Systems Strategies

ASSIGNMENT III, PART II

SYSTEMS STRATEGIES

VANCOUVER TRI-CITIES – PATTERNS OF EMPLOYMENT

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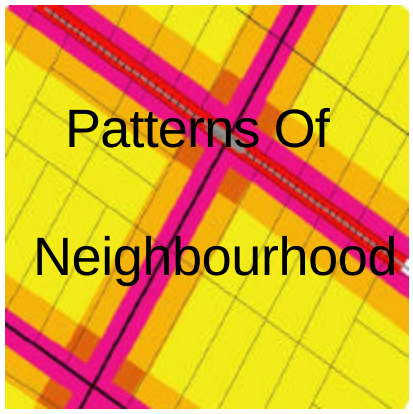
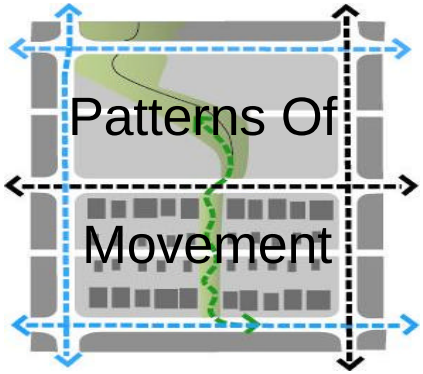




Systems Strategies

VANCOUVER TRI CITIES - PATTERNS OF NEIBOURHOOD

Ripples of density make neighbourhoods rock!

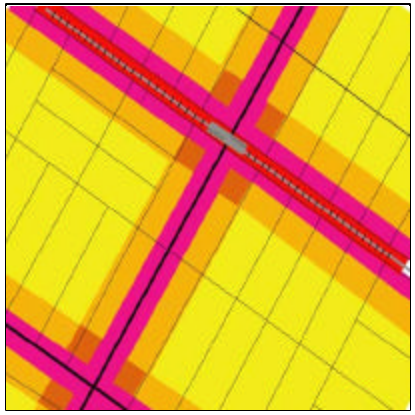
Neighbourhood Patterns are interwoven with Patterns of Movement, Employment and Nature. Neighbourhood form and community culture function together as both an autonomous system and an integral piece of a larger network of neighbourhoods. At the very centre of the sustainable neighbourhood is the idea of human scale, progression and connectivity – a walkable community that diminishes car dependance and fosters public interaction. At the scale of the Multi Block (400m or a five minute walk), there is a diversity of land uses, housing types and services that progress along a gradient of density and privacy.

The same notion of connectivity and gradual progression applies to the Block scale. Housing types step down from high to low density and from relationships based on the rile or position of the block in thee greater scheme of the neighbourhood. For example, a block that is part of a commercial corridor faces that corridor with buildings that accommodate both commercial and residential uses (stores below / apartments above), while the other side of the block can accommodate high density residential (these may be condo towers if this level of density is required). Another compatible block relationship is between single family and multi-family dwelling units.

Parcel size and configuration play an important role in the dynamics and character of a block and neighbourhood. Buildings with short set back present a “friendly face” and have a strong connection to the street. Driveways and garages can be located at the back of the lot along the alleyways. The alley can take on different functions based on the housing types that exist together within a block. A neighbourhood with a variety of housing types that gradually progress from low to high density is able to accommodate a high population density with a strong sense of cohesion and identity.

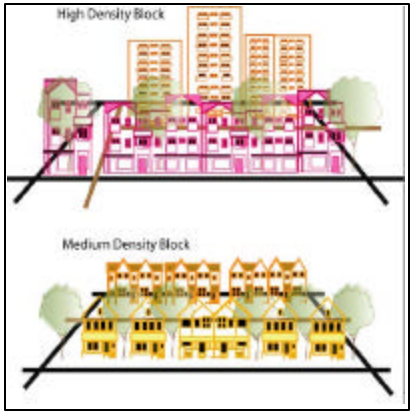
Multi Block:

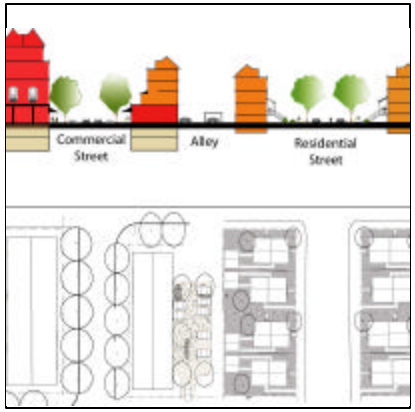
Various land uses and density reverberate from dense corridors of commerce and transit.



Block:

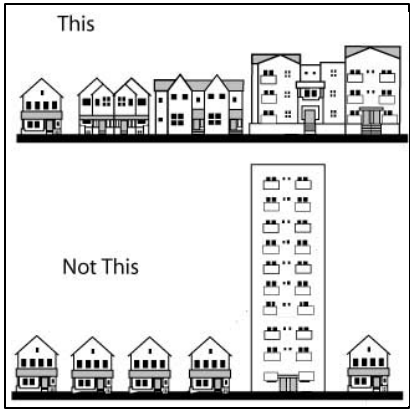
There is a compatible relationship between categories of housing density.





Parcel:

Parcel size and configuration is key to creating a dense and walkable community.



Building:

A gradual progression of housing types is conducive to creating neighbourhood unity.

VANCOUVER TRI CITIES - PATTERNS OF NEIGHBOURHOOD

Ripples of density make cities rock!

The Vancouver Tri Cities area is unique within the Greater Vancouver Region in terms of its current high level of density and the nature of housing development strategies. Patterns of sustainable urban design address the current trend of industrial redevelopment and high-rise condo construction (Southeast False Creek, East Fraserlands and portions of North Vancouver). This trend signals rapid and significant population increase in areas with no current population, and very little change or progression in older, established neighbourhoods. With this trend, there is the potential for an abrasive relationship between future high-density housing developments and existing low or medium density housing, such as single-family and multi-family homes.

The Patterns of Neighbourhhod that apply to the Vancouver Tri City area in general have been derived more specifically from Collingwood Village in Vancouver, which is significant in terms of future population and employment growth, transit needs and ecological sensitivity (part of the Still Creek Watershed). Built around the Joyce Skytrain Station, this neighbourhood has recently experienced significant increase in population density with the development of several high-rise condos within a neighbourhood comprised largely of single-family homes. Without the gradual progression from low to high density dwelling units, the neighbourhood feels disjunct and polarized. Applying patterns of sustainable urban design to Collingwood Village will help to create a coherent, vibrant and walkable community in the wake of future development, and will help to connect Collingwood Village to the larger system of neighbourhoods that comprise the Vancouver Tri City area

Collingwood Village:

Built around Joyce Skytrain Station, Collingwood Village in Vancouver is significant in terms of future population and employment growth, transit needs and ecological sensitivity. Following patterns of sustainable neighbourhood development, Collingwood Village can become both a successful community and a vital part of the larger urban network of neighbourhoods and streets.

Systems Strategies

VANCOUVER TRI-CITIES – PATTERNS OF EMPLOYMENT

Sustainable Strategies - Summary

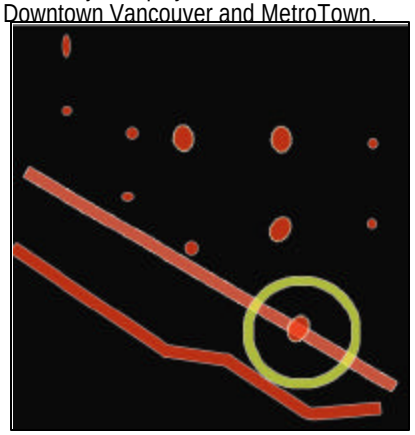
Situated adjacent to the Joyce SkyTrain Station, the Collingwood/Renfrew area potentially serves as a neighbourhood that will experience increased employment opportunities in the near future. Careful planning of this area will result in an increased opportunity to provide work for area residents as well as others who are able to use the SkyTrain as a method of transportation. Zoning the immediate area around the Joyce SkyTrain Station as commercial (retail, office, service, business and high technology) will make it a major destination in the Collingwood/Renfrew area.

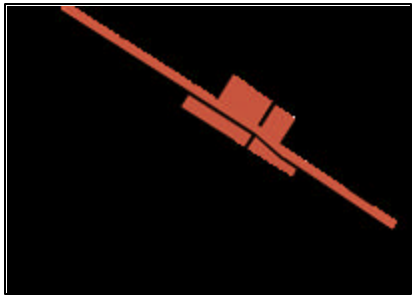
"Employment at the Station"

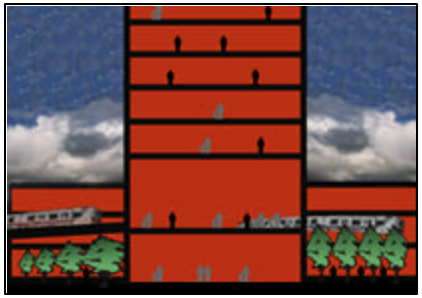
Designating the SkyTrain Line as the "High Street" will emphasize the City of Vancouver's dedication towards a more liveable region. This type of a street allows for narrower rights of way, gives transit priority, and reduces the barriers to transit loading and unloading within the central median (Condon et. al., 2003).

District
Concentrating employment at SkyTrain Stations and along major transit routes will provide opportunity for area residents to arrive at work by transit.

Corridor:
Kingsway and the SkyTrain Route serve as vital corridors that connect the Collingwood/Renfrew neighbourhood with other major employment centres, ie. Downtown Vancouver and MetroTown.







Block : :
Concentration of commercial activity at the Joyce Station will serve as a source of employment for the immediate neighbourhood.

Parcel:
Employment at the station combines park, transit and employment close to residential.

VANCOUVER TRI-CITIES – PATTERNS OF EMPLOYMENT

Strategies Applied - Summary

The SkyTrain Line leading from MetroTown into the downtown Vancouver core consists of a series of nodes, or SkyTrain Stations. The existing stations provide an opportunity to create a linear series of linked centres. Similarly the Kingsway Route will serve as a commercial corridor, with alternative modes of transportation. These locations will serve as denser centres that link up to smaller centres in the immediate neighbourhood. Interconnecting neighbourhood nodal points will be based on the five-minute walk (a 400 metre radius circle for a relatively flat site) to commercial services. In the case of the SkyTrain Centres the walk will be even less for users of the train transit system as they're point of arrival and departure will occur in the direct vicinity of a concentrated commercial core

The primary use of the "employment stations" will provide for commercial/office work sites and business/light industrial or high technology work sites. Transitional commencement into the neighbourhood scale will reveal the opportunity for residents to occupy and manage home-based work sites.

Employment Corridors:

Linking major commercial areas along the SkyTrain Line and Kingsway will create a corridor of employment centres that transition into secondary centres within adjacent neighbourhoods.

Sustainable Strategies – Diagrams of Green Infrastructure Systems at Various Scales

VANCOUVER TRI CITIES – PATTERNS OF NATURE

What types of strategies could be used to restore natural systems in the Vancouver Tri-Cities area?

Preserve and enhance riparian areas: By maintaining riparian buffers, stream health will be preserved. These buffers also have value for people as parks and greenways. Proximity to a vegetated stream corridor has also been shown to have a positive effect on real estate value.

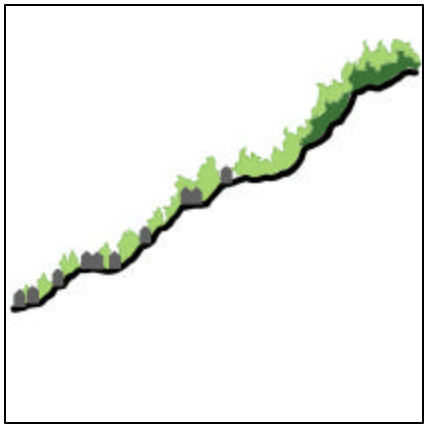
Use high points carefully: Preserving high points in a landscape can lead to significant environmental and visual resource benefits. The community as a whole benefits when access to them in their natural state is available to all. This strategy applies in particular to North and West Vancouver.

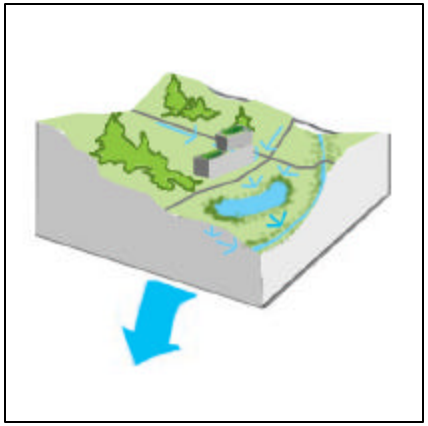
Integrate ecological function and make it visible: By integrating ecological function into landscapes that are used by many people everyday, such as school yards and parks, it may be possible to increase public awareness of these processes and may lead individuals to be more acutely aware of the impact of own actions on the ecosystem in which they live.

Absorb storm water: By designing all landscapes to absorb the first inch of water that fall during each rainfall event, all but 10% of overland storm water flow will be prevented. Sites should also be designed so that pollutants and sediment in the absorbed water are filtered out before the water is reintroduced to natural watercourses.

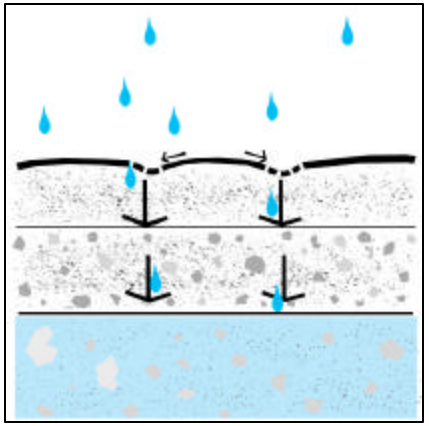
Preserve and enhance riparian areas: Riparian habitat quality and stream health will be improved by preserving a minimum 20m wide vegetated buffer along either side of all watercourses.

Use high points carefully: High points in a landscape should be preserved as public spaces. Not building in these areas will help to prevent erosion and preserve watersheds, habitat value and aesthetic integrity.





Integrate ecological function and make it visible: Wherever possible, natural processes, particularly hydrological processes should be made visible.



Absorb storm water: If landscapes are designed to absorb the first inch of water during every rainfall event, 90% of overland storm water flow will be prevented.

VANCOUVER TRI-CITIES: NATURAL SYSTEMS STRATEGIES APPLIED TO THE SITE

RESTORE…

The City of Vancouver is almost completely urbanized, with the exception of a few isolated patches such as Stanley Park and Pacific Spirit Regional Park. Given the existing condition of the area, strategies in Vancouver proper should focus on restoring as much ecological function into the landscape as possible while making the public aware of these processes. This can be done through increasing storm water infiltration and making ecological processes occurring in the landscape visible.

…AND PRESERVE

Meanwhile, A significant portion of the land of North and West Vancouver, can still be considered greenfield, or semi-greenfield,

Renfrew-Collingwood neighbourhood:

The urbanized neighbourhoods of Vancouver, such as the Renfrew-Collingwood area, should be restored so that ecological function is reintegrated into the landscape. The dark green segments above indicate areas where Still Creek runs aboveground and is surrounded by a riparian buffer. The light green represents parts of the Creek that are currently culverted underground but which should eventually be daylighted. The blue lines represent back lanes which should be permeable and able to absorb stormwater.

Use high points carefully and preserve riparian corridors.

and therefore has significantly more green infrastructure than the City of Vancouver. Thus, there is more to be lost by allowing the improper development of these greenfields and more to be gained by ensuring their protection. One strategy that can be used to do this is the protection of all riparian corridors. And, since much of the North Shore is built on the side of several mountains, the strategy to use high points carefully should also be applied.

Integration of ecological function and absorption of storm water could also certainly be integrated into already-developed lands in North and West Vancouver.

Where possible in all areas of Vancouver Tri-Cities, hydrological and other natural processes should be made transparent and visible to the observer.

Vancouver Tri Cities - PATTERNS OF TRANSPORTATION

Sustainable Strategies - Summary

Joyce station and its surrounding neighbourhood of Collingwood facilitate the only merger point of a radial web system into the city default rectilinear grid in all of Vancouver.

The radial web network is bound by East 29th Ave., Boundary road and Highway 1A. And is surrounded by the rectilinear grid.

The following strategies may lead to a better integration of the two street systems as well as a more successful neighbourhood.

Integrate the systems!

-Design a network of interconnected streets…and in this case continue the interconnectedness across the transition zone between the two different movement systems.

Integrate the flows!

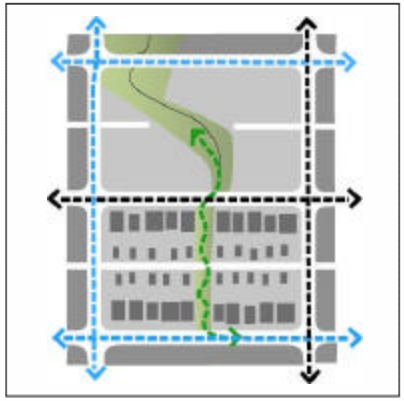
-Create a connected ecological network….integrated within and throughout the street network.

Encourage and maintain flow!

-Maintain flow through blocks and large parcels

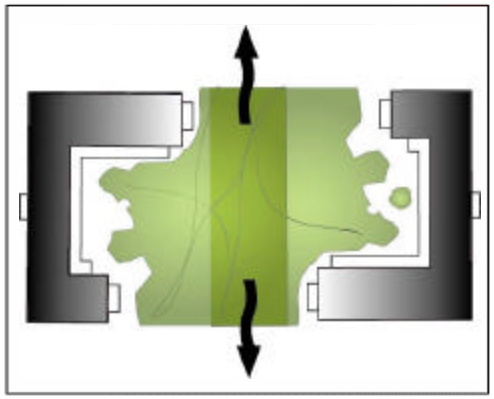
Corridor system:

Collingwood's unique radial system integrated within Vancouver's regular grid.



Multi-block:

Integrating different mobility system.



Parcel:

Maintaining flow through large parcels and blocks.

Vancouver Tri Cities - PATTERNS OF TRANSPORTATION

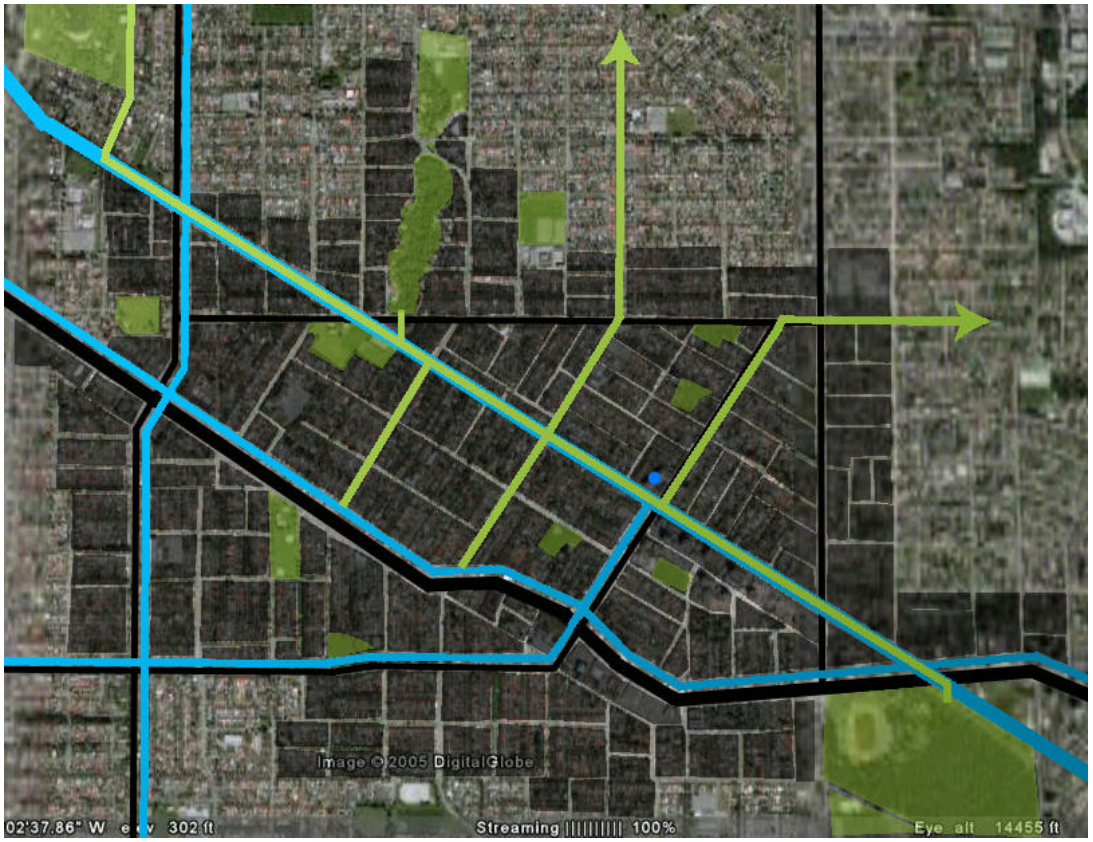
Strategies Applied - Summary

Integration of the skytrain line (shown as the blue line running through the centre of the Collingwood neighbourhood) could facilitate a more interconnected area for the immediate residents as well as bike users passing through or connecting to public transit.

This integration of networks would be achieved through the creation of new greenway system.

The main artery of this system would run along the skytrain line connecting major parks and recreational areas within the community, providing easy foot and bike access to these facilities.

As well it will link to other major greenway networks of the city thus integrating this neighbourhood into the greater green transportation system. This will also create more transportation options for long distance commuters moving through the area via Joyce station.



Collingwood Neighbourhood

The image above shows the relationship of Collingwood neighbourhood with the surrounding grid as well as the major automobile and transit networks flowing through and adjacent to the area. Bright green denotes the proposed new greenway system.

Bibliography:

Condon et. Al. 2003. Sustainable Urban Landscapes: Site Design Manual for BC Communities. Vancouver. UBC James Taylor Chair in Landscape & Liveable Environments.

Renfrew-Collingwood Community Visions Program. <http:\\www.city.vancouver.bc.ca/community_profiles/Renfrew Collingwood/area-planning.htm