

Burnaby and the Tri-Cities- PATTERNS OF NATURE

Heal & Restore Watersheds

A reduction in stormwater runoff can be achieved by restoration of previously compromised or destroyed riparian zones and waterways. Watershed health is an indicator of ecological health. Urban development can have a huge impact on the ecological health of the community due to the replacement of green infrastructure with impervious buildings, roads and parking lots.

Urban development resulting in the loss of streams to underground pipes and the reduction of riparian zones and green space results in stormwater runoff instead of the gradual filtering, cleaning and recharging of our hydrological system.

By planning urban street patterns to direct and absorb stormwater flows using the natural drainage patterns of the site; as well as impermeable surface reduction and the retention of riparian zones, green spaces and streams... communities will be better able to heal and restore the health of our natural environment.

REDUCE FOR RESTORATION

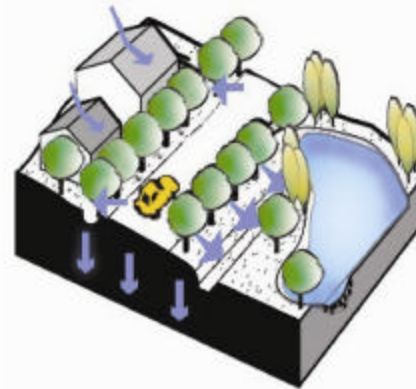
Lost streams:

Overdevelopment results in the destruction of existing streams and dead riparian zones.



Compromised streams:

Many newer urban developments incorporate 'cul de sac' street patterns with little riparian zone retention and significant stream loss.



Absorb and clean water:

Storm water runoffs are absorbed by a "green" infiltration-based storm water management system and stream and riparian zone preservation.



Healthy streams:

Reducing impermeable surfaces and retaining and restoring the connected green network of streams and riparian zones restores watershed and riparian health.

Burnaby and the Tri-Cities - PATTERNS OF NATURE

Heal & Restore Watersheds

The Burnaby and Tri-Cities area of the Greater Vancouver Regional District contains many shapes and sizes of watersheds, from the scale of the Fraser River Basin to that of an individual urban lot (fig.2). What happens at each scale affects the hydrological performance and therefore, the health of the larger watershed and the environment.



FIG.1 The Rectilinear Grid Pattern

REDUCE FOR RESTORATION

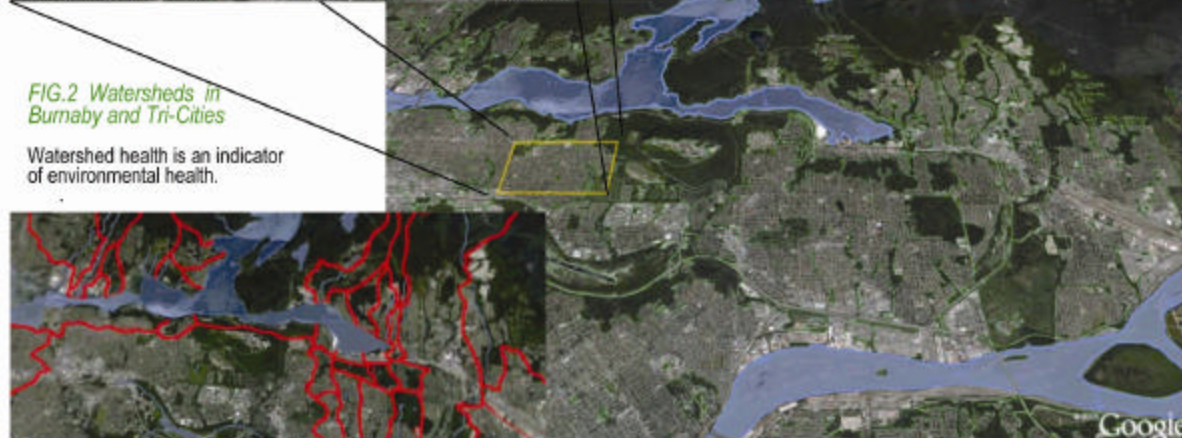


FIG.2 Watersheds in Burnaby and Tri-Cities

Watershed health is an indicator of environmental health.

Healing and restoring of the Burnaby watershed would be accomplished by restoring and retaining the lost streams, riparian zones and greenways as well as by creating a more thoughtful grid pattern which respects the green space.



Burnaby and the Tri-Cities

Burnaby occupies an inner, central location in the Greater Vancouver Region.

Systems Strategies

Burnaby and the Tri-Cities - PATTERNS OF WORK

Work, Work Everywhere...

At the regional scale, community planners try to provide at least one job site per household. These jobs are also concentrated around population centers and transit.

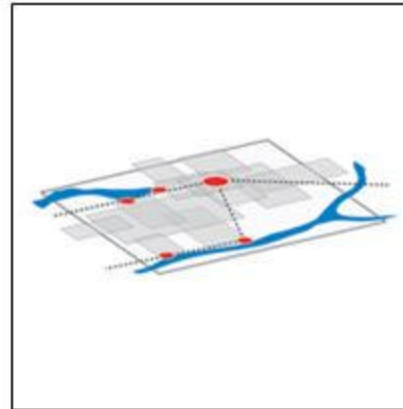
At the neighborhood scale, "service sector" jobs consistently rank as the largest single sector in the job marketplace. These jobs are integrated into predominantly residential districts where they serve the needs of the people who live there.

While some separation between residential, policy discussions all too often operated from the assumption that business activities must be confined to separate districts, cut off from connection with their community.

Finally, at the parcel scale, live-work arrangements can be incorporated into most residential areas. Centrally-located areas should be designed to take advantage of their strategic location and incorporate architectural features that would make home-based commerce especially practical (such as stacked townhouses where the ground floor unit could be used as a consultant office, coffee shop, or home repair service for example).

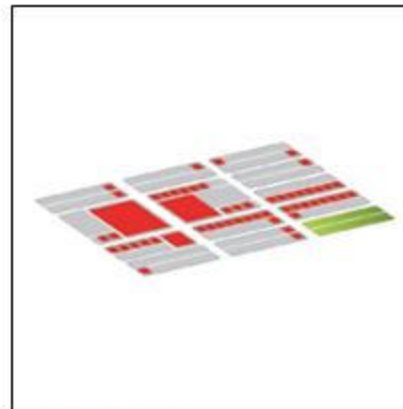
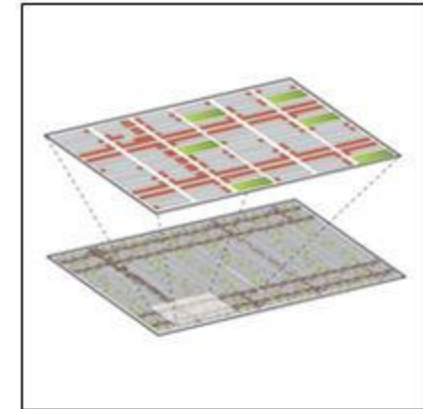
Regional Scale:

Job centers, according to the Liveable Region Strategic Plan, correspond to population centers and transit services.



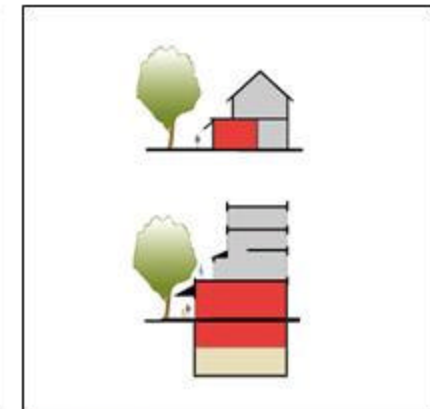
Neighborhood Scale:

Jobs are integrated into predominantly residential districts where they serve the needs of the people who live there.



Multi-block Scale:

Local block configuration can be modified to allow for larger square-footage, required of certain commercial and industrial uses.



Parcel Scale:

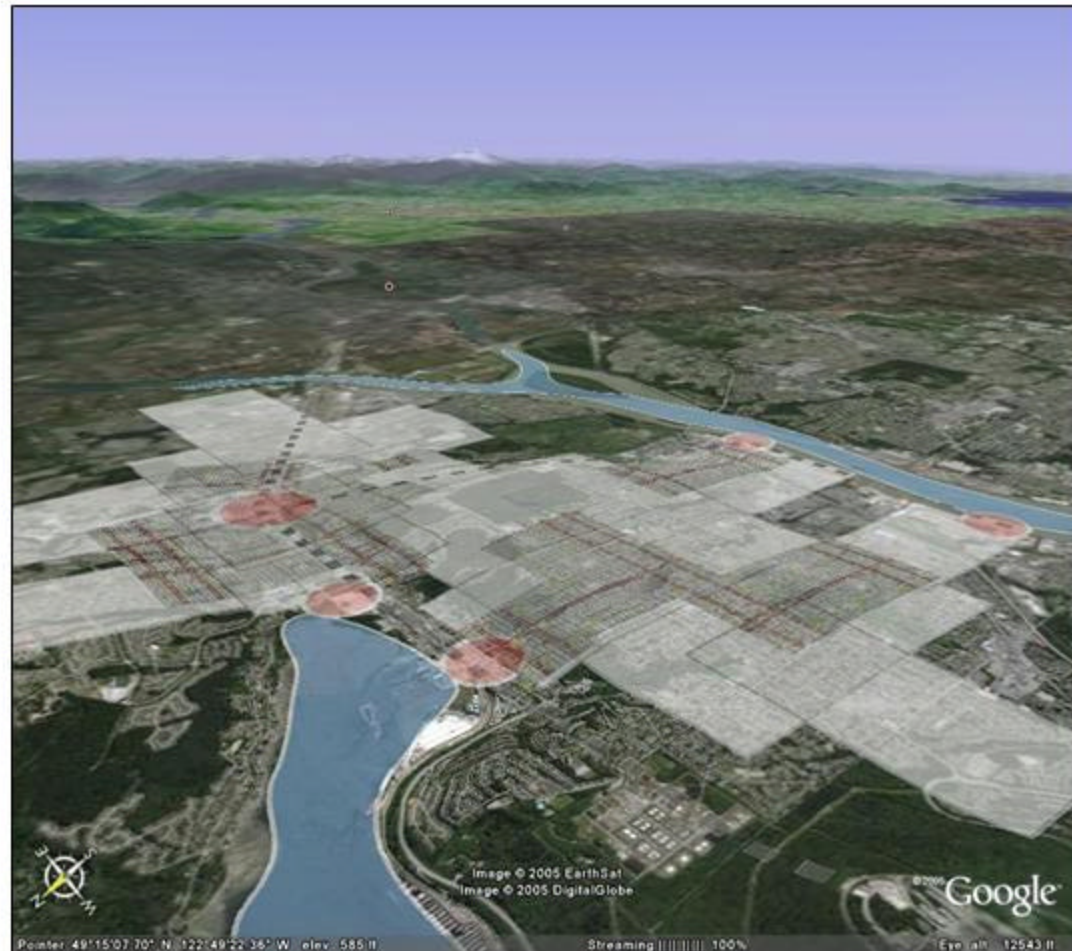
Beyond traditional live-work arrangements, below-grade spaces provide larger areas for manufacturing and storage of goods.

Burnaby and the Tri-Cities - PATTERNS OF WORK

Strategies Applied - Summary

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 applying flexible zoning, jobs may be established in the same vicinity as residences. Such live/work communities may be large regional town centres such as Metrotown and Coquitlam town centre, or smaller municipal town centres such as Lougheed and Edmonds. Although the Livable Region Strategic Plan identifies 13 municipal town centres, municipal plans may include others.



A quilt of complete community centres and the local populations they serve.

A new, totalitarian strategy:

"Mayor of Vancouver Reigns with Iron Fist- No More Development Unless Jobs are Provided."

Systems Strategies

Burnaby and the Tri Cities - PATTERNS OF MOVEMENT

Sustainable Strategies

– Support Communities with a Good ‘Move’

For creating sustainable communities, the activation of the internal movement would be a key in Burnaby and the Tri Cities: instead of feeding people to surrounding municipalities, encourage people to live in their own communities.

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

Reasonable Infrastructures: Let the natural features define the street network, so that the network can provide people not only with neighbourhood identity, but also with practical movement.

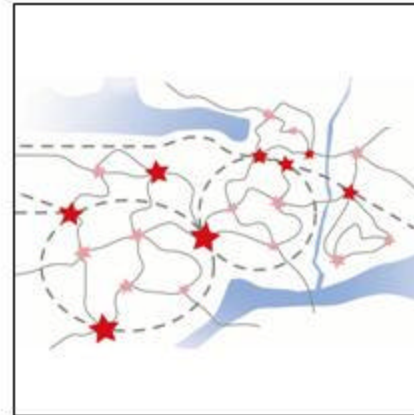
Motivation for Public Transit: Convenient, reliable service will encourage people to switch from automobiles to public transit. Utilize the existing street system for enhancing network.

Motivation for Walking: Livable neighbourhood has active streets, and active streets invigorates neighbourhood. Let streets help neighbourhood to create reliable, pleasant atmosphere.

Discover the merits in your communities.

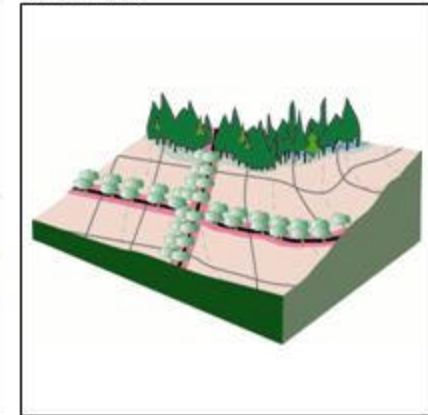
Encourage the internal flow:

By creating minor centres and providing enough transit choices, the internal flow of materials, goods, and people would be encouraged in the community.



Design streets to enhance natural features:

Contour lines and stream flow would be appropriate guides for development, influencing the grid pattern. Meandering streets will also discourage speed of automobiles.



Sufficient Transit Service:

Provide the transit with well-connected network and frequent service, encouraging the internal flow of people and the vibrant community.



Livable, enjoyable streets:

Safety and liveliness determine the quality of streets. Securing enough space for pleasant walking experience, movement on foot will be enhanced.

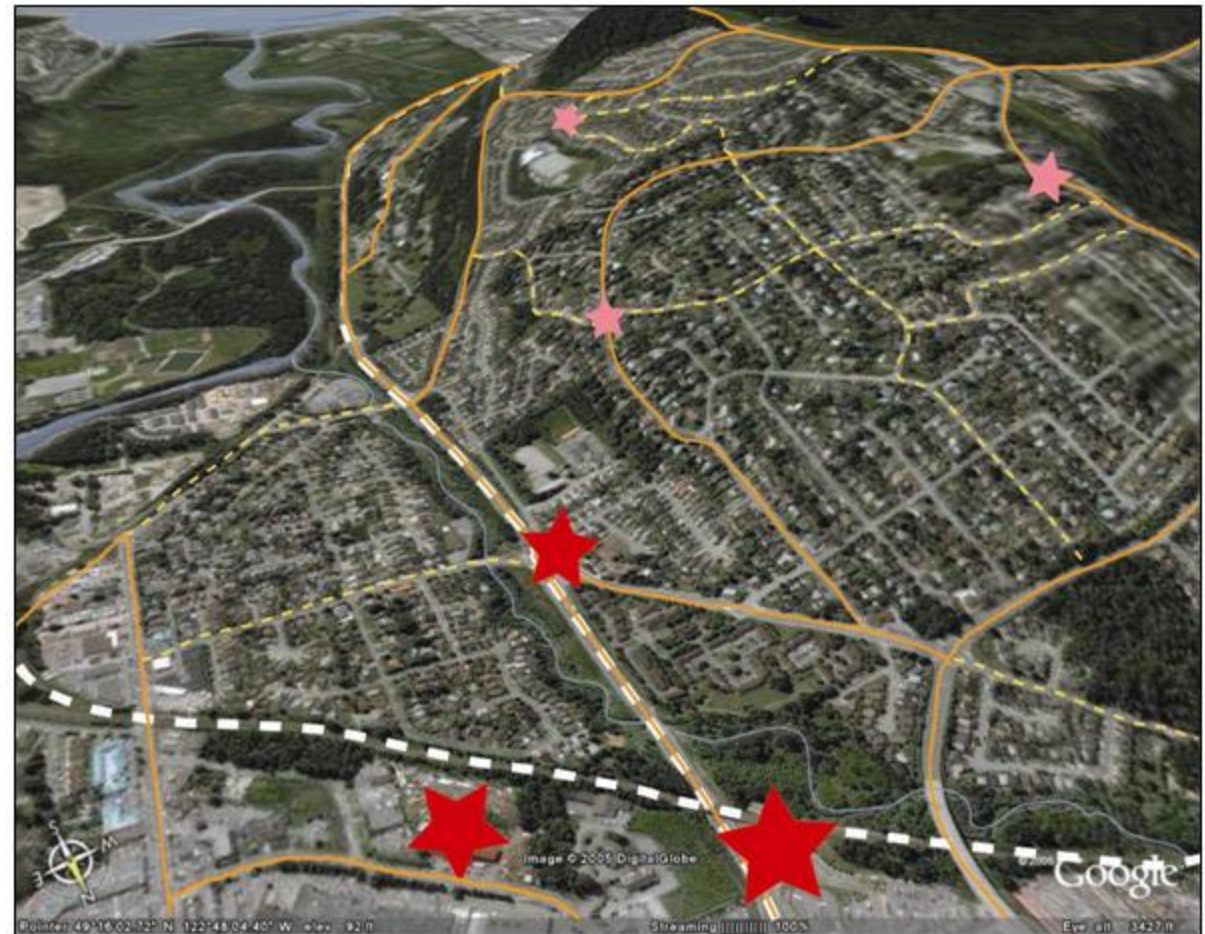
Burnaby and the Tri Cities - PATTERNS OF MOVEMENT

Strategies Applied - Not 'Sub'urban Anymore

As the movement strategies applied, Burnaby and the Tri Cities will create internal centres, generating urban communities in itself, which are equipped with active movement.

Enhanced connection with existing streets will make the community more vibrant without giving up land for pavement in a huge amount. Burnaby and Tri Cities have enough local streets for short-distance, internal flow, even though current network seems to be disconnected, mainly dedicated to long-distance movement. Those new connecting streets will bring more people to local communities, resulting in sustainable communities.

Dispersed centres and interconnected movement will let Burnaby and the Tri Cities step forward from 'sub'urban to urban.



Strategies Applied into Northeast Coquitlam:*

Putting small centres and sufficient transit system, Northeast Coquitlam will create several community pods.

**Terrains are exaggerated for legibility.*

Systems Strategies

Burnaby and the Tri Cities - PATTERNS OF NEIGHBOURHOOD

Sustainable Strategies - Summary

The Patterns of neighbourhood diagrammed here for Burnaby and the tri cities attempts to layer together patterns of nature, work and movement to show the totality of sustainable strategies at large and small scales.

By concentrating development at the largest, district scale, a multitude of primary nodes are established, with secondary and tertiary nodes of activity all within the fabric of a highly connected urban grid. These centres also elviate urban expansion pressures on our green reserves.

Within the movement corridors of the grid, programming for an active streetscape will help to realize the full potential of walkable, connected streets. Streetside parking, spacious sidewalks, street trees and bike lanes all encourage people residing within and between high density community centres to capitalize on localized, rather than centralized community hubs.

A multiplicity of housing types, and land-use types including schools, parks, commercial services integrate a variety of land tenure types among a range of ages, families and incomes, all residing throughout the same block.

By ensuring only streetside parking exists in front of buildings, with underground parking underneath them, the need for large, ecologically damaging asphalt parking is eliminated.

District:

Densities should be variable, giving rise to higher density community centres with a variety of living, working, and commercial opportunities within walking distance.



Corridor:

Centres with street parking, storefronts at the street level, and suitable walking space along the commercial streets encourage and contribute to community walkability.



Parcel:

Each block can incorporate a variety of parcel sizes, configurations and land uses while maintaining a well connected urban form.



Building:

By reducing surface lot parking, a more continuous, walkable street is maintained, connecting blocks together.

Burnaby and the tri-cities - PATTERNS OF NEIGHBOURHOOD

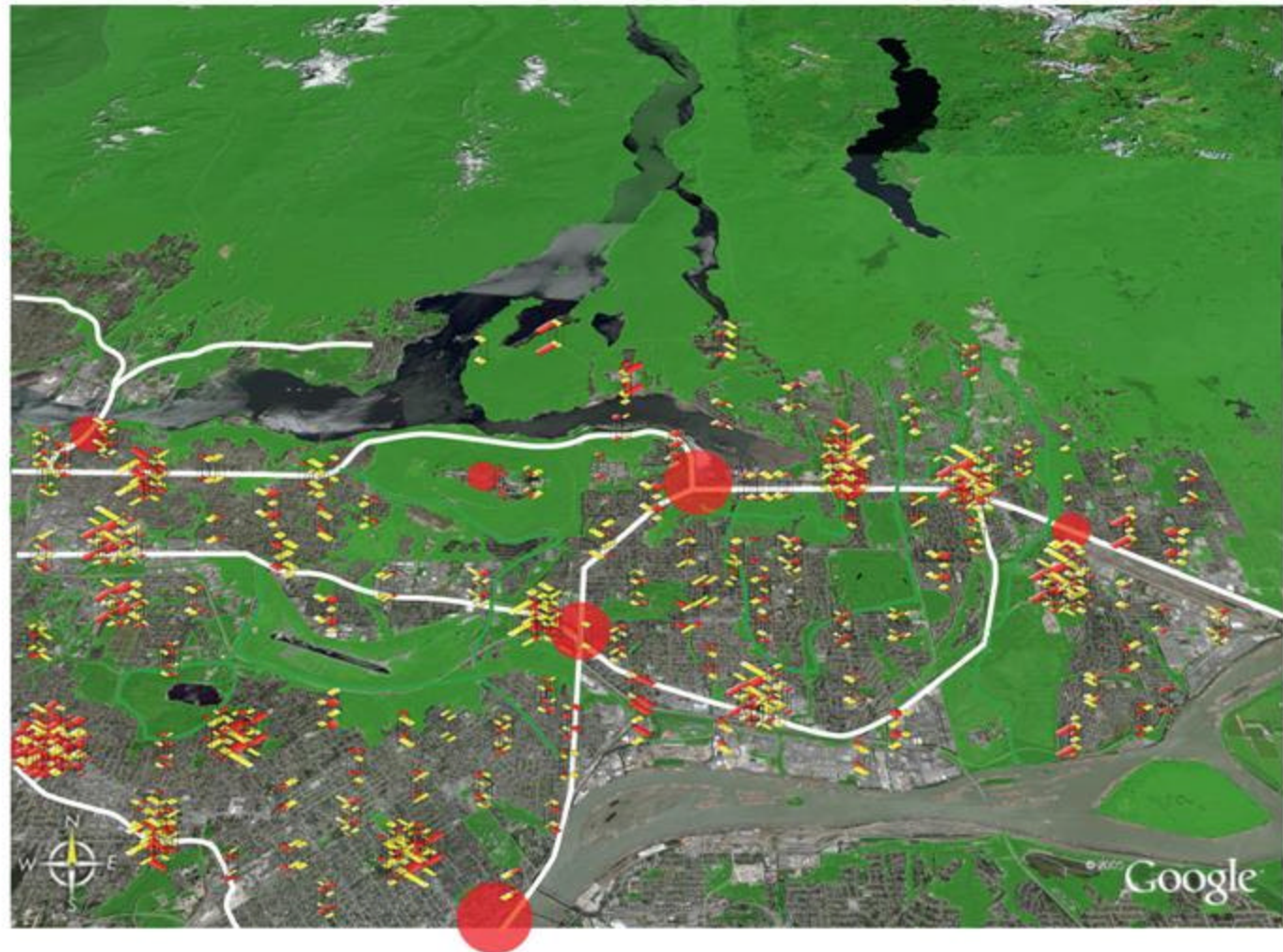
Strategies Applied - Summary

A hierarchy of clusters form when looking at a sustainable region.

Major agglomerations such as Metrotown, Brentwood, Lougheed, Burquitlam, Inlet and Coquitlam centres show up on this map at dense living and working centres. Secondary clusters are interspersed throughout these, which draw smaller, more local business. A tertiary level of centres also exists- single stores and apartments scattered close to one-another, contributing to a walkable region.

By bringing together residential, office, retail, institutional and public spaces the needs of the communities are met locally.

An endless grid of connected streets, with storefront strips, streetside parking, and a variety of amenities, consumers are relieved of the need to drive to sustain their lifestyles. Blocks, parcels, and the land-uses superimposed onto them display a variety that ensures a range of economic and family groups may be included throughout the municipalities of Burnaby and the tri-cities.



The patterns of neighbourhood combine to show a varied quilt of well-connected, proximal land-uses that maintain a robust network of protected nature. These high density clusters may draw regional, municipal or local residents, according to their size and frequency.