



CONESTOGA COLLEGE

FUELING COMMUNITY PROSPERITY



THE ECONOMIC AND SOCIAL VALUE OF CONESTOGA COLLEGE

Larry Smith | Essential Economics Corporation | January 2003

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Summary

The economic and social value of Conestoga College is realized through the accomplishment of its students. While the College affects its community in other ways, as an employer for example, these effects are peripheral compared to its mandate as an educational institution. Since it is the responsibility of the College to educate and to train, the success of its students is central to the measurement of its value.

In a complete sense, the economic and social value of the College is incalculable. Its students live in many places and their accomplishments are both tangible and intangible. They contribute to the prosperity and well-being of their communities through their productivity, openness to change and contribution to volunteer organizations, among other accomplishments.

However, *part* of the College's value can be measured or inferred. Restricting the focus to the College's local core area (Waterloo Region, Guelph and Stratford), the employment success of its students is striking. The *scale* of the College's value can be inferred from the proportion of the local labour force who have been served by it.

Conestoga College is by far the largest supplier of labour skills to the area economy, having provided education or training to local residents who represent between 40 to 50 percent of the labour force. The offerings range from two-hour workshops to multi-year diplomas, each having a specific role in the continuing development of the local labour market. It is well understood that in a dynamic and complex marketplace, the full development of the labour market requires many different types and degrees of education. By providing so many different ways to extend skill, the College directly contributes to the adaptability of its students and to their career success. The scale and thus the value of this contribution to the local area is very large, by any measure.

Conestoga's 32,993 diploma and certificate holders resident in the local area represent about 10 percent of the local labour force; 120,483 continuing education students represent another 35.9 percent of the local force; its 21,300 training and development students represent another 6.4 percent of the labour force. Also, the College's approximately 7,000 full-time post-secondary students and apprentices represent a potential contribution to the labour force of at least 2 percent.

This means that local residents who have received education or training from the College equal about half of the labour force. However, since there are limitations in the available data, a number of methodological assumptions were made, and they are described in the Technical Notes. While the above numbers are "best estimates", a small element of uncertainty remains. To avoid the danger of overstatement, the summary conclusion is restated, that is, that local residents who have received educational services from the College equal **at least** 40 percent of the labour force. As a result, there is no doubt that this exceptional accomplishment has been indispensable to the economic prosperity of the area communities. No other educational institution is more important to the area economy.

By examining the income of the College's local diploma and certificate holders, an explicit number can be calculated for *part* of the economic value of *part* of the College's teaching services. The College's local graduates are worth what their employers pay them, a payment that reflects the employers' estimation of their productivity. Using 1995 income levels, today's local graduates would have earned an estimated 1.266 billion dollars. At 2001 income levels, the graduates would have earned approximately 1.476 billion dollars. To be conservative, it is concluded that local graduates are earning **at least** 1.266 billion dollars. This is thus a partial reflection of the value the College has created for the local economy.

This value, it must be emphasized, excludes the economic value of the increased productivity generated by the more than 140,000 persons who have taken advantage of the College's career-related continuing education courses or of its training and development offerings. The College is principally responsible for the *continuing* improvement in the quality of the area's labour force.

Also excluded is the value of the enterprises started by the College's graduates, equal to at least 242 businesses.

Moreover, this also excludes the intangible social and economic value of having a better-educated population. However, the scale can be inferred. About 38,000 persons have taken the College's continuing education courses for personal satisfaction or development and in doing so added to their ability to be useful to others. Together with those who have taken career-related College offerings, 51 percent of the adult population have been served by the College. As a result, these individuals have an improved ability to do their job, whether paid or volunteer, and an improved openness to understanding change. Again, in order to be conservative, it can be concluded that Conestoga College has helped **at least** 40 percent of the adult population to better contribute to the community's total quality of life.

Introduction

While student feedback through the Key Performance Indicators has made Conestoga College the top-ranked College four years in a row, it is appropriate to develop a more detailed profile of the economic and social values delivered by the College to the area communities.

The economic and social value of Conestoga College is realized through the accomplishment of its students. While the college affects its communities in other ways, as an employer for example, these effects are peripheral compared to its mandate as an educational institution. Since it is the responsibility of the College to educate and to train, the success of its students is central to the measurement of its value.

In a complete sense, the social and economic value of the College is incalculable. Its students live in many places and their accomplishments are both tangible and intangible. They contribute to the prosperity and well being of their communities through their productivity, openness to change and contribution to volunteer organizations, among other accomplishments.

However, part of the College's value can be measured or inferred by restricting the focus to the College's local core area (Waterloo Region, Guelph and Stratford). Given the number of different ways the College offers its educational services, the College's graduates, continuing education students and training and development participants require separate analysis before they are integrated into a summary statement.

Value will be implied in two ways. First, the scale or proportion of the contributions made by the College's local graduates, students and participants will be estimated. Second, the graduates' income will be used as a proxy for economic value.

A. The Graduates

Residence

The College's graduates, those who receive diplomas and certificates, represent the highest expression of the College's training and educational programs. The College's 54,760 graduates can be found in all the major cities of Canada, from Calgary to Montreal, from Winnipeg to Saint John. And many smaller communities also welcome the College's graduates, from Prince Rupert to Whitehorse, from Chicoutimi to Glace Bay.

The College's graduates can also be found in such U.S. cities as Houston, Memphis, Los Angeles, San Francisco, Miami, and Seattle. And a few have reached London (UK), Singapore, and Grand Cayman Island.

Nevertheless, the vast majority live in Ontario and 60 percent of the total live in the College's local core area. Details are presented in Table 1.

Table 1

**Conestoga College Graduates¹
by
Residence**

Total	54,760
Canada	54,633
Ontario	53,763
Catchment Area ²	39,967
Local Core Area ³	32,993
Waterloo Region	26,252
Guelph	5,423
Stratford	1,318

1: See Technical Note 1

2: Waterloo Region and the Counties of Huron, Perth and Wellington

3: Waterloo Region, Guelph and Stratford

Source: Alumni Affairs, Conestoga College. As of July 24, 2002

Labour Force

The employment success of Conestoga's graduates is striking. The *scale* of the College's value can be inferred from the proportion of the labour force who are its graduates and whose skills have therefore been improved. (The students involved in Continuing Education, and Training and Development are discussed in the following two sections.)

In 2001, Conestoga College graduates who reside in the local area equal 10 percent of its labour force. The breakdown by area municipalities is presented in Table 2.

Table 2

**Conestoga Graduates
and the
Local₁ Labour Force
2001**

Conestoga Graduates Resident in		Estimated Labour Force₂	Conestoga Graduates as Percent of Labour Force
Local Area ₁	32,993	331,363	10.0
Waterloo Region	26,252	250,523	10.5
Guelph	5,423	64,825	8.4
Stratford	1,318	16,015	8.2

1: Waterloo Region, Guelph and Stratford

2: See Technical Note 2

Source: Alumni Affairs, Conestoga College/Labour force estimated by Essential Economics Corporation from Statistics Canada data.

It must be clearly noted that it is only possible to calculate how many local residents are Conestoga graduates and how many persons are in the local labour force. It does not necessarily follow that all the local Conestoga graduates are actually in the local labour force. And some are certainly not; some are retired and others commute to work outside the local core area. However, given the demographic profile of the graduates, the vast majority of them are working and the commuter flow remains minor compared to the working population. This imperfection in the

data cannot be corrected and its presence is noted. At worst, it represents several thousand unavailable for the local labour force, perhaps a one-percentage point difference.

While Table 2 demonstrates that Conestoga’s graduates represent a significant share of the local labour force, it is more relevant to note the College's effect on the local *skilled* population, where skill is defined as those who have completed a certificate, diploma or degree at a post-secondary institution. (The unavailability of data prevents a consistent comparison that includes all skilled trades certificates). By this measure, local college graduates represent about 18 percent of the skilled population.

Of course, the most relevant comparison is to the area’s college graduates. Of the estimated 91,966 persons with college diplomas or certificates residing in the local area, about 36 percent of them are Conestoga graduates. Details are presented in Table 3.

Table 3

**Conestoga Graduates
and the
Local₁ Skilled Population
2001**

Conestoga Graduates Resident in the Local Area	Estimated Certificate, Diploma, and Degree₂ Holders	Conestoga Graduates as Percent of Certificate, Diploma, and Degree Holders
32,993	184,581	17.8
	Estimated College Certificate and Diploma Holders₂	Conestoga Graduates as Percent of College Certificate and Diploma Holders₂
	91,966	35.9

1: Waterloo Region, Guelph and Stratford

2: See Technical Note 3.

Source: Alumni Affairs, Conestoga College. Certificate, diploma and degree holders estimated by Essential Economics Corporation from Statistics Canada data.

While the College obviously makes an indispensable contribution to the local labour market, it is equally true that the local economy could not have grown as it did, except that it attracted about 60 percent of its college graduates from other community colleges. And even if the local community retained all of Conestoga's 54,760 graduates (an impossible expectation), the College would still have supplied only about 60 percent of the actual demand for college graduates.

As a result, the local economy is hostage to the need to maintain this in-migration, if not to increase it. Of course, all of Ontario's other communities are trying to retain their local supply of skilled labour. Any significant reduction in the local area's continued ability to attract this level of skilled labour has an immediately adverse consequence on the growth potential of the local economy. The greater the ability of the local area to generate its own internal supply of skilled labour, the lesser is this implicit threat to its growth.

Occupation

The structural nature of the economy's need for skills means that the local Conestoga graduates are not evenly distributed among the occupations of the local economy. For some occupations the role of the College's graduates is less and in others much greater. While college programs cannot be always matched to specific occupations as defined by Statistics Canada, they coincide reasonably well in many cases. Assuming the local graduates are working in their program specialization, Table 4 provides an indication of how important the College's graduates are with respect to major occupational categories. Because of limitations in the data, the analysis is restricted to the Kitchener CMA (Kitchener, Cambridge, Waterloo, Woolwich and North Dumfries).

As well, because there are an undetermined but limited number of "double-counts" , and because some graduates could not be classified, Table 4 must be considered an approximation only. It does however provide broad guidance about the occupational role of the local graduates.

Table 4
Conestoga Graduates
by Selected Occupations
Kitchener CMA₁
2001

Occupations in	Total in Kitchener CMA₂	Conestoga Graduates in Kitchener CMA₃	Conestoga Graduates as Percent of Total
Management (A)	17,900	79	0.4
Business, Finance & Administration (B)	38,200	5,877	15.4
Natural and Applied Science (C)	16,800	4,302	25.6
Health Professions (D)	8,300	4,394	52.9
Social Science, Government, Education and Religion (E)	14,500	1,123	7.7
Art, Culture, Recreation and Sport (F)	6,000	758	12.6
Sales and Service (G)	53,300	3,484	6.5
Trades, Transport and Equipment Operators (H)	30,700	3,189	10.4

1: Kitchener, Cambridge, Waterloo, Woolwich and North Dumfries

2: Human Resources Development Canada

3: See Technical Note 1

Source: Alumni Affairs, Conestoga College

In the health professions, the College graduates are of commanding importance in the local communities. This reflects the particular strength of the College's nursing programs.

Local College graduates equal one-quarter of those employed in the natural and applied science occupations. These occupations include the work of technicians, technologists and computer specialists.

The College's graduates also have an especially significant presence in business, finance and administration.

Excluding management, College graduates are well represented in the other occupational categories.

Employers

Between 1991 and 2001, 813 employers hired Conestoga's graduates. This is an underestimate since it includes only those employers who hired directly through the College; of course, some graduates obtained employment separately. While the employers represent the entire range of enterprise, they reflect several specific concentrations. Manufacturing represents the largest number of employers followed by health and social services, and retail trade. Together these 525 employers represent 64.6 percent of the total. Finance and insurance, business services, communication and other utilities also represent significant groups of employers. Details are presented in Table 5.

Table 5

**College Graduate Employers
by Industry
1991 – 2001 summary**

	Waterloo Region	Guelph	Stratford	Total
Primary Industries	1	2	0	03
Manufacturing Industries	127	71	9	207
Construction Industries	10	1	1	12
Transportation and Storage Industries	5	2	0	07
Communication and Other Utility Industries	27	7	1	35
Wholesale Trade Industries	14	3	0	17
Retail Trade Industries	116	21	4	141
Finance and Insurance Industries	34	4	2	40
Real Estate Operator and Insurance Agent Industries	2	0	0	02
Business Service Industries	31	4	0	35
Government Service Industries	17	5	0	22
Education Service Industries	17	4	1	22
Health and Social Services	129	30	18	177
Accommodation, Food & Beverage Service Industries	19	0	0	19
Other Service Industries	17	3	1	21
Unknown	48	5	0	53
Total Employers	614	162	37	813

Source: Conestoga College, Alumni Database, as of April 24, 2002

Business Start-ups

The range of interests and career capabilities present among the graduates of Conestoga College leave little doubt that a significant number of them have the talent and drive to start their own business. Unfortunately, there is insufficient data to provide a representative description. Nevertheless, it was possible to generate an initial sample from College sources. These 242 enterprises span the world of business from transportation to construction, from retailing to entertainment, from consulting to graphic design.

Not surprisingly, the largest share of new enterprises are in the field of business services, one of the most rapidly growing industrial sectors and one that is particularly open to entry. The significant number of health-related ventures, of course reflects the College's extensive selection of healthcare programs. Manufacturing and retail have also attracted a considerable number of start-ups. Details are presented in Table 6.

Table 6

**Number of Enterprises Started
By Conestoga Graduates**

Primary	01
Manufacturing	29
Construction	12
Transport and Storage	03
Business Services	114
Wholesale	02
Retail	25
Finance and Insurance	02
Real Estate	04
Health and Social Services	42
Accommodation and Food	04
Other	02
Unknown	02
Total	242

Source: Conestoga College

Local companies of note that were founded or co-founded by Conestoga College's graduates include:

Arjune Engineering (Dave Arjune)

Denison Print (Machelle and Tony Denison)

Hawkwoods Furniture (Steve Martin)

Ignition Design (James Robinson)

Katlyn Material Handling Systems (Mike Katsirdakis)

Melloul-Blamey Construction (Bernie Melloul and Dave Blamey)

Owl Childcare (Louise De Corso)

Remax Solid Gold Realty (II) Ltd. (Kenneth J. Cameron)

Student Body

The students enrolled in the College's full-time programs represent the community's next generation of skilled labour. Made up of 52 percent men and 48 percent women, these 5,241 predominantly young students recognize that post-secondary education is essential if they are going to make a valuable and valued contribution to their society. Most have moved directly to the College from secondary school, thereby avoiding the danger of becoming trapped in jobs of limited potential — almost the only ones open to those who have no other qualification beyond secondary school. Fortunately, the wide range of programs available at the College means that the College can serve the broad body of secondary school graduates, not just those at the top of the class.

Even though the students are in close gender balance for the College overall, there remains a marked disparity in the School of Engineering Technology, where men outnumber women greatly and in the School of Health Sciences and Community Services, where women predominate. Details are represented in Table 7.

It must be noted the College also offers opportunity to those older who either delayed their entry into post-secondary education or who now find that they must seek new skills. In an important way the College offers a “second” chance to those whose previous career decisions did not prove successful.

In addition to the students discussed above, there are approximately 1,400 students enrolled in the College's apprenticeship programs. And about 400 students not counted above are enrolled in certificate programs.

Overall, at Fall 2001, the College had about 7,000 students and apprentices. This number represents a potential addition to the local labour force of at least 2 percent.

Table 7

**Student Demographic Profile: Full time Day Students
Conestoga College
Fall 2001**

	Total Students	Men	Women
School of Academic Support and Preparatory Studies	372	227	145
School of Applied Arts	236	93	143
School of Health Sciences and Community Services	1,484	331	1,153
School of Business	1,910	988	922
School of Engineering Technology	1,239	1,099	140
Total	5,241	2,738	2,503

	Average Age	Average Age Men	Average Age Women
School of Academic Support and Preparatory Studies	21.05	21.18	20.83
School of Applied Arts	21.37	20.96	21.64
School of Health Sciences and Community Services	22.93	21.43	23.36
School of Business	21.86	21.74	21.98
School of Engineering Technology	21.93	21.78	23.09
Total	21.83	21.42	22.18

Source: Conestoga College, Student Database

B. Continuing Education

The College's continuing education activities match the importance of its certificate and diploma programs. From 1990 to 2001 (as processed to July 24, 2002), the College had 372,994 course registrations. That represents 141,291 different individuals taking at least one continuing education course. Overall, including those from before 1990, 166,291 individuals have taken a continuing education course at Conestoga, a number equal to almost 40 percent of the adult population of the local area (see Technical Notes 4 and 5).

That a single institution could serve so large a proportion of the area's population is remarkable. As a purely descriptive matter, Conestoga College is at the centre of the community's life. Moreover, the College touches this large number of persons in pursuit of its high mandate: Conestoga College is the community's adult teacher.

It is important to understand why so many members of the community are involved in the College. The continuing education students offer two main sets of reasons for furthering their education. About 23 percent are pursuing a personal interest or seeking personal development or fulfillment. The 77 percent remaining are taking courses to advance their career success or employability. Details are presented in Table 8.

Table 8

**Reasons for Taking Continuing Education
Conestoga College
1996, 1998, 2000
Percent of Responses**

	1996	1998	2000
Looking for a job	6	6	5
Improving myself in my career	47	48	45
Preparing for a change of careers	19	19	22
Seeking a credit toward a full-time program	6	5	5
Total Career-Related	78	78	77
Personal Development and Fulfillment	16	15	16
Pursuing a hobby or interest	6	7	7
Total Personal Development	22	22	23

Source: Provincial College Summary Report/Compustat Consultants

Using the 2000 response pattern, the data suggests that of the 166,291 persons who have participated in continuing education, 128,044 did so for career advantage, and that 38,247 sought their personal development.

It should be emphasized that by helping this many persons pursue their personal development, the College is making a major intangible contribution to the local community's well being and quality of life. Indeed, access to a facility that contributes to personal fulfillment is directly related to a community's quality of life.

Continuing education, of course, also plays a critical role in the renewal and adaptation of the local labour market. In other words, 128,044 persons have used the College's continuing education courses to become more productive or to change their career to meet changed market conditions. Vitally important is the fact that in 2000, about 85 percent of the students were over 25, and 68 percent of them were over 30. Clearly the continuing education courses are the principal tool to help the older worker adapt to the changing economy. It is impossible to

overstate the importance of this function: the older worker adapts or is unemployed. Indeed, for those who lack the appropriate educational background, the College offers them help to prepare for their studies. By providing this absolutely minimum condition for economic and social success, the College makes a vital and intangible contribution to those who would otherwise be highly disadvantaged.

Excluding the 7,561 continuing education students who go on to complete a diploma or certificate, Conestoga's remaining 120,483 continuing education students equal 36 percent of the local labour force. (See Technical Note 4) In other words, through its continuing education activities *alone*, the College helps renew about 36 percent of the labour force. And equally important is the fact that because of their age, circumstances or previous education, many of these workers were among the communities' most vulnerable.

As is the case with the College's graduates, continuing education students also pursue their studies across a wide range of occupations. However, limitations in the data prevent a more detailed set of observations.

C. Training and Development

In addition to the roles played by Continuing Education courses in the ongoing renewal of the labour force, the College's Training and Development activities directly serve employers as training partners. The College provides training-needs analysis, training plan development and custom designed courses delivered in highly flexible formats. Courses can be delivered either in the College's facilities or at the employer's workplace and the needs of shift workers can also be accommodated. These training sessions can be as short as several hours or a day or as long as an intensive 44-week course.

It should be noted that these custom-designed and highly flexible approaches are absolutely necessary to parallel the rapidly shifting and varied demands of the labour markets. Moreover, it is important not to undervalue the contributions made by short training sessions. Indeed, when trying to facilitate either social or economic change, it is often as important to affect a large number of persons in a small way as to affect a few people in a major way. Given the range of demands placed on the labour market each approach is valued in its own context.

Of course, the active involvement of many employers, as partners, validates the College's approach, and their willingness to pay for this training confirms that value is indeed being delivered. Uniroyal Goodrich, Equitable Life Insurance, COMDEV, Budd Canada, Toyota, J.M. Schneider, Linamar, and Dana Canada, among others, have publicly expressed their support for the value of the College's Training and Development activities. A sample selection of client employers is presented in Table 9.

Table 9

**Training and Development
Sample Client List by Industry**

Primary Industries: 2

Agriculture & Agri-Food Canada
New Holland Canada Ltd.

Manufacturing Industries: 67

3 L Filters
ABB Inc.
Advanced Technologies Centre
Allied Signal
Alpha/Owen Corning
APICS
ARISS Manufacturing
Autocomm Manufacturing
ATS Automation Tooling Systems
Brake Parts Inc./Dana Canada
Budd Canada
Burlington Technologies
Canadian General Tower Ltd.
Carelift Equipment
Cemtol Manufacturing Ltd.
Check Free I -Solutions
Cluett Peabody Canada Inc.
Coats Bell Inc. Toronto,
Collins & Aikman Plastics Ltd.
Comtech Manufacturing
Corvex Manufacturing
Custom Foam Systems Ltd.
Dashwood Industries
Dofasco Inc.
Emtol Manufacturing Inc.
Eston Manufacturing
FAG Bearings
Fasco Motor
Forintek Canada Corp., Ottawa
Forsheda Silofab
General Seating of Canada Inc.
Genfast Manufacturing
Gerdau Courtice Steel
Guelph Products Textron
Guelph Tool & Die
Hastech Inc.
Hematite Manufacturing
Imperial Tobacco Division of Imasc.
Intertech Systems
John Forsyth Shirt Company
Johnsonite Ltd
Kanevet
Keene Wilelite
Lear Corporation
Linamar Corporation
Linex Manufacturing Inc.

Nova Steel
Orenda Aerospace Corporation
Owens Corning Canada Inc.
Parish Structural Products
Polycon Industries
PWO Canada Inc.
Quadrad Manufacturing
Roctel Manufacturing
Rockwell Electronic Commerce
Silvercreek PKW EXT
Speer Canada Inc.
Sybase Inc.
Talon International Machine
Tenneco Automotive
The On-Site Group
Toyota Motor Manufacturing Canada
Traxle Manufacturing Inc.
Uniroyal Chemical, Crompton
United Springs Ltd.
W.C. Wood Company
Wescast Machining

Wholesale Trade Industries: 2

Kane Veterinary Supplies Ltd.
McCordick Glove and Safety

Retail Trade Industries: 1

Ridgehill Ford

Finance and Insurance Industries: 3

Gore Mutual
Insurance Brokers Association
Manulife Financial

Business Service Industries: 3

Metroline Research Group
Payton Consulting
Textiles Human Resources Council

Government Service Industries: 3

Air Force
NAV Canada
Town of Erin

Education Service Industries: 1

St. Clair College of Applied Arts

Health and Social Services: 1

McKesson, Grand River Hospital

Other Service Industries: 1

IBEW Local 804

Total Sample: 84

Source: Conestoga College, Financial Data

It is estimated that at least 30,000 participants were served by Training and Development in the last decade. Excluding those who also graduated from the College or who also took Continuing Education courses, about 21,300 individuals participated in Training and Development activities exclusively. See Technical Note 6.

D. Labour Market Value

The scale of the value created by Conestoga can be inferred by comparing the numbers who have received education or training from the College to the local labour force. Table 10 summarizes comparison.

Table 10

**Conestoga College's Contribution
to the Local₁ Labour Force
in 2001**

	Number Trained and Educated by the College	Percent of Local₁ Labour Force₂
Graduates	32,993	10.0
Continuing Education ₃	120,483	35.9
Training & Development ₄	21,300	6.4
Total	173,293	52.3

1: Waterloo Region, Guelph and Stratford

2: Local Labour Force 331,363

3: Career-related, not counted above

4: Not counted above

In other words, those who have received educational services from the College equal half the labour force. However, since there are limitations in the available data used to calculate the above numbers, they should be considered “best estimates”. In order to avoid the danger of overstatement, the proportion of the labour force served by the College is restated more conservatively. Thus, it can be concluded with confidence that those local residents who have received educational services from the College equal **at least** 40 percent of the local force. (See Technical Note 8). Whichever number is used, there is no doubt that this exceptional accomplishment has been indispensable to the economic prosperity of the local communities. No other educational institution is more important to the area economy.

E. Productivity Value

While Conestoga graduates make many intangible contributions to the local area (discussed in more detail in Section F), it is also useful to place an economic value on the contribution they make to their employers. By examining the income of the College's local diploma and certificate holders, an explicit estimate can be calculated for *part* of the economic value of *part* of the College's teaching services. The College's local graduates are worth at least what their employers pay them, a payment that reflects the employers' estimation of their productivity.

At 1995 income levels, today's local graduates earned an estimated 1.266 billion dollars. (See Technical Note 7). This is thus a partial reflection of the value the College has created through its graduates for the local economy. Of course, the value at 2001 income levels is higher, equal to about 1.476 billion dollars. Again, in order to be conservative, it can be concluded that local graduates are earning **at least** 1.266 billion dollars. See Technical Note 8.

This value, it must be emphasized, excludes the economic value of the increased productivity generated by those persons who have taken advantage of the College's career-related continuing education courses or of its training and development offerings.

F. Intangible Value

Volunteers

Educated persons invariably bring intangible benefits to the communities in which they live. While these benefits are effectively impossible to measure, they include both economic and social value. Whether they bring their special skill to a volunteer job or their knowledge to a public debate, whether they organize the construction of a neighbourhood playground or blood donor clinic, the community's quality of life is enhanced.

The College's own staff are also active volunteers in the community. Table 11 provides a sample of the organizations involved.

Table 11

Sample of Volunteer Organizations with College Staff Participation

Cambridge Arts Festival
Cambridge Business Improvement Association (BIA)
Cambridge Chamber of Commerce Board of Directors
Cambridge Memorial Hospital Foundation
Cambridge YMCA
Canada's Triangle Economic Development Corporation
Canadian Cancer Society
Canadian Latin American Health Foundation
Central Ontario District of the Purchasing Management Association of Canada
Chicopee Ski Club
Childfind
Communitech
Council of Ontario Construction Program
Grand River Hospital
Guelph Chamber of Commerce
Habitat for Humanity
Halton Board of Education
Halton Regional Museum Foundation
Halton Regional Police Services Board
Halton Woman's Place
Heart and Stroke Foundation
Kitchener Minor Softball
Kitchener Public Library
K-W Ambulance In-Service Training Committee
K-W Chamber of Commerce
K-W Community Foundation
K-W Habilitation Services
K-W United Way
Lutheran Church
Milton Historical Society
Mon Shong (retirement home in China Town in Toronto)
Nassagaweya Historical Society
Oktoberfest Publications Committee
Ontario Association of Non-Profit Homes and Services for Seniors
Ontario Skills Canada
Provincial Government Task Force on Long Term Care
Race City Speedway in Calgary
The Tennis Club at Chicopee
United Way of Cambridge & North Dumfries
Waterloo Regional Heart Save
World Wildlife Fund
WSIP Mentors and Champions Program
YWCA

Source: Conestoga College

Moreover, the business community volunteers its time to the College to ensure that programs are tailored to the skill requirements of the students' future employers. More than 300 employers are involved and the Program Advisory Committees have more than 450 members. A current listing of the participating employers is presented in Table 12.

Table 12

**Members of the Program Advisory Committees
Consolidated List of Current Employers**

Advanced Design & Drafting Inc.	Community Care Access Centre of Waterloo Region
AGRA Monenco Inc.	Community Justice Initiatives
Agraturf Equipment Ltd.	CompX Waterloo
Ainsworth Inc.	Concordia Club
Akhurst Machinery Ltd.	Conestoga-Rovers & Associates
Ampersand Studies	County of Huron
Angstrom Engineering	County of Perth
Annex Publishing and Printing Inc.	County of Wellington
ATS Automation Tooling Systems	Crawford Adjusters Canada
Avenue A - Integrated Marketing	Crompton Uniroyal Chemical
Avnet	Crown Attorney's Office
Avon & Maitland District School Board	CTV Inc.
Axmith McIntyre Wicht Ltd.	D&D Automation Inc.
B.E.S Laser Services Inc.	Dare Foods Ltd.
Babcock & Wilcox Canada	David Durwood Centre
Ball Construction Inc.	Department of Family Relations & Applied Nutrition
Barber Glass Ltd.	Deputy Police Chief (Retired)
Barber-Collins Security Services Ltd.	Deuce Design Inc.
Base Hospital Paramedic Program	Dfam Hospitality Group Inc.
Bell Canada	Diemaco
Bonnie Togs Ltd.	Dienamic Tooling
Brantford Fire Department	Dufferin-Caledon Ambulance
Breccia Management Corp.	Durham Furniture Inc.
Budd Canada Inc.	Eastwood Collegiate
Cambridge and North Dumfries Hydro	Economical Insurance Group
Cambridge Fire Department	EDCOM
Cambridge Memorial Hospital	Eller Media Canada
Cambridge Physio & Rehab Centre	Engel Canada Inc.
Canada Customs & Revenue Agency	Enhancements Productions
Canadian Red Cross Society	EXPLORE work-life possibilities
Career Transition Services Inc.	Extend-A-Family of Waterloo Region
Career/Life Skills Resources Inc.	Eyelight
Caessant Care Nursing & Retirement Homes Ltd.	Fagor Automation Canada
CBC Braodcasting Centre	Fairview Park Mall
CCT Inc., Engineering Personnel	Family and Children's Services
Central Ambulance Communications Centre	Financial Planner
CHUM Radio	FineStamping Inc.
CHYM FM/Newstalk 570	Fisher Rosemount Systems
City of Cambridge	Flo Components Ltd.
City of Kitchener	Forest Heights Collegiate Institute
City of Stratford	Franchisee (A&W Restaurants)
City of Waterloo	Freelance Designer
City of Waterloo Fire Department	Frontline Corporate Communications
CJOY, Magic-FM, The Zone	Frontline Environmental Management Inc.
CKCO TV	FutureBrand
CKWR 98.5 FM	G A Masonry
Clarica	Galt Collegiate Institute & Vocational School
Coca Cola	Gamsby & Mannerow
Collins Barrow	Gates Canada Inc.
Com Dev Ltd.	Gerrie Electric
Commnity Care Access Centre of Waterloo Region	Glenile Electric Ltd.
Community Action Program for Children	Globe Stamping Co. Ltd.

Gooderham Centre for Industrial Training
Grand River Hospital
Grand Valley Institute for Women
Groves Memorial Community Hospital
Guelph Collegiate
Guelph General Hospital
Guelph Police Services
Haldimand County EMS
Hanson Pipe & Products
Hewlett Packard (Canada) Ltd.
Holiday Inn
Home Hardware Stores Ltd.
Homewood Health Centre
Human Resources Development Canada
Husky Injection Molding Systems Ltd.
Impresa Communications Ltd.
In-House Solutions
Intercon Security Ltd.
Intrexa
IPC Securities Corporation
Johnson Controls
Karmax Heavy Stamping
Keene Widelite
Kidslink
King-Reed & Associates
Kitchener Fire Department
Kitchener Waterloo Collegiate Institute
Kitchener-Waterloo Record
KOOL FM Team 1090
Krug Inc.
Kuntz Electroplating Inc.
Langs Farm Village Association
Larmax Heavy Stamping
La-Z-Boy Canada Ltd.
Lear Corporation
Liburdi Engineering Ltd.
Lintool Manufacturing Ltd.
Linwood Fire Department
Literacy Group of Waterloo Region
Little Bear Day Care
Long Manufacturing
Longo Food Service Equipment Inc.
Luterwood - CODA
Lynn Communications Inc.
M.J. Lawrie & Associates
Macan Products Ltd.
Machinery Exchange
Magna Financial Controld Ltd.
Management Consultants
Manulife Financial
Marco Sales and Incentives Ltd.
MarketForce Communications Inc.
Maryhill Fire Department
Matlow Miller Harris Thrasher LLP
McKaskell Haindl Design Build Co.
Meikle Automation
Melloul-Blamey Construction Inc.
Meritor International Suspension Systems

Merryhill Golf & Country Club
META3+
Metafore
Metalworking Production & Purchasing Magazine
Metokote Canada Ltd.
Microsoft Canada
Mill Creek Motor Freight
Millennium Manufacturing Corporation
Milverton Fire Department
Ministry of Solicitor General & Correction Services
Ministry of Citizenship/Tourism
Ministry of Community and Social Services
Ministry of Finance
Ministry of Health
Ministry of Training, Colleges & Universities
Ministry of Transportation
Mitchell Plastics Ltd.
Mitra Imaging
Monsignor Doyle Separate School
Mosiak Communication and Events
MTE Consultants Inc.
NCR
Nedlaw Roofing Ltd.
New Hamburg Community Day Care
Oakwood Retirement Communities
Odyssey Health Services
Ontario Association of Youth Employment Centres
Ontario Provincial Police
Orchid Automation
Overdrive
Owl Child Care Services
Pace Consulting Group
Panasonic Factory Automation
Para-Med Health Services
Paris Kitchens
Parkwood Mennonite Homes
Parmalat Canada
Perth County Children's Aid Society
Perth County Community Care Access Centre
Peto MacCallum Ltd.
Pharmaceutical Sales Representative
Pheoenix Investigations
Physiotherapy Associates of Cambridge
Pigeon Canada Inc.
Pinnington Training and Development
Planning and Engineering Initiatives ltd.
PolyCon Industries
Prazair
PricewaterhouseCoopers
Psion Teklogix Inc.
Quadro Engineering
Quantum Communications Group Inc.
Ray of Hope
Raytheon Systems Canada Ltd.
Region of Waterloo
Region of Waterloo-Social Services Department
Regional Municipality of Waterloo
Research in Motion Ltd.

Ridley Windows
Rieder, Hymmen & Lobban Inc.
Riverbend Place Retirement Centre
Robinson Environmental Services
Rockwell Automation
Rogers Television
Rosmar Drywall & Acoustics Ltd.
Rotary Children's Centre
Royal City Ambulance
Royal LePage Crown Realty Services Inc.
RPN
RPNAO Designate
Rural Response for Healthy Children
RWDI
Santec Consulting LTD.
Schaller Tool & Machine Inc.
Schneider Foods
Schulre Associates
Sentex Communications
Sexual Assault Support Centre
Siemens Canada Ltd.
Signal-Star Publishing Ltd.
Solution Tech Systems Inc.
Southwood Secondary School
Sowa Tool & Machine Co. Ltd.
Spaenaur Inc.
Spinic Manufacturing Co. Ltd.
Sportsworld
SST
St. Joseph's Hospital and Home
St. Mary's General Hospital
Stack-A-Shelf
Stantec Consulting Ltd.
Steed and Evans Ltd.
Stone Road Mall
Stratford Fire Department
Stratford General Hospital
Stratford Police Service
Strite Industries Ltd.
Sunnyside Home
Sunnyside Senior Public School
Sunox Industrial Gases & Welding Products
TAB Software
Taurus Craco Machinery Inc.
TD Canada Trust
The Cambridge Reporter
The New PL
The Record
The Walter Fedy Partnership

Timberjack Inc.
Totten Sims Hubicki Associates Ltd.
Town & Country Support Services
Tradewood Industries Ltd.
Trios Catering Company
True North Insulation Ltd.
Twin City Dwyer Printing Co. Ltd.
UBJ - Boehringer Inc.
Uniroyal Goderich
United Way
Unitron Industries Ltd.
University of Guelph
University of Waterloo
US Filters
Vehcom, Division of Linamar
Victim Services Wellington
Village of Winston Park
Virtek Vision Corp.
VON Waterloo, Wellington, Dufferin
W.C. Wood Company Ltd.
Waterloo Catholic School Board
Waterloo Heights
Waterloo Oxford District Secondary School
Waterloo Region District School Board
Waterloo Region Homes for Mental Health
Waterloo Regional District School Board
Waterloo Regional Police Services
Waterloo Rural Child Care
Waterloo Wellington Flight Centre
Wee Watch Home Child Care Programs
Weld-Tech Manufacturing Ltd.
Wellington Dufferin CCAC
Wellington Terrace
Wescast Industries
White Rose
Wilfrid Laurier University
Winnen Construction Inc.
W-K Insulation
Womans Crisis Services of Waterloo Region
Woodworking Magazine
Workside Day Care Centre
XDG Metal Fabrication Inc.
Young Publishing
YWCA of Cambridge
Zehrs Markets
ZTR Control Systems

Source: Conestoga College, PAC Database

College Facilities

In addition to these contributions, the College's facilities provide a wide range of direct community services.

For example, 358 children are enrolled in Child Care centres at the six College sites, and over 1,030 children a year enrol in summer and hockey camps at the College.

The College's Recreation Centre provides an exceptionally important community resource. An estimated 26,000 persons use the facility annually for a variety of special events.

Sports groups using the Recreation Centre include: Men's Provincial Indoor Soccer Championships (2001 and 2002), Mens Regional Indoor Soccer Championships 2002, Canadian Mens Hockey Championships 2001, Summer Youth Hockey League, Community Indoor Soccer League, Community Adult Summer Hockey League, Kitchener Minor Hockey Blueline Tournament, Turcote Stickhandling Hockey School, Rick Heinz Goalie School, Ray McKay Defencemen School, Ontario Progressive Hockey School, Kitchener Minor Hockey Association, GRVCA Volleyball Tournament, Ontario Futsal Championships, Doon Pioneer Park Community Association Volleyball Tournament, WCSSAA High School Badminton Championship, District 8 High School Badminton Championships, Chung Oh Tae Kwon Do Championships, CWOSSA Badminton Championships, Parents Without Partners Volleyball Tournament, Kitchener Kicks Karate Tournament, National Baton Competition, and Tri-City Feish Irish Dance Competition.

Community and business groups using the Centre include: March Break Camp, Regional Skills Competition (Elementary Schools), Golden triangle Cat Fanciers Cat Show, OPSEU Family & Children Services Meeting, Doon Public School Graduation Ceremonies, Laurentian School Graduation Ceremonies, ATS Annual General Meeting, Canadian Craft Management Craft & Antique Show, and Southwood Secondary School Graduation.

Also, thousands of persons attend Christmas parties hosted by such companies as ATS (Cambridge), Zehrs Markets, Clarica, ATS (Kitchener), NCR Canada, Electrohome/Christie Digital, Economical Mutual, McDonald Steel, Com-Dev, Hogg Fuels, Local 1524 (Lear-Siegler), Krug Furniture, and Lutherwood-CODA.

Naturally, the Recreation Centre is also used for the College's own Intramural and Varsity sports, Convocation Ceremonies and Nurses Pinning Ceremony. Hourly rentals are available for community leagues and a range of other uses from public skating to fitness classes. Membership in the new Fitness Centre is available to the public. Altogether more than 126,000 participants use the Centre annually.

Openness to Change

The most important intangible contribution of educated persons arises from their demonstrated willingness to learn. This serves as a role model to others, a vital influence on both younger and older alike. An equally important consequence of the willingness to learn is the openness to change, being prepared to learn one's way through a new set of circumstances, whether of challenges or opportunities.

Openness to change is utterly essential to a community's ability to adapt at any level. In a dynamic, if not tumultuous world, to fail to adapt is to invite disastrous disadvantage. Learning new responses is indispensable for either social or economic adaptation, for the development of a new public policy, a new charitable service, or a new product for the marketplace.

But the point is to not merely acquiesce in whatever change appears to be imminent; rather, the goal must be to shape and direct change for maximum social advantage. This is the educated person's most critical responsibility. That this effort cannot be precisely measured, in no way detracts from its central importance.

However, the relative scale of the College's intangible contribution can be inferred from Table 13.

Table 13

**Conestoga College's Contribution
To the Community's¹ Adult Population**

	Number Trained and Educated by the College	Percent of Local¹ Adult Population
Graduates	32,993	7.9
Continuing Education ²	158,730	38.0
Training and Development ³	21,300	5.1
Total	213,023	51.0

- 1: Waterloo Region, Guelph and Stratford; population equals 419,295
- 2: Not counted above, includes personal development courses
- 3: Not counted above.

The scale of the College's service to the community involves half the adult population. And, again, to be conservative, it can be concluded that the College's service to the community involves **at least** 40 percent of the adult population.

G. Resources Attracted by the College

Conestoga College is a significant-sized organization and requires concomitant financial resources. Between 1991 and 2001, the College attracted more than half a billion dollars of resources. Details are present in Table 14.

Table 14

Financial Resources Attracted by the College

	2001	1991-2001
Operating Revenue		
Operating Grants and Government Contracts	32,988,687	429,965,404
Tuition and Student Fees:		
Full Time Programs ₁	11,306,565	68,244,985
Continuing Education ₂	5,074,449	32,864,274
Other Student Fees ₃	1,748,419	9,622,135
Contracted Educational Services ₄	2,198,994	28,755,668
Ancillary Operations	6,268,443	45,085,303
Day Care	2,031,566	23,838,582
Other Income ₅	1,194,771	8,353,052
Total	62,811,894	646,729,403
Capital Revenues₆		
Grant	2,363,015	8,464,376
Fundraising	897,505	3,554,823
Total	3,260,520	12,019,199
Other	236,990	583,672
Total	3,497,510	12,602,871
Total	66,309,404	659,332,274

Source: Conestoga College's Financial Reports 1991 to 2001.

Note 1: Tuition and Student Fees: Full Time Programs is comprised of Full Time Post Secondary Program tuition, Full Time Short Program tuition, Full Fee Recovery Programs and Student Assistance Program

Note 2: Part Time Courses and Seminars was renamed Continuing Education (pay per hour only)

Note 3: Miscellaneous Student Fees was renamed Other Student Fees and included under Tuition and Student Fees

Note 4: Majority of Contracted Educational Services is from the Training & Development Dept.

Note 5: Miscellaneous Income was renamed Other Income

Note 6: Capital Revenues based are based on an amortized value. 1991-1997 Financial Statements do not include Capital Revenues Section (government policies changed, 1998 was first year capital revenues was required to have a section on financial statements)

A considerable proportion of these resources is injected back into the community, to the community's clear benefit. However, this benefit is not the purpose for which the College exists, and it should not be used to infer the College's value. Moreover, the bulk of these resources arises from the public sector and represents tax resources originating in the local area.

Technical Note 1

Estimated Residential Location of Conestoga College Graduates

Alumni Affairs at Conestoga College tracks the location of diploma and certificate holders according to the addresses used to mail the College's alumni magazine, Connections. Alumni listed in the database as “Active” have current addresses and these addresses can be searched by municipal location. Of the College's 54,760 graduate alumni, 32,867 are “active”. That represents 60 percent of the total and should be considered a significant success with regard to maintaining contact between the College and its alumni.

However, 16,024 student files are “unprocessed,” not fully added to the database. Of the alumni fully processed, 38,736, only 6,049 are actually “lost,” meaning that they had a current address and now no longer do. In other words, the proportion of alumni actually “lost” is only 15.6 percent of those fully processed. That represents a highly successful tracking of students.

In order to accurately reflect the residential location of the College's graduates, the total of lost and unprocessed, the “uncertain,” are attributed to various jurisdictions in the same proportion as the “actives” actually are. In other words, it is assumed that the total “uncertain” reflects the same residential choices as do the “actives.” This same procedure is used to estimate the number of local graduates by program and occupation.

This is a realistic assumption since the number of actives is so large a proportion of the total that it is a more than an adequate “sample.” Secondly, there is no reason whatsoever to believe that the “unprocessed” exhibit any different characteristics from the “actives.” While it might be assumed that the “lost” are indeed lost because they have moved “far away,” that is, that they are behaving differently from the “actives,” there is no particular reason to believe that this is the case. If anything, those alumni who move further away from the local area have a greater incentive to stay in touch through the Alumni magazine and therefore to keep their address current. The alumni who stay closer to the local area may be more tempted to let their

current address lapse because they believe that they will know what the College is doing through the local media, and that in any event their College friends are living nearby. Details are presented in Technical Table 1.

Technical Table 1
Conestoga College Graduates
By Residence

Place	Active	% of Total Actives	Uncertain ₁	Total
Total	32,687	100.00	22,073	54,760
Canada	32,611	99.77	22,022	54,633
Ontario	32,092	98.18	21,671	53,763
Catchment Area	23,857	72.99	16,110	39,967
Urban Core	19,694	60.25	13,299	32,993
Waterloo Region	15,670	47.94	10,582	26,252
Kitchener CMA	15,530	47.51	10,487	26,017
Guelph	3,237	9.90	2,186	5,423
Stratford	787	2.41	531	1,318

Source: Conestoga College Alumni Database

Note 1: Uncertain numbers are comprised of lost and unprocessed numbers

Note 2: All numbers are as of July 24, 2002

Note 3: There are no double counts

Note 4: As of July 24, 2002 total lost was 6,049 and total unprocessed was 16,024.

Technical Note 2

Estimated Local Labour Force

Unfortunately, local labour market figures are not yet available for the 2001 Census. Except for the Census, employment figures for areas smaller than a Census Metropolitan Area (CMA) are unavailable. The CMA figures are themselves estimates based on the monthly Labour Force Survey. This is a serious limitation when you are trying to track employment year-by-year. It is less so as is this case, when we want an estimate of the total local labour force (Waterloo Region, Guelph and Stratford) for a single year. An estimate also becomes more feasible when the estimate is for a jurisdiction whose economy is consistently successful over long periods of time.

The labour force of Waterloo Region is calculated by increasing the 1996 Census figure (220,920) by the rate that employment in the Kitchener CMA grew between 1996 and 2001 (13.4 percent). This assumes that there is no significant difference in the employment performance of the Kitchener CMA and that of the larger jurisdiction of Waterloo Region. This also assumes that the proportion of unemployment stayed the same.

The Guelph and Stratford labour force figures are calculated by increasing the 1996 Census figures at the respective rates at which their populations grew between 1996 and 2001. This assumes that the employment to population ratio is unchanged.

Because of these varied assumptions, the actual labour force figures from the 2001 Census will be different from those used here. However, there is no reason to believe that they will be different to the degree that would distort the purpose to which they are put in this document. Given the large number of College graduates, Continuing Education students and Training and Development participants, changes in the actual labour force figures are not expected to alter the basic observations involved. Details are present in Technical Table 2.

Technical Table 2

Estimated Local Labour Force

	Local Labour Force 1996 Census	Estimated Labour Force 2001
Waterloo Region	220,920	250,523 ₁
Guelph Census Area	58,560	64,825 ₂
Stratford	15,655	16,015 ₃
Total	295,135	331,363

1: Increased by 13.4 percent, the rate at which employment in the Kitchener CMA is estimated to have increased between 1996 and 2001; Source: HRDC

2: Increased by 10.7 percent, the rate at which population grew between 1996 and 2001; Source: 2001 Census.

3: Increased by 2.3 percent, the rate at which population grew between 1996 and 2001; Source: 2001 Census.

Technical Note 3
Estimated Post-Secondary Graduates in the Local Area

Educational attainment figures for the local area are not yet available from the 2001 Census. In order to estimate the figures for 2001, the 1996 figures for the local areas were increased by the rate at which they rose in the previous census period for the broader area (Waterloo Region and the Counties of Perth and Wellington). This should produce a reasonably accurate estimate, until the Census becomes available. Details are presented in Technical Table 3.

Technical Table 3
Estimated Post-Secondary Graduates
in the Local Area

	Waterloo Region	1996		Total Local
		Guelph	Stratford	
College Certificate/Diploma Holders	58,245	13,045	4,340	75,630
University Certificate Holders	12,705	3,410	765	16,880
University Degree Holders	41,770	14,745	2,170	58,685
Total				151,195

	1996	Historical Rate of Growth 1991-1996	Estimated Number 2001
		College Certificate/Diploma Holders	75,630
University Certificate Holders	16,880	20.0% ₂	20,256
University Degree Holders	58,685	23.3% ₁	72,359
Total			184,581

1. Calculated by Community Benchmarks for Waterloo Region and the Counties of Perth and Wellington.
2. Not available in time series, assumed to be similar to other educational levels.

Technical Note 4 **Continuing Education Students**

From 1990 to 2001 (as processed to July 24, 2002), the College's database reveals that 141,291 individuals took continuing education courses and that the course registrations themselves equalled 372,994. Although computer records do not go back further than 1990, the known scale of the previous activity makes very clear that at least 25,000 other individuals were students in Continuing Education in this previous period. As a result, this document will use 166,291 as the best *minimum* estimate of Continuing Education students.

It is also known that the vast majority of Continuing Education students are from the local area as defined. However, it is also the case that some will no longer be living in the local area or that they commuted from some distance. Nevertheless, the estimate for students from before 1990 was set especially low to account for those students no longer in the local area. Therefore, this document treats 166,291 as the minimum number of persons who remain in the local area. This number represents 40.0 percent of the local adult population. See Technical Note 5.

For other purposes we also wish to know how many Continuing Education students have also received a certificate or diploma. The 1990 to 2001 database indicates that 6,436 graduates (4.5 percent of the total) also took Continuing Education courses and are included in the 141,291 total. Excluding those graduates, then 134,855 persons took only Continuing Education courses. Allocating the previous 25,000 similarly, 1,125 persons received diplomas or certificates and 23,875 did not. Altogether therefore, 158,730 students took only Continuing Education courses and 7,561 also received diplomas or certificates, for a total of 166,291.

Technical Note 5
Estimated Local Adult Population

The local adult population is a summation of the adult figures for Waterloo Region, Guelph and Stratford, where adults are defined as those 20 years or older. Details are in Technical Table 5.

Technical Table 5
Local Adult Population
2001

	Total	Adult Total (20 years or older)
Waterloo Region	438,515	316,710
Guelph	106,170	78,630
Stratford	29,676	22,116
Total	574,361	417,456

Source: Census 2001

Technical Note 6

Estimated Training and Development Participants

The activities of the Training and Development division of the College take two forms: registrations of individual participants, and training sessions that are created specifically for employers and for which an exact count of the participants is not available.

Participant registrations for the academic years 2000-01 and 2001-02 equalled 7,498, representing 5,213 unique individuals. Since it appears that the scale of Training and Development was consistent for at least the present decade, it is reasonable to assume that at least 25,000 individuals participated in the “registered” courses.

To account for the “non-registered” sessions, it is assumed that at least 5,000 unique individuals participated over the same time period. While we know that many more thousands participated, some were the same individuals taking more than one course or session. Therefore, mindful of the need to be conservative where there are no recorded counts, it appears to the College that the above estimate is correct as a minimum.

Together at least 30,000 persons participated over the past decade. In order to avoid double counting in other measurements, we can also exclude those participants who were already College diploma or certificate holders. The data for 2001-01 and 2001-02 showed that 209 participants were also graduates of the College, 4 percent of the total. We should also account for the fact that some of the Training and Development participants have also taken Continuing Education courses, although we do not know to what degree. Since these students have less incentive to take Continuing Education courses because they are already receiving career-related training in an alternative form, it appears reasonable to assume that no more than 25 percent have taken Continuing Education courses in addition to their training session.

Therefore, the 30,000-person count will be reduced by 29 percent to 21,300. This almost certainly under estimates the true number. The latter figure is used in Sections D and F to avoid double counting.

Technical Note 7 Estimated Productivity Value

The productivity value of the local Conestoga graduates can be estimated from their total income. The average income for an Ontario College graduate (diploma or certificate holder) was \$38,442 in 1995. (From the 1996 Census; Ontario Universities 2000/Resource Document: Council of Ontario Universities)

Thus, today's 32,933 local graduates would have earned approximately \$1,266,010,386 at 1995 income levels, assuming all were employed.

If the average income of a college graduate rose at the same rate as did average weekly earnings in Ontario between 1995 and 2001 (16.6 percent), the average income of a college graduate in 2001 would be \$44,823. The total income of local graduates would then equal 1.476 billion dollars.

It has been argued by some that the value of the College's contribution is not equal to the graduates' salaries, but to the difference between the income of the college graduate and to that of a secondary school graduate. In this way, the contribution of each level of education could be accounted for separately. This approach has been rejected for the following reasons.

There is no doubt whatsoever that each level of education builds on the work of the previous level. That is true for the secondary school, college or university. And it is equally true that elementary schools benefit from the support of the student's family. However, while this chain of cumulative effects should be acknowledged, it does not alter the fact that employability is the key determining fact.

Most of the net new jobs created in the 1990s went to those with post-secondary qualifications. Those with only secondary school graduation now have limited to non-existent employment opportunities. As a practical matter, high school graduates are no longer a relevant comparison for college graduates.

This document does not assert that Conestoga College is solely responsible for the productivity of its graduates. Indeed, that would deny the contribution of the students themselves. Rather, it points out that by completing the students' education, the College made them employable, and that this employment is worth approximately \$1.476 billion.

Technical Note 8

The preceding Technical Notes describe how the various statistics in this report were calculated. The base data has a number of limitations requiring several methodological assumptions. Taken together, we believe that the resulting values represent “best estimates” and that no material distortion is present.

However, to err on the side of caution and to avoid the danger of overstating, several of the calculated values are summarily reduced. This allows us to say without significant fear of contraction that the true value is “at least” as great as the reduced value.

In Section D, this means that the labour force impact was reduced from 52.3 percent to 40 percent, a reduction of more than 12 percentage points. In our opinion, this significant reduction would easily compensate for any anomalies in the data.

Similarly, in Section E, the income of local graduates is stated at 1995 levels, even though in 2001 it is considerably higher.

Also, in Section F, the College’s service to the adult population is reduced from 51.0 percent to 40 percent, a significant reduction of 11 percentage points.