



Canadian Occupational Projection System 2022 Projections

*Imbalances Between
Labour Demand and Labour
Supply
2022-2031*

About the occupational groupings used to assess labour market conditions

- The 2022 COPS exercise was developed using the 2016 version of the National Occupational Classification (NOC).
- The 2016 NOC has 500 occupations. However, many of these occupations are small in terms of employment. Such occupations were combined into broader groupings according to the specific tasks of each occupation. By grouping small occupations with similar tasks together, 293 occupational groupings were obtained.
- Although NOC already has a more recent version (2021), the model's input data were only available in the 2016 version of the NOC at the time of the development of the projections.



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For more information on the 293 occupational grouping used in COPS, please visit: <http://occupations.esdc.gc.ca/sppc-cops/l.3bd.2t.1ilshhtml@-eng.jsp?lid=59&fid=1&lang=en>

In order to assess labour market outlooks, the COPS process combines the assessment analysis of recent and future labour market imbalances.

COPS has two main steps. In the first step, COPS sets a starting point by identifying occupations facing imbalance conditions in the most recent years (2019-2021). In the second step, COPS uses the projections to determine if those imbalances will persist over the projection period and if new imbalances would emerge. As such,

1. It first identifies occupations recently showing signs of shortage or surplus conditions. This is done by analyzing a set of labour market indicators such as changes in the unemployment rate, changes in job vacancies, the ratio of unemployment to job vacancies, employment growth, the proportion of employment insurance recipients, and the proportion of workers working overtime hours, among others.
2. Then, for each occupation, it estimates the projected numbers of job openings and job seekers over the period 2022-2031, in order to identify projected gaps between job openings and job seekers.

Finally, it combines the results from the two steps to assess the projected outlook for each occupation.



During the first step, the methodology consists of searching for strong signs of imbalances among over 30 labour market indicators using survey and administrative data, to understand the labour market of each occupation in each province and at the national level.

The analysis is based on fundamentals (e.g. a lack of labour supply should lead to wage increases, and/or to lower unemployment rates) and uses existing international best practices. If the indicators in a particular occupation behave similarly to all occupations and to their own historical trend, no signs of broad imbalances are said to be found. However, if the indicators are significantly different than the average for all occupations and/or their own historical trend, it would suggest the presence of imbalances (shortage or surplus) in the occupational labour market.

The assessment was done in the Spring of 2022, at a moment where the Canadian labour market was on its way to full recovery. The analysis of the indicators show that a large number of occupations were showing strong signs of shortages, but in a number of occasions, these signs had just appeared during the last couple of quarters of 2021, suggesting that they could be of short-term nature.

Hence, the identified imbalances in recent years were classified as of **structural** or **cyclical/frictional** nature.

- **Structural shortages** are defined as expected to be long-lasting, typically characterized by low unemployment and low UV ratios.
- **Frictional and/or Cyclical shortages** are mostly attributable to the re-opening of hard-to-distance sectors, show a large and rising number of vacant positions, but also a relatively high number of unemployed workers. Some of these unemployed workers might be looking for work in a different sector, creating friction in the labour market. Many of these shortages are expected to be resolved in the short- to medium-term as they tend to be concentrated in vacant positions that require low education and that can usually be filled quickly.

The assessment of recent occupational labour market conditions (RLMC) found that signs of structural labour shortages were concentrated in occupations related to health or natural and applied sciences, and cyclical shortages on occupations related to the accommodation and food, and retail trade industries

Occupational groupings showing signs of shortage or surplus conditions in recent years* (2019 assessments in parenthesis)				
Occupations showing signs of:	Number of occupations*	Share of occupations*	Employment, 2021	Share of total employment, 2021
- Shortage – Struct.	38 (25)	13%	2,812,000	15% (11%)
- Shortage – fric./cycl.	20	7%	1,942,300	10%
- Balance	228 (260)	78%	13,936,600	74% (88%)
- Surplus – Struct.	4 (8)	1%	115,700	0.6% (1%)
- Surplus – fric./cycl.	3	1%	58,900	0.3%

Occupations showing signs of labour shortage	Occupations showing signs of labour surplus
<ul style="list-style-type: none"> • 17 health-related occupations (11) • 11 natural and applied sciences (8) • 8 sales and services (0) • 8 trades (3) • 7 manufacturing occupations (1) • 3 natural resources and agriculture (0) • 2 education, law, social and government (0) • 2 management occupations (0) 	<ul style="list-style-type: none"> • 4 business, finance and administration (3) • 1 natural and applied sciences (0) • 1 arts, culture, recreation and sports (1) • 1 sales and services (0)

Sources: ESDC 2022 COPS Projections (preliminary) using ESDC and Statistics Canada data.

*Recent years refer to the period 2019-2021

During the first step, the assessment of recent conditions found 58 occupational groupings facing shortage conditions over the period 2019-2021, twice as many than in the assessment of 2019 (2016-2018). These occupations represented about 20% of all occupations and accounted for about 25% of total employment in Canada in 2021.

- Among them, 38 were of structural nature (suspected to be long-lasting), concentrated in health, as well as in natural and applied sciences related occupations.
- A surge of 20 frictional/cyclical labour shortages were also evident as the economy was recovering from the pandemic (suspected to clear over the short- to medium-term), mostly related to sales and services, as well as to construction and manufacturing.

Shortages remain largely concentrated in occupations typically requiring **university education**.

On the other hand, 7 occupations were found to show signs of recent loosening on the labour market (surplus), one less than the assessment performed in 2019. This is consistent with the tightening of the labour market in recent years. They represented about 2% of the occupations analyzed, and only 0.9% of the 2021 employment. They were concentrated among those usually requiring **college education or apprenticeship training** and those requiring **secondary school or specific training**.

The following tables present the summary of the results, in the form lists of occupations found to show signs of imbalance conditions.

Detailed list of occupational groupings showing strong signs of structural shortages

NOC Skill Type	Occupational Groupings with their NOC grouping code
Management Occupations	0211/0212 – Engineering managers & Architecture and science managers, 0213 – Computer and information system managers
Natural and Applied Sciences and Related Occupations	2131 – Civil engineers, 2133 – Electrical and electronics engineers, 2141/2142 – Industrial and manufacturing engineers & Metallurgical and materials engineers, 2147 – Computer engineers (except software engineers and designers), 2151 – Architects, 2152/2153/2154 – Landscape architects; Urban and land use planners & Land surveyors, 2161 - Mathematicians, statisticians and actuaries, 2171 - Information systems analysts and consultants, 2172 - Database analysts and data administrators, 2173 - Software engineers and designers, 2174 - Computer programmers and interactive media developers
Health Occupations	3011 – Nursing co-ordinators and supervisors, 3012 - Registered nurses and registered psychiatric nurses, 3111 - Specialist physicians, 3112 - General practitioners and family physicians, 3114 – Veterinarians, 3121/3122/3124/3125 - Optometrists, chiropractors and other health diagnosing and treating professionals, 3132 – Dietitians and nutritionists, 3141 - Audiologists and speech-language pathologists, 3142 – Physiotherapists, 3143/3144 - Occupational therapists & Other professional occupations in therapy and assessment, 3211/3212 - Medical laboratory technologists & Medical laboratory technician and pathologists' assistants, 3214/3215/3216 - Respiratory therapists, clinical perfusionists and cardiopulmonary technologists & Medical radiation technologists & Medical sonographers, 3221/3222/3223 – Technical occupations in dental health care, 3233 - Licensed practical nurses, 3234 – Paramedical occupations, 3413/3414 - Nurse aides, orderlies and patient service associates & Other assisting occupations in support of health services
Occupations in Social Science, Education, Government Service and Religion	4151 – Psychologists
Sales and Services	6331 – Butchers, meat cutters and fishmongers - retail and wholesale
Trades, Transport and Equipment Operators and Related Occupations	7237 - Welders and related machine operators, 7511 - Transport truck drivers
Natural resources, agriculture and related production	8431 – General farm workers, 8432 – Nursery and greenhouse workers, 8611/8613/8616 – Harvesting labourers; Aquaculture and marine harvest labourers & Logging and forestry labourers
Occupations Unique to Processing, Manufacturing and Utilities	9462 - Industrial butchers and meat cutters, poultry preparers and related workers, 9463 - Fish and seafood plant workers,

Source: ESDC, COPS 2022 projections.

Detailed list of occupational groupings showing strong signs of frictional/cyclical shortages

NOC Skill Type	Occupational Groupings with their NOC grouping code
Health Occupations	3213 – Animal health technologists and veterinary technician
Occupations in Social Science, Education, Government Service and Religion	4412 – Home support workers, housekeepers and related occupations
Sales and Services	6231 – Insurance agents and brokers, 6311 – Food service supervisors, 6321 – Chefs, 6322 – Cooks, 6421 – Retail salespersons, 6513 – Food and beverage servers, 6711- Food counter attendants, kitchen helpers and related support occupations
Trades, Transport and Equipment Operators and Related Occupations	7271 – Carpenters, 7272- Cabinetmakers, 7311 - Construction millwrights and industrial mechanics, 7313/7316/7318 – Heating, refrigeration and air conditioning mechanics; mach. fitters & Elevator constructors and mechanics, 7331/7332/7333/7335 – Other mechanics and related services, 7441 – Residential and commercial installers and servicers
Occupations Unique to Processing, Manufacturing and Utilities	9532/9533/9534 - Furniture and fixture assemblers and inspectors; Other wood products assemblers and inspectors & Furniture finishers and refinishers, 9611/9612 - Labourers in mineral and metal processing & Labourers in metal fabrication, 9613/9615 - Labourers in chemical products processing and utilities & Labourers in rubber and plastic products manufacturing, 9614 - Labourers in wood, pulp and paper processing, 9617/9618 - Labourers in food, beverage and related products processing & Labourers in fish and seafood processing



Source: ESDC, COPS 2022 projections.

Detailed list of occupational groups showing strong signs of structural and frictional/cyclical surpluses

NOC Skill Type	Occupational groupings in <u>structural</u> surplus (with NOC grouping code)
Business, Finance and Administration Occupations	1422/1423 - Data entry clerks & Desktop publishing operators and related occupations, 1451/1452/1454 - Library, correspondence and other clerks, 1513 – Couriers, messengers and door-to-door distributors
Occupations in Art, Culture, Recreation and Sport	5211/5212 - Technical occupations in libraries, public archives, museums and art galleries

NOC Skill Type	Occupational groupings in <u>frictional/cyclical</u> surplus (with NOC grouping code)
Business, Finance and Administration Occupations	1226 – Conference and event planners
Natural and Applied Sciences and Related Occupations	2271/ 2272/ 2273/ 2274/ 2275 - Air pilots, flight engineers and flying instructors, Air traffic controllers and related occupations, Deck officers, water transport, Engineer officers, water transport and Railway traffic controllers and marine traffic regulators
Sales and Services	6531/6532/6533 – Tourism and amusement services occupations

Source: ESDC, COPS 2022 projections.



A Review of Job Openings and Job Seekers by Skill Level

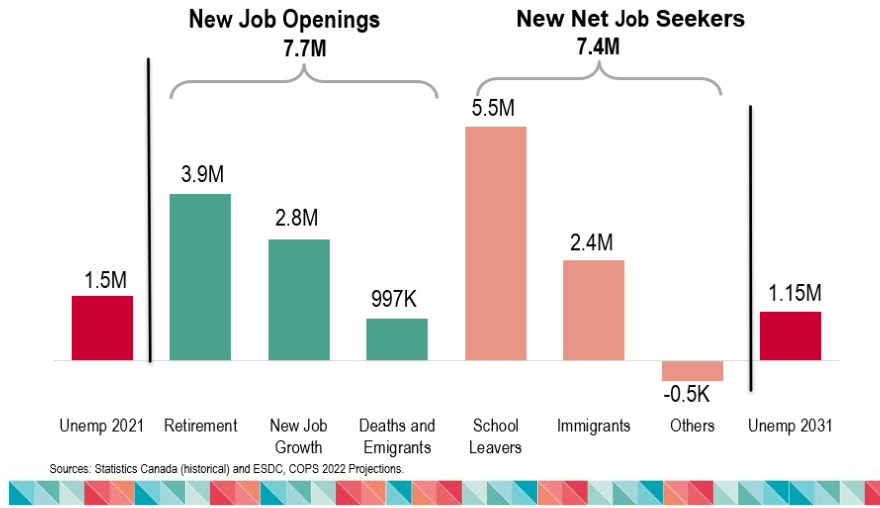


Once the first step of analyzing the recent occupational labour market conditions is completed, COPS estimates the projected number of job openings and job seekers over the period 2022-2031. Job openings can result from employment growth (or expansion demand) and from the need to replace workers (retirements, deaths and emigration). On the other hand, the sources of new job seekers include full-time students leaving the school system as graduates or drop-outs to join the labour market (school leavers), new immigrants and re-entrants in the labour market (net of those leaving the labour market – with the exception of retirements). In addition to the movements of new job seekers and new job openings, COPS takes into account changes in the composition of occupational labour markets through occupational mobility.

This major second step of projecting job seekers and job openings is done in order to identify if recent labour market imbalances are expected to persist or if new imbalances are expected to develop over the projection period.

More new job openings than new job seekers are projected, mostly to absorb excess unemployment in early 2022

Projected inflows and outflows of the labour market, 2022-2031



The projections start with a strong labour market recovery, led by robust employment growth in 2022 due to the reopening of the economy and household savings that stimulate discretionary spending. This is expected to lead to a higher number of projected job openings than new job seekers, mostly to absorb excess unemployment in 2022, but the labour market will remain tight in the future. As a result, the number of occupations in shortage is expected to remain important.

COPS expects a total of 7.7 million job openings (those due to economic growth plus those due to replacement needs) over the period 2022-2031. About 37% of these openings will be as a result of employment growth (2.8 million), of which 40% will occur during the first 2 years of the projection, as the labour market continues its robust recovery from the pandemic. Another 50% of openings (3.9 million) will be as a result of replacing retiring active workers, while the other 13% (about 1 million workers) will result from other replacing needs (deaths and emigration).

On the supply side, 7.4 million job seekers (from the school system, immigration and other sources) are expected to enter the labour market over the projection period. The school system is expected to remain the main supplier of new labour, providing about 5.5 million job seekers (74.3% of seekers). However, the federal government's intention to welcome record high levels of immigration will lead to a surge of new immigrants entering the labour market. As a result, 2.4 million new immigrants are expected to seek jobs over the next 10 years, representing about 32% of the number of new seekers. Finally, the total volume of job seekers will be reduced by about 500 thousand seekers (employed and unemployed) dropping out of the labour market due to discouragement or retirement of jobless workers.

The outcome of these two flows (job openings and job seekers) will result in a reduction in the number of unemployed workers from 1.5 million in 2021 to about 1.15 million in 2031.

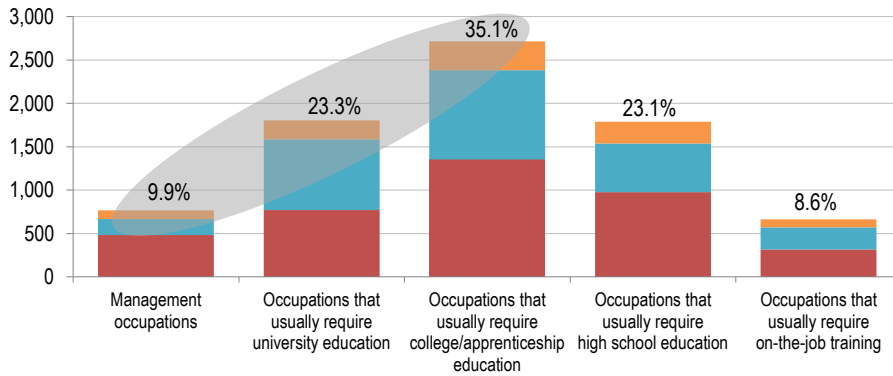
The projections are conducted at the occupational level, but results are also aggregated by the minimum typical educational and/or training level required.

Two-thirds of all projected job openings are in occupations that usually require post-secondary education or in management occupations.

Job Openings from Expansion and Replacement Demand by Usual Educational Requirement, Projection 2022-2031

(thousands)

Other replacement demand Expansion Demand Retirements



Source: ESDC 2022 COPS Projections.

Note: The shaded area represents the occupations are related to management or that usually require at least post-secondary education.

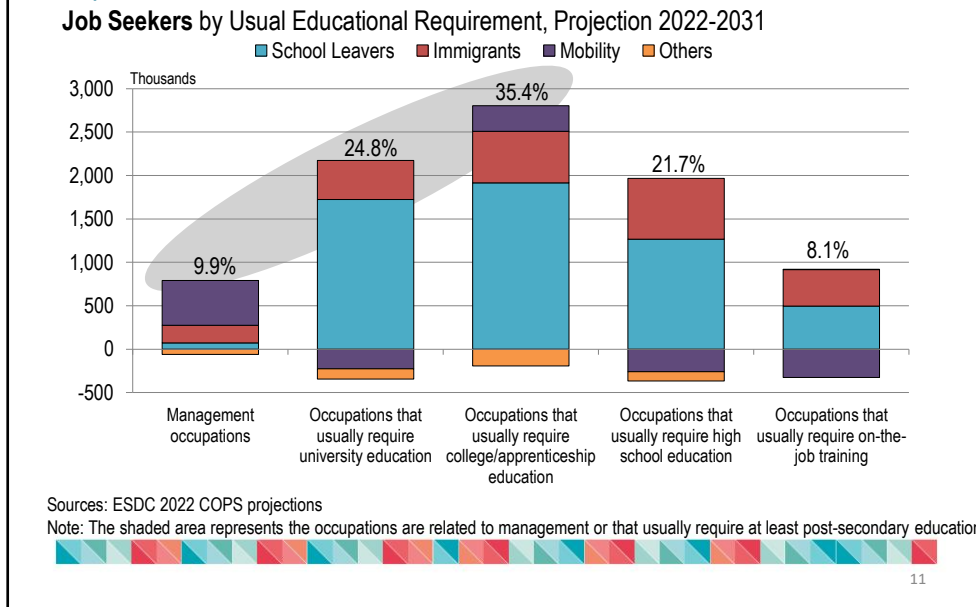
Looking at minimum typical educational and/or training level required, more than two-thirds (or about 5.3 million) of the job openings are expected to be in occupations that usually require post-secondary education (university, college or vocational) or in management occupations. In fact, 71% of new jobs created by economic expansion are projected to be in occupations generally requiring post-secondary education or in management occupations, whereas 66.7% of job openings due to replacement will be in these occupational groups, for a combined average of 67.9% (around 5.3 million).

Given that 71% of the new jobs are expected to be in occupations that usually require post-secondary education (university, college or vocational) or in management occupations over the period 2022-2031, their proportion among total employment will continue to rise in the coming decade. Indeed, their share out of total employment has grown from 60.5% in 2011 to 65.7% in 2021, and it is expected to reach 66.4% in 2031.

Over the next ten years, less than one-third of job openings (around 2.4 million) are expected to be in occupations usually requiring high school education or on-the-job training.

For a more detailed analysis, please see the document titled *Job Openings*.

Two-thirds of all job seekers are expected to look for work in occupations usually requiring post-secondary education (PSE), or in management occupations.



COPS projects a total of 7.4 million job seekers (from the school system, immigration and other sources) to enter the labour market over the projection period.

Over two-thirds (70.2% - around 5.2 million individuals) of these entrants are anticipated to be in occupations that usually require postsecondary education (college, university or vocational) or in management occupations. At a more detailed level:

- More than half of new immigrants (52.8%) are expected to pursue work in occupations generally requiring postsecondary education or in management positions;
- Upward occupational mobility is also expected to add job seekers for management occupations and those requiring college education. This upward mobility is mainly the result of previously mismatched skilled workers seeking work in occupations that better match their skills as well as promotion into management ranks.

About one-third of job seekers (around 2.2 million) are expected to look for work in occupations requiring only high school education or on-the-job training.

For a more detailed analysis, please see the document titled *Job Seekers*.

Projected Labour Market Conditions by Occupation



Finally, the assessment of recent labour market conditions (first step) and the projections of job openings and job seekers are combined together to produce the final assessment of future labour market conditions and the occupational outlooks. By looking at the prospective changes in both, the demand and supply sides of the labour market, COPS allows identifying occupations where potential labour market imbalances are expected to persist or develop.

For the 2022-2031 period, 56 occupational groupings are expected to face shortage conditions:

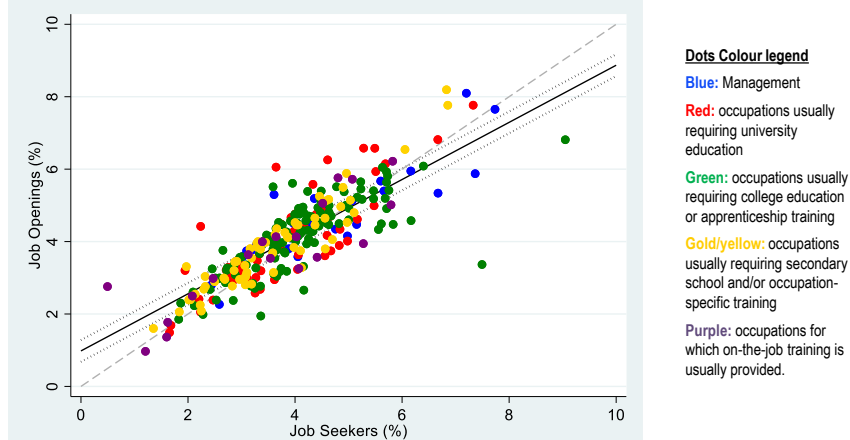
- 37 of the 38 occupational groupings that were found to be facing structural shortages over the 2019-2021 period (Step 1). For example, Registered nurses will continue facing shortages over the projection period.
- 6 out of the 20 that were found to be facing frictional/cyclical shortages over the 2019-2021 period (Step 1) are now expected to become structural and long-lasting. The occupations are mostly in trades, for example, Carpenters will continue facing shortages over the projection period.
 - The remaining 14 groupings are expected to return to balance conditions. For example, Food and beverage servers are expected to return to balance over the 2022-2031 period.
- 13 new occupation groupings are expected to be in a shortage situation, with projected new job openings outpacing projected new job seekers. For instance, Plumbers were found to be in balance over the period 2019-2021 but are now expected to face shortages over the 2022-2031 projection period.
- Note that occupational groupings expected to be in shortage conditions are concentrated in health; natural and applied sciences related occupations; as well as some in construction, manufacturing and transportation.

Finally, 8 occupational groupings are expected to be in surplus, mostly related to clerical work.



More job openings than seekers are expected in most occupations, suggesting potential future imbalances. However, the degree of the difference varies across occupations.

Projected Job Openings and Job Seekers by Occupational grouping over the Period 2022-2031, as Annual Average Percentage of 2021 Employment



Source: ESDC 2022 COPS Projections.

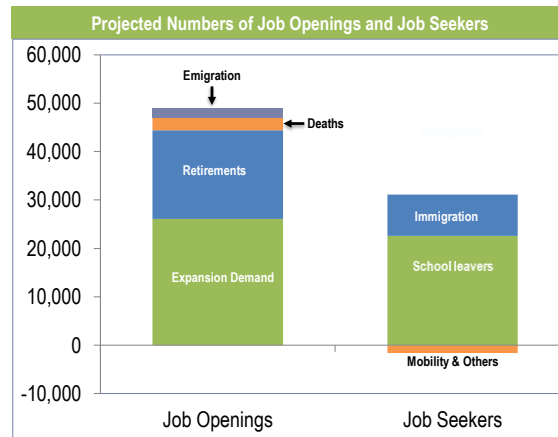
This chart shows, for each of the occupational groupings analyzed (except for 5 outliers), the projected annual average number of job openings (vertical axis) and job seekers (horizontal axis) as a percentage share of their respective employment level in 2021. For example, a job openings rate of 4% indicates that the projected annual average number of job openings (from expansion and replacement demand) in a given occupation over the projection period represents 4% of its employment level in 2021. Occupations are colour-coded according to their minimum typical educational and/or training level required.

For points close to the dashed 45° gray line, the expected rates of job openings and job seekers are relatively similar. That is, no major imbalances are expected. Any point substantially further from it would signal potential imbalances between the number of job openings and the number of job seekers. As most occupations are located on the upper quadrant (above this line), this suggests more projected job openings than seekers in most occupations. However, this is expected as 2022 is the first year of the projection period and the labour market was still in full recovery mode. Indeed, about 40% of employment growth is expected to take place over the first 2 years of the projection period.

As a result, it is important to analyze the difference between job openings and seekers, relative to the average of the rest of the occupations. The solid black diagonal line and its boundary dotted lines are used for this purpose. Any point far from the boundary lines would suggest that the difference between seekers and openings is substantially different than the average. The majority of the 293 occupations are in proximity of the diagonal line, suggesting balanced situations over the period 2022-2031 in most occupations. However, a large number of occupations, mainly in the health as well as natural and applied sciences fields, are expected to have rates of job openings significantly exceeding their rates of job seekers (excess demand). On the other hand, some few other occupations (spread across multiple fields) are projected to have rates of job seekers that substantially exceed their rates of job openings (excess supply). However, this graph only shows the projected flows. Before making a final assessment, COPS combines this information with the analysis of recent conditions (first step).

Example of an occupation projected to face shortage conditions: General practitioners and family physicians (NOC 3112)

Recent Labour Market Conditions: <i>Shortage Conditions</i>
Projected Job Openings and Job Seekers: <i>Job Openings > Job Seekers</i>
Final Labour Market Outlook: <i>Shortage Conditions</i>



Source: ESDC, COPS 2022 projections.



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General practitioners and family physicians (NOC 3112) is used to show an example of how COPS combines the results from the recent labour market conditions (first step) with the projected flows in order to determine the future shortage conditions and final outlook.

Over the 2019-2021 period, employment growth in this occupational group was significantly above the average for all occupations. The unemployment rate remained extremely low at 1.0% in 2021, well below the national average of 7.5%. The number of unemployed workers per job vacancy was higher than the national average in 2021, but this is in line with historical patterns for this occupation due to the low number of job vacancies recorded. The strong demand for general practitioners and family physicians is not captured well by the Job Vacancy and Wage Survey (JVWS) due to the high share of self-employment in this occupation. Moreover, Canada currently has less doctors per capita than the majority of OECD countries, which may have a negative impact on the timeliness of the care received by the Canadian population. Hence, analysis of key labour market indicators suggests that the number of job seekers was insufficient to fill the job openings in this occupational group in the recent years.

Over the period 2022-2031, the number of job openings (arising from expansion demand and replacement demand) for General practitioners and family physicians is expected to total 48,900, while the number of job seekers (arising from school leavers, immigration, and inter-occupational mobility) is expected to total 29,400.

The labour shortage conditions seen in recent years are expected to persist into the 2022-2031 period, and could even become more acute as the projected number of job openings is expected to be substantially larger than the projected number of job seekers over that period. More than half of job openings will result from expansion demand, largely explained by the ageing of the Canadian population. Retirements are expected to account for slightly more than one third of job openings. With regard to labour supply, school leavers are projected to be the main source of job seekers. Immigrants completing the examinations of the Medical Council of Canada and getting the proper authorization from the provincial/territorial regulatory body are anticipated to account for over a quarter of all job seekers. Still, there will be an insufficient number of job seekers to overcome the high demand for workers in this occupation over the projection period.

In order to eliminate the labour shortage in this occupational group, a substantial increase in the number of school leavers would be needed. However, this will not be possible in the short term because of the many years of training a potential worker must go through before being able to work as a general practitioner and/or family physician.

Detailed list of occupations expected to be in shortage (2022-2031)

NOC Skill Type	Occupational Groupings with their NOC grouping code
Management Occupations	0211/0212 – Engineering managers & Architecture and science managers, 0213 – Computer and information system managers, 0731 – Managers in transportation
Natural and Applied Sciences and Related Occupations	2131 – Civil engineers, 2133 – Electrical and electronics engineers, 2141/2142 – Industrial and manufacturing engineers & Metallurgical and materials engineers, 2147 – Computer engineers (except software engineers and designers), 2151 – Architects, 2152/2153/2154 – Landscape architects, Urban and land use planners & Land surveyors, Urban and land use planners & Land surveyors, 2161 – Mathematicians, statisticians and actuaries, 2171 – Information systems analysts and consultants, 2172 – Database analysts and data administrators, 2173 – Software engineers and designers, 2174 – Computer programmers and interactive media developers, 2271/ 2272/ 2273/ 2274/ 2275 – Air pilots, flight engineers and flying instructors, Air traffic controllers and related occupations, Deck officers, water transport, Engineer officers, water transport and Railway traffic controllers and marine traffic regulators
Health Occupations	3011 – Nursing co-ordinators and supervisors, 3012 – Registered nurses and registered psychiatric nurses, 3111 – Specialist physicians, 3112 – General practitioners and family physicians, 3113 – Dentists , 3114 – Veterinarians, 3121/3122/3124/3125 – Optometrists, chiropractors and other health diagnosing and treating professionals, 3132 – Dietitians and nutritionists, 3141 – Audiologists and speech-language pathologists, 3142 – Physiotherapists, 3143/3144 – Occupational therapists & Other professional occupations in therapy and assessment, 3211/3212 – Medical laboratory technologists & Medical laboratory technician and pathologists' assistants, 3214/3215/3216 – Respiratory therapists, clinical perfusionists and cardiopulmonary technologists & Medical radiation technologists & Medical sonographers, 3232/3236 – Practitioners of natural healing; Massage therapists & Other technical occs. in therapy and assessment , 3233 – Licensed practical nurses, 3234 – Paramedical occs., 3413/3414 – Nurse aides, orderlies and patient service associates & Other assisting occupations in support of health services
Occupations in Social Science, Education, Government Service and Religion	4033 – Educational counsellors , 4151 – Psychologists, 4161 – Natural and applied science policy researchers, consultants and program officers , 4215 – Instructors of persons with disabilities, 4412 – Home support workers, housekeepers and related occs.
Sales and Services	6331 – Butchers, meat cutters and fishmongers - retail and wholesale
Trades, Transport and Equipment Operators and Related Occupations	7205 – Contractors and supervisors, other construction trades, installers, repairers and servicers , 7237 – Welders and related machine operators, 7241 – Electricians (except industrial and power system), 7251 – Plumbers, 7271 – Carpenters, 7311 – Construction millwrights and industrial mechanics, 7313/7316/7318 – Heating, refrigeration and air conditioning mechanics; mach. fitters & Elevator constructors and mechanics, 7314/7315 – Railway carmen/women & Aircraft mechanics and aircraft inspectors , 7441 – Residential and commercial installers and servicers, 7511 – Transport truck drivers
Natural Resources, Agriculture and Related Production Occupations	8252/8255 – Agricultural service contractors, farm supervisors and specialized livestock workers & Contractors and supervisors, landscaping, grounds maintenance and horticulture serv. 8431 – General farm workers, 8432 – Nursery and greenhouse workers, 8611/8613/8616 – Harvesting labourers; Aquaculture and marine harvest labourers & Logging and forestry labourers
Occupations Unique to Processing, Manufacturing and Utilities	9462 – Industrial butchers and meat cutters, poultry preparers and related workers, 9463 – Fish and seafood plant workers, 9521/9522/9526- Aircraft assemblers and aircraft assembly inspectors, Motor vehicle assemblers, inspectors and testers & Mechanical assemblers and inspectors , 9617/9618 – Labourers in food and beverage processing & Labourers in fish and seafood processing

Source: ESDC, COPS 2022 projections; **black: occupations that already had strong signs of shortages over the 2019-2021 period; blue: new shortage situation over the 2022-2031 period**

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This table presents the list of occupational groupings expected to be in shortage conditions over the period 2022-2031. Occupational groupings in black are those who were already found to be facing shortages in the recent years (2019-2021), while those in blue are groupings for whom new shortages are expected to emerge.

Surplus conditions over the period 2022-2031 are projected to be more evenly distributed across high- and low-skill occupations.

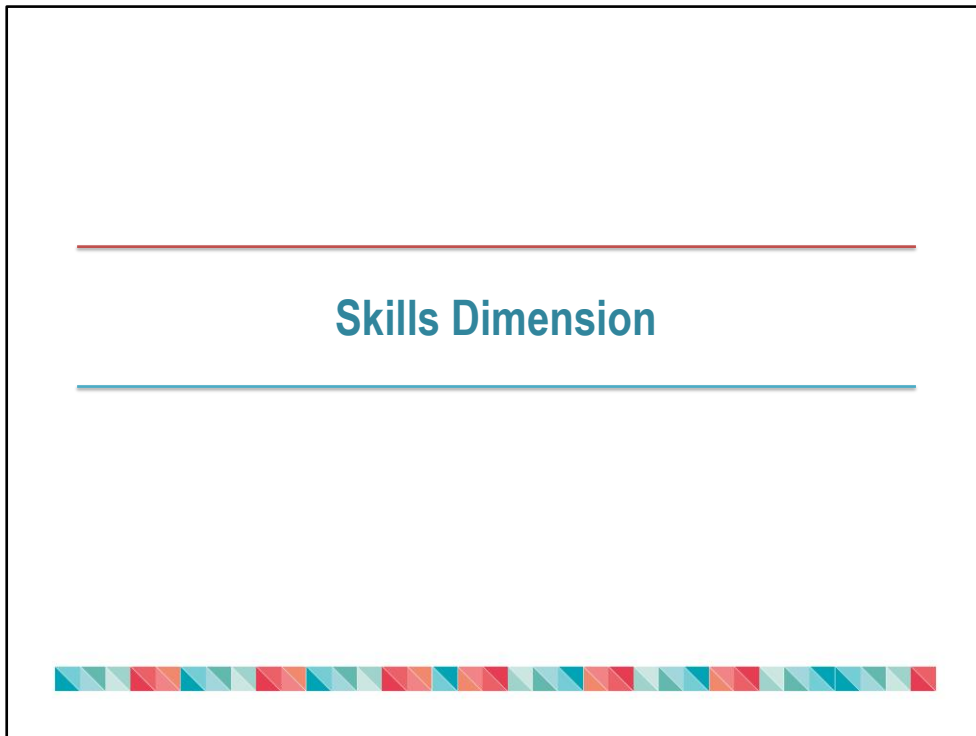
Skill Types	Occupations in Surplus (with NOC grouping code)
Business, Finance and Administration Occupations	1226 - Conference and event planners, 1422/1423- Data entry clerks & Desktop publishing operators and related occupations, 1451/1452/1454 - Library, correspondence and other clerks, 1513 – Couriers, messengers and door-to-door distributors
Natural and Applied Sciences and Related Occupations	2251/2252/2253/2254/2255 – Technical occs. in architecture, drafting, surveying, geomatics
Occupations in Art, Culture, Recreation and Sport	5211/5212 - Technical occupations in libraries, public archives, museums and art galleries
Sales and Services	6521 - Travel counsellors, 6621 - Service station attendants

Source: ESDC, COPS 2022 projections; **black**: occupations that already had strong signs of surpluses over the 2019-2021 period; **blue**: new surplus situation over the 2022-2031 period



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On the other hand, this table presents the list of occupational groupings expected to be in surplus conditions over the period 2022-2031. Occupational groupings in black are those who were already found to be facing surpluses in the recent years (2019-2021), while those in blue are groupings for whom new surpluses are expected to emerge.



Using the O*NET from the U.S. and a concordance between their Standard Occupational Classification (SOC) and the NOC, COPS maps out the skills required in each of the 293 occupational groupings.

The following table presents the top 10 skills with the largest score difference between occupations expected to be in shortage and surplus conditions over the period 2022-2031. This is not a projected measure of the skills most in need in the labour market. Instead, it provides further information on the difference in the type of occupational groupings that COPS expects to face shortage or surplus conditions over the projection period.

Top 10 skills with the largest difference between occupations expected to be in shortages and surplus conditions, 2022-2031

	IN SHORTAGE	IN SURPLUS	ALL OCCUPATIONS
Science	31.5	9.8	18.2
Operations Analysis	31.7	18.2	26.1
Trouble shooting	28.4	16.8	23.2
Operation Monitoring	38.7	28.2	34.7
Quality Control Analysis	37.3	27.0	32.8
Learning Strategies	45.1	35.6	41.3
Systems Evaluation	42.4	33.2	38.1
Active Learning	51.1	42.9	47.2
Instructing	46.5	38.4	42.7
Management of Personnel Resources	42.0	34.0	40.3

Source: ESDC, COPS 2022 projections and using O*NET (Author's estimates).




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The table shows that the largest differences lie among skills that are acquired (and required) with higher levels of specialization and education. For instance, it shows that science, operation analysis, and troubleshooting are the skills with the largest difference among the two groups of occupations. Indeed, since the list of occupations expected to face shortage conditions is largely concentrated in health, as well as in natural and applied sciences related activities, usually requiring post-secondary education, the group tends to have a relative high score on these skills. In comparison, the list of occupational groupings expected to be in surplus are concentrated on clerical work, and among occupations that usually require lower levels of education, and also require less complex activities and skills, even when compared to the all occupations average.

The skills with lower differences between the two groups are those more common and relatively transferable from occupation to occupation. For example, most occupations require a comparable level of active learning and instructing, regardless of being classified as expected to be in shortage or surplus conditions. Indeed, their skill scores are relatively closer to the average among all occupations.

Although occupational projections cannot be developed by gender, some general messages can be withdrawn from the results.

There were 39 occupations where at least 80% of workers were <u>women</u> in 2021	There were 92 occupations where at least 80% of workers were <u>men</u> in 2021
Employment in these 39 occupations represented about 18% of total employment	Employment in these 92 occupations represented about 24% of total employment
<p>11 (28.2%) of these 39 occupations are expected to face <u>shortage</u> conditions.</p> <ul style="list-style-type: none"> • These occupations represent about 27.6% of total employment of all occupations projected to be in shortage • 9 are high-skilled occupations, related to the health and social services sector 	<p>18 (19.6%) of these 92 occupations are expected to face <u>shortage</u> conditions</p> <ul style="list-style-type: none"> • These occupations represent about 40.7% of total employment of all occupations projected to be in shortage • 15 occupations are high-skilled. • Most are related to STEM¹, trades and transportation.
<p>Only 1 (2.6%) of these 39 occupations is expected to face <u>surplus</u> conditions</p> <ul style="list-style-type: none"> • This occupation represents about 4% of total employment of all occupations projected to be in surplus • The occupation is "Travel counsellors" 	<p>None of the occupations expected to face <u>surplus</u> conditions are male dominated.</p>
<p>Sources: ESDC estimates (based on Statistics Canada data) and ESDC 2022 COPS Projections. 1: STEM: Science, Technology, Engineering and Mathematics.</p> 	

Although occupational projections cannot be developed by gender, some general messages can be withdrawn from the results. For instance:

- In 2021, female workers accounted for over 80% of employment in 11 of the 57 occupations that are projected to be in labour shortage. On the other hand, male workers accounted for over 80% of the employment in 18 of them.
- Although a number of occupations related to STEM (Science, Technology, Engineering and Mathematics) are expected to face shortage conditions, all of them had a substantially high proportion of male workers in 2021.