

WINDSOR ANNEXED LANDS MASTER PLANNING STUDY

BACKGROUND STUDIES AND CONCEPT PLANS

INFORMATION SUMMARY

(REVISED JULY 3/03)

Prepared by Stantec Consulting

in association with

**City of Windsor
Pryde Schropp McComb, Inc.
IBI Group**



Stantec

POPULATION PROJECTIONS

KEY TRENDS AND FINDINGS

- Windsor’s population in 2001 was 208,402, an increase of 5.42% since 1996.
- Windsor’s rate of growth, although slightly lower than the CMA and County, was greater between 1996-2001 than between 1991-1996.
- Windsor contains approximately 68% of the CMA's population and 56% of the County's population
- Fertility rates and survival rates have remained relatively stable over the 1996-2001 period.
- International migration is playing an increasingly large role in total population growth locally, provincially and nationally.
- International immigration brought approximately 10,530 people to the City of Windsor. This represented over 92% of all immigrants to the CMA.
- Internal migration was lower than projected in 1996, meaning fewer people moved out of the City than expected.

ASSUMPTIONS

Factor	Low Case Scenario	Medium Case Scenario	High Case Scenario
Survival Rate	Constant at 1996-2001 average rate		
Fertility Rate	Constant at 1996-2001 average rate		
Immigration	8,750	10,529	11,300
Internal Migration	-5,000	-4,120	-3,000
Resulting Net Migration	3,750	6,409	8,300

POPULATION PROJECTIONS

	2001	2006	2011	2016	2021	Total Increase	% Increase	Average Annual Increase
Low Scenario	208,425	215,448	221,838	226,843	230,823	22,398	10.75	0.54%
Medium Scenario	208,425	218,467	228,263	236,948	244,811	36,386	17.46	0.87%
High Scenario	208,425	220,614	232,902	244,348	255,205	46,780	22.44	1.12%

RECOMMENDATIONS

- That the medium growth projection scenario be used as the ‘reference’ scenario.

HOUSING DEMAND PROJECTIONS

KEY TRENDS AND FINDINGS

- Household size has remained relatively stable over the previous five years at approximately 2.5 persons per dwelling.
- The rate of household formation exceeded the rate of population growth, with the total number of households increasing approximately 6% between 1996-2001.
- The tendency to live in apartments is highest for those under 25 with single family dwellings the primary choice of those over 30 years of age.
- Single detached dwellings are the predominant form of housing in Windsor, making up approximately 62% of the total supply.
- New housing construction has been strong over the previous seven years with an average of nearly 1,400 new units constructed annually. Single family dwellings have accounted for approximately 59 – 70% of all units constructed on an annual basis during that timeframe.
- Household ownership has increased over the previous five year period, with approximately 65% of all dwellings owned and the remaining 35% rented.

ASSUMPTIONS

- Headship rates by age group will remain relatively stable over the planning period.
- Household demand propensities within individual age groups will remain relatively stable.

HOUSING DEMAND PROJECTIONS

- The total number of dwellings projected to be required in the City of Windsor by 2021 is 104,287, of which approximately 64% will be single detached dwellings, 23% will be apartments (low and medium/high rise) and the remainder semi-detached, rowhouse and duplex.

TOTAL HOUSING DEMAND PROJECTION SUMMARY

Year	Single detached -	Semi-detached	Row house	Detached duplex / Apt.	Apartment < 5 storeys	Apartment ≥ 5 storeys	Projected Total
2001	52,590	3,335	4,485	3,255	11,820	8,290	83,775
2006	56,481	3,546	4,766	3,399	12,428	8,624	89,244
2011	60,061	3,724	4,994	3,521	13,038	8,920	94,258
2016	63,336	3,877	5,259	3,666	13,813	9,267	99,219
2021	66,612	4,030	5,469	3,812	14,743	9,621	104,287

Source – Statistics Canada 2003, City of Windsor

- The number of additional dwelling units projected to be required to accommodate the population in 2021 is approximately 20,521. The following table summarizes the number of units, by type, for each five year period.

PROJECTED NUMBER OF NEW DWELLING UNITS REQUIRED BY TYPE PER FIVE YEAR PERIOD

Period	Single detached -	Semi-detached	Row house	Detached duplex / Apt.	Apartment < 5 storeys	Apartment ≥ 5 storeys	Projected Total
2001-2006	3,891	211	281	144	608	334	5,469
2006-2011	3,580	178	228	122	610	296	5,014
2011-2016	3,275	153	265	145	775	347	4,960
2016-2021	3,276	153	210	146	930	354	5,069
TOTAL	14,022	695	984	557	2928	1331	20,512
%	68.4%	3.4%	4.8%	2.7%	14.3%	6.5%	

Source – Statistics Canada 2003, City of Windsor

Note – Numbers may not add up exactly due to rounding

CONCLUSIONS

- Single family housing is expected to account for approximately 68% of new housing demand over the twenty year planning period.
- Apartments (low and medium/high rise combined) are expected to account for approximately 21% of new housing demand with the remainder split between semi-detached, rowhouse and duplex forms of housing.
- Sufficient land will need to be provided in the City of Windsor and annexed lands to accommodate the projected demand for additional housing.

EMPLOYMENT ANALYSIS

KEY TRENDS AND FINDINGS

- Employment in the City of Windsor is dominated by the automotive industry, although the employment base is becoming more diversified.
- Approximately 97,495 over the age of 15 who live in Windsor are employed. Of that total, approximately 33% are employed in manufacturing and construction.
- Windsor is a significant employment centre within the region and it is estimated that there are approximately 115,830 jobs within the City of Windsor.
- The total number of employed persons in Windsor grew by 8.4% between 1996 and 2001, outpacing both population growth and household formation.
- Windsor's average annual employment growth rate between 1996 and 2001 was considerably higher than previously projected.
- It is expected that a larger proportion of new jobs created in the future will be located in Windsor (65%) than in the County.
- Industrial land consumption has averaged approximately 84 acres per year over the past five years, a substantial increase from the average of 52 acres per year for the previous five year period.
- Greater stability in the automotive industry is forecast in the future as a result of the macro-environment.
- Interest has been expressed over the past few years by large scale automotive companies for potential new assembly plants. CP Rail has also indicated interest in developing multi-modal facilities in conjunction with new manufacturing / automotive development.

ASSUMPTIONS

- Employment by industry sector will continue to be relatively similar to the current proportions.
- A jobs/labour force ratio of 1.32 will continue to exist in the City of Windsor.
- Low growth scenario assumes an annual growth rate of 0.5%, based on the lowest ten-year average growth rates over the previous twenty years.
- 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.

EMPLOYMENT PROJECTIONS

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

- Adjustments made to the employment projections to account for 'at-home' workers, workplace intensification and those working in the City Core results in the following employment figures for which land will be required.

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

RECOMMENDATIONS

- That the medium growth employment scenario be selected as the reference scenario for the purposes of determining future land requirements.
- That additional land be set aside to accommodate potential large-scale manufacturing and associated multi-modal transportation facilities.

LAND NEEDS REQUIREMENTS

KEY TRENDS AND FINDINGS

- There is approximately 762 hectares of vacant land designated and zoned for residential development within the former City boundaries. The majority of this land is located within five planning districts, with approximately 96 hectares dispersed among the other fourteen planning districts.
- Additional land is required primarily to accommodate new single family detached housing to meet projected housing demand needs.
- There is approximately 334 hectares of vacant land designated and/or zoned for industrial / business park development within the former City boundaries. Of this land, some is of inappropriate size / configuration for development and others is already owned and being held for future expansion needs and is therefore unavailable for purchase / development by potential users. It is estimated that the true vacant/ 'developable' industrial land available within the former City boundaries is approximately 82 hectares.
- There is approximately 78 hectares of land designated and/or zoned for commercial / office related uses within the former City boundaries.
- It is estimated that open space and institutional uses account for approximately 16.9% of total City lands at the present time based on existing zoning categories.
- The annexed lands contain a number of existing uses that are expected to remain over the long term, including clusters of residential and industrial/business park development, institutional and recreational uses (i.e. – churches, cultural centre, campground). These uses take up approximately 145 hectares.
- The Windsor Airport is expected to have some surplus lands in its southeastern quadrant. It is expected that total land requirements for the airport will be approximately 420 hectares.

ASSUMPTIONS

- Residential vacancy rates will average approximately 3.3% throughout the planning period.
- Intensification and infill will meet approximately 3-5% of single family demand, 25% of rowhouse and duplex demand and 50% of apartment demand, fulfilling approximately 14% of the overall projected housing demand.
- The 'holding capacity' of existing residential lands (including draft approved plans) is approximately 13,591 units of which approximately 3,500 units are expected to be single family units. The remaining capacity is allocated to semi-detached, rowhouse and apartment units based on existing zoning.
- Gross densities for new residential development are assumed to be:
 - Single family – 11 units/hectare
 - Semi-detached – 17 units/hectare

- Duplex/apartment – 20 units/hectare
 - Rowhouse – 34 units/hectare
 - Apartment – 75 units/hectare
- Employee densities are assumed to be:
 - 'Heavy' employment land jobs (i.e. - heavy manufacturing) – 30 persons/hectare
 - 'Light' employment land jobs (i.e. - light manufacturing / business park) – 18 persons/hectare
 - 'Population' jobs (i.e. – retail / office / education, etc.) – 65 persons/hectare

LAND NEEDS REQUIREMENTS

- The amount of additional land calculated to be required to accommodate future land needs is shown in the table below. The land needs requirements identified include those existing uses that are expected to remain within the annexed area over the long term.

SUMMARY OF TOTAL PROJECTED LAND NEEDS REQUIREMENTS

Land Use	Approximate Gross Area Required (ha)
Residential	809
Industrial / Business Park	842
Commercial / Office	136
Other (Open Space, Institutional)	89
SUB-TOTAL	1,876
Contingency (5% of Sub-total)	94
Airport	420
Existing Land Uses	145
TOTAL LAND REQUIREMENTS	2,536

* Note – Numbers may not calculate exactly due to rounding

RECOMMENDATIONS AND CONCLUSIONS

- The total land needs required to accommodate future housing and employment demand, including a contingency factor and allowances for 'other' (i.e. – open space and institutional), existing uses and airport requirements is open space are approximately 2,536 hectares.
- There is sufficient justification to designate the whole of the annexed lands for urban development within the twenty year growth period.
- An urban growth boundary within the annexed area will not be required.

NATURAL HERITAGE STUDY

The primary natural features investigated for this study were four woodlots (known as the Jefferson Woodlot, Shooting Range Woodlot, East Perimeter Woodlot and St. Louis Woodlot) located within and directly adjacent to the airport lands. Some investigation and consideration of the Little River corridor that runs from north to south in the eastern area of the annexed land was also undertaken. Tasks undertaken included:

- Review of background documentation;
- On-site field visits;
- Meetings with City of Windsor, Essex Region Conservation Authority and local interest groups.

KEY FINDINGS

- The combined area of the three woodlots is approximately 43 hectares (106 acres). The three woodlots meet the minimum size for being considered significant by the Province, City of Windsor and Essex Region Conservation Authority.
- The woodlots are unusual in their current isolation and lack of disturbance.
- The woodlots act as a core natural area and are connected to one another by drainage ditches which provide linkages for the movement of amphibians, reptiles and other small animals.
- The woodlots function as a migratory stopover location for many neotropical migrants as well as raptors.
- The three woodlots consist of 'natural' ash-elm communities with a significant number of other deciduous species including several rare species.
- The woodlots have limited representation in the Canada, Ontario and Essex region based on their mixture of Carolinian and southern deciduous woody plants.
- The diversity of the woodlots is relatively low.
- Unconfirmed sightings of threatened species (Butler's Garter Snake) within the woodlot areas have been identified and detailed inventories should be undertaken to confirm their continued presence.

OPPORTUNITIES AND CONSTRAINTS

- Opportunities exist to improve the linkages between the three airport woodlots through reforestation and appropriate stormwater management / drainage corridor improvements.

- The woodlots are located in close proximity to the airport. Appropriate management and containment of birds and wildlife within and around the woodlot areas is important for airport safety.
- Protection / recreation of natural habitat on both sides of the Little River would help improve the habitats and hydrologic conditions in the watershed.
- Opportunities also exist to replace drainage ditches with restored stream channels within and adjacent to the study area.
- The development of pedestrian and cycling trails (separated where possible) along the Little River corridor would allow for the extension and continuation of existing recreational trail systems in Windsor and facilitate the use of alternative modes of transportation.

RECOMMENDATIONS

- The airport woodlots should be designated as Environmentally Significant Areas and a Core Area in the Natural Heritage System for the Little River Watershed and protected in their entirety.
- There is a need to develop a management plan for the woodlots to address issues related to drainage and stormwater management, reforestation, trail management and recreational uses, non-native species control, buffer requirements, inventory and monitoring.
- A buffer width of 30 metres is proposed for all watercourses, consistent with the Essex Region Conservation Authority recommendations.
- Provision should be made to integrate recreational trails in the preferred land use concept at a conceptual level of detail at the appropriate time.

WINDSOR AIRPORT CONSIDERATIONS STUDY

KEY FINDINGS

- Predominant aircraft types at the Windsor Airport are multi-engine turboprops (Dash 8) and light-medium jets, with some larger commercial airliner charter operations using aircraft such as the Airbus A320.
- Domestic passenger traffic will see Dash 8 turboprop service phased out in favour of regional jets such as Bombardier's CRJ200.
- The airport focus is on passenger traffic. Significant growth or change in cargo traffic is not anticipated.
- An airport land use plan is in progress that may result in the relocation of the airport terminal building into the infield and establishment of other support facilities and commercial/aviation development around the terminal building.
- Future airport operations are not expected to require all of the land area that is currently owned by the airport. A significant portion of the southeast airport lands is expected to be declared surplus for future needs.
- New residential development and other sensitive land uses is not permitted in areas near airports above 30 NEF/NEP.

OPPORTUNITIES AND CONSTRAINTS

- Height restrictions will apply to a portion of the Study Area within the aircraft approach and departure surface areas.
- Restrictions exist within and around the airport property with regard to crop planting activities and open water bodies to minimize potential bird conflicts. Future stormwater management facilities within or near the airport will need to be appropriately designed to ensure that all safety criteria are met.
- Industrial development / operations adjacent to the airport must not generate excessive electromagnetic interference or smoke, dust or steam that would interfere with airport visibility. As a result, some types of industrial activities may not be appropriate in close proximity to the airport.
- NEF 30 contour lines (high growth scenario) extend to just south of Baseline Road, into the area occupied by existing residential and light industrial / business park development. New residential development cannot occur within this area.
- VHF/DF protection areas (for electronic systems) should be clear of metal structures and be protected from built-up areas. VHF towers could potentially be relocated, but cost / feasibility is unknown.

RECOMMENDATIONS

- The higher rate growth scenario, for purposes of NEF contours, should be protected to prevent future noise conflicts.
- New residential land use designations should not be proposed within the NEF 30 contour.

PRELIMINARY CONCEPT PLANS

Three preliminary concept plans have been prepared to illustrate potential options for the major land use designations that have been identified as requiring additional land. These concept plans have been prepared to obtain input from the public and other interested parties regarding preferences for the location and configuration of future land use designations. It is important to note the following facts about the preliminary concept plans:

- They are intended to be very conceptual in nature to illustrate general proportions and schematic representations of the various land uses.
- Individual property boundaries have not been taken into consideration as Official Plan land use designations are intended to be general in nature.
- Any alignments shown for potential future roads are both preliminary and very conceptual. They are presented to obtain input with regard to preferences for the general location (i.e. – in proximity to (or on) existing roads versus adjacent to the Little River corridor). The ultimate location of future roads will be determined by Class Environmental Assessments at the appropriate time.
- Institutional and open space uses are not shown on the concept plans with the exception of natural heritage areas identified as being worthy of protection. Such uses are assumed to be part of the various residential, commercial and industrial / business park designations. More specific identification of the location and extent of institutional and open space land uses will be determined during the preparation of secondary plans in the future, outside the scope of this study.

These preliminary concepts illustrate potential land use designations for the primary purpose of obtaining public and agency input regarding preferences. Feedback is particularly desired with regard to preferences related to the arrangement and location of various land uses such as:

- Nodal versus corridor development of commercial areas;
- Large blocks versus more dispersed allocations of industrial/business park and residential uses;
- Residential versus industrial/business park uses adjacent to agricultural uses in the neighbouring Municipality;
- More centralized versus perimeter locations for commercial, industrial and residential uses;
- General location of the Lauzon Parkway extension and other future transportation corridors;
- Limits of natural heritage / open space areas and preferred types of land uses adjacent to such areas.

A 'Preferred Concept' will be developed based on public and agency input, further study related to infrastructure opportunities and constraints, and additional analysis and refinement of the land needs requirements should updated information be obtained for some aspects of the Study.

GENERAL FEATURES OF PRELIMINARY CONCEPT PLANS

General features and assumptions that have been incorporated into all three preliminary concept plans include the following:

- Integration of existing residential subdivisions into proposed new residential designations;
- Assumption that farm properties will be redeveloped over time for new uses. Individual farm residences themselves may or may not continue to exist in the future, depending on the design and configuration of future subdivision and site plans.
- Road alignments for potential new transportation routes are very conceptual with regard to location, alignment and size. More precise delineation of these corridors will occur during Class Environmental Assessments for individual projects if / when they proceed.
- Land area identified for future airport lands is based on information provided by documents / discussions undertaken as part of the Airport Study component of this project.
- Proposed Natural Environment / EPA areas incorporate the airport woodlots and intervening lands where reforestation / appropriate stormwater management facilities are recommended as well as the Little River corridor and a drainage corridor south of Baseline Road which is expected to remain as an open corridor.
- Use of the 'high growth' scenario for the airport lands as the assumed Noise Exposure Forecast constraint.

CONCEPT 1

- The majority of residential development is concentrated in a central 'band' from the west to east limits of the annexed lands to provide maximum separation from the airport and Highway 401.
- Proposed residential development adjacent to the Lauzon extension alignment will require appropriate separation / noise mitigation measures to ensure that MOE noise criteria are met.
- Opportunities for integrating recommended cycling / pedestrian linkages with residential development along both sides of the Little River corridor are maximized.
- Residential development is also located in portions of the northeast blocks of land adjacent to Town of Tecumseh lands that are identified as 'Hamlet' area and expected to be developed primarily for future residential purposes.
- Industrial development is located adjacent to and south of the airport lands, along the full length of Highway 401, along Walker Road and in smaller areas in the northeasterly portion of the annexed lands east of the existing Lauzon Parkway. This provides accessibility and visibility, minimizes conflict between major transportation routes and sensitive land uses and is compatible with existing land use designations.
- Business Park development is proposed along the southerly limits of a future arterial / collector to take advantage of convenient transportation access and to provide a buffer between residential development and 'heavier' industrial development.
- Commercial designations are located at the easterly limits of the site, south of County Road 42 and on either side of the potential extension of Lauzon Parkway. This provides a concentrated nodal configuration that would serve a regional role for commercial / retail and office uses for the easterly area of Windsor as well as for the adjacent Town of Tecumseh to the east.

CONCEPT 2

- Residential development is located in a 'block configuration at the centre of the annexed lands, as well as at the easterly perimeter of the study area. Smaller areas of residential development are proposed in the 'finger' of land north of the EC Row Expressway and west of the Little River corridor.
- Residential development is separated from the future alignment of Lauzon Parkway by industrial / business park development.
- The potential extension of Lauzon Parkway is located somewhere between the Little River corridor and the easterly limits of the plan to provide greater separation from the Little River corridor.
- Industrial development is located on the former airport lands and primarily along Highway 401 and the future extension of the Lauzon parkway to facilitate access and visibility and to minimize the impact of noise / traffic on residential areas.
- Commercial development is proposed at the centre of the annexed lands at the intersection of 9th Concession Road and Baseline Road. It is intended to have a nodal configuration that is central to the residential uses.
- The existing 'Business Park' designation for lands in the northeast quadrant of the property between the CP rail line and the EC Row Expressway remains.

CONCEPT 3

- Residential development is focused in the western and northeastern areas of the annexed lands. A small area of residential designation is located at the eastern boundary to incorporate an existing residential cluster.
- Industrial development is located adjacent to the airport lands, the future extension of the Lauzon Parkway and Highway 401 at the westerly limits of the plan.
- Potential extension of Lauzon Parkway is located east of the Little River corridor and west of the existing County Road 17 to provide visibility and relatively convenient access to the proposed industrial lands and separation from residential uses.
- Business park uses provide some transition between residential and industrial designations.
- Commercial / retail / office development is proposed as a corridor in the midst of residential development to provide convenient access opportunities. A portion of the commercial development provides some transition / buffer between residential and industrial development.
- A second, smaller commercial area is located adjacent to Highway 401 to provide potential opportunities for those commercial / retail uses that require high visibility and/or close proximity to major transportation corridors.
- An open space area is located between the Little River corridor and Lauzon Parkway to provide an opportunity for extended greenspace / parkland and potential stormwater management facilities.
- The Little River corridor provides a buffer and distance separation between the proposed general alignment of the Lauzon Parkway extension and residential uses.