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# Space to Grow

Job Transitions in Ontario's Tourism and Hospitality Industry



The Future Skills Centre – Centre des Compétences futures (FSC-CCF) is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce. As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead.

The Future Skills Centre was founded by a consortium whose members are Ryerson University, Blueprint, and The Conference Board of Canada.

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# Key findings

- COVID-19 has been particularly challenging for the tourism sector, with employment down 46 per cent year-over-year in the second quarter of 2020 compared with 6 per cent for all sectors.
- Occupations in Ontario's tourism and hospitality industry have, on average, nine transition options.
- The single biggest obstacle to transitioning from a tourism and hospitality occupation to any other occupation is "characteristic similarity": i.e., having the requisite skills, abilities, and knowledge, a facility with any necessary tools and technologies, and any special qualifications needed for the destination occupation.
- The tourism and hospitality occupations with the most transition options tend to be in technical, professionally accredited, or leadership positions.
- For displaced workers seeking to leave the sector, upskilling and retraining efforts should focus on specialized skills, equipment, tools, and technologies in their target occupations.
- To maximize their options for potential transitions, job seekers may need to do one or more of the following:
  - Be willing to accept lower wages.
  - Consider employment options outside the sector.
  - Consider moving to a different region within the province.
- For those looking to stay in the sector, more options will be available in regions where tourism activity is locally oriented. For those willing to move outside the sector, more options will be available in regions with tighter labour markets and stronger growth prospects.



## Introduction

**Tourism and hospitality is one of Ontario's key economic drivers. In 2019, the sector employed over 620,000 Ontarians and generated nearly \$21 billion in labour income.<sup>1</sup> Before the pandemic-related disruptions, employment in the sector had been stable and sustainable.<sup>2</sup> However, Ontario's labour market is steadily evolving and, for some tourism and hospitality workers, this evolution has led to job losses, and the COVID-19 pandemic has increased and accelerated these pressures.**

With the onset of the pandemic, there has been a sharp decline in tourism worldwide, impacting many people in the sector. Job losses have been especially severe in the aviation, travel services, accommodation and food services, and recreation and entertainment sub-sectors.

While the full impact of the pandemic remains to be seen, the immediate negative effects on the sector were clear. From the second quarter of 2019 to the second quarter of 2020, the tourism and hospitality sector's seasonally adjusted employment levels fell by over 47 per cent<sup>3</sup> while employment in the rest of the economy dropped just 6 per cent. According to the Ontario Tourism Education Corporation (OTEC), COVID-19-driven displacements cut across all job levels in the sector, regardless of tenure, experience and seniority, educational attainment, or other related job requirements.<sup>4</sup>

With the sector not expected to recover to pre-COVID-19 levels until 2023 in the most optimistic scenarios,<sup>5</sup> displaced tourism and hospitality workers will need help finding new employment prospects. Job seekers will need to understand how to best capitalize on their current skills, education, abilities, experience, and knowledge.

As part of the Tourism and Hospitality Emergency Response (THER) project initiated by OTEC, research by The Conference Board of Canada detailed in this report maps out potential job transitions for Ontario's tourism and hospitality workers, using role-specific characteristics and other work-related information. This research is intended to help identify the most attainable transitions for tourism and hospitality sector workers.

1 Statistics Canada, Table 36-10-0635-01, Jobs, Hours Worked and Employment Income of Employees in Tourism Industries, by Employee Characteristics, accessed February 4, 2021, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610063501>.

2 Statistics Canada, Table 36-10-0232-01, Employment Generated by Tourism (x 1,000), accessed February 4, 2021, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610023201>.

3 Ibid.

4 Ontario Tourism Education Corporation, "Future Skills Centre and OTEC Announce Rapid Response Project for Hard-Hit Hospitality Workers," news release, May 14, 2020, <https://otec.org/news/future-skills-centre-and-otec-announce-rapid-response-project-for-hard-hit-hospitality-workers/>.

5 The Conference Board of Canada, *COVID-19 Impact on Tourism Sector Employment and Revenues* (Ottawa: CBoC, September 14, 2020), accessed February 4, 2021, [http://tourismhr.ca/wp-content/uploads/Tourism\\_HR\\_Canada\\_Conference\\_Board\\_of\\_Canada\\_COVID-19\\_Impact\\_on\\_Tourism\\_Sector\\_Employment\\_and\\_Revenues.pdf](http://tourismhr.ca/wp-content/uploads/Tourism_HR_Canada_Conference_Board_of_Canada_COVID-19_Impact_on_Tourism_Sector_Employment_and_Revenues.pdf).

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The Conference Board, along with its project partners, developed a list of 48 tourism and hospitality occupations classified into six subsectors: accommodation, air transportation, other transportation, travel services, food and beverage services, and recreation and entertainment. Researchers examined potential job transitions for each of the 48 occupations. (See Appendix A for the full list of tourism and hospitality occupations used in the analysis.)

Researchers developed a custom database identifying potential job transition options for workers in Ontario's tourism and hospitality industry, based on Canada's National Occupation Classification (NOC), the Occupational Information Network (O\*NET) job characteristics framework developed by the U.S. Bureau of Labour Statistics, and Vicinity Jobs online job postings, which provide detailed information on current Canadian job posting requirements, including needed skills, experience, and education.<sup>6</sup> These data include information on existing skills, abilities, knowledge, experiences, and educational credentials.

This analysis uses a methodology developed by The Conference Board of Canada<sup>7</sup> that defines an acceptable job transition as one that is both viable and desirable. (See "Defining potential career transitions.") Appendix C provides more detail on the methodology.

6 See Appendix B for details on O\*NET and Vicinity Jobs datasets.

7 Sheila Rao, Thomas Hindle, and Nachum Gabler, *Modelling Job Transitions in Canada* (Ottawa: The Conference Board of Canada, March 2021).

## Defining potential career transitions

A potential career transition is defined as one that is both *viable* and *desirable*.

A transition between two jobs was judged viable if the two occupations were sufficiently similar to one another in terms of the level of required skills, abilities, knowledge, experience, and educational credentials. We calculate similarity scores using a measure called cosine similarity. The higher the similarity score between two jobs, the more alike their job requirements are.

A transition between two jobs was judged desirable if it offered a similar or better wage level and the destination occupation was expected to have positive employment growth prospects.

### Criteria for viable and desirable job transitions

#### Viable transitions

- Similarity scores between occupations are high
- Does not require large leaps in current education/training level

#### Desirable transitions

- Move to jobs with positive one- and five-year growth prospects
- Wages are no more than 10 per cent below current position



## Transitions in Ontario's tourism and hospitality sector

The single biggest obstacle when considering all potential transitions, in all regions of the province, from a tourism and hospitality occupation to any other occupation is having the requisite level of skills, abilities, and knowledge and facility with any necessary tools and technologies. Taken on its own, this similarity criteria resulted in 11 per cent of possible moves having sufficient characteristic similarity to be considered viable. By comparison, 77 per cent of the options met the wage criteria, 63 per cent of the options met the education-level criteria, and 30 per cent of the options met the employment growth criteria. That said, no single characteristic stands out as driving this result. The ultimate qualification of a transition between any two occupations is based on the unique pairwise matching of their requirements.

The good news is that most people working in Ontario's tourism and hospitality industry have options available to them. Workers in this sector have an average of 40 sufficiently similar destination occupations, compared with 50 sufficiently similar options for jobs in for the broader workforce. Seventy per cent of these options are outside the tourism and hospitality sector. Once you layer on the wage-level and employment-growth criteria, each occupation has, on average, nine qualifying transition options.

However, some roles have very few options available to them. For example, 20 of the sector's occupations have five or fewer qualifying transitions, including six that have no viable and desirable transitions (see Table 2). Beyond retraining, those with fewer options will need to make compromises that may include considering employment outside the sector, undertaking significant retraining, accepting lower wages, and/or moving to different parts of the province.

## The most agile professions

### **More transition options are available for technical/professional/leadership roles, and are more often outside the sector**

The tourism and hospitality occupations with the most transition options tend to be focused in the technical, professional, or leadership areas and are more likely to have potential transitions outside of the sector (see Table 1). For example, professional occupations in advertising, marketing, and public relations have the most qualifying transitions, and over 90 per cent of those transitions are outside of the sector to roles as varied as supervisors of customer information services, graphic arts technician, and journalist.



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**Table 1****Technical and professional occupations have the most transitions, mostly outside the sector**

(similarities and transitions for the top 10 tourism and hospitality occupations)

Occupation title	# of sufficiently characteristic-similar occupations	# of qualifying transitions for the occupation	% of sufficiently similar occupations that are outside the T&H sector	“National Occupation Classification (NOC) skill group category (0=high, 4=low)”
Professional occupations in advertising, marketing, and public relations	96	33	96	1
Technical occupations related to museums and art galleries	96	28	92	2
Program leaders and instructors in recreation, sport, and fitness	40	25	88	2
Managers in transportation	127	24	92	1
Accommodation service managers	69	21	93	0
Conference and event planners	62	18	92	2
Other transport equipment operators and related maintenance workers	133	17	90	3
Advertising, marketing, and public relations managers	91	16	88	0
Retail and wholesale trade managers	57	16	96	0
Executive housekeepers	113	16	90	2

Source: The Conference Board of Canada.

## Levelling up

### Upskilling and retraining efforts should focus on specialized skills and use of specific equipment, tools, and technologies

Our research shows that the 10 tourism and hospitality occupations with the most transitions require levels in the knowledge, special skills, and tools and technology characteristics closer to, and sometimes above, those for jobs outside the sector, whereas the remaining tourism and hospitality occupations almost always required levels below jobs outside the sector in these areas. (See Table 2.)

These differences highlight the characteristics that workers seeking to transition out of the sector should emphasize when responding to job postings.

They should also focus their retraining and upskilling efforts on the specialized knowledge, skills, tools, and technologies unique to their target occupation.

Specifically, the “high-transition” tourism and hospitality occupations rank almost 13 per cent above the broader workforce in the knowledge category, compared to almost 7 per cent below it for the remaining tourism and hospitality workforce. Knowledge is defined by O\*NET as “organized sets of principles and facts ... amassed by immersion in different professional or educational settings related to different occupations.” Knowledge categories that are common in high-transition tourism occupations include administration and management and customer and personal service.



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**Table 2**  
**Top 10 transitional occupations are stronger in knowledge and specialty skills categories**  
(% difference between tourism and hospitality and all occupations, except where specified)

Characteristic category	Top 10 tourism & hospitality	All tourism & hospitality
O*Net - Knowledge category	12.9	-6.6
O*Net - Skills category	3.3	-11.6
O*Net - Abilities category	-6.9	-5.4
O*Net - Work Activities category	2.5	-9.2
O*Net - Education category	0.0	0.0
Vicinity - General category	9.2	9.0
Vicinity - Special category	42.5	-25.1
Vicinity - Tools and Technology category	-9.5	-47.1
Vicinity - Experience category - % requiring experience	17.3	13.7
Vicinity - Education category - % requiring above high school	37.2	26.1

Source: The Conference Board of Canada.

Key differences are also seen in the skills category, defined by O\*NET as those skills that apply to specific jobs. Here, the occupations with the most transitions have a skills rank over 3 per cent higher than the broader workforce, compared with almost 12 per cent below it for the remaining tourism and hospitality jobs. Examples of these skills include public relations and budgeting. Similarly, rankings in the specialized tools and technology category are markedly higher for the 10 jobs with the most transitions, compared with the remainder of the sector. This category is defined as “experience with specific information, technologies, computer software packages and programming languages, and the ability to use specific types of heavy machinery”; for example, a facility with software products like Microsoft Office, Adobe, and Google Analytics.

The characteristic profiles for some tourism and hospitality occupations are so unique that they have no sufficiently similar occupations to transition into (see Table 3). This group includes pursers and flight attendants, outdoor sport and recreational guides, railway and yard locomotive engineers, and railway conductors and brakemen/women. Workers in this group should highlight the capabilities and qualifications they offer beyond those that are typically associated with their current roles when considering and applying for transition options.



## Going outside the sector

### **Job seekers should consider employment options outside the sector and may need to improve their education level and/or lower their wage expectations**

Even when characteristically similar options exist, researchers found that low educational attainment and poor employment and wage prospects limit otherwise viable job transitions. This further highlights the need to support workers in reskilling and upskilling efforts that will broaden their profiles and, in turn, expand their transition options.

Nearly all the tourism and hospitality occupations with the most transition options are expected to have college or university qualifications (see Table 1). This group has an average of 84 characteristic-similar options; however, once you layer on the employment growth and wage criteria, only 20 qualifying transitions remain.

Conversely, nearly all of the 20 tourism and hospitality occupations with five or fewer transition options are only expected to have high school or on-the-job qualifications (see Table 3).

This low-transition group can be further segmented based on the reasons why they have fewer transition options and the policy response that would serve them best. The first tranche in the low-transition group has very few characteristic-similar occupations and therefore very few transition possibilities. This suggests a need for support to help broaden their characteristics profiles.

The next tranche are lower-wage manual labour jobs. While they have many more characteristic-similar matches, their low educational rating limits their qualifying transition options. This suggests a need for support to improve their education/training levels.

The final tranche have the most characteristic-similar options, but their higher wage levels limit their qualifying transition options. This is perhaps the most challenging group from a policy perspective. Support to soften the income loss in transition or policies to help them upskill to access higher-paying jobs outside the sector may help. Of note, 85 per cent of options for this final group are to outside the sector, compared with less than 50 per cent for the remainder of this low-transition segment and 90 per cent for the top-10 group.

Generally, employment growth prospects in the entire tourism and hospitality sector are weak, particularly over the short term, given the extensive negative impacts of COVID-19. The average one-year employment growth outlook for Ontario tourism and hospitality occupations is -4.8 per cent, compared to 1.8 per cent for occupations outside the sector. The average five-year growth outlook for occupations in the sector is 4.8 per cent, compared to 8.1 per cent outside the sector. This illustrates the potential opportunity in looking at options outside the sector.

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**Table 3**

**Less transitionable jobs have lower education ratings, fewer similars with poorer wage and employment prospects**

(similarities and transitions for the least transitionable tourism & hospitality occupations)

Tourism and Hospitality Sub-sector	# of sufficiently characteristic-similar occupations	# of qualifying transitions for the occupation	% of sufficiently similar occupations that are outside the T&H sector	National Occupation Classification (NOC) skill group category (0=high, 4=low)
<b>Those with very few similars to transition to:</b>				
Pursers and flight attendants	2	0	0	3
Outdoor sport and recreational guides	3	0	33	3
Retail sales supervisors	8	1	25	2
Food service supervisors	7	1	29	2
Travel counsellors	9	3	78	3
Railway and yard locomotive engineers	0	0	0	2
Railway conductors and brakemen/women	0	0	0	2
<b>Those with more similars, but requiring a big jump in education rating:</b>				
Retail salespersons	15	0	40	3
Maitres d'hôtel and hosts/hostesses	37	5	54	3
Bartenders	22	0	41	3
Food and beverage servers	30	4	53	3
Casino occupations	23	2	52	3
Cashiers	23	1	44	4
Food counter attendants, kitchen helpers, and related support occupations	32	3	66	4
Operators and attendants in amusement, recreation, and sport	35	4	63	4
Landscaping and grounds maintenance labourers	13	2	85	4
<b>Those with the most similars, but high wage requirements:</b>				
Cleaning supervisors	19	2	68	2
Bus drivers, subway operators, and other transit operators	38	3	76	3
Railway carmen/women and aircraft mechanics and aircraft inspectors	57	4	90	2
Automotive service technicians, truck and bus mechanics/mechanical repairers	43	5	93	2

Source: The Conference Board of Canada.



## Leaving Toronto

### Job seekers should consider looking outside the Toronto region

Tourism and hospitality occupations exist in each of Ontario's 11 economic regions. This means people looking for opportunities within the sector have options in most regions. However, because economic conditions vary widely, options may be very limited in some locations.

Of Ontario's 11 regions, Toronto has the fewest transition options for tourism and hospitality occupations (see Table 4), and roughly half the opportunities of the next closest economic region (Hamilton-Niagara). Toronto's lower number of qualifying transition options is due in part to the larger impact of COVID-19 on overall employment in the region. Toronto is also experiencing the highest unemployment rate in the province,<sup>8</sup> with more occupations experiencing employment declines than anywhere else in Ontario. This makes it more difficult for positions in the region to meet the positive employment prospects required to be qualifying transitions.

**Table 4**

### The Toronto region has the lowest number of transitions

(average number of transitions within the same economic region)

Economic Region	Average number of transitions
Northeast	18.8
Kitchener-Waterloo-Barrie	18.2
Muskoka-Kawartha	17.2
Stratford-Bruce Peninsula	15.5
Kingston-Pembroke	13.0
Windsor-Sarnia	13.0
Ottawa	11.2
London	9.8
Northwest	9.6
Hamilton-Niagara Peninsula	8.9
Toronto	5.0

Source: The Conference Board of Canada.

In addition, Toronto's tourism industry is more oriented towards categories that have been harder-hit by COVID-19, such as international travel, conventions, sporting events, and concerts. Consider that, in the months since the pandemic first hit, air carrier traffic into Toronto's Lester B. Pearson airport, a key source of demand for the city's tourism and hospitality sector, has dropped over 70 per cent compared with year-ago levels.<sup>9</sup> In contrast, tourism activity in the higher-transition regions of Northeast Ontario and Kitchener-Waterloo-Barrie is more localized and domestically focused, exposing them less to the impact of COVID-19.

8 Statistics Canada, Table 14-10-0294-01, Labour Force Characteristics by Census Metropolitan Area, Three-Month Moving Average, Seasonally Adjusted and Unadjusted, Last 5 Months, Inactive, accessed February 4, 2021, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410029401>.

9 Statistics Canada, Table 23-10-0008-01, Domestic and International Itinerant Movements, by Type of Operation, Airports with NAV CANADA Towers, Monthly, accessed February 4, 2021, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2310000801>.

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Toronto is also one of the higher wage-level regions in the province for those employed in the tourism and hospitality sector, making the wage-based transition criteria harder to meet. By comparison, the regions with the highest average number of job transitions (Northeast Ontario and Kitchener-Waterloo-Barrie) have been less impacted by the pandemic and have lower levels of unemployment, which improves the chances of there being qualifying transition options.<sup>10</sup>

## Conclusion

In this analysis we have identified potential job transitions for tourism and hospitality workers, with a focus on those displaced during the COVID-19 pandemic. Having and highlighting the requisite qualifications and capabilities is a critical element in improving the transition options available. Similarly, supporting policies that improve a worker's qualifications and capabilities could increase their available options.



<sup>10</sup> Statistics Canada, Table 11-10-0073-01, Wages, Salaries and Commissions of Tax Filers Aged 15 Years and Over by Main Industry Sector and Sex, accessed February 4, 2021, <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110007301>.

# Appendix A

## Tourism and hospitality occupations, by sub-sector and NOC code

**Table 1**  
**Tourism and hospitality occupations, by sub-sector and NOC code**

Sub-sector	NOC 4 digit	NOC 4-digit label	MJT code	Modelling Job Transitions (MJT) label
Accommodation	632	Accommodation service managers	632	Accommodation service managers
Accommodation	5254	Program leaders and instructors in recreation, sport, and fitness	5254	Program leaders and instructors in recreation, sport, and fitness
Accommodation	6321	Chefs	6321	Chefs
Accommodation	6322	Cooks	6322	Cooks
Accommodation	6512	Bartenders	6512	Bartenders
Accommodation	6513	Food and beverage servers	6513	Food and beverage servers
Accommodation	6525	Hotel front desk clerks	6525	Hotel front desk clerks
Accommodation	6731	Light duty cleaners	6731	Light duty cleaners
Accommodation	6733	Janitors, caretakers, and building superintendents	6733	Janitors, caretakers, and building superintendents
Accommodation	6711	Food counter attendants, kitchen helpers, and related support occupations	6711	Food counter attendants, kitchen helpers, and related support occupations
Air transportation	2271	Air pilots, flight engineers, and flying instructors	2270	Transportation officers and controllers
Air transportation	6522	Pursers and flight attendants	6522	Pursers and flight attendants
Air transportation	6523	Airline ticket and service agents	6523	Airline ticket and service agents
Air transportation	7315	Aircraft mechanics and aircraft inspectors	7314	Railway carmen/women and aircraft mechanics and aircraft inspectors
Air transportation	7534	Air transport ramp attendants	7530	Other transport equipment operators and related maintenance workers
All other transportation	731	Managers in transportation	731	Managers in transportation
All other transportation	7361	Railway and yard locomotive engineers	7361	Railway and yard locomotive engineers
All other transportation	7362	Railway conductors and brakemen/women	7362	Railway conductors and brakemen/women
All other transportation	6421	Retail salespersons	6421	Retail salespersons

(continued ...)

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**Table 1 (cont'd)**  
**Tourism and hospitality occupations, by sub-sector and NOC code**

Sub-sector	NOC 4 digit	NOC 4-digit label	MJT code	Modelling Job Transitions (MJT) label
All other transportation	7321	Automotive service technicians, truck and bus mechanics, and mechanical repairers	7321	Automotive service technicians, truck and bus mechanics, and mechanical repairers
All other transportation	7512	Bus drivers, subway operators, and other transit operators	7512	Bus drivers, subway operators, and other transit operators
All other transportation	7513	Taxi and limousine drivers and chauffeurs	7513	Taxi and limousine drivers and chauffeurs
Food and beverage services	631	Restaurant and food service managers	631	Restaurant and food service managers
Food and beverage services	6311	Food service supervisors	6311	Food service supervisors
Food and beverage services	6611	Cashiers	6611	Cashiers
Food and beverage services	6321	Chefs	6321	Chefs
Food and beverage services	6322	Cooks	6322	Cooks
Food and beverage services	6511	Maitres d'hôtel and hosts/hostesses	6511	Maitres d'hôtel and hosts/hostesses
Food and beverage services	6512	Bartenders	6512	Bartenders
Food and beverage services	6513	Food and beverage servers	6513	Food and beverage servers
Food and beverage services	6332	Bakers	6332	Bakers
Food and beverage services	6711	Food counter attendants, kitchen helpers, and related support occupations	6711	Food counter attendants, kitchen helpers, and related support occupations
Food and beverage services	7514	Delivery and courier service drivers	7514	Delivery and courier service drivers
Recreation and entertainment	513	Recreation, sports, and fitness program and service directors	513	Recreation, sports, and fitness program and service directors
Recreation and entertainment	5212	Technical occupations related to museums and art galleries	5212	Technical occupations related to museums and art galleries
Recreation and entertainment	5254	Program leaders and instructors in recreation, sport, and fitness	5254	Program leaders and instructors in recreation, sport, and fitness
Recreation and entertainment	6421	Retail salespersons	6421	Retail salespersons
Recreation and entertainment	6611	Cashiers	6611	Cashiers
Recreation and entertainment	6541	Security guards and related security service occupations	6541	Security guards and related security service occupations
Recreation and entertainment	6313	Accommodation, travel, tourism, and related services supervisors	6313	Accommodation, travel, tourism, and related services supervisors
Recreation and entertainment	6533	Casino occupations	6533	Casino occupations
Recreation and entertainment	6722	Operators and attendants in amusement, recreation, and sport	6722	Operators and attendants in amusement, recreation, and sport
Recreation and entertainment	6733	Janitors, caretakers, and building superintendents	6733	Janitors, caretakers, and building superintendents
Recreation and entertainment	6711	Food counter attendants, kitchen helpers, and related support occupations	6711	Food counter attendants, kitchen helpers, and related support occupations
Recreation and entertainment	8612	Landscaping and grounds maintenance labourers	8612	Landscaping and grounds maintenance labourers

(continued ...)

**Table 1 (cont'd)****Tourism and hospitality occupations, by sub-sector and NOC code**

<b>Sub-sector</b>	<b>NOC 4 digit</b>	<b>NOC 4-digit label</b>	<b>MJT code</b>	<b>Modelling Job Transitions (MJT) label</b>
Recreation and entertainment	124	Advertising, marketing, and public relations managers	124	Advertising, marketing, and public relations managers
Travel services	124	Advertising, marketing, and public relations managers	124	Advertising, marketing, and public relations managers
Travel services	621	Retail and wholesale trade managers	621	Retail and wholesale trade managers
Travel services	6521	Travel counsellors	6521	Travel counsellors
Recreation and entertainment	1123	Professional occupations in advertising, marketing, and public relations	1123	Professional occupations in advertising, marketing, and public relations
Recreation and entertainment	1226	Conference and event planners	1226	Conference and event planners
Travel services	1123	Professional occupations in advertising, marketing, and public relations	1123	Professional occupations in advertising, marketing, and public relations
Travel services	1226	Conference and event planners	1226	Conference and event planners
All other transportation	2273	Deck officers, water transport	2270	Transportation officers and controllers
Recreation and entertainment	5244	Artisans and craftspersons	5244	Artisans and craftspersons
Recreation and entertainment	6211	Retail sales supervisors	6211	Retail sales supervisors
Accommodation	6312	Executive housekeepers	6312	Executive housekeepers
Accommodation	6315	Cleaning supervisors	6315	Cleaning supervisors
All other transportation	6524	Ground and water transport ticket agents, cargo service representatives, and related clerks	6524	Ground and water transport ticket agents, cargo service representatives, and related clerks
Travel services	6531	Tour and travel guides	6531	Tour and travel guides
Travel services	6532	Outdoor sport and recreational guides	6532	Outdoor sport and recreational guides
Travel services	6721	Support occupations in accommodation, travel, and facilities set-up services	6721	Support occupations in accommodation, travel, and facilities set-up services
All other transportation	7532	Water transport deck and engine room crew	7530	Other transport equipment operators and related maintenance workers
All other transportation	7533	Boat and cable ferry operators and related occupations	7530	Other transport equipment operators and related maintenance workers

Source: The Conference Board of Canada.





# Appendix B

# O\*NET and Vicinity database taxonomies

## O\*NET database taxonomy

### Skills

Skills are defined as the “developed capacities that facilitate learning or the more rapid acquisition of knowledge.” There are 35 skills in the O\*NET database, and each job can be described by the mix of skills needed in that role. These 35 skills are arranged into basic skills and cross-functional skills and then further divided into seven skill sub-groupings: content, process, social, technical, systems, resource management, and complex problem-solving.

### Knowledge

Knowledge is defined as “organized sets of principles and facts applying in general domains” and relates the knowledge amassed by immersion in different professional or educational settings to different occupations. O\*NET defines 33 knowledge backgrounds, ranging from administration and management, biology, and building and construction to telecommunications, therapy and counselling, and transportation.

### Abilities

The O\*NET database defines the following four abilities, which are further divided into 42 distinct features:

- *Cognitive abilities* that influence the acquisition and application of knowledge in problem-solving.
- *Physical abilities* that influence strength, endurance, flexibility, balance, and coordination.
- *Psychomotor abilities* that influence the capacity to manipulate and control objects.
- *Sensory abilities* that influence visual, auditory, and speech perception.

### Work activities

O\*NET defines work activities as the “general types of job behaviours occurring on multiple jobs.” The database identifies the following four work activities, which are further divided into 41 separate features:

- *Information input* describes where and how needed information and data are acquired.
- *Interacting with others* reflects one’s interactions with other persons or supervisory activities that are performed on the job.
- *Mental processes* entail the “processing, planning, problem-solving, decision-making, and innovating activities performed with job-relevant information.”
- *Work outputs* include the kinds of physical activities undertaken and equipment operated as part of the job, as well as the “complex/technical activities” that produce work outputs.

### Education, training, and experience

O\*NET defines education and training as the “knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.”

## Vicinity Jobs database taxonomy

The Vicinity skills data covers three broad groups, which are then subdivided into over 4,000 granular individual skill measures. The three skills categories are:

- *General/soft skills.* These are basic skills useful in most occupations, such as clear communication, customer service orientation, attention to detail, and leadership.
- *Specialized skills.* These include skills such as project management and data analysis that apply to specific jobs.
- *Equipment, tools, and technological skills.* These skills reflect knowledge of and experience with specific information and communication technologies, such as MS Office or computer programming languages, as well as the ability to use specific types of heavy machinery like forklifts or power tools.

A job posting can also specify directly whether experience is or is not required. Lastly, the Vicinity data contain a variable for educational attainment that is divided into seven levels:

- not identified
- no education required
- high school completion
- college diploma or certification
- undergraduate degree (bachelor's)
- graduate degree (master's)
- post-graduate degree (doctorate)



# Appendix C

## Methodology summary

We developed a custom database identifying potential job transition options for workers in Ontario's tourism and hospitality industry. These data include information on existing skills, abilities, knowledge, experiences, and educational credentials. The methodology used was developed by The Conference Board of Canada<sup>1</sup> and defines a possible job transition as one that is both viable and desirable according to the criteria set out below. The resulting database used in this analysis has over 13 billion data points that assess potential transitions between the 48 identified tourism and hospitality sector jobs and over 400 occupations outside the sector.

*Transition viability* required the characteristics and skill-set requirements of the current occupation to be sufficiently similar to those of the prospective destination occupation.

*Transition desirability* required that employment demand in the destination role be projected to grow and that the destination role offered wages similar to or higher than that of the current role.

### Viable job transitions criteria

Job transition viability was based on two sub-criteria. The first is a measure of the similarity between the skill sets of the origin and destination occupations when examined using the O\*NET job skills database and the Vicinity Jobs Inc. online job posting database. The O\*NET database contains a rich set of over 200 characterizing variables for nearly 1,000 occupations (see Appendix B for a description).

The job characteristics covered include skills, knowledge, abilities, work activities, education, training, and experience.

However, the O\*NET skills taxonomy does not convey the requirements employers are currently asking for when posting job vacancies and making hiring decisions. To address this, we included information from job-posting data collected by Vicinity Jobs Inc. in our viability criteria. The Vicinity data contain detailed information on over 4,000 current job requirements arranged into three broad groups (general/soft skills, specialized skills, and equipment/tools/technological skills) and further subdivided into more granular individual skill measures. (See Appendix B for a full description.)

Together, the O\*NET and Vicinity data provide a comprehensive profile of the characteristics associated with occupations. Similarity scores were developed based on the Conference Board's mapping of these data to Canadian labour data. These scores could range in value from 0 to 1.0, with 1.0 being an exact skill match.<sup>2</sup> A similarity score had to be above 0.85 for a job transition to be considered viable.

The second viability sub-criterion is based on Statistics Canada's job group rankings. This dataset ranked occupations into five major groups based on their education, related experience, and on-the-job training requirements. We considered a transition viable if it was to a job group that was, at most, one rank above the current job grouping or to a group at the same level or lower.

1 Sheila Rao, Thomas Hindle, and Nachum Gabler, *Modelling Job Transitions in Canada* (Ottawa: The Conference Board of Canada, February 2021).

2 Similarity scores were calculated using a measure called cosine similarity.

## Statistics Canada job groupings

**Level 0** Managerial jobs

**Level 1** Professional jobs that require at least a bachelor's-level university degree

**Level 2** Technical jobs and skilled trades that usually require a college diploma or training as an apprentice

**Level 3** Jobs that usually require high school and/or job-specific training

**Level 4** Manual labour jobs that usually provide on-the-job training, and for which no formal education is required

## Desirable job transitions criteria

Job transition desirability was also based on two sub-criteria. The first requires the destination occupation to have positive employment growth forecasts in the immediate, one-year, and five-year horizons. Transitioning to in-demand occupations ensures some stability and growth potential in the new position. Job-growth projections came from the Canadian Occupational Projection System (COPS)<sup>3</sup> that forecasts the number of job openings and job seekers for 293 occupational groupings at the national level.

The second desirability sub-criterion requires the destination occupation to provide at least 90 per cent of the wage level of the current occupation. By comparison, an OECD study on job transitions allowed for a similar 10 per cent wage decline.<sup>4</sup> By permitting small wage declines, transitions to jobs that provide better non-wage benefits, such as flexible work hours, would not be excluded from consideration.

Similarly, this allows for consideration of regional differences in the cost of living. For example, an annual income of \$70,000 in Toronto might still result in a lower standard of living than one afforded by an annual income of \$60,000 in Windsor, so a transition to Windsor could be desirable. For this sub-criterion, we used wage data from the 2016 Canadian census covering all income earned as an employee, as well as from self-employment.

These data provide a level of granularity (the four-digit National Occupation Classification or NOC level) required to match up with the O\*NET and COPS occupational classes used.

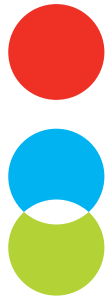
## Regional dimensions

Using the above framework, we modelled tourism and hospitality industry job transitions for 45 census metropolitan areas (CMAs) and census agglomerations (CA) in Ontario. We also looked at job transitions for 11 economic regions. Including regional details allowed us to examine transitions for individuals remaining in the same occupation, but in another region or metropolitan area. It also allowed us to use region-specific wage and employment profiles when determining desirable transitions.



3 Government of Canada, "Canadian Occupational Projection System (COPS)," accessed February 4, 2021, <https://open.canada.ca/data/en/dataset/e80851b8-de68-43bd-a85c-c72e1b3a3890>.

4 Nagui Bechichi and others, *Occupational Mobility, Skills, and Training Needs* (n.p., OECD, April 26, 2019).



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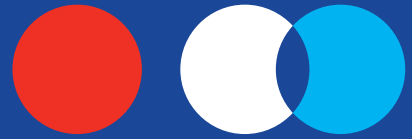
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