



An Apprenticeship Skills Agenda – Executive Summary

**Prepared by
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INTRODUCTION

In the period October 2016 to March 2017, Maxim Jean-Louis, President-Chief Executive Officer of Contact North | Contact Nord was requested by the Ontario Skilled Trades Alliance to carry out an engagement process with its members to help determine a transformative vision for apprenticeship training in Ontario.

These leaders are from the construction industry, which employs a significant number of skilled tradespersons and help build Ontario's future. The engagement process focused on exploring innovative ways of closing the skills gaps that exist in the province. A discussion paper entitled *Closing the Skills Gaps: A Way Forward for Apprenticeship and Skills Development in Ontario*, which is attached as Appendix 1, was used to stimulate responses and to focus attention on the challenge and opportunities for change.

Maxim Jean-Louis undertook this on a volunteer basis as its contribution to this timely conversation about apprenticeship between the different stakeholders of this critical sector of Ontario's economy.

The report of the engagement process is entitled *An Apprenticeship Skills Agenda*, and includes three sections:

- Executive Summary
- What We Heard
- A copy of *Closing the Skills Gaps: A Way Forward for Apprenticeship and Skills Development in Ontario*

While the project was funded by the Ontario Skilled Trades Alliance, the findings and recommendations are solely the thoughts of the author.

Maxim Jean-Louis

May 2017

THE SKILLS CHALLENGE

The skills gaps in Ontario continue and are becoming more complex¹. It has a direct impact on the ability of firms and organizations to compete and impairs their productivity. It also inhibits the growth of the Ontario economy. The Conference Board of Canada estimates the impact of the skills gap in Ontario at \$24.3 billion GDP in foregone company revenues, with an additional \$3.7 billion lost in foregone taxation. According to Skills Canada, 40% of the jobs which will be created in Canada over the coming decade will be skilled trades positions. Just in construction, the forecast for the next decade is that there will be some 86,100 retirements and over 80,000 new recruits needed by 2026 to sustain the sector. We are all challenged to do more, but just doing more of the same will not be sufficient.

There are five other factors which will impact the demand for and supply of skills:

- It is widely accepted that some 65% of students who started elementary school in 2016 will eventually occupy jobs that do not yet exist – the nature of work and new kinds of skills are appearing all the time².
- The skills people acquire outside formal education – online, at work, through professional courses, social activities or volunteering – can often go unrecognized, yet may be relevant.
- The digital transformation of the economy is reshaping the way people work and do business. Digital skills are needed for all jobs, from the simplest to the most complex. They are also needed for everyday life, and a lack of digital skills may lead to social exclusion.
- The Ontario workforce is ageing and shrinking, leading in some cases to skills shortages; yet labour markets do not draw on the skills and talents of all. For example, the rate of employment for women remains below that of men and Indigenous peoples find it difficult to secure and complete skills training.
- The quality and relevance of the education and training available varies widely, increasing disparities in regional economic and social performance. In particular, mastery of essential skills is problematic, especially for those without a great deal of skills-based learning and social supports.

¹ For a summary of the skills gaps, see Appendix 1 at pages 9 to 11.

² Source: World Economic Forum *The Future of Jobs* available at <http://reports.weforum.org/future-of-jobs-2016/>

What is needed is a comprehensive, future-focused rethink of our approach to the skilled trades and to apprenticeship. It is time for major change.

THREE DOMAINS FOR ACTION

In the period October 2016 to March 2017, Maxim Jean-Louis, CEO of Contact North | Contact Nord, carried out an engagement process with members of the Ontario Skilled Trades Alliance (OSTA). These leaders are primarily from the construction industry which employs a significant number of skilled tradespersons and helps build Ontario's future.

The consultations were aimed at exploring specific and concrete ways of closing the skills gaps that exist in the province. The conclusion of these discussions is there are three levels of the skills gap challenge to be addressed:

- 1. Reputation.** The first is reputational. The trades do not appear to be appealing to those aged 13-24, yet the rewards of working in the skilled trades are many. To name a few, pride in craftsmanship, the ability to be entrepreneurial and to manage the work-life balance, and to foster the communities of practice for their trade. Trades are a second choice for most, with routes to university or college seen by students and parents as the preferred route. Much more needs to be done to position the trades as a route to personal success and satisfaction – as an equal first choice. Learning about trades, developing practical and applied skills need to be positioned throughout the K-12 system and our approach to trades education needs to change to better position the trades as vital to Ontario's future.
- 2. Skills and Qualifications.** The second relates to our current models of apprenticeship and learning for skills. The model of apprenticeship now widely in use is no longer suitable for the current situation. Discrete and distinctive boundaries around skills are being replaced by more complex demands for multi-skilled and multi-layered tradespersons. Combinations of skills are required for new forms of work and all trades will need to master the ability to work in partnership with existing and emerging technologies. New approaches to skills education are emerging in other jurisdictions which move beyond time-based, journey-person-supervised apprenticeship to a competency-based, assessment driven and technology-enabled learning system. Ontario has both the capacity and the opportunity to show leadership in rethinking apprenticeship across Canada.

3. Lifelong Learning and Continuous Skills Development for Trades (CSDT). At one time, becoming a journey person or achieving a Red Seal was the end of the “learning period” in a trade. This is no longer the case. As technologies change, materials change and new skills are required, a skilled tradesperson needs to continually update and develop their skills and abilities. Without continuous learning, productivity stagnates. The 21st century tradesperson needs to make investments in their learning to stay current and be able to complete tasks and projects effectively and efficiently.

THREE RECOMMENDED ACTIONS

Our responses to these three opportunities for rethinking skills and apprenticeship are:

1. Changing Mindsets – Trades as top of mind option

It starts at the elementary school...

The approach to skills and practical knowledge required for the trades needs to begin in elementary school. Work-related projects, project-based work, and school visits are all activities which bring young minds in contact with the need for trades – working with wood, water, glass, fibre, food, tools. There must be more opportunities for practical learning at the elementary school level.

There is also a need through the education system to strengthen essential skills – literacy, numeracy, and social skills. Many in the Canadian workforce do not have literacy skills at a level required to be high performing in their trade, profession or career. Improving essential skills is a vital component of a skills strategy for Ontario.

In junior high and high school...

Opportunities to learn basic trade skills from fashion, cosmetology, culinary arts, welding, automotive, carpentry, permaculture and others – routes for career and technical studies (CTS) which permits the learner to explore a trade, master basic level understanding and complete (at the high school level) some components of apprenticeship. Students are currently required to undertake forty hours of community service – at least twenty of these should require the demonstration of trades or practical skills.

For college and university students...

Ensuring college students can see the value of trades through connecting them on campus with trade opportunities linked to their interests.

The development of degree apprenticeships, which combine full-time work with part-time online study also needs to be considered. In the United Kingdom³, applied apprenticeship degrees are primarily targeted at 18- to 19-year-olds leaving school as an alternative route to gaining a more traditional degree, especially for those from disadvantaged backgrounds who are deterred from studying a traditional full-time program by high tuition fees and student debt. The qualification is suitable for anyone, including 16- to 18-year-olds and mature students. The degree apprenticeship is designed to strengthen the 'vocational pathway', and support progression from craft and technical roles into management. This means programs are suitable for those who have completed apprenticeships or the equivalent but who now wish to advance their career through further study.

The recent announcement, in Budget 2017, of 40,000 new work-related learning opportunities with employers for students and recent graduates through Ontario's Career Kick-Start Strategy, providing real-world experiences while enabling employers to help train and equip them for jobs, is a strong start.

The government needs to continue to build on this momentum and aim for a comprehensive repositioning of the skilled trades as a route to pride, prosperity and personal satisfaction. This needs to be reinforced for all learners in Ontario.

There also needs to be investment and support for bold, creative and imaginative uses of learning and related technologies to support apprenticeship. New approaches to video-based assessment, new uses of e-apprenticeship systems, the widespread adoption of e-portfolios which capture what an apprentice can do, creative uses of online learning to accelerate completion of skills modules, and the greater use of peer-to-peer and social networks to support apprenticeship are all opportunities for Ontario to show bold, courageous leadership for skills in Canada.

For a wider public

Using media, advertising, social media and other materials to actively encourage young people to consider a route to trades as a life choice – showcasing the benefits of trades work or work in different fields – construction, electrical, hairdressing and other trades. This could also

³ For a description, see <https://www.prospects.ac.uk/jobs-and-work-experience/apprenticeships/degree-apprenticeships>.

include an annual Premier of Ontario Skills Award, recognizing individuals in different trades who had an impact on how the trade operates or who have developed innovations which are transformative for the trade.

For seniors

Seniors with trades skills are a significant asset to the future of the trades. There is an opportunity to maintain an engagement with young people through links with schools, or through the identification of community-based projects in which retired tradespersons can partner with school students. Experienced tradespeople should be mentors and help those considering the trades by coaching a younger generation in their work towards a vocational qualification.

A Chief Training and Skills Officer

To support a creative and innovative approach to trades education and the positioning of trades, a new government position – Chief Training and Skills Officer – who champions the skilled trades across a range of government ministries (Labour, Advanced Education and Skills Development, Education, Research and Innovation) and agencies (Ontario College of Trades) is needed. This role champions the skilled trades at the highest levels of government and promotes the skills agenda. The person appointed should report directly to the Minister, Advanced Education and Skills Development on the status of skills employment and trades training in Ontario. This position should include specific targets for recruitment, retention and completion for apprenticeships; a mandate to accelerate success for skills development in the skilled trades; support for the reduction of bureaucracy and complexity related to apprenticeship and the role of oversight of the skills agenda. Such centralized accountability would ensure fast-action on the Governments skills agenda.

A Skills Guarantee

The European Union, in its skills agenda, proposed the development in each member country of a skills guarantee. Such a guarantee has three components: offering to every adult who does not possess a post-school certificate, diploma or degree: (a) a skills assessment, enabling them to identify their existing skills and their upskilling needs in a skills domain of interest to them; (b) a package of education or training tailored to the specific learning needs of each individual; and (c) opportunities to have their skills validated and recognized. This enables “gap-based” personalized learning agendas to be developed as well as increasing the pipeline of people wishing to pursue skills.

Ontario’s skills guarantee, using anytime assessment systems which leverage emerging technologies for assessment, would enable those with

skills to be certified whether or not they have completed formal programs of study. It would also enable many to complete apprenticeships they long ago abandoned.

Such a guarantee could create new, flexible routes to completion for apprenticeship programs and enable Ontario to significantly improve productivity and competitiveness of those companies and organizations which depend on the skilled trades.

2. Rethinking Apprenticeship

Changing the Model of Apprenticeship and Developing Flexible Routes to Certification

The model of apprenticeship is based on a traditional and now dated model of discrete trades⁴ and limited understandings of how individuals master skills. This model is no longer suitable for the modern trades. Skills are more complex, involve a range of technical and soft skills as well as layers of competence and capabilities. Our understanding of how adults learn and our ability to use technology to support learning also changed. There is a need to both rethink the skills needed for 21st century trades work in terms of the competencies and capabilities required for each skills domain and to rethink the learning and development routes by which an individual can become a Red Seal or certified tradesperson.

Rather than focus on time, journeyperson - apprenticeship ratios and whether or not a specific trade requires compulsory or voluntary certification, there is a need to develop a modular, stackable approach to skills and capabilities training and developments which permit greater flexibility and more rapid progress to certification. Focusing on the assessment of capabilities and competencies and the work needed to enable a successful capability assessment gives us a different lens for this work.

There is also a need to be more open to varied routes for entry. Rather than insist on the completion of Grade 12, individuals who demonstrate commitment and interest and complete skills and capability modules relevant to their specific trade interest should be able to progress, no matter what their age or prior education. In this regard, it is worth noting the youngest Microsoft Certified Professional was just five years old when he qualified⁵. Openness, flexibility, transparency and quality assessments of capability should drive our approach to the mastery of the skills required for each trade.

4 For a review of the history of apprenticeship in Canada, see Stewart, G. and Kerr, A. (2014) A Backgrounder on Apprenticeship Training in Canada. HEQCO.

5 For more information about this young man, see <http://www.bbc.com/news/technology-30054140>.

There is also a need for a skilled tradesperson, after they secure their “ticket”, to continuously improve and upgrade their skill, to master emerging technologies and improve productivity and performance. Every skilled trade changes over time – this should be reflected in the model of learning and certification. Lifelong learning for trades should be a cornerstone of the Ontario way. We outline a strategy for this below.

Building on success and leveraging our skills training and development infrastructure, together with Ontario’s national leadership in college education, online learning and technology supported assessment, Ontario needs to be bold and chart a new pathway for the mastery of skills.

Attracting New Apprentices

There also needs to be a systematic and focused effort to attract more women to the trades and to provide significant support to Indigenous students who wish to enter the trades. Just as the Government of Ontario has pursued a systematic approach to increase the number of traditionally under-represented individuals in higher education – students from low income families, first in the family to attend university or college, Indigenous, disabled, sons or daughters of immigrants, rural students – it needs to do the same for apprenticeship and entry into the skilled trades.

Strengthening financial incentives for apprentices, focused tax incentives for employers, support for essential skills development targeted at these groups together with dedicated coaching and mentoring support at a local and regional level are all approaches to be considered. The 2017 budget commitment to expanding access to skills and essential skills learning is a strong indication of the Government’s commitment to this work.

Of considerable importance are role models and success stories of individuals from these backgrounds who have not only completed apprenticeship but secured the rewards of having done so. The suggested annual Premier of Ontario Skills Awards could provide an opportunity to showcase and celebrate these achievements.

3. Lifelong Learning for Skills and Trades

Requiring Continual Professional Development for Trades (CPDT)

Almost all who work in any profession or trade see their work change and transform because of new understandings of best practice, the development of new materials for use in their trade and new technologies and tools. Continuous learning and development is no longer an option, it is essential both for improving the technical capability of an individual tradesperson but also for productivity and competitiveness.

A requirement for a tradesperson to complete ongoing learning needs to be a part of the understanding of what it means to be a journeyman. This requirement varies by trade, but the adoption of a modular approach to learning would enable flexible use of modules for both apprentices and those seeking to undertake CPDT.

Resilient and Adaptive Trades

As change occurs – some suggest 40% of existing Canadian jobs will be replaced by emerging technologies such as 3D printing, new materials, robotics and artificial intelligence⁶ – there is need to build into our understanding of trades a need for adaptability and resilience. Strengthening entrepreneurial mindsets, enabling the development of innovative and creative capacity and deepening the change and coping skills of each tradesperson needs to be a part of our understanding of the skills agenda. The future is not a straight line from the past – a qualified tradesperson needs to be able to adapt to the changing nature of their work and to use that adaptability to strengthen and build their practice.

INTENDED OUTCOMES

The aim is to close the gap between demand and supply of labour, to increase employee engagement in learning and to increase the productivity and competitiveness of Ontario firms. These proposals will also speed and increase completion of apprenticeship, provide greater flexibility and opportunities for apprentices and position the journeyman as a mentor, coach and guide, as well as an instructor. For colleges, these proposals create new opportunities to respond to industry needs, new support for the assessment of skills and a new approach to modular, stackable learning.

There is a need to change the model of apprenticeship, to increase commitment to vocational education, increase the flow of individuals into the skilled trades pipeline, provide more flexible routes to entry and certification, and to sustain the quality of qualified tradespersons.

The challenge is not primarily a fiscal one – the Government of Ontario already makes significant investment in skills development and learning – the challenge is about the allocation, reallocation and incentivization of existing resources. The challenge is to be creative, innovative and bold in responding to a problem that has been with us for some time.

⁶ See The Advisory Council on Economic Growth for the Government of Canada First Report: *The Path to Prosperity – Resetting Canada's Growth Trajectory* (2016) available at <http://www.budget.gc.ca/aceg-ccce/pdf/summary-resume-eng.pdf>.

Current actions, while demonstrating support for the work of trades and the development of apprenticeship, are not moving quickly enough in solving the problem of the skills gaps. New approaches are needed. It is time for Ontario to lead, not follow and to be bold in doing so. There are strong commitments to apprenticeship across the trades and in communities throughout Ontario. All now look for leadership and innovation. It is time to liberate, not constrain and to develop a more flexible apprenticeship system that has many pathways to success.



What We Heard

WHAT WE HEARD

In the period October 2016 to March 2017, Contact North | Contact Nord carried out an engagement process with members of the Ontario Skilled Trades Alliance. These leaders are from the construction industry, which employs a significant number of skilled tradespersons and help build Ontario's future. The engagement, developed at the invitation of these leaders, was aimed at exploring specific and concrete ways of closing the skills gaps that exist in the province. A discussion paper entitled *Closing the Skills Gaps: A Way Forward for Apprenticeship and Skills Development in Ontario*, which is attached as Appendix 1, was used to stimulate responses and to focus attention on the challenge and opportunities for change.

Maxim Jean-Louis, President-Chief Executive Officer of Contact North | Contact Nord undertook this on a volunteer basis as its contribution to this timely conversation about apprenticeship between the different stakeholders of this critical sector of Ontario's economy.

What is clear from these discussions with the employers is the issue of the skills gap generates a great deal of focused, intense and insightful comment observation and recommendations.

In this snapshot, we describe what we heard in these discussions. We seek to capture the conversations undertaken at individual and group sessions with Ontario Skilled Trades Alliance members of construction, hairstylist, electrical, carpentry and other trades.

THE THREE MAJOR QUESTIONS

In the engagement process, we explored three major questions:

1. What is your understanding of the challenge?
2. What is working now, but with some tweaks, could be much better?
3. What bold ideas do you have which, if implemented, would be "game changers" for skills in Ontario?

These questions permitted open observations as well as comments on the specific ideas contained in the paper circulated widely in October 2016 (Appendix 1). My reporting on this work includes this paper, capturing what we heard, and a second document providing a summary of the key observations from the entire process.

THE CHALLENGES

Challenge 1: Mindset

All respondents positioned the challenge in terms of trades not being top of mind for young people –not the first choice for students in schools, colleges and universities, and not a preferred route for personal success and career. This despite the clear evidence of the rewards of being a successful tradesperson and the pride and fulfillment a career as a skilled tradesperson can deliver. As one observer suggested, **“the pipeline is drying up because there are no longer many points of contact with physical labour, skills and trades in our schools”**.

Others made similar suggestions:

“My children, currently in elementary school, have no introduction at all to any of the skills trades but have all sorts of introductions to other industries and professions.”

“Our kids are spending their time in their bedrooms with handheld devices, they’re not doing any kind of physical work, not doing any physical things at school, anything physical out, but even the willingness to enter into the trades, [to] work with our hands, is diminishing. I think it’s at crisis proportions, our mindset is definitely important.”

“I have found that there is a cultural indifference in this country and North America specifically around what it means to be a skilled tradesperson.”

“Few of our students in schools understand that a career in trades is a rewarding career that provides a lot of lifelong transferable skills and if they were to hear of some of the money that can be made, they might find the trades a much more attractive proposition.”

“Many young people want to have more control over their lives and career – we need to position work in the trades as providing that opportunity.”

“Barriers are being arbitrarily put up and part of that culture, our parents’ generation believed that working with your hands meant you were lower class. And we’ve raised a generation of kids who believe that university is the only way to go.”

This observation, shared by many, suggested the key challenge for a skills strategy is to enable a mind-shift for Ontario’s young people. While work experience for high school students is a valuable addition to the

positioning of skilled trades, the work needs to begin much earlier in elementary school.

This requires:

- Increasing project-based learning where skills are required.
- Broadening the focus of crafts, technology and skills to embrace the work of the skilled trades.
- Community-based projects in which K-12 students can work alongside skilled tradespersons in solving real world problems where trades skills are involved.
- Rethinking the career and technology studies of the K-12 school system focused on an expansion of vocational education from elementary to high school, involving work-based learning and community projects to help shift the student mindset.
- Something which several other jurisdictions are developing is the direct laddering of apprenticeships to degrees, which also helps shift the mindset. While this is occurring in Ontario, it needs to be given systematic encouragement.

In the United Kingdom, the apprenticeship degree was launched in 2017 as a means of shifting the mindset but also creating a clear pathway between a commitment to apprenticeship as a career decision and advanced learning. The degreed apprentice works for 30 hours a week in paid employment and uses online and face-to-face studies to acquire both their journeyman ticket and part of the degree¹.

Challenge 2: The Skilled People Pipeline

As Ontario's demography changes – to more seniors, fewer people in the workforce, more immigrants, more Indigenous youth – so the skills pipeline becomes more problematic. Added to this is the challenge of technology – not only will there be fewer people in the skills pipeline, but the skills they require for work are becoming more complex.

“Four years from now, there will be more seniors than kids in high school... And by 2030, there will be just two people in the workforce for every one that is not. Right now it's four to one. So these demographics are going to get worse, not better... [and] another version of the problem is we have to think of who does what in our economy, because we don't have the people, unless we

¹ For more information, see <https://www.prospects.ac.uk/jobs-and-work-experience/apprenticeships/degree-apprenticeships>

drastically increase immigration. So just the demographics speak for themselves.”

In some trades, skills shortages are already forcing the closure of small firms and businesses. In others, new ways of working have to be found to compensate for the lack of skilled tradespersons. As new materials begin to find their way to the marketplace, and new technologies change the way work is done, those who are already certified need to update their skills to compete.

Examples of this include new forms of glass for glazing, new solar roof panels for energy efficient houses, the use of graphene in plumbing, 3D printing of houses and buildings, machine intelligent systems used in “smart buildings”, and sensors built into pipelines and electrical systems.

Our models for certification – Red Seal and apprenticeship – need to be fundamentally re-examined for a different set of socio-economic conditions. Apprenticeship as now practiced is no longer producing the pipeline of skilled tradespersons needed for Ontario to be a competitive and highly efficient economy. Indeed, our current approach to apprenticeship restricts rather than encourages entry into the skilled trades. Some of the comments made this clear:

“Our current approach is too restrictive and stops us from accessing the talent that is out there.”

“There is no acceptance across our current system of what the reality is in our workforce – the continuum of education and growing as a tradesperson. There are many with excellent skills doing excellent work who cannot or have not secured certification – we need to find a way of recognizing their skills.”

“There are 350,000 grade 11 and 12 students in the province of Ontario – 350,000 17- and 18-year-olds. Of that 350,000, less than 40% are going to go on to post-secondary [school]... That is almost 200,000 students coming out of secondary school that could take advantage of programs like OEAP or just enter into an apprenticeship if they really had more support.”

“I can’t imagine a young person or an unemployed person trying to navigate the minefield that we call apprenticeship.”

“I think we’ve got the beginnings of [a] regional and even provincial series of supporters for the notion of apprenticeship, but again they’re all working either alone, or against themselves.”

“If you want to become a skilled trade crane operator, elevator operator, electrician, plumber... unless you know somebody, it

doesn't matter if you want to be an electrician or a licensed trade worker, you are not allowed in. You have to pass some blood tests."

Further, no single approach to apprenticeship fits all trades. Each has its own dynamic, conditions of practice and core capabilities. And many new trades are emerging which require blends of existing trades. Mechatronics is a good example. This emerging skill domain requires a combination of mechanical engineering, electronics, computer engineering, telecommunications engineering, systems engineering and control engineering. It is an example of a 21st century skill domain which is no longer a discrete, narrow range of capabilities.

Challenge 3: The Understanding of the Skills Gap as a Wicked Problem

The Closing the Skills Gap discussion paper identifies six components of the skills gap – it is not a simple supply and demand problem (see Appendix 1 at pages 9 to 11).

Gap 1: The Basic Gap: The Gap Between What Employers are Seeking and What they Can Find

Gap 2: The Expectations Gap – The Gap Between What an Employee Expects to Experience at Work and What they Actually Find Themselves Doing

Gap 3: The Productivity Gap – The Skills We Need to Develop to Significantly Improve Productivity

Gap 4: The Leverage Gap – The Underutilization of Skills in the Workforce

Gap 5: The Futures Gap – The Gap Between Current Skill Sets and the Skills We Need to Become Competitive in the 4th Industrial Revolution

Gap 6: The Innovation Gap - The Skills We Need to Build a More Innovative and Sustainable Economy

The consultation confirmed all six components are present as part of the challenge. These are thrown into sharp relief in the many small companies that exist in the trades. Indeed, 90% of all Canadian businesses are small and medium-sized organizations and the challenge of matching employee expectations with reality is very real.

A CHIEF TRAINING AND SKILLS OFFICER

There needs to be greater awareness of the reality of the business world amongst those making decisions across a range of government ministries or departments – Education, Advanced Education and Skills Development, Labour, Research and Innovation – so strategic thinking and investment decisions are informed by on-the-ground realities. There is a need for a Skills Champion – a Chief Training and Skills Officer – who represents the interests of the skills trades across government and amongst its agencies.

“I’d like to centralize the combined efforts of service providers, promote recruitment and retention. I’d like to create a chief training officer in Ontario... I do believe we need to have some sort of central clergy. I agree that there are some issues with the College of Trades. Maybe that falls on the Ministry of Advanced Education and Skills Development, but again, I’d like to see a chief training officer appointed in the province of Ontario who has some sort of authority to work within most ministries. To make apprenticeships become more of a first choice option.”

“I would like to see a chief training officer in the province of Ontario. Not necessarily attached to one ministry. Maybe three ministries that are all working together to benefit workers in Canada.”

Challenge 4: Simplicity on the Other Side of Complexity

All of those engaged in the conversation found the current systems for apprenticeship and skills certification to be overly complex, bureaucratic, time-consuming and expensive. In some cases, the bureaucracy was itself enough to deter companies from engaging an apprentice and in others this same concern was enough to deter apprentices from continuing. Rather than simplifying, streamlining and championing the opportunities for expanding the skills trades, the Ontario College of Trades is seen by many engaged in this conversation to be imposing complexity and regulation. Some of the comments make this clear:

“The more you build barriers, the more you build structures and the more structures we have, the fewer people can get past the barriers. We need to remove barriers, stimulate innovation and develop flexibility.”

“If Ontario wants to become more competitive, improve productivity, build greater pride in work, really become a great place to work, then we need to change how we train and develop skills which young people need to work in the trades. We have clung on to an

old model for too long and it's time to change. Some aspects are strong – mentorship and coaching are critical as is some formal learning and essential skills – but we can use new approaches to design and delivery to get these skills. What we are doing now is just not solving the problem.”

“There have been some improvements in the past 5 years, especially with the arrival of the College of Trades... It has, in theory, started developing metrics and started discussing how we measure achievements in all the trades that it governs... [but] the challenge that now the College of Trades faces is the reality that the completion rates haven't changed one iota since the arrival of the College of Trades.”

The potential of the College of Trades was recognized, its current practices, however, were seen as making it more difficult to enter and complete an apprenticeship.

In the current review of the changing workplace being undertaken by the Ministry of Labour, the Government of Ontario may wish to look at how complex the workplace is to administer and whether existing structures and activities are responding to the real challenge – the skills gaps.

WHAT WORKS NOW, BUT COULD BE IMPROVED?

In this part of the conversation, the focus was on what was working but, with some adjustments, could be much more impactful in terms of closing the skills gaps identified above.

Working 1: The Scale of the Government of Ontario Investment

The scale of the Government of Ontario's investment in skills is seen by those consulted here as significant. It invests over \$1 billion annually in skills training and development through Employment Ontario; it is lowering the costs of college education through free tuition for low income families (starting in 2017-18) and invests over \$300 million annually in over 360 Bridge Training Programs – all in addition to its expenditures on colleges and related initiatives. It also supports the work of the Ontario College of Trades.

The challenge is not the scale of expenditure, but how this expenditure is invested. The recommendations made later suggest new approaches to the uses of this investment, which build on the recommendations

of the Premier's Highly Skilled Work Force Expert Panels report and recommendations².

"I think that there's enough money being dedicated to the trades, to close the skills gap... And so it's not a resource problem, it's an allocation problem and therefore it's a problem of incentives."

"[W]e're not really asking for more money. I think they put a lot of money into education, into training, but it's the allocation that's an issue. And I think that there's a lack of emphasis on outcome, when they do send the money to TDAs. So the point of this is that I don't think we need another bucket of 5 billion dollars to go into it, it's really, look at the system that we have today. Is there a way of allocating that's more efficient? Are TDAs doing a good job of tracking outcomes?"

Working 2: Specialist Skills Programs in High Schools (OYAP)

Some high schools developed, with the support of specific trades and colleges, skills programs which permit the student to complete part of their apprenticeship while still at school. With some modest admission requirements (aged 16, 16 high school credits, full-time and attendance), students can engage in skills development, work experience and explore apprenticeship.

These programs need to be expanded and connected to prior work in elementary and junior high schools – high school programs are almost too late.

New programs also need to leverage the focus on STEM and the need for creativity, innovation and problem-solving to be a part of such programs. Project-based work, where a journey person can work with students on an authentic learning task, can make a lot of difference to a student's commitment to enter the skilled trades and continue their learning.

"School is where the skills trades mindset starts. The sooner we engage the hearts and minds of young people, the better. We need to show them the pride trades people have in their work and engage them in work that builds this pride for them."

"I don't want to see us losing sight of the 350,000 students that are sitting in high school and the grades schools that we have there and not... focusing enough on them. We need to get back to the cradle. I think we're trying to work at the medium level but we have to get right to the grass roots... let's get them interested early on."

² For more information, see <https://news.ontario.ca/opo/en/2016/06/premiers-highly-skilled-workforce-expert-panel-releases-final-report.html>

“There’s a movement across North America called the STEM movement (Science, Technology, Engineering, and Mathematics) and we need to piggyback on that particular initiative because within that there is technological innovation and the notion that you want to sexy up the trades, it does raise the profile of skills. It can be done in elementary at the earliest level and proceed on up into secondary school.”

“I would like to see a significant expansion of technological education and learning opportunities in elementary and secondary [school]. I think we need to start distinctly describing not trades, we shouldn’t use the word trades because that’s a word that folks don’t always understand, but we should be using the word technological education. And technological education should be available, formally, in elementary and secondary... it needs to start in elementary and it needs to be early and often.”

Working 3: The Ontario College of Trades

When the province created the Ontario College of Trades in 2013, it was intended to be an organization that championed the skilled trades, helping to change the mindsets of young people, and offering a centralized information source. It was tasked with modernizing the skilled trades and protecting the public interest.

The College is in its early stages of development. Even so, the work of the College is already seen by some employers to be restricting entry and progression to the trades, not doing enough to champion the trades or to shift mindsets and not showing courage in modernizing the apprenticeship system. The College has potential but is not seen by those consulted here to be effective in responding to the opportunity to rethink apprenticeship so as to solve the skills gap problem.

A review conducted in 2015 (the Dean Review) suggested some modifications to its functions. There seems to be a collective wish to see the College be successful and it will be if it refocuses on its task: modernize the apprenticeship system and position the trades as a top-of-mind opportunity for young people in Ontario and that this task is increasingly urgent.

Some of the comments make this clear:

“Time is of the essence. The longer the Government or the College hesitates or delays bold action, the worse the situation will get – we have to act now to make a difference.”

“We are not suggesting that we make it easy to secure a ticket, we are saying that the College needs to be much more innovative,

creative and imaginative to create flexible, varied routes to entry and develop variety of routes to success. More complexity, more rules, more certified trades is not the way to go.”

“I look at this [issue] as an expectation gap and a leadership gap. And again it’s only exacerbated by this demographic [shift], if you will. And the barriers, in my mind, fall underneath all that. And the notion that we need a centralized service... I totally agree with that. I am hoping that at some level the Ontario College of Trades would be that entity. I’m not sure that it is or is to be.”

“I think [of] the notion of technological education as more than just a career path. It’s a learning style and it’s a learning strategy... I also personally believe that the Ontario College of Trades, now don’t get me wrong, I’m not sure if it’s done growing or not, but I think that’s a step in the right direction in centralizing the way we deliver our services and information around the trades... I was kind of hoping that it would be a bright light for the skills trade.”

Working 4: Small Contractors and Apprenticeship

Many small construction trade contractors and small business owners, who require certified tradespersons, successfully support and manage apprentices. Whether it is a small local carpenter, plumber, electrician, glazier or hair salon, they are able to support an apprentice through their skills journey.

However, these businesses are finding that supporting apprentices is becoming more complex and bureaucratic, more demanding in terms of supervision, support and time and more expensive. They seek greater flexibility in how apprentices secure their ticket, ease of administration and reporting and a greater understanding of how multi-tasking across skills boundaries is essential for small business success. The more restrictive the trade, the more difficult it is to sustain entry into apprenticeship and ongoing support.

“Finding placements is hard. But once a small contractor hooks up with an apprentice and there is a good fit, they cherish these relationships and opportunities. They build lifelong relationships”.

“Small enterprises don’t have a lot of the capacity to do all the work that they need and that’s why a centralized concierge would be helpful.”

Working 5: A Focus on First Nations, Inuit and Métis by Ontario's Public Colleges

Indigenous peoples are a major resource for communities and trades and a renewed focus on both recruiting them into the trades and supporting their journey through apprenticeship is welcome. Much more needs to be done to enable them to secure their ticket, especially with respect to essential skills development and improved flexibility with respect to how skills are mastered.

These learners benefit greatly from one-to-one journeyman-apprentice ratios, since traditional learning is through elders mentoring and coaching the next generation. In many cases, they do not have ready access to advanced technologies. Creative solutions are being sought and, in several cases, found by Ontario's public colleges working with the trades to increase completion of apprenticeship by Indigenous peoples.

"This is a great opportunity we are not doing enough to leverage – First Nations youth is a fast growing population, [and] we need to find creative, supportive and direct ways of working with them to help them be successful in the trades."

Working 6: Recruitment is Improving, Placement is Hard

In all of the conversations, it was noted that even though the skills pipeline remains problematic, there were slight improvements in some regions in recruitment. The challenge is placement. Finding a sustainable base from which an apprentice cannot only maintain their work status but complete their program is hard and becoming more difficult. Some innovation in placement management is emerging (see below), but this needs work.

"We need to look at some new approaches to centralizing placement supports – helping apprentices find placements and helping firms find apprentices. We may even need to start thinking like Uber and develop an app for that!"

"I think that one thing that's coming out is that training is easy but placements are hard... We know how to train but we don't know how to place."

"Something that focuses on placements needs to be stand-alone. It cannot be done centrally, because we're too far removed from actual employers on the ground. I think that's part of the problem... you have someone in an ivory tower, way too far away with no individual connection with employers or the students. I don't think there's a secret to placements. I think it's just a lot of hard, on-the-ground work."

Some employers have created a non-profit charitable organization focused on placement and support for small firms. Acting as a kind of concierge service for apprentices, it matches firms willing to hire with those seeking to be hired and undertakes some of the administrative and record keeping work for placement.

Working 7: Community Partnerships

In some parts of Ontario, but not all, there are strong and effective partnerships between community organizations focused on skills – especially essential skills – and employers and the trades. These need to be strengthened and funded in sustainable ways, provided they continue to deliver to outcomes and have the impact intended. In this regard, Skills Ontario needs to be supported and encouraged to continue its outreach and creative work.

BIG IDEAS FOR CHANGE

There is no shortage of creative and imaginative ideas for change generated throughout the engagement process. What follows is a catalogue of the key ideas developed during the conversations.

1. A Chief Training and Skills Officer for Ontario

The idea here is that a Chief Training and Skills Officer who champions the skills agenda across government and its agencies. Working from the Premier's Office and reporting to the Premier, this individual and a small staff seek to influence policy and decisions so measurable progress can be made on changing the mindset of young people, improving the pipeline of apprentices and narrowing the skills gaps. While not all of this work relates to government – some of it relates to the ways in which schools, colleges and universities position vocational education and the ways in which the trades function. A vocal champion helps ensure the issues confronting the trades are top on mind when key decisions are made.

2. Rethinking the Work of Skills with Respect to K-12 Education

Students at elementary school can begin to think about vocational decisions, reinforced by role models and the kind of activities in which they are engaged as students. More needs to be done from elementary through high school to position the skilled trades as a desirable first choice and equal to other choices they have. Active project work, focused on authentic tasks requiring the experience of skills used by the trades as well as an expansion of OYAP, would help strengthen the pipeline.

3. Rethink Apprenticeship in a Fundamental Way

The current model of time-based, ratio driven and restricted practice-based definition of a trade is the historical approach to apprenticeship in Ontario, across Canada and around the world. But this approach is changing in many jurisdictions and it is felt that now is the ideal time for change here in Ontario.

There is strong support among employers for a bold, imaginative rethink of how a trade is defined (more multitasking, reflecting the current realities of the workplace and emerging practice), how skills are acquired, how learners are supported, how competency and capabilities are assessed. There is also encouragement for the use of e-learning, new approaches to e-assessment of skills, competencies and capabilities and for a modular, stackable approach to learning (see Appendix 1).

The Closing the Skills Gap discussion paper (Appendix 1 attached) explores the proposition of a modular, stackable approach to apprenticeship in which skills and capabilities are identified, offered as a module and assessed. Individuals who can demonstrate competence and capability can be certified for that skill. To secure a specific ticket, they need to “stack” a specific set of modules. Some Red Seal programs are already experimenting with this approach with great success. It should be expanded to all Red Seal and all trades.

This requires a rethinking of how learning is delivered. In some jurisdictions around the world, significant use is being made of simulations, serious games, online learning and video-based assessment technologies. In the United Kingdom, the apprenticeship degree was launched to enable apprenticeship to be automatically ladderred into an undergraduate or Masters level degree. If Ontario wants to close the skills gap, and position itself as a leader in North America in doing so, it will not achieve success by doing what it has always done with tighter restrictions. Now is the time for bold, new thinking.

Ontario’s colleges are well positioned to respond to these new approaches to flexible, modular, stackable credentials. They are amongst Canada’s leaders in online learning and, as can be seen from many of the projects currently underway, they are leveraging simulation and gaming technologies, virtual reality, new approaches to assessment in their work. The proposals here are intended to enable the Colleges to offer more flexible routes to success, not to inhibit their work.

Related to this is the recent recommendation of the European Commission in its skills strategy to provide a skills guarantee. Such a guarantee has three components: offering to every adult who does not possess a post-school certificate, trades ticket, diploma or degree: (a)

a skills assessment, enabling them to identify their existing skills and their up-skilling needs in a domain of interest to them; (b) a package of education or training tailored to the specific learning needs of each individual, and (c) opportunities to have their skills validated and recognized. This enables “gap-based” personalized learning agendas to be developed as well as increasing the pipeline of people wishing to pursue skills. This is exactly in line with the thinking in the attached Closing the Skills Gap discussion paper.

4. End the Monopoly Position of the Training Delivery Agent (TDA)

Training is a marketplace. There should not be a market monopoly over training delivery: skill seekers deserve choice and, to meet the skills gap, provision through TDAs needs to be expanded, not limited.

Expanding the number of TDAs and their reach can increase the flexibility of such offerings through modular, flexible and stackable approaches to training, focusing on assessing capabilities and competencies in rigorous and systematic ways can create new routes to success for those seeking to enter the skills trades.

Once approved, an apprentice can choose their TDA and the money available to support that training should follow the apprentice.

The Ontario College of Trades should encourage collaboration, variety in approach and innovation in the work of the TDAs it approves.

“Right now, they [the TDAs] have a monopoly in several trades... And so getting rid of the monopoly status of the TDAs, I think, would be a very good step forward. Because it would create competition, and competition in theory would improve the service, both to trainees, or to eventual employees as well as employers who could potentially start new partnerships with those TDAs.”

“I think we all agree that the TDA structure is part of the monopoly that’s restricting things in Ontario.”

“It’s time to revisit the whole notion of what a TDA is and who holds the seat of that.”

5. Expand the Work of Support Ontario Youth

This charitable organization was created to make it easier for both individuals seeking apprenticeship and those willing to offer placement to do so. It seeks to centralize support for firms, reduce red tape and enable placement. The work is sponsored by the electrical trades, but could quickly be expanded or replicated by other trades.

6. Be Aware of the Future

We need to be acutely aware of the growing pace of change and its implications for both what we do and how we do it. Seeking to reinforce a model of apprenticeship rooted in a past age is not a response we seek to encourage for a future-ready, highly skilled Ontario.

The Government of Canada's Advisory Council on Economic Growth is acutely aware of the skills gap and is concerned that Canada is not moving quickly enough to position itself for a rethinking of what skills it needs to be competitive and how it can close the current and future skills gap. It proposed the creation of a FutureSkills Laboratory to support innovations in skills development³. It suggests this work is urgent.

There was strong support for this analysis – it is urgent we enable innovation and change in skills development. In our view, Ontario is well positioned to show national leadership through bold and courageous innovation.

WHAT NOT TO DO

Our conversations also generated a catalogue of what needs to be avoided and what not to do.

Do not...

1. ...make accessing the trades and skills learning more difficult by introducing more regulations and more bureaucracy.
2. ...lose focus on the 350,000 young people in high school – seek to change their minds nor reinforce their bias against skilled trades. Showcase the possibilities and do so with pride. Nor forget the unemployed or underemployed adults who could benefit.
3. ...focus on completion rates for the existing apprenticeship system – focus on what needs to happen to change the system and reinvent learning for skills.
4. ...increase the number of compulsory certified trades, reduce them and focus instead on competencies and capabilities.
5. ...favour one trade over another and see the future as being about multi-tasking not restrictive trades.
6. ...favour unions over employers or large employers over small employers – see the future as an opportunity for collaboration and co-operation.

3 For more information, see <http://www.budget.gc.ca/aceg-ccce/pdf/skills-competences-eng.pdf>

7. ...neglect investment in essential skills – our young people need level 4 and 5 literacy skills and strong numeracy skills to be effective and successful.
8. ...wait to follow the lead of other jurisdictions, be courageous and lead and show true Ontario innovation.
9. ...see apprenticeship as an end in itself – see it as a starting point for a lifelong commitment to skills development and learning.
10. ...forget that this work is about the future of every citizen in Ontario – a competitive, highly productive economy depends on the quality of the skilled workforce.

A COMMITMENT TO ACT AND BE CHAMPIONS FOR SKILLS IN ONTARIO

These conversations were characterized by a high level of engagement and commitment to change and for a different future for skills education and development in Ontario. The support for innovation and change is strong as is the recognition that the path forward will require all to change and to co-operate. There is a willingness to act and to be champions for skills.

WHAT WE DID NOT HEAR

While we address in this paper many of the aspects of the apprenticeship system as it exists presently in Ontario, it is not an exhaustive study. It represents the feedback from a consultation with leading employers and their suggestions as to what is needed.

There are many aspects of the system in Ontario that are tangentially commented upon. For example, the admission to and control of placements of apprentices is clearly a major concern. What is implied is that it must be more open, transparent, flexible, inclusive, adaptive. Some innovations are already taking place but more is needed.

The various roles of all of the key stakeholders have not been addressed or given “equal” air time in this paper, which is a summary of what employers engaged in this process said.

But it is clear that, if we are to be successful in closing the skills gaps, a more open market place must exist. Youth should be able to start early, be able to accumulate an understanding of the value of a trades career, plus develop skills and competencies. They must be able to be assured

that their pathway will open up opportunities, not only for training but also employment. Adults must be encouraged to enter a field of choice from a broad range of trade options.

Most of all we need an apprenticeship system that serves the needs of the citizens and economy of Ontario.