

**A Winning Ticket:
Women in Trades
in British Columbia and Yukon**

D R A F T:

The finished draft of this paper will be available at www.sfu.ca/tradeswomen

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Executive Summary and Recommendations:

The construction industry in B.C. and the Yukon is booming.¹ In BC, in particular, a number of factors – the upcoming 2010 Olympics, low interest rates and an increasing population that has led to a building boom – all in combination with the rapidly approaching retirement of too many skilled tradespeople, has led to a serious shortage of skilled labour. To address these challenges, numerous federal, provincial and territorial programs and websites aim at increasing interest in trades training.² In such a climate, one would assume that women—as 52 per cent of the population—would be seen as a valuable labour resource.

This report looks at the status of women in trades and trades training in BC and Yukon, focusing primarily on apprenticeable building trades such as carpenter, plumber, cabinetmaker, bricklayer, electrician, roofer and shingler, and painter and plasterer.³ It compares BC and – where available – Yukon figures, to Alberta (another booming economy) and to Canadian national averages.

It finds that the percentage of women in the trades workforce in BC has increased only slightly, from 0.9% in 1971 to 3.4% in 2006. Yukon occupational statistics are less reliable and make it difficult to give a general figure.

What is good for women, is good for all employees, and both men and women face barriers in accessing trades and trades training. But for women these barriers are compounded by many factors, one of which is their token representation. Researchers show that any identifiable group of employees making up less than 15% of the workforce will be identified as “tokens” that makes acceptance by the majority, far more difficult.

¹ "Construction," Available from [http://handson.workfutures.bc.ca/profiles/ind.cfm?id=5&lang=en&site=graphic](http://handson.workfutures.bc.ca/profiles/ind.cfm?id=5&lang=en&site=graphic;).; Yukon Government, Department of Economic Development, *Yukon Economic Outlook 2006*, (Whitehorse, Yukon., 2006)

² Such as www.workfutures.bc.ca, www.apprenticetrades.ca, www.carsyouth.ca/cars, www.northernopportunities.bc.ca, and www.theskilledlife.com and programs such as Aboriginal Community Career and Employment Services Society (A.C.C.E.S.S.), Secondary School Apprenticeship (SSA), Accelerated Credit Enrolment in Industry Training (ACE IT), SkillPlan, Trades Discovery for Women (BCIT) and Skilled Trades Exploratory Program (STEP) for Women at Selkirk College.

³ However, it excludes the female dominated trades of cooking, baking and hairdressing. These professions are also apprenticeable trades but when included in statistics about women's involvement in trades, give the impression women make up a larger percentage of workers in traditionally male-dominated trades than is actually the case.

In terms of training, women in BC appear to be between 1% and 3% of trades apprentices. However, difficulties in finding accurate figures point up differences in record keeping, including for gender, that complicate the tracking of women's progress. The "journey" system of about four years of trades training is a mixture of in-school and on-the-job paid experience, and is complemented by the Red Seal program of national certification. In the seasonal industry of construction, any apprentice who completes her or his training and receives a "ticket" of certification (and even better, a Red Seal), is more employable, more flexible, and more able to follow job opportunities.

Although it may be too early to confirm (or may change with the slowing of the boom) figures suggest a concern that women working in trades may not be going back to school for the necessary school training to earn their tickets. Another concern is that changes to the administration of apprenticeship, in BC at least, currently offer little support to women (or other under-represented groups) to help them reach the 15% turning point.

There have been many studies of women in trades and many outstanding lists of recommendations aimed at increasing their numbers.⁴ This list summarizes those points that, by their repetition, suggest their outstanding value and importance. A 1997 report on women in trades noted that recommendations coming from many different groups studying women's participation in trades were similar, but that these recommendations were rarely put into practice.⁵ This leads to the first recommendation:

General Recommendations:

1. That a firm commitment be made and active leadership shown on the part of educators, unions, industry and government to take steps to increase women's participation in trades.

⁴ See: Canadian Apprenticeship Forum, *Assessing and Completing Apprenticeship Training in Canada: Perceptions of Barriers Experienced by Women* (2004); and *Overview of Equity in Apprenticeship: A Paper Prepared for the ITAC Interim Standing Committee on Under-Represented Groups* (1997) http://www.men-women-tools.ca/documents/Equity_overview_ITAC.html; and Sharon Goldberg, *Women in Construction: A Report on Access, Training and Retention in the Construction Trades. A Research Project of the Amalgamated Construction Association of BC*. 1992

⁵ *Overview of Equity in Apprenticeship: A Paper Prepared for the ITAC Interim Standing Committee on Under-represented Groups*, 1997)

2. That trades training schools, industry, unions, the Industry Training Authority and the Ministry of Advanced Education coordinate and keep clear statistics: on the number of women enrolled in apprenticeship programs; on completion rates; and on the number of women in the trades workforce.

For industry employers:

3. That outreach be a part of recruitment strategies, including advertising that specifically welcomes women; and for mentorship and support – a commitment to hire more than one and place women in proximity at work.

4. That employment policies include maternity placement, or leave.

5. That front line supervisors be trained in the importance of immediate action when there is inappropriate bullying or harassment on the job of any employee, male or female.

6. That procedures be developed and broadly enforced, to deal with bullying and harassment.

7. That a commitment be made to ensure completion of apprenticeship training for all apprentices.

For unions:

8. Men too, are often unhappy with the sometimes harsh culture of construction. Recommend that members work toward more respectful treatment of all workers, including women,⁶ in a process of evolving a more humane culture of construction.

9. That members (including job dispatchers) actively pursue the completion of trades training for all apprentices.

10. That clear procedures be developed to deal with bullying and harassment.

11. That alternatives to grievance and human rights complaints be developed.

For educators:

12. That women-only WITT exploratory programs be established and maintained in regional colleges.

13. That young women as well as young men at the high school level be encouraged to consider trades as a career option.

14. That negative stereotypes of trades vs. university education be eliminated.

⁶ As noted in Marie Josée Legault "Workers' Resistance to Women in Non-Traditional Sectors of Employment and the Role of Unions: Labor Relations Issues Arising out of Three Case Studies." (2001).

For government:

15. That – working closely with the industry – a tradeswoman co-ordinator position be instituted to facilitate successful placement of women in trades jobs, and that a mentoring program for women in trades work be developed.
16. That gender and other under-represented group statistics be included as part of monthly progress reports.
17. That pro-active measures be instituted to hire and train women on publicly funded construction and infrastructure projects.
18. That counselling be reinstated as part of the apprenticeship training system, to facilitate completions for all apprentices.
19. That licensed affordable childcare be initiated.
20. That tax credits be offered for employers who hire female apprentices.

Women in Trades in BC and Yukon

The Skills Shortage:

The Construction Sector Council (CSC) estimates that during the next ten years, the Canadian construction industry will need to replace more than 150,000 retiring workers – 19 per cent of the current workforce – in addition to hiring new employees. In British Columbia, 22,644 construction workers – about 2,500 per year – are expected to retire between 2005 and 2014.⁷ According to the BC Work Futures website, the provincial construction industry can expect a total of 4,690 new job openings a year between now and 2011, due to a combination of retirements and jobs newly created because of industry growth⁸

Women's Wages:

As of 2001, Statistics Canada reported that non-Aboriginal women working full-year, full-time in the BC labour force earned 71.5% of what non-Aboriginal men earned. Aboriginal males earned 78% of what non-Aboriginal males earned, while Aboriginal females had the largest wage gap, at 58% (see Figure 1). A large percentage of women in the Canadian workforce – 44% - were employed in clerical, retail or service occupations. Women in these latter jobs earned 20 to 30 per cent less than women in the trades labour force⁹.

Figure 1¹⁰

2001 BC Average Annual Income

For Those Who Worked Full-Year, Full-Time

	wages (\$)	% of non-Aboriginal male income
non-Aboriginal male	50,443	100
Aboriginal male	39,351	78
non-Aboriginal female	36,085	71.5
Aboriginal female	29,268	58

⁷ The Canadian Construction Association, *Canadian Construction Industry Forecast*, 2006)

⁸ "Construction," Available from

<http://handson.workfutures.bc.ca/profiles/ind.cfm?id=5&lang=en&site=graphic>.

⁹ 2001 Census; www.otan.dni.us/webfarm/laes/modules/mod26/m26resc3.htm

¹⁰ 2001 Census 97F0011XCB2001047.

Trades work not only provides satisfying work at a good wage, but is one of the few areas where the equality of male and female wages on average is higher than in other industries. In 2000, the average annual wage for males in the construction trades in British Columbia was \$27,564, while the average for females was \$27,275¹¹. This means that, on average, women in construction earn 98.9% of what men make in the same trade.¹² Hourly wages for union members – the same for men and women – provide a better example of the comparatively high wages tradeswomen can earn. In Vancouver in 2006 Statistics Canada reported that unionized carpenters made \$33.43 an hour (including benefits). Electricians made \$36.54 and plumbers \$35.16.¹³ In some cases these rates are slightly higher.

So Where are the Women in Trades?

The number of females working in the construction trades in BC has increased from a total of 510 women in 1971, to 2100 in 2006 (see Figure 2). But because of the increase in total numbers of construction workers in the province, and despite more programs aimed at recruiting women, the actual percentage of women has increased only slightly, from 0.9% in 1971 to 3.4% in 2006 (see Figure 3). It should be noted that the increase in women's participation is considerably greater in Alberta (5.3%). Due to its small population, Yukon occupational statistics are less reliable, though a 1999 report found that women made up almost 7% of trades, transport and equipment operators in Yukon.¹⁴

Figure 2¹⁵

Total Construction Trades: Numbers of Women

	1971	1981	1991	2001	2006
Canada	5,125	15,270	8,485	11,240	12,200
Alberta	490	2,770	1,055	2,050	3,100
British Columbia	510	2,465	1,325	1,625	2,100

¹¹ These figures are somewhat misleading; many individual tradespeople make a far higher wage. Factors that lower the "average" figure include whether someone works at a union or non-union wage, regional differences in employment, and the fact of seasonal work. Also, the current building boom had not yet taken full effect in 2000.

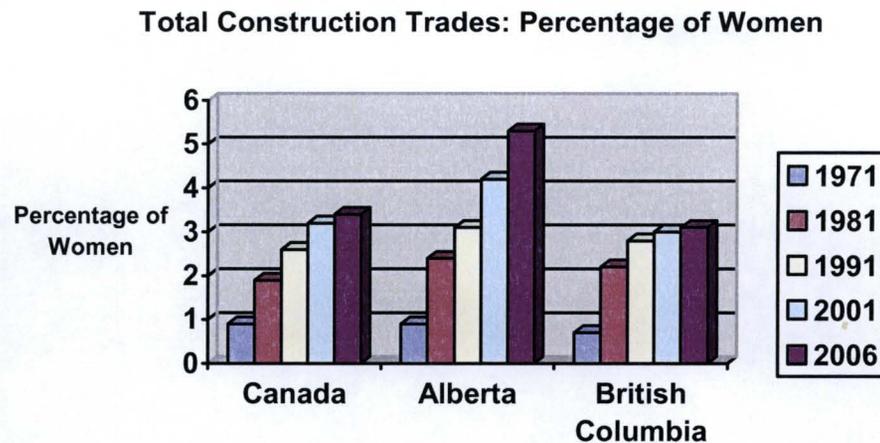
¹² Average wage information Statistics Canada Report 97F0019XCB2001003.

¹³ "Capital Expenditure Price Statistics," Statistics Canada 62007XWE, (Feb.2007).

¹⁴ Kirsten Madsen, "Yukon Women in Apprenticeship and Trades", (Northern Research Institute, 1999): 16.

¹⁵ Canadian Census 1971, 1981, 1991, 2001; *Labour Force Survey* 2006.

Figure 3¹⁶



The obstacles women face in accessing and training in male-dominated occupations have been well-documented.¹⁷ A 1994 report by the Canadian Apprenticeship Forum (CAF) listed nine generic barriers experienced by all apprentices, and how each barrier affected women.¹⁸

The first major barrier was “negative attitudes to apprenticeship and a poor image of trades on the part of young people, parents, and employers.” The second was “a lack of information and awareness of apprenticeship often reinforced by a lack of support for trades among school teachers and guidance counselors, and within school curricula.” The report found that women have even less access than men when it comes to “informal networks” which are “often the gateways to opportunity in the skilled trades.” The presence of strong female role models is seen as the best chance to overcome this barrier.

The third barrier involves an “unwelcoming workplace or training environment.” From employers, this comprises discrimination in hiring, viewing female apprentices as risks instead of investments, and applying different hiring standards to male and female applicants; from co-workers and classmates it consists of harassment and unfair expectations of female workers. Other barriers are the demands of women’s role as

¹⁶ Canadian Census 1971, 1981, 1991, 2001; *Labour Force Survey* 2006.

¹⁷ For example, see Hulme, Kristin “Making the Shift from Pink Collars to Blue Ones: Women’s Non-Traditional Occupations,” *Labour/Le Travail*, 57 The History Cooperative. Available from <http://www.historycooperative.org.proxy.lib.sfu.ca/journals/11t/57/hulme.html>; Kate Braid, *Invisible Women: Women in Non-Traditional Occupations in BC* (SFU MA thesis, Burnaby, BC, 1979).

¹⁸ Canadian Apprenticeship Forum, “Accessing and Completing Apprenticeship Training in Canada: Perceptions of Barriers Experienced by Women,” (2004)

primary caregivers and the lack of adequate access to childcare and issues of safety and security in work camps.

Another barrier not often specifically mentioned is women's token representation on the worksite. Once a woman has been hired, she usually finds herself the only female on the job. This leads to tokenism which further isolates her and makes her position in trades more difficult. Rosabeth Moss Kanter has done extensive research on the phenomenon of women and other minorities in the corporate workplace, which can easily be applied to the trades. Kanter and others have shown that employees will be seen as "tokens" as long as they make up less than 15% of the total workforce. There are three characteristics of tokens. The first is that they have higher visibility than other workers. Second, differences between the token and the rest of the group are exaggerated. And third, in what Kanter calls "assimilation", the characteristics of the token are warped to fit stereotypes of their social group. Simply put, in any traditionally male-dominated workplace, whether it be corporate or the trades, the more women there are, the easier it gets for all of them.¹⁹

Apprenticeship Training:

In most trades it takes approximately four years of a combination of work and schooling—the same time period as a university degree—to learn the skills of a journey level trades ticket. And like a university degree, on the basis of this training, the new journeyman or woman can then go on to perfect their trade skills over years of working on the job. The completion of trades training—apprenticeship—is therefore vital to a skilled trades labour force.

Many employers are hesitant to take on any apprentice—male or female—because of the presumed costs involved in training, but a 2006 report from the Canadian Apprenticeship Forum proves that this concern is unfounded. The report examined fifteen trades and found that only three (Construction Electrician, Mobile Crane Operator and Sheet Metal Worker) incurred a net cost to the employer in the first year of apprenticeship training, and that in all the trades studied, benefits exceeded final costs.

¹⁹ Rosabeth Moss Kanter, *Men and Women of the Corporation*, (New York: Basic Books, 1977): 348.; Yolanda Flores Niemann, "The Psychology of Tokenism: Psychosocial Realities of Faculty of Color," in *Handbook of Racial and Ethnic Minority Psychology*, (Thousand Oaks, CA: Sage Publications, 2003): 100.

The same study found that employers received a benefit of \$1.38 for every \$1 spent on apprenticeship training.²⁰

Women in Apprenticeship Training:

Women-only pre-trades programs (sometimes called "orientation to trades") such as BCIT's Trades Discovery for Women (TDFW) and Selkirk College's Skilled Trades Exploratory Program (STEP) for women, are an excellent means of helping women feel comfortable with tools and find the trade they prefer²¹. Women then go on to regular apprenticeship training.

One of the key goals of this report was to ascertain the number of women currently enrolled in apprenticeship programs in BC and the Yukon, an apparently easy assignment which has proven somewhat difficult because the collection of gender statistics, and the issue of whether the field for declaring gender is required, means there is no consistent record. During the transition period from the Industry Training and Apprenticeship Commission, to the current body that oversees BC's apprenticeship, the field for gender was eliminated. The ITA later reinstated the field but with a category for "Undisclosed" gender. Such large numbers of new apprentices register here – sometimes in the hundreds (see Figure 4) – that the numbers are not very useful in tracking women in trades training.

Gender statistics were therefore requested from individual colleges that sponsor apprenticeship programs. While several schools were happy to submit what they had, others did not keep statistics on enrollment by gender, or referred to the ITA list. The BC Ministry of Advanced Education was able to provide detailed information on apprenticeship enrollment, with a much smaller number of Unknown gender²² (see Figure 5).²³ However, there was a dramatic difference in the numbers of apprentices.

For the twenty-five trades looked at, for the school year 2005/2006 the Ministry of Advanced Education reported a total of 8,323 apprentices while the ITA reported

²⁰ Canadian Apprenticeship Forum, *Apprenticeship: Building a Skilled Workforce for a Strong Bottom Line*, 2006). It was unclear from the report whether these benefits began immediately, or at the end of the apprenticeship.

²¹ Interestingly, BCIT's TDFW graduates were so successful that young men requested the same "orientation" program and there are now simultaneous programs for mixed classes as well as women-only.

²² Because of the increasingly complicated sub-divisions of trades training, the list of apprenticeable trades offered at BCIT—the largest trades training institution in BC—was used as a master list.

²³ British Columbia Post-Secondary Central Data Warehouse, October 2006 Submission.

23,746 for roughly the same time period (as of October 2006). A typical example was the number of carpenter apprentices. As reported by the ITA these were: Male: 4484 Female: 129 and Undisclosed: 830. If the Undisclosed category is excluded, the percentage of women apprentices is 2.8%. If it is assumed that all Undisclosed are male, the percentage of women apprentices is 2.4%. The Ministry figures for carpenter apprentices were: Male: 1675 Female:32 and Unknown: 0, or 1.9% women.

**Figure 4²⁴ Industry Training Authority (ITA) Registered Apprentices
 As of October 2006**

	Female	Male	Undisclosed	Total	%Female (including undisclosed)	%Female (excluding undisclosed)	%Undisclosed
Automotive	94	2303	537	2934	3.2	3.9	18.3
Benchperson	0	28	2	30	0	0	6.7
Boilermaker	1	76	24	101	1	1.3	23.8
Carpentry	129	4484	830	5443	2.4	2.8	15.2
Commercial Trans	6	456	108	570	1.1	1.3	18.9
Electrical	135	4132	978	5245	2.6	3.2	18.6
Gasfitting	2	179	18	199	1	1.1	9
Glazing	5	190	30	225	2.2	2.6	13.3
Heavy Duty Mechanic	13	839	153	1005	1.3	1.5	15.2
Inboard/Outboard	1	41	23	65	1.5	2.4	35.4
Industrial Instrumentation	9	155	35	199	4.5	5.5	17.6
Heat/Frost Insulation	5	75	20	100	5	6.3	20
Ironworker	0	51	23	65	1.5	2.4	35.4
Joinery	36	400	89	525	6.9	8.3	17
Machinist	6	367	69	442	1.4	1.6	15.6
Millwright	17	804	163	984	1.7	2.1	16.6
Motorcycle Mechanic	3	48	8	59	5.1	5.9	13.6
Plumbing	36	2059	497	2592	1.4	1.7	19.2
Refrigeration	2	404	110	516	0.4	0.5	21.3
Circular Sawfiling	0	28	5	33	0	0	15.2
Sawfitting	0	64	9	73	0	0	12.3
Sheet Metal	11	659	155	825	1.3	1.6	18.8
Steamfitting	12	218	28	258	4.7	5.2	10.9
Steel Fabrication	9	438	100	547	1.6	2	18.3
Welding	26	641	35	702	3.7	3.9	5
Totals	558	19139	4049	23746	2.3	2.8	17.1

²⁴ Source: ITA AIMS Reporting System, as of October 2006. Due to the variety of automotive apprenticeships, they have been simplified here into one category. This includes technician, partsperson, mechanic, paint/refinish, collision repair and glass installation.

**Figure 5²⁵ BC Ministry of Advanced Education Apprentices Registered
 in Training Programs
 As of 2005/2006 School Year**

	Female	Male	Unknown	Total	% Female
Automotive	33	1239	2	1274	2.6
Benchperson	1	22	0	23	4.3
Boilermaker	0	36	0	36	0
Carpentry	32	1675	0	1707	1.9
Commercial Trans	5	194	0	199	2.5
Gasfitting	0	40	0	40	0
Electrical	52	2128	2	2182	2.4
Glazing	5	90	0	95	5.3
Heavy Duty Mechanic	3	381	0	384	0.8
Inboard/Outboard	2	47	0	49	4.1
Industrial Instrumentation	4	110	1	115	3.5
Heat/Frost Insulation	2	35	0	37	5.4
Ironworker	0	27	0	27	0
Joinery	18	179	0	197	9.1
Machinist	3	206	0	209	1.4
Millwright	8	339	0	347	2.3
Motorcycle Mechanic	0	12	0	12	0
Plumbing	10	545	2	557	1.8
Refrigeration	0	59	0	59	0
Circular Sawfiling	0	37	0	37	0
Sawfitting	1	45	0	46	2.2
Sheet Metal	2	253	0	255	0.8
Steamfitting	1	51	0	52	2
Steel Fabrication	3	227	2	232	1.3
Welding	6	146	0	152	3.9
Totals	191	8123	9	8323	2.3

By any count, the number of female apprentices in BC is less than 3%, but how to explain the large anomaly in total numbers of apprentices?

One possible reason could reflect changing ways of counting apprentices. For example, the post-secondary data from the Ministry of Advanced Education includes only

²⁵ Due to the variation in the types of apprenticeship programs offered at different trades schools, the category "Automotive" is a combination of several different types of automotive trades programs: service technician, body, mechanic, paint/ refinish,, collision repair, and glass installer. The number of unknowns has been subtracted from the total when calculating the percentage of women in each trade. Source: British Columbia Post-Secondary Central Data Warehouse, October 2006 Submission.

those students who actually participated in technical training during a specific academic year (in this case, 2005-2006). ITA figures include large number of apprentices (especially during "boom" times such as these) who are officially registered – and here, counted – as "apprentices" even though they have not attended school for their theoretical training in over one year.

A second possible explanation for the disparity in figures may be that the post-secondary data – unlike that of the ITA – does not include records of apprentices trained through private institutions or organizations. These are estimated by the Ministry to be about 10% of those who complete apprenticeships in BC.

A third explanation is that definitions of 'apprenticeship program,' 'foundation program,' and other instructional programs in the trades areas mean that individuals counted as apprentices by the ITA may be counted as Foundations students or high school (ACE IT) students, but not as registered apprentices, in the post-secondary enrolment data. Finally, changes are being made to some programs, most noticeably welding which currently make these figures difficult to judge. According to BCIT, one of the province's largest trades schools, only about 3% of BC welders currently follow the apprenticeship route that is reflected in the Ministry of Advanced Education's figures (see Figure 5) though the ITA is seeking to categorize all welding as apprenticeable.

One important point to be drawn is this: figures from the Ministry of Advanced Education show that in 2005/2006, 191 women attended apprenticeship training in the selected trades (see Figure 5). The ITA lists 558 women (see Figure 4), a difference of 367 women for the same trades. Some of this discrepancy might be due to differences in categorization, the changing structure of some programs, increased enrolment over one year, a large number of women welders or to women training in private institutions. It is difficult to believe, however, that this encompasses all 367 women. This leads to a concern that many women registered at some point as apprentices, have not – or not yet – returned to school to complete their training. This bears watching.

Regardless of wide fluctuations in reported figures, women's participation in apprenticeship training programs in BC is clearly between 1 and 3%. Following Ministry of Advanced Education figures for 2005/2006, several apprenticeship programs—boilermaker, gasfitter, ironworker, motorcycle mechanic, refrigeration, and circular saw

filer—had no women registered at all but the programs with the largest number of participants— electrical, carpentry, and automotive —each had between 2 and 3% female apprentices (see Figure 5). Electrical appears to be the most popular trade for women. By the same figures, 52 women or 27.2% of all female apprentices for the school year 2005-2006 were in electrical training. Next most popular was carpentry with 32 women or 16.8% of all female apprentices.

Apprenticeship information for the Yukon has been provided by the Department of Education (see Figure 6). Although many of their programs contain no women at all, the overall percentage of female apprentices is higher in the Yukon than in BC, at 5.3%, though this represents only 17 women. The bigger apprenticeship programs, Carpenters and Construction Electricians, have 4.4% and 9.6% female enrollment respectively. The Yukon Government has a specific section of Education Department website dedicated to women in trades training.²⁶

Changing Structures of Apprenticeship Training in BC:

Between 2001 and 2003 the apprenticeship system in BC went through several changes. According to a report by the Centre for the Study of Living Standards, four main reforms were undertaken. The first was to move to a competency-based certification system, "replacing the former system that required a minimum training period." The second change, known as "progressive credentialization," broke down the certification system "into component modules that stand independently and can be achieved through not only the traditional apprenticeship system but also other post-secondary education programs," including private training institutions. The third change involved the shifting of most of the responsibility for apprenticeship from a tripartite coalition of industry, labour and educators, to solely industry, "including the design of academic curriculum, responsibility for promotion and some responsibility for funding." The fourth was a change in who oversees BC apprenticeship training. In 1997 the Industry Training and Apprenticeship Commission (ITAC) had been formed to facilitate apprenticeship training. In 2002 it began to be shut down and in 2004 was replaced with the Industry Training Authority (ITA). The former ITAC had a 25 member board, as well as four stakeholder groups, each with veto power, and it employed 115 public servants. The ITA,

²⁶ This can be found at <http://www.education.gov.yk.ca/advanceded/apprenticeship/womapptra.html>.

as of 2005, had a nine member board, drawn entirely from the employer community, and a staff of ten.²⁷ In 2005, the ITA reported as its mandate, "to expand and improve industry training, through the creation of a more flexible, accountable and – most importantly – industry-led system."²⁸

Figure 6

Apprenticeship Programs in Yukon

As of February 2007

	Female	Male	Total	% Women
Automotive Painter	0	1	1	0
Automotive Service Tech.	0	21	21	0
Cabinetmaker	0	1	1	0
Carpenter	6	130	136	4.4
Construction Electrician	5	47	52	9.6
Gasfitter	0	1	1	0
Glazier	0	3	3	0
Heavy Duty Equipment Tech	0	1	1	0
Heavy Equip., Truck and Transportation T	0	12	12	0
Industrial Electrician	0	1	1	0
Industrial Mechanic (Millwright)	0	3	3	0
Insulator (Heat and Frost)	0	1	1	0
Machinist	0	2	2	0
Motor Vehicle Body Repair	0	2	2	0
Oil Burner Mechanic	0	3	3	0
Outdoor Power Equip. Tech.	0	2	2	0
Painter and Decorator	1	2	3	33.3
Partsperson	1	3	4	25
Plumber	3	22	25	12
Power System Electrician	0	1	1	0
Powerline Technician	0	6	6	0
Refrigeration and A/C Mech.	0	3	3	0
Roofer	0	4	4	0
Sheet Metal Worker	1	11	12	8.3
Sprinkler System Installer	0	4	4	0
Steamfitter/Pipefitter	0	2	2	0
Truck and Transport Tech.	0	4	4	0
Welder	0	9	9	0
Total	17	302	319	5.3

²⁷ Andrew Sharpe and James Gibson, "The Apprenticeship System in Canada: Trends and Issues." (Ottawa, Centre for the Study of Living Standards, 2005): 69-71. In 2006/07 the ITA had 221 full-time staff working at ITA head office. In the same year they took over operation of a customer service centre that employs 19 staff previously employed by Service BC who provide client services on a contractual basis. (2007/08 ITA Service Plan).

²⁸ Industry Training Authority, "ITOs: Moving Forward with Industry Training Reform," (2005); 1.

These changes to administrative structure may, in future, have a strong impact on women's access to trades and trades training. For example, ITAC had a specific mandate to increase the numbers of underrepresented groups (including women) in apprenticeship.²⁹ IT was advised by a series of Trade Advisory Committees (TACs) that included one of women and "equity" groups. Current advisory committees to the ITA, Industry Training Organizations (ITOs), are exclusively "established and operated by industry, and approved and financially co-supported by industry and the ITA."³⁰ The ITA Service Plan³¹ mentions the need to improve participation of women, but gives no specific steps that will be taken toward that goal. Also, as mentioned earlier, the large number of undisclosed gender in the ITA statistics make them unreliable in tracking participating rates of women.

Unlike ITAC, the ITA now advocates a trainee-driven approach, which makes each apprentice (and their employer) responsible for their own enrolment in training programs. Trainees must also now pay the cost of each training module. Costs of apprenticeship programs at BCIT, for example, range from \$435 for a four week sawfitting program to \$1085 for a ten week electrical program.³² For women already unfamiliar with the trades training process, or suffering additional cost burdens of single parenthood and/or traditionally lower incomes, or living away from a training centre, this presents a significant deterrent.

Some steps have been taken at the federal level to ease the financial burden. As of January 2007, apprentices who have completed the first or second year of an apprenticeship program are eligible for a \$1,000 federal government grant, and new tradespeople can make up to a \$500 deduction from income tax to help cover the cost of new tools.

The effects of these significant changes to the BC apprenticeship training structure have not yet been documented, but they suggest concern at least about future participation rates of women, Aboriginal and other underrepresented people in the trades in BC. ITAC provided a more structured system of enrollment than does the ITA,

²⁹ CCPA, "BC Solutions Budget: Budgeting for Women's Equality," (2006): 32.

³⁰ Industry Training Authority, "ITOs: Moving Forward with Industry Training Reform", (2005): 2.

³¹ 2007/08-2009/10 ITA Service Plan. Available at:

<http://www.itabc.ca/documents/ITA%20Service%20Plan%20200708-0910.pdf>

³² BCIT tuition and fees table. <http://www.bcit.ca/files/pdf/admission/fees-2006-2007-apprentice.pdf>

accompanied by a series of support mechanisms for young people, many of whom may not have been familiar with – or had friends or family members who could guide them through – the apprenticeship system. One of these support mechanisms was the existence of apprenticeship counselors. Another was a system that automatically enrolled students in annual training modules and informed them and their employer, when their training time approached. A third significant difference is that – although they might lose wages while in school – the actual in-school training under ITAC was free to apprentices. The current system provides none of these supports and it is probable that women, Aboriginal people and other groups currently under-represented in trades, will be most affected by their lack.

Trades Training Completion:

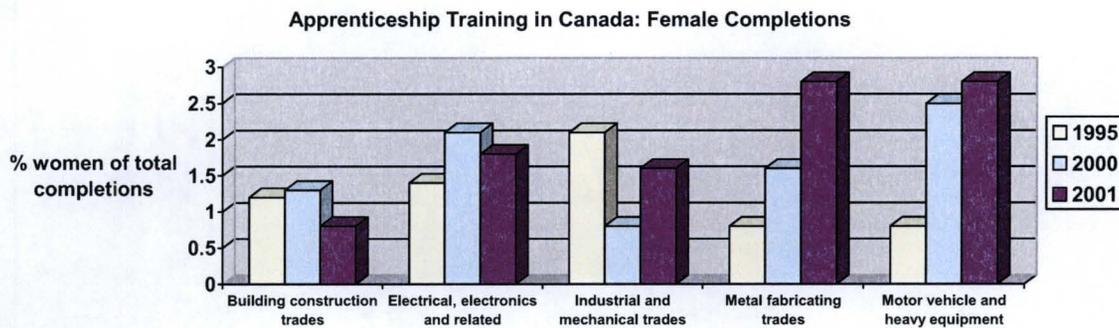
Completing trades training and earning a journey "ticket," including the Red Seal that confirms a tradesperson is qualified to work anywhere in Canada except Quebec, is clearly a crucial part of a skilled, flexible workforce and it's useful to track how many apprentices complete their training. But there are difficulties in tracking completion figures, starting with whether a cohort or individual model will be used (i.e. either by group that started in any one year, or by individual). Also, though the allotted training period for both theoretical and practical hours might be four years, the actual time taken due to layoffs, travel, family obligations or for other reasons often leads to apprentices requiring five, six or more years to complete.

Given these difficulties, there is some concern, at least on a national level, that women in trades are not being sufficiently trained or that a declining number of those who begin apprenticeship training, are not completing it. Statistics Canada reports that the percentage of Canadian women registered as apprentices in the building trades between 1995 and 2001 increased, but the number of completions "lagged behind." In 1991, 6% of females completed their journey tickets compared with only 0.8% of women in 2001. In the industrial and mechanical trades, women went from 1.8% of completions in 1995 to 1.4% in 2001, in metal fabricating trades from 1.6% to 2.8%, and in motor vehicle and heavy equipment trades from 1.7% to 2.8% (see Figure 7).³³

³³ Statistics Canada, *Registered Apprenticeship Training Programs*, (2003)

Figure

7



This lag in completion rates should be taken as a caution. If women are not to be “ghettoized” into unskilled or semi-skilled positions in the trades workforce in the so-called developed world, as they have been in developing nations,³⁴ it is important to ensure that women be fully trained, and equally represented in all trades occupations.

Women in the Trades Workforce:

Beyond the number of women in apprenticeship training, a primary aim of this study was to determine the percentage of women currently employed in skilled trades in BC and the Yukon Territory. The most reliable source of information on these figures comes from the Canadian census. In order to compare across localities and over time, census figures were examined for the years 1971, 1981, 1991 and 2001, for Canada, British Columbia and Alberta. Due to their small population, Yukon occupational statistics are unreliable. Research shows that the number of women working in skilled trades in the Yukon varies by trade, but is usually within the 1 to 3 percent range.

As the following graphs show, the percentage of women involved in trades work in BC has risen over the last thirty years, but still remains low. Some trades, such as carpenters, plumbers and painters and decorators, show a slow increase over the time period covered (see Figures 8, 10 and 18). Others, such as sheet metal, welding, cabinetmaking and roofing, peaked in 1981 (see Figures 9, 12, 14 and 16). Many trades, such as electricians, glaziers and machinists, show mixed growth (see figures 11, 17 and

³⁴ This is documented in works such as Vivian Price’s film, *Transnational Tradeswomen*, available from Women Make Movies at www.wmm.com

19). It is interesting to note that only painters and decorators, at 10.3%, are the only trades group in BC that comes close to Kanter's 15% level of significant representation.

Women Working in Trades 1971 - 2001

Figure 8

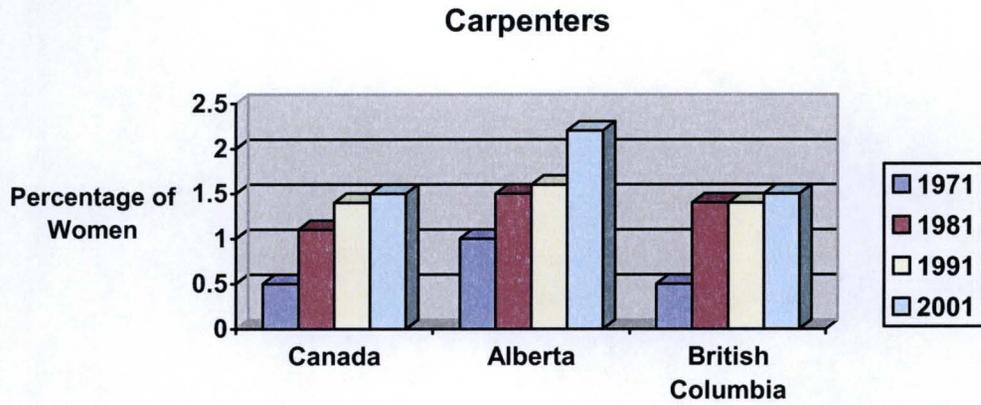


Figure 9

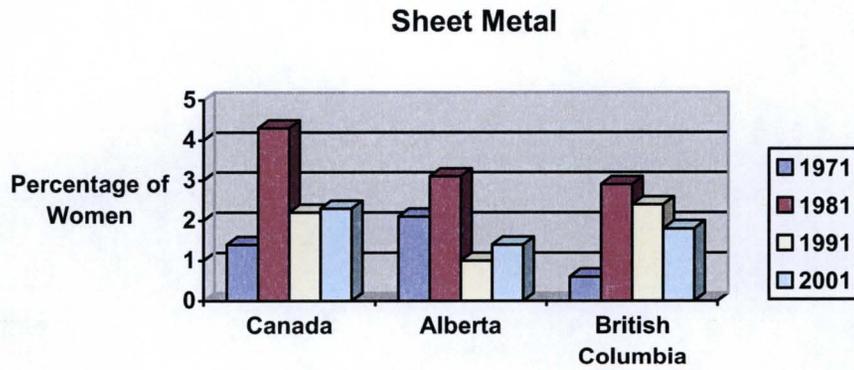


Figure 10³⁵

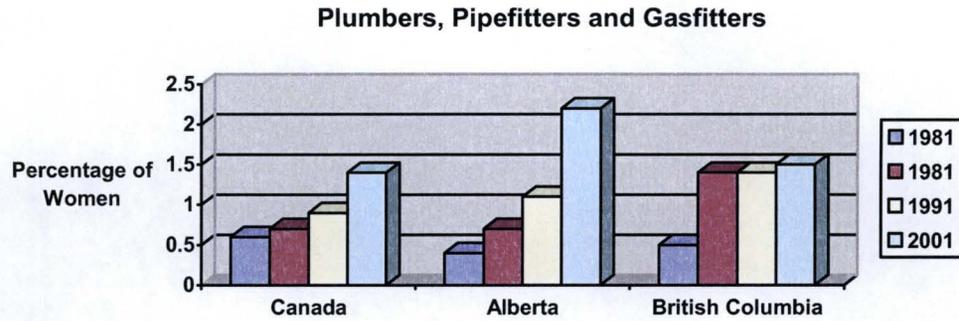


Figure 11³⁶

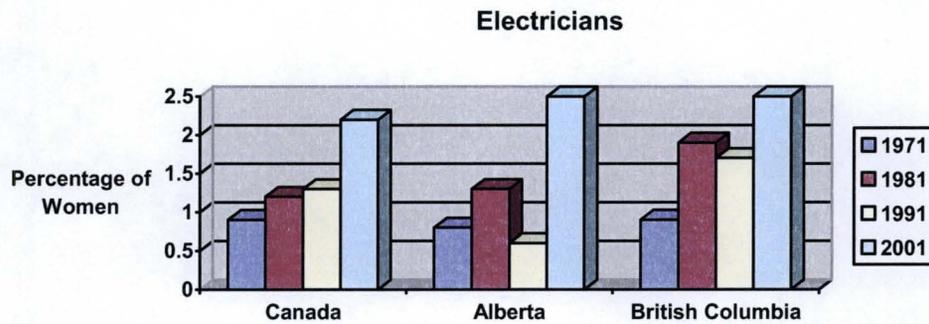
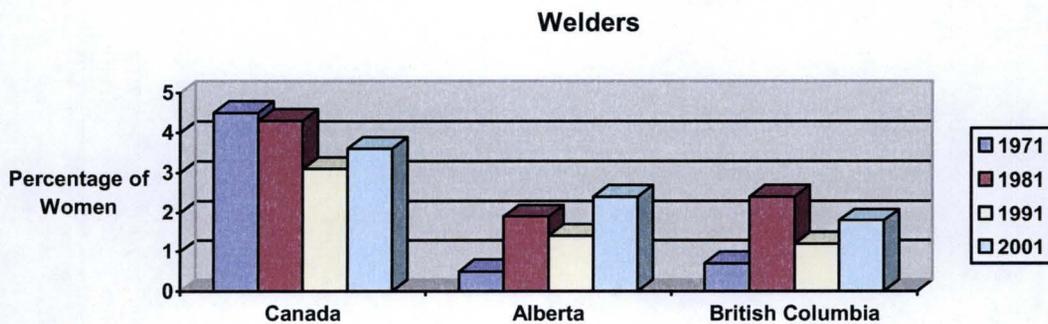


Figure 12³⁷



³⁵ Includes 1971 and 1981 Census category pipefitting, plumbing and related and 1991 and 2001 category plumbers, pipefitters and gasfitters.

³⁶ 1971 and 1981 listed as construction electricians and repairmen, 1991 and 2001 listed as electricians (except industrial and power system).

³⁷ 1971 and 1981 listed as welding and flame cutting occupations, 1991 as welders and soldering machine operators, 2001 as welders and related machine operators.

Figure 13³⁸

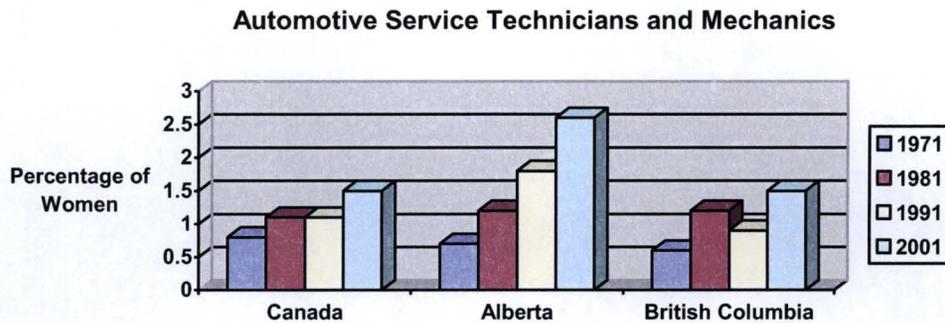


Figure 14

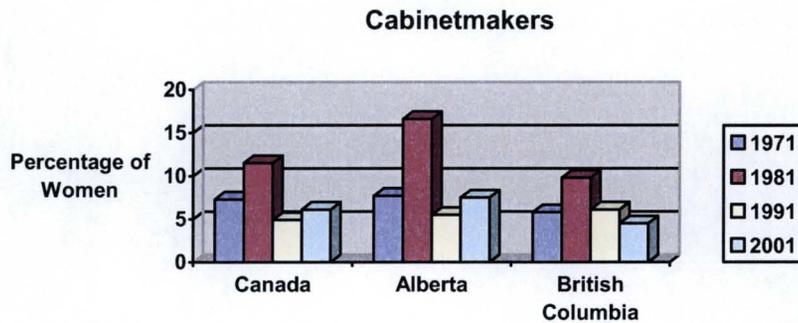
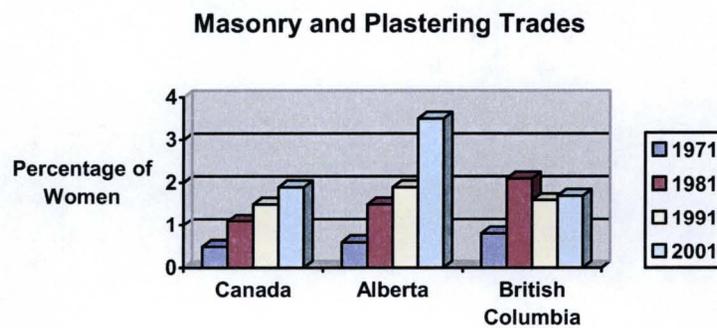


Figure 15³⁹



³⁸ 1971 and 1981 listed as motor vehicle mechanics and repairmen, 1991 and 2001 listed as automotive service technicians, truck mechanics and mechanical repairers.

³⁹ 1971 and 1981 census includes the categories: brick and stone masons and tilesetters; concrete finishing and related occupations; plasterers and related occupations. 1991 and 2001 census includes the categories: bricklayers; concrete finishers; tilesetters; plasterers, drywall installers, finishers and lathers.

Figure 16⁴⁰

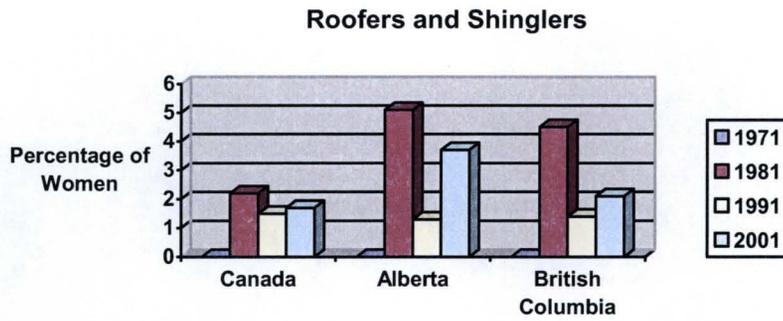


Figure 17

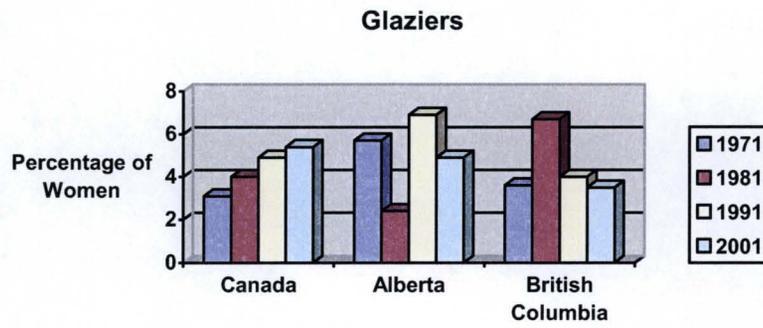
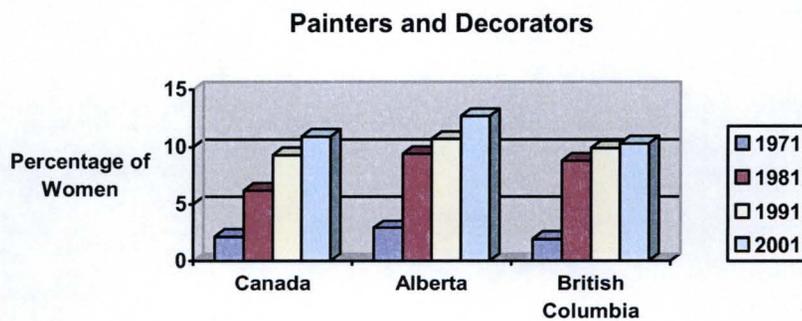


Figure 18⁴¹



⁴⁰ 1971 and 1981 listed as roofing, waterproofing and related occupations.

⁴¹ 1971 and 1981 listed as painters, paperhangers and related occupations.

Figure 19⁴²

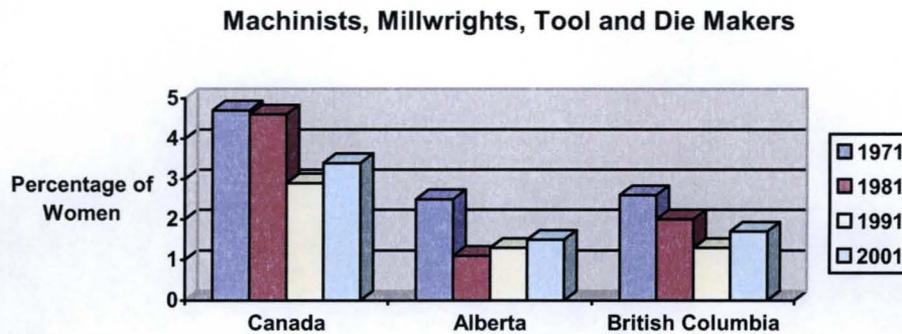
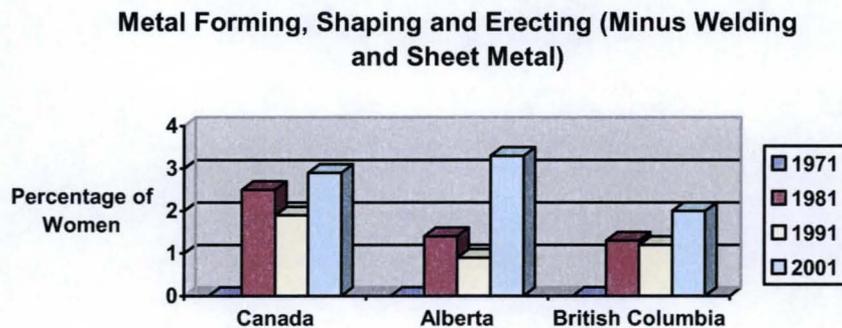


Figure 20⁴³



Conclusion:

Clearly, some very small progress has been made in the hiring and training of women in the skilled trades in BC and the Yukon in the last thirty years. There are more courses, more Human Rights laws, more public images of women in trades. But the numbers of women have barely shifted and today, in 2007, women face basically the same barriers and challenges they did in 1975 when changes to BC's Human Rights legislation first encouraged the entrance of women into blue collar work in BC.

The current strategy of hiring foreign workers to fill labour gaps is a temporary solution that ignores the potential contribution of half the province's population. Current as well as anticipated long-term trade shortages provide a rich opportunity to focus the

⁴² Includes 1971 and 1981 categories: machine tool operation occupations; machinist and machine tool setting-up occupations; tool and die makers. 1991 and 2001 categories: construction millwrights and industrial mechanics; machinists and machine and tooling inspectors; tool and die makers.

⁴³ Includes 1971 and 1981 categories: forging occupations; boilermakers, platers, and structural metal workers; structural metal erectors. 1991 and 2001 categories: boilermakers; structural metal and platework fabricators and fitters; ironworkers; blacksmiths and die setters.

attention of government, schools, industry and labour, on increasing the participation of women in skilled trades.

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