



## **Langley Nodes Charrette**

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SFU Surrey Centre  
Room 630, 13450 102 Avenue, Surrey, BC

**thursday 25 may:**

**welcome & plenary session**

8:30 to 10:00 Plenary session all

- Four-day Program and Logistics Fraser Basin Council/Deana
- SxD Overview: Regional Presentation Patrick Condon
- Design Charrette Agenda and Instructions Ray Straatsma
- Review Resources and Materials 1:500/1:2000 Ortho Base Maps, etc.

**working session**

10:00 to 12:30 Full Participant Teams

- CORRIDOR: Kingsway Burnaby
- NODE: 200<sup>th</sup> Street Township of Langley
- EDGE: East Ladner Delta

**lunch**

12:00-1:00

**working session**

1:00 to 5:00 Design Teams only

SFU Surrey Centre  
Room 630, 13450 102 Avenue, Surrey, BC

**friday 26 may:**

**working session**

8:30 to 12:00      Full Participant Teams

- CORRIDOR: Kingsway Burnaby
- NODE: 200<sup>th</sup> Street Township of Langley
- EDGE: East Ladner Delta

**lunch**

12:00 to 12:30

**mid-course correction**

12:30 to 1:00      Welcome & lunch all

1:00 to 2:00      Break-out presentations in work rooms

- Draft Sketches taped to wall
- Brief 15 minute presentation from each team Design Leader and Municipal staff
- 45 minute “Open House” Discussion of Draft Design results

**working session**

2:00 to 5:00      Design Teams only

SFU Surrey Centre  
Room 630, 13450 102 Avenue, Surrey, BC

**monday 29 may:**

**design review update**

8:30 to 9:30

**working session**

9:30 to 12:30      Full Participant Teams

- CORRIDOR: Kingsway Burnaby
- NODE: 200<sup>th</sup> Street Township of Langley
- EDGE: East Ladner Delta

**lunch (with team status reports)**

12:00 to 1:00      Each team will review work complete & to-be-done

**working session**

1:00 to late      Design Teams only



SFU Surrey Centre  
Room 630, 13450 102 Avenue, Surrey, BC

**tuesday 30 may:**

**working session (through lunch)**

- 8:30 to 1:00      Full Participant Teams
- CORRIDOR: Kingsway Burnaby
  - NODE: 200<sup>th</sup> Street Township of Langley
  - EDGE: East Ladner Delta

**working session**

- 1:00 to 2:00      Presentation preparation

**final presentation**

- 2:00 to 4:00      Plenary in SFU Surrey Lecture Theatre
- Draft Sketches taped to wall
  - 20 minute presentations from each team Design Leader and Municipali staff
  - 60 minute “Open House” review of Draft Design results

**section 1: instructions, background & resources** 

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## instructions

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The role of the design team is **to collectively design a concept plan that incorporates the goals, targets, and other design factors laid out in the Design Brief**. The final result will be a concept plan that achieves the vision identified by stakeholders and input received from experts through the workshop and charrette process. As such, it will represent a conceptual, sustainable plan for the study area that has been designed by the community.

In creating this design, the design team must apply the targets to the identification of constraints and illustration of possible resolutions to the design questions. These targets – developed from the goal and objectives established with input from the municipalities and representative stakeholders – are organized around the six Sustainability by Design principles:

- 1 GOOD AND PLENTIFUL jobs CLOSE TO HOME**
- 2 MIXED USE corridors ACCESSIBLE TO ALL**
- 3 FIVE MINUTE walking DISTANCE**
- 4 ACCESS TO natural AREAS AND PARKS**
- 5 LIGHTER, GREENER, CHEAPER, SMARTER infrastructure**
- 6 DIFFERENT housing TYPES**

To facilitate the application of these targets, the design team will initially be divided into three breakout groups responsible for two principles each. The focus of discussion and design for each breakout group are the key design questions, targets, and main outputs relating to their assigned principles. Each breakout group will examine existing conditions and opportunities/constraints, and will develop a series of strategies for achieving the targets within these conditions.

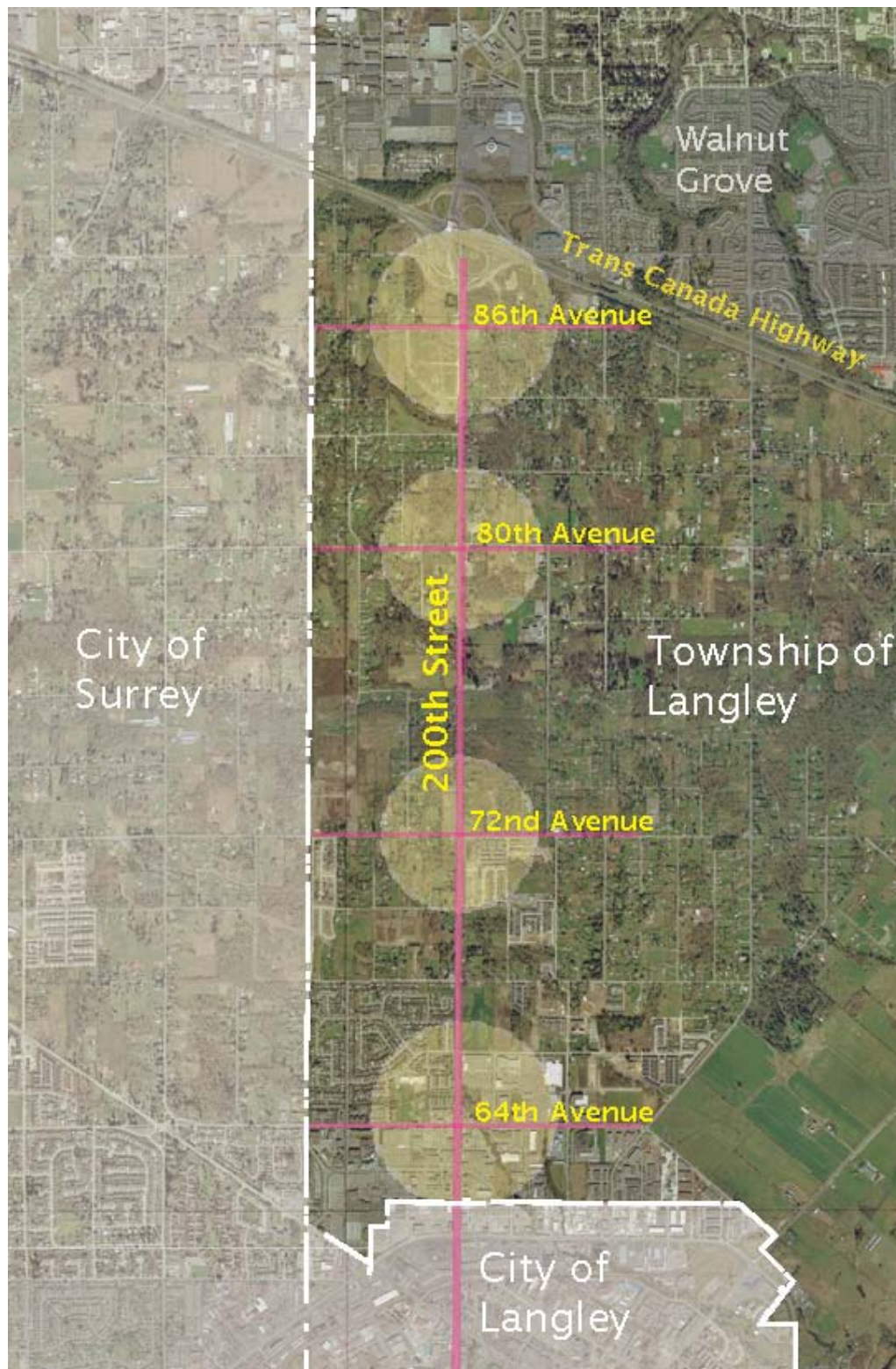
Once established, the breakout group strategies will be applied by the whole design team to the creation of a 1:2000 scale, colour illustrative plan representing the entire study area in 2050. Members from the individual breakout groups will provide the “expertise” on their relevant principles, targets and strategies. In developing the master plan, members from different breakout groups must negotiate with each other to resolve areas of overlap.

A flow of dialogue and information should be maintained between the breakout groups to negotiate areas of overlap between targets, and to draw on the expertise of participants assigned to other groups. Team members are encouraged to initiate dialogue with any other team member wherever appropriate.

And remember...think like it's 2050.

## map of study area

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## background

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The Langley Nodes charrette study area generally encompasses a five-minute walk (500 metres) on both sides of the 200<sup>th</sup> Street corridor, from the Trans Canada Highway in the north to the Township/City of Langley municipal boundary in the south. Along the 200<sup>th</sup> Street corridor, four key development nodes are identified: at 86<sup>th</sup> Avenue, 80<sup>th</sup> Avenue, 72<sup>nd</sup> Avenue, and 64<sup>th</sup> Avenue. These nodes, and the corridor that connects them are the focus of this charrette.

### **the Carvolth Business Neighbourhood**

86<sup>th</sup> Avenue @ 200<sup>th</sup> Street

The Carvolth node is located at the headwaters of Latimer Creek – an important salmon habitat – and within traditional Sto:lo territory. The area boasts views of the Coast Mountain Range. Carvolth is envisioned as an employment node.

### **the Sattelite Neighbourhood**

80<sup>th</sup> Avenue @ 200<sup>th</sup> Street

The Sattelite node should support the mixed use Willoughby Town Centre – located 1.5km to the east around 80<sup>th</sup> Avenue and 208<sup>th</sup> Street – with complementing land uses, strong pedestrian connections, and by physically “representing” the Town Centre at 200<sup>th</sup> Street. The Town Centre Sattelite is envisioned as a high-tech employment node with some neighbourhood commercial uses, and supporting residential densities. A tributary of Latimer Creek flows through the neighbourhood.

### **the Routley/Gordon Neighbourhood**

72<sup>nd</sup> Avenue @ 200<sup>th</sup> Street

This node remains largely rural in character, with clusters of vegetation and stands of mature trees, fragmented fields, perimeter plantations, and views to the north and south. The headwaters of Jeffries Brook and a tributary of Logan Creek are located within the neighbourhood, which is envisioned as primarily residential with supporting neighbourhood commercial uses at the centre.

### **the Edge Neighbourhood**

64<sup>th</sup> Avenue @ 200<sup>th</sup> Street

Together with the City of Langley, the Township has identified a dual centre development pattern for the Langley Regional Town Centre, including both Downtown and Willowbrook. The Edge node is at the north edge of and provides a key entry point into this Centre. This neighbourhood includes commercial, mixed-use, business and residential components.

### **Historic Soundbites<sup>1</sup>**

*The first inhabitants of the area were the Sto:lo of the Kwantlen band. Sto:lo is a Halkomelem word meaning “river”.*

*European settlement began in the Lower Mainland via the Nicomekl River. December 1824, James McMillan and his party of 40 men followed the Nicomekl, portaged to the Salmon River, and arrived at Derby Reach on the Fraser River, where Fort Langley was originally established as the first Lower Mainland European settlement.*

*When first paddling up the Nicomekl, James McMillan and his party were reportedly greeted by “thousands of beaver.”*

*200<sup>th</sup> Street was originally named Carvolth Road, after a young man who joined the World War I armed forces and went overseas to his death only a few weeks after having moved to the Langley community.*

*Although car ownership grew in the Twenties and Thirties from 1 car per 12 people to 1 car per 7 people, even in the 1950s the idea of a highway bypassing towns like Langley was considered “absurd” as “most of the traffic is heading for town anyway.”*

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<sup>1</sup> All Historic Soundbites taken from [The Greater Vancouver Book: An Urban Encyclopedia](#). Ed. Chuck Davis, Linkman Press, Surrey: 1997, pp.39, 111, 131, 164.

## design table composition

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### langley nodes:

200<sup>th</sup> Street @ 86<sup>th</sup> Avenue, 80<sup>th</sup> Avenue, 72<sup>nd</sup> Avenue, and 64<sup>th</sup> Avenue

This case study charrette is examining nodes. Nodes are key areas of concentration and connection, and have a fundamental role in both the spatial organization and identity of a community. These four nodes have been identified by the Township of Langley as areas of residential, commercial and employment densification. They are envisioned as points of connection between neighbourhoods, transportation and recreation corridors, and also as a series of identifiable community entry points along the 200<sup>th</sup> Street corridor.

Design Facilitator: Warren Byrd, Nelson Byrd Woltz Landscape Architects  
Process Facilitator: Jackie Teed, UBC Design Centre for Sustainability

<u>Breakout Group 1</u>	Jason Chu Gary MacKinnon Ben Taddei John Conicella Amy Hennessey Doug Patterson	Township: Strategic Planner Township: Economic Development Officer GM Development, Parklane Homes Wesgroup Director, Greater Langley C of C Landscape Architecture, UBC
<u>Breakout Group 2</u>	Paul Crawford Melissa Johnson Paul Cordeiro Sarah McMillan John Turner Elizabeth Anderson	Township: Manager, Long Range Planning Township: Planning Township: Manager, Transportation Engineering TransLink: Planner BFW Developments Resident
<u>Breakout Group 3</u>	Patrick Marples Ramin Seifi Al Neufeld Brad Badelt Elaine Anderson Rhys Griffiths	Township: Planner Township: Manager, Development Engineering Township: Manager, Parks Design/Development Township: Manager, Water Resources/Environ. Langley Environmental Partners Society Langley Field naturalists

## list of resources

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### Reference Documents

#### Node Team:

Langley Township Official Community Plan

Township of Langley, Willoughby Community Plan

Township of Langley, Willoughby: Routley Neighbourhood Plan

Township of Langley, Willoughby: Southwest Gordon Estate Neighbourhood Plan

Township of Langley, Willoughby: Carvolth Business Park Neighbourhood Plan

Willoughby Town Centre Plan

Township of Langley, Langley Town Centre Community Plan

Township of Langley, Walnut Grove Community Plan

Township of Langley, Northwest Langley Community Plan

*And don't forget section 5: visual resources in the back of this design brief!*

#### Online Resource:

<http://www.township.langley.bc.ca>

#### Shared Resources: Corridor, Edge, Node:

James Taylor Chair; Sustainable Urban Landscapes: The Surrey Design Charrette | 1996

James Taylor Chair; Sustainable Urban Landscapes: The Brentwood Design Charrette | 1999

City of Vancouver; Vancouver's New Neighbourhoods: Achievements in Planning & Urban Design | 2003

Jacobs, Allan B; Great Streets | 2001

Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities | *Institute of Transportation Engineers* (2006)

## **section 2: charrette goal, principles & objectives** ---



## charrette goal, principles & objectives

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The Langley Nodes charrette is a collaborative planning and design process that will create a long term, sustainable community vision for the development of four key nodes along the 200<sup>th</sup> Street corridor. The following goal, principles and objectives are intended to inform the charrette process and the design proposals arising from that process. The goal, principles and objectives are a distillation of local, regional, provincial and national policies.

### Charrette Goal

**Facilitate and implement a 50-year vision for a complete, vibrant and sustainable urban community, primarily centred within a 5-minute walk around four compact business, commercial and residential nodes of varying scales, located along the attractive main street – 200<sup>th</sup> Street –and capable of accepting 25,000 – 37,500 new residents in 13,900 – 20,800 housing units, and space for 15,550 – 22,250 new jobs by 2050.**

### Charrette Principles & Objectives

## 1 GOOD AND PLENTIFUL jobs CLOSE TO HOME

**Principle:** Sustainable communities foster local economic opportunities and growth. Residents can find employment close to home. Government policies and local infrastructure support local businesses and individual enterprise.

**Key Objective:** **Develop office, light industrial, business, and retail space that meets ongoing market needs; contributes to the Township of Langley's employment and tax base; helps achieve a more complete and compact community; alleviates pressure on the regional transportation infrastructure, and achieves a balance between provision of employment in Langley and its resident labour force.**

**Objectives:**

1. Develop high quality office and commercial land uses along the 200 Street corridor – focusing density at the four nodes – and including light industrial around the 200 Street interchange (WCP 3.2).
2. Continue to develop Langley Regional Town Centre as a regional concentration of jobs, housing, culture and recreation toward gaining recognition as a Regional Town Centre in regional and provincial planning for transit, regional development, and location of major institutions (LRSP p.11; LP pp.6(3), 12(2), 13(5); WCP 4.1.1.1).
3. Support regional and local Town Centres by concentrating higher density ground oriented housing, and integrating employment opportunities around Langley Regional Town Centre, 72 Avenue Neighbourhood Centre, 80 Avenue Neighbourhood Centre, each situated around the 200 Street corridor, as well as the nearby (LRSP p.11; LP p. 6(1); WP 2.1(3, 7).
4. Consider integration of residential uses at the Carvolth Neighbourhood Centre (LRSP p.11; LP p.6(1); WP 2.1(3, 7).
5. Guide the infill and densification of older industrial and commercial areas around Willowbrook and the Langley Regional Town Centre toward higher intensity land uses, while maintaining short-term employment benefits offered by existing and developing light industrial uses (LP pp.11, 17(5.2).

**In 50 years:** the 200 Street corridor will be fully established as the Township of Langley's main street, with its four neighbourhood nodes as the most central and attractive employment locations, anchoring a host of 'new economy' businesses and entrepreneurial services, and providing a large number of diverse jobs.

## 2 MIXED USE corridors ACCESSIBLE TO ALL

**Principle:** Sustainable communities allow residents to live, work, shop and play in their local areas. Land and public infrastructure are designed for multiple purposes and mixed use. Transportation corridors and commercial arterials provide both commuter mobility and access to multiple services and daily activities. Corridors enable diverse transportation choices, including access and movement for pedestrians, bicycles, transit and automobiles.

**Key Objective:** **Develop four memorable and attractive urban nodes along the 200 Street corridor that centre surrounding neighbourhoods, support compact development, and are connected by an improved transportation network that encourages multi-modal transportation and supports local and regional transportation.**

**Objectives:**

1. Develop the Carvolth Neighbourhood Centre at 88 Avenue and 200 Street by accommodating space for good jobs and by carefully integrating employment uses with protected and enhanced natural systems and surrounding residential areas (WCP p.3, 4(4.1.1.5)).
2. Develop a Neighbourhood Centre, including a high-tech business park, at 80 Avenue and 200 Street ("Sustainability by Design: Nodes on 200 Street – Workshop & Charrette, Langley, BC," 20 March 2006).
3. Locate a commercial Neighbourhood Centre at 72 Avenue and 200 Street to center and serve the surrounding neighbourhoods of Routley and Southwest Gordon Estate (WRP p.6).
4. Support and enhance the role of Langley Regional Town Centre (64 Avenue) as the primary commercial, civic, and medium-high density residential core of the City and Township of Langley (LP pp.3(1), 9(5), 5(5.1), 21).
5. Support and enhance the role of Willoughby Town Centre, as a key community core area adjacent to 200 Street, with jobs, parks, natural areas, schools, housing, and cultural facilities. WP 2.1(6).
6. Support a complete community and region by designing the Carvolth Neighbourhood Centre, the 80 Avenue Neighbourhood Centre, the 72 Avenue Neighbourhood Centre, and the northern portion of Langley Regional Town Centre to include conveniently located, compatible, and complimentary land uses – including facilities and public spaces for social and cultural interaction – suited to the needs of the surrounding community (LRSP pp.11, 19; LP p.6(3); WGP pp.2,3; WP 2.1(3, 6, 11); WSP p.5).
7. Create safe comfortable and attractive neighbourhoods around each node (LP pp.2(1), 23; WGP 2(7.1, 7.2); WP 2.1(1,2); WSP pp.5(3), 6).
8. Provide improved road safety and access for pedestrians, bicycles, transit and vehicles – including consideration for goods movement, good connections to regional routes, and long-term options for rapid transit rights-of-way – to support additional development, local businesses, and reduce single occupant auto use (LRSP p.19; TLR (i); LP p.9(4), 19(5.6), 20(5.7); WRP pp.6,7; WSP p.60).
9. Effectively manage the multiple role of 200 Street as a major transportation corridor, local route, and recreational greenway ("Sustainability by Design: Workshop #1 – Goals and Objectives, 200 Street Node Study, Township of Langley," 29 March 2006).

**In 50 years:** 200 Street will be a diverse corridor, connecting the four memorable and distinctive urban centres and carrying to these nodes as many people by transit, foot and bicycle as by private motor vehicle, while continuing to provide goods movement to local and regional businesses and industry.

### 3 FIVE MINUTE walking DISTANCE

**Principle:** Sustainable communities have compact neighbourhoods with an interconnected street network that ensures quick access to commercial and public services and amenities. Streets and arterials are designed for walking, cycling and transit access – not just for cars. Neighbourhoods have sufficient residential densities and mixed uses to provide sustained transit ridership and service.

**Key Objective:** **Develop the 200 Street corridor as an attractive and walkable corridor, anchored by the four nodes and providing easy and frequent access into local neighbourhoods and to transit through an integrated street network and well-designed urban environment that attracts pedestrian, commercial and civic activity.**

**Objectives:**

6. Support mixed-use nodes, local commercial and businesses, and transit by concentrating medium-high density residential development within a five-minute walk of community and the four 200 Street nodes, as well as adjacent neighbourhood centres such as Langley Regional Town Centre, Willowbrook Mall, and Willoughby Town Centre (LRSP p.12; LP p.5(5.1), 9(5); WP 2.1(6); WRP p.5(3), 6(4.1).
7. Develop neighbourhood and community cores as attractive and enjoyable pedestrian-oriented areas, including the northeast portion of Willowbrook Mall (LP pp. 8, 13(4, 6), 14(1), 25; WSP p.6).
8. Develop 200 Street as a recreation corridor and an attractive entryway into the community with a greenway system along both sides that provides visual and noise buffering (LP p.19(5.5); WRP p.5).
9. Encourage alternative modes of transportation and support local commercial and businesses by connecting neighbourhoods within and between municipalities with a public and interconnected network of streets and street crossings, greenways, trails, and parks that are attractive, safe and comfortable for pedestrians and cyclists (LP p.18 (5.3); WGP p.2(7.1); WP pp.7(2.1), 8(12); WCP 2.2.2; WCP 2.2.2; WSP pp.5-6(3); WRP p.7).
10. Create a memorable urban design strategy for building design guidelines and streetscapes, that responds to local climate and conditions, and establishes a strong, cohesive visual identity at the 200 Street nodes and neighbourhoods

**In 50 years:** the 200 Street corridor will be the Township of Langley's main street, connecting the community centres and providing a rich pedestrian and commercial environment with multiple and easy access ways to local residential communities and neighbourhoods.

### 4 ACCESS TO natural AREAS AND PARKS

**Principle:** Sustainable communities respect the natural functions of the landscape, particularly agricultural land, stream systems and aquatic habitats. Well designed communities integrate linked natural systems with human activities, placing high value on community access to natural systems and parks. Sustainable communities maintain and restore ecosystem functions. Effective ecosystem management and restoration can achieve significant energy efficiencies, cost savings, and environmental benefits.

**Key Objective:** **Maintain the unique character of Langley as an urban centre within a rural community by continuing to focus development in urban nodes and by connecting, protecting, enhancing and maintaining habitat and open lands as community amenities and important environmental features.**

Objectives:

11. Improve the relationship between urban areas and the surrounding open lands to maintain the unique image and character of Langley as an urban centre within a rural community, including increasing connectivity and access - such as through more pedestrian friendly mid-block connections – and providing appropriate transitions from other land uses (LP pp.8(3), 12(3); WGP pp.2(7.1), 3(7.3); WCP p.8(9); WRP p.5(2.2.2); WSP p.5 (3).
12. Protect, enhance and maintain the viability of significant natural habitat and movement corridors as both active recreational and a passive habitat community amenities (LRSP p.18; WP p.7(2.1); WGP pp.2(7.1), 3(7.3); WCP p.3(3.3); WRP pp.5(3), 6(4.1); WSP p.6).
13. Use a sustainable, clustered development pattern to preserve significant environmental features while not compromising interconnectivity of roads and paths(WP pp.7-8(2.1); WSP p.6; WRP p.6(4.1).
14. Establish and develop an interconnected open space system that integrates key green spaces – such as woodlots, streams, fields, and parks – for active and passive recreation activities, including additional park and civic open space in the Langley Regional Town Centre (LP p.18 (5.3); WGP p.2(7.1); WP p.7(2.1); WRP p.6).
15. Create combined school/park sites close to a majority of neighbourhood residents and develop as a neighbourhood focal point (WRP p.5(3), 6(4.1).

**In 50 years:** the 200 Street corridor and connected employment and community centres will be integrated throughout the Township of Langley within a network of linked and ecologically functional natural areas supported by an interconnected network of parks, open space and greenways.

## 5 LIGHTER, GREENER, CHEAPER, SMARTER infrastructure

**Principle:** Sustainable communities optimize the economic, social and ecological impacts of buildings and infrastructure. Innovative development standards and practices will reduce community and environmental impacts as well as private, public, and taxpayer costs of development and infrastructure. Low impact solutions such as green infrastructure and natural drainage systems will save money over the longer-term, ensuring the sustainability of economic growth.

**Key Objective:** **Reduce environmental impacts and municipal costs through innovation and efficiency in water, waste, energy, building and transportation infrastructure and operations.**

Objectives:

16. Preserve critical stream and riparian habitat, including drainage courses and topographically sensitive lands, which contribute to stream recharge (NP 2.5; WGP p.3(7.3); WP p.8).
17. Develop alternative stormwater management systems – including using permeable materials in corridors – that allow groundwater recharge and maintain peak flow and volume at pre-development levels (NP 3.3; WP p.8; WRP p.7).

**In 50 years:** the 200 Street corridor and associated urban nodes will demonstrate, through their infrastructure, buildings and transportation systems, how environmental integration and technical innovation can contribute to community sustainability and financial savings for governments, developers and taxpayers.

## 6 DIFFERENT housing TYPES

**Principle:** Sustainable communities include a variety of housing in the same neighbourhood, and very often on the same street. A mix of housing types, both owned and rented, allows residents to live affordably in the same community throughout their lives. Good neighbourhood design fully recognizes current and future demographic trends, especially aging populations, empty nesters, single-parent families and smaller, non-traditional households. A mix of housing types also helps accommodate lower income residents (including students and fixed-income seniors), allowing access to local jobs, amenities and medical services.

**Key Objective:** **Develop each 200 Street urban node to provide a varied range of housing options and living arrangements to meet the needs of diverse income, age and family groups.**

**Objectives:**

18. Provide a variety of housing types to ensure choice of accommodation for all household types and incomes, abilities, and age groups, and design housing to accommodate change (WG p. 3; WRP p.5(3); WSP p.6).
19. Enable residents to remain in the community by preserving and rehabilitating quality housing stock through infill development and bonus density opportunities (WGP p.3(7.3); WRP p.7).
20. Concentrate a mix of medium-high density residential development within a five-minute walk of community and neighbourhood core areas, including but not limited to: Langley Regional Town Centre, Willowbrook Mall, 72 Avenue Neighbourhood Centre, and 80 Avenue Neighbourhood Centre (LRSP p.12; LP p.5(5.1), 9(5); WP 2.1(6); WRP p.5(3), 6(4.1); "Sustainability by Design: Workshop #1 – Goals and Objectives, 200 Street Node Study, Township of Langley," 29 March 2006).
21. Consider the potential for integrating residential uses into the Carvolth Neighbourhood Centre, toward locating compatible land uses together and creating a transition between different land uses ("Sustainability by Design: Workshop #1 – Goals and Objectives, 200 Street Node Study, Township of Langley," 29 March 2006).

**In 50 years:** the 200 Street corridor will be home for residents of a diversity of ages – as many as half of whom will likely be over 60 years of age – and diversity of incomes, occupations, abilities and ethnic heritage, living in an affordable, accessible, compact, mixed-use community that is rich in services, civic spaces and commercial activity.

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Key to Source Documents:

LRSP	Liveable Region Strategic Plan
TLR	Transport 2021 [Long Range]
LP	Langley Town Centre Plan
NP	Northwest Langley Community Plan
WGP	Walnut Grove Community Plan
WP	Willoughby Community Plan
WCP	Willoughby: Carvolth Business Park Neighbourhood Plan
WRP	Willoughby: Routley Neighbourhood Plan
WSP	Willoughby: Southwest Gordon Estate Neighbourhood Plan



## breakout group 1 design brief pull-out

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### sustainability by design principles:

#### 1 GOOD AND PLENTIFUL jobs CLOSE TO HOME 6 DIFFERENT housing TYPES

This case study charrette is examining nodes. Nodes are key areas of concentration and connection, and have a fundamental role in both the spatial organization and identity of a community. These four nodes have been identified by the Township of Langley as areas of residential, commercial and employment densification. They are envisioned as points of connection between neighbourhoods, transportation and recreation corridors, and also as a series of identifiable community entry points along the 200<sup>th</sup> Street corridor.

The focus of discussion and design for this breakout group are the key design questions, main outputs, and targets relating to jobs and housing types.

#### Key Design Questions

1. How should commercial/retail, office and light industrial, and various residential land uses be distributed between the four nodes?
2. How can the four nodes be designed to complement existing key nodes at Willowbrook Mall, East Clayton in Surrey, and the Willoughby Town Centre?
3. How should this mix of land uses and associated services be designed to create nodes that are: pedestrian- and transit-supportive; sensitively integrated into surrounding land uses and natural areas; and, attractive and lively entry points into the Township and the 200<sup>th</sup> Street neighbourhoods?
4. In particular, how can large-parcel employment areas be designed to be pedestrian friendly and well integrated into the surrounding community – e.g. can residential uses and daily needs, and public streets and/or pedestrian routes be integrated into these areas?
5. How can the arrangement of land uses within and between the four nodes contribute to the overall identity of the 200<sup>th</sup> Street corridor and individual neighbourhood identity within each node?
6. How can the arrangement of land uses respond to the historic and surrounding physical context of the Township – including historic settlement, unique landforms, views, and surrounding rural land uses?

#### Main Outputs\*

must complete:

1. Series of diagrams examining existing conditions and opportunities/constraints related to the allocation and arrangement of land uses along the 200<sup>th</sup> Street corridor and particularly within the four nodes.
2. Colour land use plan(s) depicting land uses in 2005 for the 200<sup>th</sup> Street corridor and the four nodes, including existing and proposed land uses and 5 minute walk radius.
3. Land use table giving breakdown of land uses by hectare, acre and percentage of study area for 2050 (also for 2006, 2020, and 2035, time permitting).
4. Illustrate strategies for integrating pedestrian friendly large-parcel employment areas into the community.
5. Illustrate infill development methods proposed to achieve projected 2050 land use plan, including residential, commercial (including Willowbrook Mall), and office/light industrial areas.
6. Document, in text and drawings, achievement of targets as identified on back.

time permitting:

7. Series of three colour land use plans backcast from the 2050 plan to illustrate the progression of land uses for 2006, 2020, and 2035, and associated land use tables.
8. Diagrams, sketches, illustrations and/or images depicting how land uses respond to historic and physical context and contribute to corridor and node identity.

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\* Note: all outputs to be illustrated with drawings in metric scale, with additional supporting text as necessary.

## Targets

### **1 GOOD AND PLENTIFUL jobs CLOSE TO HOME**

1. Provide buildable space for 4,650 new jobs in the commercial/retail sector: **approximately 930,000 square feet of commercial and retail space** within the 200<sup>th</sup> Street neighbourhoods to balance jobs with the local labour force.
2. Provide buildable space for 3,410 – 6,000 new jobs in the office and light industry sector: **approximately 1,023,000 – 1,800,000 square feet of office and light industrial space** within the 200<sup>th</sup> Street neighbourhoods to balance jobs with the local labour force.
3. Support the viability of businesses and access to jobs by developing each node as a **transit hub with supporting residential and commercial density within 500 metres** of each node, and allow densities to decrease with increased distance from the centre of each node.

### **6 DIFFERENT housing TYPES**

22. Maintain an **average density of 40 upa** with a range of housing types from detached ground oriented at 15 upa gross to high rise at 100+ upa gross throughout the 200 Street 5 minute walk corridor.
23. Locate **13,900 – 20,800 housing units** in the 200<sup>th</sup> Street neighbourhoods with a minimum of 12,400 – 18,500 units within the 5 minute walking radius of the four 200<sup>th</sup> Street nodes, and a range of housing types and tenures suited to a mix of ages, incomes, and abilities.
24. Support the needs of residents of all ages, incomes, abilities and family types by providing **additional community facilities** – e.g. daycare, community meeting room, recreational facilities, library, fire stations, community police office, etc. Locate based on existing facilities and projected population. Use all community facilities to support community centres, with good connectivity for all transportation modes.



## breakout group **2** design brief pull-out

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### sustainability by design principles:

#### **2 MIXED USE** corridors **ACCESSIBLE TO ALL** **3 FIVE MINUTE** walking **DISTANCE**

This case study charrette is examining nodes. Nodes are key areas of concentration and connection, and have a fundamental role in both the spatial organization and identity of a community. These four nodes have been identified by the Township of Langley as areas of residential, commercial and employment densification. They are envisioned as points of connection between neighbourhoods, transportation and recreation corridors, and also as a series of identifiable community entry points along the 200<sup>th</sup> Street corridor.

The focus of discussion and design for this breakout group are the key design questions, main outputs, and targets relating to corridors and the five minute walk.

#### Key Design Questions

1. How can the four nodes be developed to : incorporate a mix of land uses and associated services; be pedestrian- and transit-supportive; be sensitively integrated into surrounding land uses and natural areas; and, to establish attractive and lively entry points into the Township and the 200<sup>th</sup> Street neighbourhoods?
2. In particular, how can large-parcel employment areas be designed to be pedestrian friendly and well integrated into the surrounding community – e.g. can residential uses and daily needs, and public streets and/or pedestrian routes be integrated into these areas?
3. How can the 200<sup>th</sup> Street corridor be developed as both a through-traffic corridor with connections to surrounding communities via the Fraser Highway, Trans Canada Highway, and the proposed Golden Ears Bridge, and as a pedestrian-friendly and transit-supportive corridor?
4. How can the four nodes be designed to connect to and complement existing key nodes at Willowbrook Mall, East Clayton in Surrey, and the Willoughby Town Centre?
5. How can the arrangement and design of corridors contribute to the overall identity of the 200<sup>th</sup> Street corridor and individual neighbourhood identity within each node?
6. How can the arrangement and design of corridors respond to the historic and surrounding physical context of the Township – including historic settlement, unique landforms, views, and surrounding rural land uses?

#### Main Outputs\*

must complete:

1. Series of diagrams examining existing conditions and opportunities/constraints related to the creation of multi-modal transportation corridors along the 200<sup>th</sup> Street corridor, within the four nodes, and connecting to key points in the surrounding community.
2. 2050 proposed movement systems & road network integration diagram including streets, transit, greenways & trails, and illustrating future connections to the proposed Golden Ears Bridge and other key points in the surrounding community.
3. 5 minute walk diagram illustrating residential and business connectivity to basic daily needs, transit, and parks or open space.
4. Concept plan, section/elevations, diagrams of traffic calming strategies for all street types, & pedestrian/bicycle arterial crossing strategies.
5. Document, in text and drawings, achievement of targets as identified on back.

time permitting:

6. 200<sup>th</sup> Street greenway typology including detail plans and section/elevations of typical greenway conditions, using existing Township standards as baseline design.
7. Concept plans, section/elevations, sketches, diagrams of neighbourhood entry points illustrating integration with 200<sup>th</sup> Street greenway, surrounding neighbourhood and – where appropriate – preserved open space.

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\* Note: all outputs to be illustrated with drawings in metric scale, with additional supporting text as necessary.

## Targets

### **2 MIXED USE CORRIDORS accessible TO ALL**

4. Establish an interconnected network of streets with a through **street at 200 metre intervals or less**. Minimize street crossings over watercourses while still providing connectivity. Use traffic calming methods to allow easy local traffic access to neighbourhood streets and direct through-traffic movement along arterials, and to balance the needs of traffic, pedestrians and transit on arterials, particularly 200<sup>th</sup> Street.
5. Develop a **safe and comfortable interconnected greenway system** along both sides of 200<sup>th</sup> Street with clearly defined main entry points in the north at 83 Avenue and Latimer Creek, and in the south at 68 Avenue. Develop additional east-west connections into adjacent neighbourhoods, and additional north-south routes through neighbourhoods as appropriate.
6. Provide safe, comfortable **pedestrian/bike linkages across arterials at maximum 500 metre intervals and access onto the greenway system every 300 metres**.
7. Determine the **need and best location for a Park & Ride site** near or in the 200<sup>th</sup> Street interchange on the south side of the Trans Canada Highway that incorporates commercial services for the users, and is designed to support the conservation of wildlife, habitat, including streams.

### **3 FIVE MINUTE walking DISTANCE**

8. Ensure 100% of residents and workers in the 200<sup>th</sup> Street neighbourhoods are **within 500 metres of basic daily needs, a transit stop, and a park** or an access point to the open space and trails network.
9. Recognize and **support the role of Willoughby Town Centre** as the primary heart of the community by directly connecting the Centre to the 200<sup>th</sup> Street nodes – particularly the 80<sup>th</sup> Avenue node – with streets, greenways and trails that are safe and comfortable for pedestrians, bicycles, automobiles and, where appropriate, wildlife.
10. Orient all development to front on **publicly owned and accessible, safe and comfortable streets**.

## breakout group **3** design brief pull-out

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### sustainability by design principles:

#### **4 ACCESS TO** natural **AREAS AND PARKS**

#### **5 LIGHTER, GREENER, CHEAPER, SMARTER** infrastructure

This case study charrette is examining nodes. Nodes are key areas of concentration and connection, and have a fundamental role in both the spatial organization and identity of a community. These four nodes have been identified by the Township of Langley as areas of residential, commercial and employment densification. They are envisioned as points of connection between neighbourhoods, transportation and recreation corridors, and also as a series of identifiable community entry points along the 200<sup>th</sup> Street corridor.

The focus of discussion and design for this breakout group are the key design questions, main outputs, and targets relating to natural areas and parks, and green infrastructure.

#### Key Design Questions

1. How can the four nodes be developed to: incorporate a mix of land uses and associated services; be pedestrian- and transit-supportive; be sensitively integrated into surrounding land uses and natural areas; and, to establish attractive and lively entry points into the Township and the 200<sup>th</sup> Street neighbourhoods?
2. How can the four nodes be designed to connect to and complement existing key nodes at Willowbrook Mall, East Clayton in Surrey, and the Willoughby Town Centre?
3. How can the design of public spaces within the network of parks, open space and habitat contribute to the overall identity of the 200<sup>th</sup> Street corridor and individual neighbourhood identity within each node?
4. How can the design of this network respond to the historic and surrounding physical context of the Township – including historic settlement, unique landforms, views, and surrounding rural land uses?
5. How can green infrastructure be incorporated to best serve both the needs of development and wildlife?

#### Main Outputs\*

must complete:

1. Series of diagrams examining existing conditions and opportunities/constraints related to the location and design of the parks and open space network within the four nodes, and connecting to key points in the surrounding community.
2. Proposed parks and open space network diagram including preserved vegetation, creek corridors, school/park sites, canopy cover etc.
3. Typology of wildlife greenways, riparian greenways and municipal trails network (excluding 200<sup>th</sup> Street), including detail plan, section/elevations, sketches for typical segments of each type.
4. Concept plans, section/elevations, sketches, diagrams illustrating green infrastructure methods proposed to achieve water infiltration and site permeability targets, including proposals for streets, public space, commercial, office, industrial and residential sites.
5. Document, in text and drawings, achievement of targets as identified on back.

time permitting:

6. Viewshed diagram illustrating strategy for preserving and accentuating views.
7. Concept plans, section/elevations, sketches of four additional key public gathering places, including integration of public art.

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\* Note: all outputs to be illustrated with drawings in metric scale, with additional supporting text as necessary.

## Targets

### **4 ACCESS TO natural AREAS AND PARKS**

11. Develop a safe and comfortable **interconnected system of municipal open spaces and trails** connecting areas of community value, including: conservation areas, buffers, stream corridors, wooded areas, environmentally sensitive areas, parks, park/school sites, and business and employment nodes. Link trails to the public street and greenway network and to other community trails beyond the study neighbourhoods.
12. Determine the required **number and location of additional school/park sites** – both elementary and secondary – given the ideal enrollment of 300-400 students per elementary school, and 1,000-1,500 students per secondary school. Use all school/park sites to support community centres, with good connectivity for all transportation modes.
13. Create additional safe, comfortable, **well-designed public places for people to linger and interact** within a five minute walk of all residences and businesses. Support the formation of community identity by developing a distinct character for these public places, the individual 200<sup>th</sup> Street nodes, and the overall corridor. Reference the community's historic and physical context within this identity, with particular attention to the role of public art.
14. Achieve **no net loss** of all coded watercourses, riparian areas, wetlands and ponds.
15. Provide **setbacks from top of bank** in accordance with Township and MELP/DFO regulations for all salmon bearing and habitat supporting watercourses, including: Latimer Creek tributaries, Jeffries Brook mainstem, Logan Creek tributary.
16. Determine the feasibility of achieving minimum width **wildlife/riparian greenways of 30 metres**, with municipal trails on the outer edge buffered by a 2.5 metre leavestrip.
17. **Preserve large stands of trees**. In locations where trees must be cleared replant open areas such that there is a minimum 40% tree canopy cover within 20 years of planting.
18. Develop a minimum **15 metre natural vegetated buffer along the Trans Canada Highway** to mitigate noise impacts, incorporating existing vegetation and vegetated earthen berms where appropriate.
19. Identify, preserve and accentuate **view sheds**.

### **5 LIGHTER, GREENER, CHEAPER, SMARTER infrastructure**

20. Reduce flooding and impacts to streams and groundwater through the use of **low impact infrastructure and drainage** in developed and non-developed areas, to conserve water and improve water quality, and to infiltrate a minimum of 1" of rainwater per day.
21. Achieve a minimum of **60% effective permeable surface area for the study area; 50% effective permeable surface area per lot**.



**target**

Provide buildable space for 4,650 new jobs in the commercial/retail sector: approximately 930,000 square feet of commercial and retail space within a 5 minute walk of the four 200<sup>th</sup> Street nodes to balance jobs with the local labour force.

**support**

Commercial/retail job calculation:

- Assume commercial/retail uses within the four nodes will serve the whole 200<sup>th</sup> Street 5-minute walk corridor from the interchange to the municipal boundary;
- Assume 25,000 – 37,500<sup>1</sup> residents within 5 minute walk of 200<sup>th</sup> Street corridor from interchange to municipal boundary, giving a mid-range estimate of 31,000;
- Assume 30,000 sq.ft. commercial/retail space required per 1000 residents;
- $(30,000 \times 31,000) / 1,000 = 930,000$  sq.ft. commercial/retail space;
- Assume 1 job per 200 sq.ft. retail space;
- $930,000 / 200 = 4,650$  jobs.

Combined, office/light industrial and commercial/retail provide an estimated 8,060 jobs (3,410 + 4,650 = 8,060). This accounts for approximately 36-50% of the projected 15,550-22,250<sup>2</sup> new jobs by 2050. The balance of new employment would be held by other job types, including primary/manufacture, civil sector, and home-based business.

"A community should provide a balance between jobs and residents. While not everyone will want or be able to work and live in the same community, communities should provide this option. This balance can [in part] be achieved by[...]incorporating in each community **commercial**, industrial and institutional land uses that provide employment[...]and by] encouraging mixed-use development integrating places to live, work and play within the features of the natural landscape[....]"

*Langley Township Official Community Plan p.8(4.1A[10])*

The 64<sup>th</sup> Avenue node incorporates portions of Willowbrook – Mixed Use and Commercial lands included within the boundaries of the Langley Town Centre Community Plan – which was prepared jointly by the City of Langley and the Township of Langley, and states: "The area defined as "Willowbrook – Mixed Use" includes the exiting regional shopping centre and surrounding lands[...]this area is suitable for: retail and service, office, multi-family residential."

*Langley Town Centre Community Plan p.15(3)*

"The Commercial [land use] designation is intended to reflect development of a self-sustaining town centre designed to serve an ultimate Willoughby population of about 38,000, as well as smaller neighbourhood centres and service commercial nodes[...]Service commercial nodes, providing for retail needs of neighbourhood residents and motorists on 200 Street are proposed at the major intersections of 72 and 80 Avenues, and are proposed to include mixed uses such as service commercial and multiple family housing."

*Willoughby Community Plan p.17(3.3)*

The *Willoughby: Carvolth Business Park Neighbourhood Plan* provides for approximately 19.6 ha (48.5 ac) of Commercial land use.

*p.4(4.1)*

"Given the proximity of Routley to the major retail facilities of Willowbrook and Langley Regional Town Centre, provision is made in the Plan for a modest amount of neighbourhood-oriented convenience retail. The appropriate location for retail uses is the neighbourhood "gateway" at 72 Avenue and 200 Street."

*Willoughby: Routley Neighbourhood Plan p.9(4.2.3)*

The *Willoughby: Southwest Gordon Estate Neighbourhood Plan* projects the following land use areas:

- 3,250sq.m. (35,000sq.ft.) retail land use at the 200<sup>th</sup> Street/72<sup>nd</sup> Avenue intersection
- 930 sq.m. (10,000sq.ft.) office land use at the 200<sup>th</sup> Street/72<sup>nd</sup> Avenue intersection

*p.11(4.3)*

<sup>1</sup> Calculated using Urban Futures 2005 population for the "Langleys," subtracting out City of Langley 2005 population, projecting population out to 2050 using Urban Futures population growth projection for the "Langleys," subtracting the Township's 2005 population, and multiplying by 20-30% (estimated percentage of Township's Urban Development Zone comprised by 200<sup>th</sup> Street 5-minute walk corridor).

<sup>2</sup> Calculated using Urban Futures 2005 jobs number for the "Langleys," subtracting out City of Langley 2005 jobs number, projecting population out to 2050 using Urban Futures jobs growth projection for the "Langleys," subtracting the Township's 2005 job number, and multiplying by 20-30% (estimated percentage of Township's Urban Development Zone comprised by 200<sup>th</sup> Street 5-minute walk corridor).

**target**

Provide buildable space for 3,410-6,000<sup>3</sup> new jobs in the office and light industry sector: approximately 1,023,000-1,800,000 square feet of office and light industrial space within a 5 minute walk of the four 200<sup>th</sup> Street nodes to balance jobs with the local labour force.

**support**

Office & light industrial job calculation:

- Assume office and light industrial uses within the four nodes will serve the whole 200<sup>th</sup> Street 5-minute walk corridor from the interchange to the municipal boundary;
- Assume 25,000 – 37,500<sup>4</sup> residents within 5 minute walk of 200<sup>th</sup> Street corridor from interchange to municipal boundary, giving a mid-range estimate of 31,000;
- Assume 33,000 sq.ft. commercial/retail space required per 1000 residents;
- **(33,000 X 31,000) / 1,000 = 1,023,000 sq.ft. commercial/retail space;**
- Assume 1 job per 300 sq.ft. retail space;
- **1,023,000 / 300 = 3,410 jobs.**

Combined, office/light industrial and commercial/retail provide an estimated 8,060 jobs (3,410 + 4,650 = 8,060). This accounts for approximately 36-50% of the projected 15,550-22,250<sup>5</sup> new jobs by 2050. The balance of new employment would be held by other job types, including primary/manufacture, civil sector, and home-based business.

"A community should provide a balance between jobs and residents. While not everyone will want or be able to work and live in the same community, communities should provide this option. This balance can [in part] be achieved by[...]incorporating in each community commercial, **industrial** and institutional land uses that provide employment[...]"

*Langley Township Official Community Plan p.8(4.1A[10])*

The 64<sup>th</sup> Avenue node incorporates portions of Business Park land included within the boundaries of the Langley Town Centre Community Plan – which was prepared jointly by the City of Langley and the Township of Langley, and states that this area "[...] is suitable for office, high quality light industrial, and retail/service uses that are ancillary to light industrial or office uses"

*Langley Town Centre Community Plan p.16(6)*

"The Willoughby Plan is predicated on the notion that the community be self-sustaining to the maximum extent possible. This includes providing significant employment opportunities for community residents. To allow for this, several business park areas are identified which will permit a mix of light industrial and service commercial uses, designed in such a way to be compatible with nearby residential uses. In addition to the designated business areas, institutional uses such as schools, libraries, recreation centres, and more conventional retail commercial will also offer opportunities for local employment."

*Willoughby Community Plan p.17(3.4)*

The *Willoughby: Carvolth Business Park Neighbourhood Plan* provides for approximately 80.5 ha (200.0 ac) of Business/Office Park.

*p.4(4.1)*

<sup>3</sup> A range of buildable space for office/light industrial and subsequent jobs number has been included at the suggestion of the Township of Langley.

<sup>4</sup> Calculated using Urban Futures 2005 population for the "Langleys," subtracting out City of Langley 2005 population, projecting population out to 2050 using Urban Futures population growth projection for the "Langleys," subtracting the Township's 2005 population, and multiplying by 20-30% (estimated percentage of Township's Urban Development Zone comprised by 200<sup>th</sup> Street 5-minute walk corridor).

<sup>5</sup> Calculated using Urban Futures 2005 jobs number for the "Langleys," subtracting out City of Langley 2005 jobs number, projecting population out to 2050 using Urban Futures jobs growth projection for the "Langleys," subtracting the Township's 2005 job number, and multiplying by 20-30% (estimated percentage of Township's Urban Development Zone comprised by 200<sup>th</sup> Street 5-minute walk corridor).

**target**

Support the viability of businesses and access to jobs by developing each node as a transit hub with supporting residential and commercial density within 500 metres of each node, and allow densities to decrease with increased distance from the centre of each node.

**support**

“A community should be well-linked to other communities and to larger centres in the region by: being designed to support transit service, providing park and ride facilities, and providing good transit, walking and cycling links.”

*Langley Township Official Community Plan pp.10(4.1A[12])*

“A community should be designed with a central node, with the highest density of commercial and residential development in the centre to encourage walking and transit use.”

*Langley Township Official Community Plan p.8(4.1A[3])*

“Residential, major employment and commercial uses shall be concentrated to facilitate the provision of public transit services.”

*Langley Township Official Community Plan p.21(4.8)*

“Willowbrook is also a good location for multifamily development, although more effort will be required to make this an attractive, pedestrian oriented residential neighbourhood.”

*Langley Town Centre Community Plan p.17(5.1)*

To improve “[...]transit service for the Town Centre[...]in the short term, emphasize bus service improvements to and from the Town Centre within the main trade area (i.e. the City and Township). Improved transit service for shoppers and employees will help encourage retail, service and office businesses to concentrate in the Town Centre.”

*Langley Town Centre Community Plan p.20(5.7)*

“The Commercial designation is intended to reflect development of a self-sustaining town centre designed to serve an ultimate Willoughby population of about 38,000, as well as smaller neighbourhood centres and service commercial nodes. Each of the commercial centres will, in addition to the Town Centre, offer opportunities for creation of transit hubs.”

*Willoughby Community Plan p.17(3.3)*

“Service commercial nodes, providing for retail needs of neighbourhood residents and motorists on 200 Street are proposed at the major intersections of 72 and 80 Avenues, and are proposed to include mixed uses such as service commercial and multiple family housing.”

*Willoughby Community Plan p.17(3.3)*

“It is proposed that, as demand arises, the penetration of transit services into Willoughby and the frequency of service be improved.”

*Willoughby Community Plan p.20(3.7[B])*

“Two neighbourhood and commercial nodes are identified to serve the nearby residential areas and the workers from the adjacent business park (203<sup>rd</sup> Street and 66<sup>th</sup> Avenue). Mixed uses and higher densities are permitted around these nodes to provide a range of complementary services and housing opportunities for residents desiring for proximity to such services.”

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.6(4.1)*



**target**

Establish an interconnected network of streets with a through street at 200 metre intervals or less. Minimize street crossings over watercourses while still providing connectivity. Use traffic calming methods to allow easy local traffic access to neighbourhood streets and direct through-traffic movement along arterials, and to balance the needs of traffic, pedestrians and transit on arterials, particularly 200<sup>th</sup> Street.

**support**

Driveway access over proposed greenways is discouraged. Where unavoidable, develop shared driveways, minimize driveway width, and maximize driveway porosity.

*Willoughby Community Plan p.26(4.1.3)*

*Willoughby: Routley Neighbourhood Plan p.15(5.2)*

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.15(5.2)*

The Ministry of Environment, Lands and Parks has stated that “driveway access over [creeks] will not be permitted, nor over critical habitat areas within greenways.”

*Willoughby: Routley Neighbourhood Plan p.35(4.1.2)*

“Each community and neighbourhood should be designed to be efficient and convenient for a variety of transportation modes including walking, bicycles, transit, trucks and private automobiles.”

*Langley Township Official Community Plan p.8(4.1A[5])*

“The overall objective of the urban design guidelines for the Willowbrook Core areas is to create a more “urban” pattern of development. This will mean a gradual restructuring of the shopping centre surrounded by surface parking to a new set of streets bordered by infill development[...]Introduce a finer pattern of streets into the existing areas, breaking up the large parking lots into development sites for future building infill.”

*Langley Town Centre Community Plan p.25(6.2)*

“One of the key goals of the Willoughby Community Plan is to create distinct but interrelated neighbourhoods[...]the Carvolth Plan area will be linked to other parts of Willoughby by a grid road system and a series of greenbelts and trails.”

*Willoughby: Carvolth Business Park Neighbourhood Plan p.3(2.2.2)*

“It is proposed that 196 Street be constructed as an arterial or possibly a collector road[...]72 Avenue will be constructed as an arterial road[...]The north side of 68 Avenue will be completed to a collector road standard.”

*Willoughby: Routley Neighbourhood Plan p.23(6.1.1)*

The *Willoughby: Routely Neighbourhood Plan* has as an objective “to establish a local road pattern that provides good access to, and connectivity within the neighbourhood; while redirecting flow-through traffic to arterial routes on the periphery of the neighbourhood.”

*p.5(3.0)*

“Future roadways and greenways are intended to provide for both recreational and functional needs, providing residents with non-vehicular access to services and key community facilities.”

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.22(6.1.3)*

**target**

Develop a safe and comfortable interconnected greenway system along both sides of 200<sup>th</sup> Street with clearly defined main entry points in the north at 83 Avenue and Latimer Creek, and in the south at 68 Avenue. Develop additional east-west connections into adjacent neighbourhoods, and additional north-south routes through neighbourhoods as appropriate.

**support**

The *Langley Town Centre Community Plan* proposes to improve the pedestrian environment, in part by “linking the downtown to the[...]Willowbrook Business Park and Office area to the north with a route for pedestrians and cyclists.”

*Langley Town Centre Community Plan p.18(5.3)*

“Every effort shall be made to preserve a linear greenway along 200 Street except for identified nodal areas at major intersections. The width of the greenbelt shall be a minimum of 30 metres on both sides of 200 Street. The greenway on each side of 200 Street may be divided into two separate greenways, one along 200 Street and one within the neighbourhood. The greenways would total 30m in width. It is proposed that a gateway entry, combining landscaping and gateway signage be created at the respective entrances to the 200 Street greenway. The north entrance is proposed at 83 Avenue and Latimer Creek to mark the transition to multiple family use. The south gateway is proposed at 68 Avenue to mark the boundary between the Willowbrook and Willoughby communities.”

*Willoughby Community Plan p.15(3.2[A, B])*

“A 2 metre wide landscaping area shall be provided adjacent to 200 Street and along 86 Avenue east of 200 Street as a boulevard between the curb and the sidewalk to create an attractive streetscape. In addition, a 3.5 metre corridor, including a 2.5 metre shared use (pedestrian and bicycle) concrete sidewalk, shall be provided[...]On the north side of 86 Avenue across from future residential development a 5 metre landscaping area and a 3.5 metre corridor shall be provided.”

*Willoughby: Carvolth Business Park Neighbourhood Plan p.6(4.1.7.4)*

The *Willoughby: Routley Neighbourhood Plan* proposes the following greenway elements:

- a 15m landscape buffer adjacent residential uses on 200<sup>th</sup> Street to provide visual screening and noise attenuation.
- adjacent commercial uses along 200<sup>th</sup> Street, a 3.5m corridor (including 2.5m shared use sidewalk) buffered from the street with a 2m landscaped area.
- a 15m corridor with shared use path connecting into the neighbourhood at approximately 199 Street.
- links to neighbourhood focal points such as the school, park and retail node at 72 Avenue.
- additional greenway connections created by retaining and linking existing vegetation clusters.
- development of the BC Gas right-of-way to connect to Clayton on the West, and Southwest Gordon Estate on the east.

*p.15(5.2.1-2)*

The *Willoughby: Southwest Gordon Estate Neighbourhood Plan* proposes the following greenway standards:

Location	Standard
200 street	15m <sup>6</sup>
201 Street	15m (6m min.)
Jeffries Brook	4.5m with 3m trail

*p.15(Table 3)*

<sup>6</sup> Where density bonus is used.

**target**

Provide safe, comfortable pedestrian/bike linkages across arterials at maximum 500 metre intervals and access onto the greenway system every 300 metres.

**support**

"Direct pedestrian access from residential units to the greenway pedestrian and bicycle paths shall be encouraged. Public, semi-public and private space shall be clearly delineated."

*Willoughby Community Plan p.26(4.1.3)*

"To enhance pedestrian safety at 200 Street, construction of a pedestrian overpass [over 68<sup>th</sup> Avenue] is under consideration."

*Willoughby: Routley Neighbourhood Plan p.23(6.1.1)*

"If a greenway is not located adjacent to a roadway, various opportunities for access to/egress from the greenway should be provided."

*Willoughby: Routley Neighbourhood Plan p.14(4.4.6)*

"Access to municipal greenways must be provided at an average of 300 metres of trail length. Where no road is available for that purpose, secondary trails must be provided."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.15(5.2)*

"Connections to pedestrian and bicycle trails in adjacent neighbourhoods are planned at 204<sup>th</sup> Street, 208<sup>th</sup> Street, and at the intersections of 200<sup>th</sup> Street with 72<sup>nd</sup> Avenue and 68<sup>th</sup> Avenue. Both crossings of 200<sup>th</sup> Street require redesign and special features to increase pedestrian and cyclist safety. A pedestrian overpass is proposed at 200<sup>th</sup> Street and 68<sup>th</sup> Avenue to connect the pedestrian walkway along the B.C. Gas right-of-way."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.23(6.1.3)*

**target**

Determine the need and best location for a Park & Ride site near or in the 200<sup>th</sup> Street interchange on the south side of the Trans Canada Highway that incorporates commercial services for the users, and is designed to support the conservation of wildlife, habitat, including streams.

**support**

"A community should be well-linked to other communities and to larger centres in the region by: being designed to support efficient transit service[;] **providing park and ride facilities**, and [;] providing good transit, walking and cycling links."

*Langley Township Official Community Plan p.11(4.1A[14])*

"A Park & Ride site will be located near the interchange or in one of the interchange loops. Small-scale retail commercial uses for the users of the Park and Ride and bus terminal, consisting of a newsstand and minor food services, shall be permitted accessory to the Park & Ride."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.5(4.1.3.7)*

**target**

Ensure 100% of residents and workers in the 200<sup>th</sup> Street neighbourhoods are within 500 metres of basic daily needs, a transit stop, and a park or an access point to the open space and trails network.

**support**

"Neighbourhoods should be designed to encourage walking for pleasure, daily needs and accessing transportation."

*Langley Township Official Community Plan p.11(4.1A[14])*

"Integration within commercial areas of buildings with residential accommodation is considered desirable."

*Willoughby Community Plan p.17(3.3[C])*

The *Willoughby: Routley Neighbourhood Plan* requires that "mid-block pedestrian connections to the 200 Street greenway should be developed north and south of 70 Avenue to provide access to public transit."

*p.16(5.2.2)*

The *Willoughby: Routley Neighbourhood Plan* concept includes "provision of pedestrian and bicycle paths to provide a recreational opportunity, and **discourage use of the private automobile.**"

*p.7(4.1)*

"Preference will be given to trail alignments that connect established forested patches and natural features or provide functional linkages to public amenities (elementary schools, neighbourhood parks, **transit stops**)."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.15(5.2)*

**target**

Recognize and support the role of Willoughby Town Centre as the primary heart of the community by directly connecting the Centre to the 200<sup>th</sup> Street nodes – particularly the 80<sup>th</sup> Avenue node – with streets, greenways and trails that are safe and comfortable for pedestrians, bicycles, automobiles and, where appropriate, wildlife.

**support**

"It is recognized that more intensive use [in the Town Centre] will be contingent on growth elsewhere in the area to provide a supporting market for long term town centre activities[...]As part of any new development in the Town Centre, care shall be taken to provide attractive and friendly pedestrian connections both within the Town Centre and to adjacent neighbourhoods and community green spaces."

*Willoughby Community Plan p.18(3.5[A, E])*

"The Commercial designation provides for a range of retail, service and tourist commercial uses to serve the adjacent Business/Office Park and the traveling public. Individual commercial units within commercial developments are to be restricted to a maximum gross floor area of 450 m<sup>2</sup> (4,844 sq. ft) in size. **Retail commercial uses greater than 450 m<sup>2</sup> (4,844 sq. ft) in size are directed to locate in the Willoughby Town Centre** or the Willowbrook Town Centre."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.4(4.1.2.1)*

**target**

Orient all development to front on publicly owned and accessible, safe and comfortable streets.

**support**

“Streets should be publicly owned and publicly accessible. Developments should generally be oriented to the street to help create an attractive pedestrian environment and to encourage on-street activity. The use of private roads and gated housing developments should be avoided because these isolate portions of the neighbourhood and they result in inward-oriented housing developments that do not contribute to on-street activity, pedestrian safety or community interaction.”

*Langley Township Official Community Plan p.8(4.1A[4])*

“Buildings should be designed with an outlook towards streets and greenways, rather than inward-looking or gated enclaves. This enables greater neighbourhood surveillance by providing more “eyes on the street.”

*Willoughby: Routley Neighbourhood Plan p.14(4.4.6)*

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.13(4.8)*

“Keep streets publicly owned and accessible[.]”

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.6(3)*

**target**

Develop a safe and comfortable interconnected system of municipal open spaces and trails connecting areas of community value, including: conservation areas, buffers, stream corridors, wooded areas, environmentally sensitive areas, parks, park/school sites, and business and employment nodes. Link trails to the public street and greenway network and to other community trails beyond the study neighbourhoods.

**support**

"Council shall promote the study and development of pedestrian walkways along greenbelts[, and] shall promote the study and development of a system of walkways and cycleways providing for the interconnection of the recreation areas and the urban communities."

*Langley Township Official Community Plan p.20(4.7)*

"Land use planning, community design and development regulations should protect the environment by: protecting sensitive environments and incorporating environmentally sensitive areas within the overall park system[, and] providing significant green spaces and, where appropriate, linking these green spaces[...]"

*Langley Township Official Community Plan p.10(4.1A[11])*

"Development of a greenway system designed to link urban areas in Willoughby while also functioning as corridors for wildlife movement is supported."

*Willoughby Community Plan p.16(3.2[H])*

"Provision is to be made for a separate network of off-road trails for cyclists and pedestrians, providing alternative access to community focal points such as schools, parks, commercial facilities, etc."

*Willoughby Community Plan p.20(3.7[D])*

"A public open space network that follows stream corridors, wooded areas and other environmentally sensitive areas is to be provided[...]. Municipal trails have been designated to provide public access to the areas of community value. Trails and walkway linkages to the public street network and to other community trails beyond the neighbourhood are [also to be provided]."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.6(4.1.7.1-2)*

"The greenway system is intended to provide a safer, alternative route for bicycles – for both commuter cyclists who currently use 200 Street, and recreational cyclists who would use neighbourhood streets."

*Willoughby: Routley Neighbourhood Plan p.14(4.4.6)*

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.14(4.8)*

"Pedestrian and bicycle movements within Routley will be facilitated by a system of greenways, which will also provide a connection to the neighbourhood park and elementary school, as well as adjacent neighbourhoods."

*Willoughby: Routley Neighbourhood Plan p.14(5.0)*

The Ministry of Environment, Lands and Parks (MELP) has stated: "We support the greenway concept as this will help mitigate wildlife habitat lost during development of Routley. By linking these greenways to Clayton, SW Gordon Estates, Langley Meadows and other neighborhoods, the potential for some species of wildlife to sustain their current or traditional migration corridors is increased."

*Willoughby: Routley Neighbourhood Plan p.32(2.1.2)*

"Linkages are provided throughout the neighbourhood by pedestrian and bicycle pathways located in conjunction with existing natural features, views, or potential pathway linkages in adjacent neighbourhoods. Jeffries Brook becomes a core component of this greenway system."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.6(4.1)*



**target**

Determine the required number and location of additional school/park sites – both elementary and secondary – given the ideal enrollment of 300-400<sup>7</sup> students per elementary school, and 1,000-1,500 students per secondary school. Use all school/park sites to support community centres, with good connectivity for all transportation modes.

**support**

“Developed parkland plays an important role as a focus for a community/neighbourhood. When the designation of sites for parkland development is made, an important consideration shall be the relationship to other foci of a community, namely educational and commercial facilities. Pedestrian access to neighbourhood and community parks and recreation facilities shall also be considered in their location.”

*Langley Township Official Community Plan p.18(4.6)*

“Parks are suggested in conjunction with school sites to maximize use and to permit integration of recreational and educational activities. Several major community wide parks are proposed in the vicinity of areas where green space can be preserved as part of important links with major green spaces. A need for 15-16 neighbourhood parks is anticipated.”

*Willoughby Community Plan p.19(3.6)*

“A neighbourhood elementary school and park shall comprise the focal point for each neighbourhood in Willoughby.”

*Willoughby Community Plan p.19(3.6[A])*

**Key school facts:**

- At an average development density of 9upa, student population is generated based on: 0.43 elementary school students per unit; and, 0.23 secondary school students per unit<sup>8</sup>
- Schools should be developed on a combined site as neighbourhood park/school.
- A neighbourhood park/elementary school requires a minimum area of 4ha (10ac).

*Willoughby: Routley Neighbourhood Plan pp.14(5.1), 21(5.3), 22(Tables 5 & 6)*

“Being primarily residential in nature, the elementary school and neighbourhood park will form an important focal point for both active and passive recreation, and community interaction.”

*Willoughby: Routley Neighbourhood Plan p.13(4.4.3)*

“The Township and School District have been acquiring land along 202B street for elementary school and neighbourhood park purposes. The School District owns the parcel occupied by the Langley Fundamental Middle School. Both the Township and the School District also own 2 hectares each along 206<sup>th</sup> Street, just outside the area covered by the Plan.”

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.2(2.1.1)*

“Two new elementary school sites are required in the Southwest Gordon Estate, their preferred locations are shown as “floating” designations in the Land Use Concept. The total projected increase in school enrolment is 1,347 new elementary students and 713 new secondary students. School sites should be adjacent to neighbourhood parks.”<sup>9</sup>

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.21(5.3)*

The *Willoughby: Southwest Gordon Estate Neighbourhood Plan* projects the need for two neighbourhood park/elementary school sites and one secondary school site. Land for one neighbourhood park has already been acquired by the Township in the northern portion of the neighbourhood. The Plan allows 5.9ha (14.6ac) for a neighbourhood park/elementary school.

*pp.11(Table 2), 14(5.1), 29(8.1)*

<sup>7</sup> Enrollment numbers provided by School District #35, which serves the Township of Langley. Current enrolment in Township schools ranges from 250-450 in elementary schools, and 800-1,800 in secondary schools.

<sup>8</sup> Averaged for single-family and townhouse types.

<sup>9</sup> Base on a projection of 3,085 households at population saturation.

**target**

Create additional safe, comfortable, well-designed public places for people to linger and interact within a five minute walk of all residences and businesses Support the formation of community identity by developing a distinct character for these public places, the individual 200<sup>th</sup> Street nodes, and the overall corridor. Reference the community's historic and physical context within this identity, with particular attention to the role of public art.

**support**

"Individual communities should have distinctive characters and identities[...]Community design and community services should support the development of strong community spirit[...]"  
*Langley Township Official Community Plan p.9(4.1A[7, 8])*

The *Langley Town Centre Community Plan* supports the creation of community identity, in part by proposing the implementation of "coordinated public streetscape improvements such as paving, lighting, tree planting and furnishings throughout the Willowbrook area."

*Langley Town Centre Community Plan p.26(6.2[9])*

The Langley Town Centre Community Plan proposes to improve the pedestrian environment, in part by marking the entry points to the Town Centre to reinforce its identity, and by "earmarking a site for a park or square in Willowbrook, in anticipation of future densification in this area."

*Langley Town Centre Community Plan p.18(5.3)*

"Develop a civic square, centrally located and approximately one-half acre in size, as a focus for pedestrian activity in the Willowbrook Core. Commercial space around the square should be occupied by uses that will animate the area, such as retail and restaurant," and should have strong pedestrian connections to the 64<sup>th</sup> Avenue node.

*Langley Town Centre Community Plan p.26(6.2[7])*

"The physical design of the Routley neighbourhood should enhance the sense of place and allow residents to easily identify with their community. Key elements in designing this neighbourhood include:

- creating a "sense of community"
- developing visually-appealing streetscapes and public spaces
- providing a system of "greenways" to both buffer the neighbourhood and provide a recreational amenity for residents
- creation of a community "focal point" near the centre of the neighbourhood
- establishing a prominent neighbourhood "gateway" at 72 Avenue
- ensuring a safe and secure neighbourhood[...]"

*Willoughby: Routley Neighbourhood Plan pp.11-12(4.4)*

The *Willoughby: Southwest Gordon Estate Neighbourhood Plan* allows for 4ha (1ac) of neighbourhood park space, preferably located in association with Jeffries Brook.

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.11(Table 2)*

To provide residents with adequate park space, smaller parks shall be implemented at key locations along the greenway system[...]"

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.14(5.1)*

"Give the neighbourhood a distinct identity."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.6(3)*

"A special neighbourhood landmark feature, visible from all directions along 200<sup>th</sup> Street and 72<sup>nd</sup> Avenue, shall be provided on the southeast corner of the 200<sup>th</sup> Street/72<sup>nd</sup> Avenue intersection[...]"

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.13(4.7)*

**target**

Achieve no net loss of all coded watercourses, riparian areas, wetlands and ponds.

**support**

“Land use planning, community design and development regulations should protect the environment by: protecting sensitive environments and incorporating environmentally sensitive areas within the overall park system[, and] protecting wildlife habitat[...].”

*Langley Township Official Community Plan p.10(4.1A[11])*

“The municipality is committed to the protection of aquifers which may influence stream flow and water quality[...]. Every effort is to be made to preserve fields in association with forest and fish habitat.”

*Willoughby Community Plan p.16(3.2[F, G])*

“The major drainage issues associated with development are increased stormwater runoff flows, deterioration of water quality, and impacts on fish habitat[...]. There is considerable high and medium quality fish habitat in the Willoughby area. Protection and maintenance of fish habitat areas is a priority item that must be addressed throughout the development of the Willoughby area.”

*Willoughby Community Plan pp.21-22(3.8.2)*

“Conservation areas identify significant watercourses to be protected for fish and wildlife habitat[...]. If a comprehensive conservation/drainage plan can be achieved on less area than required for DFO/MoE mandated non-disturbance areas, then the Township is prepared to support alternatives **provided a net gain in current environmental values is achieved.**”

*Willoughby: Carvolth Business Park Neighbourhood Plan p.6(4.1.6.1)*

“[A] significant tributary to Logan Creek extend[s] from 70<sup>th</sup> Avenue to 68<sup>th</sup> Avenue, flowing from north to south[...]. In this system, the only remaining upstream source of food, nutrients and clean water is from the subject watercourse and associated ditches throughout Routely. Protection of this watercourse, as well as the remainder of the drainage area within Routely, is essential to ensure ‘no net loss’ of fish habitat, pursuant to the Federal Fisheries Act.”

*Willoughby: Routely Neighbourhood Plan pp.30-31*

“It is proposed to re-establish Jeffries Brook as fish spawning habitat. This will involve relocation of watercourses south of the plan area. All plans must be designed to achieve no net loss of existing productive capacity.”

*Willoughby: Southwest Gordon Estate Neighbourhood Plan pp.12(4.4.1)*

**target**

Provide setbacks from top of bank in accordance with Township and MELP/DFO regulations for all salmon bearing and habitat supporting watercourses, including: Latimer Creek tributaries, Jeffries Brook mainstem, Logan Creek tributary.

**support**

"The headwaters of Latimer Creek[...], which incorporate high quality riparian habitat for salmonid production, shall be protected through maintenance of a leave strip (to provide shade to moderate water temperatures, and leaf litter and insects for food, and to contribute organic debris for fish cover). The Ministry of Environment, Lands and Parks requests at least 15 metres in width from the top of banks. Larger setbacks are desired where feasible."

*Willoughby Community Plan p.16(3.2(E))*

"The major drainage issues associated with development are increased stormwater runoff flows, deterioration of water quality, and impacts on fish habitat[...]. Best management practices (BMP's) should be instituted wherever possible to improve runoff water quality. Some effective BMP's include protective buffer strips along stream banks and percolation of stormwater into [the] ground."

*Willoughby Community Plan p.21(3.8.2)*

"The riparian areas of Latimer Creek and its tributaries shall be protected as determined by the Ministry of Environment and Department of Fisheries and Oceans, or in accordance with a memorandum of understanding between the Township and environmental agencies."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.7(4.2)*

MELP guidelines for setbacks from the Logan Creek tributary in Routely are:

- "15m from Top of Ravine Bank (TOB) for low density (<6 units per acre) single family residential housing. A chainlink or cedar fence 1.8 meters in height is required.
- 30m from TOB for all other applications including but not limited to residential greater than 6 units per acre, institutional, commercial, and park. A chainlink or cedar fence 1.8 meters in height is required."

*Willoughby: Routely Neighbourhood Plan p.31*

MELP guidelines for setbacks from Jeffries Brook and its tributaries in Southwest Gordon Estate are:

- 15 m from top of bank (TOB) for single family developments of less than 7 upa around the headwaters;
- minimum 30m from TOB around the mainstem; and,
- 5m from TOB around feeder watercourses, which must remain open.

*Willoughby: Southwest Gordon Estate Neighbourhood Plan, Appendix A, pp.1-2*

Township of Langley "Schedule B – Table of Streamside Protection and Enhancement Development Permit Area Widths"			
Watercourse Class	Colour Code	Column A	Column B
A	red, orange, magenta	30	25
A (roadside watercourse) <sup>10</sup>	red, orange, magenta	7.5	5
B (natural watercourse) <sup>11</sup>	yellow	20	15
B (constructed watercourse) <sup>12</sup> channel width >= 0.5m channel width < 0.5m	yellow	15	10
		10	7.5
B (roadside watercourse)	Yellow	6	3.5
C	Green	0	0
U (unclassified)	Blue	TBA	TBA

<sup>10</sup> "Roadside watercourse" means a watercourse that flows alongside a public road within a dedicated public road or right of way

<sup>11</sup> "Natural watercourse" means a historic watercourse channel that has not been altered, or has not recently been altered, is naturally formed in place, that perennially or intermittently contains surface water.

<sup>12</sup> "Constructed watercourse" means a human-made waterway constructed for the purpose of draining or irrigating land, that is not a roadside watercourse.

**target**

Determine the feasibility of achieving minimum width wildlife/riparian greenways of 30 metres, with municipal trails on the outer edge buffered by a 2.5 metre leavestrip.

**support**

“The headwaters of Latimer Creek[...], which incorporate high quality riparian habitat for salmonid production, shall be protected through maintenance of a leave strip (to provide shade to moderate water temperatures, and leaf litter and insects for food, and to contribute organic debris for fish cover). The Ministry of Environment, Lands and Parks requests at least 15 metres in width from the top of banks. **Larger setbacks are desired where feasible.**”

*Willoughby Community Plan p.16(3.2[E])*

The Ministry of Environment, Lands and Parks has stated: “We recommend the minimum width of greenways that have a habitat component be increased to 30-50m in width. As with past developments, if a trail is proposed, protective leavestrip widths should be increased by 2.5 metres, with the trail located at the outer edge[...]any trails proposed within or adjacent to a protected watercourse must be more than 15m from top of ravine bank, and should be isolated from each other via a barrier which discourages human movement thus allowing for protection of the adjacent fish and wildlife resources.”

*Willoughby: Routley Neighbourhood Plan p.33(4.1; 4.2.3, 2d)*

**target**

Preserve large stands of trees. In locations where trees must be cleared replant open areas such that there is a minimum 40% tree canopy cover within 20 years of planting.

**support**

"Land use planning, community design and development regulations should protect the environment by[...]retaining existing trees and requiring the planting of new trees."

*Langley Township Official Community Plan p.10(4.1A[11])*

"Required boulevard planting and provisions of street trees along all roads is a fundamental component of all new development in Willoughby."

*Willoughby Community Plan p.16(3.2[I])*

"Woodlots throughout Willoughby serve an important function for wildlife and birds. Most of the woodlots however are fragmented through subdivision patterns, roads, and encroaching development. While several fields continue to function as hay fields and pasture, others have been abandoned. When associated with woodlots and wetlands, and the few existing orchards, the fields provide a diverse habitat for birds and small mammals."

*Willoughby Community Plan p.5(1.4.3)*

"Every effort is to be made to preserve significant tree stands and fields in order to accommodate wildlife and songbirds."

*Willoughby Community Plan p.15(3.2[C])*

"The buffer along the south side of the Trans Canada Highway is to be 15 metres wide[...]Existing vegetation in the buffer should be preserved and enhanced where appropriate."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.6(4.1.7.3)*

"While there are few mature, second growth tree species in Routley, there are numerous clusters of trees and vegetation, which add to the aesthetic and environmental value of the area, and should be retained, where appropriate through new development."

*Willoughby: Routley Neighbourhood Plan p.3(2.1.2)*

"Favourable consideration will be given to the inclusion of co-housing, co-operative housing, and similar non-traditional housing forms and projects, as well as to clustered housing and other building layouts which preserve existing vegetation and other natural features."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.7(4.2.1)*

**target**

Develop a minimum 15 metre natural vegetated buffer along the Trans Canada Highway to mitigate noise impacts, incorporating existing vegetation and vegetated earthen berms where appropriate.

**support**

"There is a continuous visual buffer along the south side of the Trans Canada Highway. Consideration should be given to maintain a visual screen between the freeway and future developments."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.6(4.1.7.3)*

"The buffer along the south side of the Trans Canada Highway is to be 15 metres wide with a municipal trail[...]Existing vegetation in the buffer should be preserved and enhanced where appropriate."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.6(4.1.7.3)*

**target**

Identify, preserve and accentuate view sheds.

**support**

"To take advantage of convenient freeway access and excellent views, lands south of the 200 Street interchange will be considered for tourist commercial oriented uses. Commercial entertainment and recreation uses and educational, performing arts and institutional facilities would also be considered."

*Willoughby Community Plan p.18(3.4[D])*

"The gently undulating topography of the Carvolth Plan areas offers excellent views of the Coast Mountain Ranges to the north. The Willoughby Community Plan encourages tourist commercial uses southeast of the interchange to take advantage of convenient freeway access and excellent views."

*Willoughby: Carvolth Business Park Neighbourhood Plan p.2(2.9.3)*

"The northern portion of Routley is relatively flat. Some properties north of 72 Avenue offer views of the Coast Mountains. The southern portion is more sloping, and offers some excellent views towards Langley Town Centre, Murrayville and Mount Baker."

*Willoughby: Routley Neighbourhood Plan p.3(2.1.3)*

"To ensure that view opportunities are preserved or enhanced, new development should respect the natural topography of the land[...]Consideration should also be given to creating view corridors within road rights-of-way, greenways and park areas for the enjoyment of all residents."

*Willoughby: Routley Neighbourhood Plan p.13(4.4.5)*



**target**

Reduce flooding and impacts to streams and groundwater through the use of low impact infrastructure and drainage in developed and non-developed areas, to conserve water and improve water quality, and to infiltrate a minimum of 1" of rainwater per day.

**support**

"Designated Urban Development Areas shall be provided with storm drainage management systems, with adequate design to prevent flooding and to inhibit the introduction of filter pollutants and hydrocarbons into streams, as well as function to recharge groundwater supplies where possible."

*Langley Township Official Community Plan p.22(4.10)*

The north portion of the study area drains into Latimer Creek, which flows into the Serpentine River in the City of Surrey. The south portion of the study area discharges into the Nicomekl River, which flows through the Cities of Langley and Surrey. Both the Serpentine and Nicomekl Rivers discharge in Mud Bay and are important salmon habitat.

*Willoughby Community Plan p.6(1.4.5)*

"The major drainage issues associated with development are increased stormwater runoff flows, deterioration of water quality, and impacts on fish habitat[...]. Infiltration measures should be used wherever possible to minimize any increased runoff."

*Willoughby Community Plan p.21(3.8.2)*

"A major problem which must be addressed by all developers in the Latimer Creek areas is the volume and peak flow of stormwater runoff. Latimer Creek flows from the Township of Langley through the City of Surrey and discharges into the Serpentine River. The lowland area of the Serpentine river has experienced very frequent flooding events which have been attributed in part to increased volume and peak flow from the upstream catchment areas. In order to mitigate possible development impacts from the Township of Langley on the Serpentine lowlands, it is required that all new developments control runoff volumes and peak flows to pre-development levels. Innovative methods of controlling development discharges need to be explored."

*Willoughby: Carvolth Business Park Neighbourhood Plan pp.9-10*

"The entirety of Routely drains to Logan Creek, a valuable salmon-bearing watercourse. Due in part to the previous Willowbrook area development, Logan has become extremely 'flashy' during storm events. The creek level is known to increase by over one meter in a short duration of time during a frequent storm event. This is indicative of high percentages of impermeable area in the watershed. For this reason, it is imperative that Routely focus on maintaining and enhancing the stormwater regime."

*Willoughby: Routley Neighbourhood Plan p.30*

"In order to meet the environmental protection requirements for [Jeffries Brook], there is a need to provide sufficient base flows, while at the same time minimizing adverse effects which may be caused by the increased discharge of urban stormwater directly into the channel[...]. As a result [of low infiltration, high proposed development densities, and steep slopes in the Plan area], proven urban drainage systems remain the most appropriate for this area. **The opportunity may exist to explore alternative approaches, but on a localized site specific basis.**"

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.24(6.4)*

**target**

Achieve a minimum of 60% effective permeable surface area for the study area; 50% effective permeable surface area per lot.

**support**

"The development of new communities should minimize public costs by[...]examining municipal standards for roads and other services to see if revised standards could reduce costs, reduce environmental impacts and improve neighbourhood design and identity[...]"

*Langley Township Official Community Plan p.11(4.1A[15])*

"Where it is important to allow ground seepage to maintain flow in watercourses, development is encouraged [to] maintain a low surface imperviousness through compact buildings and site layout, alternative stormwater and road standards, use of pervious surfaces where feasible and the preservation of existing vegetation[...]"

*Willoughby Community Plan p.26(4.1.3)*

The *Willoughby: Routely Neighbourhood Plan* concept includes requirement for a "permeable greenway corridor to allow opportunities for groundwater recharge, and reduce requirements for storm water discharge."

*p.7(4.1)*

The Ministry of Environment, Lands and Parks promotes the maximization of pervious areas such "that the roads themselves be constructed to the minimum possible road width standard [and, w]here sidewalks are constructed, they should be cambered towards a pervious drainage swale to promote infiltration," and "driveway size [should] be limited, to encourage maximization of pervious area. To this end, pervious materials may be used for driveway construction, and all driveways should drain to parallel infiltration swales, rather than draining towards the roads and/or storm sewer."

*Willoughby: Routely Neighbourhood Plan p.34(4.1.1, 4.4.6)*

"Because Jeffries Brook obtains its water from ground seepage, development on land parcels between 72<sup>nd</sup> Avenue and 68<sup>th</sup> Avenue will be required to maintain a low surface imperviousness through compact buildings and site layout, alternative stormwater and road, and the preservation of existing vegetation. Existing access roads crossing Jeffries Brook should be removed[...]"

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.12(4.4.1)*

**target**

Maintain an average density of 40 upa with a range of housing types from detached ground oriented at 15 upa gross to high rise at 100+ upa gross throughout the 200 Street 5 minute walk corridor.

**support**

"A community should be designed with a central node, with the highest density of commercial and residential development in the centre to encourage walking and transit use."

*Langley Township Official Community Plan p.8(4.1A[3])*

"Service commercial nodes, providing for retail needs of neighbourhood residents and motorists on 200 Street are proposed at the major intersections of 72 and 80 Avenues, and are proposed to include mixed uses such as service commercial and multiple family housing."

*Willoughby Community Plan p.17(3.3)*

"Two neighbourhood and commercial nodes are identified to serve the nearby residential areas and the workers from the adjacent business park (203<sup>rd</sup> Street and 66<sup>th</sup> Avenue). Mixed uses and higher densities are permitted around these nodes to provide a range of complementary services and housing opportunities for residents desiring for proximity to such services."

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.6(4.1)*

**target**

Locate 13,900 – 20,800 housing units in the 200<sup>th</sup> Street neighbourhoods with a minimum of 12,400 – 18,500 units within the 5 minute walking radius of the four 200<sup>th</sup> Street nodes, and a range of housing types and tenures suited to a mix of ages, incomes, and abilities.

**support**

Housing unit calculation:

- Assume 25,000 – 37,500<sup>13</sup> residents within 5 minute walk of 200<sup>th</sup> Street corridor from interchange to municipal boundary;
- Assume 1.8 people per unit (ppu);
- **25,000 / 1.8 = 13,900 units; 37,500 / 1.8 = 20,800 units**
- Assume the four 200<sup>th</sup> Street nodes comprise 80%<sup>14</sup> of the 200<sup>th</sup> Street 5 minute walk corridor;
- **13,900 X 0.8 = 11,100 units; 20,800 X 0.8 = 16,600 units.**

“A community should include a mix of housing types, including a variety of housing densities (single detached lot of various sizes, duplex, townhouse, apartment), a variety of tenures (fee simple, strata title, rental) and mixed forms such as secondary rental suites in houses to provide a wide variety and price of units to meet the needs of all members of the community”

*Langley Township Official Community Plan p.8(4.1A[2])*

The *Willoughby: Carvolth Business Park Neighbourhood Plan* provides for approximately 3.7 ha (9.2 ac) of Residential land use.

*p.4(4.1)*

The *Willoughby: Routley Neighbourhood Plan* has as an objective “to provide for an appropriate mix of housing to accommodate a range of household needs.”

*p.5(3.0)*

The *Willoughby: Southwest Gordon Estate Neighbourhood Plan* has as a development principle to “[p]rovide a variety of housing types.”

*p.6(3)*

“The objective of [the Infill Residential land use] designation is to encourage retention of existing “estate character” homes, by allowing innovative “infill” residential units to be developed on the property in a manner that will maintain the character of the existing streetscape and surrounding neighbourhood.”

*Willoughby Community Plan p.23(4.1.1)*

<sup>13</sup> Calculated using Urban Futures 2005 population for the “Langleys,” subtracting out City of Langley 2005 population, projecting population out to 2050 using Urban Futures population growth projection for the “Langleys,” and multiplying by 20-30% (estimated percentage of Township’s Urban Development Zone comprised by 200<sup>th</sup> Street 5-minute walk corridor).

<sup>14</sup> Assumes the 200<sup>th</sup> Street 5 minute walk corridor, from the interchange to the municipal boundary is approximately 1 km wide by 4 km long, with an area of 400 ha (1000 ac); and, the four nodes comprise 315 ha (800 ac) together (four circles of 0.5 km radius [area = 78.5 ha] means 4 X 78.5 ha = 315 ha [800 ac]).

**target**

Support the needs of residents of all ages, incomes, abilities and family types by providing additional community facilities – e.g. daycare, community meeting room, recreational facilities, library, fire stations, community police office, etc. Locate based on existing facilities and projected population. Use all community facilities to support community centres, with good connectivity for all transportation modes.

**support**

“A community should have a full array of infrastructure and services to provide a complete community, including multi-use, year-round community centres that can act as community focal points. These centres should be integrated with schools and commercial use, both to reduce costs and to encourage community interaction. Satellite civic offices should be provided to serve communities. The overall plan for community facilities in Langley should strike a good balance between centralized facilities that serve the entire community and facilities that serve individual neighbourhoods.”

*Langley Township Official Community Plan p.8(4.1A[9])*

“Every effort is to be made to orient new community facilities [designed to serve all of Willoughby] such as major municipal parks, libraries, museums, community centres, recreation facilities and entertainment complexes within or adjacent to the Town Centre area.”

*Willoughby Community Plan p.18(3.5[D])*

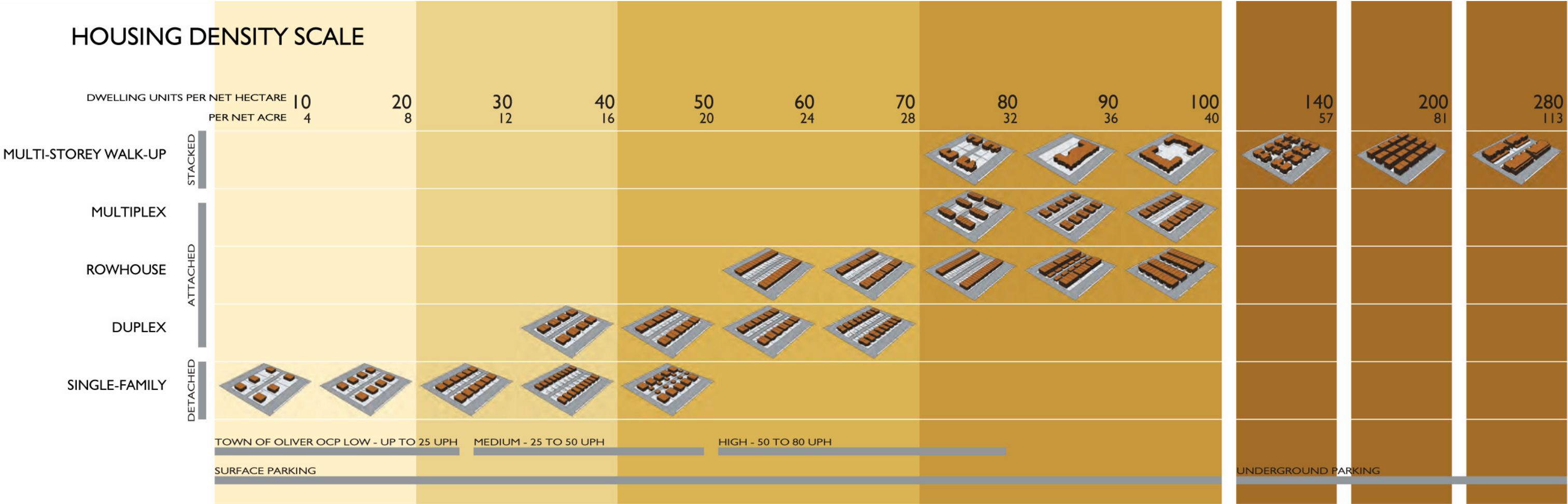
“Other community facilities have not been identified in the planning process. However, should other facilities (e.g., daycare, community meeting room, recreational facilities, etc.) become required in the future – it would be appropriate to develop these uses adjacent to the school/park site. Alternatively, other community facilities could be developed in conjunction with neighbourhood retail uses (i.e., as part of a mixed-use development) at 72 Avenue and 200 Street.”

*Willoughby: Routley Neighbourhood Plan p.22(5.4)*

“Other facilities outside the plan area will also be required, including secondary school, community park, recreation centre and indoor facilities, a library, fire stations and a community police office.”

*Willoughby: Southwest Gordon Estate Neighbourhood Plan p.29(8.1)*





DWELLING UNITS PER NET HECTARE  
PER NET ACRE

10

20

30

40

50

60

70

80

90

100

140

200

280

4

8

12

16

20

24

28

32

36

40

57



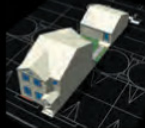
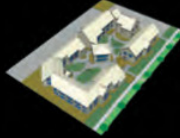
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113






HOUSING DENSITY SCALE  
IN DWELLING UNITS PER HECTARE


		DETACHED SHARED DRIVEWAY	DETACHED	DETACHED ACCESSORY OVER GARAGE	ATTACHED DUPLEX	ATTACHED ROWHOUSE ACCESSORY OVER GARAGE	ATTACHED ROWHOUSE	ATTACHED ROWHOUSE LIVE / WORK SPACE	STACKED LOWRISE	STACKED LOWRISE
		2 STORY 25 UPH (10 DUA) 2 CAR DETACHED, OFF STREET .24 FAR	3 STORY 31 UPH (13 DUA) 2 CAR DETACHED, OFF ALLEY .84 FAR	2 STORY 39 UPH (16 DUA) 2 CAR DETACHED, OFF ALLEY .78 FAR	2 STORY 59 UPH (24 DUA) 1 CAR DETACHED, OFF ALLEY .79 FAR	3 STORY 62 UPH (25 DUA) 1 CAR DETACHED, OFF ALLEY .93 FAR	2 STORY 73 UPH (29 DUA) 2 CAR DETACHED, OFF ALLEY .95 FAR	3 STORY 84 UPH (34 DUA) 2 CAR ATTACHED, OFF ALLEY 2.27 FAR	3.5 STORY 99 UPH (40 DUA) 1.3 CAR UNDERGROUND 1.32 FAR	2 STORY 103 UPH (41 DUA) 1.1 CAR SURFACE, OFF ALLEY .46 FAR
										
0	10	20	30	40	50	60	70	80	90	100
										
										
		GARRISON WOODS SINGLE FAMILY	CORNELL INFILL HOUSING	MURRAYS CORNER SINGLE FAMILY	2238 COLLINGWOOD	BUNGAROWS	FAIRVIEW ROWHOUSES	ORENCO STATION BROWNSTONES	GARRISON WOODS COURTYARDS	LAUREL GARDENS
DETACHED		NARROW LOT		ATTACHED			STACKED			

ATTACHED ROWHOUSE

3 STORY  
139 UPH (56 DUA)  
1 CAR UNDERGROUND  
2.28 FAR



140



KITS MEWS

STACKED TOWNHOUSE

4 STORY  
201 UPH (81 DUA)  
1 CAR UNDERGROUND  
2.43 FAR



200



HELEN'S COURT

STACKED MIDRISE  
OVER COMMERCIAL

4 STORY  
284 UPH (114 DUA)  
1 CAR UNDERGROUND  
2.84 FAR



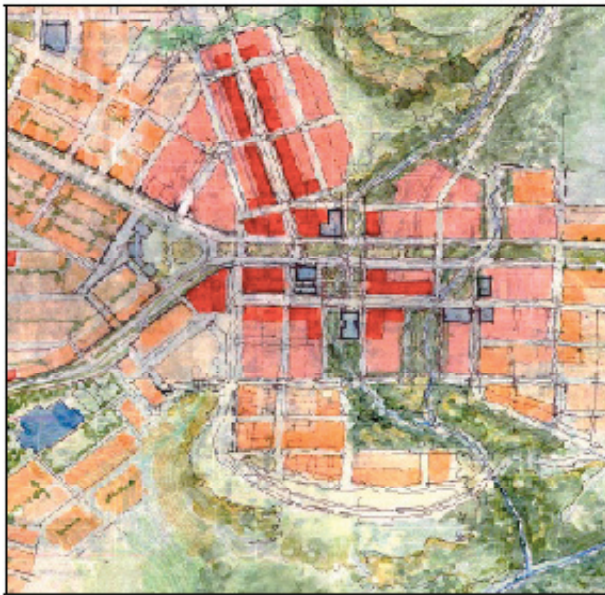
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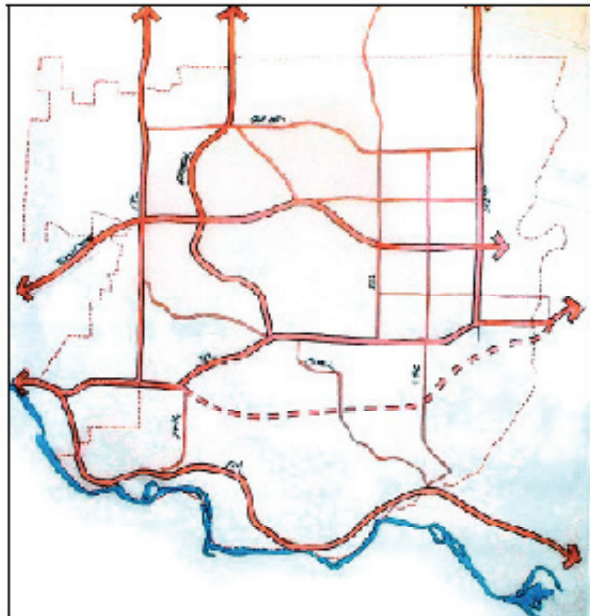
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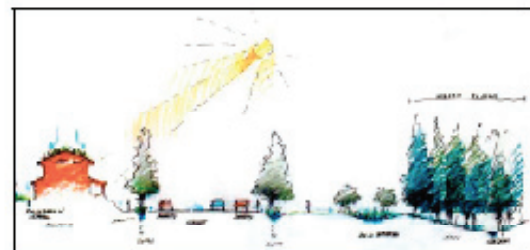
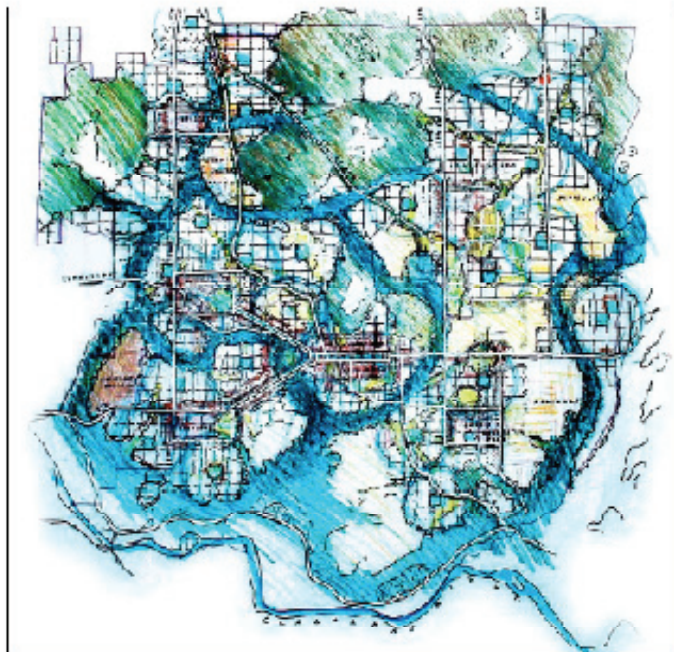
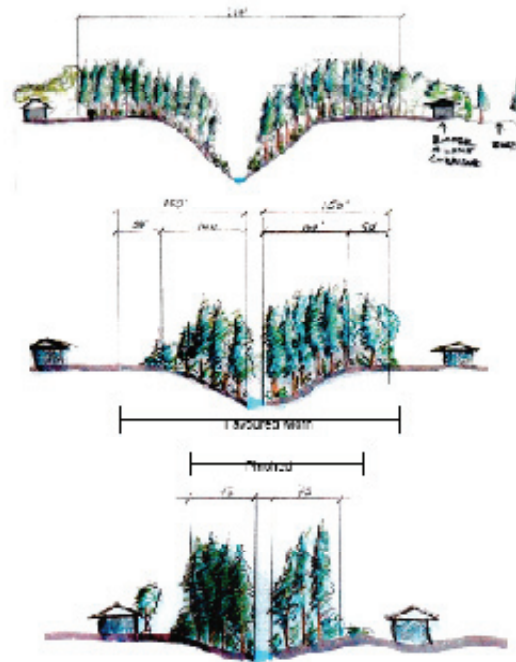
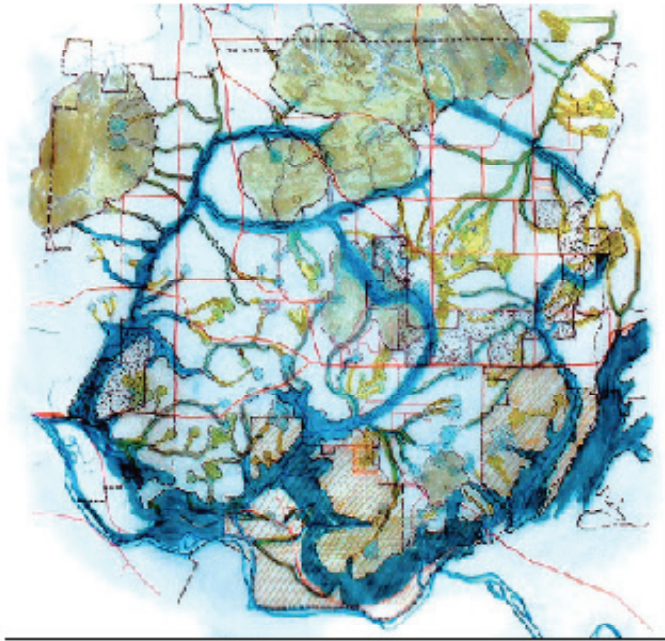
The Home Team



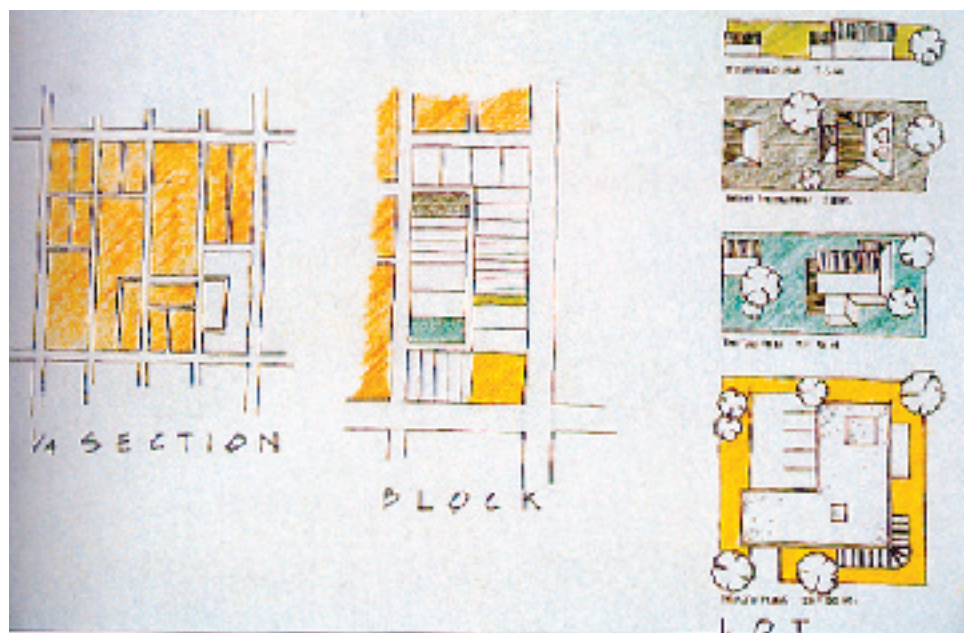
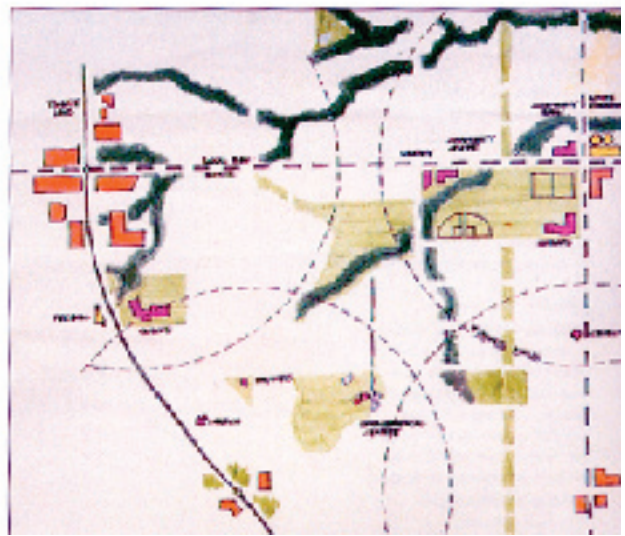
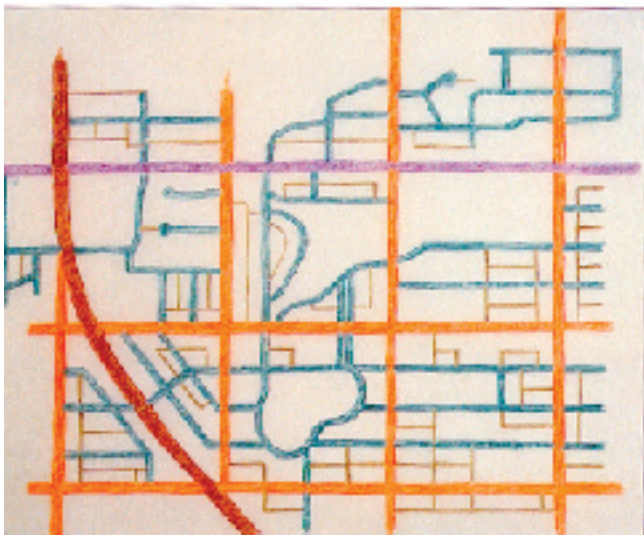
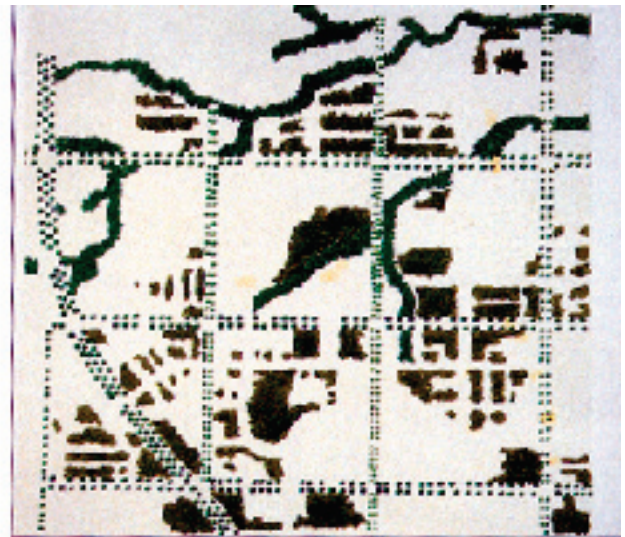
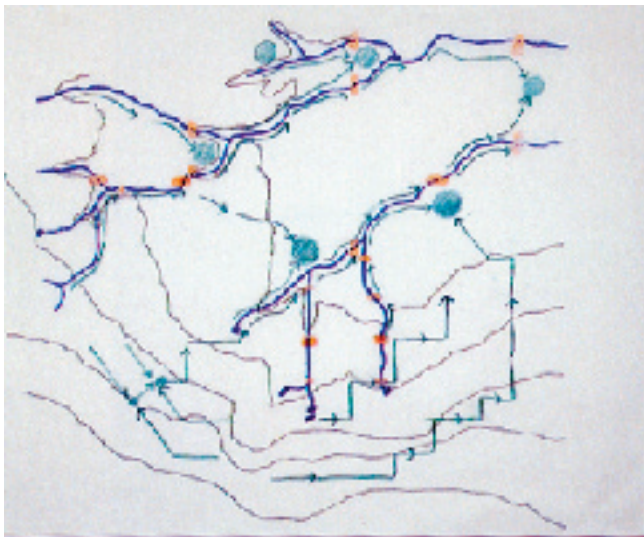
The Go Team















STREET GRID



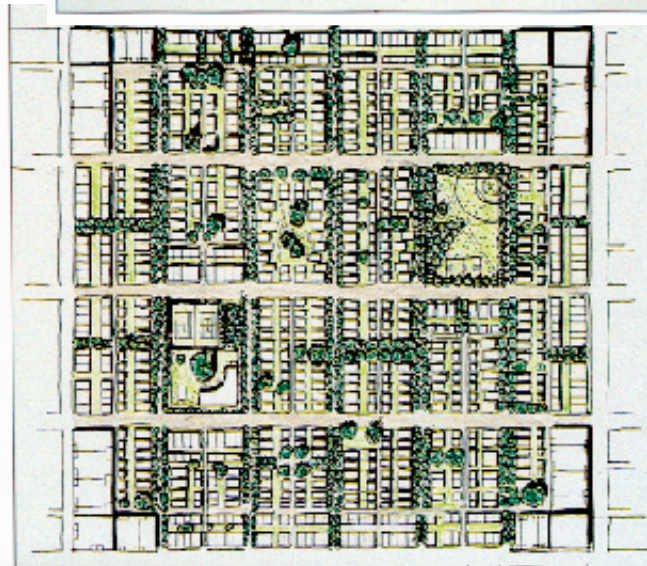
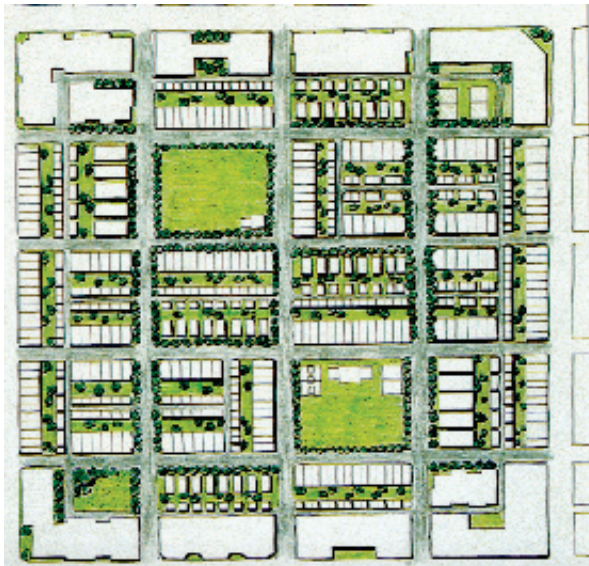
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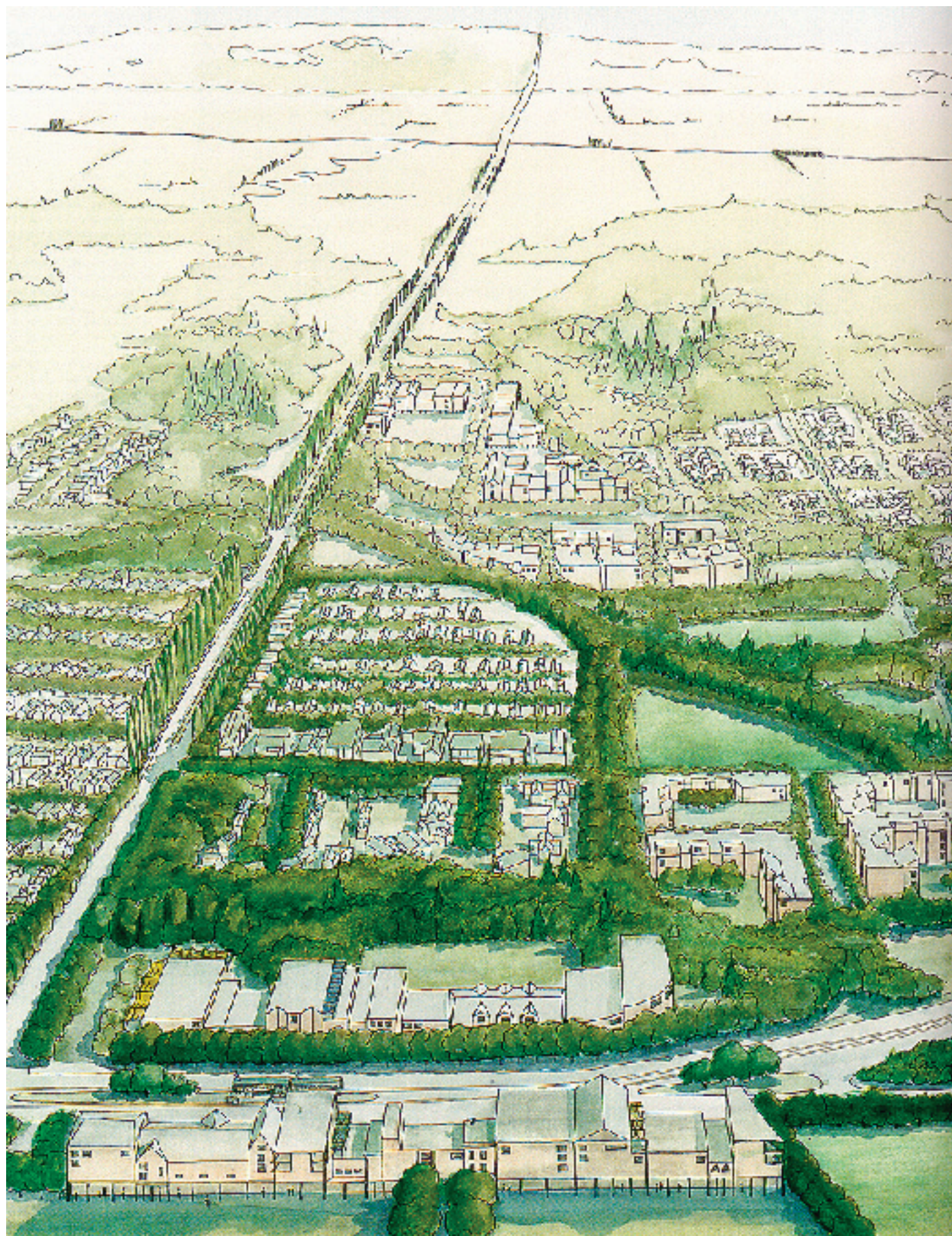
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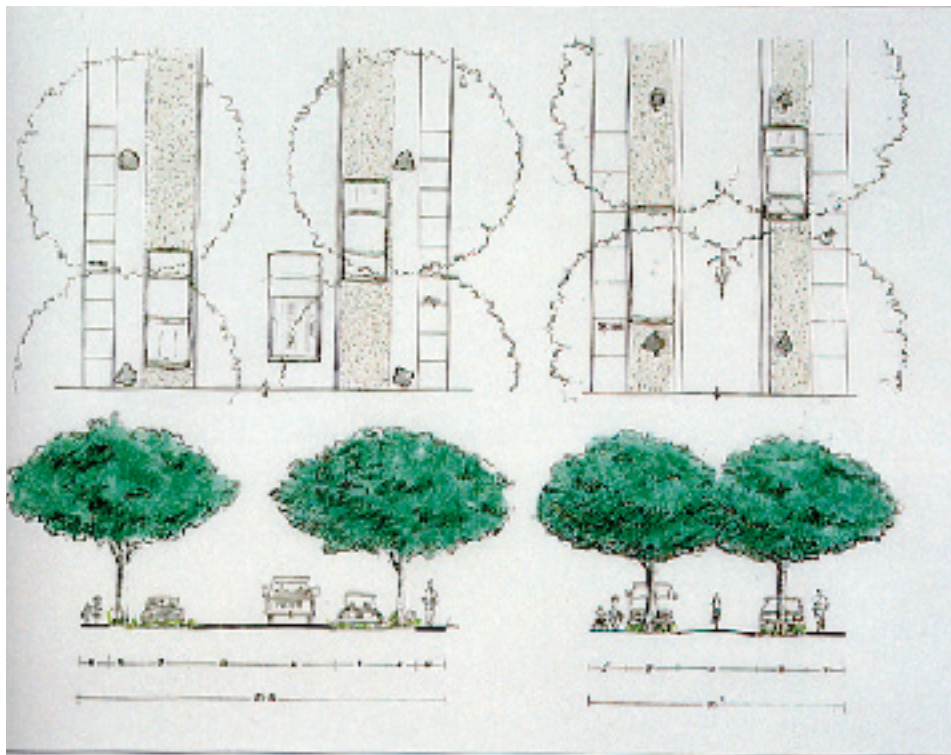
LAND







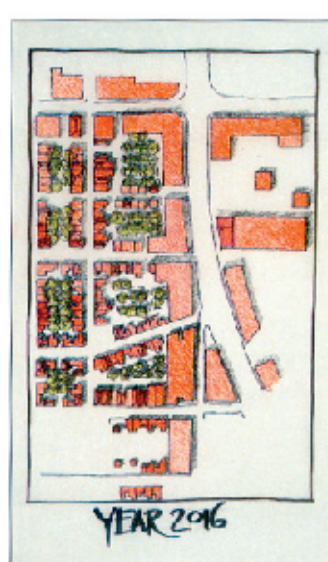
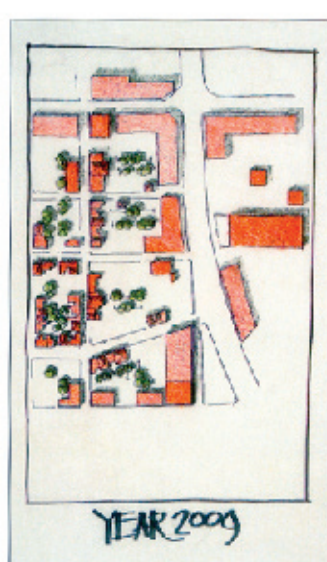
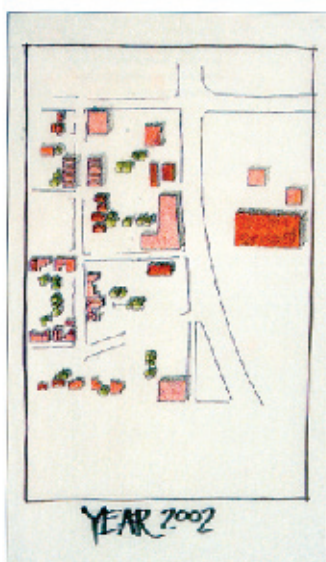
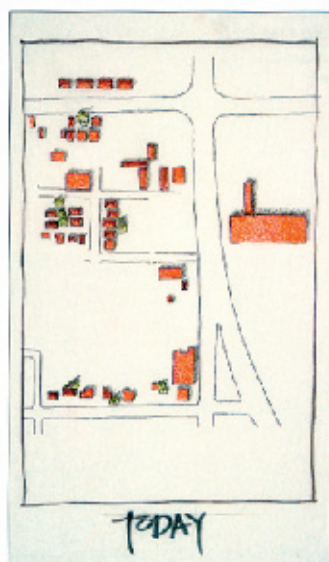
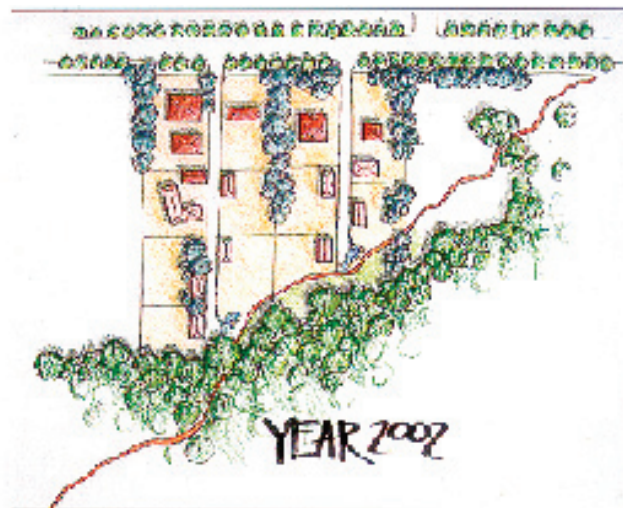














# Photoshop Examples

Before



After





Before



After

