



City of Richmond

Report to Committee

To: Parks, Recreation and Cultural Services
Committee

From: Vern Jacques
Manager, Community Recreation Services

Re: Tram Routing Options

Date: May 7, 2004

File:

Staff Recommendations:

That staff be directed to undertake a public process to present the six proposed options and to collect feedback and report back to Council with a preferred route.

Kate Sparrow
Director, Recreation & Cultural Services
(4129)

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ROUTED TO:		CONCURRENCE		CONCURRENCE OF GENERAL MANAGER				
Engineering	Y	<input checked="" type="checkbox"/>	N	<i>file while</i>				
Parks Design, Construction & Programs..	Y	<input checked="" type="checkbox"/>	N					
Policy Planning	Y	<input checked="" type="checkbox"/>	N					
Transportation	Y	<input type="checkbox"/>	N					
REVIEWED BY TAG	YES	<input checked="" type="checkbox"/>	NO	REVIEWED BY CAO	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>

Staff Report

Origin

At the meeting of June 9, 2003 Council adopted the following resolutions:

1. That the City owned former CNR right-of-way within the London Princess area be endorsed as a potential location for the Interurban Car Barn and workshop.
2. That staff report on the routing of the Interurban tram in context with the Waterfront Strategy.

Subsequently, Council agreed to having the developer of the London Princess area build a car barn on the CNR right-of-way in lieu of amenity space for the residential development.

This report deals with the rail line routing through Steveston for Interurban Tram #1220 and/or other heritage electric rail vehicles that may be acquired in the future.

Background

The vision for Tram #1220 operation is to have it link the three major heritage sites in Steveston: The Gulf of Georgia Cannery, Britannia Heritage Shipyard, and London Farm.

In response to this a feasibility study for the operation of B.C. Electric Railroad Tram Car #1220 in Steveston was prepared and received for information by Council on October 15, 2002. The study considered potential permanent car barn locations and routing alignments in addition to a market review, economic impact and management models.

With the agreement to have the developer of the London Princess area build a permanent car barn on the City owned land east of No. 2 Road, the car barn location issue was settled. However, that decision effectively reset the first priority of developing track from the Gulf of Georgia Cannery to Britannia segment to the London Farm to Britannia segment.

The routing of Tram #1220 through Steveston has been referred to in several recent Steveston area planning processes in addition to the feasibility study. They are as follows:

The Steveston Waterfront Working Committee recommended in March of 1998 to:

“Include provision for a heritage tram to link various heritage sites along the waterfront. The route should not be defined at this time.” (Attachment 1)

The Heritage Advisory Commission recommended in March of 1999 to:

“Urge that BC Packers be required to provide the following level of heritage plan information prior to Council consideration of the rezoning proposal. Submission of a heritage master site plan, conceptual sketches and accompanying design principles and guidelines for: all features specified on the master plan e.g. kiosks, shelters, observation tower, tram corridor...”

Steveston Area Plan completed in June 1999 notes that:

“The BC Packers proposal conforms with the Steveston Area Plan on the following points: (12) Accommodation of a possible future heritage tram along the Bayview – Moncton Road extension and beyond to the Britannia Heritage Shipyard site,” and “The applicant (BC Packers), has ensured that has been accommodated in the plan within the road rights-of-way.”

The Tram is principally a tourist attraction and an enhancement to the heritage features of Steveston. As such, the operation is based around the tourist season, May through Thanksgiving on weekends and holidays and daily during July and August, from approximately 11:00 a.m. to 6:00 p.m.

Routing is one of four major components of the tram project. There is the, still to be resolved, issue of tram ownership; the overall funding of the project and the determination of a model for the ongoing operation and maintenance of the train, tram barn and infrastructure.

Analysis

The approximately 2.6 kilometre route from the Gulf of Georgia Cannery to London Farm is made up of two distinct sections. The section from Britannia to London Farm is very straight forward. It will involve the purchase of one small parcel of land, but only one option is provided. The analysis provided here is for Britannia to the Gulf of Georgia Cannery.

The following information was considered in the analysis for all route options:

1. Tram –The tram is an electric rail car that runs on standard gauge rail track. It is propelled by electric motors and powered by an overhead power source (wires) and poles approximately every 100 feet. It is a 35 ton vehicle and although it will operate at relatively slow speeds (20km/hr), does not stop quickly. Any of the routes will have it operating very near or amongst both vehicles and or pedestrian traffic.
2. Cost – By far the largest cost factor is the linear length of track. Route options of similar length cost approximately the same amount. Attachments 2 & 3 give a costing summary for each option. All but one of the six options is estimated by the City’s Engineering Department to cost approximately \$7.2M (2a - \$7.9M).

There is no dedicated funding source for the Tram at this time. Allocating city capital funding could detract from other corporate priorities.

3. Noise – Although the electric motors are very quiet, there will be the “clickety clack” noise of metal wheels on metal track with joins. There will also be noise of the tram brakes and the whistle that is required to be blown at all significant crossings (i.e. stops and intersections).
4. Other – Some current lamp standards may have to be moved or changed to accommodate alignment of the track.
 - Curb extensions provided as traffic calming measures would have to be removed in the

chosen route.

- Parking restrictions would have to be strictly enforced during operation times.
- The Bayview traffic circle may have to be relocated.

Detailed analysis of two main options each with three variations, is provided in Attachment 4. For each of the six options: a route description, technical considerations, community impact and operational considerations are provided. Maps describing each of the routes with variations are included with the costing summaries in Attachments 2 and 3.

Financial Impact

In addition to staff time, the costs are:

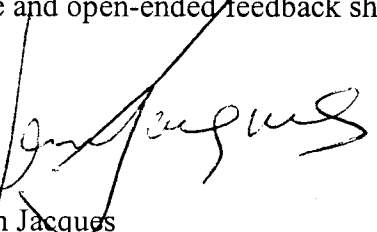
Advertising of Open Houses (Newspapers & mailout)	\$1,500
Production of visual materials into format for presentation at an Open House	<u>\$2,000</u>
	\$3,500

The source of funding is the Tram Project Capital Fund

Conclusion

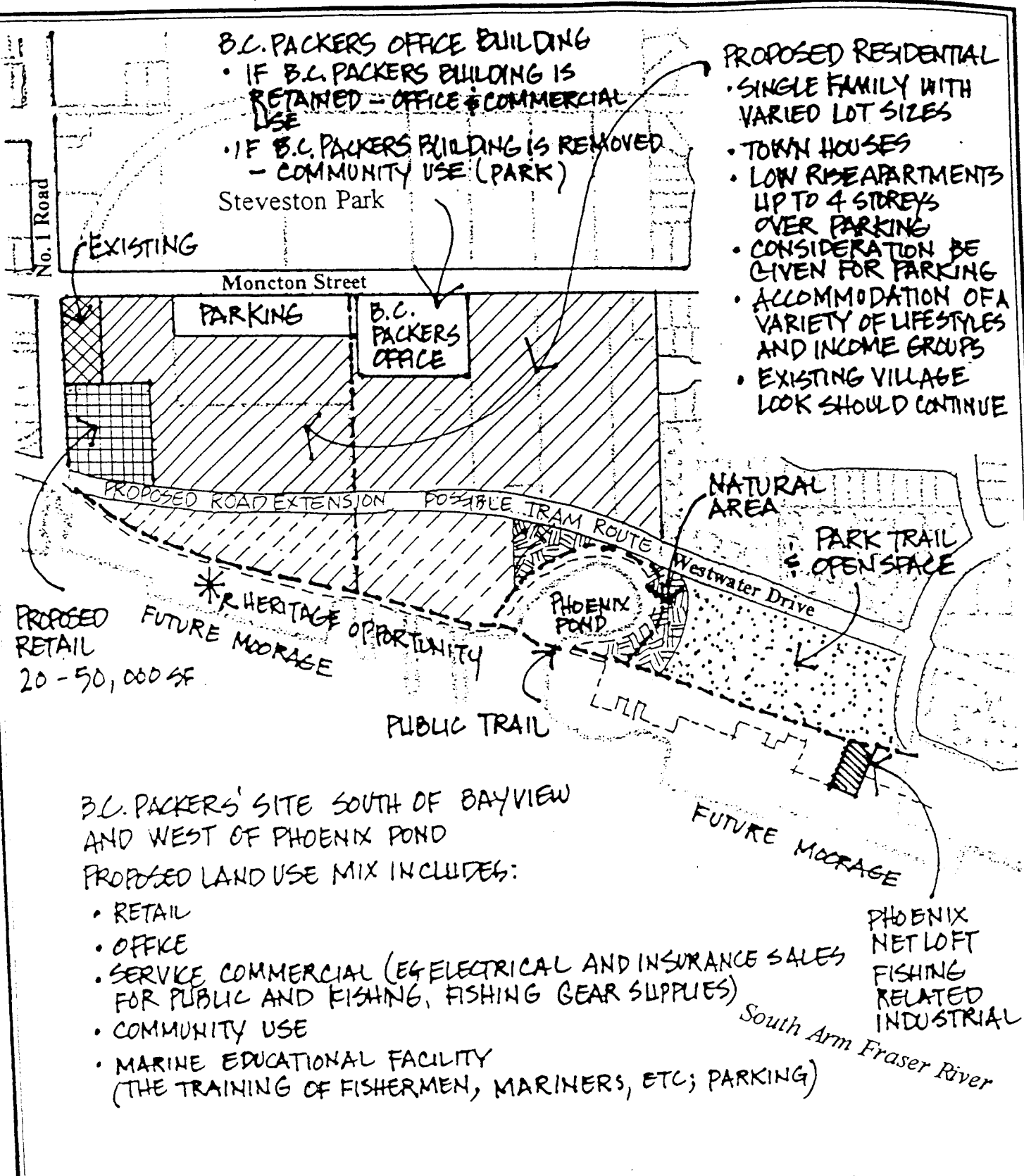
From a technical standpoint, there is no clear-cut best option. Recent planning processes for Steveston (Steveston Area Plan and BC Packers Rezoning) have consistently included reference to a tram route through the B.C. Packers lands (more recently referred to as the Imperial Landing site.) Allowances in the road rights-of-way have been made to accommodate the rail route and a route reference on an early site concept approximates option 2b (Attachment 1). However, there has been no preferred option adopted and much has changed in the area since 1999.

Therefore, staff proposes that the public be consulted as to preferences of the options included in this report. A well advertised open house held in Steveston with ample opportunity for survey style and open-ended feedback should provide Council with a good sense of public preferences.



Vern Jacques
 Manager, Community Recreation Services
 (4158)

VRJ:md



- PROPOSED RESIDENTIAL
- SINGLE FAMILY WITH VARIED LOT SIZES
 - TOWN HOUSES
 - LOW RISE APARTMENTS UP TO 4 STOREYS OVER PARKING
 - CONSIDERATION BE GIVEN FOR PARKING
 - ACCOMMODATION OF A VARIETY OF LIFESTYLES AND INCOME GROUPS
 - EXISTING VILLAGE LOOK SHOULD CONTINUE

B.C. PACKERS' SITE SOUTH OF BAYVIEW AND WEST OF PHOENIX POND
 PROPOSED LAND USE MIX INCLUDES:

- RETAIL
 - OFFICE
 - SERVICE COMMERCIAL (EG ELECTRICAL AND INSURANCE SALES FOR PUBLIC AND FISHING, FISHING GEAR SUPPLIES)
 - COMMUNITY USE
 - MARINE EDUCATIONAL FACILITY (THE TRAINING OF FISHERMEN, MARINERS, ETC; PARKING)
- PHOENIX NET LOFT FISHING RELATED INDUSTRIAL
- South Arm Fraser River

Steveston Waterfront Working Committee Recommendation January 1998



B.C. Packers Node

Moncton Street Option	1a	1b	1c
London Princess area to Britannia Shipyard	\$ 2,870,000	\$ 2,870,000	\$ 2,870,000
Britannia Shipyard to Moncton/Bayview intersection	\$ 1,860,000	\$ 1,970,000	\$ 1,910,000
Moncton/Bayview intersection to Gulf of Georgia Cannery	\$ 2,410,000	\$ 2,410,000	\$ 2,410,000
	\$ 7,140,000	\$ 7,250,000	\$ 7,190,000

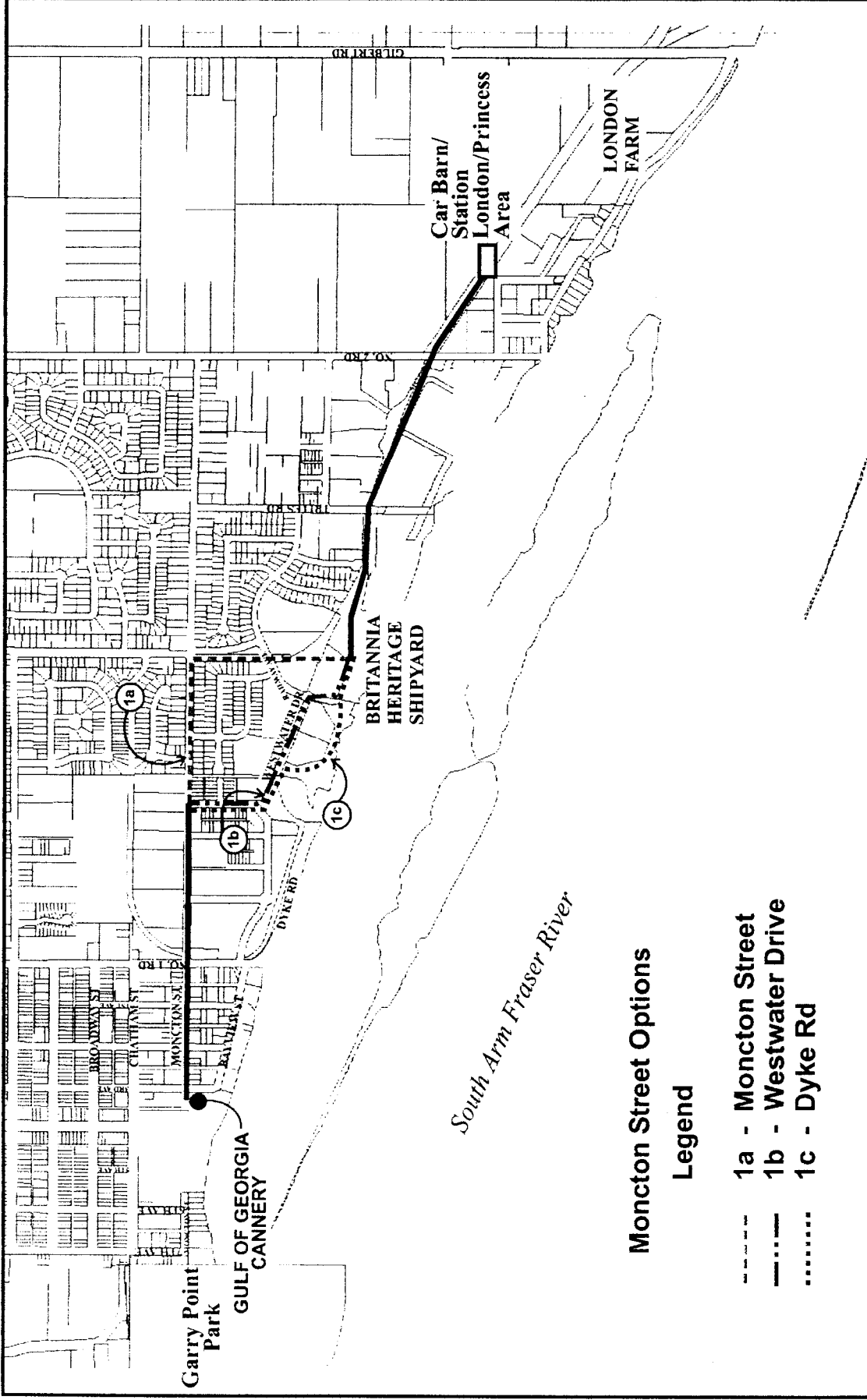
NOTE: This estimates does not include costs of land acquisition, environmental compensation

This includes costs for:

- Design and contingency
- Track construction
- Power Supply
- Stations
- Road Crossings
- Crossing protection

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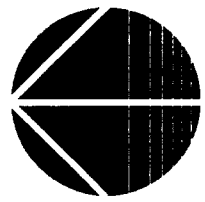
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Moncton Street Options

Legend

- 1a - Moncton Street
- 1b - Westwater Drive
- 1c - Dyke Rd



**Moncton Street Options
Possible Tram Routes to be Evaluated**

Original Date: 04/20/04

Revision Date:

Note: Dimensions are in METRES

Bayview Street Option	2a	2b	2c
London Princess area to Britannia Shipyard	\$ 2,870,000	\$ 2,870,000	\$ 2,870,000
Britannia Shipyard to Bayview/Westwater Drive	\$ 2,460,000	\$ 1,680,000	\$ 1,670,000
Bayview/Westwater to Gulf of Georgia Cannery	\$ 2,570,000	\$ 2,570,000	\$ 2,570,000
	\$ 7,900,000	\$ 7,120,000	\$ 7,110,000

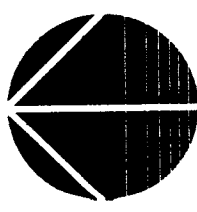
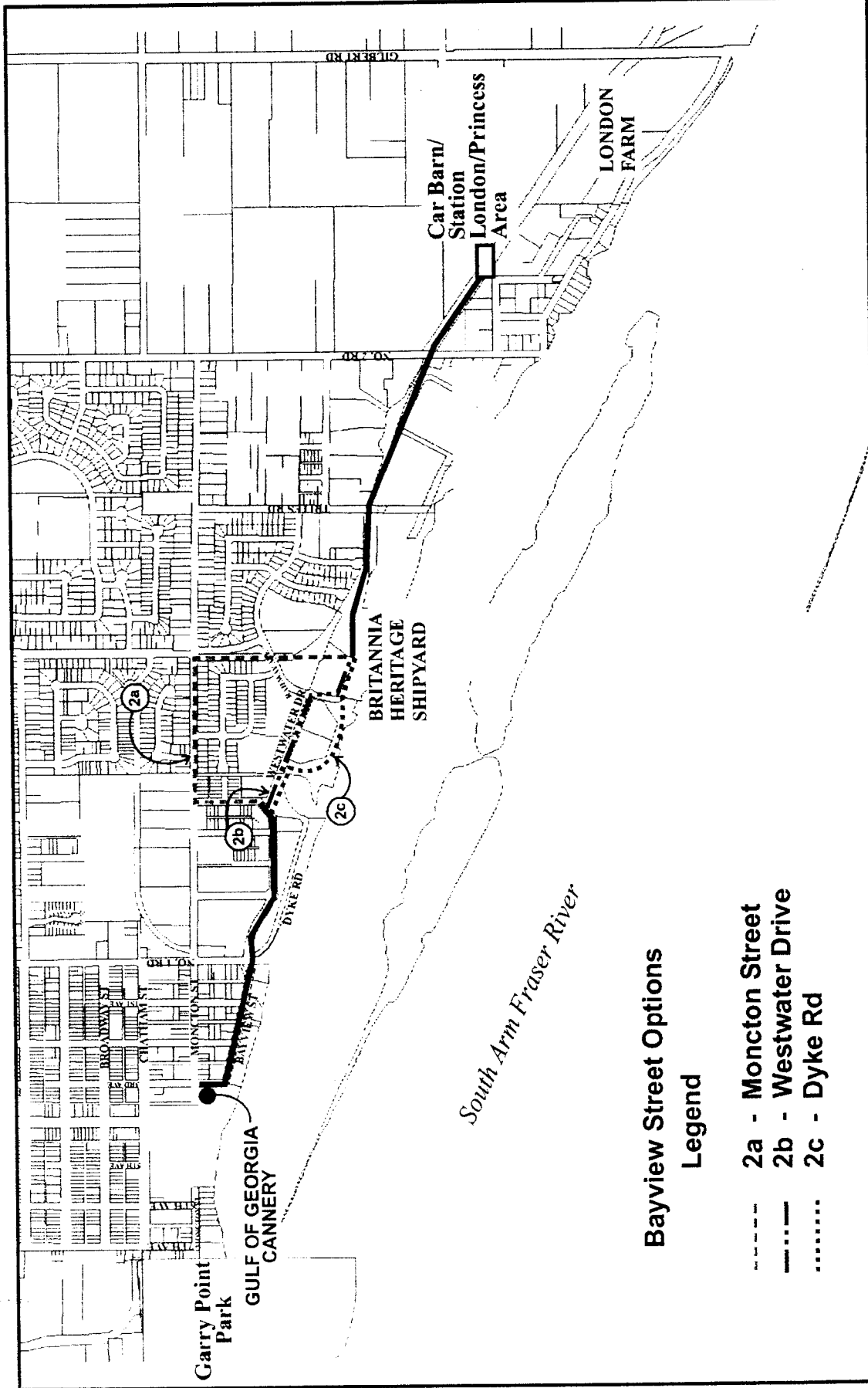
NOTE: This estimates does not include costs of land acquisition, environmental compensation

This includes costs for:

- Design and Contingency
- Track construction
- Overhead Power
- Power Supply
- Stations
- Road Crossings
- Crossing protection

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Original Date: 04/20/04
 Revision Date:
 Note: Dimensions are in METRES

Bayview Street Options

Possible Tram Routes to be Evaluated

ATTACHMENT 4
ANALYSIS OF TRAM ROUTE OPTIONS GULF OF GEORGIA CANNERY – BRITANNIA SHIPYARD

ROUTE DESCRIPTION	TECHNICAL CONSIDERATIONS	COMMUNITY IMPACT	OPERATIONAL CONSIDERATIONS
<p>1a</p> <p><u>Moncton Street Options</u> (Attachment 4)</p> <ul style="list-style-type: none"> • Moncton Street @ 3rd Avenue • Along Moncton Street, crossing #1 Road to Railway Avenue • Right turn on Railway Right-of-Way across Railway Ave and along the west edge of Homma School Park to Britannia 	<ul style="list-style-type: none"> • Travel along Moncton in the parking lane, will impact parking and traffic at the busier times of the year. • Simplest route in terms of construction fewest turns and not many significant crossings (#1 Road and Railway Ave) • Turn at Railway Ave needs to be integrated with future realignment of Railway Ave 	<ul style="list-style-type: none"> • Impact on traffic flow along Moncton Street. Concern for vehicle and pedestrian safety. • Significant impact on parking along Moncton Street during busiest times • Noise of brakes, rails and whistle could be of concern to those people living or working near stops or crossings • Rail tracks running through school grounds, could further limit the uses of a playground that is already undersized 	<ul style="list-style-type: none"> • Service would have high visibility but would not take advantage of being near the waterfront, a feature expected to be attractive to tourists • This route would not connect any attractions that would emerge in the Imperial Landing waterfront development
<p>1b</p> <ul style="list-style-type: none"> • Moncton Street @ 3rd Avenue • Along Moncton Street crossing #1 Road • To the Bayview extension • Right turn at Bayview • Left turn at Phoenix Pond • Along the pathway North of Phoenix Pond to join Westwater Drive • Westwater Drive to Railway Avenue turning right and continuing along the Westwater to Britannia Shipyards 	<ul style="list-style-type: none"> • Travel along Moncton in the parking lane, will impact parking and traffic at the busier times of the year. • Right turn at Bayview is very tight and would involve crossing opposing traffic lanes either on Moncton or Bayview without substantial corner widening. • May require double tracking for approximately 300metres along Westwater Drive between Railway and Britannia Shipyards 	<ul style="list-style-type: none"> • Impact on traffic flow along Moncton Street. Concern for vehicle and pedestrian safety. • Significant impact on parking along Moncton Street during busiest times • Noise of brakes, rails and whistle could be of concern to those people living or working near stops or crossings • Along the Bayview Street and Westwater Drive section the tram would be very close to houses that very close to the street. • Overhead power lines would be required in an area that has other underground services 	<ul style="list-style-type: none"> • Would gain the visibility offered by part of the route being on Moncton and part being on the Imperial Landing site. • Does not gain the full visibility benefit of going along the waterfront pathway. • Would not provide a close connection to new features that may develop on the waterfront (near #1 Road)

ROUTE DESCRIPTION Moncton Street Options (Attachment 4)	TECHNICAL CONSIDERATIONS	COMMUNITY IMPACT	OPERATIONAL CONSIDERATIONS
<p>1c</p> <ul style="list-style-type: none"> • Moncton Street @ 3rd Avenue • Along Moncton Street crossing #1 Road • To the Bayview extension • Right turn at Bayview • Left turn at Phoenix Pond • Follow the pathway past the east edge of Phoenix Drive • Between the Copper Sky apartment complex and the river • Through the parking lot to Westwater Drive • Along Westwater Drive to Britannia Shipyard 	<ul style="list-style-type: none"> • Travel along Moncton in the parking lane, will impact parking and traffic at the busier times of the year. • Right turn at Bayview is very tight and would involve crossing opposing traffic lanes either on Moncton or Bayview without substantial corner widening. • May require double tracking for approximately 250 metres on Westwater Drive between the net loft and Britannia Shipyard 	<ul style="list-style-type: none"> • Impact on traffic flow along Moncton Street. Concern for vehicle and pedestrian safety. • Significant impact on parking along Moncton Street during busiest times • Noise of brakes, rails and whistle could be of concern to those people living or working near stops or crossings • The section between the river and Copper Sky apartment complex would require overhead power lines that would effect "river views" • Overhead power lines would be required in an area that has other underground services 	<ul style="list-style-type: none"> • High visibility takes advantage of both Moncton Street and following the waterfront path for a distance • Would not provide a close connection to new features that may develop on the waterfront (near #1 Road).

ROUTE DESCRIPTION	TECHNICAL CONSIDERATIONS	COMMUNITY IMPACT	OPERATIONAL CONSIDERATIONS
<p>2a</p> <p><u>Bayview Street Options</u> (Attachment 5)</p> <ul style="list-style-type: none"> • 3rd Avenue @ Moncton Street • Along 3rd Avenue turning east on Bayview • Following the full length of Bayview past Steveston Landing, through Imperial Landing to Phoenix Pond turning north to Moncton Street • Along Moncton Street to Railway • Right turn on Railway (right-of-way) across Railway Avenue and along the west edge of Homma School Park to Britannia Shipyard 	<ul style="list-style-type: none"> • The longest route costing nearly \$800,000 more than other routes • Right turn at Moncton is very tight and would require crossing opposing traffic lanes on either Bayview or Moncton without substantial corner widening. • Turn at Railway needs to be integrated with future realignment of Railway Avenue • Impact on Moncton traffic and parking for a short distance 	<ul style="list-style-type: none"> • Along Bayview Street immediately south of Moncton the tram would pass very close to homes that have minimal set backs from the street • Overhead power lines would be required in an area that has underground services • Noise of brakes, rails and whistle could be of concern to people living near stops or crossings • Potential concerns for vehicle and pedestrian safety • Rail tracks running through the Homma school grounds could further limit the uses of a playground that is already undersized 	<ul style="list-style-type: none"> • This route would gain the visibility offered by part of the route being through the Imperial Landing site and part along Moncton Street • Does not gain the full aesthetic value of going along part of the waterfront pathway • Provides the connection to any waterfront developments along Bayview to Phoenix Pond.
<p>2b</p> <ul style="list-style-type: none"> • 3rd Avenue @ Moncton Street • Along 3rd Avenue turning east on Bayview • Following Bayview past Steveston Landing, through Imperial Landing to Phoenix Pond Along the pathway north of Phoenix Pond to join Westwater Drive • Westwater Drive to Railway Avenue turning right and continuing along Westwater Drive to Britannia Shipyard 	<ul style="list-style-type: none"> • May require double tracking for approximately 300 metres along Westwater Drive between Railway and Britannia Shipyard 	<ul style="list-style-type: none"> • Overhead power lines would be required in an area that has underground services • Noise of brakes, rails and whistle could be of concern to people living near stops or crossings • Potential concerns for vehicle and pedestrian safety 	<ul style="list-style-type: none"> • This does not gain benefits of being seen on Moncton Street but stays in the visible Bayview – Westwater corridor • Does not gain the full visibility of going along part of the waterfront pathway • Provides the connection to any waterfront developments along Bayview to Phoenix Pond

ROUTE DESCRIPTION Bayview Street Options (Attachment 5)	TECHNICAL CONSIDERATIONS	COMMUNITY IMPACT	OPERATIONAL CONSIDERATIONS
<p>2c</p> <ul style="list-style-type: none"> • 3rd Avenue @ Moncton Street • Along 3rd Avenue turning east on Bayview • Following Bayview past Steveston Landing, through Imperial Landing to Phoenix Pond • Following the pathway past the east edge of Phoenix Pond • Between the Copper Sky apartment complex and the river • Through the parking lot to Westwater Drive. • Along Westwater Drive to Britannia Shipyard 	<ul style="list-style-type: none"> • May require double tracking for approximately 250 metres on Westwater Drive between the Phoenix Net loft and Britannia Shipyard 	<ul style="list-style-type: none"> • Noise of brakes, rails and whistle could be of concern to people living near stops or crossings • Potential concerns for vehicle and pedestrian safety • The distance between Copper Sky and the dyke is quite narrow and very popular for walkers, cyclists etc. – a significant potential concern for pedestrian safety. • Overhead power lines would be required in an area that has underground services • Between the river & Copper Sky apartment overhead lines affect river views. 	<ul style="list-style-type: none"> • This route does not have exposure to Moncton Street. This route stays as close to the water as possible for the majority of the route making it the most aesthetically enjoyable option for tram riders, possibly increasing ridership and improving operating revenue.