# The Fraser Delta Lowlands: NEW BUILDINGS


## Summary

The Fraser Delta Lowlands are comprised of Richmond, Ladner and Tsawwassen.


### The Current Situation

These three communities are built on the Fraser River delta which is on average at or below sea level. This is some of the best arable land in BC and the Eastern half of these municipalities are in the Agricultural Land Reserve.

The Lowland communities are low density and prone to sprawl putting development pressure on the ALR. There is a strong segregation of land uses in the Lowlands with residents living in the West and commuting North and East to work and services.

**Total population added by 2056: 154,660**

**Summary of added dwelling units:**

**61,864** new housing units were added to densify the Fraser Delta Lowlands.

645 Single detached homes

894 Townhouse, 34,685 Garden apartment (35 units/building)

20,000 Mixed-use commercial (25 units residential/ building)

5640 Mixed-use live work, business/industrial (15 units residential/ building)

Secondary suites legalized

*The complete Fraser Delta Lowlands: Richmond, Ladner and Tsawwassen*

The Fraser Delta Lowlands:, Greg Rouleau, Marina Rommel, Jamie Nicholls

**A Design for 4 Million**

# The Fraser Delta Lowlands: NEW BUILDINGS

## Neighbourhood scale solutions

We integrated higher density, commercial space and public transportation at the neighbourhood scale to give all residents the opportunity to work and shop within walking distance of their homes. In order to respect the single family characters of Richmond and Delta. We added street oriented medium density housing typologies with work on the ground floor and residential above.

### Our Strategies

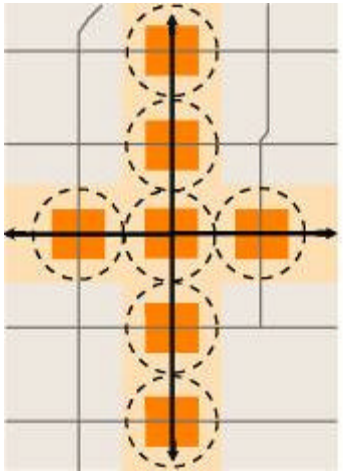
•Add density to existing neighbourhoods and service them with a robust transit system.

•Protect the ALR and reinforce open space.

•Add live/work and commercial nodes to the neighbourhoods to create complete communities.

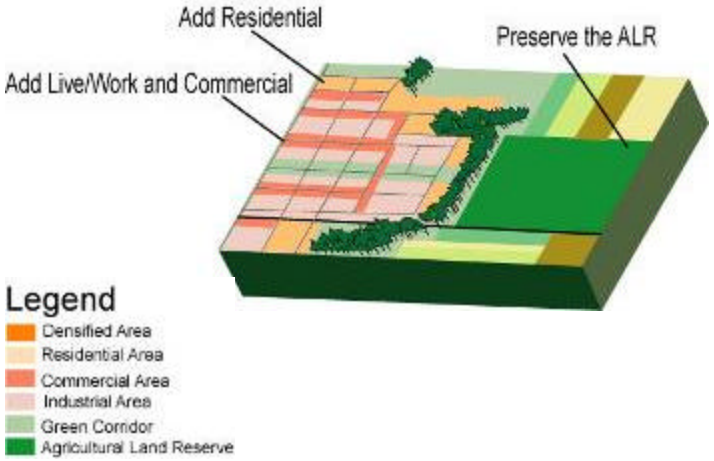
•Position nodes of density and commercial activity within a five minute walk of all residents.

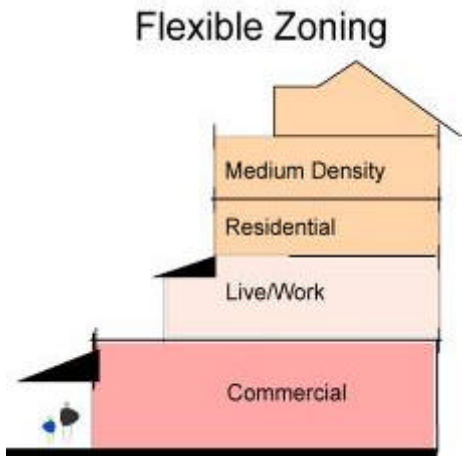
*Opportunities and Constraints*

*Densified commercial corners*

*Brownfield infill*




*Mixed use building*

The Fraser Delta Lowlands: Greg Rouleau, Marina Rommel, Jamie Nicholls

# The Fraser Delta Lowlands: GREEN INFRASTRUCTURE

## District scale overview

The Green infrastructure in this district is distinct from all other areas of the GVRD. Much of this region is coastal floodplain. The dike system along the edge of the Fraser and the Georgia Straight protects this area from flooding and creates a great opportunity for recreation and wildlife habitat.

By preserving and creating green spaces along the waters edge, the habitat rich foreshore is preserved and accessible as a recreational and transportation corridor (Fig.2).

The foreshore is connected through green corridors to the interior green spaces, creating a green web. This network of green creates urban habitat for flora and fauna in the region, and provides residents with a safe, aesthetic walkway option.

Most importantly, our densification strategies allowed us to preserve the ALR instead of allowing growth to encroach on this valuable fertile land and source of food security for the GVRD (Fig.4).

*Green networks for people's well being and habitat integrity:*

By preserving the shoreline and the ALR, connections between these two major systems was done using existing canal infrastructure, green streets, and where feasible,linking open spaces with a trail network were strategies proposed for the building of green infrastructure.

The Fraser Delta Lowlands: Greg Rouleau, Marina Rommel, Jamie Nicholls

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# The Fraser Delta Lowlands: GREEN INFRASTUCURE

## Neighbourhood details

In Tsawwassen a sustainable community design, that focused on bringing jobs and services into the district, while preserving the green edge along the water, replaced barren agricultural fields. This new green community adds jobs, affordable housing, new vibrancy and dynamism to an aging residential suburb (Fig.1).

Richmond presented a unique opportunity to use existing canals as green corridors. By expanding on the region's existing canals into residential areas, canalled green streets were created (Fig.3).They add character to the neighbourhoods and provide recreational opportunities to the residents while revealing Richmond's natural drainage.

At the neighbourhood scale proximity to green space was seen as a priority. A maximum 5 minute walking distance to public green space provides residents with ample recreational opportunitie.

Fig.1 *A complete, sustainable and green community:*
The edge of the ALR should provide an opportunity to express a sustainable vision

Fig.2 *Protect the Foreshore:*
The shoreline provides opportunities for a green corridor.

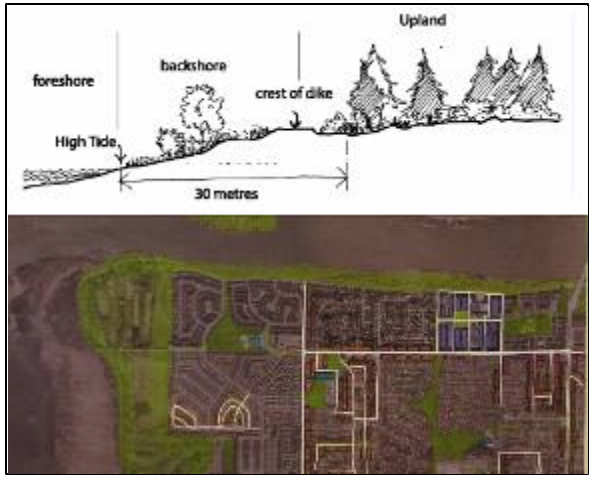



Fig.3 *Use existing canal infrastructure for green connections*
Richmond presents unique opportunities for green corridors.

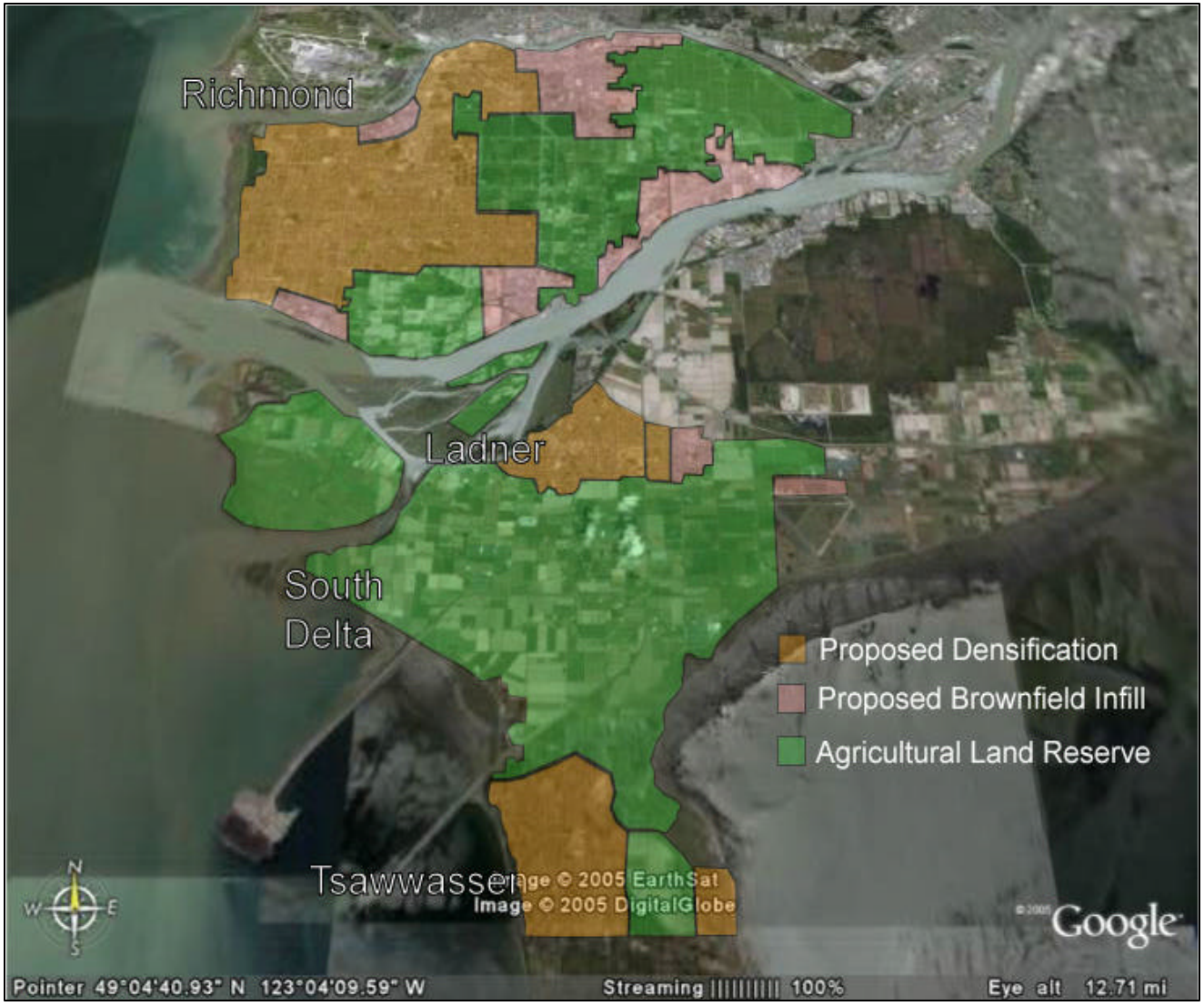
Fig.4 *Save the ALR:*
All areas of the ALR are to be saved by using density measure at the neighbourhood scale

# The Fraser Delta Lowlands: JOBS CLOSE TO HOME

## District scale overview

Richmond is a complete community with more jobs than qualified workers largely due to YVR. South Delta has fewer jobs but faces similar problems of land use segregation. The issue in the Fraser Lowlands is the separation of residential, industrial and commercial areas. The re-integration of these three separate yet essential land uses could increase the prosperity and quality of life in the Fraser Lowlands by reducing commuting and allowing people to work in their neighbourhoods.

The job market is changing in the lowlands with service industries replacing traditional resource based industries. As this transition occurs many brownfield sites are being left behind creating an opportunity for mixed work/live infill.




*Complete communities create jobs*

The Fraser Delta Lowlands: Greg Rouleau, Marina Rommel, Jamie Nicholls

# The Fraser Delta Lowlands: JOBS CLOSE TO HOME

## Job Sites

**Jobs added summary:**

18,000 live work jobs
12,000 new commercial jobs
3520 Institutional jobs
3000 Industrial jobs
Total airport jobs: 53, 000

Total jobs created: 89,520

In Richmond and South Delta employment centres were diversified by allowing for small commercial nodes in all neighbourhoods.

Flexible zoning and the infill of brownfield sites with medium to high density residential will make communities out of these brownfield sites while allowing existing industrial to continue functioning (Fig.5).

Residents will have the opportunity to live near services, their places of employment and close to open spaces (Fig.6).

In South Delta the creation of small dense commercial nodes redistributes jobs locally and provides people with the opportunity to work in their immediate neighbourhood (Fig.8).

Fig.5 *Richmond Knight St. Corridor:*
Brownfield sites are infilled with live/work creating complete communities.

Fig.6 *Densified corners are commercial nodes:*
Density creates nodes of commercial, services, culture and transportation.

Fig.7 *Preserve river dependant job sites and the ALR*

Fig.8 *Jobs within 400 m. walking distance:*

The Fraser Delta Lowlands: Greg Rouleau, Marina Rommel, Jamie Nicholls

# The Fraser Delta Lowlands: TRANSPORTATION

## Moving around the district

**Connect the districts through transit, bike, and pedestrian networks.**

The Fraser Delta Lowlands are currently characterized by sprawling developments of single family homes surrounded by agricultural lands. Low density development leads to car dependant travel and makes transit, bike, and pedestrian transport methods unreasonable. These residential corridors require concentration and diversification. As population increases along the corridors, the bus, bike, and pedestrian networks connecting the districts and the region expand. Buses from Tsawwassen and Langley can run more frequently and connect to the Richmond Skytrain station.

Continuing transport greenways along the Fraser and the dikes of Richmond is another necessary development. These changes can make transit, biking, and walking a more viable option for commuters. Linking diverse transportation methods increases community livability and commercial opportunities while reducing pollution, transportation costs, and traffic congestion.

*Transit network connecting the districts:*
Transit routes are illustrated by the thicker white lines. The new Canada Skytrain line is coloured in pink. Buses run on the 800m grid pattern in Richmond serving all the neighbourhoods along high density corridors.

The Fraser Delta Lowlands: Greg Rouleau, Marina Rommel, Jamie Nicholls

## Moving around the neighbourhoods

### Dense mixed-use transit corridors

The 2056 Richmond has a dense bus network along the 800m grid that connects all neighbourhoods to the Skytrain stations, and to the greater region (Fig.9). The new higher density corridors have residential garden apartments along the streets, mixed-use commercial buildings, and bus stops on each corner (Fig.10). This network of density allows for frequent bus service and shopping options in 5 min. walking distance. Tsawassen's new development also has higher density, mixed-use commercial corridors serviced by transit (Fig 11).

### Green mid-block connections

Richmond's street system is only interconnected on the 800 m grid pattern. Due to the existing maze of cul-de-sacs inside this grid, it was impossible to create an interconnected street pattern on the smaller scale. Therefore the grid was retrofitted where possible with green mid-block connections for safe and easy pedestrian and bike flow (Fig.12). These green streets also connect the open green spaces functioning as habitat and stormwater corridors.

Fig.9 *Richmond's transit network* The network of buses connect to the new Canada Skytrain line at Richmond centre

Fig.10 *Dense mixed-use transit corridors in Richmond:* The higher density commercial corners allow for a 5 min. walk to transit

Fig.11 *Connect all communities to transit*

Fig.12 *Green mid-block connections*
Green connections improve the flow of people, water and animals

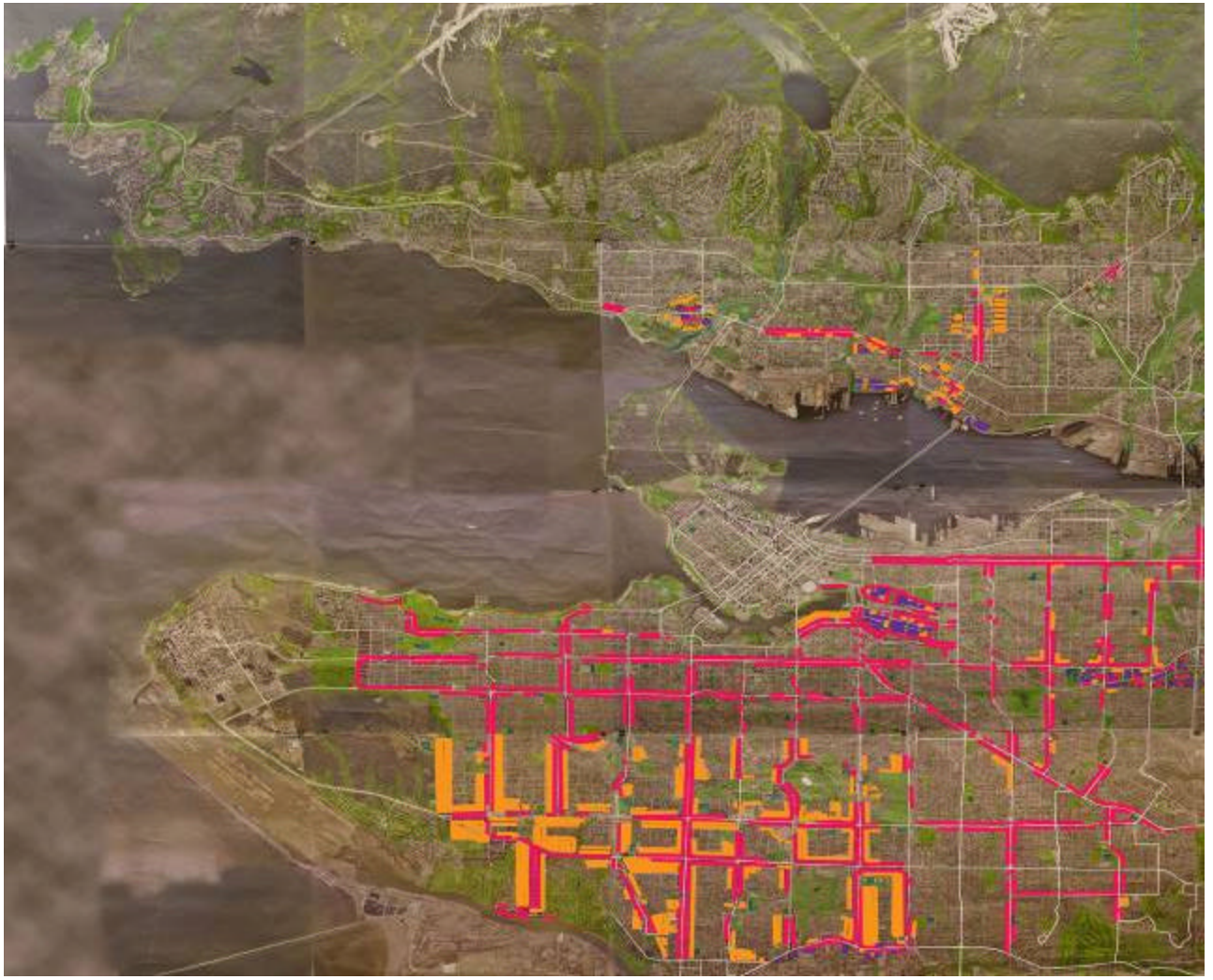
# Vancouver Tri Cities: NEW BUILDINGS


## Summary

Nearly 78,000 units of new housing were added to the Vancouver Tri-Cities sub-region. 3% of these were detached homes, .5% were townhouses, 28% were apartments and 2% were highrise units. Of the total number of new dwelling units, approximately 61% were in mixed use commercial type buildings, and 5% were in mixed use live-work buildings. Overall, 195,000 more potential residents could be accommodated by this densification, which would represent an increase of nearly 30% over the current population of the Vancouver Tri-Cities area.


## Two Strategies

Because of differences in topography and potential for job growth and densification between the North Shore and the City of Vancouver, somewhat different approaches towards building patterns have been taken in the different sub-regions of the Vancouver Tri-Cities quadrant. As guided by the GVRD Livable Region Strategic Plan and local OCPs, most growth in this quadrant takes place within the City of Vancouver.



*Building Strategy*: In the Vancouver Tri-Cities area, the established urban grid and transit system provided the superstructure for new housing development which is predominantly a commercial/residential mix. Pink represents new mixed use commercial, purple represents industrial/business and orange represents higher density residential.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

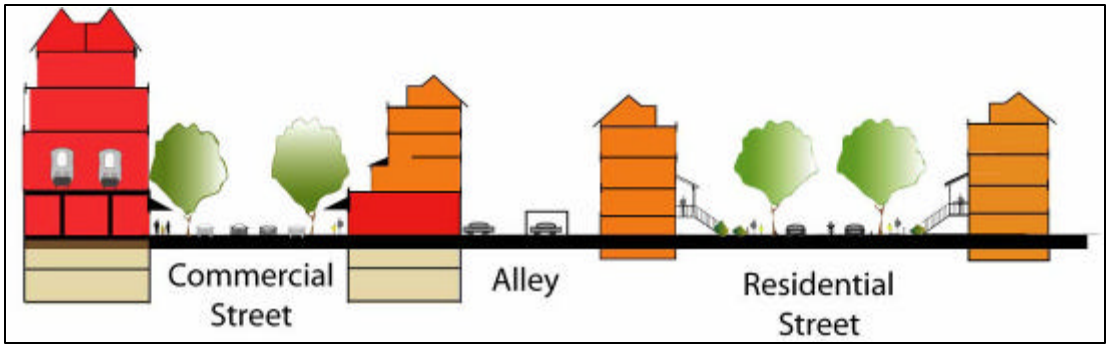
# Vancouver Tri-Cities: NEW BUILDINGS

## Vancouver: The Streetcar City Revived

The main strategy for densification within the City of Vancouver in the Tri-Cities plan was to turn single storey commercial along all main transit corridors into four-storey mixed use commercial-residential buildings. In certain places, in order to accommodate projected population growth, the bold move of turning single family residential into four-storey mixed use commercial-residential was made. Industrial spaces have been preserved in the Vancouver Tri-Cities plan more live-work spaces have been added. In industrial/business areas, an effort has been made to bring the focus toward the street and have residential units facing either green corridors or the street. Strictly industrial spaces are generally buffered with mixed commercial-residential buildings.

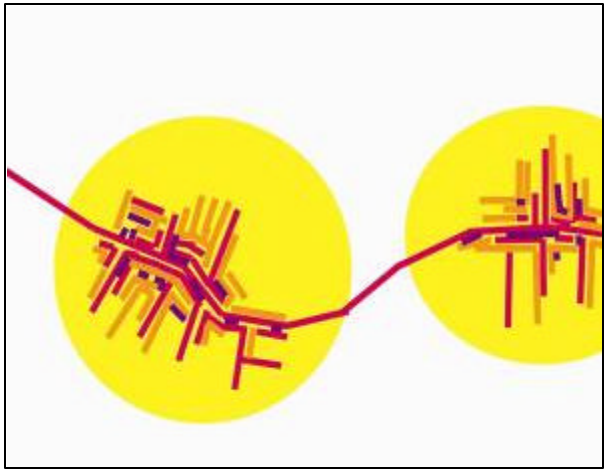
## North and West Vancouver: Transit Hub Clustering

On the North Shore, significantly less population growth is projected by the GVRD. The Vancouver Tri-Cities plan for this area centres new growth around two existing transit hubs – Park Royal shopping centre in West Vancouver and the Sea Bus terminal in North Vancouver. Park Royal shopping centre is envisioned to develop into a smaller-scale version of Burnaby's Metrotown, and is shown as becoming a mix of commercial, residential and office space. In North Vancouver, most new residential, commercial and business development has been carried out near the Sea Bus terminal and around Lonsdale Avenue.




*Commercial buffering:* To fulfill housing demands, types of higher density housing such as townhomes and semi-detatched multi-family units are proposed as a buffer between mixed-use commercial and single-family residential units.

*Vancouver: Linear Densification* Predominantly commercial/residential combinations are located along major transit routes creating linear amenity corridors.



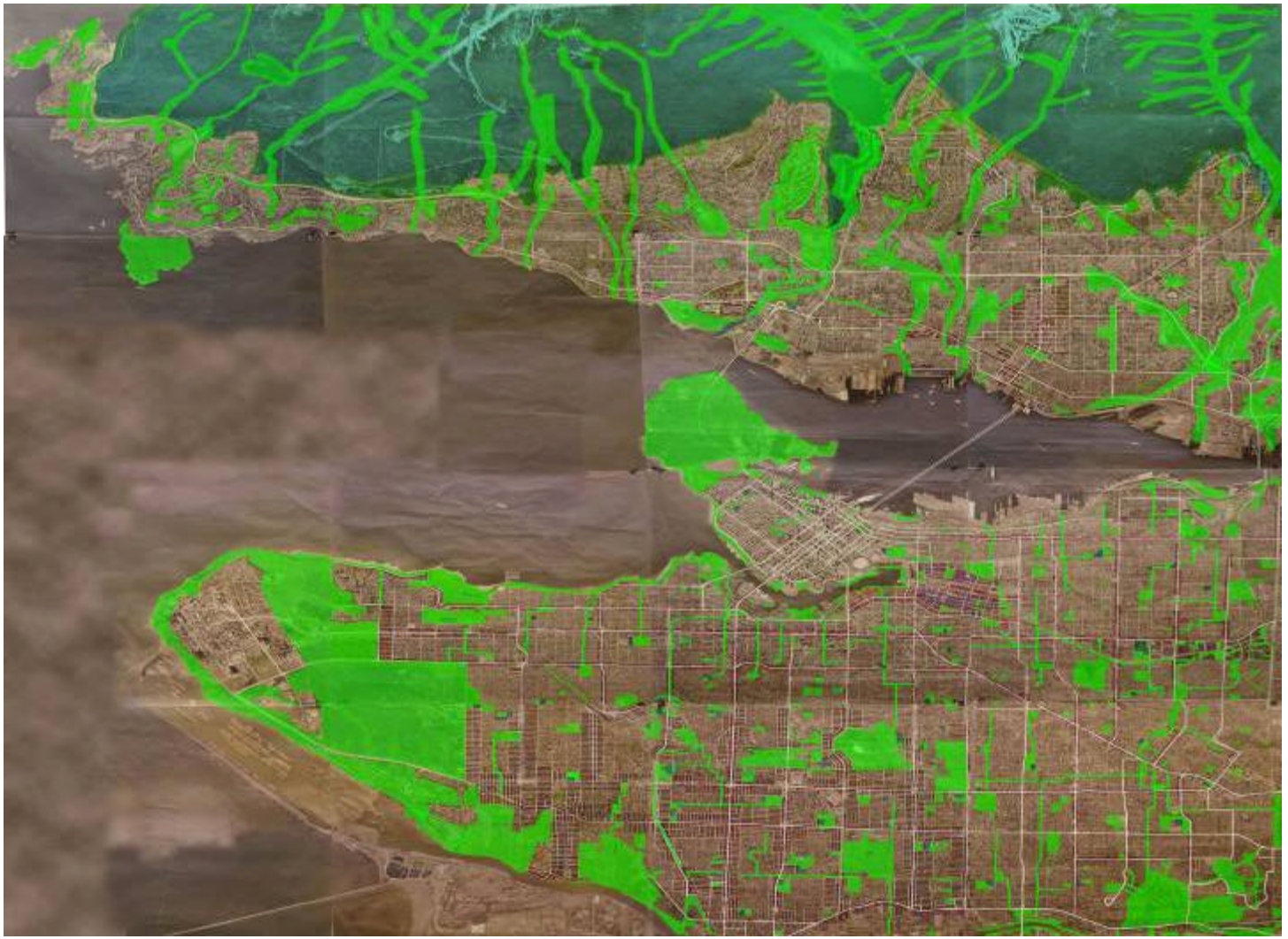
*North Shore: Nodal Densification* Densification in North and West Vancouver is radial and centres around existing transit hubs.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

# Vancouver Tri-Cities: GREEN INFRASTRUCTURE

**District scale overview**

It should be noted that there are very different green infrastructure conditions within the Vancouver Tri-Cities quadrant. Green infrastructure in Vancouver and on the North Shore required two separate approaches. Generally, the Vancouver Tri-Cities approach to green infrastructure systems is both preventative and restorative. However, approaches taken in North and West Vancouver are mainly preventative while approaches in Vancouver are mainly restorative and rehabilitative.



*Green Infrastructure Strategy:* Two different strategies have been employed in the Vancouver Tri-Cities area. The goal for the North Shore is to preserve current green systems, whereas the goal for the City of Vancouver is to recover lost systems of green infrastructure and incorporate them into the urban fabric

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

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# Vancouver Tri-Cities: GREEN INFRASTUCURE

## North and West Vancouver

Green infrastructure approaches on the North Shore are mainly preventative. The North Shore is at the fringe of the Lower Mainland and nudges up against wilderness in a way that very few other places in the GVRD do. We felt it was important to delineate the wilderness edge and prevent development from encroaching upon it. Because of the proximity of wilderness, unique topography and the relative youth of development on the North Shore, a fairly rich system of green infrastructure currently exists and supports a wide variety of wildlife that is rarely found in other parts of the GVRD, such as salmon, coyotes, black bears, various raptors, and songbirds. The goal of the Vancouver Tri-Cities approach was to preserve these systems.

## Vancouver

In Vancouver, on the other hand, the landscape has been so urbanized that it would be all but impossible to rehabilitate most watercourses and natural green infrastructure. Thus, we have created rectilinear 'green streets' in an attempt to mimic lost streams to infiltrate storm water and serve as urban wildlife corridors.

*Green Infrastructure Preservation:*
Existing green systems on the North Shore are to be preserved and enhanced.

*Permeable Streets and Lanes:*
Streets and back-lanes will are to be retrofitted to infiltrate stormwater, reducing overland flow by 90%.

*Lost Stream Recovery:*
Lost estuaries were located and used as a starting point for above-ground drainage implementation.

*Green Street Systems:*
A rectilinear green street system mimics former natural streams systems.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

# Vancouver Tri-Cities: JOBS CLOSE TO HOME

## District scale overview

By replacing single-family detached homes along major transit routes with mixed use commercial / residential units, we have exceeded the job target, at one job per dwelling unit, and with the general assumption that 100 square feet is required to spatially accommodate each job.

These jobs have been added in two sectors – commercial/retail and business/industrial, represented by pink and purple building blocks, respectively. The commercial jobs have been added mainly along corridors of new four-storey mixed commercial-residential development on streets that were formerly lined with single family homes. These buildings are intended to be flexible spaces in which retail sections can actually be used as industrial or even residential space until there is a demand for the retail space, or vice versa. It is intended that these spaces be flexible in order to be able to adapt to the changing needs of the population over time.

*Jobs Strategy:*

The same pattern that was employed for housing development simultaneously provides work opportunities by substantiating transit corridors with commercial/residential use. Industrial/business employment centres tend to be clustered together and are represented by the red circles.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

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# Vancouver Tri-Cities: JOBS CLOSE TO HOME

## Vancouver

In Vancouver, jobs are brought close to home in new commercial-residential corridors and in preserved industrial areas that incorporate housing in live-work spaces. Residential units in industrial areas are designed to face either the street or a nearby greenway. These work-live units are also used as a buffer between industrial and commercial-residential or strictly residential areas.

## North and West Vancouver

On the North Shore, industrial space along the waterfront is preserved and is mixed with commercial and residential building use. Jobs are also created though increasing commercial-residential buildings along Marine Drive between Lonsdale Avenue and Capilano Road.

Because a higher amount of population has been accommodated on the North Shore in the Tri-Cities plan than is called for by the GVRD's Liveable Region Strategic plan, we have aimed to created enough jobs on the North Shore so that the demand for employment associated with the additional population growth will be absorbed with the intent that no additional strain be placed on either the Lions Gate or Second Narrows bridges.

*Mixed-use Commercial/Residential:*
Job opportunities were created by transforming current single family residential areas into areas of mixed commercial/residential use.

*Work/Live Opportunities:*
Existing industrial areas were preserved and enhanced with the addition of live/work spaces which also line major transit routes and improve street character.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

# Vancouver Tri-Cities: TRANSPORTATION

## Moving around the district

All new development within the sub-region is located within a five minute walk of transit services. The only new bus routes that were created in Vancouver are along 16th Avenue between Granville Street and UBC, and on South Dunbar to Deer Island. On the North Shore, the only new proposed routes are along Evelyn Drive behind Park Royal in West Vancouver and on 16th Street in North Vancouver.

All new development is also within a five minute walking distance of commercial services, which are often located along transit corridors.

*Substantiating the Transit Grid:*

The Vancouver Tri-Cities area, unlike other communities throughout the GVRD, already has a dense transit system in place, which needs only to be preserved and enhanced. A few extra routes have been added to complete routes and encourage pedestrian accessibility.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

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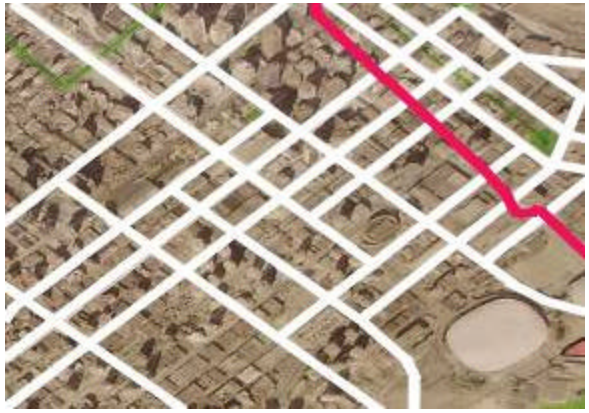
# Vancouver Tri-Cities: TRANSPORTATION

## Moving around the neighbouhoods

The existing grid of transportation corridors served as the backbone of our design for the Vancouver Tri-Cities quadrant. Few new bus routes actually had to be added to the existing system, although we do anticipate significant growth in transit use and thus propose more buses on existing routes, a new Skytrain stop in the False Creek Flats area and more frequent Sea Bus departures. A new water transit route could also be added between West Vancouver and downtown or Kitsilano.

Where possible, residential units have been integrated into commercial and industrial areas to allow people to have the option of living within walking distance of their work, thus eliminating the need to commute.

*Established Transit System:*
Vancouver's current transit grid provides the basis for future development. Most routes remain unchanged while service intensifies.



*Water Transit:*
The waterfront location of the Tri-Cities provides an excellent opportunity for increased water transit routes. For example, existing SeaBus facilities could accommodate a doubling of capacity with the addition of two new boats.

*New Skytrain Stations:*
A new Skytrain station has been added to the False Creek Flats, an area of proposed dense industrial/live-work development.

*Additional Bus Routes:*
In a few areas throughout the City of Vancouver, new bus routes were added to accommodate an increase in commercial and residential development.

Vancouver Tri-Cities: Lesya Fesiak, Elise Menard, Mo Rouhi, Xenia Semeniuk

# Burnaby Tri-Cities: NEW BUILDINGS

## Baseline strategies for siting new developments:

**Keep off the grass**: Preservation and enhancement of nature. *(Additional information in Green Infrastructure section to follow)*

**Go with the flow**: Maintain and enhance circulation *(Additional information in Transportation section to follow)*

## Summary

densified existing single family: +28248 du (70620 hab)
proposed single-family: +9790 du (24475 hab)
proposed single-family compact: +22671 du (56678 hab)
proposed medium density: +68598 du (171495 hab)
proposed high density/mixed: +51940 du (129850 hab)

Total # of new housing units: +181247 du (453118 hab)

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# Burnaby Tri-Cities: NEW BUILDINGS

**Baseline strategies for siting new developments:**

**Keep off the grass**: Preservation and enhancement of nature. *(Additional information in Green Infrastructure section to follow)*

**Go with the flow**: Maintain and enhance circulation *(Additional information in Transportation section to follow)*

*District:*

Northern and Southern Burnaby contain two town centres: Brentwood and Metrotown

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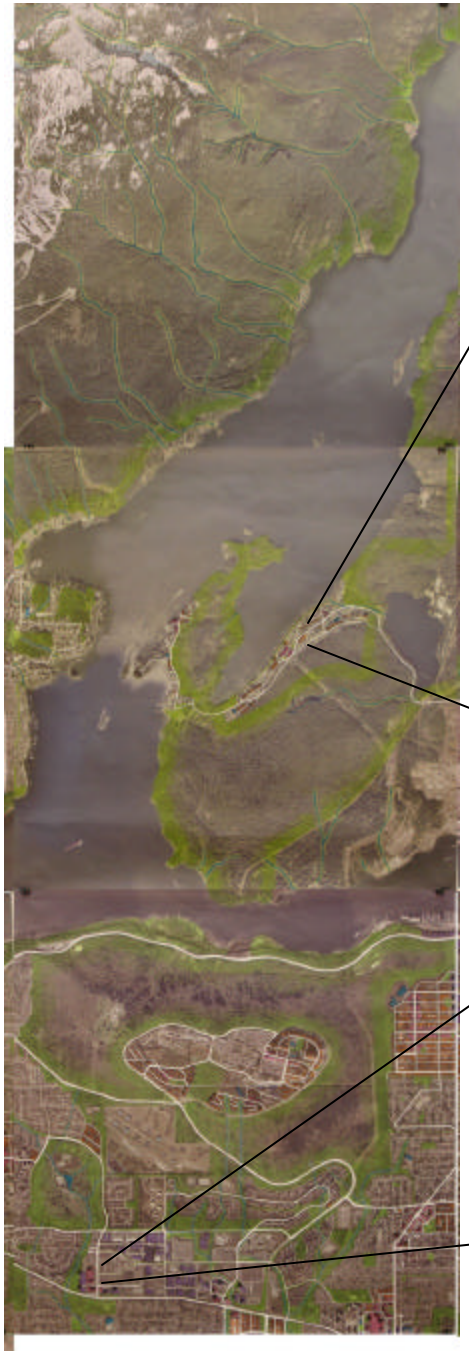
# Burnaby Tri-Cities: NEW BUILDINGS

**Baseline strategies for siting new developments:**

**Keep off the grass**: Preservation and enhancement of nature. *(Additional information in Green Infrastructure section to follow)*

**Go with the flow**: Maintain and enhance circulation *(Additional information in Transportation section to follow)*



*Distict:*

Simon Fraser University resides within Eastern Burnaby

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# Burnaby Tri-Cities: NEW BUILDINGS

**Baseline strategies for siting new developments:**

**Keep off the grass**: Preservation and enhancement of nature. *(Additional information in Green Infrastructure section to follow)*

**Go with the flow**: Maintain and enhance circulation *(Additional information in Transportation section to follow)*



*District:*

Port moody, with it's historical town centre and the more recently developed Inlet centre, and Western Coquitlam's town centre

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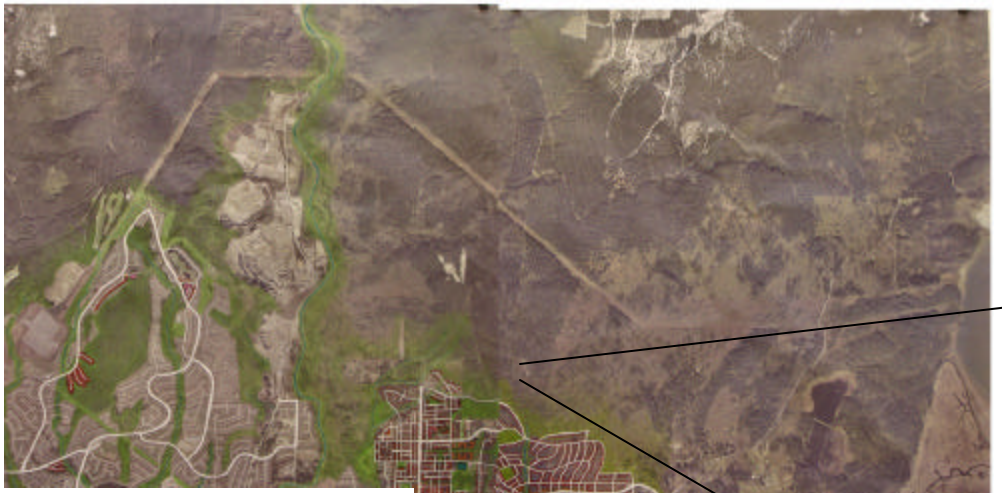
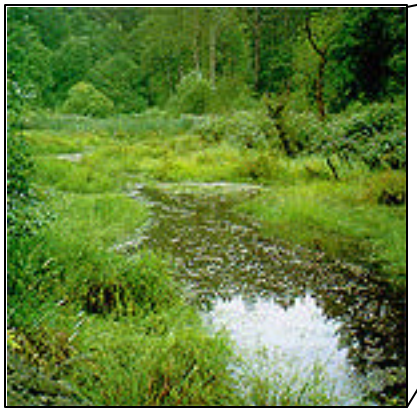
# Burnaby Tri-Cities: NEW BUILDINGS

**Baseline strategies for siting new developments:**

**Keep off the grass**: Preservation and enhancement of nature. *(Additional information in Green Infrastructure section to follow)*

**Go with the flow**: Maintain and enhance circulation *(Additional information in Transportation section to follow)*





*District:*

The proposed design for Northeast Coquitlam provides a new town centre, bus access and a highly inter-connected street system

# Burnaby Tri-Cities: NEW BUILDINGS

## Neighbourhood scale solutions

**Do it with density**: Zones of densities, not building typologies, that compose a variety of land use types in close proximity.

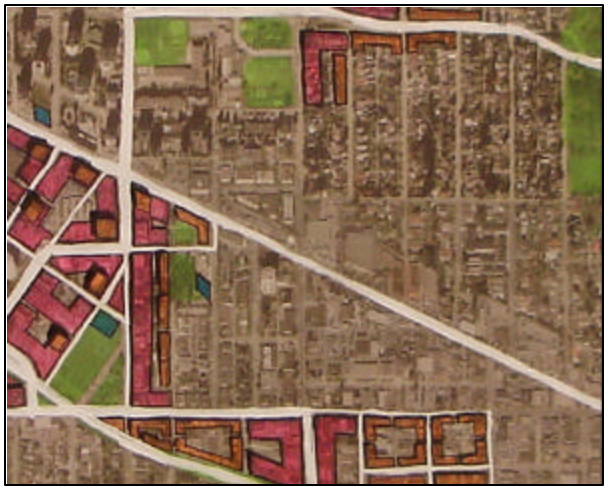
**Clustering without crowding**: Offsetting towers

**Baby steps**: Gradual transitions between low and high density development

**Straight and narrow**: Ensure buildings provide an engaging relationship to the street

*Do it with density:*
In the metrotown area we propose high densities (40-60 d.u./acre) in both mid-rise and high-rise form.

*Clustering without crowding:*
This shows that if the Brentwood commercial area establishes a higher density of residents, towers need not be immediately adjacent to one-another



*Baby steps:*
Towers step down to medium density apartments, to townhouses, to parks and detached housing

*Straight and narrow:*
Human-scale streets with a relationship to building activities

# Burnaby and Tri-Cities: GREEN INFRASTRUCTURE

## District scale overview

**Heal and Restore Watersheds:**

Let the restoration of previously compromised and destroyed riparian zones and waterways reestablish the gradual filtering, cleaning and recharging of our hydrological system and the health of our watersheds.

**Preserve Our Natural Areas:**

Create an ecological network with a web of green fingers connecting private yards, gardens, parks, riparian zones and open spaces.

**Connect the Ribbons of Green:**

Let ribbons of green infrastructure bound, reinforce, and flow between neighborhoods to improve the quality of life.

*Connect the Flows*

A district-wide green network serves both ecological and social purposes by supporting the surface drainage system, contributing to the urban forest, providing sufficient bird and fish habitat, maintaining base flows in streams, and providing areas for recreation.

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# Burnaby and Tri-Cities: GREEN INFRASTUCURE

## Greening the Neighborhood

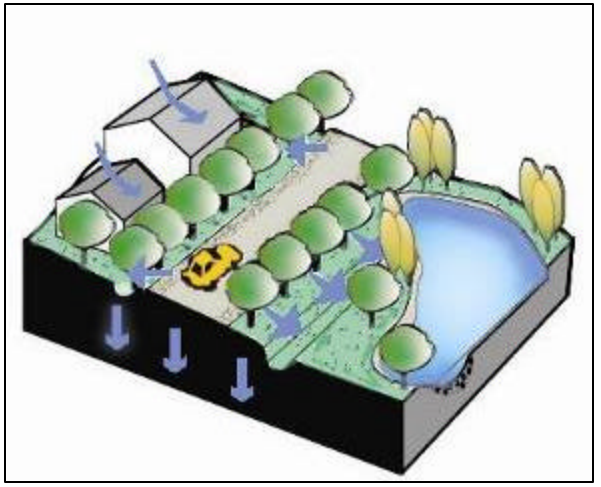
**Layer the system**: Layer green space throughout private and public open spaces. Transparency allows people to better enjoy, understand, appreciate and respect their natural green environment.

**Capitalize on the site:** Design streets to enhance natural features. Streams, riparian areas and small bridges contribute to the identity, overall function and experience of a community.

**Absorb and clean storm water runoff:** Retaining and restoring the connected green infrastructure network of streams and riparian zones restores watershed and riparian health

*Layer the systems:*
Even high-density developments like Coquitlam Town Centre can be enhanced with parks and green roofs.

*Absorb and clean storm water runoff:*
'Green' infiltration-based storm water management systems, streams and riparian zones absorb storm water runoff.



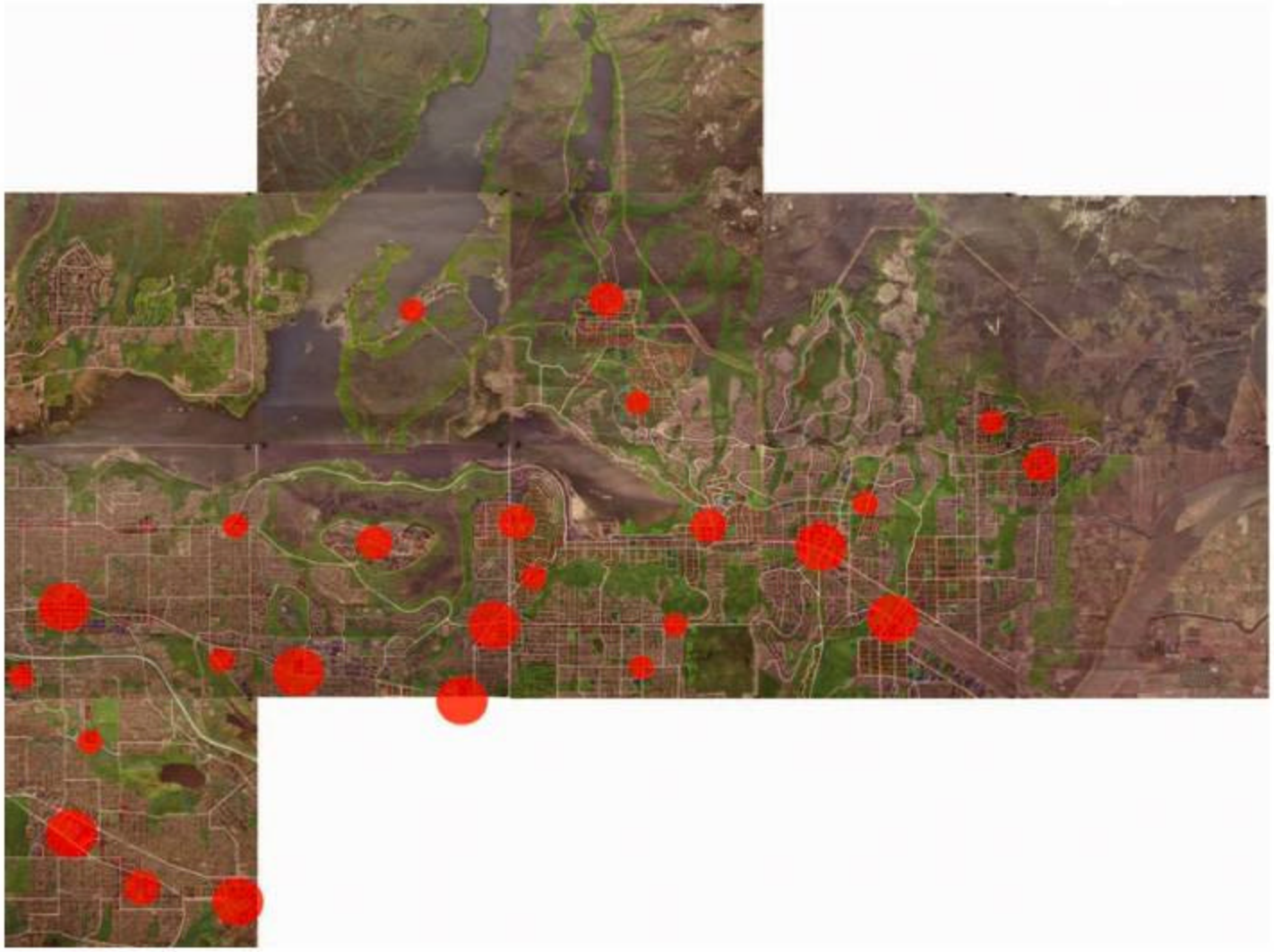
*Capitalize on the site:*
Move storm water along the street by allowing it to drain into restored streams and under bridges not through pipes.

# Burnaby Tri-Cities: JOBS CLOSE TO HOME

## Jobs, Jobs Everywhere

The Livable Region Strategic Plan specifically states that, "focused on regional and municipal town centres, more complete communities would result in more jobs closer to where people live and accessible by transit, shops and services near home."

By providing incentives for a broad range of strategies - flexible zoning at the parcel scale to regional policies to balance residential development and job opportunities - the Burnaby and Tri-Cities area can take significant steps toward building more sustainable communities.



*Caption heading:*

At the regional scale,jobs centers are identifiable by the clusters of higher-density residential and commercvial land uses and a greater frequency of transit service.

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# Burnaby Tri-Cities: JOBS CLOSE TO HOME

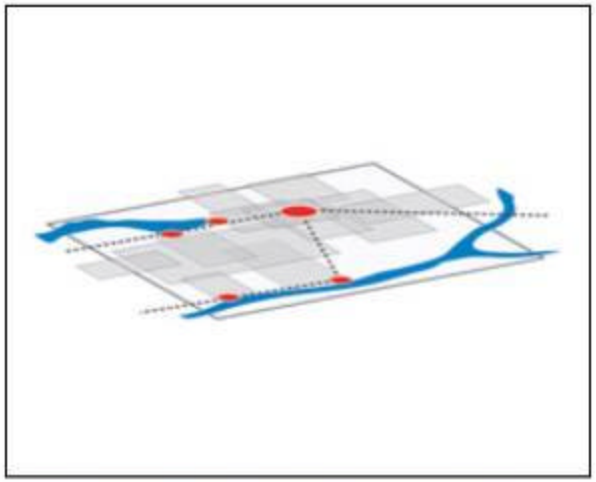
## Job Sites

With the goal of establishing one job per household for the region, we were able to design compact centers of higher-density mixed-use residential and commercial space.

For the Burnaby Tri-Cities region, the addition of almost 185,000 dwelling units corresponds to approximately the same number of jobs, located throughout the proposed city centers.

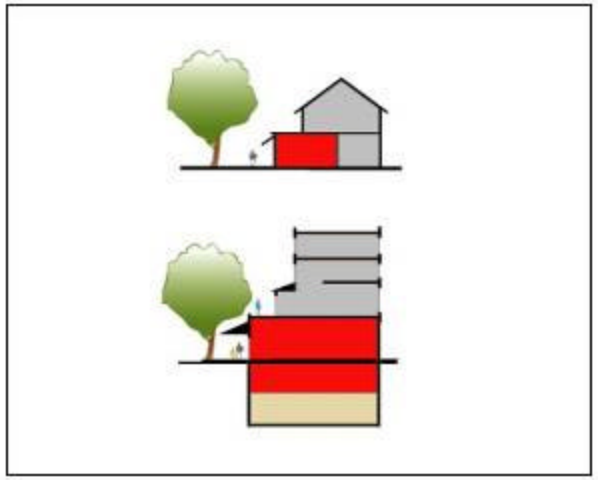
From concentrated job centres in higher-density, mixed-use development to live-work arrangements within existing residential neighborhoods, a total of almost 20 million square feet of commercial space has been accounted for at varying scales and densities.

*Regional Scale:*
Job centers correspond to the existing and proposed population centers and transit services.



*Neighborhood Scale:*
Jobs are integrated into predominantly residential districts where they serve the needs of the people who live there

*Multi-block Scale:*
Block configuration is modified to allow larger square-footage, required of certain commercial and industrial uses.



*Parcel Scale:*
Live-work is incorporated into residential development.

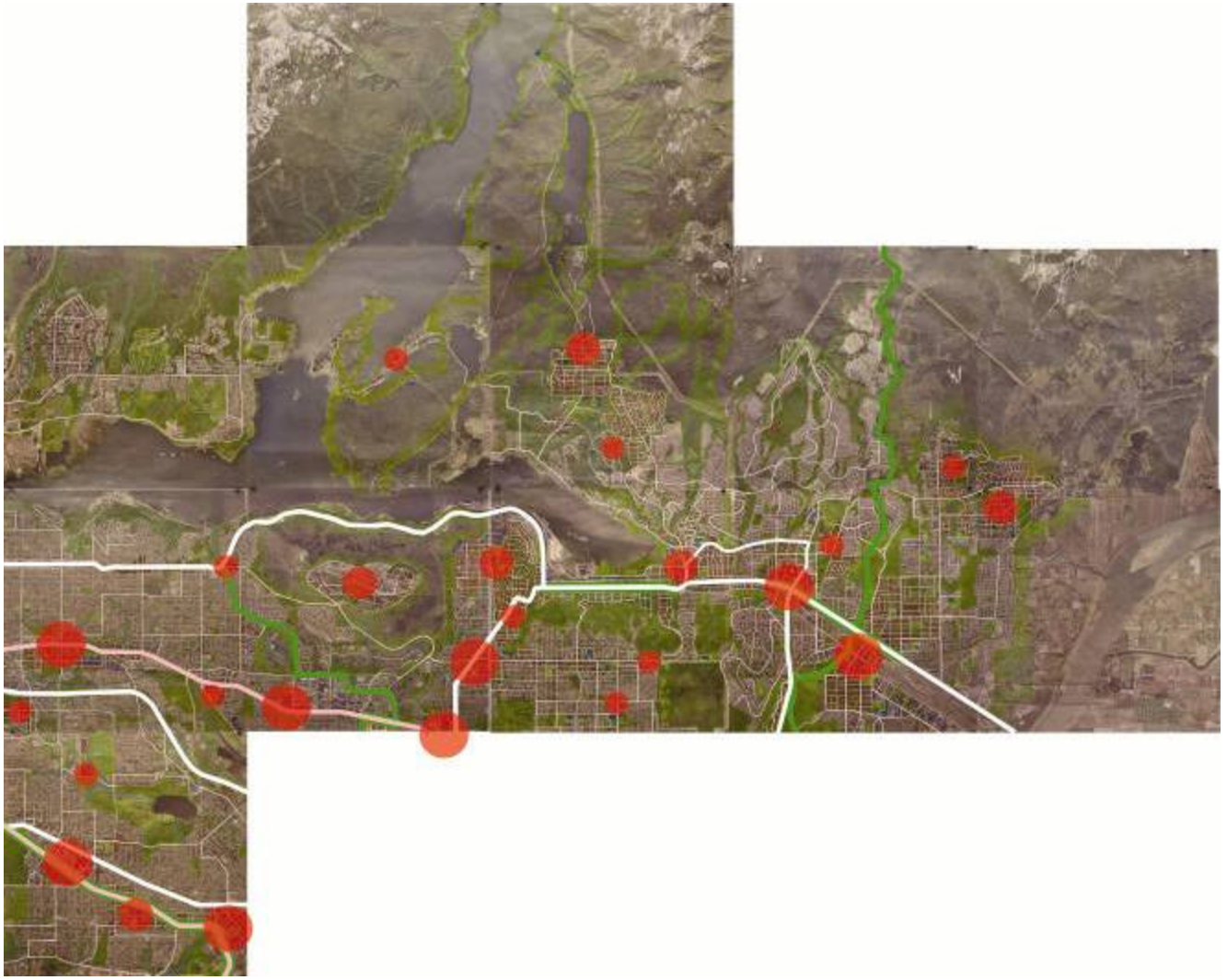
# Burnaby Tri-Cities: TRANSPORTATION

## Moving around the district

Streets are the veins of a community. Let small-scale streets define the community and activate internal movement.

Let the natural features define the street network to provide people not only with neighbourhood identity, but also with practical movement.

Convenient, reliable service will encourage people to switch from automobiles to public transit. Utilize the existing street system to enhance the network.



*Hierarchy of the Network:*

The robust framework of major transportation system (white thick lines) and the major centres (red bigger dots) has been broken down to intricate, neghbourhood-scale communities, supported by well-woven transit/street system (white lines) and smaller centres (red smaller dots).

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# Burnaby Tri-Cities: TRANSPORTATION

## Moving around the neighbouhoods

**Establish the flow**: not only internal connections, but also external flow has been enhanced by new infrastructures.

**Infiltrate into neighbourhood**: new bus routes has brought a well-woven transit system to the neighbourhood, encouraging the flow of people with 5-minute walk from bus routes.

**Utilize the existing asset**: minimum amount of pavement has retrofitted the existing street system from the 'disconnected' to the 'connected.'

**Go with the flow**: careful consideration has been given in laying out new roads so that they would fit the contours, typically in the new development on Northeast Coquitlam. They would bring/upgrade the flow in the community without degrading the landform.

*Establish the flow:*
New bridge over Coquitlam River has connected the new development in Northeast Coquitlam to existing town centres.

*Infiltrate into neighbourhood:*
The new bus route has enhanced the transit use and movement in the old neighbourhood in Burnaby.

*Utilize the existing asset:*
The existing streets have improved by adding connector streets, as this example in Belcarra shows.

*Go with the flow:*
The new road system in Northeast Coquitlam has been laid out in harmony with the natural landscape.

# The River Hub: NEW BUILDINGS


## Summary

The River Hub includes 6 municipalities that all boarder the Fraser River. Combined, they are expected to double in population over the next 50 years. To accommodate this new population, 138,831 new housing unit have been added to the area. Of these new homes approximately 20% are high-rise apartments; both low-rise buildings and townhouses account for 10% each; 7% are mixed-use commercial; 3% are live-work situations; and 40% are detached homes. Some of the detached homes are new, while others have had secondary suites added to them, essentially doubling the number of housing units without changing the overall appearance in many existing neighbourhoods.


*A diversity of new housing:*

New population is accommodated in accordance with the OCPs of the surrounding municipalities. Namely, new housing has been concentrated around major transportation hubs and corridors, or near commercial centres. Where new neighbourhoods take over industrial lands, this is made up for by adding industrial lands elsewhere or increasing the intensity/ efficiency on existing industrial lands. Finally, many neighbourhoods do not change visually, but each home adds a new secondary suite.

The River Hub: Cuining Ouyang, Jia Li, Niki Strutynski

# The River Hub: NEW BUILDINGS

## Neighbourhood scale solutions

Because most of this area is already developed, new housing had to be added mainly through retrofitting existing buildings and infilling of blocks. This approach applies two key strategies for creating sustainable communities: ***create flexible blocks*** and ***work with existing communities***.

In New Westminster, flexible blocks were created by increasing housing diversity. Along main corridors, a range of high-rise apartments, townhouses, and mixed-use commercial was added. This was done with consideration for the existing community. Infilling occurred in areas that were previously low density, and one-story buildings were retrofitted to create housing above commercial uses.


*Adding to developed lands in New Westminster:*

Retrofitting existing buildings and infilling of block adds more housing diversity and density to New Westminster.

# The River Hub: GREEN INFRASTRUCTURE

## District scale overview

The Fraser River is the largest river in BC and considered to be the one of the most important salmon rivers in the world. Its location at the centre of the GVRD creates a range opportunities that are often conflicting. For the municipalities that boarder it, the Fraser is an excellent resource for industry and shipping. For the region and province, it is a vital ecological resource. One of the main goals for the design of the River Hub was to make the Fraser a centre and focus in the area. The obvious way to do this was to create an extensive network of green fingers and greenways that connect back to a continuous buffer along the shores of the river. This strategy achieves multiple goals: it connects the different municipalities, protects the edge of the Fraser, and enhances public access to the riverfront.

*An area green network:*

A buffer along the shores of the Fraser River forms the backbone of the green network, while greenways and buffers along the river's tributaries connect to parks and open space, forming an area-wide green infrastructure system.

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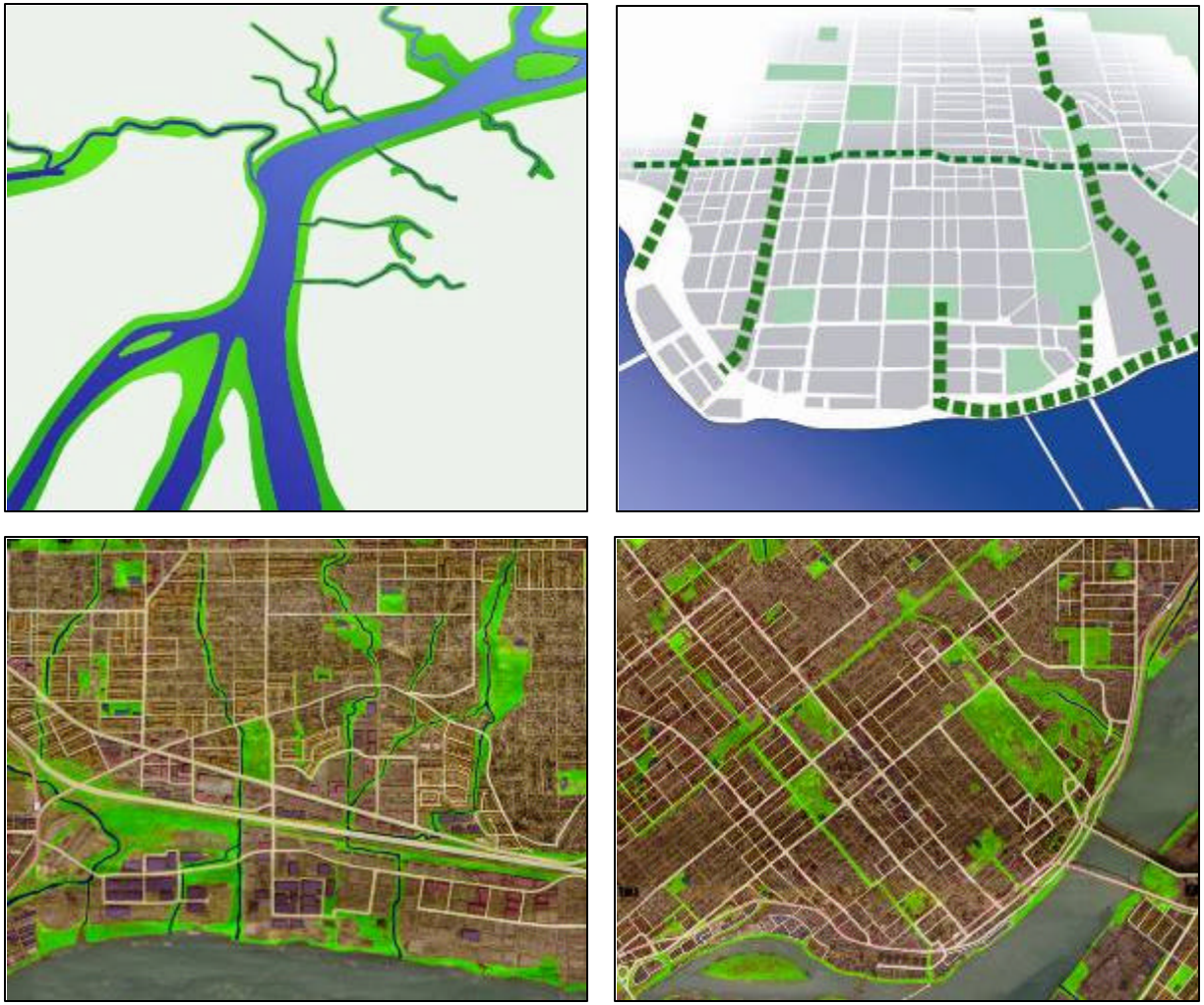
# The River Hub: GREEN INFRASTRUCTURE

## Neighbourhood details

The keystone of this area's green infrastructure is a buffer lining the edge of the Fraser River. While this buffer is thin in some portions, it is continuous; thereby ensuring public access and flow for people and wildlife. Green fingers and greenways connect to the Fraser's buffer and extend back into the surrounding communities joining with parks and open spaces. Important industrial uses are maintained along the river, while the green fingers and greenways- in the form of paths and bike routes- transect the industrial lands at intervals. This ensures public access to the riverfront as well as revealing industrial processes and activities to the public, which may increase awareness and concern for stewardship.



*Green fingers and greenways:*

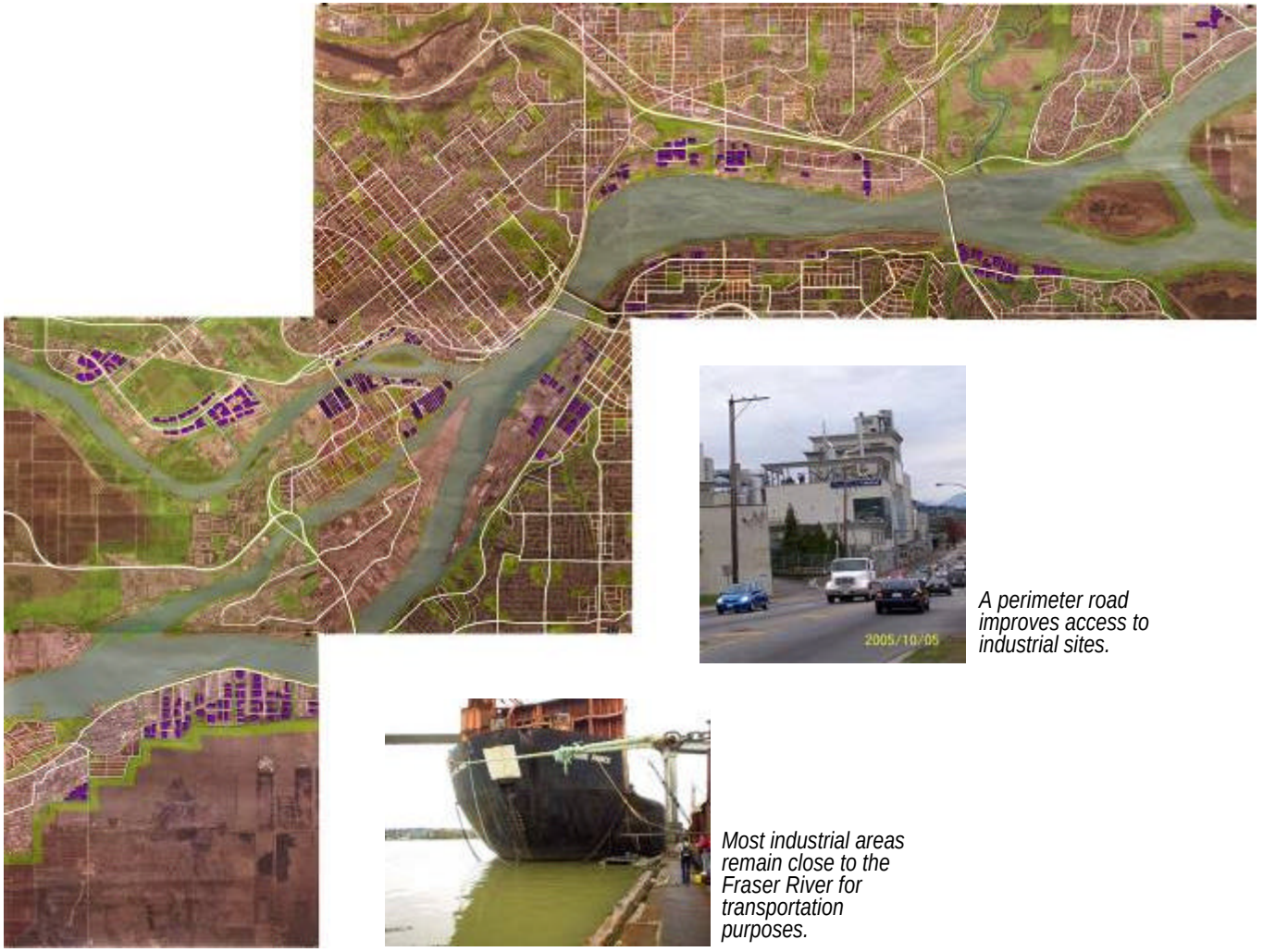
Buffers along the Fraser River and its tributaries create the first level of a green network, as shown in the example taken in Port Coquitlam (right). Greenways add a second level to this system, as shown in the example of New Westminster (left).

# The River Hub: JOBS CLOSE TO HOME

## District scale overview

Approximately 140,000 jobs have been added in this area. This is equal to one job per every new household. The majority of jobs were created in industrial areas; however, little new land was used in this process. Instead, existing industrial areas were converted to more intensive and efficient uses. In addition, jobs were created in live-work spaces, commercial and business areas, and the public sector.

Because the industrial areas tend to be located near the riverfront, perimeter roads (with buses running along each of them) north and south of the Fraser River work to improve truck access and to connect people to these workplaces.





*A perimeter road improves access to industrial sites.*



*Most industrial areas remain close to the Fraser River for transportation purposes.*

*Industrial workplaces:*

The purple buildings in the above image represent areas where industrial jobs were added by intensifying and more efficiently using existing space, as opposed to creating new industrial lands. As well, north and south perimeter roads have been added to connect these industrial areas.

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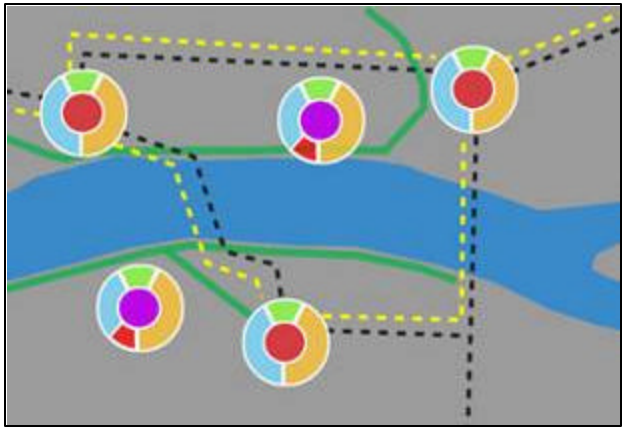
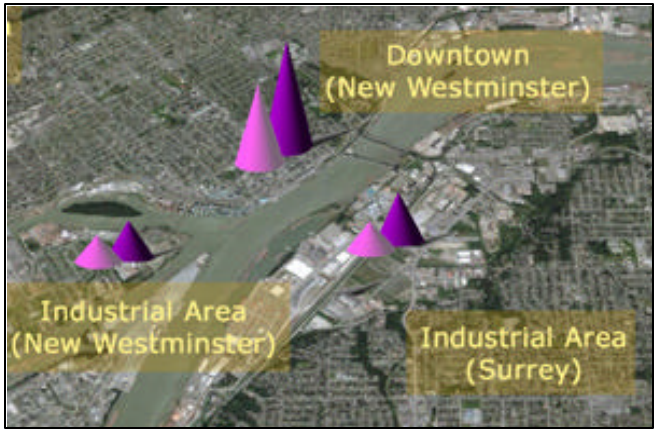
# The River Hub: JOBS CLOSE TO HOME

## Job Sites

Jobs in growth concentration areas were increased. These areas are arranged around either an industrial or a commercial centre. Regardless of the main use, a diversity of uses was also incorporated so that there is always some residential, commercial, and business uses in close proximity. This contributes to creating complete communities- allows people to live work, and meet their daily needs in a close area.

The centres are also well connected by transit, major routes, and north and south perimeter roads to improve access to workplaces.






*Connecting diverse job centres:*

Major job growth areas are concentrated, divers, and well connected.

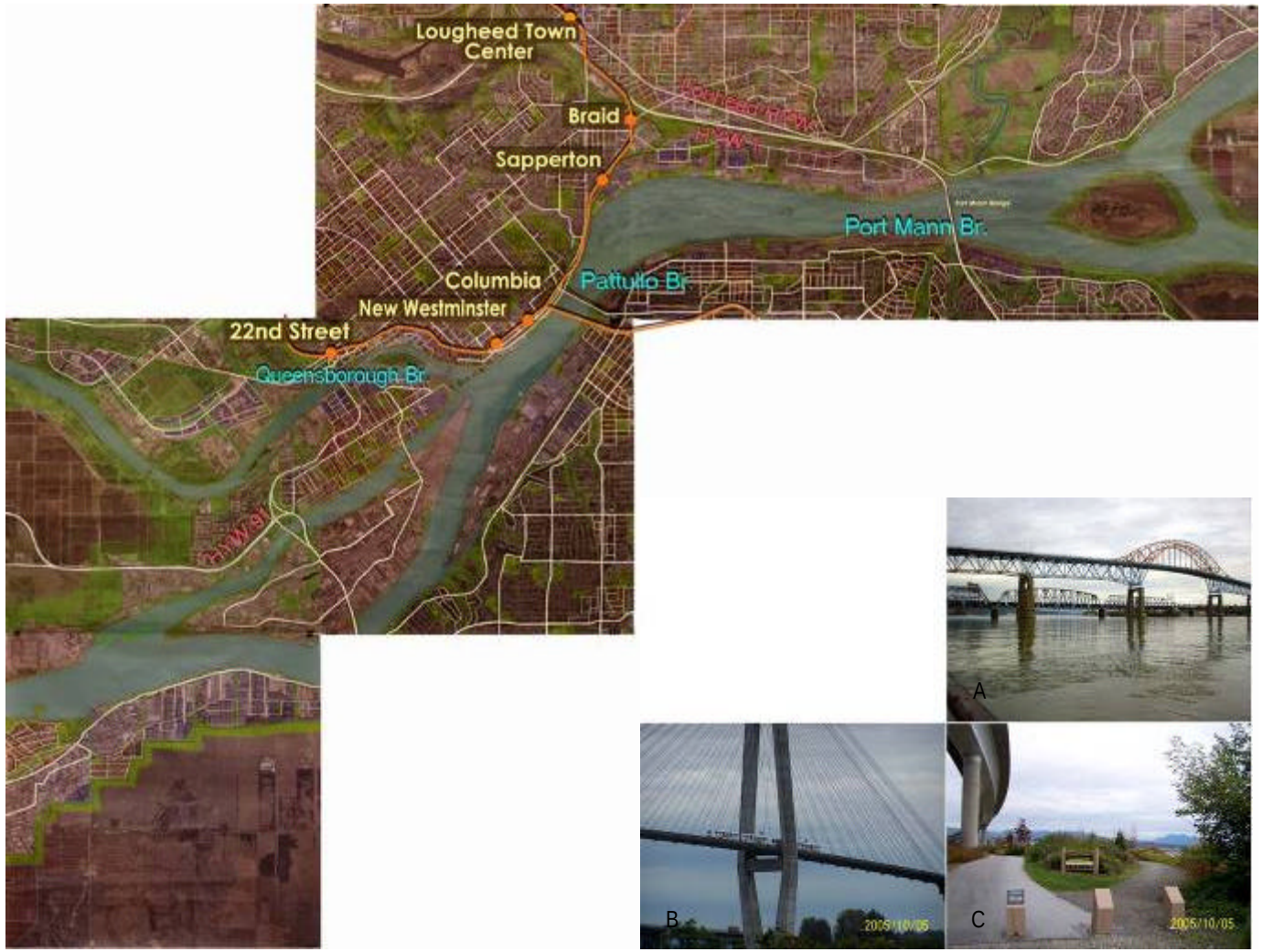
The River Hub: Cuining Ouyang, Jia Li, Niki Strutynski

# The River Hub: TRANSPORTATION

## Moving around the district

In this part of the region, the Fraser River might be perceived as an obstacle or an opportunity in terms of movement. For commuting, the river is a challenge for vehicle traffic and buses alike. The river must be crossed via one of the 3 bridges, which inevitably become "bottlenecks" at peak hours. The Sky Bridge is the only other alternative. In response, HOV lanes have been made more continuous over the bridges and major routes, while more express bus lines that connect to the sky train have been added to encourage people to use public transit.

On the other hand, the Fraser River also presents an opportunity to encourage alternate modes of transportation, as it is at the core of an extensive green network that provides routes for walking and cycling.




*Working with the existing infrastructure:*

The existing patterns of movement across the Fraser River have been retained and enhanced. (A) Continuous HOV lanes and frequent buses have been added to bridges. (B) New bus lines that connect to major routes and the sky train have been added. (C) An extensive green network over the area promotes alternate modes of transportation such as walking and cycling.

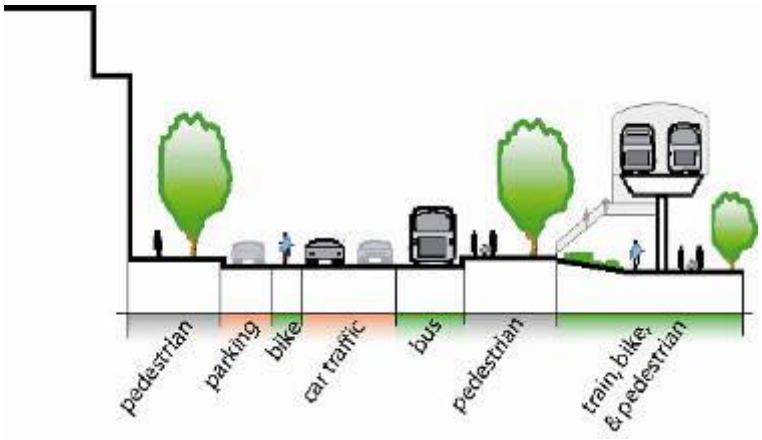
# The River Hub: TRANSPORTATION

## Moving around the neighbourhoods

Within parts of the River Hub, movement has been enhanced by improving the transit system, extending the green system, and integrating the different modes.

New bus lines that connect to major routes and the sky train have been added. A more robust, efficient system will encourage people to use public transit. An extensive green network provides continuous, more enjoyable routes for pedestrians and cyclists. Along major corridors, the different modes of transportation have been integrated. For example, a greenway follows the length of the sky train line so one can ride or walk part the distance and then hop on public transit. As well, park n' rides and connecting bus routes allow people to travel via a combination of transportation modes.

New bus lines




A bike route, walking path, sky train, bus line, major road, and railway all run along one corridor in New Westminster.

*Options on the ground:*

More east/ west bus routes through Surrey and North Delta enhance public transit south of the Fraser River, while strategies to integrate modes- as in the above diagram and photo- give people multiple options for moving around the area.

# Greater Surrey: NEW BUILDINGS

## Summary

New development aims at increasing housing by **120,000** dwelling units in order to integrate **300,000** new people into the area of Greater Surrey by **2056**. In addition, new development will bring approximately **120,000** new jobs to the area.

New development greatly supports the urban / town centers and neighborhoods in the area of Greater Surrey. Sustainable design strategies are applied to the area in the form of a well integrated and efficient transit network, an interconnected green infrastructure system, and mixed land use in walk-able neighborhoods.

In this way, Greater Surrey will stand as a more sustainable area by **2056**.

| | |
|---|---|
| **Population Growth by 2056** | **302,498** |
| **Job Growth by 2056** | **116,003** |
| **Units Growth by 2056** | **116,003** |
| **Single-family / Duplex** | **18,305** |
| **Townhouse / Low rise row houses** | **73,101** |
| **Apartment / High rise tower** | **24,247** |

*Greater Surrey:*

In the image above, what is demonstrated is that the new buildings mostly happens with intensifying the city/town centers and new development is well integrated with interconnected transit network. Mixed used development is carried on as sustainable character in area of new development.

Group name: student Qing Xu, Lin Ji, Xue Liu

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| | |
|---|---|
| **Population Growth by 2056** | **89,959** |
| **Job Growth by 2056** | **35,985** |
| **Units Growth by 2056** | **35,985** |
| **Single-family / Duplex** | **760** |
| **Townhouse / Low rise row houses** | **19,110** |
| **Apartment / High rise tower** | **16,115** |

*Surrey Center /Whalley / Guildford / Fleetwood :*

In the image above, what is demonstrated is that the new buildings mostly happens with intensifying the city/town centers and new development is well integrated with interconnected transit network. Mixed used development is carried on as sustainable character in area of new development.

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In this way, Greater Surrey will stand as a more sustainable area by **2056**.

| | |
|---|---|
| **Population Growth by 2056** | **67,539** |
| **Jobs Growth by 2056** | **27,018** |
| **Units Growth by 2056** | **27,018** |
| **Single-family/Duplex** | **2,545** |
| **Townhouse/low rise row houses** | **11,224** |
| **Apartment/High rise tower** | **6,732** |


*North Delta / Newton / South Newton :*

In the image above, what is demonstrated is that the new buildings mostly happens with intensifying the city/town centers and new development is well integrated with interconnected transit network. Mixed used development is carried on as sustainable character in area of new development.

Group name: student Qing Xu, Lin Ji, Xue Liu

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# Greater Surrey: NEW BUILDINGS

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In this way, Greater Surrey will stand as a more sustainable area by **2056**.

| | |
|---|---|
| **Population Growth by 2056** | **145,000** |
| **Jobs Growth by 2056** | **53,000** |
| **Units Growth by 2056** | **53,000** |
| **Single-family/Duplex** | **15,000** |
| **Townhouse/low rise houses** | **36,250** |
| **Apartment/High rise tower** | **1,400** |


*White Rock / South Surrey :*

In the image above, what is demonstrated is that the new buildings mostly happens with intensifying the city/town centers and new development is well integrated with interconnected transit network. Mixed used development is carried on as sustainable character in area of new development.

Group name: student Qing Xu, Lin Ji, Xue Liu

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# Greater Surrey: NEW BUILDINGS

## Neighbourhood scale solutions

**Denser in centers**
New development, featuring higher density housing and well integrated transit system, brings more opportunities for jobs and social activities into urban cores. The town centers become the most desirable places for Greater Surrey residents to live.

**Greener at edges**
Low density residential development close to green infrastructure brings “green” into urban area, while stoping “urban sprawl” into green system.

**Green-ism urbanization**
New neighborhood developments maintain all levels of sustainability. they contain small work sites , public services, schools and daily commercial centers all within walking distance. They also reserve some areas for future commercial and business development.

*New Greater Surrey:*
New Greater Surrey in 2056 will be featured by its active town centers, environmental friendly neighborhoods.


*Denser in centers:*
Higher density with mixed use along main streets brings more opportunity for job and social activities.

*Greener at edges:*
Single-family residential development close to green system form edge of urban and rural areas.

*Green-ism urbanization :*
New neighborhood is characterized by all level of sustainability .

Group name: student Qing Xu, Lin Ji, Xue Liu

# Greater Surrey: GREEN INFRASTRUCTURE

## District scale overview

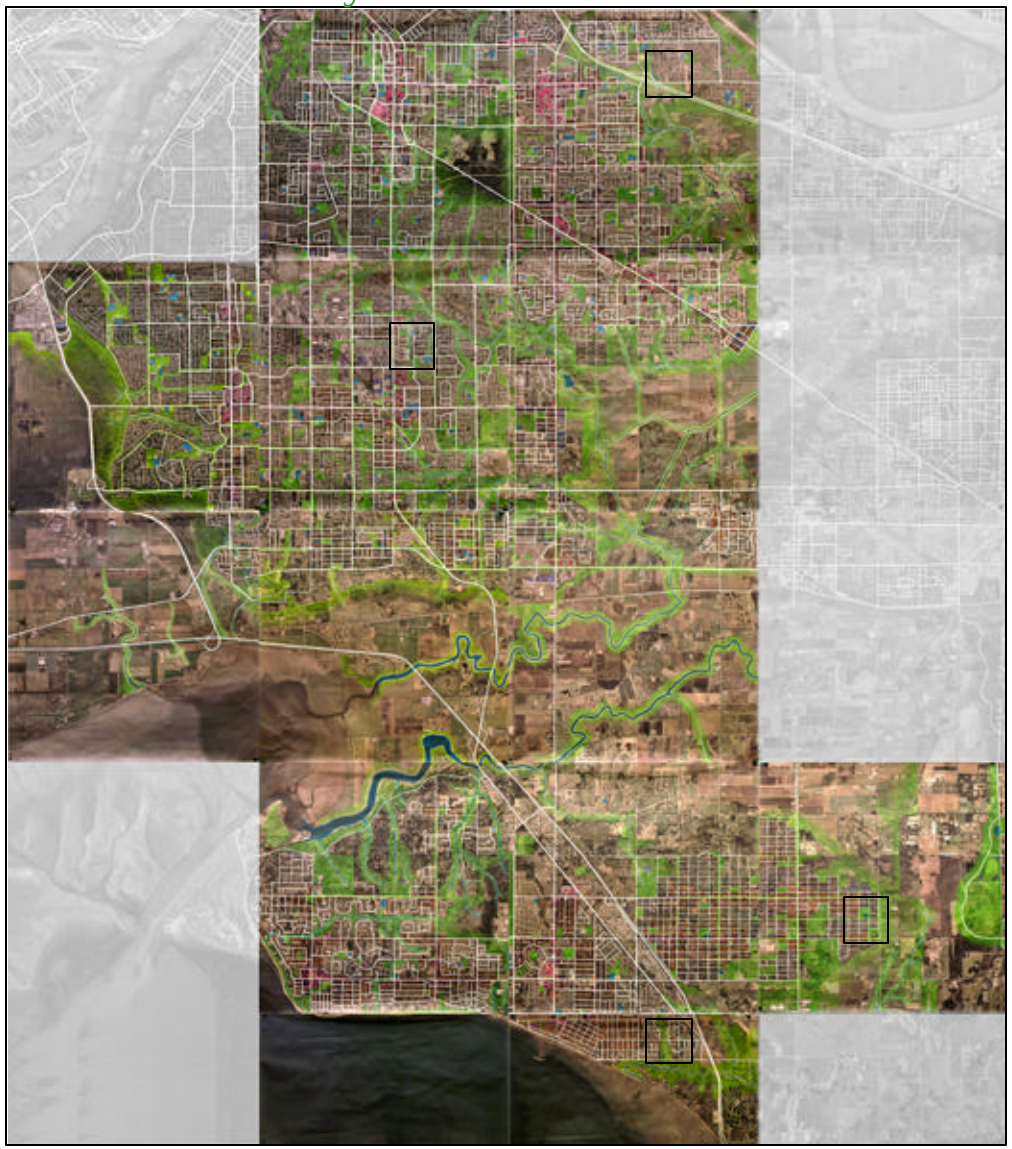
**35%** of farm land are agricultural and over **6,000** acres of passive and active parks are protected in area of Greater Surrey by **2056**.

The Nickomekl and Serpentine Rivers form the arterial body of a regional watershed / stream system, with branches zigzagging into urban areas. As a result, Greater Surrey is characterized by pierced urban blocks and fingers form transitions between agricultural land and urban blocks.

Almost half of the land available for new neighborhood development in area of Greater Surrey lies among the boundary of the protected ALR land. These "build-able" upland areas are very important to the ecology and aquatic productivity of the region.

An interconnected green infrastructure system is well-established to protect collection zones (parks and open spaces) and connection zones greenways and ecological corridors) for storm water system.

Meanwhile, the green infrastructure is well integrated into the street grid and neighborhoods, providing regional pedestrian ways and recreation spaces and preserving the natural visual character for area of Greater Surrey.



*Greater Surrey:*

In the image above, what is demonstrated is that the green infrastructures in area of Greater Surrey are well protected by the interconnected green system. Meanwhile, the ecological and recreational qualities are greatly improved by green system being integrated with street networks and neighborhoods.

Group name: student Qing Xu, Lin Ji, Xue Liu

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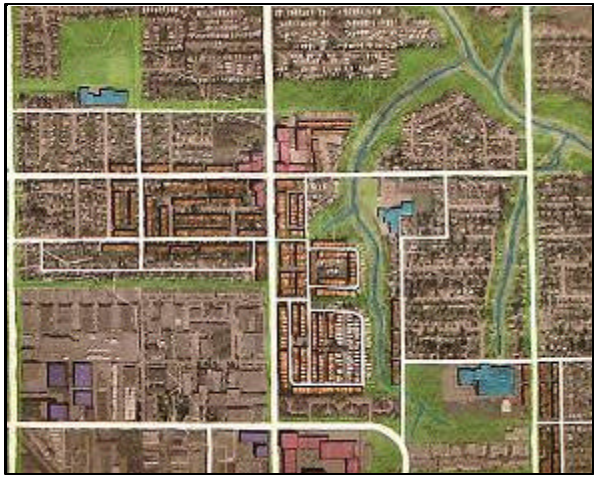
# Greater Surrey: GREEN INFRASTUCURE

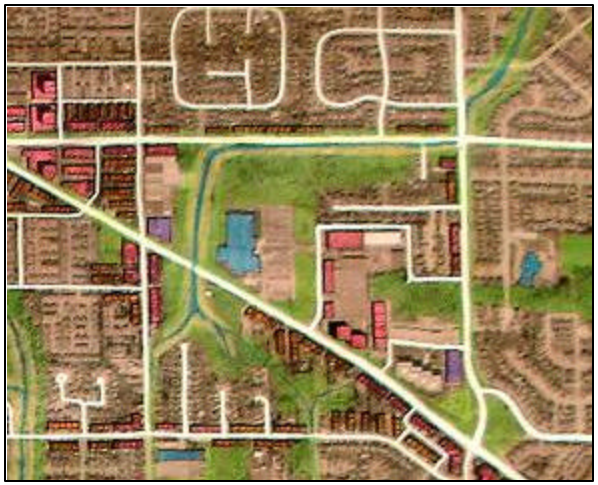
## Neighbourhood details

The ecological function of this interconnected green system is explained by the following strategies.
**Buffer zone protection** sets human uses back from the green infrastructure to maintain healthy conditions of stream corridors.
**Greenway/linear open-spaces protection** sets up environmentally sensitive areas where stream flows work with street system, which helps maintain storm-water conveyance and connectivity.
**Collection zone protection** preserves area where stream flows originate in "upland" school / park sites and maximize the health of receiving streams.
**Interconnected green system** layers all green infrastructures as one organic system, which includes neighborhood parks, green ways, parkways, green corridor, regional parks, agricultural lands, regional watershed.

*Buffer zone protected:*
Stream buffers are protected as environmental sensitive zones.



*Connection zone protected:*
Greenways and linear open-spaces where stream flows is carried on are protected as connection zone



*Collection zone protected:*
Combined school/park sites where stream flows start are protected as collection zone with social and educational functions.

*Interconnected green system:*
Streets and streams work together as an interconnected green system.

Group name: student Qing Xu, Lin Ji, Xue Liu

# Greater Surrey: JOBS CLOSE TO HOME

## District scale overview

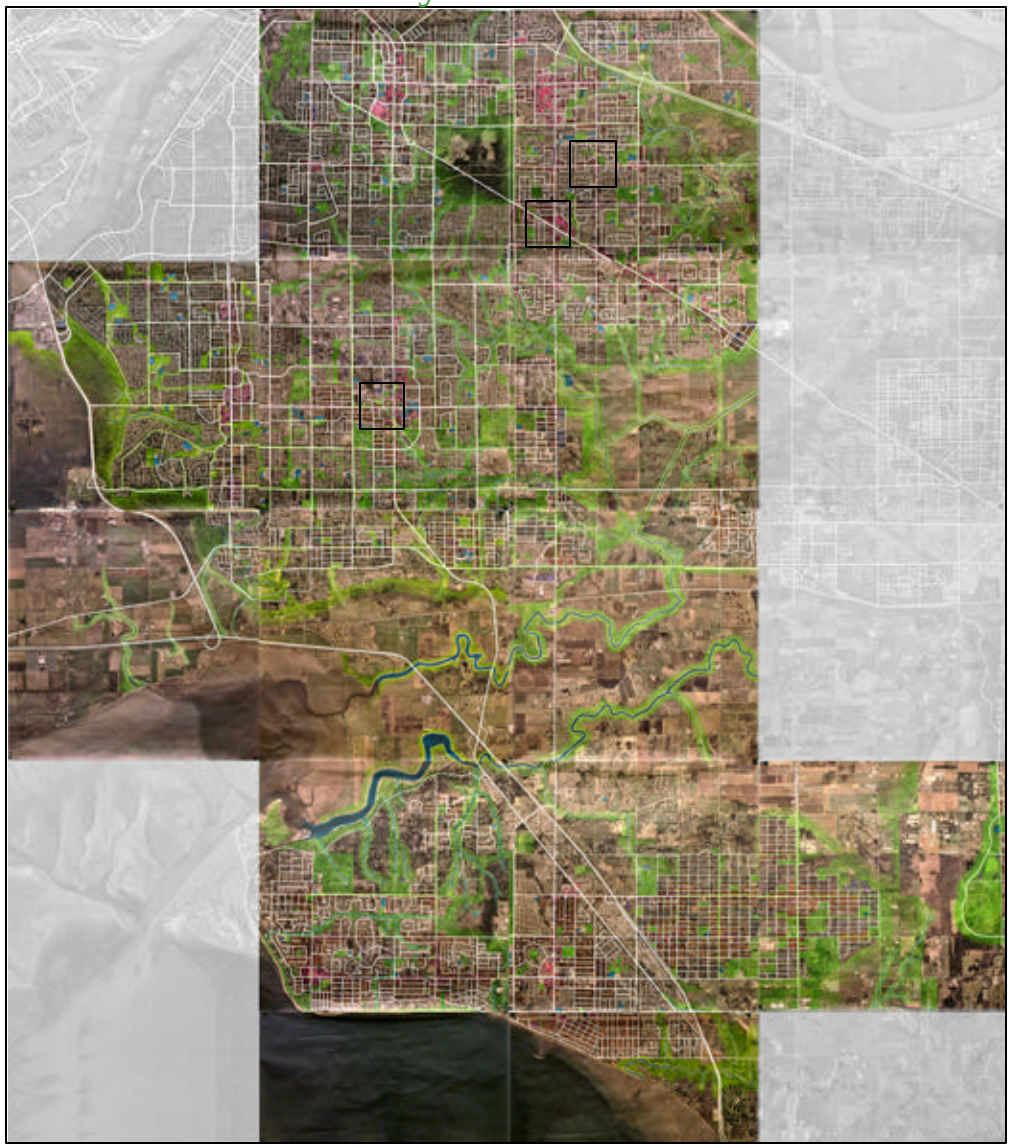
By 2056, 120,000 individuals will join the labor force in the area of Greater Surrey.

Associated with regional development strategies, economic activity and flexibility is increased to meet the 1:1 ratio of households to jobs, resulting in a variety of jobs and job locations.

New business centers are created plus existing commercial/industrial spaces are expanded so that new job sites may be located in any of these designations.

The design idea of Live/Work is to layer the work spaces close to or combined with homes in order to minimize traffic flows.

Transit oriented development layers new developments along the major transit lines and centers , thus bringing most opportunities for "**Job close to Home**" by making workplaces accessible, compatible and well-integrated into surrounding towns and neighborhoods.



*Greater Surrey:*

In the image above, what is demonstrated is that the transit oriented development with mixed land use and higher density helps the local commercial to be set up and enlarged with most opportunities in Live/Work. As byproduct of healthy economy cycle, more job opportunity attracts more people to live within or near the area.

Group name: student Qing Xu, Lin Ji, Xue Liu

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# Greater Surrey: JOBS CLOSE TO HOME

## Job Sites

New job sites arrangements in area of Greater Surrey adhere to the following strategies for most possibilities of Jobs Close To Home.

**Job spaces combined with homes** form Live/Work units (mostly as home based offices) are commonly seen in the new development where mixed use of residential, commercial and business lands is highly supported by efficient transit system.

**Job sites within 5 minutes walking distance** to homes make trips between them convenient. Pedestrian-oriented job sites happen in new regional commercial centers, neighborhood corner stores, schools, and community centers.

**Job sites within 5 minutes walking distance to transit system** allow minimum traffic flows between work and home, thus bringing jobs closer to people. Jobs on industrial land especially require such support from public transit system.

*Work patterns*
Greater Surry's healthy economic development is featured by the variety in its applied work patterns.

*Job sites within 5 minutes walking distance to transit system*
Job sites in regional commercial / town centers always are associated with regional transit centers.

*Job sites within 5 minutes walking distance to home*
Neighborhood job sites are located within walk-able areas and easy to access.

*Live/Work within neighborhoods*
Housing variety and mixed land use provide most opportunities for Live/work.

Group name: student Qing Xu, Lin Ji, Xue Liu

# Greater Surrey: MOVEMENT SYSTEM

## Moving around the district

The potential for sustainable movement system has been kept in area of Greater Surrey as the existing street system is organized as a 800m(half mile) grid network. The green system is integrated into the urban blocks. The transit centers are associated with the existing town centers. Meanwhile Greater Surrey has many opportunities for alternative transit modes such as the sky train, local buses and regional express lines.

The sustainable movement system for Greater Surrey in 2056 is characterized by an interconnected transit network with improved grid street system, interconnected system of green infrastructures and transit oriented development along regional “Main Streets”.

By 2056, this well established system will make movement in the region faster and easier. Movement in the neighborhoods will be safer and easier, while movement in natural areas more pleasant and healthy.

*Greater Surrey:*

In the image above, what is demonstrated is that the interconnected public transit system is well integrated into a larger movement system with green infrastructure system in order to encourage healthier movement activities such as less driving, more walking, cycling and bus riding.

Group name: student Qing Xu, Lin Ji, Xue Liu

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# Greater Surrey: MOVEMENT SYSTEM

## Moving around the neighborhoods

**Improved grid street system**
The existing 800 m grid streets network is broken into 200 m system in area of new development. Thus walk-able urban blocks become tangible, as moving around in the neighborhoods is easier and safer.

**Improved transit system**
The existing east-west transit lines are extended through the whole region to encourage east-west movement and social connections between regional town centers.

**Transit oriented development**
New buildings added to existing and newly created neighborhoods all feature transit-oriented development. The distance between transit lines and neighborhood corner stores in no more than 400 m to ensure a 5 minutes walking distance to transit and commercial service.

**Sustainable movement system**
The movement system layers flows of people, water, and wildlife as one throughout the whole region of Greater Surrey.

*Interconnected street system:*
The existing 800 meters grid streets network provides a well established base for sustainable movement system.


*Improved transit system and grid street system:*
Small blocks are brought into new development while east-west transit activities are extended through the whole region.

*Transit oriented development:*
"Walk-able" becomes tangible as 5 minutes walking distance is ensured to transit and commercial service from anywhere.

*Sustainable movement system:*
Greenways connect transit system, green infrastructures and neighborhood spaces for sustainable movement.

Group name: student Qing Xu, Lin Ji, Xue Liu

# Greater Langley: NEW BUILDINGS

## District Scale Overview

The Liveable Region Strategic Plan (LRSP) identifies four main growth strategies: Protect the green zone; build complete communities; achieve a compact metropolitan area and increase transportation choice.

The essence of these four strategies was applied to the Regional District of Langley as well as the City of Langley in order to meet the 2056 projected population, approximately four times its current population.

The new and retrofit design process focused on densifying the existing commercial and industrial centres and corridors, while connecting them with an integrated transit and green infrastructure system and ensuring that vital community amenities were provided within a short walk.

**Current Population: 171,784**
**Projected Population: 610,061**

**Total New Housing Units: 178,500**
**Single Family (10/du/ac): 45,000**
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**4 Storey Walkups (40/du/ac): 58,500**
**Towers (100/du/ac): 14,000**

*Greater Langley*

The proposed design for Greater Langley, including towns of Aldergrove, Cloverdale, Willoughby, Walnut Grove and the Salmon River Uplands.

Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

# Greater Langley: NEW BUILDINGS

## District Scale Overview

The Liveable Region Strategic Plan (LRSP) identifies four main growth strategies: Protect the green zone; build complete communities; achieve a compact metropolitan area and increase transportation choice.

The essence of these four strategies was applied to the Regional District of Langley as well as the City of Langley in order to meet the 2056 projected population, approximately four times its current population.

The new and retrofit design process focused on densifying the existing commercial and industrial centres and corridors, while connecting them with an integrated transit and green infrastructure system and ensuring that vital community amenities were provided within a short walk.

**Current Population: 171,784**
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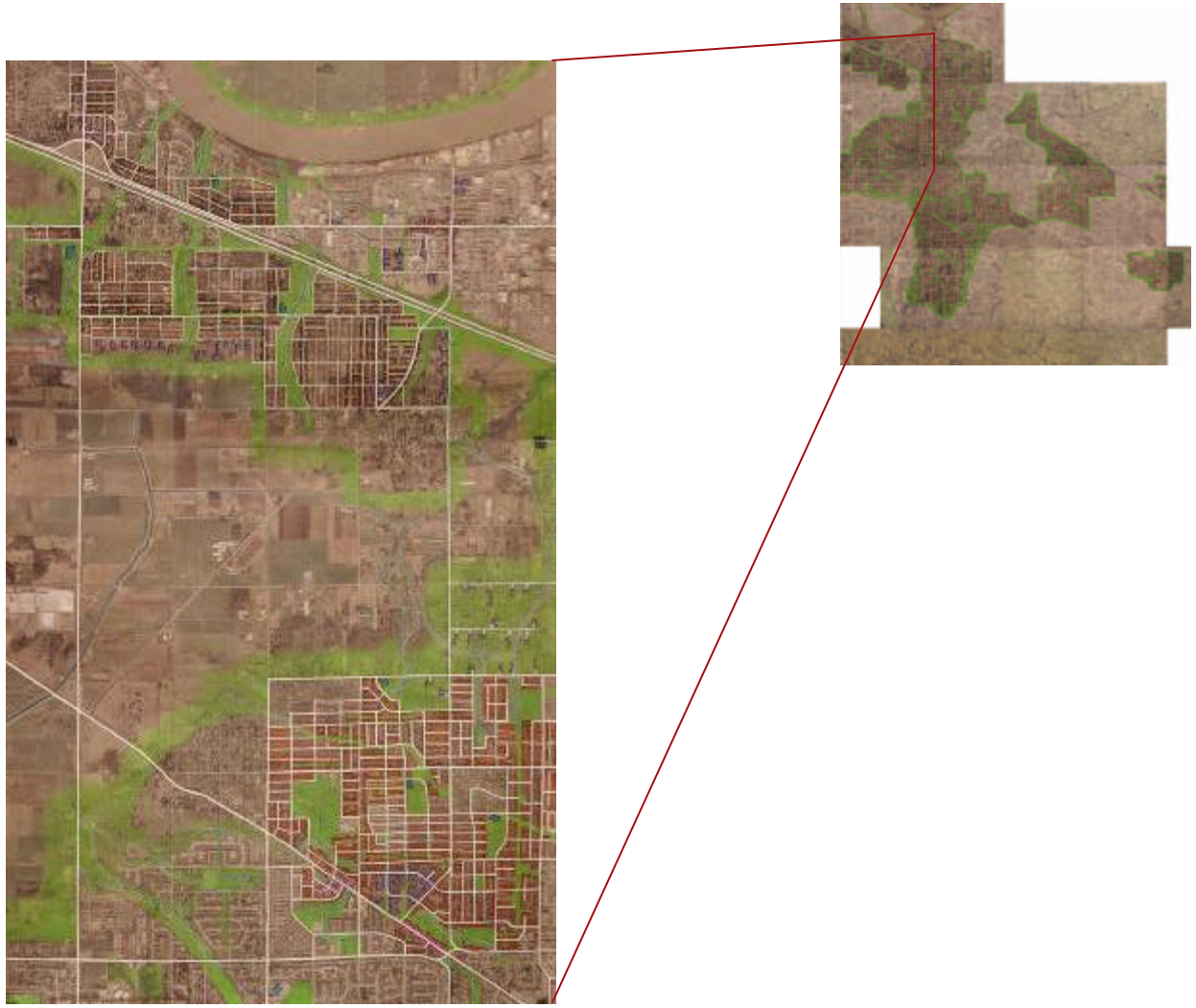

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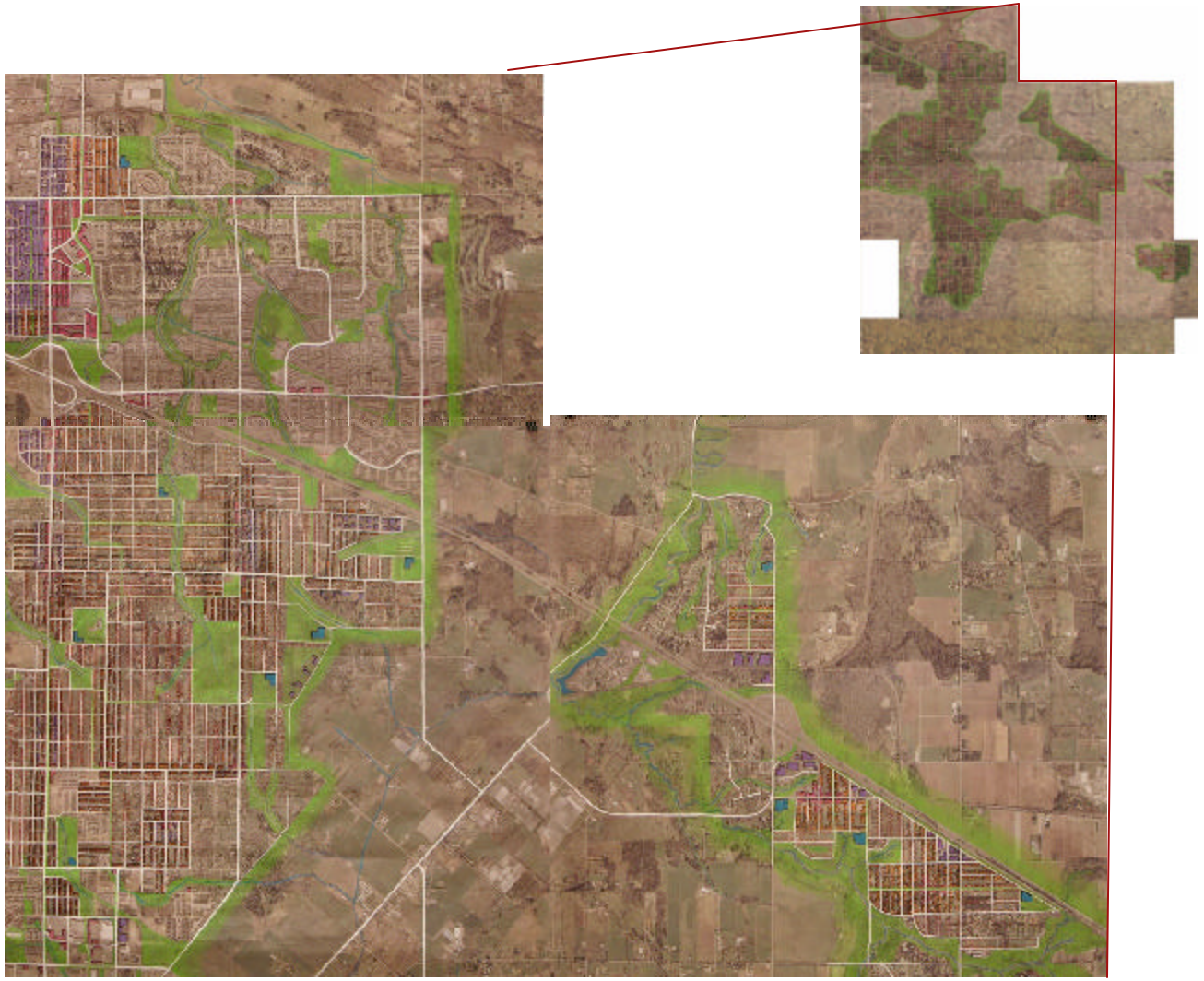

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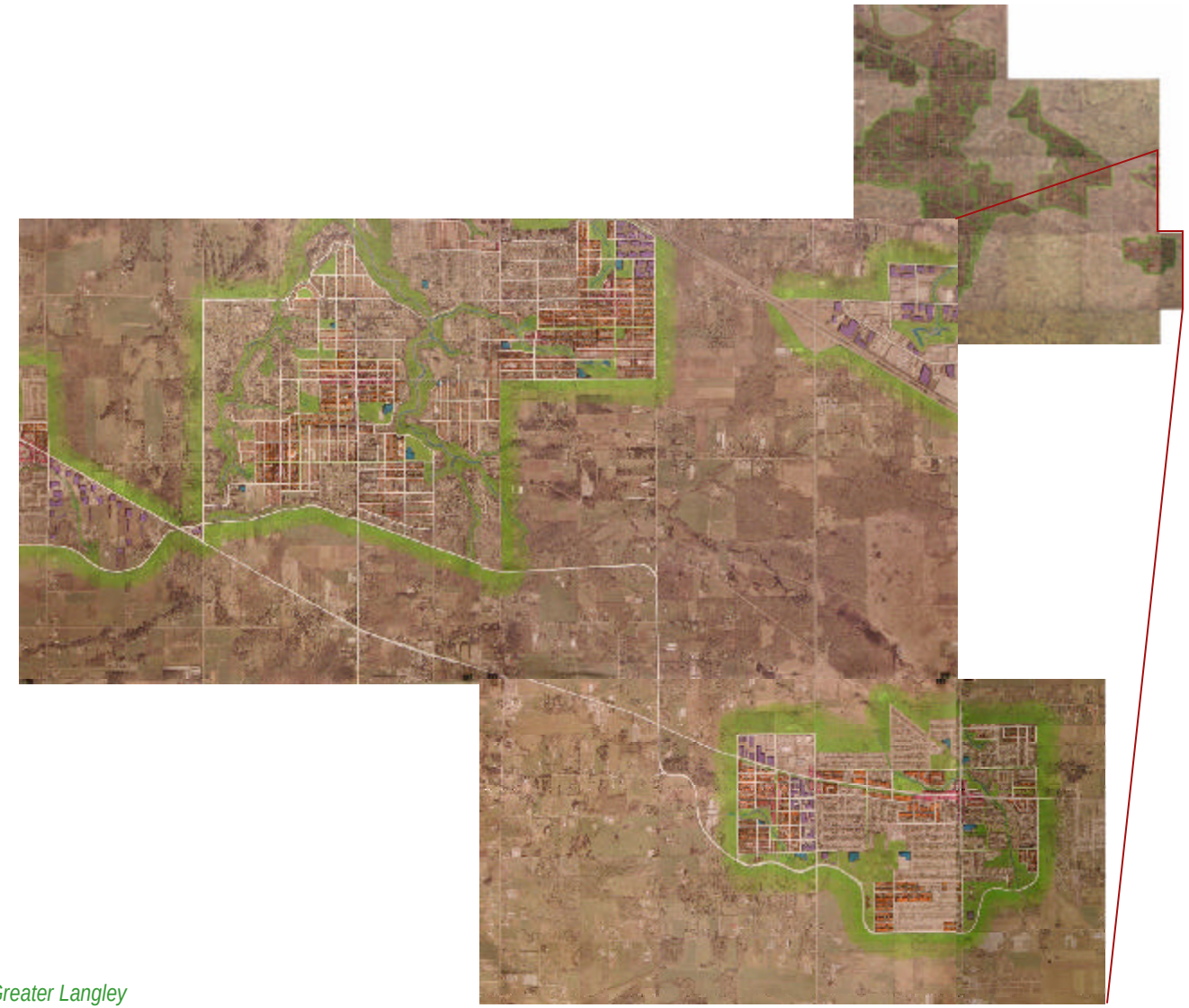

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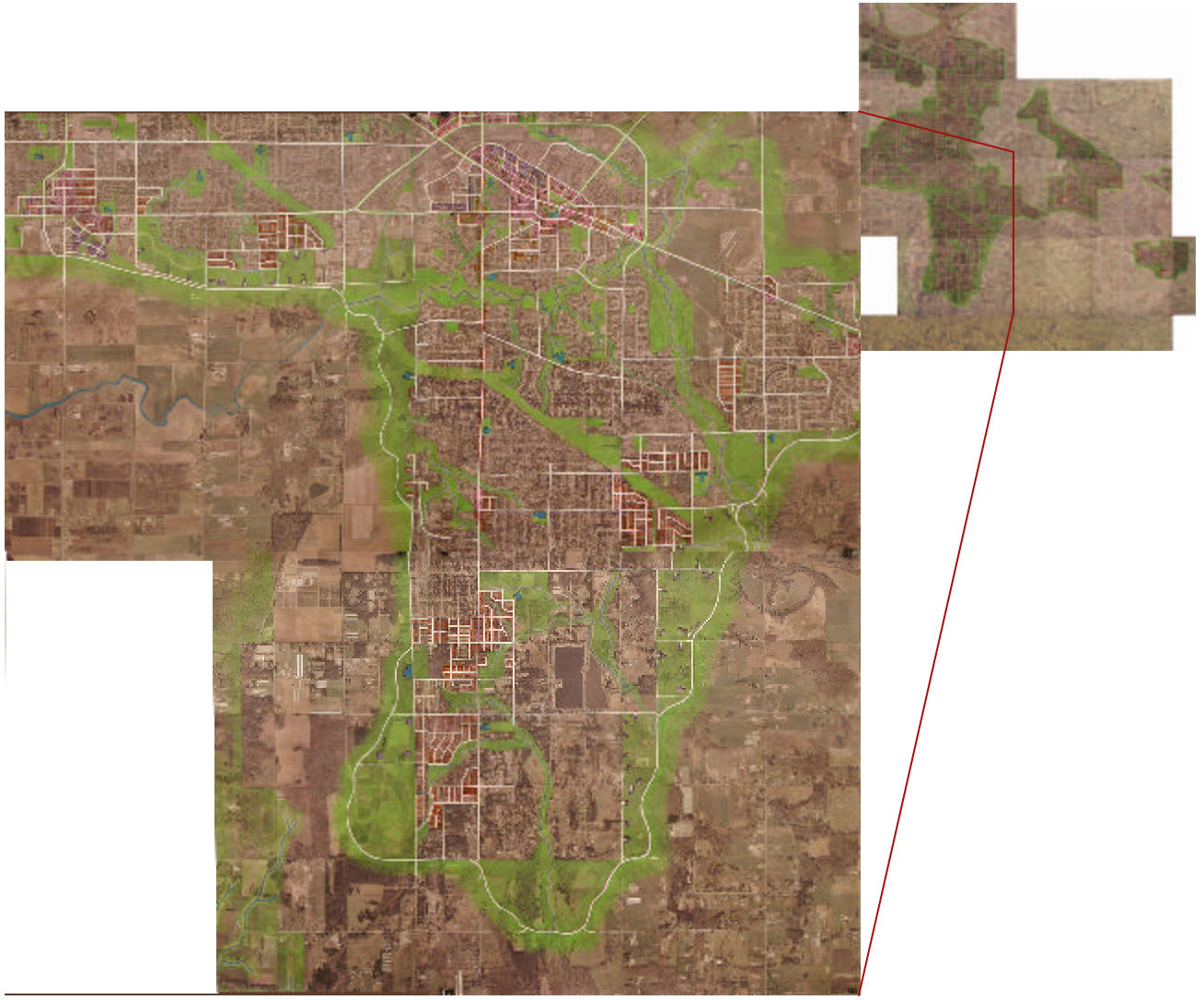

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# Greater Langley: NEW BUILDINGS

## Neighbourhood scale solutions

The following strategies guided the design in proposing new buildings:

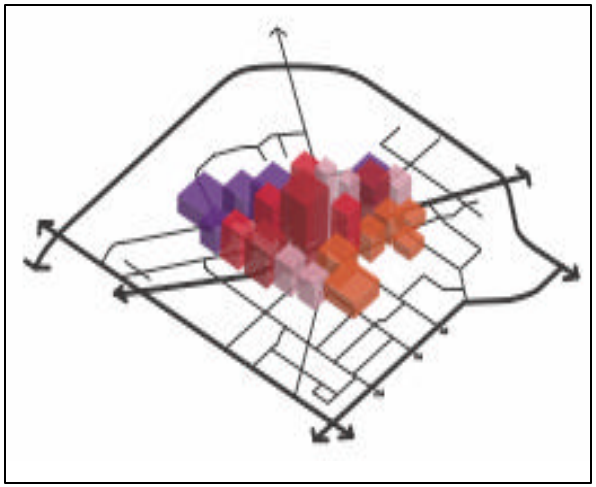
**Dense Centres:** The strategy of "build up, not out" was applied in particular to existing centres. The result of this strategy is evidenced in the City of Langley, where housing towers have been added above existing commercial.

**Linear Growth:** Dense growth in the design strategy for Langley is focused in both nodes and bands along major transit routes. This strategy is shown in areas with mixed-use zones along the corridor, stepping down to 4-story living down to row housing and finally to duplexes and single-family development.

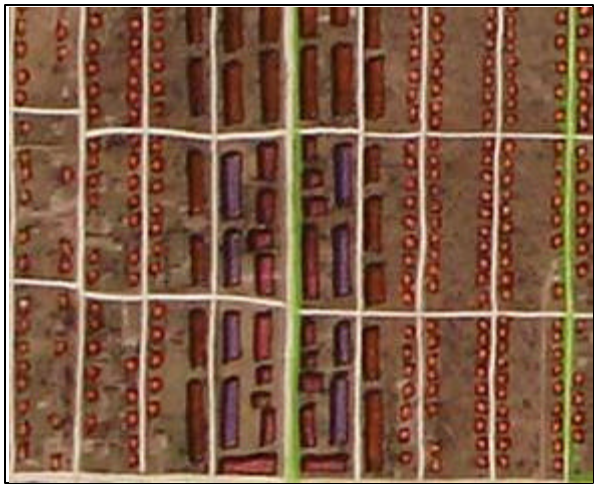
**Layered Living:** Layered housing options such as the basement suite or infill housing on a parcel to increase local density without changing the face of the neighbourhood are proposed in the design. This includes live/work solutions, increasing commercial and business diversity.

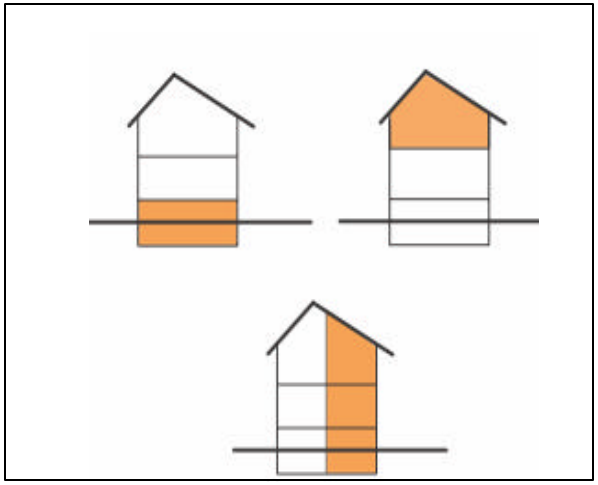
**Smart Parking:** In existing commercial areas, existing street-side parking lots were reconfigured to the back of buildings, and onto the street itself, while pushing the buildings face closer to the street. This serves to enhance the life of the street, making shopping and business areas for people, not cars.

*Dense Centres:* Dense centres created along transit routes such as the expanded neighbourhood centre in Port Kells.

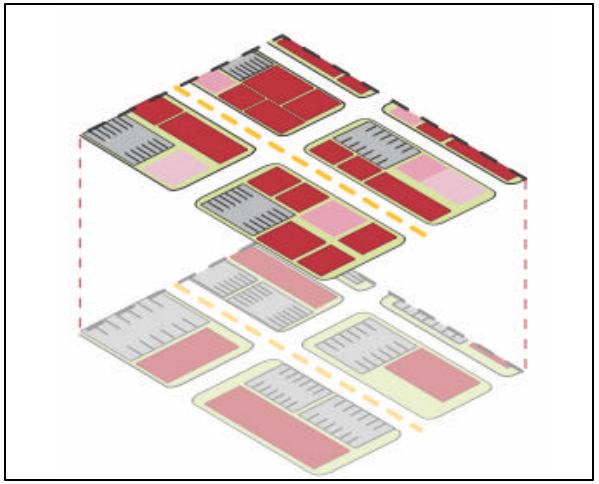


*Linear Growth:* Extend densification along key corridors of transit, connecting town and neighbourhood centres.





*Layered Living:* Applying alternative housing solutions within existing parcels increases densities and builds community.



*Smart Parking:* The reconfiguration of large parking lots to smaller lots and capitalize on street parking.

Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

# Greater Langley: GREEN INFRASTRUCTURE

## District scale overview

Green infrastructure refers to the way in which natural systems are integrated into the functional structure of our local communities. The Greater Langley area is unique in that approximately 75% of the landmass has been protected as 'Green Zone' area by the GVRD Livable Region Strategic Plan, the bulk of which is identified as Agricultural Land Reserve (ALR) as well as key river systems such as the Nicomekl and Salmon River.

These green assets served as the starting point for the design for Langley, as new communities were integrated into their structure as well as with other existing streams and tributaries. Older communities were retrofit to reveal, connect, and heal green systems to enhance their ecological, hydrological, and recreational function.

*Green Infrastructure:*

The Green Zone and ALR highlight the existing green infrastructure systems in Greater Langley and served as the starting point, along with other existing streams and green spaces, for the proposed design.

Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

**A Design for 4 Million**

# Greater Langley: GREEN INFRASTUCURE

## Neighbourhood details

**Rethinking the ALR – 'The Edge Parkway'**
The ALR is clearly a vital resource to the entire lower mainland, but its current form creates a fragmented, under-resolved interface between its rural edge and urban settlement. In attempting to explore potential solutions for the 'Edge', the proposed design includes a Parkway which traverses, and delineates a new boundary between the rural and (sub)urban landscapes.

The result is a reorganization of the agricultural and developable land, without a reduction of either, leading to the creation of rural/urban interface with the potential for small scale or community agricultural, recreational, conservation, and institutional uses, in addition to a pleasure drive through the region in the spirit of Bartholomew and Olmsted.

**Connectivity** - Green infrastructure comes in all shapes and sizes, but its functionality as a key component of a sound ecological community relies on its interconnectivity. The design emphasized the connection of greenspaces from backyards to parks, to each other and to larger system in order to promote the restoration of natural processes, increased infiltration and reduction of impact to habitat and water quality.

*The Edge Parkway:* The image represents the diversity of potential land uses for the urban/rural interface delineated by the Parkway, including institutional, community agriculture and cluster housing.

*Green Connections:* Where feasible, connections were made between all scales of green infrastructure from local systems, to the larger regional systems.

*Connections Applied:* Proposed green infrastructure connections between riparian areas, green spaces and school yards/fields in Langley

Group name: student 1, 2, 3, etc

# Greater Langley: JOBS CLOSE TO HOME

## District scale overview

Sustainable communities are complete communities, and a vital part of becoming a complete community is the provision of local jobs for local people.

Given its place in the region and limited potential for greenfield industrial expansion because of geographic and policy constraints, the proposed design for Greater Langley highlights a series of neighbourhood and town centres, where flexible zoning facilitates the provision of commercial and business employment within the fabric of the local community. In addition, existing industrial sites throughout the sub-region have been reorganized and densified, and opportunities for small scale agricultural jobs along the ALR edge have been identified in order to satisfy employment requirements.

The population estimates for the Greater Langley area require that 175,000 new jobs are provided to complete the community. The proposed design provides 201,000 jobs – a job to new housing ratio of 1.2:1

*Jobs, Jobs, Jobs:*

The proposed design focuses on providing jobs in a variety of town and employment centres across the sub-region. Their interconnectivity is key in providing efficient travel to and from work, encouraging working and living in the same community.

Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

# Greater Langley: JOBS CLOSE TO HOME

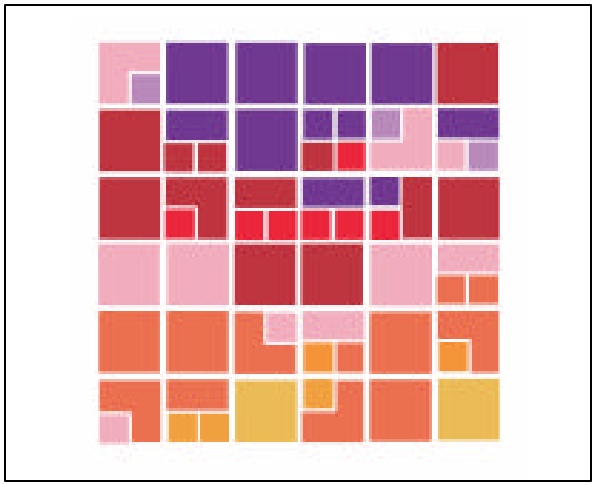
## Job Sites

The following principles guided the proposed design in providing local jobs for local people:

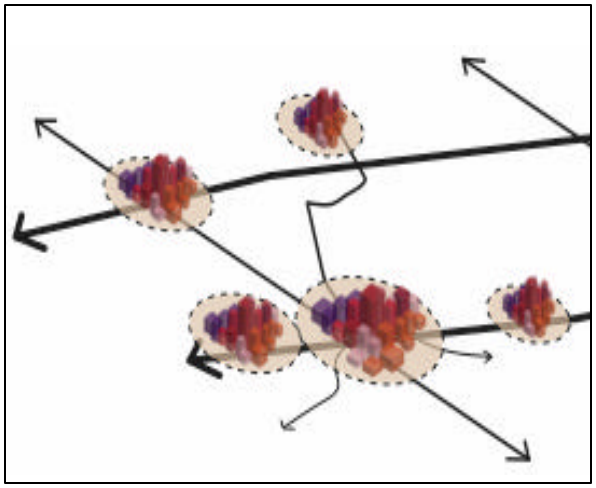
**Flexible Zoning**: The integration of commercial, industrial and mixed-use residential at town and neighbourhood centres increases the opportunities for the residents of Greater Langley to work close to home. This includes breaking up current zoning schemes into smaller, more flexible blocks where multiple land uses can exist, as well as providing potential areas for work/live solutions.

**Dense Centres:** The theory of densifying centres was also applied in considering jobs in the proposed design. Existing commercial and business centres and corridors were built up, not out, and existing industrial activities were reorganized and densified to provide a series of local and connected job centres for the people of Langley.

*Flexible Zoning:* Within the town and neighbourhood centres integrating industrial, commercial, and residential zoning.



*Flexible Zoning Applied:* This example from the proposed design of Aldergrove illustrates the possibilities of flexible zoning.



*Dense Centres:* Expanding and densifying commercial, industrial and business centres allows the people of Langley to live and work in their home communities.

Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

# Greater Langley: TRANSPORTATION

## Moving around the district

The Liveable Region Strategic Plan identifies 'increasing transportation choice' as an important strategy for creating a sustainable region.

Greater Langley is currently a car-based community and through the addition of transit lines and greenway systems, the proposed design has created an integrated network of all forms of transportation.

The focus of development was on the creation of an effective transit system operating on an interconnected street system. The existing transit system was expanded to create a grid system such that routes are within a 5 minute walking distance from all areas in the sub-region.

In areas where an integrated street network could not be restored we have attempted to connect areas through green connections, serving as opportunities for bike routes and pedestrian-ways.

*Buses Everywhere:*

This image highlights the existing and expanded bus routes throughout the sub-region. Though Greater Langley is currently a car-based community, expanding on transit opportunities can discourage local car use, and create better connections for work, live and play through the sub-region

Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

**A Design for 4 Million**

# Greater Langley: TRANSPORTATION

## Moving around the neighbourhoods

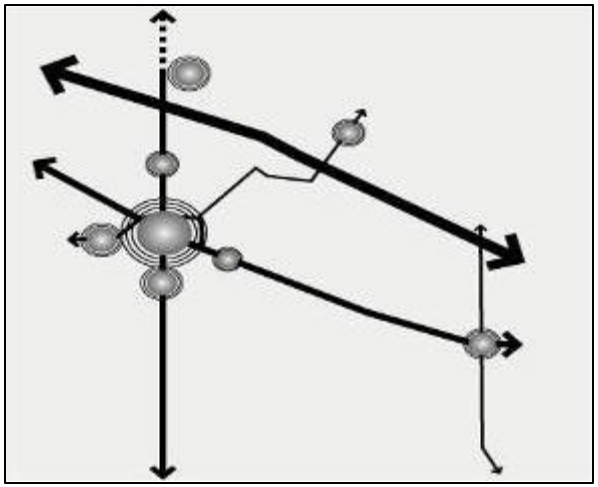
The following principles guided the proposed design in providing effective transportation throughout the sub-region:

**Connect the Centres:** Transit routes were added throughout the sub-region to create a connected network of regional and neighbourhood centres.

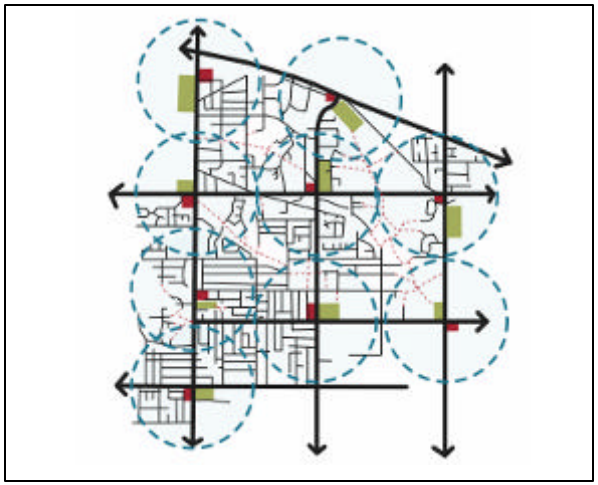
**Five Minutes:** Routes were established such that residences along with commercial and business areas are located within a 5 minute walking distance to transit service.

**Green Retrofitting:** Existing suburban neighbourhoods, such as Walnut Grove, were retrofit through the development of green corridors. These corridors serve as bike routes and pedestrian ways through neighbourhoods.

*Connect the Centres:* Connect the flow of materials, goods and residents within and between communities as well as to the whole region.



*Green Retrofitting:* Transportation doesn't mean just cars and buses. Greenspace in developed areas were retrofit to allow the flow of people on foot, bikes, skateboards etc.



*5 Minute Rule:* The proposed design provides communities with local amenities such as transit, greenspace and commercial areas within a short walk.

*The Rule Applied:* An example of how this rule was applied in the proposed design.

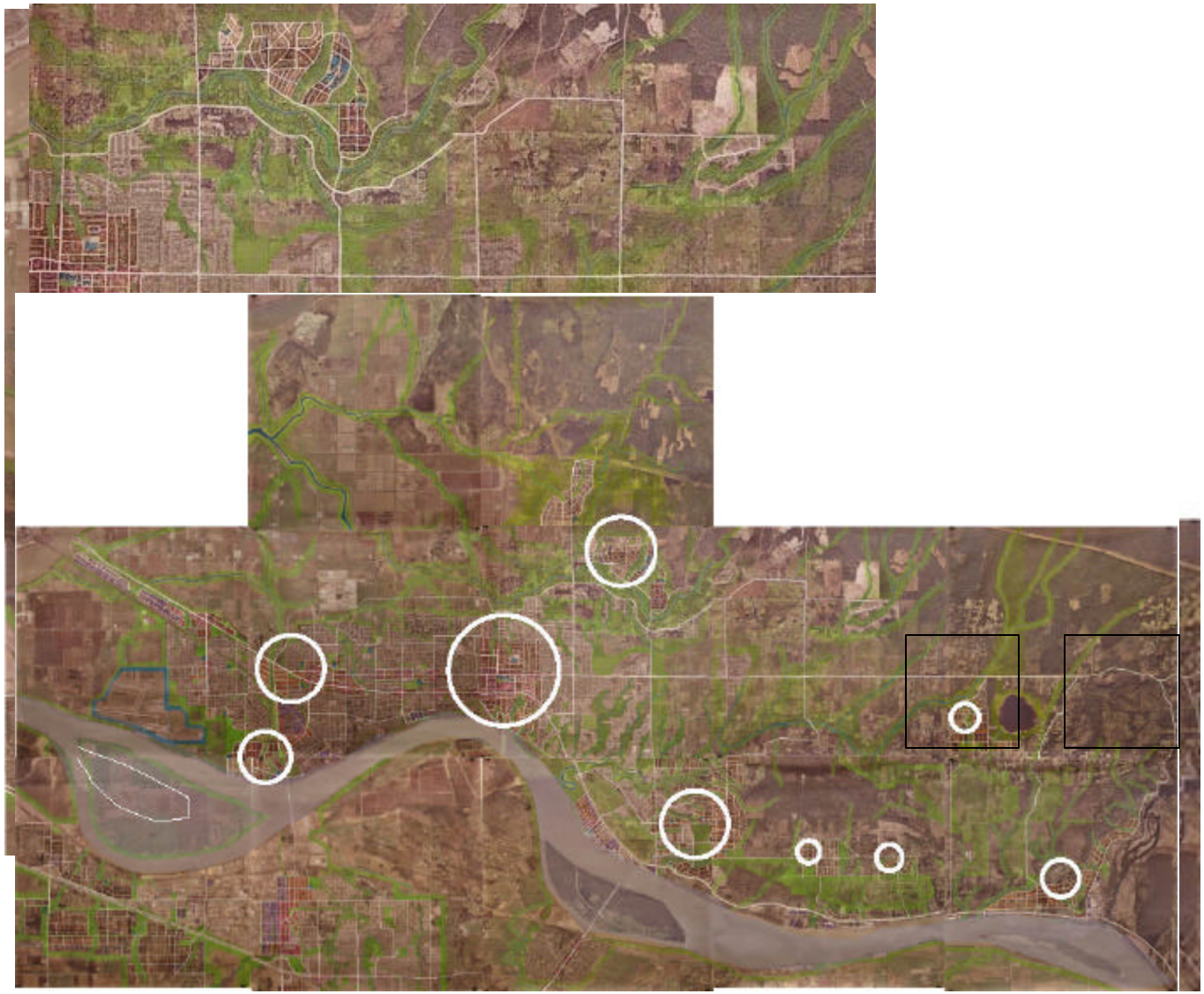
Greater Langley: Ryan Crago, Leigh Sifton, Kate Stefiuk

# Maple Meadows: NEW BUILDINGS

## Densify Nodes

***70% of the current housing stock is detached single family residential.***

The area of Maple Meadows is posed to have 114,897 more residents by the year 2056. In order to accept this new population, town centres will be densified and connected by transit. This will allow for the creation of complete communities suited for living, working and commercial activities. The town centres will be made up predominantly of townhouse style residences and garden apartments. This will be accomplished through infill and redevelopment along commercial corridors. Using this method, the town centres are able to have a total of 78,481 new dwelling units, housing 196,203 people.



Densification of the town centres of Maple Ridge, Albion, Pitt Meadows and Silver Valley

Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

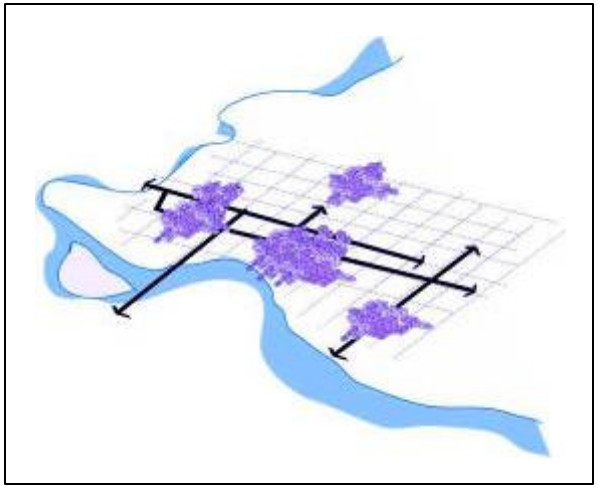
**A Design for 4 Million**

# Maple Meadows: NEW BUILDINGS

## Neighbourhood scale solutions

On the neighbourhood scale, civic, institutional, and commercial activities are concentrated to provide for a range of needs for the citizens of the community. By allowing for flexible zoning in the multi-block scale, commercial, business and a variety of residential uses can occur in the same area. This desegregation of land uses will encourage the development of a community fabric where people can both live and work. New and infill development results in 20,093 townhouse dwelling units, 18,438 garden apartment dwelling units, 10,030 mixed commercial and residential units, and 20,920 detached dwelling units.

*Densify:*
Dense town centres connected by transit



*Mixed-Use Blocks:*
An interconnected street system connects mixed-use blocks

*Current Condition:*
Maple Ridge town centre car-oriented strip mall

*Future Condition:*
Pedestrian-oriented, mixed-use commercial and residential blocks

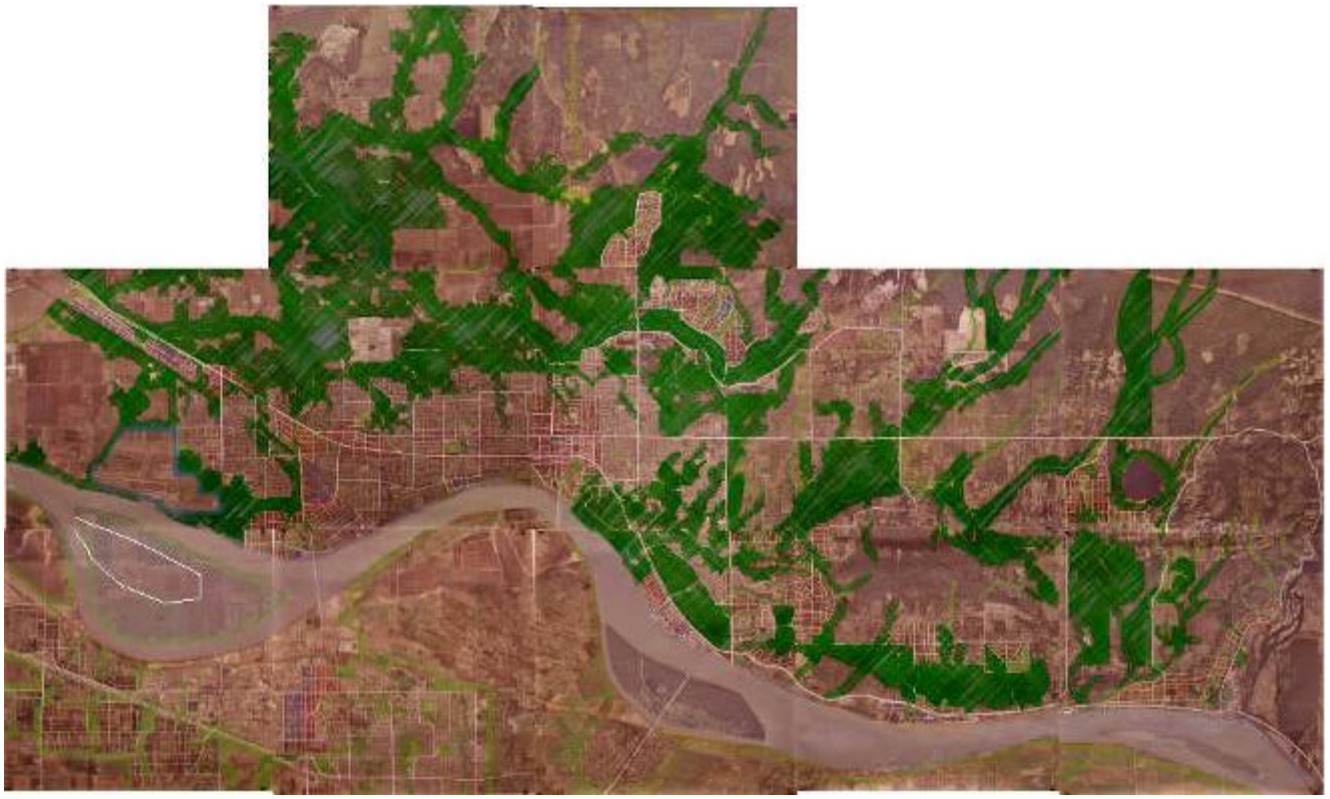
Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

# Maple Meadows: GREEN INFRASTRUCTURE

## PromoteGreen

***73% of the area is currently protected in the green zone.***

This district is situated in a geographically diverse area of the Greater Vancouver Regional District. The natural features range from low-lying flood plains to mountainous uplands. This area includes many major river and streams systems, including the Fraser River, Kanaka Creek, the Pitt River and Alouette River. Protecting these waterways is crucial for creating recreational opportunities and promoting ecological well being. A large portion of this area is included in the Agricultural Land Reserve and the GVRD Green Zone. Addressing the seam of the agricultural land with urban land provides the opportunity for greater community involvement in food production and opportunities for public access to green space.



*Promote Green:*

Agricultural Land Reserve and riparian areas are preserved and celebrated

Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

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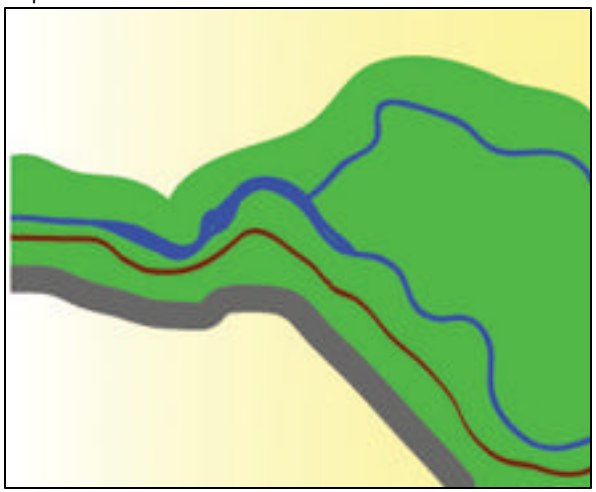
# Maple Meadows: GREEN INFRASTRUCURE

## Neighbourhood details

Maple Meadows has many stream systems and riparian areas. This provides opportunities to capitalize on the natural features of the site. Easy access to green spaces can improve livability for residents. The vibrant trail systems in the region are an important asset. The natural features, predominantly slopes and streams, are what dictate the shape of blocks without forfeiting interconnectivity of the street system.

The Agricultural Land Reserve edge with the urban fringe provides for unique opportunities to access greenspace. Infill and densification of urban centres allows for enough residential units to accommodate the growing population of the region, while allowing for all existing green zone areas to remain protected.

*Layer the Flows:*
Waterways are buffered by green areas and influence the shape of recreational and vehicular corridors



*Caption heading:*
Streams shape the street network without sacrificing interconnectivity

*Current Condition:*
Kanaka Creek riparian area

*Future Condition:*
Kanaka Creek with flows of water, recreation and vehicles.

Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

# Maple Meadows: JOBS CLOSE TO HOME

## Diversify Agriculture

***65% (Maple Ridge) and 85% (Pitt Meadows) of residents commute to work outside their communites to work.***
***.(Community Profiles)***

Applying the concept of a complete community to Maple Meadows means creating new job opportunities within the district. This allows residents to work near where they live. Four strategies are implemented in this region to increase the number of jobs: diversify agriculture, create a commercial web, invest in industry, and work at home. Diversifying agriculture is a key strategy for Maple Meadows, since much of land mass is included in the Agricultural Land Reserve. In addition, three main industrial zones in the area are densified to maximize land use and a new college in Silver Valley provides new employment opportunities.

*Complete Community:*

New employment opportunities allow for people to work near their homes, reducing commute times and reliance on cars

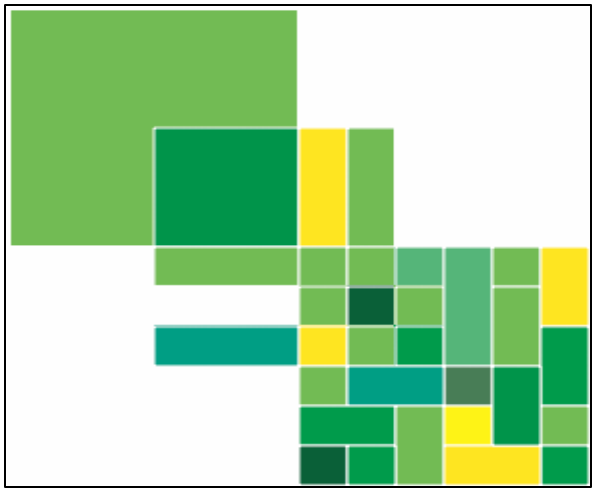
Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

# Maple Meadows: JOBS CLOSE TO HOME

## Job Sites

The prevalence of agricultural land in Maple Ridge and Pitt Meadows provides for many new job opportunities. The introduction of smaller scale farming (for example organic farms), requires more labor intensive operations and as a result, more labor. Smaller scale farming is also a positive and desirable land-use for the seam between the Agricultural Land Reserve and the urban edge. As oil prices rise, nearby food sources will become vital to the health of communities. The region of Maple Meadows is at an important stage in its development and has the opportunity to develop its agricultural base to create jobs and protect its food source. Beginning the process of diversifying agriculture is important to ensure future sustainability.

*Diversify Agriculture:* Shift from large scale monocrop agriculture to a mosaic of labor intensive small farms



*ALR / Urban Seam:*
Fingers of agricultural land integrate with the urban fabric

*Current Condition:*
Contested ALR Land north of Dewdney Trunk Road


*Future Condition:*
Smaller scale agriculture shares an edge with residential land-use

Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

# Maple Meadows: TRANSPORTATION

## Create connections

***85% of work trips are made in single occupancy vehicles.***

In order to deal with the reality that twice as many people will be living in this part of the GVRD by 2056, an interconnected and accessible transit system will be key. Regional town centres will be connected by bus. A system of arterial routes provides transit connections between new neighbourhoods and regional employment hubs. The existing dyke system, currently 42km in length, creates a unique arrangement of green corridors that allows for connection between town centres and also to natural areas by bicycle and on foot. The West Coast Express train, with new stations, will continue to be an important connector to the larger region.

*Transit Oriented Travel:*

Interconnected street systemthat connects to main arterials and allows for easily accessible transit

Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton

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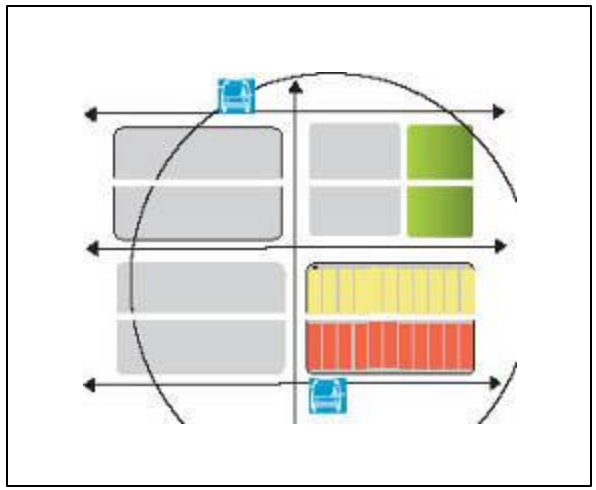
# Maple Meadows: TRANSPORTATION

## Moving around the neighbouhoods

New development and infill development is done within an interconnected street system. This allows residents to access commercial services and transit within a five minute walk from their houses. The proposed bus routes are more robust and run along major arterial roads including Dewdney Trunk Road, Lougheed Hwy, 232nd Street, 240th Street, 270th Street. Town centres are connected by transit, allowing for less reliance on single family vehicles. Train connections between neighbourhoods within the district, and to the larger region, are augmented with the addition of two new stations located near the Albion and Ruskin neighbourhoods.

*Five Minute Walk:*
An interconnected grid of streets allows for a five minute walking distance to services and transit



*Accessible Transit:*
Short walking distance to main bus and train lines

*Current Condition:*
Maple Meadows West Coast Express Station

*Future Condition:*
Built up commercial and residential creates a vibrant hub centered around the existing station

Maple Meadows: Sara Fryer, Farzaneh Ghassemi, Erin Upton