop action plans for affected workers;
- Customized training, skills upgrading, job placement and job relocation services;
- Workplace literacy programs to help workers learn new processes and technologies;
- Help laid-off apprentices find new placements and accelerate their in-school learning; and
- Funding for additional bridge training programs for new Canadians.

In its 2007 budget it made substantial funding commitments to address labour issues through initiatives such as:

- Building a skilled workforce - \$390 million in additional investments to promote quality in postsecondary education;
- Employment Ontario – a \$1 billion annual investment to provide seamless and coordinated training, apprenticeship and employment services; and

- An annual investment of \$146 million to help immigrants get settled and join the labour market.

The strategies listed below are categorized according to population segments. Some are specific to identified populations, others are more generally applicable. Note also that many Aboriginal Canadians also fall into the 'rural and isolated communities' category. Mature workers face many of the same barriers of the disabled due to age related illnesses. Strategies utilizing broadband technologies apply to all three of these populations. Addressing the means to assist these population segments to more fully participate in the work force is a complex task.

5.1 *Enabling Ontario's Youth Population*

Colleges in Ontario already offer youth-at-risk some opportunities to integrate into the college system and to access post-secondary learning opportunities. For example Niagara College combines an apprenticeship program with a secondary school completion initiative. More such innovative programs could be developed and promoted to further integrate at-risk and drop-out youth into the workforce.

Ontario could greatly increase investment in programs targeting youth with limited literacy skills. This population provides a significant resource of potential workers. Currently, results are constrained by limitations on budgets in programs that have high participation rates due to high demand.

To address this problem, Ontario colleges could consider increasing its public sector visibility and developing specific literacy programs tailored to the responsibilities and service offerings of various provincial government departments, thereby enabling them to provide significant new funding. For example, the department of Citizenship and Immigration could be approached for literacy programs tuned to the immigrant youth sector and a different literacy approach could be promoted for First Nations Youth groups.

5.2 *Maximizing the Talent of Women Workers in Ontario*

Putting women on an equal footing with men in the world of work requires a concerted effort by educators, governments, and businesses. Solutions range from more aggressive awareness and recruitment campaigns into the workplace; stronger mentoring and networking programs; the endorsement of work-life balance, and the implementation of gender-neutral processes.

Ontario could:

- Target programs at specific adult female populations to encourage greater labour market participation – e.g. program targeting immigrant women from countries with low to very low female participation rates in work outside the home but where education levels for females are good;
- Ensure that all students and workers have equal access to opportunities, challenges, and rewards;
- Encourage the use of work-life balance programs; and

- Continually communicate and reinforce the importance and value of achieving gender equity.

5.2.1 Promoting Business Management Training for Women

Serious skills shortages exist in the area of business management. According to HRSDC, a shortage of skilled people to fill management occupations exists, largely as a result of high demand and high levels of retirement among older workers who typically fill these jobs.

A new initiative could develop improved ways of recruiting and retaining women in sectors where there is evidence of female under-representation and skill shortages. In addition, it will provide women with the skills training and confidence they need to progress to supervisory and managerial levels within these sectors, and maximize their earning potential.

For example a Business Management Certificate program could be established. This program would accredit professional qualifications in management, which would enable women to gain the latest practical skills and knowledge within the field of management. Ontario colleges could work in collaboration with the Government of Canada, and businesses within sectors experiencing skills shortages, to deliver a general business management course to females who currently work in related fields, or have expressed an interest.

5.3 *Maximizing Mature Worker Engagement in Ontario*

Developed countries around the world, including Canada, have adopted the Madrid International Plan of Action on Ageing which recognizes the social, cultural, economic and political contribution of older persons. The Action Plan emphasizes the need for ongoing research and information exchange to support policy and program development around population aging. The Plan is based on the premise that older persons should be able to continue with income generating work for as long as they want and for as long as they are able to do so productively.

Traditionally, unemployment, under-employment and other constraints have limited opportunities for older individuals to fully utilize their energies and skills in the labour market. The Madrid strategy emphasizes the need to build awareness of the benefits of maintaining and utilizing the knowledge and skills of an ageing work force.

Continued employment of older workers provides a valuable contribution to the improvement of national economies as their experience and skills are critical for training younger or newer employees. The Government of Ontario could consider:

- Implementing and/or further refining incentive structures to encourage older workers to defer retirement; and
- Helping to change corporate practices and longstanding attitudes toward ageing and its relationship to human resource management practices. As well policies must be adjusted to account for the specific environmental needs of older workers.

As Canada's workforce ages and labour force growth declines, retaining mature workers is essential to the nation's productivity and competitiveness. Workers over age 45 now account for the largest segment of the industrialized nations' labour force. Countries around world recognize the need for creating an effective strategy for leveraging the growing numbers of mature workers to address labour market needs.

The Government of Canada has designed a two piece strategy to address adjustment issues faced by workers aged 55 to 64 who are displaced from employment due to layoffs or plant closures. It is particularly helpful, for example, for older workers displaced from sectors such as forestry and mining in Northern Ontario communities.

Ontario could draw on the experiences and actions of other governments and jurisdictions. In many countries there has been a marked shift towards proactive labour-market programs focused on increasing the supply of older workers and stimulating the demand for older workers by lowering the costs of employing them. At the Lisbon Summit in 2000, for example, EU leaders set targets to have half of those aged 55 to 64 employed by 2010. Europe has pioneered a variety of institutional responses to aging. Its "active aging policies and practices," perceived as the way of the future, include lifelong learning, working longer, retiring later and more gradually, and being active after retirement through bridging jobs. Most developed countries have introduced policies and organizational practices that target older workers, including:¹⁵

- Reducing incentives for workers to take early retirement;
- Encouraging later retirement and flexible retirement;
- Passing legislation to counter age discrimination; and
- Helping older workers find and keep jobs.

5.3.1 Balancing Income Support and Work Incentives

Finding the right balance of income support and work incentive policies will help increase the participation rate of mature workers. Generous income support systems for older people encourage early retirement. Pension reforms are one of the key means governments have to affect workers' retirement decisions. Reforms focus on removing inherent disincentives to remaining employed and replacing them with incentives to extend employment. In Japan, for example, workers have been able to combine work and pension since the mid-1960s, with pension rights continuing to accrue for each additional year of contributions. Many reforms include an increase in the minimum age of eligibility for a full pension and often offer financial incentives for working longer. In some instances, early retirees' benefits are also scaled back.

¹⁵ Performance and Potential 2005-2006, p. 136. One of the most comprehensive strategies to increase the labour force attachment of older people is Finland's National Program on Aging Workers, which addressed issues at the individual, employer and society levels. From 1999 to 2002, the €4.2-million program focused first on legislative amendments and information campaigns, then on research and development, and finally on management training and workplace development. Legislative measures included occupational health regulations and pension reform to defer retirement.

5.3.2 Improving Working Conditions to Meet the Needs of Older Workers

While workers of all ages deserve good working conditions, older workers sometimes need a less physically and psychologically demanding workplace if they are to work at all.

The Ontario government could help employers make workplaces more accessible by offering management guidelines and various forms of incentive-based funding.

Employers could modify their day-to-day management practices to achieve a significant impact on the work environment. The National Older Workers Information System in the United States, for example, is a repository of more than 250 management strategies to help employers effectively manage older workers.

5.3.3 Targeted Initiative for Older Workers (TIOW)

Ontario could consider programs modeled on the federal TIOW initiative which could target specific sectors of the economy where excess older workers could be found and trained for transfer to sectors facing major shortages.

To address the immediate needs of unemployed older workers in vulnerable communities, a two-year initiative, the TIOW was announced by the Government of Canada in October 2006. The program is designed to help older workers 55 to 64 years of age affected by downsizing or closures in sectors such as forestry, fishing, mining and textiles. The program supports skills upgrading and work experience in new jobs.

5.3.4 New Horizons for Seniors

Ontario could build not-for-profit sector specific programs to leverage its *New Horizons for Seniors* initiative that is designed to harness the skills of seniors. Project themes include active living of seniors, contribution to community, partnership building and social participation.

Initiated in 2004, New Horizons for Seniors provides grants for community-based projects across Canada that encourage seniors to contribute their skills, experience and wisdom in support of social well-being in their communities. To date 1729 projects have been approved involving 100,000 participants in 500 communities across Canada. Federal funding for this program in 2007 - 2008 is \$19.5 million.

5.4 **Maximizing the Potential of New and Recent Immigrants**

Immigration has become the main driver of population growth for many jurisdictions today. Immigrants are, on average, younger than are native-born people, and they tend to have more children because they come from cultures with higher fertility rates. However, in the coming years it will become increasingly difficult for Ontario (and Canada) to find sources of immigrants – as fertility rates in countries such as Brazil, Iran, Turkey and China are about to fall below

replacement levels; their economies are growing which encourages potential emigrants to stay home; and other developed countries are increasingly competing with us to seek them out.¹⁶

Immigrants are not yet able to make their full contribution to the workforce. Given the 5-10 years required for immigrants to be employed in positions commensurate with their foreign experience or qualifications, immigrants are functionally inhibited from participating in Ontario's economy at an appropriate level. Immigrants are generally underemployed.

Colleges in Ontario already play a major role in the integration of immigrants into Ontario's workforce by offering language skills, work adjustment and cultural orientation programs, Prior Learning Assessment and Recognition (PLAR) services and Foreign Credential Recognition (FCR) services. However, more might be done.

Ontario colleges could consider creating a separate unit or Centre for Assessing Foreign Qualifications that would operate for all or a large part of the college system. The Centre would specialize in providing foreign qualification assessment services. It could streamline and modify existing assessment services to place immigrants more quickly into qualified positions. Initiating a partnership with Citizenship and Immigration Canada could minimize the start up costs. This assessment system could become a tool for determining immigrant work status, during the application process, and could have the effect of speeding up immigration processes.

5.4.1 Implementing a Highly-Skilled Migrant Program (HSMP) Strategy

Ontario Colleges could consider collaborating with both the Government of Ontario and Citizenship and Immigration Canada to implement a Highly Skilled Migrant Program (HSMP). Skilled migrants would be offered 2-5 year work visas, and the opportunity to search for employment in Canada without needing an employer-sponsored work permit. This strategy coordinates with the Centre for Assessing Foreign Qualifications, in having skills assessed against Canadian standards and also coordinating career counselling and job placement.

5.4.2 Implementing an International Graduates Scheme (IGS)

The International Graduates Scheme is an approach used in the U.K. to encourage non-European students from developing countries who have completed and acquired undergraduate and postgraduate degrees, diplomas or certificates to remain and work in the country for an extended period of time. The Ontario Government could consider implementing a similar program for international graduates to access the labour market, pursue a career in Ontario, gain valuable work experience, and be active contributors to the economy. The IGS could also be used as a transitional route into other immigration categories.

¹⁶ The Conference Board of Canada, *Performance and Potential 2005-2006: The World and Canada, Trends Reshaping Our Future*. (Ottawa: The Conference Board of Canada), p. 136.

5.4.3 Maximizing Advantage from Provincial Nominee Program

The newly established Ontario Pilot Provincial Nominee Program (Pilot PNP), set up by the government of Ontario, could become a major help in solving labour shortages once the program builds up to scale. Whereas before individuals could immigrate to Ontario only through the federal immigration system, now the Pilot PNP will, for the first time, allow Ontario to have a role in selecting newcomers. In the first year, the Pilot PNP will nominate 500 individuals. The program is largely employer-driven with 90 per cent of the nominations being made by employers. It allows employers to apply for the approval of permanent, full-time positions to be filled by newcomers; and to recruit individuals, who are newcomers to Ontario, to fill those positions.

As Ontario's first-ever nomination program, the Pilot PNP is intended to contribute to job creation, job retention and economic development by attracting new investment, and by helping employers in targeted sectors to attract and retain qualified employees for jobs for which there are currently labour-market needs. It is also intended to support government priorities by facilitating the immigration of professionals in the health care and education sectors. The program could be steadily expanded and regularly retargeted at sectors of the economy with the greatest skills gaps.

5.5 *Maximizing the Capacity of Aboriginal Peoples*

The Aboriginal community has long been prevented from sharing in the economic wealth of Canada due to barriers such as living in rural and often remote communities. As well, secondary education completion rates of Aboriginal Peoples are extremely low, which inhibits their access to post-secondary education. According to the 1996 census, 29 per cent of Aboriginal Canadians between 25 and 44 years have not graduated from high school. This pattern of barriers to employment and education is consistent for Ontario's Aboriginal population.

Ontario colleges have several strategic opportunities to consider in the effort to address the challenges facing Aboriginal Peoples.

5.5.1 Developing and Delivering Aboriginal Centred Learning Programs.

Ontario colleges could consider establishing a Centre of Excellence for developing and delivering Northern Aboriginal culture specific education programs. The colleges that currently serve northern Aboriginal communities could lead the effort. The Centre would focus its attention on the development and delivery of relevant Aboriginal training and skills programs. A partnership with the Indian and Northern Affairs Canada could help support this type of initiative.

The Centre could also make use of Information and Communications Technologies (ICT) and 'Broadband Technology' and collaborate with the Government of Ontario's tele-health initiatives—programs that deliver health information and education to remote communities. The collaboration could be further extended to include Health Canada's First Nations and Inuit Health Branch initiatives on distant health delivery systems.

The Centre could also consider participating with the Canadian International Development Agency's (CIDA) circumpolar group which focuses on social and economic development issues of First Nations groups who inhabit the North Pole region.

5.5.2 Promoting an Aboriginal Labour Market Strategy

The Government of Ontario could consider developing an Aboriginal Labour Market Strategy for its youngest and fastest growing demographic – Aboriginal youth. This would help to integrate the Aboriginal population into the labour market and further enhance their education experiences. Aboriginal organizations, labour organizations, the private sector and educational institutions must be actively involved in developing this relatively untapped labour market to meet the challenges ahead.

5.5.3 Supporting Aboriginal Institutions of Higher Learning

In recent years, Aboriginal-controlled postsecondary institutions have emerged as a way of designing, developing, and delivering educational programs that respond to the often unique learning needs of Aboriginal persons (by recognizing their histories, contemporary circumstances, social systems, and knowledge systems). To date, both the federal and provincial governments have not embraced this community-based Aboriginal learning system – although they do accommodate the special needs of Aboriginal students attending provincial colleges and universities by making funding available to these institutions to provide Aboriginal specific programs and services.¹⁷

In the United States, there are thirty-three Tribal Colleges, which are recognized through federal legislation as post-secondary institutions with the authority to grant certificates and two-year diplomas. In Canada, there are fifty Aboriginal postsecondary institutions; however, these institutions have not been afforded authority similar to that of their southern counterparts. Instead, current federal and provincial policies require that Aboriginal institutions partner with “recognized” mainstream postsecondary institutions in order to access funding and to ensure the credibility and portability of student credentials.

Perhaps, the time is right to implement a process in Ontario that enables the transfer of credits earned in Aboriginal institutions with recognized mainstream colleges and vice-versa. Perhaps it is time that the Government of Canada and the Province of Ontario ensure specialized funding is made available to Aboriginal institutions to address language issues and language preservation in post-secondary education (i.e. language programs, English as a second language, interpretation and translation costs in the development of curriculum and curriculum resources), and to support the recruitment, retention, and success of Aboriginal students in postsecondary programs.

5.6 *Maximizing the Potential of People with Disabilities in Ontario*

As a group, people with disabilities tend to have lower levels of education than those without disabilities. They also have lower levels of employment. Not surprisingly, the rate of employment

¹⁷ <http://www.crr.ca/Load.do?section=26&subSection=38&type=2>.

is higher for people with disabilities who have higher levels of education – a good indicator that attainment of higher levels of education can improve employment opportunities for people with disabilities (as it does for the rest of the Canadian population).¹⁸ Approximately 40 per cent of adults (ages 15-64) with disabilities in Ontario have post-secondary education, compared to 48 per cent of the non-disabled population.

Highest Level of Educational Attainment for Adults in Ontario Ages 15-64		
	With Disabilities	Without Disabilities
Less than high school	298,030 (37%)	1,606,550 (24%)
High school	193,320 (24%)	1,865,550 (28%)
Trades certificate or diploma	92,650 (11%)	626,760 (9%)
College	136,310 (17%)	1,179,600 (17%)
University	93,700 (12%)	1,506,710 (22%)

Source: Ontario Ministry of Community and Social Services, 2001.
http://www.mcsc.gov.on.ca/mcsc/english/topics/pop_ado_stats.htm

Education attainment levels alone do not explain all of the differences in employment status between people with disabilities and people without disabilities. Even with equivalent education levels, the former do not achieve the same general labour market outcomes as the latter. Other barriers to gaining meaningful employment include negative attitudes, inaccessible infrastructure, and the lack of various supports.¹⁹ As a result, many people with disabilities have difficulty finding jobs after completing post-secondary education. They often do not obtain work experience within their program of study, or may not feel adequately prepared for the transition to the workplace. Although career and employment services are offered in universities and colleges that help students' access internships, prepare résumés, and provide career assessments, many students with disabilities do not access these services, often because the services are inadequate or because the students don't know they exist.²⁰

The following initiatives could have a positive impact on labour market outcomes for people with disabilities:

5.6.1 On-going Review of the Canada-Ontario Labour Market Agreement for Persons with Disabilities (LMAPD)

More needs to be done at the post-secondary level in Ontario to encourage people with disabilities to attend post-secondary education. One key is more coordination between different agencies, ministries and governments to ensure that the learning programs offered at colleges are accessible, meaningful and relevant.

¹⁸ Human Resources and Social Development Canada, *Advancing the Inclusion of People with Disabilities*, 2006. pp. 43-46. <http://www.hrsdc.gc.ca/en/hip/odi/documents/advancingInclusion06/advancinginclusion.pdf>

¹⁹ Ibid.

²⁰ Students with Disabilities: Transitions from Post-Secondary Education to Work, Canadian Centre on Disability Studies, 2003.

Colleges could review the Canada - Ontario Labour Market Agreement for Persons with Disabilities (LMAPD), signed in May 2004, to ensure that the six employment-related programs for people with disabilities (the Accessibility Fund for Students with Disabilities, the Print-Alternate Materials Fund, the George Brown College Support Services for Hearing Impaired program, the Educational Support Services program, the Learning Opportunities Initiative, and the Out-of-Country Bursary for Deaf Students Program) are addressing the needs of Ontario's disabled population. Sweden for example, has gone so far as to create a new state agency to coordinate disability policy to ensure that those who are willing can participate in the labour market without prejudice.

Ontario could consider:

- Focusing its attention on people with disabilities who wish to work. Blanket policies covering everyone with disabilities are not as effective as targeted integration initiatives; and
- Increasing support for broad labour market programs such as subsidizing costs related to engaging those with disabilities and increasing reserved/quota schemes.

The numbers of disabled workers in the workforce will be increasing due to the fact that aging workers are more likely to experience disabling health concerns due to their advancing age. The challenge for employers is to rethink strategies for employee and workplace development to accommodate the specific needs of an aging disabled work force. The programs listed below are directed more at those who have disabilities and have little or no work experience.

Many of the strategies listed below are an evolution of cooperative programs, in which work placements are mediated by an authority or college. Colleges in Ontario could consider developing or enhancing similar programs and initiatives.

5.6.2 Work Preparation – Vocational Rehabilitation Programs

Such programs help individuals with disabilities to identify and overcome barriers to employment. They provide in-depth assessment of a participant's abilities and aptitudes, and then match them to appropriate term work trials. Participants are able to develop the necessary skills and abilities to integrate into the workforce permanently.

Ontario's college system is well placed to offer people with disabilities a coordinated and comprehensive educational learning program to assist in their participation in the workforce.

5.6.3 Supported Employment for Disabled Workers

Ontario could expand investment in Supported Employment Programs to ensure that the appropriate level of job opportunity is available for disabled workers. Participants are assigned to a 'sheltered' factory or business, and partner with non-disabled employees. This program allows participants the opportunity to gain and develop valuable job skills, ultimately being able to progress to open employment.

5.6.4 Enabling Workers with Disabilities Through the Use of Adaptive Technologies

The disabled have traditionally not been integrated in the workforce due to physical constraints. But new technologies have created an opportunity for higher participation rates for those willing to engage. Computer technologies now make it possible for people with disabilities to function at higher levels. Adaptive technologies include keyboard equivalents for mouse-driven commands, speech recognition software, captioned audio multimedia files, and magnified screen devices. These technologies make electronic information more accessible and manufacturers are adapting both hardware and software systems, to further increase accessibility.

5.7 *Making Better Use of Technology*

Canada has a national broadband strategy designed to stimulate economic expansion by encouraging investments in information and communication technology (ICT). Key content areas that benefit from widespread deployment of broadband services include education, health, government and entertainment.

Ontario colleges are well positioned to utilize Broadband Technology to deliver education and skills development programs in isolated and rural communities (and their under-served populations such as women, Aboriginal Peoples, and marginalized youth). Although the costs of Broadband Technology initiatives are high, opportunities exist to partner with government departments.

5.7.1 Maximizing the Use of Broadband Technology to Leverage Learning, Skills and Productivity Gains

Ontario colleges could leverage the capacity of broadband to present highly targeted programs with customized curriculum, pedagogy and learning tools, to suit the learning needs and motivations of diverse populations.

Distance learning, electronic delivery of assignments, individualized tutoring, and virtual field trips are a few examples of broadband applications. Another benefit of broadband technology is the potential to bring work into isolated areas through telecommuting.

5.7.2 Encouraging the Growth and Development of Regional Innovation Systems (RINs) and Knowledge Intensive Clusters (KICs)

Governments in advanced economies have been promoting regional innovation and 'cluster-building' policies as ways of attracting HR talent, enhancing productivity and improving competitiveness. Public sector and private enterprise partnerships have been formed to develop cutting edge innovation and technology centers.

Ontario colleges could consider establishing linkages and partnerships with both the public and private sector, to ensure their continuing role as knowledge specialists.

The Regional Innovation Systems approach (RIN) is used to analyze the network of relationships that develop within a region and among firms and the institutions that support innovation.²¹ Regional Innovation Systems analyze economic, political and institutional relationships with a goal of collaboratively generating a response to regional barriers to economic development. The existence of a mature science and technology knowledge infrastructure is one of the important factors contributing to the success of RINs.

Knowledge Intensive Clusters (KICs) provide a dynamic competitive advantage for industry and firms. Companies of all sizes and within all sectors benefit from being close to organizations with which they collaborate. KICs can be formed in areas of specialization, where sectors are experiencing skill shortages. In twelve years, the Cambridge area of the United Kingdom, for example, doubled their high-technology employment to approximately 32,000 jobs in over 300 firms. As well, throughout this period, the number of employees working for small firms increased significantly. Ontario Colleges has a role to play in promoting its skills development expertise and also its flexibility in responding to new pressures for changing education systems, arising from KICs.

²¹ Wolfe, D. 2002 Knowledge, Learning and Social Capital in Ontario's ICT Clusters, Paper prepared for the Annual Meeting of the Canadian Political Science Association University of Toronto, Toronto, Ontario May 29-31, 2002.

6.0 Conclusion

The shortages facing Ontario, by our analysis, are large indeed. Beginning in 2014, if current trends continue, labour demand will exceed labour supply; thereafter the projected gap will grow steadily larger.

As a result, Ontario could face a *shortfall* of 190,000 workers in 2020, rising to 364,000 by 2025 and 564,000 by 2030.

Given these appreciable shortages of skilled people in Ontario, actions to engage underrepresented populations in the province's labour force and work force are vital to Ontario's future economic well-being since they can help close the gap.

Ontario's post-secondary education (PSE) system has a major role to play in developing skills and increasing the skilled labour supply by assisting the underrepresented populations. Within the PSE system, Ontario colleges fill a unique role in providing accessible post-secondary education to the marginalized and under-represented/under-utilized populations covered in this report.

Ontario colleges have a major opportunity to help bring these diverse underrepresented groups into workplaces and increase their productivity and performance, primarily through learning and skills enhancement and accreditation. Skills upgrading of existing populations would not only cover the projected workforce shortages, but would help re-energize Ontario's economy.

The colleges should not work alone and in isolation: success will depend in large measure on their ability to work in close collaboration with many of Ontario's more than 300,000 employers. Close collaboration with employers will enable colleges to identify actual workplace needs, and to develop curriculum and instruction that is particularly relevant to preparing youth and adult learners for jobs and careers in Ontario's workplaces.

However, several barriers inhibit the involvement of the target populations in learning and skills programs. One is lack of funds. Funding constraints have inhibited the establishment of really comprehensive skills upgrading. A second barrier is the lack of an integrated skills strategy that also ties into health, infrastructure, immigration and other strategies.

Creating more partnerships involving both the public and private sectors could help. Colleges Ontario could, for example, act as a coordinating organization, becoming a central resource for the government initiatives supporting a variety of targeted learning initiatives for the six populations identified in Section 4, including distant learning systems utilizing ICT and broadband technology.

Assisting under-represented groups to participate more fully in the workforce is a complex task. No matter what strategy is acted upon, or which program is implemented, success will be determined to a large extent by:

1. *Responsiveness to workplace needs:* It is important that skills development, employment and training initiatives target and address the characteristics of the province's labour needs as specified by employers in the private and public sectors.
2. *Engagement of individuals:* It is important that the underrepresented population cohorts being served (including populations of youth, women, mature workers, new and recent immigrants, Aboriginal Peoples, and people with disabilities) are aware of and supportive of the initiatives designed to assist them.
3. *Existence of substantial collaboration:* It is important that the strategies and programs implemented have the support and collaborative engagement of employers, different levels of government, education institutions, and other agencies and organizations required to operate them.
4. *Adequate resources for sustainability:* It is important that adequate resources be available for each labour market strategy. As many skills development, learning and/or employment initiatives have found, there is often a trade-off that takes place between a program's success and its financial sustainability. A balance is needed so that the strategies implemented are both accessible and thorough in their approach and capable of operating for sufficient time to achieve the scale of impact required.

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