CITY OF WINDSOR ANNEXED AREA MASTER PLAN STUDY

EMPLOYMENT ANALYSIS

Prepared for:

Corporation of the City of Windsor
Windsor, ON

Prepared by:

Stantec Consulting Ltd.
800-171 Queens Avenue
London, ON   N6A 5J7

Tel: 519-645-2007
Fax: 519-645-6575

614-01073

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4.1 INTRODUCTION

The City of Windsor's economy is strongly influenced by the automotive industry with a large proportion of its workforce employed directly or indirectly by that sector. As an industry, it tends to require substantial amounts of contiguous space (land and buildings) for the primary manufacturing facilities as well as land in good proximity for related suppliers of parts, etc. If sufficient land is unavailable for new plants or spin-off businesses, opportunities to expand this sector of the economy are missed and associated growth for the City of Windsor is curtailed. While the importance of the automotive industry to the City of Windsor cannot be overstated, it is equally important that sufficient land in appropriate locations be available for non-automotive uses and industry to promote diversification and stability in the local economy.

The need for new, serviced industrial land has been identified by the City of Windsor, the Ministry of Municipal Affairs and Housing and the Windsor-Essex County Development Commission. The annexed land presents significant opportunities for future industrial growth given its proximity to the airport, railway lines and Highway 401. New industry that requires large, unencumbered tracts of land with access to various means of transportation is likely to be attracted to this area for future development. By allocating sufficient lands for long-term industrial and related development, the City and Windsor-Essex County Development Commission will be better able to promote Windsor as a preferred location for new investment.

4.2 APPROACH

Determination of land requirements for industrial and other employment uses (e.g. – retail / commercial, office, etc.) was undertaken in the following manner:

- Review of documents and studies regarding industrial / employment strategies and policies for the City of Windsor to review the potential implications that they might have on land needs requirements;
- Review of land consumption / absorption data provided by the City of Windsor and Windsor – Essex County Development Commission;
- Review of recent trends / inquiries related to large scale manufacturing uses that would be likely to locate in the City of Windsor;
- Analysis of population projection data prepared by the City of Windsor in context with labour force characteristics and translation of that data into employment projections and land / space requirements by general sectors.

4.3 TRENDS AND ASSUMPTIONS

4.3.1 Employment and Labour Force Trends

Employment in the City of Windsor is dominated by the automotive industry. It is estimated that one in five jobs is directly or indirectly dependent on the automotive sector.[1] A review of available data and reports revealed that approximately 28% of the region's labour force in 1996 was employed by the manufacturing sector, with the automotive industry directly employing 34% of that manufacturing labour force. Data from 2001 substantiates the continued dominance of that sector, with approximately 33% of Windsor's experienced labour force employed in manufacturing and construction, as shown in Table 4.1.

More detailed industry sector breakdowns, classified according by the North American Industry Classification System are provided in Appendix 1. A comparison of that information with 1991 and 1996 data provided for the Windsor-Essex region[2] indicates that the Windsor labour force is very similar to the region's labour force and that there has been relatively little change in the composition of the labour force since 1996.

Table 4.1
EXPERIENCED LABOUR FORCE BY SECTOR

Sector	1986	1991*	1996*	2001	% (2001)
Agriculture / Resource	n/a			1,140	1.1%
Manufacturing / Construction	n/a			33,920	32.92%
Wholesale / Retail	n/a			13,910	13.50%
Finance / Real Estate	n/a			3,660	3.55%
Health / Education	n/a			15,015	14.57%
Business Services	n/a			13,600	13.20%
Other Services	n/a			21,790	21.15%
Total Experienced Labour Force	97,560	95,520	98,100	103,035	
Employed Labour Force 15 & Over	87,730	83,080	89,275	97,495	
Participation Rate	65.0%*	64.7%*	62.1%	63.4%	
Employment Rate		n/a	n/a	58.7%	
Unemployment Rate	11.3%*	11.8%*	9.0%	7.5%	

Source: Statistics Canada * Denotes statistics for Windsor CMA Area

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1 Windsor-Detroit International Trade Gateway Analysis Strategy Report.

2 Windsor-Essex Regional Analysis Working Report, September 2001.

Statistics Canada data shows that the overall labour force participation rate (male and female combined) in Windsor was 63.4% in 2001, with an employment rate of 58.7%.[3] The total number of employed persons grew by 8.4% between 1996 and 2001, continuing a healthy trend that has been in place since 1991. These figures provide a clear indication that the population growth that occurred in Windsor since 1996 was able to find work over that same period. Participation in the labour force has continued to remain relatively stable since the 2001 census based on other data estimates as shown in Table 4.2.

Table 4.2
ESTIMATED LABOUR FORCE – CITY OF WINDSOR

Sector	2001	2002	2003
Employed Males	56,627	55,729	57,359
Participation Rate (Male)	71.7%	70.5%	70.7%
Employed Females	46,013	45,630	47,834
Participation Rate (Female)	54.5%	55.3%	55.5%

Source: Financial Post Markets – Canadian Demographics as supplied by Windsor-Essex Development Commission.

Manufacturing is expected to remain the largest employment sector over the twenty year planning horizon. General employment stability is predicted by various sources, with some growth anticipated in the manufacturing and automotive sector over the short term. However, for the purposes of determining employment growth projections and associated land area requirements, it is assumed that the relative proportion of workers by industry sector will remain generally the same as existed at the time of the 2001 census.

4.3.2 Industrial Land Consumption

An investigation of the average amount of land that is absorbed on an annual basis also provides information to assist in determining land requirements for industrial and associated uses. Information obtained from the Windsor-Essex County Development Commission regarding land absorption over the past 10 years is summarized in Table 4.3.

[3] The distinction between 'participation rate' and 'employment rate' is as follows: Participation rate refers to the labour force (employed and unemployed) in the week prior to the census; Employment rate refers to the number if persons actually employed in the week prior to the census. Both rates are expressed as a percentage of the total population age 15 years of age and over.

Table 4.3
INDUSTRIAL LAND ABSORPTION RECORD

Year	Land Absorption (ha)	Year	Land Absorption (ha)
1993	18.2	1998	27.1
1994	15.2	1999	52.2
1995	16.5	2000	45.3
1996	15.7	2001	21.9
1997	39.2	2002	22.3
1993-1997 Average	**20.96 ha (51.8 acres)**	**1998-2002 Average**	**33.8 ha (83.5 acres)**
10 Year Average – 27.4 ha (67.7 acres)			

Source: Windsor-Essex County Economic Development Commission

Land consumption for industrial purposes in the City of Windsor has increased over the past five years (1998-2002) averaging approximately 34 hectares (84 acres) per year. This is a substantial increase from the previous 5 year period, which saw approximately 21 hectares (52 acres) per year absorbed. This is indicative of new development as well as expansion within the automotive sector and other industries.

According to the Windsor – Essex County Development Commission, there is only approximately 20 hectares (50 acres) of serviced, uncommitted industrial land available to meet the needs of future growth and diversification. Some additional designated, unserviced land also exists within the former City of Windsor boundaries but the size of these land parcels is generally insufficient for any type of significant industrial or business park development. Discussions with commercial realtors who work in the Windsor area confirmed that there is a relatively strong demand for serviced industrial land and buildings at the present time, but that there is little supply to meet the demand.

The potential for increasing industrial development and associated land demand is further strengthened by the recent completion of the Brighton Beach power plant which provides greater security for uninterrupted power in the Windsor area. This is a critical need for large scale industrial facilities. As a result, it is anticipated that the demand for industrial land will be stronger in the future so long as a supply is available.

Another indicator of the strength of the industrial and related sectors is building permit activity. Recent statistics provided by the Building Division confirm that there has been strong activity in the industrial, commercial and institutional sectors, as shown in Table 4.4.

Table 4.4
BUILDING PERMIT SUMMARY – DOLLAR VALUE (MILLIONS)

Type of Space	1996	1997	1998	1999	2000	2001	2002
Industrial	$33	$96	$57	$40	$120	$44	$47
Commercial	$67	$213	$38	$74	$42	$102	$68
Gov't. / Institutional	$10	$55	$34	$58	$25	$27	$151

Source: Infrastructure Services Building Unit / Building Department Annual Reports (1998 through 2002)

The importance of the industrial sector and its level of investment in Windsor over the longer term is also demonstrated by the following statistics[4]:

- Total industrial construction / development between 1985 and 2002 has added approximately 19.1 million square feet to industrial space allocation in Windsor;
- Total building area devoted to the industrial sector is now at approximately 60 million square feet;
- Annual total industrial investment beyond 'bricks and mortar' has been in the $1 billion range since 1991.

4.3.3 Large Scale Manufacturing Enterprises and Special Needs

Because Windsor plays such a key role in the Ontario and national economy, particularly as it relates to the automotive sector, it is important to look beyond just the historical trends as they relate to industrial land consumption. Key points identified by various studies prepared for the Windsor-Essex County Development Commission underscore this need.

- The Ford Centre of Excellence in Manufacturing (FCEM) at St. Clair College is expected to have a positive impact on the manufacturing sector as it will train employees that are needed to service the primary industry in Windsor[5]. With a skilled and available workforce, new plants / industry are more likely to establish in the Windsor area creating increased demand for industrial lands.
- Growth in jobs related to Windsor's exports expanded by approximately 87% between 1990-1997 and is expected to double over the next decade provided that there is sufficient infrastructure development in the region.[6] Key growth industries are automotive, machinery and electronic equipment.

[4] Figures provided by Paul Bondy, Windsor-Essex County Development Commission
[5] Windsor –Essex Regional Analysis
[6] Windsor-Detroit International Trade Gateway Analysis Strategy Report

- Employment in machine, tool, die and mold (MDTM) shops doubled between 1991 and 1999 and is a strong component of the automotive business development strategy.[7]
- Greater stability is forecast in the automotive industry as a result of the macro-environment with fewer drastic fluctuations.[8]
- Overall prosperity in the automotive sector is expected to create opportunities to attract new parts manufacturing and machine, tool and die investment.[9]

While studies indicate that the prospects for a new "greenfield" automotive manufacturing plant in Windsor may be limited before 2010, it is also stated that it is highly likely that new assembly plants will be constructed in North America within the next ten years[10]. This underscores the importance of having sufficient land available so that Windsor can be considered for future manufacturing facilities, should they proceed.

Based on these strategies and policies, additional information was obtained regarding the typical area of land area that has been utilized / required for newer, state-of-the art automotive manufacturing facilities and is summarized in Table 4.5. This data reveals that the average amount of land consumed for such development is approximately 500 hectares.

Table 4.5
TYPICAL LAND REQUIREMENTS FOR NEW MAJOR AUTOMOTIVE MANUFACTURING FACILITIES

Company	Location	Area	
		Hectares	**Acres**
Toyota	San Antonio, TX	809	2,000
Toyota	Georgetown, KY	526	1,300
Toyota	Princeton, Ind	469	1,160
Toyota	Cambridge, ON	162	400
Honda	Lincoln, Ala	546	1,350
Nissan	Smyna, TN	315	778
Mercedes Benz	Pooler, GA	607	1,500
BMW	Spartanburg, SC	364	900
Hyundai	Montgomery, Ala	648	1,600
Average		**494**	**1,221**

7 Automotive Sector Strategic Plan
8 Ibid
9 Ibid
10 Ibid

The potential for large scale manufacturing facilities would also have a significant impact on employment in the City of Windsor. It is estimated that a new plant such as Daimler Chrysler would create approximately 1,000 jobs in the assembly plant with a further 1,500 positions created for parts and suppliers. It is also estimated that every one of these direct jobs results in approximately four "spin-off" jobs[11]. As a result, the construction of a large scale manufacturing facility (automotive related or similar) has the ability to create a total of approximately 12,500 direct and indirect new jobs in the City and surrounding area.

Other specialized employment / land needs that should be considered in the Windsor context relate to opportunities presented for multi-modal facilities. Information obtained from Canadian Pacific Railway revealed that there is considerable interest and preliminary planning on the part of CP to establish new rail facilities in conjunction with any new large scale manufacturing facilities that located in Windsor. These long-term plans, intended to capitalize on the proximity of the rail line to the airport, major highway routes (i.e. – Highway 401, EC Row Expressway, Lauzon Parkway) and existing and potential industrial lands, would offer significant opportunities for efficient multi-modal transportation.

Specific components of a multi-modal facility would likely include an automotive compound, marshalling yard, box car facility, inter-modal area, expressway product area, etc. It is CP's intent to partner with the trucking industry to increase the efficiency and cost-effectiveness of both modes of transportation. CP has estimated that the land requirements for such a facility would be approximately 200 hectares (500 acres), however, these requirements are somewhat flexible and likely could be reduced if the facility was planned in conjunction with a specific manufacturing / industrial enterprise. Key aspects that would be required for this type of multi-modal facility would be as follows:

- Large tract of unencumbered land with a relatively long configuration to allow for the large turning radii that is required for railways;
- Close proximity to airport and major highway corridors;
- Good separation from residential or other sensitive land uses;
- As few highway / street crossings as possible.

A range of transportation infrastructure improvements and better integration of various transport modes has been identified as being important to facilitate anticipated increases in trade flows at the Windsor/Detroit gateway[12]. The long-term,

[11] Windsor – Essex County Development Commission.

[12] Transportation Economics & Management Systems, Inc. Windsor-Detroit International Trade Gateway Analysis Strategy Report, March 2000.

multi-modal vision proposed by CP Rail is one component of a larger strategy that can help address some of these gateway-related transportation needs. Consideration should be given to providing appropriately located and sized lands to facilitate multi-modal opportunities in the future.

4.3.4 Location of Employment

Windsor plays a significant role as an employment centre for residents within the City itself, as well as for many people who live outside the municipality but who work in the City. This factor must be considered when generating employment projections and associated land area requirements. Analysis undertaken in 2001 revealed that approximately 70% of the jobs within the Windsor- Essex area are located in the City of Windsor. At that time, it was determined that 108,535 jobs existed in the City of Windsor in 1996 as compared to a labour force that numbered approximately 82,000. This resulted in a "jobs/labour force ratio" of 1.32 in 1996.[13] In other words, the equivalent of an additional one-third of Windsor's labour force worked in the City but did not reside within its boundaries. This is particularly evident in some municipalities (LaSalle and Tecumseh) where over 70% of the labour force is employed within the City of Windsor.

No updated statistics are available at this time to provide a current 'jobs to labour force' ratio. However, discussions with the Windsor-Essex County Development Commission indicate that the ratio is unlikely to have changed significantly since 1996 based on the levels of economic investment that have occurred in both the City and the region. If any change has occurred, it is more likely to be higher based on anecdotal evidence observed by the Development Commission. The 'jobs/labour force' ratio is also expected to be relatively stable in the future given that a larger proportion of jobs are expected to be created in the City of Windsor (65%) than in the County (35%)[14].

Given these factors, it is assumed that the 'jobs to labour force' ratio is still 1.32 and that this ratio will remain constant over the projection period. When this ratio is applied to 2001 labour force statistics, the resulting estimate of the number of jobs in Windsor is 115,830 as shown in Table 4.6. It should be noted that the labour force figure used to estimate the 'baseline' number of jobs excludes transient workers and those working outside of Canada (approximately 10% of the total labour force), consistent with the 1996 methodology used by MMAH.

[13] Ministry of Municipal Affairs and Housing, Windsor-Essex Regional Analysis Working Report, 2001 (page 45).
[14] Ministry of Municipal Affairs and Housing, Windsor-Essex Regional Analysis Working Report, 2001 (page 48).

Table 4.6
ESTIMATED EMPLOYMENT BASED ON JOBS / LABOUR FORCE RATIO

	1996*	2001**
Employed Labour Force		97,495
Workers Outside Canada		4,825
No Fixed Workplace		4,920
Resulting Labour Force	82,000	87,750
Ratio	1.32	1.32**
Total Jobs	108,535	115,830

* Source – Windsor – Essex Regional Analysis, 2001

** Ratio is assumed to be the same as that which existed in 1996.

4.4 EMPLOYMENT PROJECTIONS

Employment projection estimates for the twenty year planning period have been determined by two methods.

- Activity Rate Projection Method
- Employment Growth Rate Projection Method

4.4.1 Activity Rate Projection Method

The activity rate projection method is outlined in the Projection Methodology Guideline document provided by the Ontario government. It relies on the determination of an activity rate for a given municipality that is then applied to the projected population. Statistics Canada also provides employment rate data, based on the employed population age 15 and over. The use of the employment rate instead of the activity rate is also considered an appropriate alternative to test employment projections, based on discussions with MMAH. As the employment rate relates to the population over the age of 15, it better reflects the proportional age characteristics of the future population than the activity rate (i.e. – a larger proportion of the total population will be over 15 years of age and likely to be employed by the year 2021). Employment projections determined by the activity / employment rate method in this report are based on the following assumptions:

- Employment rates will remain generally consistent with those existing in 2001 for the duration of the planning period;
- The medium case population growth projection scenario, as prepared in Section 2 of this report, is used as the reference scenario.

Table 4.7 summarizes a comparison of the projected population as derived by using the activity rate and employment rate data. Employment growth is greater when determined using the employment rate as the basis rather than the activity rate. This takes into account the fact that by 2021, there will be a smaller percentage of the population under the age of fifteen than exists in 2001 due to an aging population in combination with fertility rate trends.

Table 4.7
EMPLOYMENT PROJECTIONS – ACTIVITY / EMPLOYMENT RATE METHOD

ACTIVITY RATE BASIS			EMPLOYMENT RATE BASIS		
	2001	**2021**		**2001**	**2021**
Total Population	208,425	244,811	Projected Population Over 15		204,965
Activity Rate	55.6%	55.6%	Employment Rate	58.7%**	58.7%
Estimated # of Jobs*	115,830*	136,115	Employed Population	97,495	120,314
Total New Employment	**20,285**		**Total New Employment**	**22,819**	

**Source: Statistics Canada, Stantec Consulting *Note - Figures may not calculate precisely due to rounding.

It should also be noted that the total employment derived using the employment rate basis determines the number of jobs that would be anticipated only for the population living in Windsor. Given the jobs / labour force ratio that exists in Windsor and is expected to continue, the total number of new jobs at the end of the planning period would likely be closer to 27,000 as shown in Table 4.8 if other factors (i.e. – proportion of population working outside of Canada, etc.) remained the same. This represents an annual increase of approximately 1.17% per year.

Table 4.8
ESTIMATED FUTURE EMPLOYMENT USING
EMPLOYMENT RATE BASIS AND JOBS / LABOUR FORCE RATIO

	2001 Estimate	**2021 Estimate**	**Change**
Employed Labour Force	97,495	120,314	22,819
Workers Outside Canada	4,825 (5%)	6,016 (5%)	
No Fixed Workplace	4,920 (5%)	6,016 (5%)	
Resulting Labour Force	87,750	108,282	20,532
Assumed Jobs / Labour Force Ratio	1.32**	1.32**	
Total Jobs	115,830	142,932	27,102

** Assumed ratio, based on 1996 data.

4.4.2 Employment Growth Method

Future employment projections were prepared based on three scenarios reflecting different growth rate assumptions. To determine applicable growth rate scenarios, Statistics Canada data between 1981 and 2001 was analyzed and average annual growth rates calculated over five, ten and twenty year periods as shown in Table 4.9. These growth rates ranged from just under minus 1 percent to nearly 2 percent per year.

Table 4.9
EMPLOYMENT GROWTH RATES

	1981	1986	1991	1996	2001
Employed Labour Force 15 & Over	79,820	87,730	83,080	89,275	97,495
Average Annual Growth Rate Over 5 Year Period		1.98%	-1.06%	1.49%	1.84%
Total Employment Growth Rate – 1991 - 2001			17.35%		
10 Year Average Annual Employment Growth Rate (1991-2001)			1.74%		
Total Employment Growth Rate – 1981 - 2001			22.14%		
20 Year Average Annual Employment Growth Rate (1981-2001)			1.11%		

Source: Statistics Canada data

As recent studies predict greater stability in the automotive and manufacturing sectors in Windsor as a result of the macro-environment with fewer drastic employment fluctuations as have occurred in the past, the growth rate scenarios assumed for employment projections are as follows:

- Low growth scenario assumes an annual growth rate of 0.5%. This is slightly above the poorest ten year average of approximately 0.4% between 1986 and 1996.
- Medium Growth scenario assumes a 1.0% annual growth rate, reflecting the twenty year average;
- High growth scenario assumes an annual growth rate of 1.75%, reflecting the ten year average between 1991 and 2001.

These rates are all below employment growth rate forecasts provided for Windsor by the Conference Board of Canada for the 2003 to 2005 timeframe which ranged from 1.9 to 2.2 percent. It should also be noted that the average annual employment growth rate of 1.84 percent that was achieved between 1996 and 2001 nearly doubled the City's previous high case scenario assumption of 1.0 percent[15]. As the various scenarios are assumed to remain constant over the twenty-year planning period, there must be some recognition that economic conditions and employment growth rates fluctuate over time as a result of unpredictable national and international factors. Consequently, the growth rate scenarios provided above are intended to reflect a relatively conservative approach. It is also assumed that the proportion of employees by labour force sector will remain generally consistent with those found in 2001.

Applying these rates to the 2001 employed labour force, as adjusted to account for the jobs/labour force ratio, results in additional employment growth ranging from approximately 11,669 to 46,141 new jobs as shown in Table 4.10. Full calculations are provided in Appendix 2. Projected employment figures, in terms of the estimated additional jobs by industry sector, are provided in Tables 4.11, 4.12 and 4.13.

Table 4.10
EMPLOYMENT GROWTH PROJECTIONS (TOTAL EMPLOYMENT)

Employment Scenario	Annual Increase	2001 Employed	2021 Estimate	# of New Jobs
Low Growth	0.50%	115,830	127,980	12,150
Medium Growth	1.00%	115,830	141,335	25,505
High Growth	1.75%	115,830	163,874	48,044

Source: 2001 base data reflects Statistics Canada data as adjusted to account for jobs/labour force ratio

[15] The Vision in Action: Employment Analysis, October 1996 report assumed growth rates of 0.5%, 0.75% and 1.0% for the low, medium and high case employment growth scenarios.

Table 4.11
EMPLOYMENT GROWTH PROJECTIONS BY INDUSTRY SECTOR – LOW SCENARIO

Growth Rate - 0.5% per Year				
Sector	**2001 Actual**	**2001 Adjusted**	**2021 Estimate**	**# of New Jobs**
Agriculture / Resource	1,079	1,282	1,416	134
Manufacturing / Construction	32,096	38,132	42,132	4,000
Wholesale / Retail	13,162	15,637	17,277	1,640
Finance / Real Estate	3,463	4,115	4,547	432
Health / Education	14,208	16,880	18,651	1,771
Business Services	12,869	15,289	16,893	1,604
Other Services	20,618	24,496	27,066	2,570
Total Experienced Labour Force	97,495	115,831	127,981	12,150

* Note – 2001 industry sector totals have been adjusted to reflect employed labour force, assuming the same proportions per sector as exist for the total labour force.

Table 4.12
EMPLOYMENT GROWTH PROJECTIONS BY INDUSTRY SECTOR – MEDIUM SCENARIO

Growth Rate - 1.0% per Year				
Sector	**2001 Actual**	**2001 Adjusted**	**2021 Estimate**	**# of New Jobs**
Agriculture / Resource	1,079	1,282	1,564	282
Manufacturing / Construction	32,096	38,132	46,528	8,396
Wholesale / Retail	13,162	15,637	19,080	3,443
Finance / Real Estate	3,463	4,115	5,021	906
Health / Education	14,208	16,880	20,597	3,717
Business Services	12,869	15,289	18,655	3,366
Other Services	20,618	24,496	29,890	5,394
Total Experienced Labour Force	97,495	115,831	141,336	25,505

* Note – 2001 industry sector totals have been adjusted to reflect employed labour force, assuming the same proportions per sector as exist for the total labour force.

Table 4.13
EMPLOYMENT GROWTH PROJECTIONS BY INDUSTRY SECTOR – HIGH SCENARIO

Growth Rate – 1.75% per Year				
Sector	**2001 Actual**	**2001 Adjusted**	**2021 Estimate**	**# of New Jobs**
Agriculture / Resource	1,079	1,282	1,814	532
Manufacturing / Construction	32,096	38,132	53,948	15,816
Wholesale / Retail	13,162	15,637	22,123	6,486
Finance / Real Estate	3,463	4,115	5,822	1,707
Health / Education	14,208	16,880	23,881	7,001
Business Services	12,869	15,289	21,631	6,342
Other Services	20,618	24,496	34,656	10,160
Total Experienced Labour Force	97,495	115,831	163,875	48,044

*Note – 2001 industry sector totals have been adjusted to reflect employed labour force, assuming the same proportions per sector as exist for the total labour force.

A comparison of the employment projections determined by the two methods indicates that employment growth projections using the employment rate method are very similar to that generated by the medium case scenario using the growth rate method.

4.5 EMPLOYMENT PROJECTION ADJUSTMENTS

Prior to determining land needs requirements for industrial, commercial and related lands, the projected employment figures require some adjustments to reflect factors related to type of work, place of work, workplace expansions / intensification, etc. These adjustments are necessary as different types of employment require differing amounts of land per employee due to the specific nature of the work. As well, not all new jobs created will require additional land area to be provided.

4.5.1 Employment Categories

The projected employment growth has been further subdivided into the following categories, consistent with those categories previously defined by the City of Windsor and the Ministry of Municipal Affairs and Housing:

- Primary jobs – includes those jobs related to agriculture and the resource industry;
- Employment land jobs – includes those jobs related to manufacturing, construction, trades, transport, utilities and wholesale fields of work;

- Population jobs - includes those jobs associated with education, health, finance, business, government, arts and culture, recreation, food, personal services and similar occupations.

Based on a review of industry sector and more detailed occupational data provided by Statistics Canada, the projected employment growth is expected to be split into these categories as shown in Table 4.14. Employment jobs are further broken down into ‘heavy’ and ‘light’ categories based on information provided by the City of Windsor Planning Department as these two types of industry typically have different land needs requirements as a result of their operations.

Table 4.14
FUTURE EMPLOYMENT BY GENERAL CATEGORY

		2021					
	%	Low		Medium		High	
		Total	New	Total	New	Total	New
Primary Jobs	1.1	1,416	134	1,564	282	1,814	532
Employment Land Jobs - Heavy	9.75	12,479	1,185	13,780	2,487	15,978	4,684
Employment Land Jobs - Light	29.25	37,437	3,554	41,341	7,460	47,933	14,053
Population Jobs	59.9	76,661	7,278	84,660	15,277	98,161	28,778
Total	**100.0**	127,990	12,151	141,345	25,507	163,886	48,047

4.5.2 Place of Work Adjustment

Statistics Canada data indicates that the vast majority of the labour force works at a ‘usual place’ (e.g. – plant, office, store, institution, etc.). A small proportion works at home and still others work outside of Canada. According to the 2001 census, approximately 2.7 percent of the labour force living in Windsor worked at home. Previous studies prepared in 1996 by the City of Windsor indicated that home employment ranged from 1.8% to 2.2% between 1981 and 1991 and assumed that an average of 2 percent of the population worked at home. More recent data indicates that this proportion has increased, as shown in Table 4.15, although there has been a slight decline between 1996 and 2002. The increased proportion of ‘at-home’ workers since 1991 may be indicative of greater flexibility in the workplace and technological advances that facilitate telecommuting, however, it is apparent that these levels have fluctuated to some extent over the past twenty years.

Table 4.15
WORK AT HOME LABOUR FORCE

	1981	1986	1991	1996	2001	2001 Adjusted
Employed Labour Force	93,275	102,303	104,920	89,275	97,495	115,830
Work at Home	1695	2254	2252	2,645	2,635	2,635
% 'At-Home' Workers	1.8%	2.2%	2.1%	3.0%	2.7%	2.3%
20 Year Average	2.4%					

When the proportion of 'at-home' workers is adjusted to reflect the total number of jobs estimated to exist in Windsor, approximately 2.3% of the jobs are 'at home' and would not require land area. However, for the purposes of determining employment related land requirements in this report, it will be assumed that 2.5 percent of the labour force will work at home. This is slightly above the twenty-year average as well as the 2001 adjusted proportion, but is intended to recognize that technological advances, increased workplace flexibility and demographic changes will likely result in more home-based workers in the future. It is assumed that this proportion will remain generally constant during the twenty year planning period.

It is also noted that approximately 5 percent of the labour force works outside of Canada. This factor was taken onto consideration when determining the jobs/labour force ratio and no further adjustments are considered necessary.

4.5.3 Major Office / Downtown Office Workers

For those jobs identified as 'population' jobs, it is reasonable to expect that some of them will be accommodated within the downtown core where major office uses are located. At the present time, the City of Windsor estimates that approximately 15% of all jobs in the City are located within the downtown core. The vast majority of these are assumed to be 'population jobs' related to business services, retail, government / institutional, entertainment, etc. rather than those associated with the employment land (i.e. – industrial) category. As a result, it is assumed that approximately 15% of the future 'population jobs' will also continue to be located in the downtown core and will not require additional land area to accommodate them.

4.5.4 Intensification Adjustment

It is anticipated that a certain proportion of new jobs will be accommodated within existing office / industrial buildings or lands that are underdeveloped (e.g. – plant expansions, etc.). Previous projections assumed that approximately 2% of new jobs would be accommodated in this manner. There is no information available that indicates a need to revise this figure, therefore the employment growth projections have been adjusted to reflect this assumption.

The foregoing allowances result in the following adjusted employment projections as shown in Table 4.16 for the three scenarios. It should be noted that the adjustments made for home-based work and intensification are assumed to be dispersed through all industry sectors, therefore have been deducted from the total employment growth that is anticipated to require additional land base to accommodate future needs.

Table 4.16
SUMMARY OF ADJUSTED EMPLOYMENT PROJECTIONS (2021)

	Low	Medium	High
Projected Additional Employment	12,150	25,505	48,044
Home Based Workers (2.5%)	304	638	1,201
Workplace Intensification (2%)	237	497	937
Major Office Workers (15% of Population Jobs)	1,043	2,190	4,125
Projected Employed Population Requiring Land*	**10,567**	**22,182**	**41,784**

* Note – Numbers may not add precisely due to rounding

4.6 CONCLUSIONS AND RECOMMENDATIONS SUMMARY

- The City of Windsor plays a dominant role, regionally, provincially and nationally, with regard to the automotive sector and as an international trade gateway. The importance of this role must be taken into consideration when determining land needs requirements for future employment and industry.
- Windsor has experienced strong economic performance in recent years, outperforming many other local economies. Future employment growth, while still expected to be dependent on the automotive sector to a large extent, is becoming increasingly diversified and less likely to experience drastic fluctuations due to cyclic economic conditions.
- Land absorption for industrial / business park purposes has been particularly strong over the past five years. There is little land available for future industrial / business park growth that is serviced or of sufficient size to accommodate interested purchasers / tenants.
- The employment growth rate method considered the most appropriate method for determining future projected employment as it best reflects various trends and factors (e.g. – jobs/labour force ratio) that should be considered for the Windsor context.

- The 'medium growth' employment projection should be adopted as the 'reference scenario' for determining future land needs requirements as it is based on the long-term (twenty year) average growth rate, rather than shorter term growth rates that may have been influenced to a greater extent by specific economic events.

- In addition to those lands calculated to be required for future industrial growth based on employment projections, additional land with close proximity to major transportation routes and servicing corridors should be set aside to accommodate potential large-scale manufacturing facilities and associated multi-modal transportation facilities.

4.7 REFERENCES

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Personal Communication

Paul Bondy, Development Commissioner, Windsor-Essex County Development Commission

Paul Kerry, Area Manager Business Development, Canadian Pacific Railway