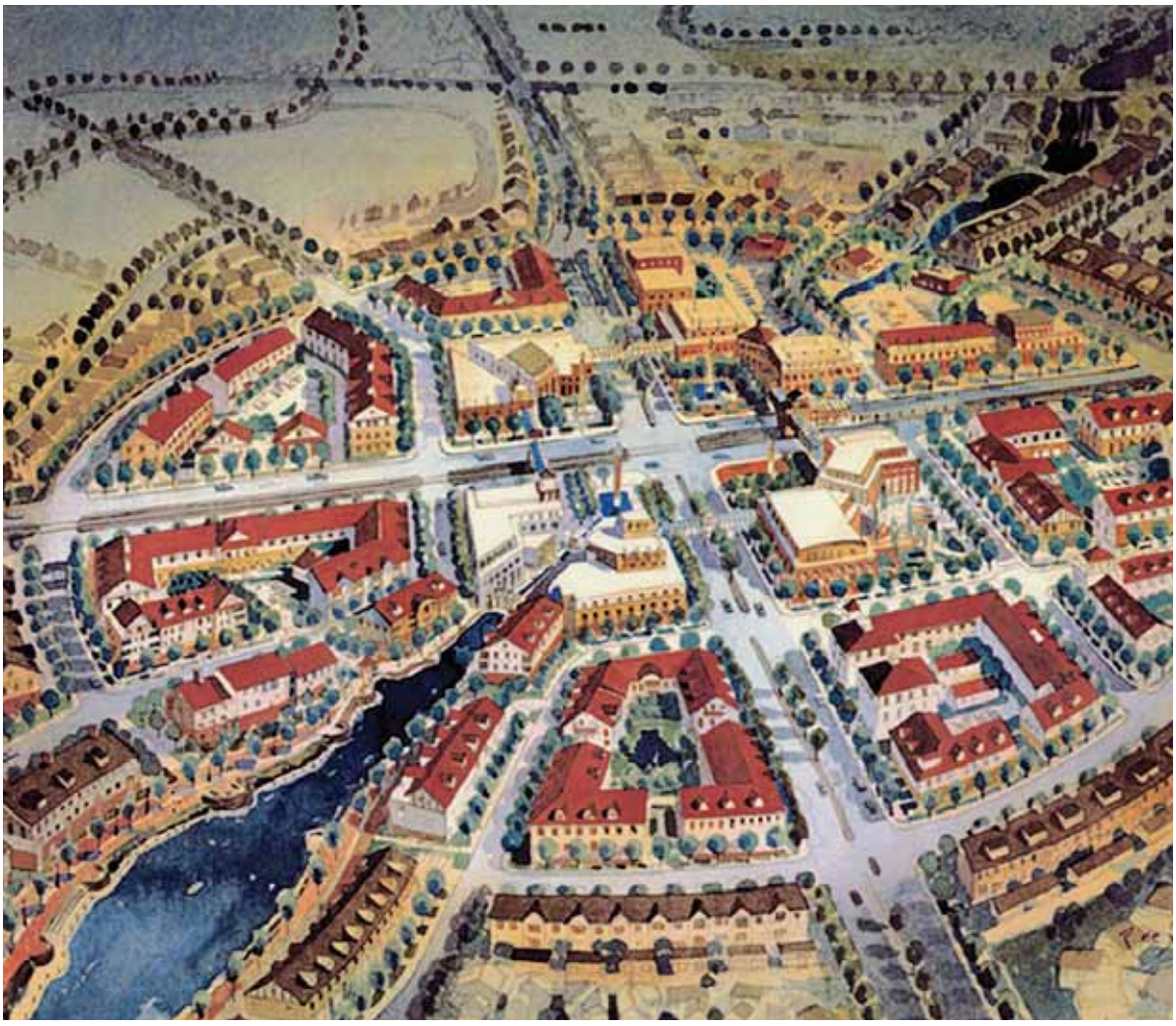
Central Okanagan Smart Transit Plan
Transit-Supportive Guidelines
Executive Summary



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EXECUTIVE SUMMARY

A key task of the Central Okanagan Smart Transit Plan involves the development of Smart Growth principles and Transit Oriented Development guidelines for the Central Okanagan region. This has resulted in the development of the Transit-Supportive Guidelines document, the content of which is summarized in this executive summary.

These Transit Supportive Guidelines were developed in conjunction with the Central Okanagan Smart Transit Plan, through funding provided by the Central Okanagan Regional District, the area municipalities, BC Transit and the Federation of Canadian Municipalities.

INTEGRATED COMMUNITY PLANNING: SMART GROWTH / SMART TRANSIT

Decades of uncoordinated transportation and land use planning have produced a common pattern of growth across North America – one of urban sprawl. Environmentally, economically and socially unsustainable, sprawl requires almost total dependence on the automobile and renders public transit ineffective.

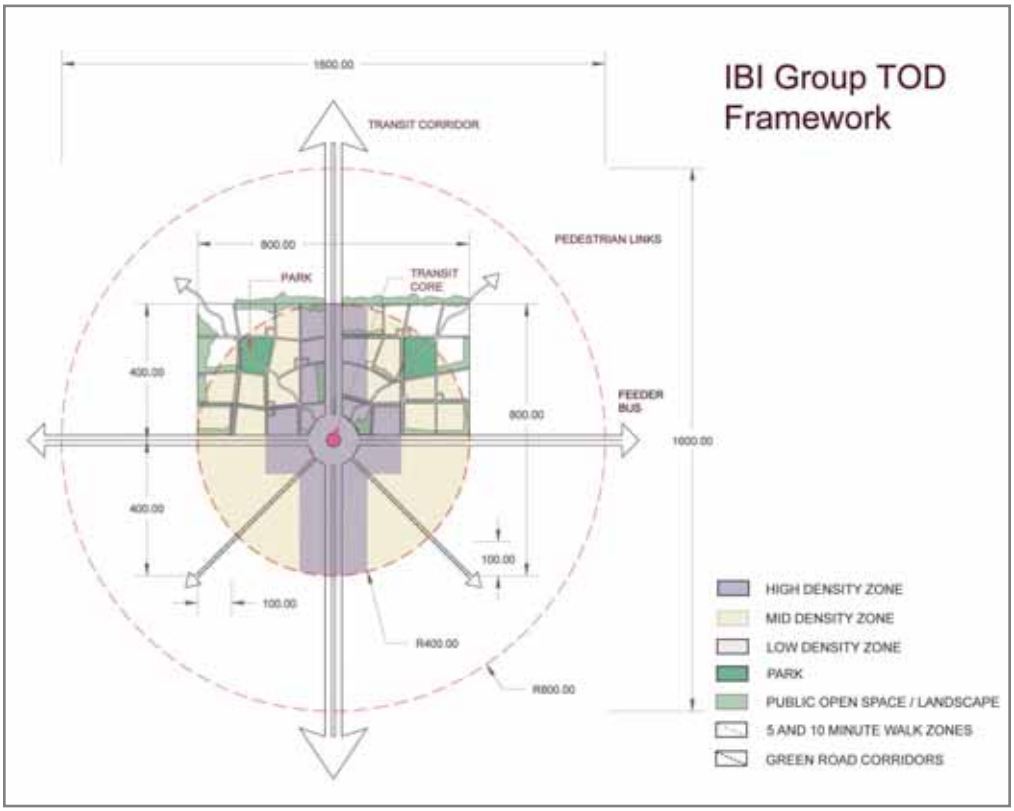
Integrated Community Planning (ICP), and its product, Smart Growth, encourages more sustainable and transit-supportive patterns of urban development, through reintegrating transportation and land use planning. Central to Smart Growth are existing and new mixed-use, compact and walkable ‘complete communities’. ICP also promotes ‘Smart Transit’, where transit service is closely matched to land use patterns and the needs of transit users.

ICP is the central premise of this set of transit- supportive guidelines. However, mutually supportive transit infrastructure, land use patterns and built form cannot be achieved without cooperation between transportation engineers, planners and urban designers. These disciplines can no longer operate independently, otherwise sprawl and automobile dependence will continue.

Sprawl development pattern

Smart Growth development pattern

Transit Oriented Development (TOD)
Based on Smart Growth principles, TOD encourages the development of compact, mixed-use and pedestrian-friendly neighbourhoods – containing housing, workplaces, shops, schools, parks and entertainment and civic facilities – centered around transit stops. TOD aims to provide more transit supportive land use contexts, and is complemented by transportation planning that ensures transit is in synch with land use and responds to the needs of transit users.



- The concentration of higher residential and employment density around transit station stops, coupled with mixed use and pedestrian friendly environments, promotes the increased use of transit by generating and attracting ridership.

- Individual TODs employ grid street networks, short blocks and pedestrian-friendly built form, providing residents an easy, comfortable walk to transit. A 5 to 10 minute walk from the transit stop, or 400 to 800 metres, typically defines TOD areas.

TODs can be developed around various transit technologies and at multiple scales – both medium and high-density

Alternatives to the automobile, namely public transit and walking / bicycling, are the central focus of transportation planning within the context of ICP and Smart Growth:

- Smart Transit encourages transit priority on roadways, through transit-only lanes / high occupancy vehicle (HOV) lanes, traffic signal preemption and queue jump facilities.
- Smart Transit also utilizes Real Time transit information technology, conveying transit vehicle location and estimated arrival times to transit users, making transit more convenient for users on transit routes with lower service frequencies.
- The use of real time traveler information, in conjunction with TOD development, can increase the attractiveness of both transit and the prospect of living in a TOD itself for potential transit users.

Smart Transit: 98 B-Line, Greater Vancouver

TRANSIT-SUPPORTIVE GUIDELINES: ORGANIZATION

Tackling sprawl via Smart Growth and TOD requires a multi scale planning approach, considering regional, city wide, neighbourhood and local scales of inquiry, policy development and action, since the health of the region is based on the health of its local parts, and vice versa.

- It is important to ensure regional initiatives are reflected at the scale of municipal policy, and more importantly, in the built form of individual neighbourhoods, blocks and streets.
- Rapidly growing city regions, such as Greater Vancouver and Portland, have used this approach. Regional plans identify ‘centres’ that act as growth ‘sinks’, host TOD, and are connected by rapid transit.
- At the neighbourhood scale, TOD development is encouraged to occur around transit stations to ensure the transit network is collecting as many riders as possible. Much attention is also paid to ensuring the pedestrian environment, at the street and block scale, is pleasant and safe.

Guideline Organization and Applicability
Transit supportive guidelines are organized into region, city, neighbourhood and local (block and street) subsections, and are designed to be applicable to a range of urban sizes, from large city regions to smaller towns.

The guidelines themselves are divided into three categories, reflecting the integration of transportation and land use planning necessary for Smart Growth and TOD:

1. Transportation and Land Use, or TL: These guidelines emphasize key elements of ICP.
2. Transportation, or T: These guidelines emphasize transportation elements necessary to make transit more competitive.
3. Land Use, or L: These guidelines emphasize the land use and urban design elements necessary to support effective transit service.

Each guideline is also presented in a common format. Each guideline contains:

- A short clear statement of the guideline – each guideline is stated as an objective;
- A brief explanation of the guideline and why it is relevant;
- Actions: recommendations for achieving the guideline objective.
- Central Okanagan Initiatives: highlights existing supporting policies within the Central Okanagan that support the guideline.
- Precedents / Best Practices: provides empirical support for each guideline, drawing on examples from streets, neighbourhoods, towns and city regions across North America.

These guidelines consider all of the major transit technologies, including community shuttles, conventional buses, Bus Rapid Transit (BRT) and Guided Light Transit (GLT), and rail based technologies such as Light Rail Transit (LRT), Advanced Light Rail Transit (ALRT), heavy rail (subway) systems and commuter rail.

Despite this layout, it is important not to perceive the guidelines as simple ‘cookbook’ recipes – they are not the only way of ensuring effective transit and transit-supportive cityscapes. It is expected that regional and municipal authorities will adapt these guidelines to their own individual situations, and develop approaches beyond those contained in this document.

GUIDELINES REFERENCE MATRIX

The following table offers a convenient summarization of the guidelines:

Transportation and Land Use Planning (TL)	**1. Region**	**2. City**	**3. Neighbourhood**	**4. Local**
	TL 1.1 Regional growth centres connected by transit network. TL 1.2 Ensure appropriate densities before new transit investments / upgrades.	TL 2.1 Encourage TOD on transit alignments.	TL 3.1 New TOD to be consistent with built form and neighbourhood contexts.	TL 4.1 Create pedestrian-friendly built forms. TL 4.2 Utilize Crime Prevention Through Environmental Design (CPTED) tactics.
Transportation Planning (T)	**1. Region**	**2. City**	**3. Neighbourhood**	**4. Local – Street**
	T 1.1 Hierarchical regional transit network. T 1.2 Region-wide transit information systems. T 1.3 Roadways to accommodate transit priority measures. T 1.4 Appropriate locations for multi-modal transfer nodes.	T 2.1 Appropriate transit service frequencies and technology. T 2.2 Ensure street networks are continuous. T 2.3 City-wide bicycle networks.	T 3.1 Walkable street and path networks. T 3.2 Multi-modal transfer nodes evolve into transit supportive areas. T 3.3 Reduce parking standards near transit.	T 4.1 Local streets to be narrow and ‘calmed’. T 4.2 Sidewalk widths appropriate for pedestrians. T 4.3 Transit stations and stops to meet the needs of all transit users. T 4.4 Transit station and stops as identifiable icons.
Land Use Planning (L)	**1. Region**	**2. City**	**3. Neighbourhood**	**4. Local – Block**
	L 1.1 Urban growth boundaries to constrain sprawl. L 1.2 Designate growth concentration areas. L 1.3 Higher density, mixed-use growth in regional / sub regional centres.	L 2.1 New large retail and office concentrations within designated centres. L 2.2 Diversify and intensify large single land uses.	L 3.1 Locate trip generating land uses around transit stations and stops. L 3.2 Locate highest densities around transit stations and stops.	L 4.1 Public spaces adjacent to transit stations and stops. L 4.3 Encourage mixed-use buildings. L 4.4 Provide architectural variety.

GUIDELINE SAMPLES

The following three sample guidelines provide a representative overview of the master Transit-Supportive Guidelines document. The samples are taken from each guideline category, TL (Transportation and Land Use), T (Transportation) and L (Land Use), and concern regional, neighbourhood and local scales of inquiry.

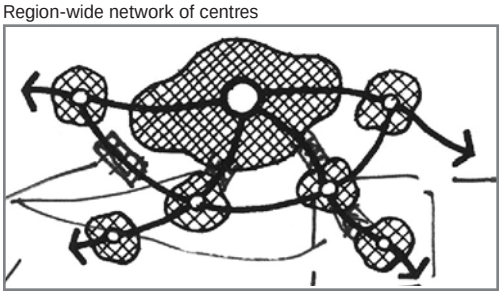
TL 1.1 Regional growth centres connected by transit network.

Directing significant amounts of regional growth into designated centres can help reduce sprawl growth and effectively support regional transit. Centres should be connected to each other by regional transit network, offering residents high speed and quality mobility alternatives to the automobile. Connection to transit, particularly rapid transit, also promotes the development and / or intensification of centres by attracting development interest and new residents.

Actions:

- Designate a system of centres across a region; this system should be hierarchical, consisting of primary, secondary and tertiary centres.
  - Centres can be either existing transit supportive areas, such as downtowns, suburban downtowns / 'edge cities', existing commercial 'main streets', and small neighbourhood scale retail concentrations, or areas of anticipated growth along existing or future regional transit alignments.
  - New centres or the intensification / revitalization of existing centres typically involves Transit Oriented Development (TOD).
  - Care should be taken to ensure centres are defined areas of transit-supportive development, including elongated nodes similar to or reinforcing existing main street areas, not city-wide commercial 'strips'.

Region-wide network of centres



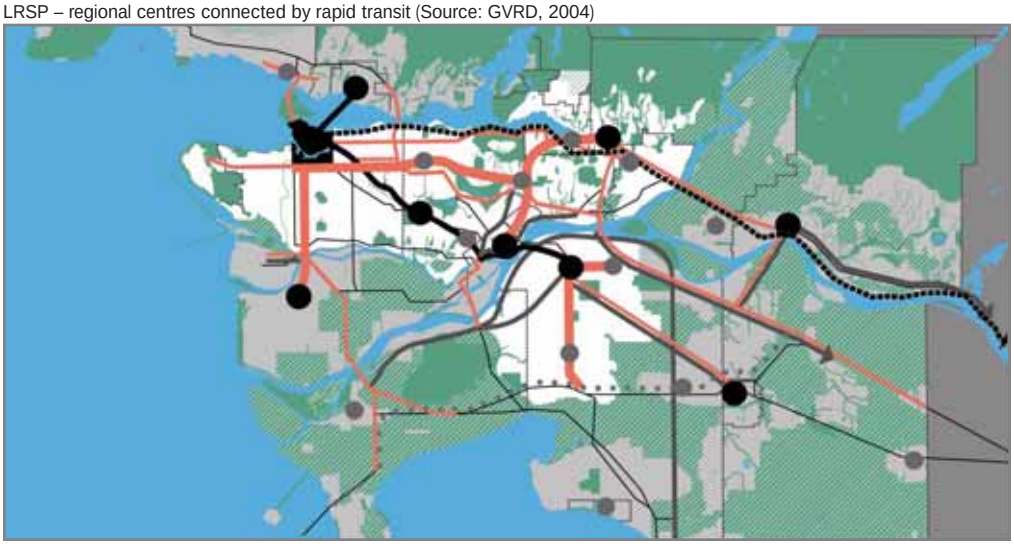
Conceptual transit-supportive centre on regional fringe

- Encourage centres to be of a higher residential and commercial density than surrounding areas, contain a diverse mix of land uses, and be pedestrian oriented (Guideline L 1.3 and TL 4.1). Consider appropriate economic and regulatory incentives.
- Set population and employment targets for centres, ensuring a mix of each.
- Connect centres and corridors to each other with a high speed, high quality transit network- preferably involving rapid transit running in exclusive rights-of-way or other transit priority measures.
- Combine the above actions into a regional plan document administered by a regional or provincial level of government.
- Ensure regional plan policies are accurately reflected in the Official Community Plans (OCPs) and zoning by laws of municipalities within the jurisdiction of the regional government.

Central Okanagan Initiatives:
The designation of higher density, mixed-use growth centres is a favoured policy direction within the Central Okanagan region – however, it is not typically linked with the provision of high speed, high quality transit connecting these centres. Policies supporting this designation can be found in the OCPs of the City of Kelowna, District of Peachland, and Westside. The Growth Management Plan (GMP) for the Regional District of the Central Okanagan (RDCO) calls for directing growth into existing urban areas first – a policy that supports the designation of growth centres. Similar supporting policies are found in plans with narrower scope, including the Beach Neighbourhood Plan (BNP) for Peachland, the Kelowna Downtown Plan (KDP) and the Westbank Town Centre Strategic Plan (WTCSP).

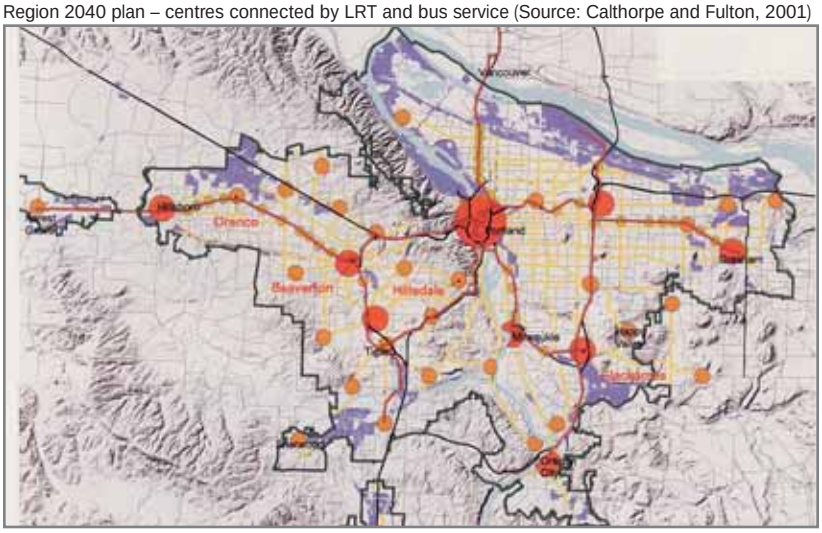
Precedents / Best Practices:
Livable Region Strategic Plan (LRSP), Greater Vancouver Regional District (1995): The LRSP was developed in an effort to preserve the existing natural context that the Vancouver region is famous for, and to reduce the growth of urban sprawl through rejection of a 'business as usual' development approach. Key policies of the plan involve concentrating growth into a specified area of the region, and the development of complete communities to serve as a focus of regional growth.
The primary instruments for fulfilling these policy directions include a series of designated regional growth centres – specifically the Metropolitan Core (downtown Vancouver), Regional Town Centres (RTCs) and Municipal Town Centres (MTCs), listed in descending order of size, densities and level of mixed-use activity. Furthermore, the Metropolitan Core, RTCs and MTCs are to be connected to each other by a regional rapid transit network. Municipal plans are mandated to follow LRSP policy; this has resulted in a notable success in terms of slowing the growth of sprawl. The metropolitan core has gained over 20,000 new residents in the last decade, the Metrotown, Richmond and Coquitlam RTCs have experienced significant residential and employment intensification, and the Brentwood and Edmonds MTCs are currently experiencing significant residential growth. Growth along rapid transit corridors has also been strong, as exhibited by the Joyce-Collingwood and Citygate TODs and along Broadway in Vancouver.
Link: www.gvrd.bc.ca

LRSP – regional centres connected by rapid transit (Source: GVRD, 2004)



Region 2040, METRO (Portland Region) (1995): Region 2040 aims to reduce sprawl growth and offer transit as a viable alternative to the automobile. A hierarchal system of growth centres, anchored by downtown Portland, was designated within the plan, connected to each other by the regional LRT (MAX) network. Growth corridors were also part of the plan; potential TOD areas were designated around LRT stations located outside of centres, to ensure transit supportive contexts for the LRT while also using the high quality image of the LRT to encourage higher density and mixed-use development of greenfield, brownfield and greyfield sites adjacent to stations. A good example of this is the development of the Orenco Station TOD on the Westside MAX Line, located near the Hillsboro town centre. Orenco has been a success in both marketing and customer satisfaction, and indicates that Smart Growth is both feasible and marketable.
Link: www.metro-region.org

Region 2040 plan – centres connected by LRT and bus service (Source: Calthorpe and Fulton, 2001)



T 3.1 WALKABLE STREET AND PATH NETWORKS.

Quick, direct and convenient pedestrian paths are necessary elements for TODs and transit-supportive cityscapes. The street and block system, regardless of design, should allow for direct pedestrian routing to transit stops and central mixed use core / corridor areas, to ensure the majority of walking trips within transit catchments are between 5 and 10 minutes in length.

This typically involves grid based systems, comprised of interconnected streets and paths (sidewalks) bounding short, narrow blocks. This highly walkable environment provides for more direct and convenient routes for pedestrians relative to conventional curvilinear, cul de sac systems. This, in turn, can make transit an attractive alternative to the automobile due to easy accessibility.
Culs de sac are to be generally discouraged. However, they are still a popular element of neighbourhood design for both residents and developers, particularly in low-density residential areas, given they discourage through traffic and are highly marketable. Culs de sac are also required in neighbourhoods with significant topography. Given this context, care must be taken to ensure that culs de sac and winding street networks remain ‘porous’ to pedestrians, to ensure quick and direct access to transit and neighbourhood services. This could involve paths connecting

culs de sac to arterials and other culs de sac, along with direct paths that provide up / down slope 'shortcuts' through winding street networks.

Actions:

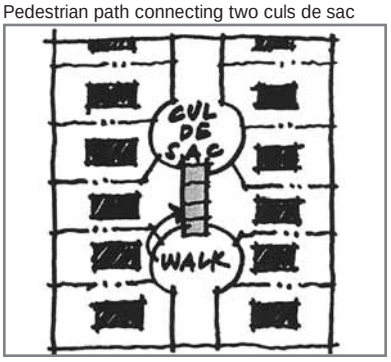
- Ensure street and path networks within 400 to 800 metres from transit stops are continuous and grid based. For areas with significant topographical and land use constraints, a 'modified grid' system can be utilized. This involves street networks that follow or avoid topography, yet still provide for multiple, interconnected streets and short blocks. Back alleys also can double as pedestrian paths.
- Ensure blocks measure no more than 200 metres long on one side, to ensure street and block patterns remain walkable and porous. Ideally intersections should occur every 80 to 180 metres.
- Provide direct mid block pedestrian paths through blocks (or through buildings that cover the majority of blocks), where block lengths over 200 metres are unavoidable. These paths should be paved, possess clear, direct sightlines, and be well lit at night to enhance pedestrian safety.
- A continuous sidewalk network should accompany street networks to provide safe and direct routes for pedestrian travel.

Short and porous block (Source: Dutton, 2002)

Mid-block pedestrian paths make long blocks more porous

- Culs de sac can be utilized where necessary, yet should have paths connecting to other streets. Existing culs de sac can be 'retrofitted' over the long term, through converting residential lots and / or utility corridors to paths and / or parks and connecting to other culs de sac or arterial / collector roads served by transit.
- Wherever possible, 'short cut' paths should be utilized to cut though winding street networks.

Pedestrian path connecting two culs de sac

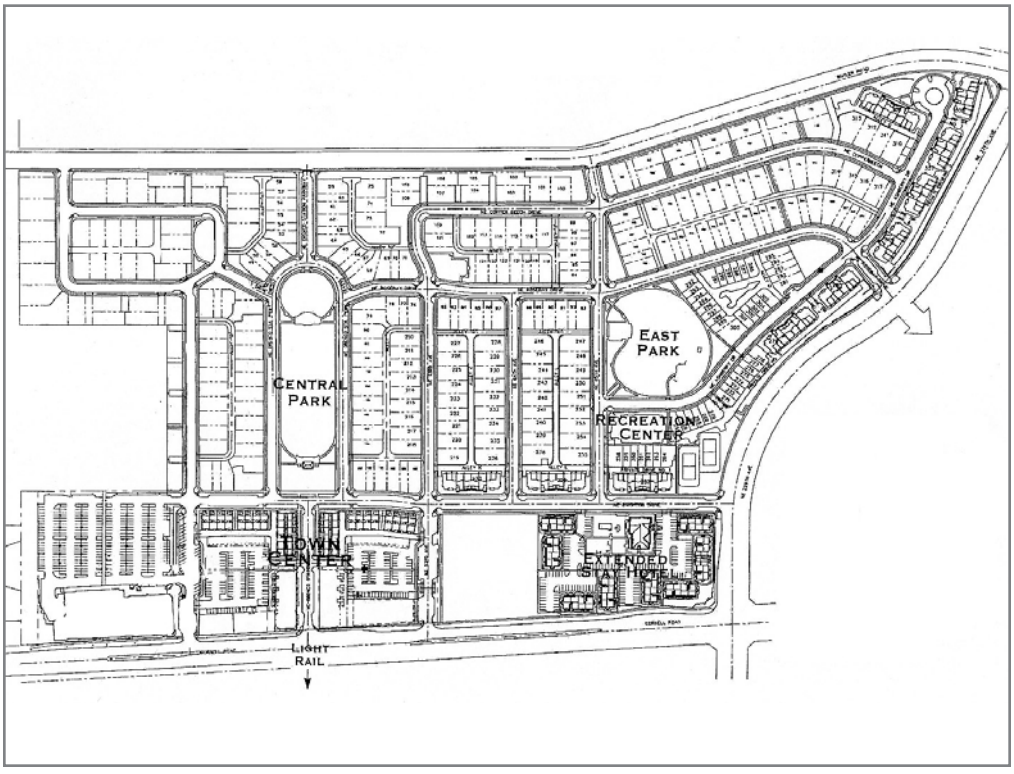


Central Okanagan Initiatives:
General policies supporting walkable street and paths networks are supported in all the relevant OCPs, and also in the BNP and WTCSP.

Precedents / Best Practices:
East Clayton, City of Surrey (2003): East Clayton is to become a model of a 'more sustainable' community design within the GVRD. A key element of this design involves a built form that is highly walkable and encourages more transit use, since the community is to be served by a BRT alignment. The street and path network is grid based, complete with short and regular street spacings and a trail system that provides direct connections between community destinations. The street network also employs fewer culs de sac than other developments in the area, and many of these culs de sac are directly connected to other streets and greenways via pathways.
Link: www.city.surrey.bc.ca

Orenco Station TOD, Hillsboro (Portland region) (2000): Orenco Station TOD is structured around a modified grid street and block pattern, resulting in collection of square, elongated and irregular block configurations, complete with rear lanes. The largest of these blocks measures approximately 150 metres in length by 70 metres in width; the majority of other blocks are shorter yet remain similar in width. These blocks are easy to walk around due to short widths and rear lane paths. The net effect is a highly 'porous' and walkable TOD, where 75 percent of dwellings located within 400 metres of the mixed-use core are within an actual 5 minute walk.
Link: www.orencostation.com

Orenco Station modified grid street network



L 4.2 ENCOURAGE MIXED-USE BUILDINGS.

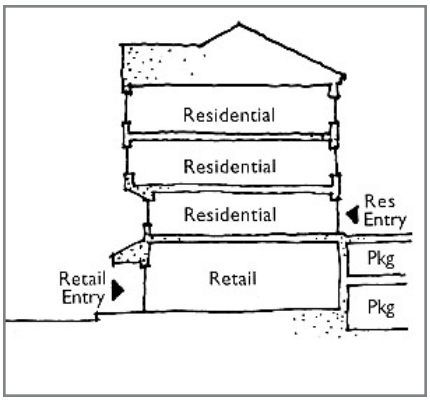
Mixed-use buildings contain a mix of residential, retail, service, office, studio and live/work uses under one roof. Mixed-use buildings can be located near transit stations and stops, and within pedestrian-friendly mixed-use areas of all scales. These buildings can be significant generators of pedestrian activity on streets and provide the 'eyes on the street' surveillance necessary for safe pedestrian environments.

Actions:

- Encourage retail and service commercial activities to locate on ground level floors of mixed-use buildings, allowing for necessary entry space for uses located on above floors.
- Ensure ground level building depths exceed 20 metres to ensure viability of retail activities.
- Office and residential uses should be located above ground level.
- Encourage pedestrian-friendly built form contexts for mixed-use buildings – street fronting buildings / shallow setbacks (Guideline TL 4.1).
- Encourage mixed use buildings in neighbourhood and urban design plans.
- Allow appropriate zoning for multi storey mixed-use buildings in transit supportive / TOD areas.

Mixed-use built form, City of Vancouver

Example mixed-use building: elevation and section (Source Calthorpe, 1993)



Central Okanagan Initiatives:
Mixed-use buildings are supported by specific commercial zoning by-laws and within the Kelowna and Lakeside OCPs, along with the WTCSP and BNP.

Precedents / Best Practices:
Newport Village TOD, City of Port Moody (1996): Newport Village is essentially a new mixed-use centre for Port Moody's new civic and arts precinct, providing a mix of commercial and institutional uses with higher density housing. The 'main street' is comprised of 3 to 4 storey mixed use buildings directly fronting the street; retail services are offered at ground level, with walk up apartments above. The presence of these buildings, set with an intimate, positive space, help to create a vibrant pedestrian environment that has become a very popular destination.
Link: www.bosadev.com

Mixed-use buildings in Newport Village: ground floor retail with apartments above

THE TIME IS NOW FOR SMART GROWTH / SMART TRANSIT

Smart Growth and Smart Transit have become a common approach to addressing rapid urban growth and sprawl within Canadian city-regions and smaller towns alike. But how realistic is it to encourage transit- supportive land use patterns when the trend over the past five decades has overwhelmingly been toward automobile oriented sprawl?

Some responses to this include:

- Many of the guidelines can be implemented with little cost effort or difficulty.
- Municipalities should prepare for increasing traffic congestion as their communities continue to grow, by preparing for a future where transit must shoulder a significantly larger share of the transportation burden.
- Awareness of the local and regional problems associated with sprawl and automobile dependence has grown dramatically in the last decade. Given this context, the scales now weigh heavily towards transit and TOD as viable and necessary alternatives for accommodating growth.

For many municipalities, large, medium or small in size, the question is shifting from whether they should promote transit and transit-supportive land use patterns to how. These guidelines intend to provide some of the answers to that question.