

The Arbutus Corridor:
A Feasibility Study for Public Open Space Design.

By

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Abstract

The north-south rail line known in Vancouver as the Arbutus corridor (Figure #1) is currently under-used but not yet abandoned, and its future use is in debate. As owner of the corridor, the Canadian Pacific Rail Co. has publicly announced its desire to change the corridor into a multi-use development. According to the wishes of residents and reflected in the City of Vancouver's policy, however, the corridor will be preserved for transportation use. An alternative design solution would be reactivating the rail line as a much needed north-south transit route, with an adjacent greenway for pedestrian and bike use, as a more responsible and sustainable vision for this corridor. The feasibility of this design, tested at a smaller scale in three Kitsilano neighbourhoods, revealed it is a viable solution. The issues surrounding this case study are the value of a fair public process to ensure a common vision; the validity of the policy preserving existing transportation corridors in urban areas; and the actual effect of rail transit and greenway upon the adjacent, as well the regional environs. Future directions are toward considering transit as a vital element in promoting sustainable communities.

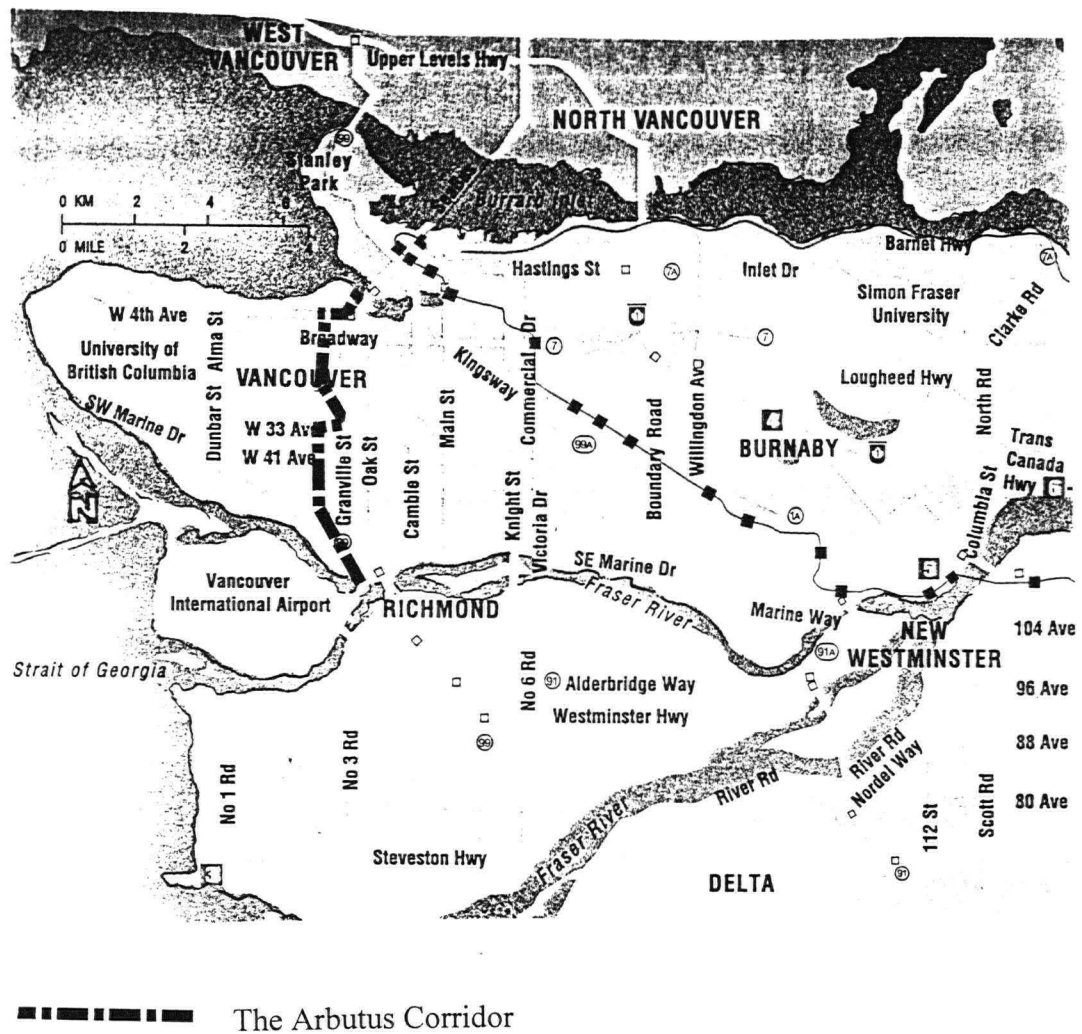


Figure #1

Map showing location of the Arbutus Corridor in the context of the Vancouver Lower Mainland.

From Tourism B.C.

TABLE OF CONTENTS

	Page
Abstract	ii
Table of Contents	iv
List of Figures	v
Acknowledgements	vii
1. Introduction to the Project	1
1.1 Problem Statement	1
1.2 Objectives	2
1.3 Scope and Definitions	3
1.4 Background and History of the Arbutus Corridor	5
2. Current Issues: The CPR Proposal	8
2.1 Description of CPR's Draft Option	8
2.2 The Stakeholders	10
2.3 The Public Process	19
3. Feasibility of an Alternative Vision for Future Use of the Corridor	21
3.1 Rail Transit and Greenway Rationale	21
3.2 Kitsilano as detailed site for study: Location and context description	30
3.3 Rail Transit and Greenway Alternative Proposal	43
3.3.1 The Granville Island Neighbourhood	43
3.3.2 The Kitsilano Gardens Neighbourhood	50
3.3.3 The Along Arbutus Neighbourhood	56
4. Summary and Analysis of Issues	61
4.1 Fairness of the Public Process	61
4.2 Saving Transportation Corridors - validity of the policy	64
4.3 Effect of Rail Transit and Greenway on Environs	70
4.4 Future Needs	73
References	76

LIST OF FIGURES

	Page
Figure #1	Context map showing location of the Arbutus Corridor within the Vancouver Lower Mainland _____ iii
Figure #2	Interurban Routes in the early 1900's showing the Arbutus line as the only north-south connection. From The Transit Museum Society _____ 7
Figure #3	Excerpt from CPR's draft option _____ 9
Figure #4	Excerpt from CPR's draft option _____ 9
Figure #5	Excerpt from CPR's draft option _____ 9
Figure #6	Photo of Strasbourg, France. LRT with associated adjacent greenway as often as the right-of-way allows _____ 26
Figure #7	Sketch of Portland's Beaverton Transit Center Station _____ 27
Figure #8	Plan of Portland's Beaverton Transit Center and Central Station Area _____ 28
Figure #9	Integrated mode transportation system _____ 29
Figure #10	Map showing the five neighbourhoods through which the Arbutus corridor passes _____ 31
Figure #11	Map of the Arbutus corridor through Kitsilano _____ 32
Figure #12	Neighbourhood character summarized for the three Kitsilano communities _____ 34
Figure #13	Site analysis of the three Kitsilano neighbourhoods _____ 35
Figure #14	Photo of the Granville Island Neighbourhood. The industrial past is still apparent _____ 38

List of Figures, continued

	Page
Figure #15 Photo of the Kitsilano Gardens Neighbourhood _____	40
Figure #16 Photo of the Along Arbutus Neighbourhood _____	42
Figure #17 Photo showing the Granville Island connection at 1 st Avenue and Fir Street _____	44
Figure #18 Photo showing example of CPR's proposed development on the Arbutus corridor in the Granville Island neighbourhood _____	45
Figure #19 Photo showing example of CPR's proposed development on the Arbutus corridor in the Granville Island neighbourhood _____	45
Figure #20 Plan showing the Granville Island Connection neighbourhood _____	47
Figure #21 Section A-A' looking south, through the Granville Island neighbourhood _____	48
Figure #22 Photo showing the Kitsilano Gardens along the Arbutus corridor _____	51
Figure #23 Plan of the Kitsilano Gardens neighbourhood _____	54
Figure #24 Section B-B' looking east, through the Kitsilano Gardens neighbourhood _____	55
Figure #25 Plan of the Along Arbutus neighbourhood _____	58
Figure #26 Section C-C' looking north through the Along Arbutus neighbourhood _____	59
Figure #27 Map of Vancouver Greenways _____	69
Figure #28 Map showing the region's existing and proposed rapid transit routes. From TransLink/GVRD _____	75

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1. INTRODUCTION TO THE PROJECT

1.1 Problem Statement

Public open space makes up a vast amount of land in urban areas. All too often, however, land use authority is not clear, and decisions regarding use of public land are caught up in political, legal and/or economic arenas. If decisions are allowed to be made by developers in order to maximize market land value, the result is that they may respond little, if at all, to the reality of needs and desires of residents. Uses of land set aside for transportation purposes should reflect regional transportation needs, yet designed with sensitivity to adjacent local neighbourhoods. Understanding this balance could aid communities to implement policies that enhance the viability, livability, sustainability and sense of place of urban communities at the local level, as well as provide needed transportation at the regional level.

1.2 Objectives

1. To use the Arbutus Transportation Corridor as a case study for furthering an understanding of public open space and possibilities for its responsible use as a common resource.
2. To describe past policies, decisions and issues dealing with the Arbutus Corridor, that have contributed to the status quo.
3. To assess the current situation and evaluate it in relation to past policies and future possibilities.
4. To review pertinent literature or projects and evaluate them against feasible solutions for the Arbutus Corridor.
5. To propose a design alternative for the use of the Corridor and to discuss its feasibility.

1.3 Scope of Thesis

This paper will look at appropriate design solutions for public open space through the current issues surrounding the Arbutus corridor.

The background of the corridor will first be briefly described in order to establish the relevance of the issues. The proposal made by CPR for introducing a multi-use development onto the corridor will be explained. Due to the region-wide debate that ensued following this proposal, the process used will also be discussed.

An alternative design solution will then be introduced and analyzed for appropriateness to the corridor site, to the neighbourhoods it touches and to the vision of the greater region. The alternative solution will be detailed at the neighbourhood level using only one (Kitsilano) of the five communities through which the corridor passes, as an example. The resulting insight gained could be applied to the other four communities; contrasting the effects on the different communities, however, will not be covered by this paper and would be a topic for further research.

The issues surrounding the choice for a design solution for the Arbutus corridor will then be summarized and discussed, in search of lessons learned and future directions.

This paper will not conduct any cost-benefit studies in order to establish the validity of one transit mode over another. Although several studies (N.D.Lea, 1992, 1995; D&M Group, 1999) which have compared and analyzed the costs and benefits of different mass transit modes have been used for reference, the alternative design will propose only one. Thus, it will look at

public open space use as related to the on-grade rail car, known as light rapid transit (LRT) when traveling regionally and as tram or street car in dense urban areas. The reason for this choice is twofold: One, it was the original mode of transport on this corridor. The adjacent corridor edges and land just beyond, thus developed congruently and the rail line stands today already assembled for this use. The second reason is that it promotes the kind of urban form found in transit-oriented, sustainable communities (Calthorpe, 1993); it is quiet, clean and practical.

1.4 Background and History of the Arbutus Corridor

The Arbutus Corridor is a 10-km. rail line that has been in place since the early 1900's, established as part of land that the Canadian Pacific Railway (CPR) was given by the Crown in exchange for operating rail transit in the region. Over the years the corridor has become an integral part of the Vancouver landscape. Its value as a transportation route, however, is currently in competition with its real estate value for potential housing/commercial mixed use. The CPR is now interested in developing the land as a mixed-use housing and commercial development and thereby potentially profiting from the increase in the value of the land that such a development would create. Many stakeholders, both direct and indirect, have come forward to question whether this action is in keeping with the CPR's historical role as stewards of the railway corridors.

In 1886 the CPR was entrusted by the Crown with 6,458 acres of land for extending the railway 12 miles from Port Moody to Vancouver. The railway development, however, also enabled them to bring to Vancouver and establish here a legacy of land speculation and control over development. Thus, during the past century, the CPR has profited from the value increase in real estate from their control of these lands (The Georgia Straight, 20 January, 2000). It is one of the reasons that those who oppose the latest developments are holding CPR to the original intent of the land grant, which counted the operation of public transit on the lands as part of the deal.

Since its completion in 1902, the rail line has functioned both in an industrial capacity and as a passenger carrier. It serviced the established industries on the north shore of False Creek, south all the way to Steveston and attracted new industries along its route. The Arbutus corridor was included in the original network of electric trains established in the Fraser Valley. As the first and only north-south line established, the Arbutus corridor linked Vancouver with all the communities south to Steveston (see Figure #2). The Steveston passenger interurban line was opened on July 1st, 1905 (The Transit Museum Society, Vancouver).

The rail line was in active operation until the 1950's. At that time there were changes taking place both in increasing land values, as well as in negative public images of industry, together encouraging industries to relocate. At the same time, also in the 1950's, the private automobile became the dominant mode of travel and the trams lost ridership. They were closed down and replaced by trolley buses. Freight transport, as well, began to be increasingly replaced by trucks. At the present time the line still serves a limited amount of industries in Richmond. The line from Richmond to Steveston was abandoned in the 1980's (Internet site g). The existing north-south rail corridor from Richmond to Granville Island, however, remains assembled and viable.

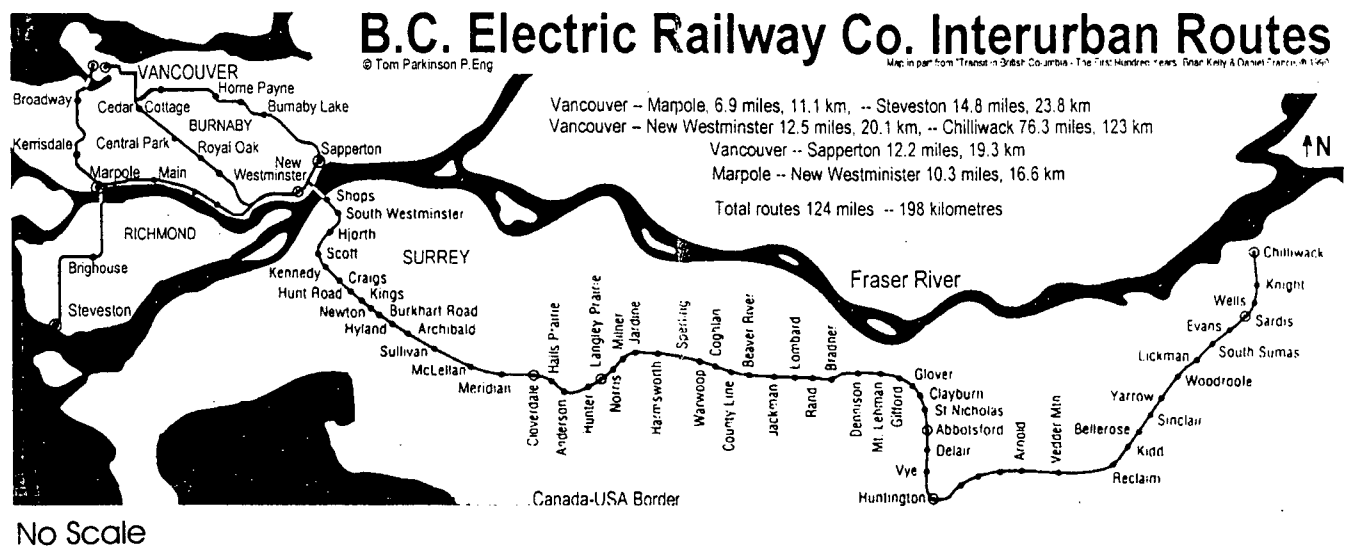


Figure #2

Interurban routes in the early 1900's showing the Arbutus line as the only north-south connection.

From The Transit Museum Society.

2. CURRENT ISSUES: THE CPR PROPOSAL

2.1 Description of CPR's Draft Option for Multi Use Development

The information used for the description of the CPR proposal was provided by CPR at public open houses. The proposal is entitled "The Arbutus Corridor: A New Vision".

The corridor right-of-way is made up of 45 acres of linear space, between 50 and 66 feet wide, extending from False Creek to the Fraser River. As illustrated in Figures 3, 4 & 5 the vision for the development is an integrated plan of housing, commercial space, parks, bikeways and walkways, seeking to connect with existing land uses along the corridor. Thus, a commercial / industrial land use is envisioned for the areas around Granville Island, commercial at grade with studio lofts above between 2nd and 6th Avenues and mixed use commercial/residential in the Kerrisdale area.

The plan is sensitive to existing community gardens and parkland, proposing three distinct sections of CPR-owned land that are adjacent to these, to be dedicated as community parks and returned to the City. There is a network of cycle paths that complement and add to the already-dedicated Greenways and bike ways.

Although the majority of the land is being planned as multi-family housing, there is a balance in the mix of uses proposed. The sketches and images presented of the vision show popular architectural styles and tree-lined streets and walkways. The vision is in keeping with most aspects of the City's and GVRD's objectives of promoting multi-use

neighbourhoods, a wide range of housing choice, increased density, bike and walking trails, and preservation of parkland (GVRD, 1996). The issue of transit, however, is not addressed. Despite provisions for pedestrian sidewalks and bike trails, the proposal follows the traditional model of car-oriented access.

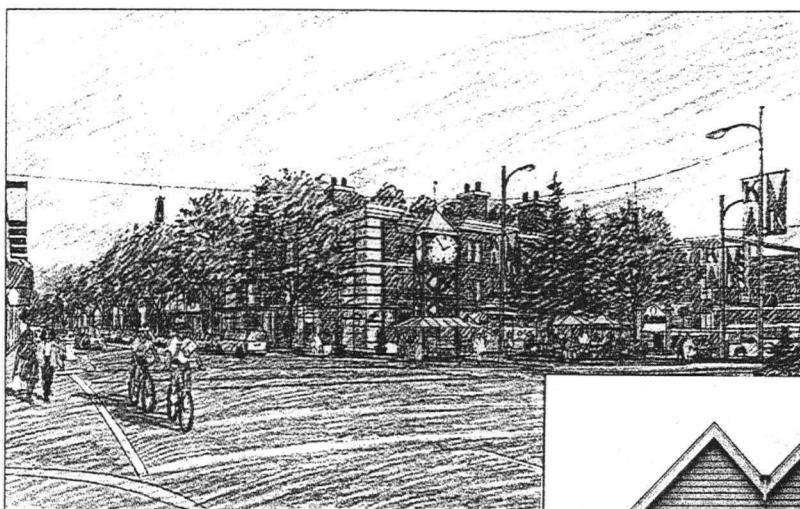
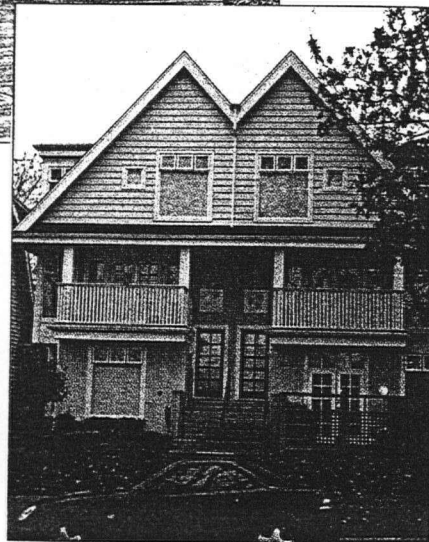


Illustration of a new commercial/residential mixed use area near West Boulevard and 41st Avenue.



Example of townhouses and apartments that are comparable in character and scale to the surrounding neighbourhood between 16th Avenue and King Edward.



Example of townhouses that are compatible in character and scale to the surrounding neighbourhood near Quilchena Park.

Figures #3, 4, and 5

Excerpts from CPR's draft option.

2.2 The Stakeholders

In order to understand the impact of the CPR proposal it is necessary to establish who the stakeholders are, directly and indirectly, and how they are involved. Following is a comprehensive list of stakeholders.

The Canadian Pacific Railway

As land owner of the Arbutus corridor, as well as of many other post-industrial and post-rail Canadian lands, the CPR is simply seeking to sell the land along the corridor. The reason given by CPR for this decision is economic: a financial analysis has determined that "revenues from the line can no longer sustain the costs of maintaining and operating this track as a viable railway." (Internet site a). The current land value of the corridor as used for transportation is estimated for property tax purposes at approximately \$400,000; the market value of the developed land as housing/mixed use is estimated at over \$100 million. (Internet site a). Should the city or another party wish to buy the land for alternative uses of the corridor such as for transportation, or park use, the CPR is expecting to receive the latter amount as a fair market price. "Whatever the line is called, at the end of the day, there'll be an opportunity to purchase it. We expect to be paid for market value." (CPR's Andrew Massil, The Vancouver Sun, 21 Jan. 2000).

The zoning upon which the market value was assessed was in accordance with the adjacent land zoning. This was consequently changed by the City of Vancouver in July,

2000 by the rezoning of the Arbutus corridor to a transportation use only (City of Vancouver, Adoption of the Arbutus Corridor Official Development Plan, July 10, 2000). At the time of this writing (November, 2000) there is a legal dispute between the two parties, the CPR considering the rezoning action of the City to be "inappropriate and illegal bylaw." (CPR, October 24, 2000, Public Correspondence). The conclusion of the dispute will re-establish the market value of the property.

The Public - Residents living in the vicinity and directly adjacent to the corridor

The Arbutus line has been in place for the past one hundred years, so it would be safe to assume that it has been there for as long as, or longer than, any current residents have. Although there is an occasional freight train run, the corridor is by and large a green open space, that residents are accustomed to having in their neighbourhoods and in their front or back yards. It is so much a part of adjacent communities that some have built gardens and are cultivating vegetables and flowers, as well as friendships with neighbours on the corridor land. Personal communication with residents has revealed that the proximity of the corridor was a selling point to home buyers as a real estate asset, when they bought their house. These residents would lose a valuable part of their neighbourhood should the CPR draft option be implemented. The change would affect their homes and properties in a direct way.

Alternative uses of the corridor, however, would also bring inevitable change. While it would be unfair to generalize the many opinions of residents, there has been strong opposition to the concept of transportation as well. It is clear that there is a "NIMBY" (Not

in My Back Yard) public sentiment that responded to the City's rezoning plan. (The Vancouver Courier, The Vancouver Sun, July 12, July 16, July 19, July 26, August 16, 2000). The fears seem to be based on the possibility of an elevated SkyTrain type system. The fears, however, are related to the spread of crime; to the de-valuing of properties and the disruption of communities.

From the residents in adjacent communities that took part in CPR's public consultation process, however, a more quantitative analysis is possible (Internet Site a; CPR public correspondence, October 24, 2000). A total of 3,270 feedback forms were received during two survey periods between January and June, 2000; the choices presented were the CPR's private mixed use development option against the alternative of public purchase of the corridor lands, in which case the options given were either transit or linear park. The response from the public in the two-round survey was 78% and 81%, both times in favour of public purchase rather than private development. Further breakdown shows that 55% support transit as the preferred use; and 50% preferred rail-based transit as a mode choice. Support for linear park with a possible underground transit system was 30% during the second round. The private mixed-use development was supported by 45% during the first round, but only by 15% during the second round.

The Public - Regionally affected residents (commuters; those affected by air pollution and traffic; tax payers)

Although CPR has put an effort into informing the immediate communities adjacent to the corridor, the regional public has had little input. Residents from outlying areas to the

south would have a huge stake, as well. The number of people regionally affected by this decision would be higher than the number, by comparison, of the residents directly along the line. Yet, there has been a conspicuous silence on the CPR's part regarding the good of the region in this matter.

Regional concerns would be valid regardless of the ultimate use of the corridor. If the CPR's proposed mixed-use were implemented, there would be an increase in housing and employment opportunities, as well as an added tax base. On the other hand, there would be the significant loss of the corridor as future transportation route, forever. Re-instating the Arbutus line as a north-south passenger rail connection, however, would provide 7700 passengers per hour, per direction (N.D.Lea Study, 1992) with an alternative to driving. An "enhanced" Light Rapid Transit (LRT) along the corridor would provide an estimated daily ridership of 50,000 people (N D. Lea and Delcan Study, 1995). The same above-cited studies also compared the Arbutus corridor with the Cambie corridor, as valid regional north-south routes. The results showed the Cambie corridor as faster, i.e. shorter, between Richmond and downtown Vancouver, and attracting more riders than the Arbutus; the latter, however, was shown to be most cost effective given it is already assembled for this use. At the regional level, one additional alternative use of the corridor must be considered. The linear park concept would provide an amenity from ecological, health and visual enhancement perspectives, while also serving to preserve the corridor for future transportation.

Save the Arbutus Corridor Committee (SACC)

This is a coalition made up of several opponents to the CPR's draft plan. The opposition appears to be rooted not only in the effectiveness of land use, historic preservation and sustainable future visions, but is also reflective of the negative public sentiment towards the CPR's plan. Final results from their public consultation process (Internet Site a), as detailed above, show that in two separate surveys 78% and 81% respectively, of the public that responded, opposed the mixed use proposal in favour of saving the corridor. The SACC's mandate is "to preserve the CP Rail right-of-way, the Arbutus corridor, from False Creek to Marpole for future GVRD transportation needs." (Brochure given out by SACC at CPR's public open house).

Merchants and Business Owners

This group of stakeholders may perceive the immediate benefits of a housing development along the corridor, as this would increase the shopping population. The types of enterprises attracted to mixed use development and new housing would be varied and dependent on adjacent land use, from small "village"-type markets close to housing, to those specialty merchants catering to the new commercial and office uses. An active and well-used light rail transit line, on the other hand, would expect supportive business to establish mainly around station areas, as described by Newman and Kenworthy (1999). The same authors further show the benefits of transit station areas as encouraging the kind of concentrated urban form that is in keeping with the principles of sustainability.

Other Rail Companies

An opportunity would exist for rail companies to use the line for transportation, if this use is decided upon. Companies such as the Downtown Heritage Railway, according to the Save the Arbutus Corridor Committee, would be in a position to lease the corridor from CP Rail. Other enterprising companies may also find this a good business opportunity.

Cycling Groups

For these groups the preferred use of the corridor would be simply to preserve it as a linear park, with bike paths designated along it. This argument has validity, as cycling is a recognized and widely advocated mode of sustainable transportation. This would be perceived, in effect, as an environmentally benign alternative for the corridor and its environs, as well as having the added benefit of preserving the traditional designated use of transportation. The true cost of preserving this corridor as park/bike way, however, needs to account for the opportunity cost of losing it to mass transit, even if for an interim period. Again, the higher number of people affected in the long term should be the consideration. Thus, the number of people benefited by biking or walking would be considerably less than the number benefited by mass transit. As the CPR survey results discussed above show, this alternative was addressed by some residents with a proposal for linear park (with bike paths) above, and rail transit underground. A bike-friendly Greenway on the Arbutus railroad bed was originally proposed by the Urban Landscape Task Force in their report to City Council of May 1992. It has since been adopted as part of Vancouver Greenways Plan, in 1995. The corridor is also a designated GVRD Green Zone (GVRD, 1992).

Architects, landscape architects, engineers and other professionals

These professionals are being considered stakeholders because they will benefit from the corridor's change. Whichever alternative is chosen, other than the status quo, it would benefit the business of some design and building firms. It would be difficult, for this reason, to solicit objective expert opinions on this complex issue without a potential for conflict of interest.

Regional Governments: GVRD/ TransLink

As the designated authority for planning regional transportation, regional government would be interested in this corridor in order to ascertain its place in the larger, comprehensive plan, known as TransLink's "Strategic Transportation Plan" (Jan 12, 2000). A north-south transit connection, linking Richmond to Vancouver, and being part of the transit network being planned for the future, would be of regional interest. The Arbutus line, however, receives apparently only one sentence in this 3-part report of 148 pages. It mentions that the regional authority will "begin planning for the Richmond/Airport transit link to Vancouver" (p.21) as action to be taken on rail transit; it does not mention the Arbutus line by name. As the N. D. Lea studies (1992; 1995) suggest, there are other alternative routes, such as the Cambie Street route that would serve this connection. The Arbutus is the only already assembled north-south corridor, however. Due to the general nature of the report, it does not address which corridor will be developed. The larger,

regional scope of transportation in the GVRD is still the traditional roadway and motorized traffic improvement, as the majority of the report details.

City of Vancouver Parks Board

The Parks Board is concerned with the acquisition of urban land for use as parks, which are maintained as recreation amenities at various levels of intensity. The alternative of interest in this case would be to preserve the corridor as linear park. The ODP for the Arbutus Corridor (City of Vancouver, 10 July, 2000) designates "greenways" as an officially allowable use, other than "transportation" (sec.2). The Parks Board could be directly involved in the maintenance of the corridor regardless of which of the two allowed uses were in place, provided that even as a transit line the corridor would be landscaped. Such a linear park is currently being designed along the new Grandview Cut SkyTrain line. As a designated "greenway", the corridor is already planned to connect to the network of other Greenways in the city (City of Vancouver Greenways Plan, October 1995). These include the Seaside Route & Seawall along the False Creek and English Bay waterfronts, and the Fraser River Trail.

City of Vancouver Planning

This stakeholder has perhaps the most confusing of tasks, that of mediating between concerned parties. It has no authority to make a legal decision, but it does have the power to make policy that would affect the decision taken. The City has thus advised the CPR to seek public agreement with their proposal. Although this mandate was questioned by CPR,

the proposal would require rezoning the land, and the City retains the authority to issue or not issue the necessary development permits. If the public is strongly opposed, then the rezoning would be clearly difficult to approve. The City Planning Department has also a policy in place that would preserve existing transportation corridors as such. While this has become a difficult jurisdictional issue, with CPR contesting the City's authority to make policy that would restrict the company's ability to develop the land, the policy is still in place. It is to "maintain all existing rail corridors in the city for possible use in the future as transit lines or bike lanes and pedestrian walkways known as *greenways*". (The Vancouver Sun, 24 Nov.1999). The City has made clear, in the same news article, the strong incentive for preserving existing transit corridors, quoting Ann McAfee as saying "Once you have a developed city, there are very few opportunities to build transit lines...Those opportunities should be carefully considered before they're abandoned."

The City's position has been further clarified by an Official Development Plan that was adopted by Council in July, 2000. The document outlines the zoning means by which the Corridor will be designated and preserved as a "public thoroughfare". Any development other than stated would not be allowed, thereby rendering the CPR's proposal illegal. Before this ODP was adopted the corridor right-of-way had no other official zoning designation and was considered by CPR to take on the adjacent land zoned designation.

At the time of this writing (November, 2000) the City of Vancouver is involved in a lawsuit, brought by CPR. Although the lawsuit has made further research into the current issue difficult, it is clear that the dispute over the future use for the Arbutus Corridor will continue.

2.3 The Public Process

It has been made clear by the CPR that it wishes to end its railway commitment and profit as much as possible from the land (CPR's Andrew Massil, The Vancouver Sun, 21 Jan. 2000). What was not so clear from the City's viewpoint was whether it would be in anybody's best interest to let this happen. The public process, therefore, was made a mandate. The CPR's goal, then, was to win the support of nearby residents in order to be able to argue this before council (The Vancouver Courier, Dec. 15, 1999).

In a series of five phases the CPR has been conducting a public consultation process at the neighbourhood level, consisting of open houses and display of presentation materials. The public is then asked to give their opinion of the design for the housing/mixed use development along the corridor via a survey. The results of each session are then supposedly incorporated into plan revisions and re-presented to the public at the next session.

The public process that CPR was undergoing was aimed at winning public support for their draft plan. This agenda was clear from the illustrative presentation materials. While this approach was effective in relating the new proposal to the neighbourhood character, it only presented a single option for the corridor in detail to the public. For a fair public process to take place, a representation of all options should be made available, preferably within a forum for active participation (British Columbia Ministry of E, L & P et al. 1995). This process should be orchestrated and facilitated by parties representing the public and for whom the outcome would have no conflict of interest (Forester, 1987).

As previously addressed in section 2.2, the outcome of the first two rounds show that the public was not convinced by the mixed use development proposal. The other two suggested alternatives, transit and linear park, have not yet been presented within a fair forum, in enough detail, nor with enough research for public consideration. The following section will present one such alternative solution.

3. FEASIBILITY OF AN ALTERNATIVE VISION FOR THE FUTURE OF THE CORRIDOR

3.1 Rail Transit and Greenway: Rationale

"Greening the automobile-dependent city", as described by Newman & Kenworthy (1998), means more than creating parks, even as important as they are. It means, first and foremost, getting people out of their cars.

Transit has been shown over and over to be at the centre of the movement toward more sustainable urban areas (Roseland, 1998; Newman & Kenworthy, 1998; Engwicht, 1992 & 1993; Calthorpe, 1993). Many North American cities have already arrived at this conclusion after going around the full circle, from mass transit to cars and back again. This circular movement, however, may not have taken place had the private car not been artificially pushed to dependency. The dominance of cars did not come about as a result of happenstance, but rather of massive governmental intervention (Newman & Kenworthy, 1998), followed by massive subsidy. Without this intervention, perhaps transit would have continued to be, as it still is in Europe, an efficient, well-used mode of transport.

The most powerful argument that can be made in favour of transit in this society, is an economic one. Thus, it can be pointed out, as Newman and Kenworthy did (1998), that the return on investment in transit is greater than that on highways; that providing infrastructure and services is more cost effective in a corridor-oriented city; and that denser and less car

oriented cities spend less of their gross regional product on transportation. The recent Skytrain controversy in Vancouver (D&M Group, 1999), however, calls into argument some of the economic claims, as the study explores the many factors to be considered in the debate between economic merits of different transit modes. The comparison of modes, however, does not account for the long-term return on investment. The study also seems incomplete without any ecological accounting between the modes, nor any community impact considered.

Environmental air quality enhancement is often cited (Apogee Research et al., 1996) as the primary argument for the use of transit rather than cars, but the D&M Group study does not address the true cost accounting for the energy efficiency of different modes. Electric transit seems to be cleaner, quieter, and uses no gasoline, but the SkyTrain technology is not compared with neither other rail modes, nor buses in the total expense of energy, from manufacture to maintenance.

In addition to the air quality and energy use issues, a provocative environmental argument in favour of transit, is in the more efficient use of land. This point is difficult to make in North America, where the vast expanse of land has traditionally been seen as plentiful, therefore, cheap. The fact that 2% of all U.S. land area and 10% of all arable land has already been covered by concrete and asphalt (Engwicht, 1993) is not so obvious. It is only now becoming obvious, however, that the consequences of sprawl are ecological as well as visually blightful. As articulated perfectly by David Engwicht (1993), a city that does not control its space demand for cars is one that is growing out of control in "the spreading-city syndrome".

It is also important to mention the social aspect of transit (Newman & Kenworthy, 1999). In general terms, it brings people together. As much as cars were once upheld for

providers of individual freedom and independence, so is transit now upheld for providing exactly the balance of this equation. It provides an opportunity for experiencing a sense of community, by allowing for a common experience, and promoting a sense of civic pride.

The concept for transit and greenway for the Arbutus corridor is rooted in the idea that these two uses are not mutually exclusive, as was suggested by the CPR when they were presented as two distinct alternative options to their proposal (CPR "A New Vision" Draft Option). They can, in fact occur simultaneously and often do, as many European examples can attest to (Internet sites i, j) and as can be seen in the photo of Strasbourg, France in Figure # 6. According to the LRTA (Internet site i), in European cities trams and trains typically share tracks, with trains providing rapid transit between towns or centres, and trams providing local transit on city streets. The latter typically include associated bike/pedestrian facilities within the right-of-way as often as it is possible. The coordination shown between the regional and local systems demonstrates an understanding of the need to connect the two. It addresses the importance of a transit system design that responds to the needs of the region as well as the neighbourhood level.

The City of Portland also promoted and designed pedestrian and bike access as part of their "MAX" rail transit system, as can be seen in Figures #7 and #8 (City of Portland et al, 1995). Portland's commitment to promoting sustainable urban practices can further be demonstrated by its making transit a priority. An article in The Colombian newspaper (18 June, 1998) proudly quotes a speech by the mayor:

"Through the City of Portland's Office of Transportation, Metro, and Tri-Met, we have led the nation in linking transportation to land use and livability. Light rail transit, bicycle and pedestrian ways, a new streetcar, and transit oriented development incentives have contributed to our national reputation as a leader in limiting the increase in automobile usage."

Integrating pedestrian and bike facilities within a transportation corridor is also recognized as good design when planning an interurban trail system (Ryan, ed. 1993), illustrated in Figure #9. The success of a trail system depends on its meeting the greater regional transportation objectives. A trail thereby becomes more than an opportunity for recreation, it acquires the status of a transportation corridor in its own right. This double function is another way by which an integrated mode transportation system serves the regional goals at the same time as the local community ones.

An example of a successful urban trail is the Burke-Gilman in Seattle, built on an abandoned railroad grade. When an expansion to this trail was proposed in 1987, residents along the new proposed route raised fears regarding protection of their properties. A task force was thus commissioned (Seattle Engineering Department, 1987) to study the effects of property values and crime on the existing portion of the trail. This study revealed that property values along the trail have actually increased at a higher rate than other nearby properties that were not near the trail and that there was no difference in crime rates for these properties relative to other city-wide rates. The study further concluded that residents living along the trail were overall pleased with their proximity location.

A "greenway" is defined simply as a linear green space, whether it is used as a park, or a tree-lined path, a wildlife refuge, or a bike path. This alternative proposes a public

transportation corridor which includes a right-of-way in which transit is shared, wherever possible, with bike and pedestrian paths; and where it is too narrow to safely include a path, the linear green space could still continue to link with other greenways in the city.

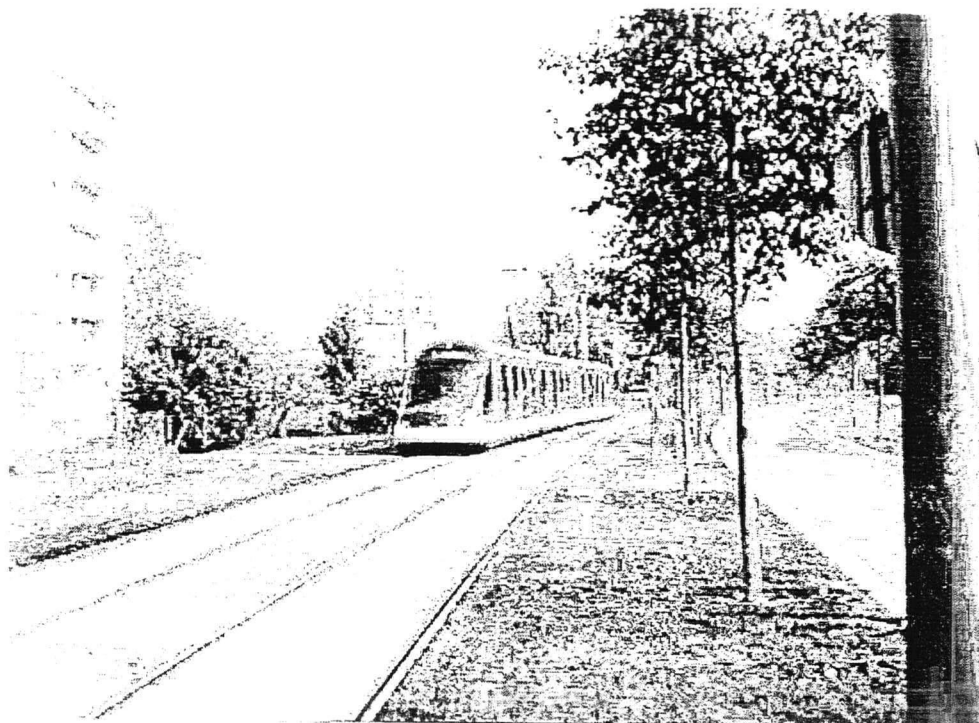


Figure #6

Photo of Strassbourg, France LRT with associated adjacent greenway as often as the right-of-way allows. From LRTA.

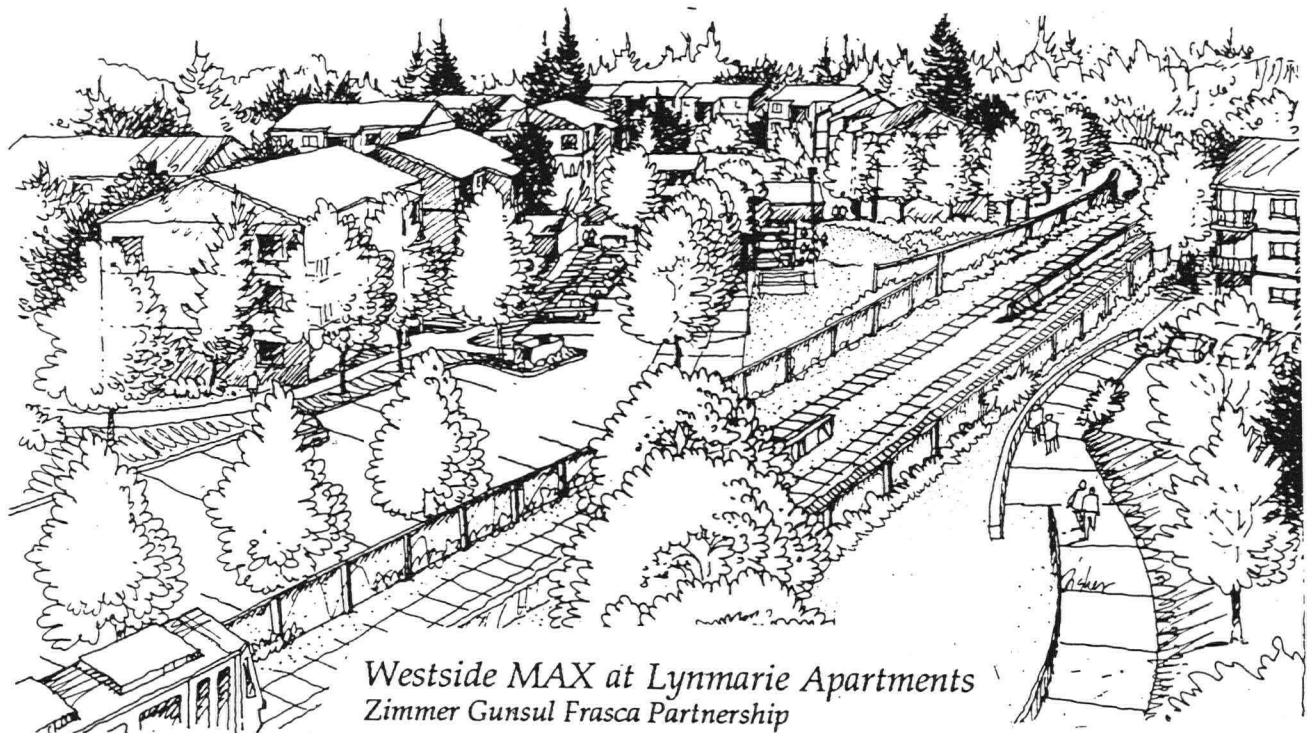


Figure #7

Sketch of Portland's Beaverton Transit Center Station showing pedestrian and bike access and neighbourhood connections nearby. This vision was the outcome of a public workshop involving residents. From City of Portland et al.

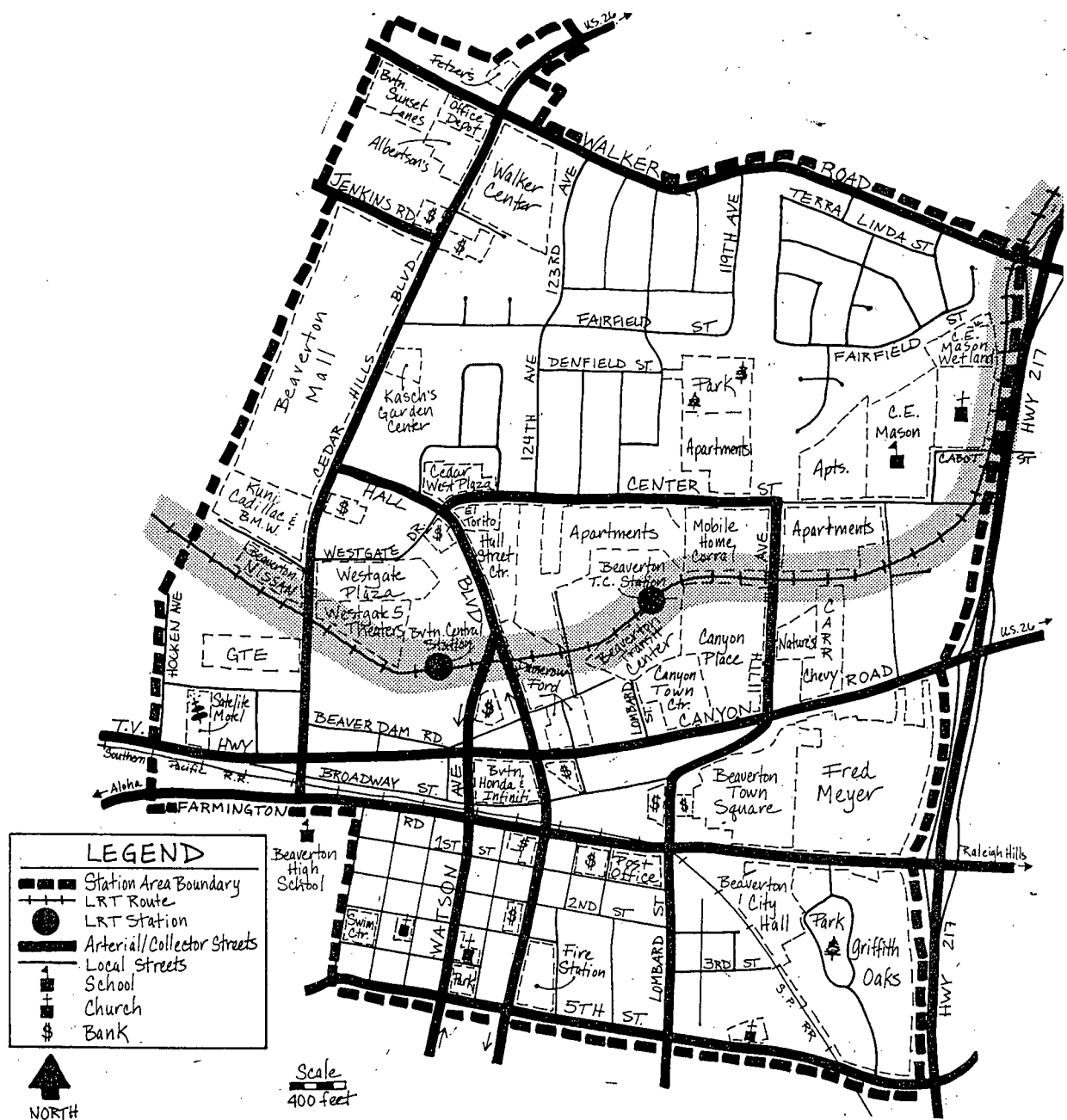


Figure #8

Plan of Portland's Beaverton Transit Center and Central Station Area, including the description of the connections to the surrounding area: "Pedestrian and bicycle access will be provided along the tracks between Watson Avenue and Cedar Hills Boulevard, and to Canyon Road along an extension of Mill." Result of public workshop. From City of Portland et al.

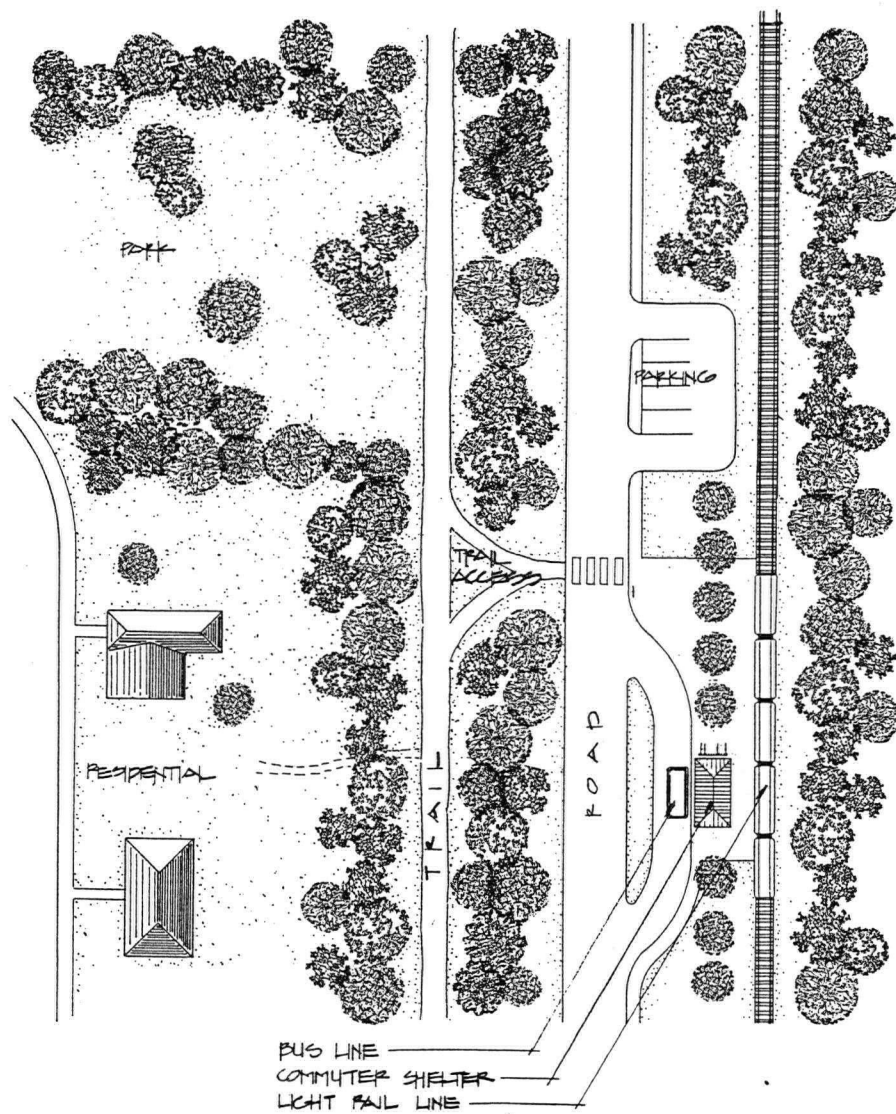


Figure #9.

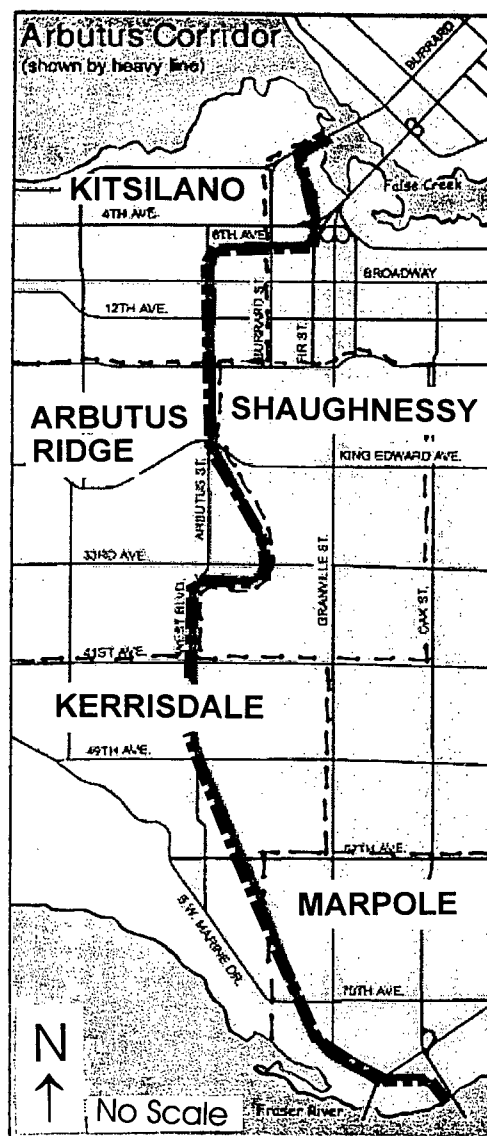
Integrated mode transportation system. From Ryan, ed.

3.2 Kitsilano as detailed site for study: location and context description

As one of the five neighbourhoods through which the Arbutus corridor passes (Figure #10), Kitsilano has been chosen as a model to be studied in more detail. The feasibility of alternative solutions for the corridor will thus be discussed relative to the specific site conditions present in this Vancouver community.

Located in the Vancouver lower mainland, the community of Kitsilano is officially bound by the English Bay waterfront to 16th Avenue, and from Burrard Street west to Alma Street. The area of study in Kitsilano is at the northern end of the Arbutus corridor (see Figure #11). At the beginning of the 1900's the railroad was linked with the north shore of False Creek by a trestle bridge between the present Burrard and Granville bridges (Acres Consulting Services Ltd., 1972), since demolished in the 1980's. At this entrance into Kitsilano the B.C. Electric Railway Company leased the line and began a streetcar service into the community in 1905 (Internet site g).

The area north of 4th Avenue was the first to develop as industries began replacing forests; while the area south to 16th Avenue did not fully develop until the post-war 1940's. The neighbourhood has a reputation as a strong community with active resident involvement in matters affecting development. Residents were successful in the 1960's to stop plans for increased industrial development, as well as in the later decades of the 1970's and 1980's when they successfully initiated community improvement programs (Internet site h).



- ■ ■ The Arbutus Corridor
- - - Neighbourhood Boundary

Figure #10

Map showing the five neighbourhoods through which the Arbutus corridor passes.

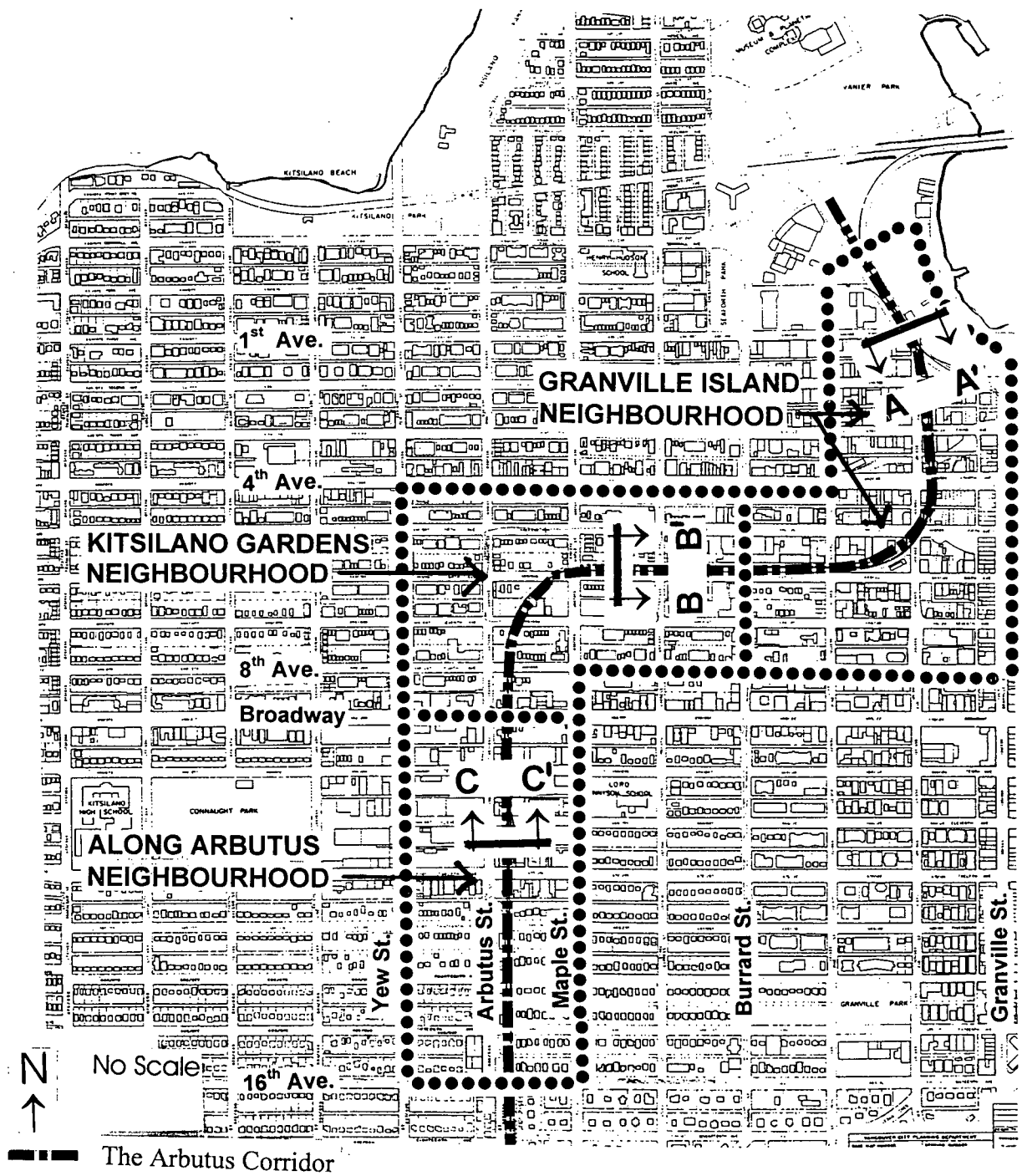


Figure #11

Map of the Arbutus corridor through Kitsilano.

The area was studied in three distinct sub-districts, shown in Figure # 11: The Granville Island Neighbourhood, the Kitsilano Gardens Neighbourhood and the Along Arbutus Neighbourhood. Following is a description of each area around the corridor, in order to clarify the character of the open space in each and provide a frame of reference for the description of the new proposal. Neighbourhood character is summarized in Figure #12. A site analysis showing views and circulation connections is shown in Figure #13. An alternative vision that fits within this context will follow in section 3.3.

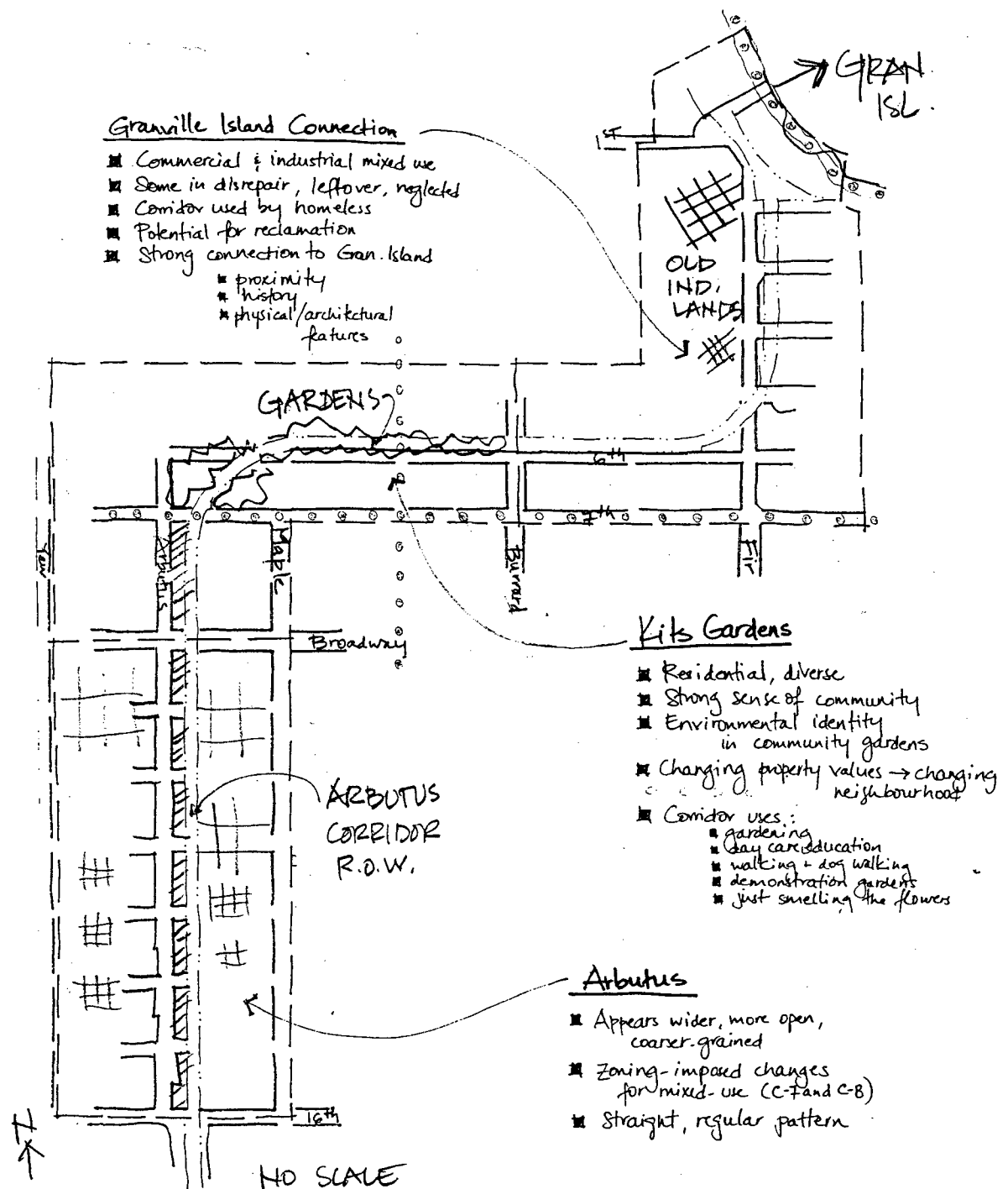


Figure #12

Neighbourhood character summarized for the three Kitsilano areas.

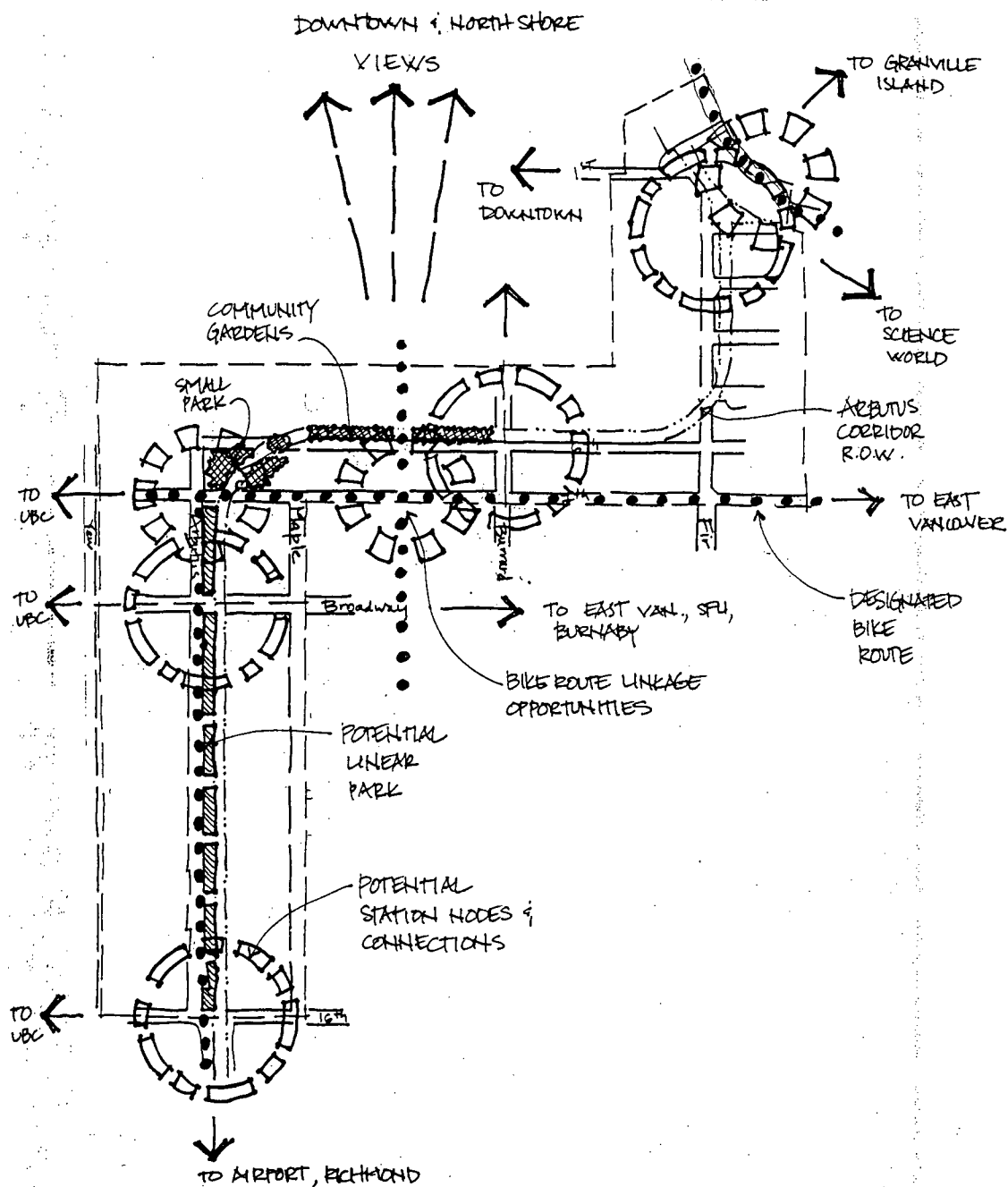


Figure #13.

Site analysis of Kitsilano neighbourhoods showing views; circulation connections; site potential opportunities.

The Granville Island Neighbourhood

This area lies at the northern and eastern part of Kitsilano and is adjacent to Granville Island. The connection to this well-known district, however, is more than just in proximity. It is connected by a similar history of land use and by the physical and architectural features present, making the sub-district of a similar character to Granville Island.

The connection by proximity is made on the ground by several access points into Granville Island and environs. From 1st Avenue to Creekside Drive around the perimeter of Granville Island; from 2nd Avenue, 3rd Avenue and Fir Street to Anderson Street connecting to the main Island. The northern portion of the Arbutus corridor rail line forms the rail connection with the existing South False Creek rail line planned to link Vanier Park with Science World (City of Vancouver Arbutus Corridor ODP, July 10, 2000). The portion from Granville Island (Anderson Street) to Ontario Street is already operational.

Historical accounts of the Granville Island industrial area include the lands just south along the Arbutus line. The railroad was, in fact, a major determinant in the establishment of industries along its right-of-way. Waterfront industries, such as lumber mills and ship building established along with adjacent metal works industries, canneries and a major brewery (Internet site g). Only one industry, the cement works, has remained on Granville Island together with the present Molson's Brewery, close by. The remainder of the land has been converted to either the commercial or public spaces on Granville Island, and condominium housing complexes to the south. The former industries around the Arbutus corridor to Burrard Street were converted to commercial and office space, or, in the dark concrete spaces under bridges taken over by such uses as car repair yards.

Due to the similar history of land use during the early 20th century, the architecture of the area is made up of the same basic built structural form, the low one to two-storey industrial warehouse. On Granville Island this form was retained and given new commercial status as it helped preserve the history of the area.

The character of the more developed area around the north end of the Arbutus corridor was acquired, as described, by the preserving of architecture and transportation patterns. The future development of the corridor area to the south, therefore, may also draw inspiration from the industrial history. The public open spaces studied in this context can test the existing as well as the potential ways in which the area can be used and can help to determine some guidelines for future changes along the Arbutus corridor.



Figure #14

The Granville Island Neighbourhood.

The industrial past is still apparent.

The Kitsilano Gardens Neighbourhood

This sub-district is mainly residential. A closer look at the area revealed that it is made up of a diverse group of residents. Although the make-up of the residents matched some of the general Kitsilano community description, i.e. "young, vibrant, health-conscious and active population..." (Internet site h), many others ranged greatly in age, income level, education level, political and religious orientation, and general life style.

The most conspicuous feature in this area is the community garden along the shared City of Vancouver/CPR right-of-way, plotted and adopted by nearby residents. This profusion of horticultural activity appears to define this community's environmental concern, as well as seemingly fulfilling an important social role for the gardeners.

Several in-depth studies of this neighbourhood, conducted by student team members of UBC Planning 548J course between the months of September and November, 2000, including photo surveys, cognitive mapping, interviews and a typology of residential dwellings, revealed that this community is in transition. It is apparent that increasing property values are putting development pressure on single family homes in favour of higher density condominiums; and the Arbutus rail corridor will likely change in the near future to a more active use. Yet the area also maintains a sense of strong community and stability. The study yielded insights into the use of public open spaces, the ways the area is used and what the implications are for future changes along the Arbutus corridor.



Figure #15

Photo of the Kitsilano Gardens Neighbourhood.

The Along Arbutus Neighbourhood

This sub-district is between Broadway and 16th Avenue, bounded on the east and west by Maple and Yew Streets. The railway corridor is aligned in a straight section with the Arbutus Street after which it is named.

The corridor right-of-way is typically separated from Arbutus Street by a partial-block section flanking the east side. This section, as well as the west side of Arbutus Street is dominated by the same one-storey industrial-era warehouse structures that were dominant in the Granville Island Neighbourhood. One block beyond these is residential, on both sides. Single family 2-storey houses of the arts and crafts period, that were the typical dwelling of the 20th century in this area still prevail south of 12th Avenue, while a major change is occurring north of 12th Avenue. This change in the neighbourhood is due to the multi-use, higher density complex development by Greystone Properties, still under construction.

Overall, the rail corridor in this sub-district appears as a regular patterned, straight, easy to read landscape. The blocks appear to be coarser-grained and the right-of-way wider and more open. The construction of the new development, however, is already indicating "newness" to the area, as the established low, industrial structures are beginning to be replaced by the higher density structures.

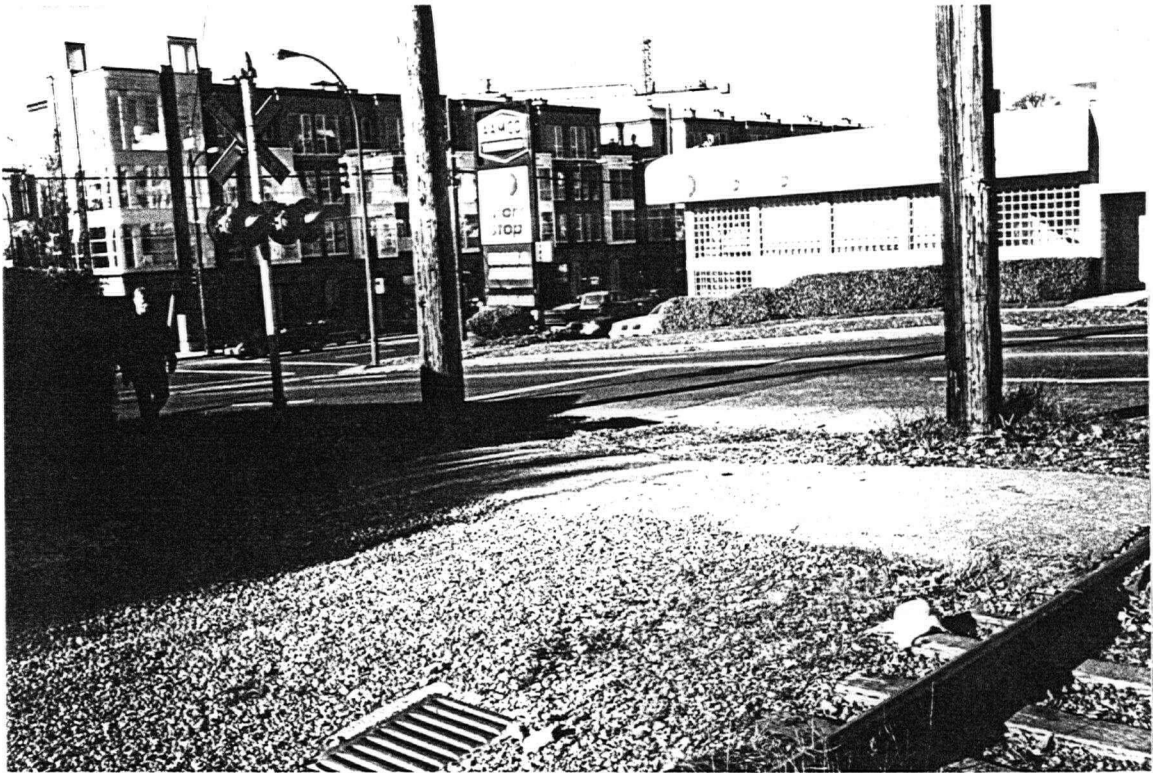


Figure #16

Photo of the Along Arbutus neighbourhood.

3.3 Rail Transit and Greenway Alternative Proposal

This section will present the alternative proposal in the three areas of Kitsilano previously described.

3.3.1 The Granville Island Neighbourhood

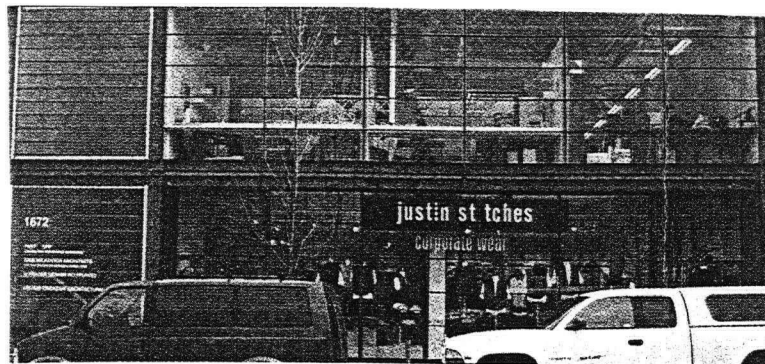
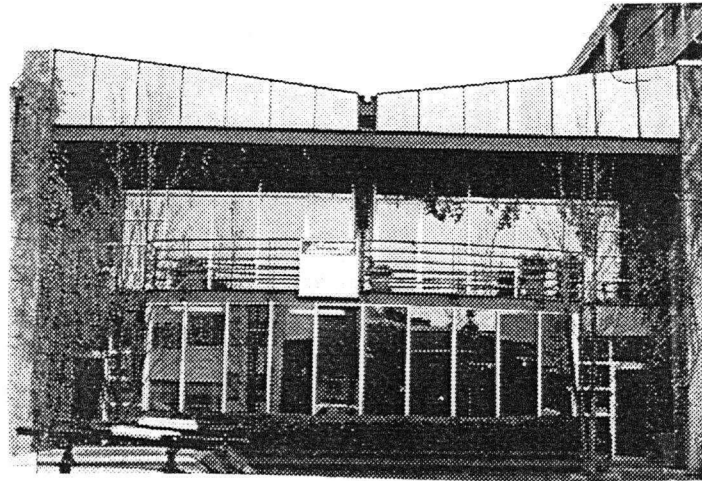
In this area, the Arbutus rail line is literally connected to the rail trolley that connects Science World to Granville Island and soon to Vanier Park. The Vancouver Transportation Plan adopted in May, 1997 (Internet site h) calls for this trolley line to be eventually extended to serve Downtown, thus making the Arbutus line an important link in restoring the rail connection between Richmond and Downtown.

The connection between the two lines takes place at 1st Avenue and Fir Street (Figure # 17), where new multi-use development has already taken the place of industrial warehouse-type buildings. At the entrance to Granville Island on 2nd Avenue a Starbucks coffee shop building has already been built over the existing rail lines, threatening the future continuous use of the corridor. This example shows the pressure this land is under for development and the urgency needed for action, if the corridor is to be preserved for transportation. As shown in the photos in Figures #18 and #19, these existing new buildings are examples of the CPR proposed development that would replace the rail corridor.



Figure #17

Photo showing the Granville Island connection at 1st Avenue and Fir Street.



Figures #18 and 19.

Examples of CPR proposed development on the Arbutus corridor in the Granville Island neighbourhood. From CPR.

In contrast to the traditional car-oriented development, preserving the 50' wide Arbutus rail corridor in this area would provide many more benefits, as illustrated in the sketch plan of the area in Figure # 20 and shown in Section A-A' in Figure #21 and outlined below:

- ❑ Reduced car dependence, allowing for improved environmental sustainability.
- ❑ Opportunity for multi-mode transportation, the alternatives thereby reaching and accommodating more users as well as more types of users.
- ❑ A more diverse, more compact and more flexible public open space. The interaction of many different activities would provide interest and develop a unique character. It would allow for more "organic" growth to take place, in smaller increments, on an as-needed basis.
- ❑ The opportunity for community development to take place. For example, transit-oriented station areas create demand for meeting places, cafes, bookstores, music, outdoor plazas and other active spaces. Also, smaller, finer-grained spaces, narrower streets and the encouragement of higher density would lead to more complete communities with most needs and services nearby.
- ❑ Improved visual quality, air quality, sense of well-being and overall urban environment by the additional planting of trees, shrubs and groundcover along Greenway and sidewalk strips.

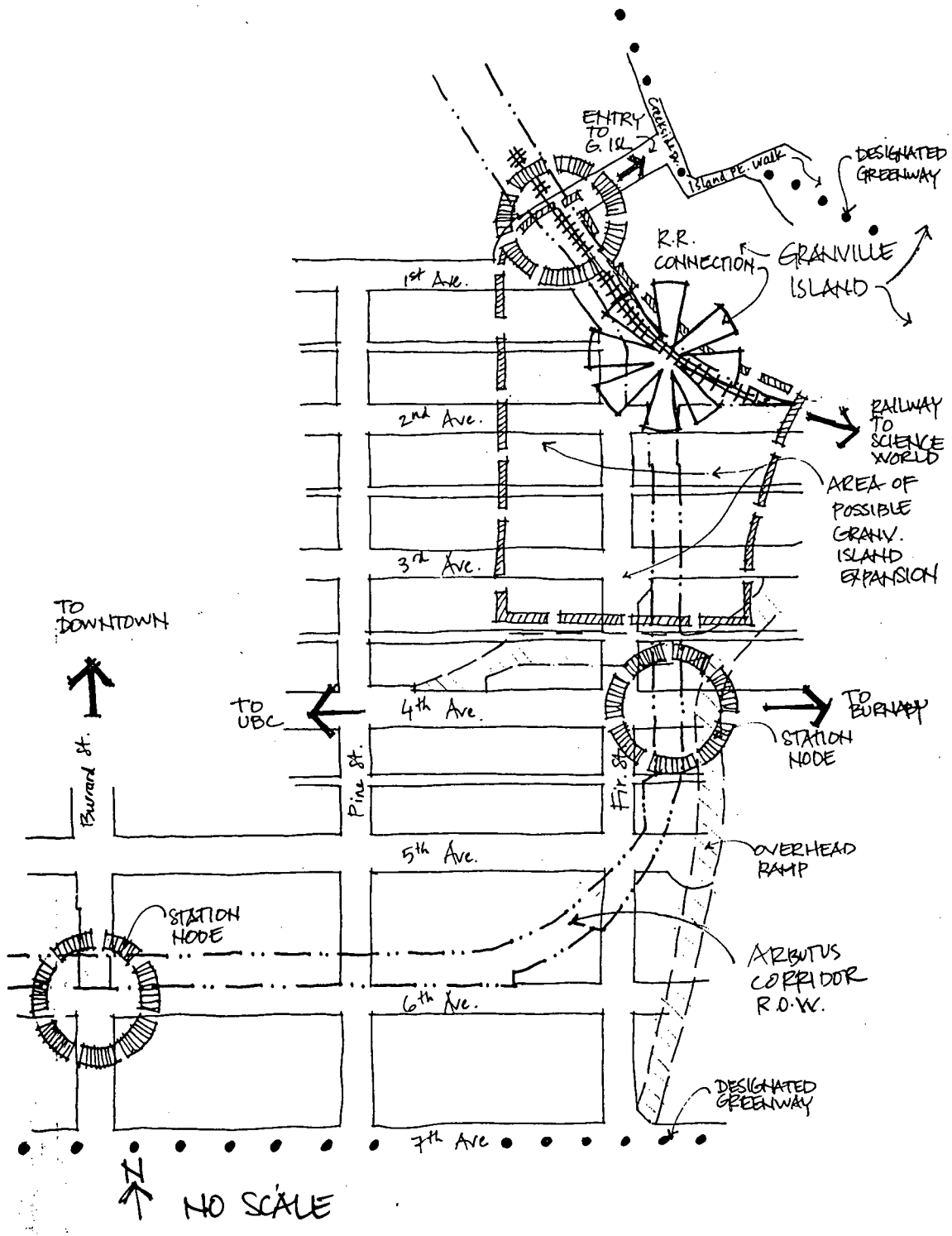


Figure # 20

Plan showing the Granville Island Connection neighbourhood.

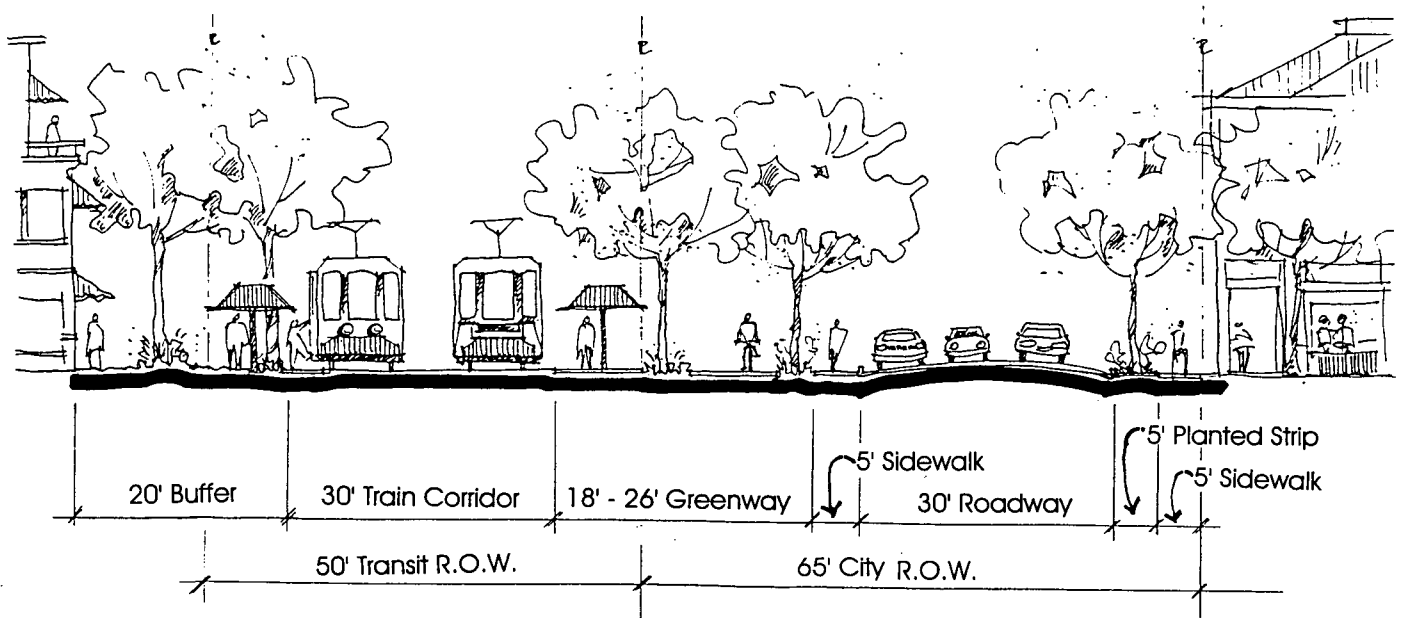


Figure #21

Section A-A' looking south, through the Granville Island neighbourhood

In addition to the more general benefits listed above, the Granville Island Neighbourhood holds a unique set of design implications for the alternative proposal, specific to this site. One is the relative intensity of activity in this area. Also, its history as an industrial district is still quite apparent along the actual rail corridor. The reestablishment of an active transportation line would again enliven the area and restore its infrastructure to its former function, although in this case it would need to be retrofitted to cater to passengers rather than freight. In keeping with the Granville Island tradition of reusing and even celebrating our industrial past, the Arbutus corridor would also link past with present.

The transitions this area has undergone since the heavy industrial era also gives it a head start in the establishment of a diverse community, as it already is home to mixed commercial, light industrial and higher density residential uses. Two improvements it would greatly benefit from would be a decrease in car traffic congestion and some green spaces. Both would be answered by the alternative proposal.

Another site-specific design implication for this proposal is the actual location of the Granville Island Neighbourhood. From a regional transportation perspective, this area represents both a destination to the Market and False Creek amenities, but also a link or connection node between the downtown peninsula and the north shore, and the Airport, Richmond and the U.S. border to the south (see Context Map in Figure #1).

3.3.2 The Kitsilano Gardens Neighbourhood

In this area the Community Gardens along the corridor are an important part of this neighbourhood (Figure #22).

The CPR proposal would develop new multi-use buildings on half of the land now occupied by the gardens, between Burrard Street and Cypress Street. Although the other half, known as the Maple Garden would remain, the impact on the community would be much greater than the mathematical half. In addition to the change in character this development would cause, considerations would also have to account for disturbances of major construction. There would be, in effect, a complete physical disruption of the entire three-block area (circulation; noise; water and air pollution; sun exposure; etc.), thus profoundly affecting the day to day life of the residents and in the end changing the entire dynamic of this established community. In the end it is questionable that the intended preserved garden plot could survive, even if the morale of the community could withstand the impact.



Figure #22

Photo showing the Kitsilano Gardens along the Arbutus corridor

Preserving the Arbutus corridor for transit use in this area would accomplish the following:

- ❑ Reduced car dependence allowing for improved environmental sustainability.
- ❑ The opportunity for multi-mode transportation, the alternatives thereby reaching and accommodating more users as well as more types of users.
- ❑ Preservation of the corridor as a form-giving feature to the unique character of this urban neighbourhood.
- ❑ Preservation and encouragement of the community gardens as an activity that both improves sustainable urban practices and actively promotes a strong sense of community.
- ❑ Empowerment of resident groups and promoting participation in decision making, as this community actively opposed the CPR proposal in favour of the more environmentally responsible solution.

The alternative proposal would restore the use of the corridor to transit. At first glance, however, it appeared that this alternative would also destroy the gardens. It was critical, therefore, to accurately assess how this alternative would specifically affect the site. The corridor in this area is 65' wide, with the gardens actually occupying the shared right-of-way of transit corridor and city street (see plan in Figure #23 and section in Figure # 24). Careful calculation revealed that the required 30' width of the two-line rail transit (City of Portland et al. 1995) would, therefore, allow the space presently occupied by the gardens to remain

unchanged, although the foot path running along the south side (see photo in Figure # 22) would have to give way to a safety barrier. The existing neighbourhood on both north and south sides, as well as 7th Avenue, would also remain physically unchanged (Figure #23). The existing designated Greenway along 7th Avenue would provide continuity to the Greenway trail system and could reconnect with the corridor further south along Arbutus Street.

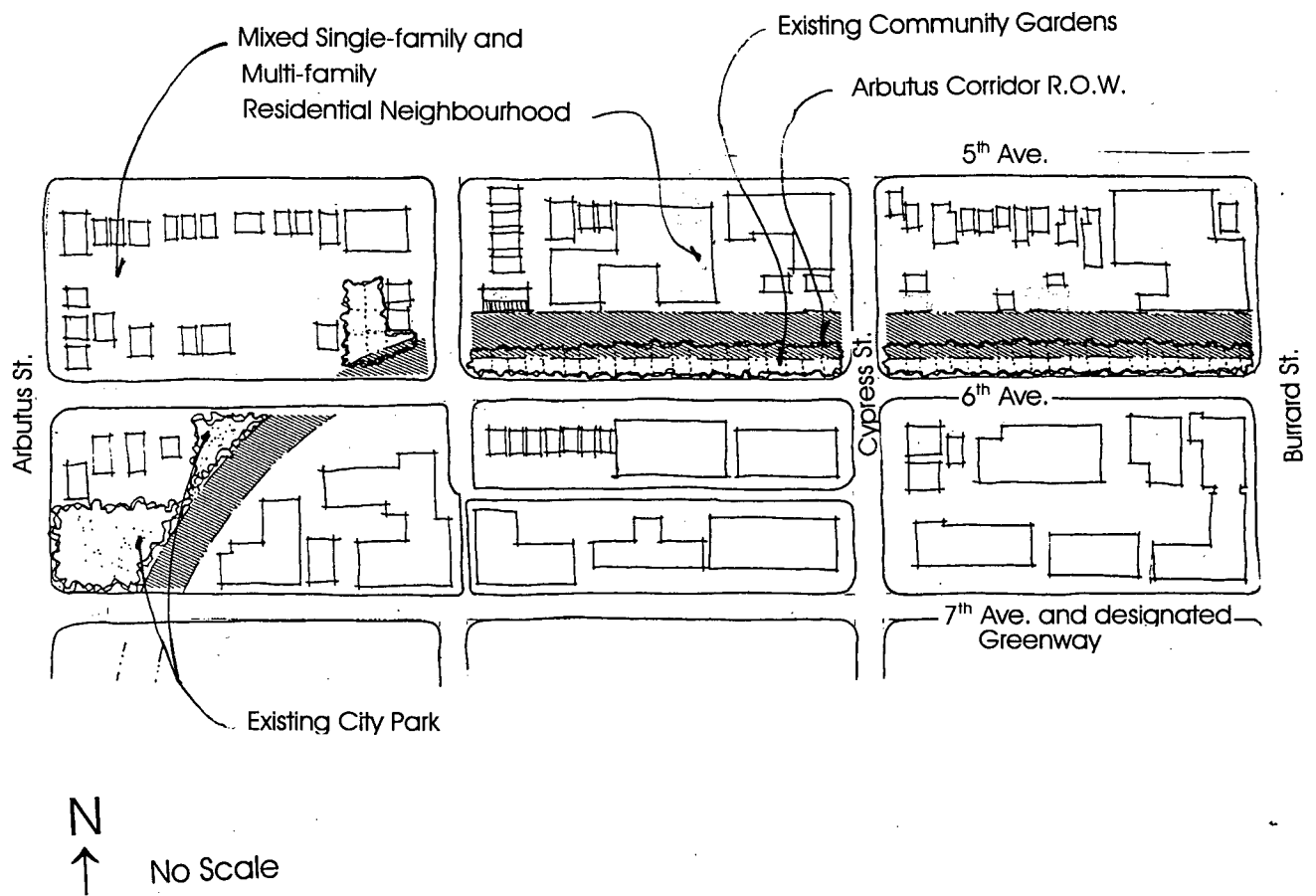


Figure #23

Plan showing the community gardens and the Arbutus corridor through the Kitsilano Gardens neighbourhood

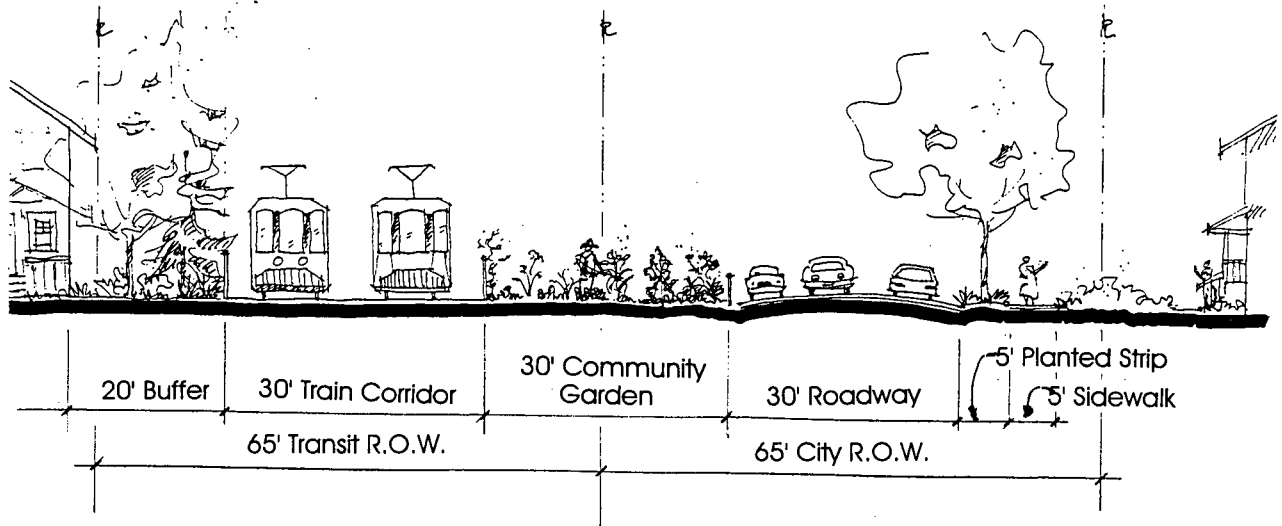


Figure #24

Section B-B' looking east through the Kitsilano Gardens neighbourhood.

3.3.3 The Along Arbutus Neighbourhood

In this area of Kitsilano the corridor stretches between Broadway and 16th Avenue and is characterized by a partial-block separation between Arbutus Street and the rail corridor. As described in section 3.2, this partial-block is currently occupied by low warehouse-type structures that once backed on to the railway during the more active freight days in this area.

The CPR plan proposes new development along the corridor right-of-way, including redeveloping the partial-block area. The alternative design would allow for this in-between strip of land to function as a wider Greenway, in effect as a linear park, running adjacent to the transit corridor and Arbutus Street (see plan in Figure #25 and section C-C' in Figure #26). The stations at Broadway and 16th Avenues would become important connection nodes. Although most of the strengths of this proposal are similar in this case to those of the other two neighbourhoods, there are also opportunities for this neighbourhood to gain from it. As a departure from another car-oriented development, this proposal has the following general advantages:

- ❑ Reduced car dependence, allowing for improved environmental sustainability.
- ❑ Opportunity for multi-mode transportation, the alternatives thereby reaching and accommodating more users as well as more types of users.
- ❑ A more diverse, more compact and more flexible public open space. The interaction of many different activities would provide interest and develop a unique character.

It would allow for more "organic" growth to take place, in smaller increments, on an as-needed basis.

- ❑ The opportunity for community development to take place. For example, transit-oriented station areas create demand for meeting places, cafes, bookstores, music, outdoor plazas and other active spaces.
- ❑ Improved visual quality, air quality, sense of well-being and overall urban environment by the additional planting of trees, shrubs and groundcover along a wider Greenway and along sidewalk strips. The new higher density neighbourhood currently under construction would especially benefit from the added green space.
- ❑ The amenities created by the station nodes, linear park and access to transit would promote more pedestrian-oriented activities and a safer community.

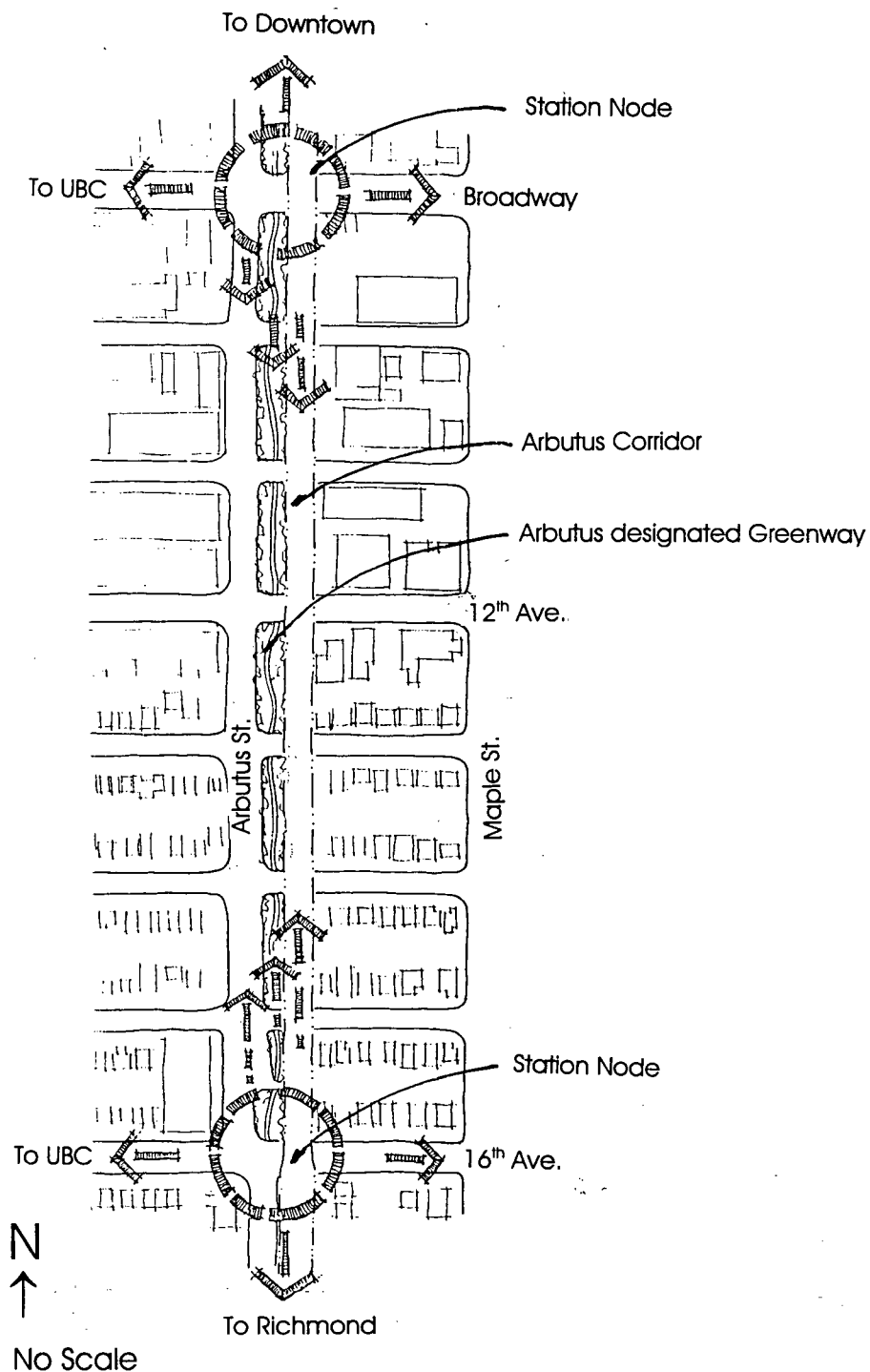


Figure #25

Plan showing the Along Arbutus neighbourhood.

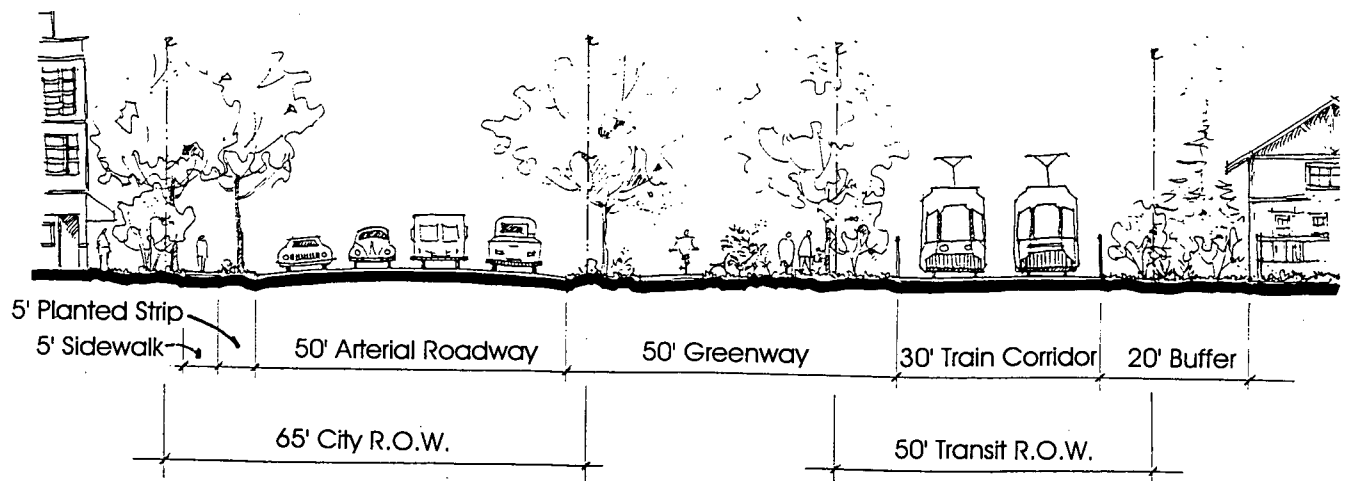


Figure #26

Section C-C' looking north, through the Along Arbutus neighbourhood.

The Along Arbutus neighbourhood is undergoing changes as the above mentioned new development is built. The comprehensive development zoning passed (City of Vancouver 1996) reflects a different land use regulation approach, one that could allow many different uses, rather than the traditional segregated use zoning. The emerging character of this neighbourhood, therefore, will likely be unique. As the area reflects the current thinking in planning and community development towards more compact, more complete and more sustainable communities, the proposed alternative responds well to this ideal. A traditional car oriented type of development would not be in keeping with this approach.

4. SUMMARY AND ANALYSIS OF ISSUES

4.1 Fairness of Public Process

The public process that took place presenting the CPR vision for the corridor was one organized by developers, rather than planners. Although the CPR organized a process for public participation in their design proposal for the Arbutus corridor redevelopment, this process took the functional role of informative sessions rather than actual participation. Surveys were given and opinion was solicited, but the results yielded were not used by CPR to alter the design proposal, rather to change their position regarding the Arbutus corridor. The public was not, thus treated as partners in this decision.

The CPR made clear from the beginning, both in their information brochure as well as on their Internet web site (a) used to provide updated communication to the public, that their vision for redevelopment of the corridor was not going to be swayed by public opinion. The public sentiment that responded to this method (The Vancouver Courier, 15 December, 1999) raised suspicions that there was an ulterior motive for the public open houses, that if the proposed vision gained the public support it sought, it would have matching support from the City of Vancouver. In the end CPR's proposal was rejected by both the public and the City.

Another side of this conflict is the issue of ownership. While it is true that the CPR were legal owners of this land, residents (both local and regional) generally felt that the corridor was public land. For public consultation and involvement to be successful, it is necessary for the

public to have a sense of ownership in the proposal. This is generally achieved in three stages (British Columbia Ministry of EL&P et al. 1995), and is the result of collaboration between the public and a professional facilitator. First, creating a common vision; second, establishing a strategic plan that will guide decisions and actions; and third, completing a design that will satisfy the criteria. It is clear that in the case of the CPR public involvement, the first step was arrived at independently of any public collaboration, while the second and third steps were not even planned as part of the process. The public, therefore, did not have a sense of ownership properly recognized and resulted in feeling a lack of fairness in the process.

Closely related to the idea of the collaborative process as described by Forester (1987) is "Design by Making Sense Together" (pp. 110-136), an explanation of the social aspect of design. An integral part of every project is the review process it undergoes as all parties affected are given a voice and so it is the nature of communication that becomes important. In the case of the Arbutus corridor the concept or vision proposed by CPR should have undergone a similar process. The alternative design proposal at the concept stage as well as the later detail design stage, could be derived at a public-inclusive design workshop, as was successfully accomplished in Portland (City of Portland et al. 1995). While it would be difficult to satisfy all the stakeholders, giving a voice and feeling of empowerment to all would definitely mitigate unpopular impacts and encourage a sense of community support.

In addition to conducting a public process that is inclusive, there is also the question of *who* should be included. If this decision would have been made by planners rather than developers, the ethical consideration of fair representation would have also been a part of the process (Forester, 1987). The CPR identified only the residents of the immediate

neighbourhoods through which the corridor passed as stakeholders. Replacing a transportation corridor with another land use, however, involves the entire region. The long list of stakeholders described in section 2.2 attempts to show the breadth that the public process should have included.

4.2 Saving Transportation Corridors - validity of the policy

Preserving transportation corridors is an idea that is rooted in the current concern with sustainable urban policies, of which transportation plays a major part. Essential to this concept is the understanding of, and responding to, the relationship between changes at the local or neighbourhood level and those affecting the larger region. While the CPR design proposal was presented as being locally sensitive to immediate land uses, it did not attempt to satisfy any of the needs of the region. The alternative design proposal, by contrast, is conceived as a regionally responsible solution, which, if sensitively designed, also responds to the local needs. This proposal is indeed dependent on the concept of preserving transportation corridors, the details of which would be supported by the following City of Vancouver associated policies:

The City of Vancouver used three existing policies to justify the adoption of the Arbutus Corridor Official Development Plan (July 2000): a) CityPlan (adopted 1995); b) Vancouver Transportation Plan (adopted 1997); and c) Vancouver Greenways Plan (adopted 1995).

In the CityPlan: Directions for Vancouver, Summary Document (Internet site h), the reference to transit appears under the heading "Healthy Economy - Healthy Environment" and is quoted below:

Transit, Walking and Biking as a Priority

CityPlan puts walking, cycling, and transit ahead of cars to cut down on traffic congestion and improve the environment. People will have travel alternatives such as better transit service and streets will be more friendly for biking and walking. Cars will not be as convenient as they once were. More people will live closer to shops, services, and jobs in their neighbourhoods, this will reduce car trips and congestion.

This policy reflects the current concern for more sustainable urban areas as the general direction for planning. Roseland (1998) discusses the alarming true cost of driving cars and offers strategies for mitigating this trend. As a transportation planning strategy he proposes a de-emphasis on cars implemented through various traffic calming devices, restrictions and initiatives aimed at reducing overall dependence (pp.107-124). Similarly, Newman and Kenworthy (1999) describe a "Vision of Reduced Automobile Dependence" (pp.128-239), most of which centers around limiting the priority given to cars and shifting that priority on to transit, walking and biking.

The movement toward more sustainable urban areas also coincides with the city's Vancouver Transportation Plan (Internet site h), the second policy used as rationale for the Arbutus Corridor OCP (July 2000). In this document the city outlines the concept of transportation for Vancouver as rooted in the concern about the negative impacts of the car and in the commitment to promoting alternatives to it. More specifically pertinent to the Arbutus corridor, the document recognizes the need for light rail transit in at least two corridors (p. 6):

The required major expansion of transit includes light rail transit (LRT) along Broadway, and from Richmond to Downtown, ...expansion of the False Creek Trolley to serve Downtown and improved waiting and boarding facilities are all needed.

It is recognized that the north-south connection is one of the two most vital lines to the future of Vancouver, the already assembled Arbutus rail line, therefore is an obvious candidate to be preserved for this use.

Light rail transit has been promoted as a high quality and low cost mode by Newman and Kenworthy (1999). These qualities, combined with its "environmental friendliness" (p.155), has brought LRT to be the choice transit mode in many parts of the world. The characteristics responsible for this popularity listed by Newman & Kenworthy are ones that promote the sustainability movement and all are applicable to the Arbutus corridor debate:

Electric, ...based on renewable energy.

Fast, quiet, and does not generate local emissions...

Flexible, ...negotiating roundabouts and turning right angles, ...adaptable...

Competitive with the car in image and functionality.

Compatible with bikes.

Cheap, in comparison with heavy rail or any highway option...

Attractive to development.

Able to help green the city.

The third policy the city used to justify the OCP is the Vancouver Greenways Plan (Internet site h). A map showing the Vancouver Greenways is shown in Figure #27. The Greenways form a system of trails that connect all parts of the city and are designated "green paths" (p.5) for pedestrians and cyclists. They are further described as:

... waterfront promenades, urban walks, nature trails, heritage walks, environmental demonstration trails, and linear parks. ... They can follow rivers, streets, beaches, railways, ridges and ravines. Their purpose is to expand the opportunities for urban recreation and to expand the experience of nature and city life.

This document clearly preserves the Arbutus corridor for use as a designated north-south route City Greenway called "Arbutus Way, #13" (p.16). It is described as follows:

This Greenway is a trail along a rail right-of-way which is in active use. The trail connects Marpole, Kerrisdale, Arbutus, Kitsilano, and Granville Island.

The concept of Greenways is not new. It is rooted in the North American tradition of respect and appreciation for the natural environment, when, as early as 1865 Frederick Law Olmsted designed and coined the term *parkway*; and the tradition was well rooted with Benton MacKaye's most famous greenway, the Appalachian Trail, in 1921 (Flink & Searns 1993).

Over the past 20 years the idea has become an urban quest (Ryan, ed. 1993), as it reflects the growing concern with environmental issues and Greenways represent viable, sustainable amenities. The many benefits of Greenways described by Flink and Searns (1993) are the same ecological strategies suggested by advocates of sustainable communities such as Roseland (1999) and Newman and Kenworthy (1999), proponents of "greening" urban areas and managing visual resources of natural landscapes such as Hough (1989) and Smith et al. (1998), and articulated into community design guidelines by Condon, ed. (1996 and 1998). The fact that these characteristics apply to Greenways further adds strength to the importance of their integration into the urban fabric. The general reasons given by Flink and Searns (1993) for creating Greenways are:

Preservation of wildlife diversity by creating connected habitat corridors;
Absorption of contaminants in surface drainage through a filtering zone of
plants and soil; and air cleansing and replenishing by cover plants;
Opportunity for recreation;
Alternatives to motorized transportation, thereby reducing dependence on
automobiles, which in turn improve air quality and traffic congestion;
Protection of cultural heritage by providing access to significant historical
features.

The many benefits of Greenways have recently also become apparent in a movement throughout North America of preserving abandoned railways into designated trails. The activists behind this movement do not celebrate the abandonment of railways (Ryan & Winterich, eds. 1993), although their benefits as trails are recognized. They see the trails as having even more profound benefits, preserving the existence of the corridor itself for its potential future rebirth as a transit line.

The most critical aspect of creating a preserved trail corridor on an abandoned grade is acquiring the necessary commitment from the public agency(ies) involved (Ryan & Winterich, eds. 1993). Although the rails-to-trails movement more often than not preserves abandoned rail corridors, in the case of the Vancouver Greenways Plan the trail is assumed to be functional even with an active train running alongside.

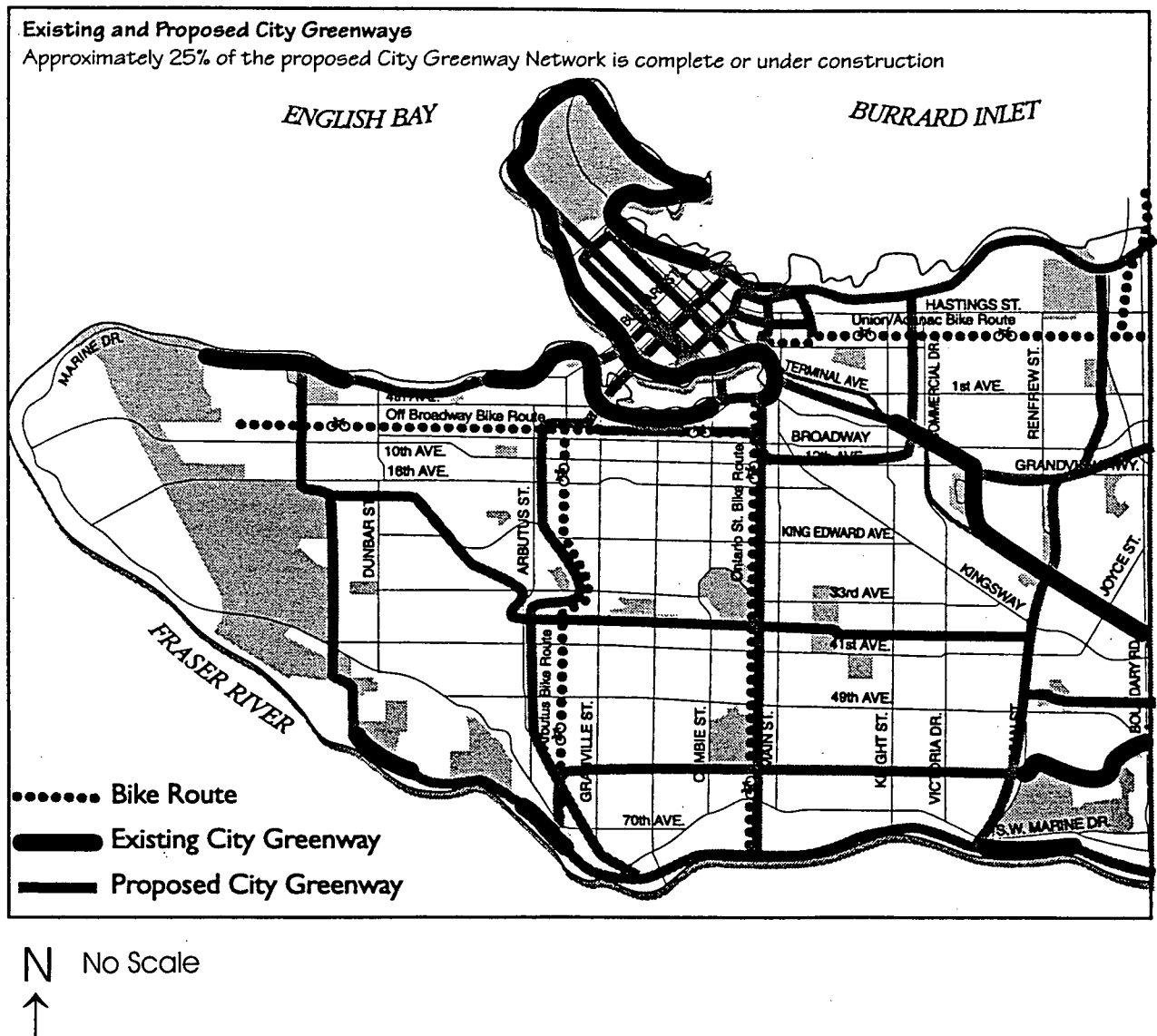


Figure #27.

Map of Vancouver Greenways. From City of Vancouver.

4.3 Effect of Rail Transit and Greenway on Environs

The alternative design proposal is clearly a regionally responsible solution to a transportation corridor, as established in the previous section. Predicting, and then mitigating the effect on the immediate neighbourhoods, however, will be crucial to the success of the outcome.

The first point to be made is that the choice of land use for the Arbutus corridor cannot be viewed as a comparison between the CPR's multi-use development proposal, and the establishment of a transit/greenway. Although the former proposal would respond to the existing adjacent land uses, it would completely alter each neighbourhood it passes through both by changing its local and intrinsic character, and also by changing its relationship to the larger city and the region. The changes that would take place would be difficult, if not impossible to predict, with the only certainty being the lack of transit and car-oriented access.

The latter proposal by contrast, can almost be said to be the status quo in its effect on the immediate environs. The changes that neighbourhoods would actually experience, therefore, are the differences that would be brought about by reactivating the already present rail line. The changes that would be apparent to the region, however, would be much greater. The effects of reactivating the Arbutus corridor as LRT / greenway, then should be addressed at both the local and regional levels.

The strengths of light rapid transit as a mode selection and the benefits of greenways have already been discussed in section 4.2. The strengths of this concept relative to the environs of the Arbutus corridor, however, are addressed below:

- ❑ Transit corridor width combined with city street right-of-way allows for greenways alongside and the preservation of community gardens.
- ❑ Transit corridor width allows for buffers at residential boundaries.
- ❑ Opportunity for historical and cultural preservation.
- ❑ Potential station areas at major intersections are well defined in commercially active areas; no need for added stations in residential areas.
- ❑ Elements of transit-supportive land use (Morris, ed.1996) are already in place along the corridor: interconnected street patterns, safe pedestrian access, interesting and diverse architecture, and a viable density.
- ❑ Opportunity for enhanced sense of civic responsibility and pride in community (Newman and Kenworthy, 1999) in a culturally pluralist city.
- ❑ Increased safety due to increased activity (Appleyard,1981; Jacobs,1992).
- ❑ Access to important north-south destinations and east-west transit connections (City of Vancouver 1997).

Some negative effects of an active Arbutus corridor are inevitable and need to also be addressed. While it is easy to see the regional benefits, to those residents directly adjacent to the line, the prospect of a speeding train throughout the day may be disruptive and cause anxiety. Fears of reduced privacy, concern for property values and fear of crime are typical of

any proposed change. The "not in my back yard" (NIMBY) sentiment could cause some to feel unfairly burdened.

Another unfortunate effect would be upon the existing community gardens in Kitsilano. Although there is sufficient space to allow the gardens to remain, there may be temporary disruptions during the transition to an active line that would impose on this community. Once in place, there will be the added constraint of safety and confined space along the fenced transit corridor, and a redesign of the internal gardens may be necessary.

4.4 Future Needs

The broader perspective on the region made visible by the GVRD's Livable Region Strategic Plan (1996), would support the alternative design proposal for the Arbutus corridor. This vision for Vancouver and its region, based upon fundamental strategies, includes major transit improvements; but the success of the strategic plan is clearly and necessarily dependent on the connections between and cooperation among land use and transportation planning.

As shown in Figure #28, the north-south connection (showing the Arbutus corridor as one of two possible routes) and the Broadway corridor are the critical routes TransLink has identified for immediate attention. Introducing LRT on these routes would provide Vancouver with a transit mode that has the benefits outlined in this paper. The relatively low cost of reactivating the Arbutus line with LRT (D & M Group, 1999), as well as the many examples of established and successful LRT systems in North America and Europe (Demoro & Harder, 1989; Toronto Transit Commission, 1987; City of Portland et al. 1995; LRTA, Internet site i), should further help political decision makers to promote the proposed design solution for the future of the Arbutus corridor.

It is clear that future directions for this region are away from the sprawl of a car-oriented culture that dominated North America over the past century and toward the more thoughtful, responsible and sustainable approach of saving our natural resources, building within more compact areas, and living in complete communities. A regional transit system that supports these directions is imperative. As outlined in the mandate of the National Roundtable

on the Environment and the Economy by Apogee Research (1996), the commitment to a more sustainable future is based on transportation. This mandate would underscore the importance of making a land use choice in favour of sustainable transportation. The proposed design alternative presented in this paper, therefore, could be seen by future generations as a milestone. The choice could help this region in making the transition from allowing decision-making to be driven by developers and market forces to a more bottom-up approach driven by a responsible larger community, committed to a common good.

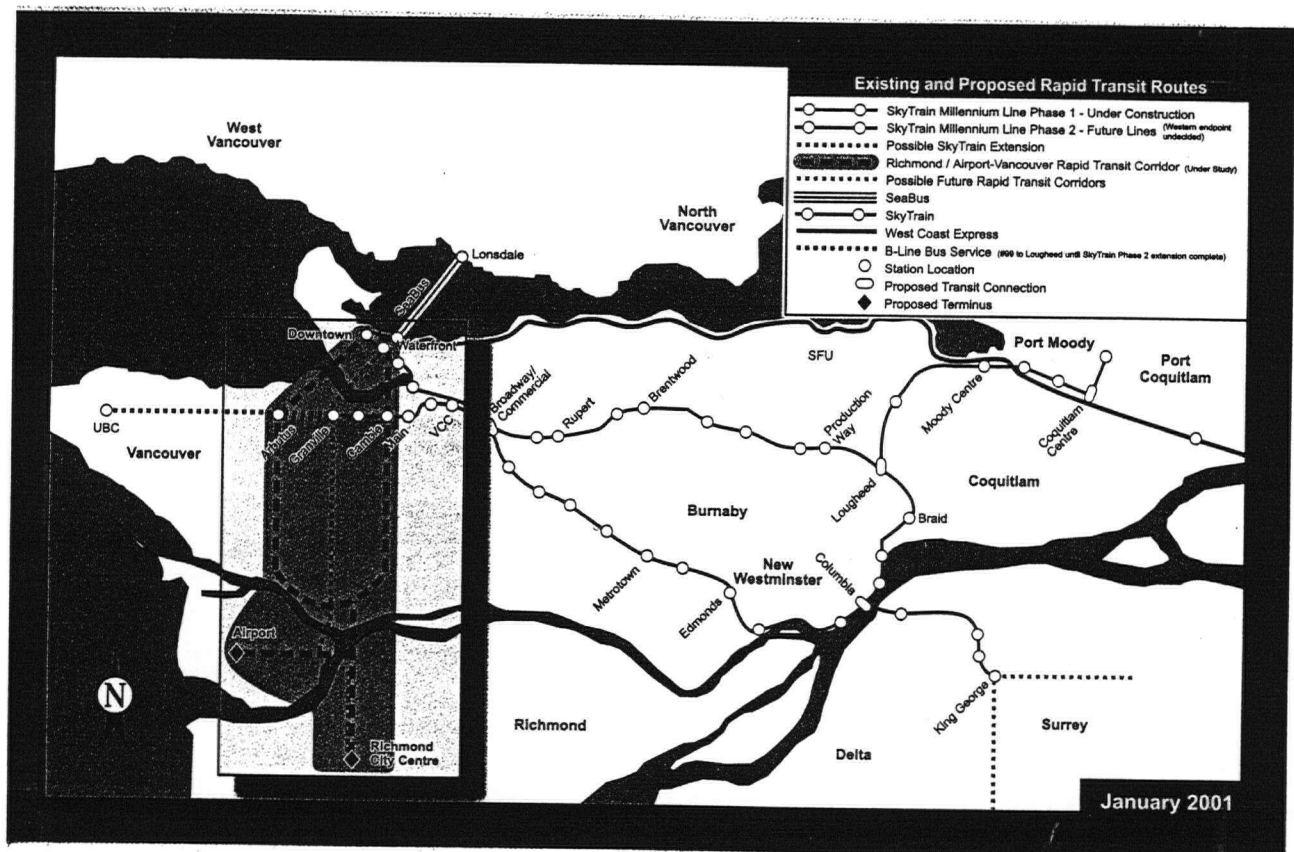


Figure #28

Map showing the region's existing and proposed rapid transit routes.

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- j) <http://perso.wanadoo.fr/letram.orleans/tramenglish.htm>
Information on LRT system in Orleans, France.

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- a) From: The Society Promoting Environmental Conservation
To: Transportation List
Subject: Poll Says Keep Arbutus Corridor for Transportation
Date: 26 January, 2000
- b) From: Ray Straasma
To: Alina Maness
Subject: Arbutus Corridor Working Group Jan. 17 Minutes
Date: 20 Jan. 2000
- c) From: Paul Manning
To: (multi) List
Subject: Why the Deferral?
Date: 2 Feb. 2000
- d) From: Council member Frederic Bass
To: William Rees et al.
Subject: Seattle Times: Automobiles get kiss-off in German project
Date: 17 March, 2000
- e) From: Donald Malcolm Johnson
To: Deming Smith et al.
Subject: The following is a copy of my presentation to Van. Council on Mar. 27/00
Date: 23 March, 2000
- f) From: Peter Boothroyd
To: SCARP School
Subject: Presentation to Van. City Council and Van. Sun Article on 28 Mar, 2000
Date: 3 April, 2000
- g) From: Andrew Massil
To: Alina Maness
Subject: Your questions re: Arbutus Corridor
Date: 3 April, 2000
- h) From: Dale Laird
To: Patrick Condon
Subject: Re: Broadway Rapid Transit
Date: 8 April, 2000

- i) From: Donald Malcolm Johnson
To: Jane Bird; Peter Boothroyd
Subject: Notes on LRT from the Light Rail Committee
Date: 10 Feb. 2000.

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- a) Conversation with Alan Herbert, SACC
3 March, 2000
- b) Conversation with Brian Riera, Van. Parks Board
3 March, 2000
- d) Conversations (informal) with various Kerrisdale, Kitsilano, Marpole and Shaughnessy residents.